# Eurostat regional yearbook

## 2026 edition



eurostat

FLAGSHIP PUBLICATIONS

# Eurostat regional yearbook

## 2026 edition

Manuscript completed in July 2026

This document should not be considered as representative of the European Commission's official position.

Luxembourg: Publications Office of the European Union, 2026

© European Union, 2026



The Commission's reuse policy is implemented by Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39, ELI: http://data.europa.eu/eli/dec/2011/833/oj).

Unless otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (https://creativecommons.org/licenses/by/4.0/). This means that reuse is allowed, provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders. The European Union does not own the copyright in relation to the following elements:
– cover photo, susanne2688 / stock.adobe.com;
– introduction, Marek Godlewski / stock.adobe.com;
– section A, JINHEON JANG / stock.adobe.com;
– section B, Adi / stock.adobe.com;
– section C, J / stock.adobe.com
– maps, administrative boundaries © EuroGeographics © OpenStreetMap.

Kosovo - this designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

The boundaries and names shown and the designations used on the maps do not imply official endorsement or acceptance by the European Union.

**Theme: General and regional statistics**
**Collection: Flagship publications**

| | | | | |
|---|---|---|---|---|
| Print: | ISBN 978-92-68-40869-8 | ISSN 1830-9674 | doi: 10.2785/2706545 | KS-01-26-039-EN-C |
| PDF: | ISBN 978-92-68-40868-1 | ISSN 2363-1716 | doi:10.2785/4778849 | KS-01-26-039-EN-N |

# Foreword



Welcome to the 2026 edition of the *Eurostat regional yearbook*, the longest-running flagship publication of the statistical office of the European Union. With a history spanning 55 years, the yearbook has for decades guided readers through the development, diversity, and dynamism of Europe's regions.

The 2026 edition brings together data from the 27 EU countries, 4 EFTA countries, and 9 candidate countries, offering a wide range of economic, social, and environmental findings. Since its debut in 1971, the yearbook has continued its tradition of providing detailed figures and maps, now enhanced with the vivid infographics for which Eurostat has become well known.

With compelling visualisations and accessible explanations, the *Eurostat regional yearbook* transforms data into meaningful statistical insights. It offers trusted evidence to guide policymakers and strengthen cohesion, and it fosters a richer understanding of Europe's regions for journalists, researchers, students, and inquisitive citizens alike.

While remaining a valuable source of information for a broad spectrum of users, the yearbook has continued to evolve with economic, social, and environmental changes, in step with new technologies and the transformations that they have brought. Among the novelties in this edition are sections on landscape features and precision farming, as well as extended analyses of diseases of the circulatory system, young people in the labour market, and housing.

The *Eurostat regional yearbook* is available on Eurostat's website as a PDF file and through Statistics Explained, a section which provides explanatory articles and interactive maps. The most recent and detailed datasets can be accessed via Eurostat's comprehensive database. Complementing the yearbook, readers can further explore Europe's regions through the My region data visualisation tool and the Regions in Europe interactive publication.

I hope that this edition of the yearbook serves as a valuable and informative reference, enhancing your understanding of Europe's regions.



**Mariana Kotzeva**

Director-General, Eurostat

# Abstract

Statistical information is an important tool for understanding and quantifying the impact of political decisions in a specific territory or region. The *Eurostat regional yearbook 2026* provides a detailed picture relating to a broad range of statistical topics across the regions of the EU, EFTA and candidate countries.

Regional data are presented using the classification of territorial units for statistics (NUTS), which was recently updated – NUTS 2024. It delineates 92 regions at NUTS level 1, 244 regions at NUTS level 2, and 1 165 regions at NUTS level 3.

Each chapter presents statistical information in the form of maps, figures and infographics, accompanied by a descriptive analysis highlighting the main findings. Regional indicators are presented for the following 13 subjects: population, health, education, the labour market, living conditions, the digital society, the economy, business, research and development, tourism, transport, the environment and agriculture.

## Chief editor

Mariana Kotzeva

## Editors

Teodóra Brandmüller, Máté Farkas and Réka Fodor
(Eurostat, Unit E.4., Regional statistics and geographical information)

## Map production

Joseph Davies, Julien Gaffuri, Michael Harrop and Ema Vlasic
(Eurostat, Unit E.4., Regional statistics and geographical information)

## Dissemination

Catherine Coyette, Andrej Hanzevacki, Nina Jere and Annika Johansson
(Eurostat, Unit B.2., Dissemination and user relations)

## Production and layout

Informa s.à r.l. – Giovanni Albertone, Simon Allen and Andrew Redpath – working under contract for Eurostat

## Contact details

Eurostat
Bâtiment Joseph Bech
5, rue Alphonse Weicker
2721 Luxembourg
LUXEMBOURG
E-mail: estat-user-support@ec.europa.eu

## Data extraction

The data presented within this publication were extracted during March and April 2026. The manuscript was completed in July 2026.

An online data code available under each map/figure can be used to access directly the most recent data on Eurostat's website.

All statements on policies within this publication are given for information purposes only. They do not constitute an official policy position of the European Commission and are not legally binding. To know more about such policies, please consult the European Commission's website.

## For more information

Eurostat's website: http://ec.europa.eu/eurostat/
Statistics Explained: https://ec.europa.eu/eurostat/statistics-explained

# Acknowledgements

**We would like to thank all colleagues involved in the editorial work of each chapter:**

- **Introduction:** Máté Farkas, Jane Schofield and Ema Vlasic (Eurostat, Unit E.4., Regional statistics and geographical information); Åsa Önnerfors (Eurostat, Unit E.2., Environmental statistics and accounts; sustainable development); Alexia Rouby and Simone Sasso (Directorate-General for Agriculture and Rural Development; Unit D.1., Rural areas and networks); Jorge Duran Laguna and Magnus Urb (Directorate-General for Regional and Urban Policy, Unit B.1., Policy Development and Evaluation); Teresa Rosset (European Committee of the Regions, ECON/Directorate C for Legislative Works)
- **Population:** Encho Bicov, Veronica Corsini, Jose Domingo Martinez Solano, Andreea Beatrice Rusu, Andrea Succi and David Thorogood (Eurostat, Unit F.2., Population and migration)
- **Health:** Encho Bicov, Veronica Corsini, Jose Domingo Martinez Solano, Andreea Beatrice Rusu, Andrea Succi and David Thorogood (Eurostat, Unit F.2., Population and migration); Ebba Barany, Louise Cliff, Keren Landsman and Monica Pace (Eurostat, Unit F.5., Education, health and social protection)
- **Education:** Ferenc Gálik, Eric Gere, Marco Picciolo and Bruno Supicic (Eurostat, Unit F.5., Education, health and social protection); Elodie Cayotte and Sabine Gagel (Eurostat, Unit F.3., Labour market and lifelong learning)
- **Labour market:** Elodie Cayotte, Sabine Gagel, Riccardo Gatto, Kaja Sõstra, Malgorzata Stadnik and Antti Sykkö (Eurostat, Unit F.3., Labour market and skills); Daniela Sciranková (Eurostat, Unit E.4., Regional statistics and geographical information)
- **Living conditions:** Emilio Di Meglio, Mattia Di Salvo, Kalvis Okmanis, Merle Paats and Arsela Sturc (Eurostat, Unit F.4., Income and living conditions; quality of life)
- **Digital society:** Urška Arsenjuk, Andrea Attwenger, Dimo Dimov, Michaela Grell and Mathieu Mballa (Eurostat, Unit 02, Innovation and digital transformation)
- **Economy:** Panagiota Bisiela, Enrico Infante and Martina Patone (Eurostat, Unit C.1., National accounts methodology; standards and indicators)
- **Business:** Saila Kumputie, Gaetana Montana, Alin Popescu and Sarmite Visocka (Eurostat, Unit G.2., European businesses)
- **Research and development:** Gregor Kyi, Chiara Orsini and Stefania Panaitescu (Eurostat, Unit G.2., European businesses)
- **Tourism:** Andreia Danila, Christophe Demunter, Tímea Kővári-Tóth, Renata Lewczuk and Levene Székely (Eurostat, Unit G.2., European businesses)
- **Transport:** Emanuele Dardengo, Evangelia Ford-Alexandraki, Boryana Milusheva and Nayia Panayiotou (Eurostat, Unit E.3., Transport and energy)
- **Environment:** Hendrik Doll, Remko Hijman, Friderike Oehler and Åsa Önnerfors (Eurostat, Unit E.2., Environmental statistics and accounts; sustainable development); Beatrice Eiselt, Aleksandra Galic and Ema Vlasic (Eurostat, Unit E.4., Regional statistics and geographical information); Artur Gsella, Éva Ivits, Alberto González Ortiz and Roberta Pignatelli (European Environment Agency); Monica Crippa and the EDGAR team (Directorate-General Joint Research Centre (JRC), Unit C.5., Clean air and climate); Momtchil Iondanov, Renate Koeble, Talie Musavi and Jon Skoien (Directorate-General Joint Research Centre (JRC) Unit D.5., Food security)
- **Agriculture:** Edward Cook, Helena Ramos and David Sousa (Eurostat, Unit E.1., Agriculture and fisheries)

**We are also very grateful to:**

- Paul Morrin (Eurostat, Director of sectoral and regional statistics) and Márta Nagy-Rothengass (Eurostat, Unit E.4., Regional statistics and geographical information)

# Contents


**Foreword** ... **3**

**Abstract** ... **4**

**Acknowledgements** ... **5**

**Introduction** ... **7**

**Section A: People and society** ... **17**

1. Population ... 18
2. Health ... 32
3. Education ... 47
4. Labour market ... 63
5. Living conditions ... 79
6. Digital society ... 101

**Section B: Economy and finance** ... **117**

7. Economy ... 118
8. Business ... 131
9. Research and development ... 148
10. Tourism ... 162

**Section C: Environment and natural resources** ... **181**

11. Transport ... 182
12. Environment ... 196
13. Agriculture ... 214

# Introduction



Eurostat, the statistical office of the European Union (EU), collects, compiles and publishes statistics for the EU, including statistics for the regions of EU, EFTA and candidate countries.

Data can play a crucial role in shaping and evaluating effective policies and responses to the challenges that arise in a world characterised by rapid change and uncertainty. This edition of the *Eurostat regional yearbook* provides statistical insights into a range of pressing challenges, from climate change to competitiveness. By leveraging accurate and timely data, policymakers can make informed decisions that drive resilience and sustainable growth.

This edition of the *Eurostat regional yearbook* focuses on 2 key policy areas.



The European Commission's new plan for Europe's sustainable prosperity and competitiveness aims to strengthen economic growth while ensuring environmental and social sustainability. Through balancing economic resilience with climate goals, the plan aspires to create high-quality jobs, reinforce global competitiveness and uphold the EU's commitment to a fair, green and prosperous future for all its citizens. The *Eurostat regional yearbook* identifies regional indicators that can be used to measure sustainable prosperity and competitiveness by placing a logo next to them. The indicators are aligned with those highlighted in *The future of European competitiveness*, a report produced by Mario Draghi for the European Commission.



The United Nations' (UN) 2030 Agenda for Sustainable Development is a long-term strategy that aims to meet a range of economic, social and environmental goals. Developments are traced through 17 sustainable development goals (SDGs) and 169 targets. Eurostat monitors progress in an EU context, coordinating a review of the EU SDG indicator set and publishing annual monitoring reports. This edition of the *Eurostat regional yearbook* identifies regional indicators that can be used to measure progress towards the SDGs by placing a logo next to them.

## European statistics

### SUBNATIONAL STATISTICS

EU countries are often compared statistically, but differences in size can make such comparisons challenging. For instance, on 1 January 2025, Malta and Luxembourg – the EU's least populous countries – had 574 000 and 682 000 inhabitants, respectively. By contrast, Germany – the most populous – had 83.6 million inhabitants.

There are considerable differences between and within countries as regards their territorial composition. For example, Ireland, Finland and Sweden are generally rural and sparsely populated, while Malta and the Benelux countries have much higher levels of population density.

Similarly, there can be considerable diversity within individual EU countries. For example, contrast the densely populated, urbanised areas of Nordrhein-Westfalen in the west of Germany (which had an average of 533 inhabitants per square kilometre in 2024) with the sparsely populated, largely rural, north-eastern region of Mecklenburg-Vorpommern (with an average of 70 inhabitants per square kilometre). In a similar manner, there are considerable differences between regions of France: for example, contrast the bustling pace of life in the capital region of Paris (which had an average of 20 148 inhabitants per square kilometre in 2024) with the more sedate pace of rural life in the central/southern region of Lozère (with an average of 15 inhabitants per square kilometre).

Looking at regional data within EU countries often provides clearer insights by highlighting internal disparities, such as Italy's north-south divide or Germany's east-west divide. For example, Germany and Poland have several large cities spread across the country (a polycentric economic structure), while France and Romania tend to have economic development concentrated in their respective capitals (a monocentric pattern).

Over the past few years, Eurostat has expanded its range of statistics beyond national and regional information to cover other territorial typologies. These alternatives address the needs of policymakers, particularly within the context of cohesion and territorial developments, using 2 broad headings:

- regional typologies
- local typologies that are based on data for local administrative units (LAUs or municipalities).

With this in mind, *Regulation (EU) 2017/2391 of the European Parliament and of the Council of 12 December 2017 as regards the territorial typologies (Tercet)* established a common statistical classification of territorial units. This legislative consolidation facilitates the collection, compilation and dissemination of European statistics at different territorial levels.

### STATISTICS ON REGIONS – THE NUTS CLASSIFICATION

The classification of territorial units for statistics – known as NUTS – underpins EU regional statistics. It is hierarchical, dividing each EU country into regions of decreasing size: NUTS levels 1, 2 and 3 regions.

**Table 1:** Number of NUTS 2024 regions and statistical regions

| | NUTS level 1 | NUTS level 2 | NUTS level 3 |
|---|---|---|---|
| EU | 92 | 244 | 1 165 |
| Belgium | 3 | 11 | 44 |
| Bulgaria | 2 | 6 | 28 |
| Czechia | 1 | 8 | 14 |
| Denmark | 1 | 5 | 11 |
| Germany | 16 | 38 | 400 |
| Estonia | 1 | 1 | 5 |
| Ireland | 1 | 3 | 8 |
| Greece | 4 | 13 | 52 |
| Spain | 7 | 19 | 59 |
| France | 14 | 27 | 101 |
| Croatia | 1 | 4 | 21 |
| Italy | 5 | 21 | 107 |
| Cyprus | 1 | 1 | 1 |
| Latvia | 1 | 1 | 5 |
| Lithuania | 1 | 2 | 10 |
| Luxembourg | 1 | 1 | 1 |
| Hungary | 3 | 8 | 20 |
| Malta | 1 | 1 | 2 |
| Netherlands | 4 | 12 | 40 |
| Austria | 3 | 9 | 35 |
| Poland | 7 | 17 | 73 |
| Portugal | 3 | 9 | 26 |
| Romania | 4 | 8 | 42 |
| Slovenia | 1 | 2 | 12 |
| Slovakia | 1 | 4 | 8 |
| Finland | 2 | 5 | 19 |
| Sweden | 3 | 8 | 21 |
| | **Level 1** | **Level 2** | **Level 3** |
| Iceland | 1 | 1 | 2 |
| Liechtenstein | 1 | 1 | 1 |
| Norway | 1 | 7 | 17 |
| Switzerland | 1 | 7 | 26 |
| Bosnia and Herzegovina | 1 | 3 | Not yet agreed |
| Montenegro | 1 | 1 | 1 |
| Moldova | – | – | – |
| North Macedonia | 1 | 1 | 8 |
| Georgia | – | – | – |
| Albania | 1 | 3 | 12 |
| Serbia | 2 | 4 | 25 |
| Türkiye | 12 | 26 | 81 |
| Ukraine | 8 | 27 | 138 |

*Source:* Eurostat

The 2024 edition of the NUTS classification provides the basis for classifying regional information in this year's *Eurostat regional yearbook*. For example, Italy has 107 NUTS level 3 regions, which form 21 NUTS level 2 regions and 5 NUTS level 1 regions. Some smaller EU countries are not divided at all, or at only certain levels of the classification. Estonia, Cyprus, Latvia, Luxembourg and Malta each consist of a single NUTS level 2 region covering their entire territory, while Cyprus and Luxembourg are also composed of just a single NUTS level 3 region.

For EFTA and candidate countries, the concept of 'statistical regions' replaces NUTS. For most countries, bilateral agreements with Eurostat apply the same principles as the NUTS classification. Liechtenstein and Montenegro each consist of a single region (at every level of the classification). As of April 2026, no regional breakdowns had been agreed for Bosnia and Herzegovina (other than at levels 1 and 2), the Republic of Moldova or Georgia. At the time of data extraction (March 2026): no regional data were available for Bosnia and Herzegovina, Georgia and the Republic of Moldova; national data are included when available.

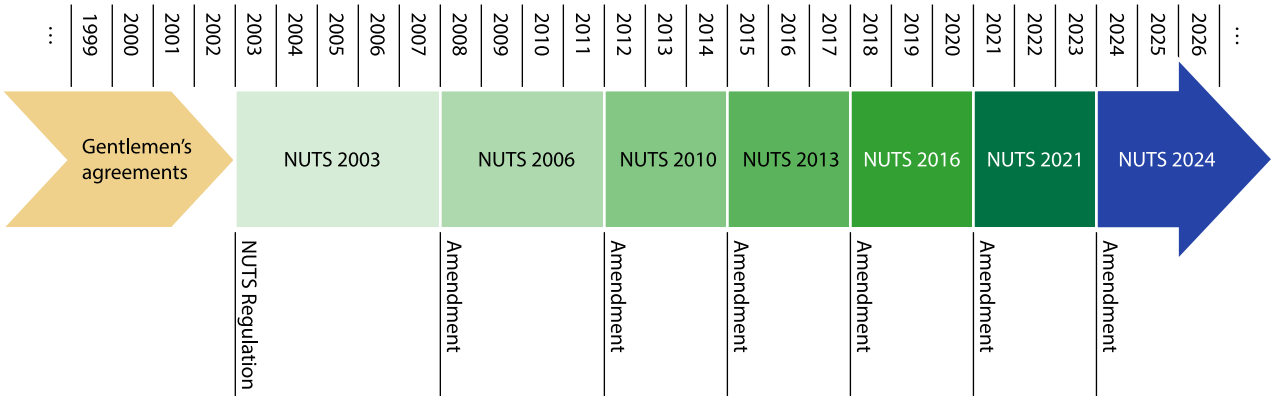
Table 1 provides an overview of the number of NUTS/statistical regions that exist in each of the EU and non-EU countries.

Most of the regional statistics shown in the *Eurostat regional yearbook* are for NUTS level 2 regions. However, subject to data availability, some maps and figures are shown for either NUTS level 1 regions (more aggregated geographical information) or NUTS level 3 regions (the most detailed level of regional information). The latter are only available for a limited selection of indicators that cover topics such as demography, economic accounts, business statistics, tourism statistics and environmental statistics.

## The NUTS regulation

The NUTS classification is defined in *Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS)*. The classification is periodically reviewed by the European Commission amending the regulation to reflect administrative changes within EU countries. The NUTS regulation specifies that there should be a minimum period of 3 years stability during which time the classification should not be changed. Exceptions are made when the accession (or departure) of an EU country occurs.

**Figure 1:** History of NUTS




*Source:* Eurostat

Since 2003, the NUTS classification has been amended several times (see Figure 1), due to:

- regular amendments
- changes in the membership of the EU
- changes to the territorial boundaries of existing EU countries (for example, the inclusion of the French region of Mayotte).

The European Commission adopted the seventh amendment of the NUTS classification (*Commission Delegated Regulation (EU) No 2023/674*) in December 2022. It applies to any data that are transmitted to Eurostat for reference periods starting from 1 January 2024. This version of NUTS – commonly referred to as NUTS 2024 – is the basis for classifying regional statistics in the 2026 edition of the *Eurostat regional yearbook*. It provides a framework for regional statistics in the EU, delineating:

- 92 regions at NUTS level 1
- 244 regions at NUTS level 2
- 1 165 regions at NUTS level 3.

With the switch to NUTS 2024, Eurostat tried to recode historical statistics (data for earlier reference periods) to the new classification, although this was only partially possible. As a result, data are not always available for a complete set of regions, especially when simple recoding or aggregation was not feasible. Sometimes, the lack of historical data under NUTS 2024 makes time-series analyses challenging, although EU countries attempt to back-calculate key regional statistics to improve data availability.

### More about the data: the main principles of the NUTS classification

**Principle 1:** NUTS favours administrative divisions. If available, administrative structures are used for the different NUTS levels. In EU countries where there is no administrative layer corresponding to a particular level of NUTS, so-called non-administrative regions are created by aggregating smaller administrative regions.

**Principle 2:** the NUTS regulation defines minimum and maximum population thresholds for the size of NUTS regions (see Table 2) to ensure a basic degree of comparability. Different rules apply to administrative and non-administrative layers. Deviations from these thresholds are only possible when particular geographical, socioeconomic, historical, cultural or environmental circumstances exist.

**Table 2:** Population size constraints for NUTS 2024 regions
(number of inhabitants)

| | Minimum population | Maximum population |
|---|---|---|
| NUTS level 1 regions | 3 000 000 | 7 000 000 |
| NUTS level 2 regions | 800 000 | 3 000 000 |
| NUTS level 3 regions | 150 000 | 800 000 |

*Source:* Eurostat

## OTHER TERRITORIAL TYPOLOGIES

Grid-based statistics provide an alternative to regional statistics based on administrative boundaries. They divide territories into uniform grid cells, offering detailed spatial data with a high degree of geographical resolution. For example, the population and housing census is conducted every decade to provide grid statistics composed of cells measuring 1 km$^2$. Eurostat uses grid-based statistics to analyse, among other subjects, population, transport, the environment, agriculture and accessibility.

Other territorial typologies allow analyses to be extended to cover topics such as cities and commuting zones, or the degree of urbanisation. While these statistics remain highly relevant for policy debate in the EU, an editorial decision was taken when compiling the 2025 edition of the publication to concentrate on regional statistics and this approach has been maintained for the 2026 edition. Readers interested in subnational statistics based on other territorial typologies can refer to the following publications:

- Rural Europe (online publication)
- Urban Europe (online publication)
- Territorial typologies manual (online publication).

# Policy context

European policymaking faces a dual challenge: setting broad objectives for the EU while addressing the specific needs of national and regional territories. The territorial dimension of EU policy is increasingly recognised as essential for issues such as job creation and the transition to a green and digital economy.

Recent challenges within the EU – including economic uncertainty, defence and security concerns, migration pressures, geopolitical developments, public health challenges, and broader social and environmental changes – highlight the complexity of implementing coherent policies at the local, regional, national and international levels.

## COHESION POLICY

### What is cohesion policy?

The EU's cohesion policy is designed to strengthen economic, social and territorial cohesion within the EU. It aims to promote job creation, business competitiveness, economic growth, social inclusion and sustainable development, thereby impacting the overall quality of life.

The bulk of cohesion policy funding is concentrated on less developed EU regions with the goal of helping these regions to catch up and to reduce the economic, social and territorial disparities that exist across the EU. Although cohesion policy covers every region of the EU, most of the funds are targeted at regions where gross domestic product (GDP) per inhabitant is less than 75% of the EU average.

During the period 2021 to 2027, the framework for regional development and cohesion policy focuses on 5 key policy objectives:

- **a more competitive and smarter Europe**, promoting innovation, digitalisation, economic transformation and support to SMEs
- **a greener Europe**, transitioning towards a 'net zero' economy, while implementing the Paris Agreement
- **a more connected Europe**, enhancing mobility
- **a more social and inclusive Europe**, supporting social inclusion, equal access to healthcare, quality employment, education and skills
- **a Europe closer to citizens**, fostering the sustainable and integrated development of locally led strategies.

### Cohesion policy: how is it delivered?

Cohesion policy is delivered through several specific funds. They are the main financial instruments used to promote economic, social and territorial cohesion across the EU.

- The **European Regional Development Fund (ERDF)** aims to strengthen economic, territorial and social cohesion in the EU by correcting development imbalances between the regions.
- The **Cohesion Fund (CF)** aims to reduce economic and social disparities and to promote sustainable development in EU countries with a gross national income per inhabitant below 90% of the EU average.
- The **European Social Fund Plus (ESF+)** provides support for people, with a focus on improving employment and education opportunities across the EU, as well as the situation of the most vulnerable people.
- The **Just Transition Fund (JTF)** aims to support territories facing serious socioeconomic challenges arising from the transition towards climate neutrality. It addresses the social, employment, economic and environmental impacts of the transition.

### Cohesion policy: how is the budget decided?

Political agreement on the legislative package for cohesion policy for 2021 to 2027 was adopted in the middle of 2021, with the multiannual financial framework including a total of €392 billion for regional development and cohesion. For more information, see the budget allocations for EU cohesion policy 2021 to 2027.

### More about the data: the NUTS classification – an objective basis for the allocation of cohesion policy funding

Statistics from regional accounts are used in the allocation of cohesion policy funds, with the NUTS classification providing the basis for regional boundaries and geographic eligibility.

During the period 2021 to 2027, eligibility for cohesion policy funds is based on NUTS level 2 regions being ranked and classified into the following groups:

- less developed regions, where GDP per inhabitant (in purchasing power standards (PPS)) was less than 75% of the EU average
- transition regions, where GDP per inhabitant was 75% to 100% of the EU average
- more developed regions, where GDP per inhabitant was greater than 100% of the EU average.

Additional criteria, such as youth unemployment, education levels, climate change, demographic developments and migrant integration, have been introduced to address regional challenges better.

The EU assigns the bulk of the cohesion policy budget to regions whose development lags behind the EU average, aiming to reduce economic, social and territorial disparities. Less developed and transition regions – predominantly located in the south or the east of the EU, the Baltic countries and several outermost regions – benefit from 90% of the ERDF and ESF+ resources.

## OTHER POLICY AREAS THAT IMPACT ON SUBNATIONAL AREAS

### Urban development policy in the EU

The EU's urban development policy integrates economic, social, cultural and environmental aspects through coordinated measures such as urban renewal, education opportunities, social inclusion, crime prevention and environmental protection. For more information:

- European Urban Initiative (EUI)
- Ljubljana agreement
- New Leipzig Charter – the transformative power of cities for the common good
- Pact of Amsterdam
- Urban Agenda for the EU.

### Rural development policy in the EU

Rural areas are fundamental to the European way of life and play an important role in supporting the EU's economic resilience and prosperity, while offering potential to strengthen Europe's competitiveness. While several rural areas face challenges such as demographic decline, fewer job opportunities and limited-service provision, they remain central not only to food production, but also to important productive activities in, among others, manufacturing, energy or the bioeconomy, while benefiting from place-specific advantages that can attract firms and support innovation and experimentation. For more information:

- Common agricultural policy
- Long-term vision for the EU's rural areas – Towards stronger, connected, resilient and prosperous rural areas by 2040
- Rural action plan
- Rural pact
- Vision for Agriculture and Food.

### Multi-annual financial framework 2028–34

On 16 July 2025, the European Commission adopted proposals for the multi-annual financial framework (MFF) 2028–34 with the overall aim of a more policy-oriented, simpler, impactful and responsive budget to help EU countries and their regions address priorities and challenges in the most effective, inclusive and efficient way, drawing on all the lessons learned from the current programmes. This includes a proposal establishing the European Fund for:

- economic, social and territorial cohesion
- agriculture and rural development
- fisheries and maritime policy
- prosperity and security.

The goal is to allow a more differentiated and qualitative approach to deliver on EU priorities, tailored to each country's national and regional challenges through 27 partnership plans. The proposal brings together – under a single rulebook – instruments and policies that are currently covered by 14 different funds. The national and regional partnership plans will benefit from €783 billion in total, including €453 billion for cohesion policy, rural development and fishing communities, out of which at least €218 billion shall be allocated to less developed regions.

Negotiations on the next MFF proposals are underway with a view to reach a timely agreement. For more information, see the 2028–34 EU budget for a stronger Europe.

### European Committee of the Regions

The European Committee of the Regions (CoR) – the EU's assembly of locally and regionally elected representatives – gives a voice to regions, cities and municipalities in the EU decision-making process. For its 2025 to 2030 mandate, the CoR has identified 3 overarching priorities:

- *cohesion*, to increase competitiveness and promote balanced territorial development, ensuring that no region is left behind;
- *resilience*, to strengthen the capacity of local and regional communities to address economic, social, environmental and security challenges; and
- *proximity*, to bring the EU closer to citizens by empowering local and regional authorities and reinforcing democratic participation.

Every year in October, the CoR publishes its *Annual Report on the State of the Regions and Cities*.

The European Week of Regions and Cities is an annual multi-day event which allows regions and cities to showcase their capacity to encourage growth and job creation, implement EU cohesion policy and support good governance. The 24th European Week of Regions and Cities will be held from 12 to 14 October 2026 under the headline of 'Strong Europe, strong regions'.

### Strategic agenda 2024 to 2029

In June 2024, following the European Parliament elections, the European Council adopted a strategic agenda for the period from 2024 to 2029. It addresses global instability, economic challenges and threats to the rules-based order, focusing on 3 main pillars:

- a free and democratic Europe – upholding fundamental rights and democratic values
- a strong and secure Europe – enhancing defence and security measures
- a prosperous and competitive Europe – promoting economic growth and sustainability.



### Sustainable prosperity and competitiveness

Subsequently, the European Commission re-aligned its work programme, detailing 7 key priority areas. This publication focuses on 1 of these, namely, *A new plan for Europe's sustainable prosperity and competitiveness*, which is considered central to improving citizens' economic and social well-being, increasing their purchasing power, creating good jobs, assuring high-quality goods and services, and reinforcing Europe's sovereignty in strategic sectors. For more information:

- Competitiveness compass
- Clean industrial deal
- AI continent action plan
- European Data Union strategy
- Union of skills.

### Sustainable development goals

The 17 sustainable development goals (SDGs) provide a global policy framework until 2030 for stimulating action in areas of critical importance related to people, the planet, prosperity, peace and partnership. On 22 November 2016, the European Commission adopted the Communication, *Next steps for a sustainable European future – European action for sustainability* (COM(2016) 739 final). It detailed the importance of the SDGs, identified EU policies that contribute to the implementation of SDGs and announced plans for regular monitoring within an EU context. For more information:

- 2030 Agenda for Sustainable Development
- EU approach to SDGs implementation
- Eurostat monitoring – SDGs overview.

## Reading guide

### COVERAGE

Each chapter in the *Eurostat regional yearbook* presents statistical information in the form of maps, figures and infographics, accompanied by descriptive analyses highlighting the main findings. Information is shown for 13 different subjects: population, health, education and training, the labour market, living conditions, the digital society, the economy, business, research and innovation, tourism, transport, the environment and agriculture.

The *Eurostat regional yearbook* contains regional statistics for the EU countries, alongside data for several non-EU countries: EFTA countries (Iceland, Liechtenstein, Norway and Switzerland) and candidate countries (Bosnia and Herzegovina, Montenegro, Moldova, Georgia, North Macedonia, Albania, Serbia, Türkiye and Ukraine).

The geographical descriptions used within this publication to group EU countries – for example, as 'northern', 'eastern', 'southern' or 'western' – are not intended as political categorisations. Rather, these references relate to the geographical location of 1 or more EU countries, based on the geography domain of the European Commission's multilingual thesaurus (Eurovoc).

The designations employed and the presentation of material in maps and figures does not imply the expression of any opinion whatsoever on the part of the EU concerning the legal status of any country, territory or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

### TIMELINESS

Eurostat compiles the information used in this publication from a wide range of surveys and data collection exercises. As a result, there may be differences in the latest available reference year between chapters and indicators, as each aims to show the latest information available.

In general, 2025 data are available for demography (as used in the chapter on population), the labour force survey (as used in the chapters on education and training and on the labour market), statistics on income and living conditions (as used in the chapter on living conditions) and the information society survey (as used in the chapter on the digital society). Otherwise, the most recent reference period is generally 2024.

Eurostat's website may have more up-to-date data due to the continuous nature of data collection and processing (resulting in updates and new reference periods being added throughout the year). Online data codes are provided below each of the maps and figures as part of the source; these codes can be used to access the most recent data.

## HOW TO INTERPRET THE MAPS

Most maps in the *Eurostat regional yearbook* are choropleth maps, using coloured shades to highlight regional differences. Typically, 6 sequential colours are used, from light (low values) to dark (high values), based on normalised data such as proportions, rates or ratios, rather than absolute values (which could introduce bias linked to the size of each region). Some maps use more or fewer classes, while different colours may be applied (for example, if there are specific colour conventions inherent to a particular indicator).

Class boundaries presented in the maps are generally based on the distribution of regional values for EU regions (therefore excluding EFTA and candidate country regions). The lower boundaries are usually based on the 10th and the 25th percentiles, the middle on the 50th percentile, and the upper boundaries on the 75th and the 90th percentiles. As such, the lightest and darkest shades in maps generally portray those EU regions with the lowest/highest 10% of values. The values within each class range from the lower boundary (inclusive) to the upper boundary (exclusive). When multiple maps are shown together – for example, employment rates by educational attainment in Chapter 3 – a common classification scheme is used to facilitate comparisons across the maps. The highest and lowest values in each legend indicate the maximum and minimum values in the corresponding dataset. These are calculated using all regions shown on the map and may therefore refer to regions in the EU, EFTA or candidate countries. For small multiple maps (that is, maps composed of more than 1 map), the maximum and minimum values are calculated using all data displayed across the entire set of maps.

Some choropleth maps use diverging colour schemes to show variations around a specific EU policy target or to highlight regions above/below an index value, such as the EU average (= 100).

Bivariate choropleth maps display information for two indicators simultaneously. For example, Chapter 2 presents a map showing the average number of inhabitants per hospital bed and per doctor, using 9 shades organised in a 3*3 grid, from light (low for both indicators) to dark (high for both).

Proportional circle maps display absolute values, such as the number of people employed in science and technology. Circle size reflects the underlying number, while colour or shade can be used to indicate complementary information, such as this subpopulation's share of the overall labour force.

Finally, coxcomb maps are used to visualise regional data using segmented circles, with the size of each segment representing the absolute values for each month. In Chapter 10, this type of map is used to depict the number of guest nights spent in tourist accommodation. Coloured shading is used to distinguish between the nights spent by domestic and international tourists, making it easy to see both seasonal variations and the origin of tourists at a glance.

Within this edition of the *Eurostat regional yearbook*, the map legends have been adapted to include information for the minimum and maximum values displayed in each map. Unlike the class boundaries, which are based solely on data for EU regions, these minimum and maximum values refer to the full range of data shown and may therefore correspond to regions outside the EU (in EFTA or candidate countries).

## METADATA

Eurostat data are consistently published with accompanying metadata, providing background information on the main sources as well as specific information on individual indicators and data cells.

Metadata for individual data cells, often referred to as flags, indicate the status of data, such as whether it is estimated, provisional or forecasted. To limit the amount of information displayed under each figure or map, this publication generally omits detailed flags. No distinction is made between data cells that are unavailable, of poor quality or confidential; rather, these data points are all shown/labelled as 'not available'.

Data with break in series, different definitions, or low reliability are documented in the metadata notes below each figure or map. Readers seeking more detailed metadata are encouraged to use the online data codes provided as part of each source.

## MISSING DATA

In figures, missing data for EU regions are indicated in footnotes (no information is presented for non-EU countries). Many figures focus exclusively on data for EU regions – for example, charts showing the 10 EU regions with the highest or lowest values for a particular indicator.

In maps, missing data are shown in dark grey, while countries outside the spatial coverage adopted for this edition (EU, EFTA and candidate countries) are shown in a lighter grey.

During data processing, missing values were filled, whenever possible, using data from the previous year at the same NUTS level. If such data were unavailable, values from more aggregated NUTS levels or national data were used. Any exceptions, including differences in reference period or NUTS level, are documented in the notes or footnotes. In some exceptional cases, estimates were made to fill the gaps in the datasets; these are also mentioned in the accompanying notes.

For countries with few or no regional values, national data were used to fill gaps; these exceptions are noted. Furthermore, the source data codes (online data codes) have been adapted to reflect any additional national data tables that may have been used.

When a figure or map covers more than 1 territorial level (for example, some countries only have national data), commentary on the number of regions meeting a criterion refers to the available data, reflecting the actual NUTS levels or national data employed.

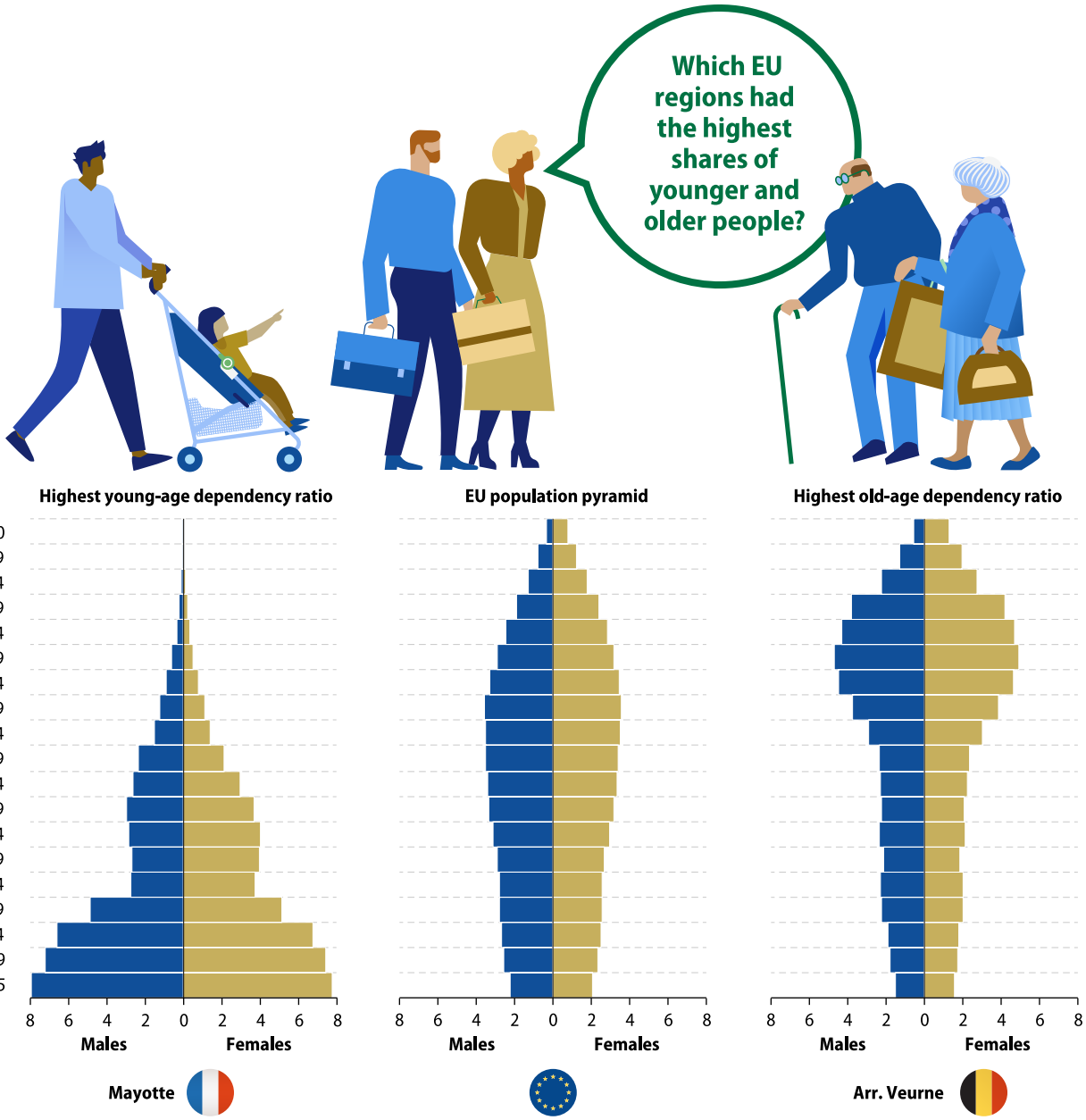
# People and society



# 1. Population

Population events such as births, deaths and migratory flows shape demographic changes over time to impact the structure of the EU's population. Demographic developments are also impacted by irregular shocks, such as the COVID-19 crisis, Russia's war of aggression against Ukraine or more recent events in Iran and the wider region.

On 1 January 2025, there were 450.6 million people living in the EU. During the course of 2024, the EU's population increased by 1.3 million (up 0.3%). At the same time, natural population change was negative, with 1.3 million more deaths than births. Net migration – the difference between the number of immigrants and emigrants, after statistical adjustments – amounted to 2.4 million people across




(% of total population, by NUTS 3 regions, 1 January 2025)

Note: the infographic shows the NUTS level 3 region with the highest young-age dependency ratio, data for the EU average, and the NUTS level 3 region with the highest old-age dependency ratio.

*Source:* Eurostat (online data code: demo_r_pjangrp3)

the EU. This total reflects, among other factors, migrants moving for work, family reunification or international protection (including the movement of displaced people, for example, from Ukraine).

The population pyramids shown in the infographic above highlight the considerable difference in age structures across NUTS level 3 regions. On 1 January 2025, the French outermost region of Mayotte had the highest young-age dependency ratio in the EU, while the Belgian coastal region of Arr. Veurne recorded the highest old-age dependency ratio. To illustrate the contrast in age structures:

- 15.7% of Mayotte's population was aged under 5, compared with 3.1% in Arr. Veurne
- 36.7% of Arr. Veurne's population was aged 65 or more, compared with 2.7% in Mayotte.

## Population structure

Demographic developments across the EU are far from uniform, with considerable variations both between and within individual countries. The EU's population structure is evolving as a result of several different factors, including population ageing, changing fertility and mortality patterns, and migration flows. Increased mobility – particularly among younger people – is also reshaping where people live, as individuals move in search of education, employment and improved living conditions. As a result, population change is unevenly distributed, contributing to shifting regional dynamics and altering the balance between different types of territories. The EU's population is distributed across various types of settlements, each with distinct demographic and economic characteristics, including:

- major urban areas that tend to attract younger populations, with a high share of people living alone, relatively high living costs, diverse educational opportunities and dynamic labour markets
- commuter belts/suburban areas, which are often populated by families
- former industrial heartlands, characterised by economic decline, lower living costs, relatively high levels of unemployment, poverty and social exclusion
- coastal locations, some of which are viewed as retirement locations for relatively affluent pensioners
- rural and remote regions, which frequently exhibit declining population numbers, ageing populations, limited job opportunities and lower access to services.

The median age is an indicator that helps summarise the pace at which population structures have changed. During the last 2 decades, the median age of the EU population increased 5.3 years, up from 39.6 years on 1 January 2005 to 44.9 years by 1 January 2025.

The regional distribution of median ages is moderately skewed. As of 1 January 2025, 745 NUTS level 3 regions had a median age above the EU average, 14 had a value that was the same as the EU (44.9 years), while 406 regions were below this level.

- At the upper end of the distribution, 191 regions had a median age of at least 50.0 years. A relatively large number were located in Germany (75 regions), predominantly in the eastern part of the country, and in Italy (47 regions). The remaining regions with similarly high median ages were mainly found in Bulgaria, Greece, France (13 regions each), Portugal (10 regions) and Spain (9 regions).
- At the lower end of the distribution, 2 outermost regions of France had, by far, the lowest median ages in the EU. Elsewhere in the EU, relatively low median ages were also recorded in a number of predominantly urban regions (including capital regions and regions that border/surround their capital).

***At the start of 2025, rural regions recorded some of the highest median ages …***

Map 1.1 highlights those regions with the highest and lowest median ages, as of 1 January 2025. There were 7 regions in the EU that reported a median age above 55.0 years:

- Evrytania (57.8 years), a mountainous region in central Greece
- Arr. Veurne (57.2 years), a rural/coastal region in north-western Belgium
- Alto Tâmega e Barroso (56.6 years), a mountainous region in northern Portugal
- the eastern German regions of Suhl Kreisfreie Stadt, Spree-Neiße, Mansfeld-Südharz and Greiz (55.1 to 56.1 years).

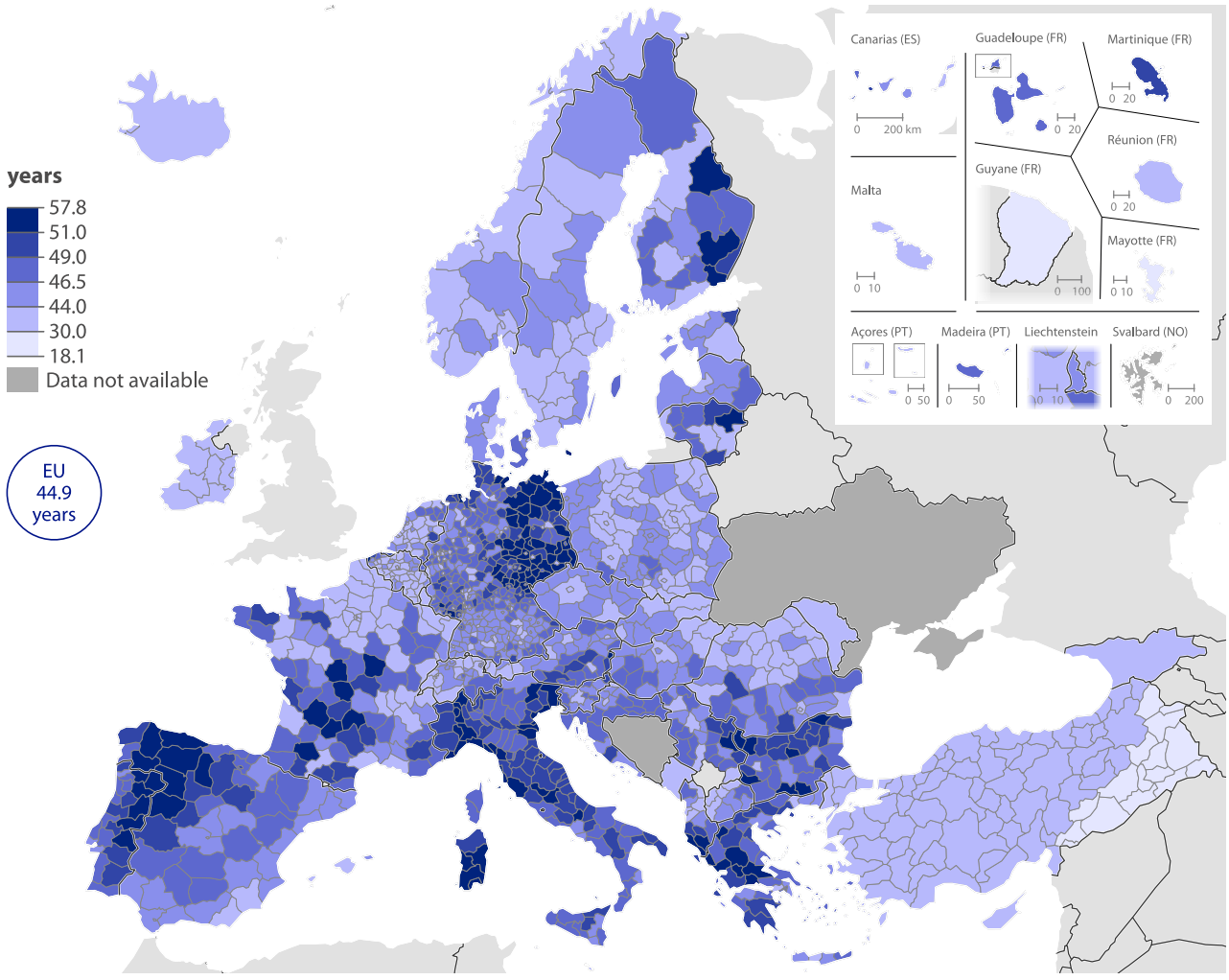
***… while some of the lowest median ages were in and around capital cities***

Capital regions often exert a considerable pull on inter-regional and international migrants, as they tend to provide a diverse range of educational and employment opportunities. This process can lead to a shift in population structures, with younger people accounting for a growing share of the population in predominantly urban regions; over time, this pattern may self-reinforce, insofar as populations with younger age structures are more likely to have relatively high crude birth rates, even where fertility levels are comparatively low.

As of 1 January 2025, the French outermost regions of Mayotte and Guyane had the lowest median ages in the EU (18.1 years and 27.5 years, respectively). This reflects their relatively young population structures and high fertility rates. Beyond these outermost regions and the Spanish autonomous cities of Ceuta and Melilla, some of the lowest median ages were recorded in:

- capital regions, including the Danish capital of Byen København (34.2 years), the Belgian capital of Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad (36.1 years), the Dutch capital of Groot-Amsterdam and the Irish capital of Dublin (both 38.2 years)
- regions bordering or surrounding capitals, such as Seine-Saint-Denis (36.1 years), Val-d'Oise (37.6 years) and Essonne (38.2 years) in France
- other predominantly urban regions that are home to renowned academic institutions, diverse populations and dynamic labour markets, like Heidelberg (35.8 years), Freiburg im Breisgau (37.9 years) and Darmstadt (38.0 years) in Germany.

**Map 1.1: Median age**
(years, by NUTS 3 regions, 1 January 2025)




*Source:* Eurostat (online data codes: demo_r_pjanind3 and demo_pjanind)

***As of 1 January 2025, the Danish capital region of Byen København and the Spanish island region of Eivissa y Formentera had the highest shares of working-age people in the EU***

Europe is experiencing population ageing, reflected in economic and social pressures arising from low birth rates, a shrinking workforce and a growing share of retirees (driven in part by increased longevity). As this demographic shift progresses, the size, productivity and participation of the working-age population become increasingly critical. This is evident in key policy areas such as the sustainability of pension systems, the financing of healthcare provision and the maintenance of labour market stability. Taken together, these dynamics underline the central role of working-age people in supporting long-term economic and social resilience. For the purpose of this publication, the working-age population is defined as individuals aged 20 to 64.

During the past 2 decades, the EU's age dependency ratio – which shows the number of 'dependents' (people aged under 20 and people aged 65 or over) relative to the working-age population – has increased rapidly. On 1 January 2005, it stood at 63.4%, meaning there were about 1.6 working-age adults for every dependent. By 1 January 2025, this ratio had risen to 71.6%, meaning there were about 1.4 working-age adults for every dependent, as the share of the working-age population fell to 58.3% of the total.

As of 1 January 2025, there were 39 NUTS level 3 regions where the share of the working-age population was at least 63.0%. As shown by the darkest shade in Map 1.2, this group was largely concentrated in Germany (22 regions), while also including a number of island regions in Spain, as well as several capital regions and regions in close proximity to them. Apart from the Spanish islands, these 39 regions were often predominantly urban, reflecting the concentration of education and employment opportunities in major population centres.

At the top end of the distribution, more than two thirds of the population were of working age in:

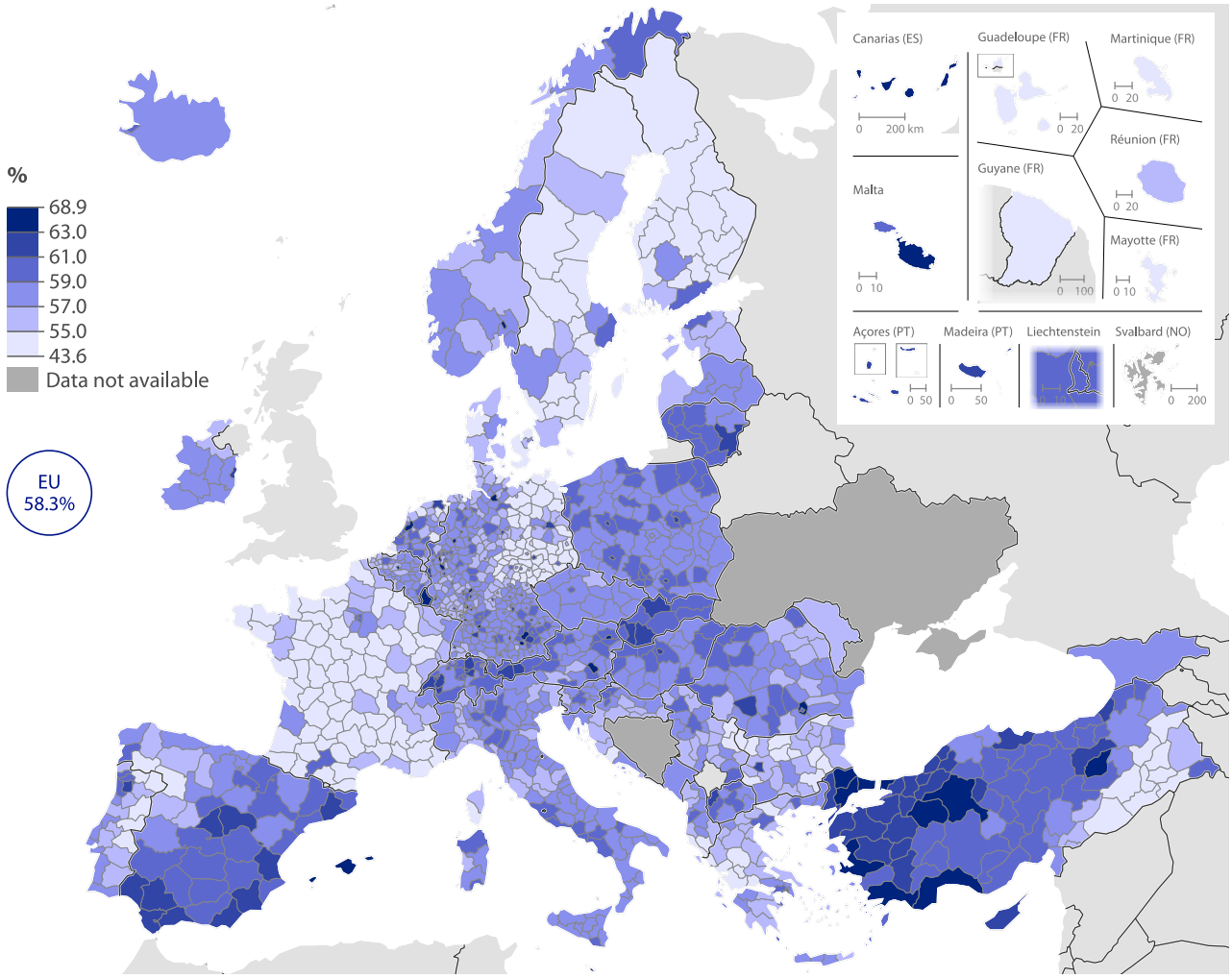
- the Danish capital region of Byen København (68.9%)
- 3 island regions of Spain – Eivissa y Formentera (68.9%), Fuerteventura (68.3%) and Lanzarote (67.3%).

As of 1 January 2025, there were 189 NUTS level 3 regions in the EU where the working-age population accounted for less than 55.0% of the total population. Some of the lowest shares of working-age people were found in predominantly rural regions, including inland Portugal, much of rural France, as well as most of eastern Germany and rural areas in Bulgaria, Greece and the Nordic EU countries. This pattern may be linked to rural depopulation (particularly in sparsely populated regions), as young adults move to large cities/metropolises, coastal hubs or abroad for work and/or study, leaving behind older populations and thereby reducing the share of the working-age residents. In addition, some predominantly rural regions may experience inward migration of retirees, attracted by lower living costs and perceived advantages such as less congestion, noise and crime, which further increases the proportion of older residents.

At the bottom end of the distribution, there were 6 regions across the EU where the working-age population accounted for less than half of the total population on 1 January 2025:

- the relatively peripheral regions of Bornholm in Denmark and Arr. Veurne in Belgium, characterised by limited job opportunities, outward migration of working-age residents and some inflow of domestic retirees
- the sparsely populated regions of Creuse and Lot in south-west France and Etelä-Savo in south-east Finland
- the French outermost region of Mayotte, which is an outlier, characterised by a very high fertility rate and a high share of children below working age.

**Map 1.2: Working-age people**
(% of total population, by NUTS 3 regions, 1 January 2025)




Note: working-age people are those aged 20 to 64.

*Source:* Eurostat (online data codes: demo_r_pjanind3 and demo_pjanind)

Across the EU, the population grew, on average, by 0.2% each year during the period from 2014 to 2024. The highest growth rates were observed in Malta, Luxembourg, Ireland and Cyprus, at between 1.2% and 2.7% per year on average. By contrast, population decline was recorded in 9 EU countries in the Baltic, eastern and southern parts of the EU, with the largest decrease recorded in Bulgaria (down 0.9% per year on average).

Figure 1.1 presents an analysis of population change across NUTS level 3 regions, highlighting those regions with the highest and lowest average growth rates over the period 2014 to 2024. The French outermost region of Mayotte had the fastest growing population, up on average by 3.6% each year during the period under consideration. The only other region to report growth of more than 3.0% each year was Ilfov in Romania (which completely surrounds the capital region of Bucureşti).

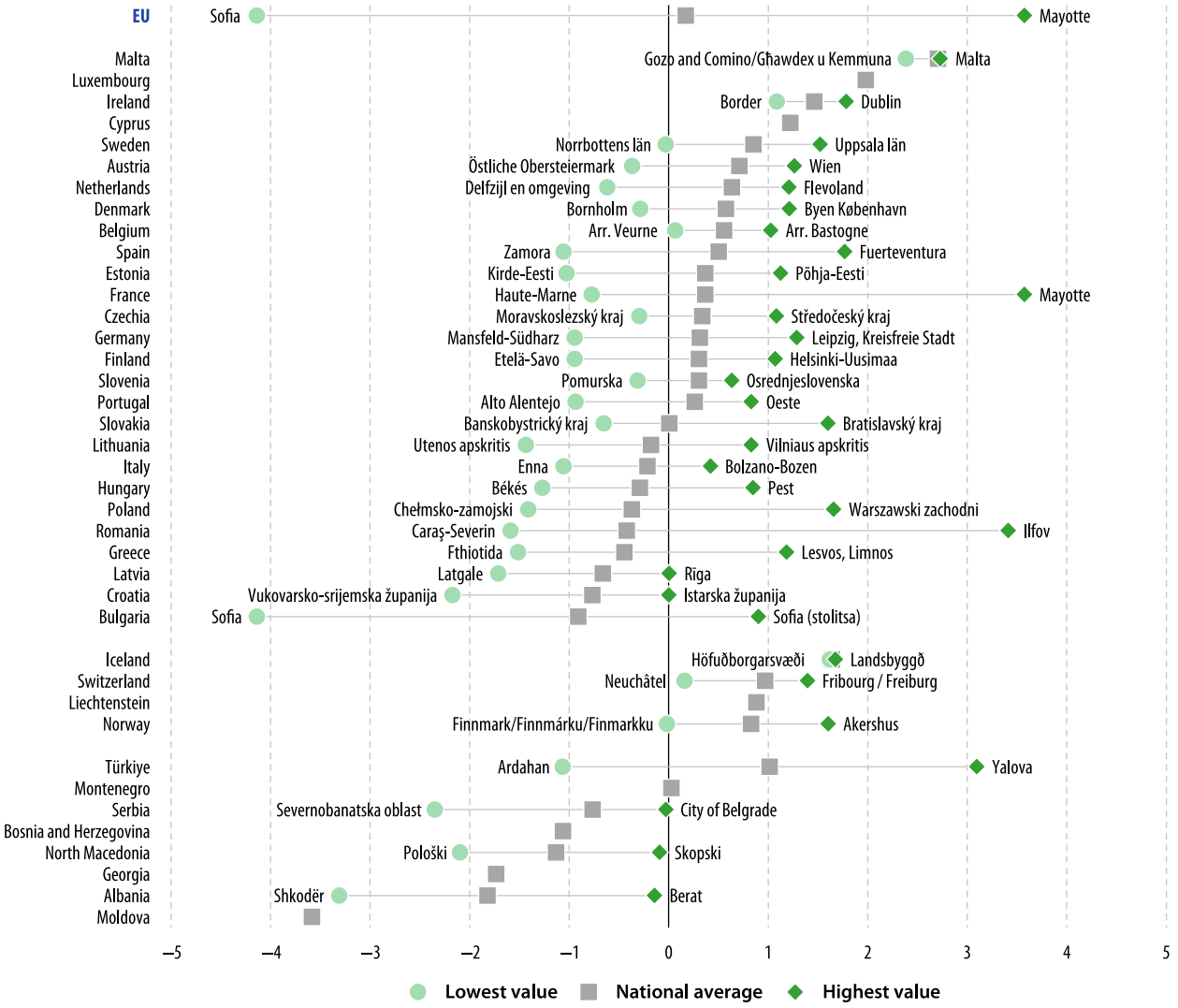
In several EU countries, the fastest population growth was often recorded in the capital region or a region within close proximity or surrounding the capital. This was the case in: Dublin (Ireland), Uppsala län (Sweden), Wien (Austria), Flevoland (the Netherlands), Byen København (Denmark), Põhja-Eesti (Estonia), Středočeský kraj (Czechia), Helsinki-Uusimaa (Finland), Osrednjeslovenska (Slovenia), Oeste (Portugal), Bratislavský kraj (Slovakia), Vilniaus apskritis (Lithuania), Pest (Hungary), Warszawski zachodni (Poland), Ilfov (Romania), Rīga (Latvia) and Sofia stolitsa (Bulgaria).

Of the 1 165 regions for which data are available, a minority (512 regions) experienced a decline in population during the period from 2014 to 2024. The largest decrease was recorded in the Bulgarian capital region of Sofia, where the population fell by an average of 4.1% each year – by far the biggest decline in the EU. The second largest decline was also observed in Bulgaria, in Vidin (down 2.5% each year), followed by Vukovarsko-srijemska županija in Croatia (down 2.2% each year).

Some EU countries are characterised by pronounced differences in population change across their regions. This typically reflects the influence of capital regions, uneven economic development and/or patterns of internal migration that are not visible when analysing national averages. A closer examination of regional demographic developments shows that Bulgaria, Romania, France and Poland recorded the widest ranges in average annual population growth rates:

- in Bulgaria, the highest rate was recorded in the capital region of Sofia (stolitsa), where the population increased at an annual rate that was 5.0 percentage points higher than in the surrounding region of Sofia
- the highest rate in Romania was recorded in Ilfov, which surrounds the capital region of Bucureşti; average population growth in this suburban region was 5.0 percentage points higher than in the south-western region of Caraş-Severin
- the highest rate in France – and indeed in the entire EU – was observed in the outermost island region of Mayotte, where annual population growth exceeded that recorded in the eastern region of Haute-Marne by 4.3 percentage points
- in Poland, the highest rate was recorded in Warszawski zachodni, a suburban region to the west of the capital, while the lowest rate was observed in the eastern region of Chełmsko-zamojski, some 3.1 percentage points lower.

**Figure 1.1:** Average annual rate of population change
(%, by NUTS 3 regions, 2014–24)




Note: Serbia, 2017–24. Czechia, Germany, Luxembourg, Poland and Türkiye: breaks in series. Jan Mayen (NO0B1) and Svalbard (NO0B2): not available.

*Source:* Eurostat (online data codes: demo_r_gind3 and demo_gind)

Maps 1.3 and 1.4 provide a more detailed analysis of regional population developments. Before examining the individual components of population change – namely, natural change and net migration – this section highlights some of the largest increases and decreases in regional populations. The regions of the EU were relatively evenly divided between those recording population growth and those experiencing a decline between 1 January 2014 and 1 January 2025, as the population increased in 653 NUTS level 3 regions, while 512 regions recorded a decrease.

***Population growth above 20% was largely concentrated in island, peripheral and capital regions***

There were 7 regions that recorded overall population growth of more than 20.0% between 1 January 2014 to 1 January 2025, with several of these located in peripheral areas.

- The highest increase was recorded in the French outermost region of Mayotte, where the population grew 47.2% (an annual average of 3.6%).
- A similarly high growth rate was observed in the Romanian region of Ilfov that surrounds the capital region of Bucureşti, its population increased 44.6%.
- Both regions that together make up Malta also recorded substantial growth: the main island region of Malta saw its population rise 34.5%, while Gozo and Comino/ Għawdex u Kemmuna recorded an increase of 29.6%.
- Luxembourg – which forms a single region at this level – saw its population grow 24.1%.
- The Irish capital region of Dublin recorded population growth of 21.5%.
- The final region to record growth above 20.0% was the Spanish island region of Fuerteventura, with an overall increase of 21.3% during the period under consideration.

***3 of the 4 EU regions where population declined by more than 20% were located in Bulgaria***

The largest decreases in population between 1 January 2014 and 1 January 2025 were concentrated in regions across Bulgaria and, to a lesser degree, Croatia. There were 4 regions where the population declined by at least 20.0%.

- The most pronounced decrease was recorded in the Bulgarian region of Sofia, which surrounds the capital region, where the population fell by 37.2%.
- The north-western Bulgarian region of Vidin also recorded a considerable fall, its population decreasing 24.4%.
- In eastern Croatia, the region of Vukovarsko-srijemska županija recorded a population decrease of 21.5%.
- The relatively sparsely populated region of Smolyan in southern Bulgaria was the only other region to report a decline of more than 20.0% during the period under consideration; its population fell 21.1%.

***Madrid recorded the largest absolute population increase, followed by Barcelona and Stockholm***

Between 1 January 2014 and 1 January 2025, the largest population increases – in absolute terms – were concentrated in a number of predominantly urban regions, many of which were capital regions.

- The Spanish capital region of Madrid recorded, by far, the largest increase, with its population rising by 741 300 people. The second largest increase was also recorded in Spain, as the population of Barcelona grew by 500 200 during the period under consideration.
- There was relatively large gap to the Swedish capital region of Stockholm, which recorded the third highest increase (up 310 300).
- There were 3 other regions that recorded population growth of more than 250 000 people: the Irish capital region of Dublin (up 274 900), the German capital region of Berlin (up 263 400) and the Austrian capital region of Wien (up 261 500).

***Population declines of more than 50 000 people were mainly concentrated in eastern EU regions, while the largest falls were recorded in predominantly urban regions such as Bucureşti, Paris, Sofia and Napoli***

There were 28 regions across the EU where the population fell – in absolute terms – by more than 50 000 people between 1 January 2014 and 1 January 2025.

- Most of these regions were located in eastern EU countries:
  - Poland (16 regions)
  - Romania (5 regions)
  - as well as single regions from each of Bulgaria and Hungary.
- There were also relatively large falls in:
  - Italy (3 regions)
  - France (a single region)
  - Latvia (also a single region).
- Within this group of 28 regions, there were 4 predominantly urban regions that recorded the largest declines, with their populations falling by more than 100 000 people:
  - the Romanian capital region of Bucureşti (down 156 000)
  - the French capital region of Paris (down 154 900)
  - the Bulgarian region of Sofia, which surrounds the capital (down 132 900)
  - the southern Italian region of Napoli (down 114 600).

***There were relatively few regions in the EU where the population grew as a result of natural change between 2014 and 2024***

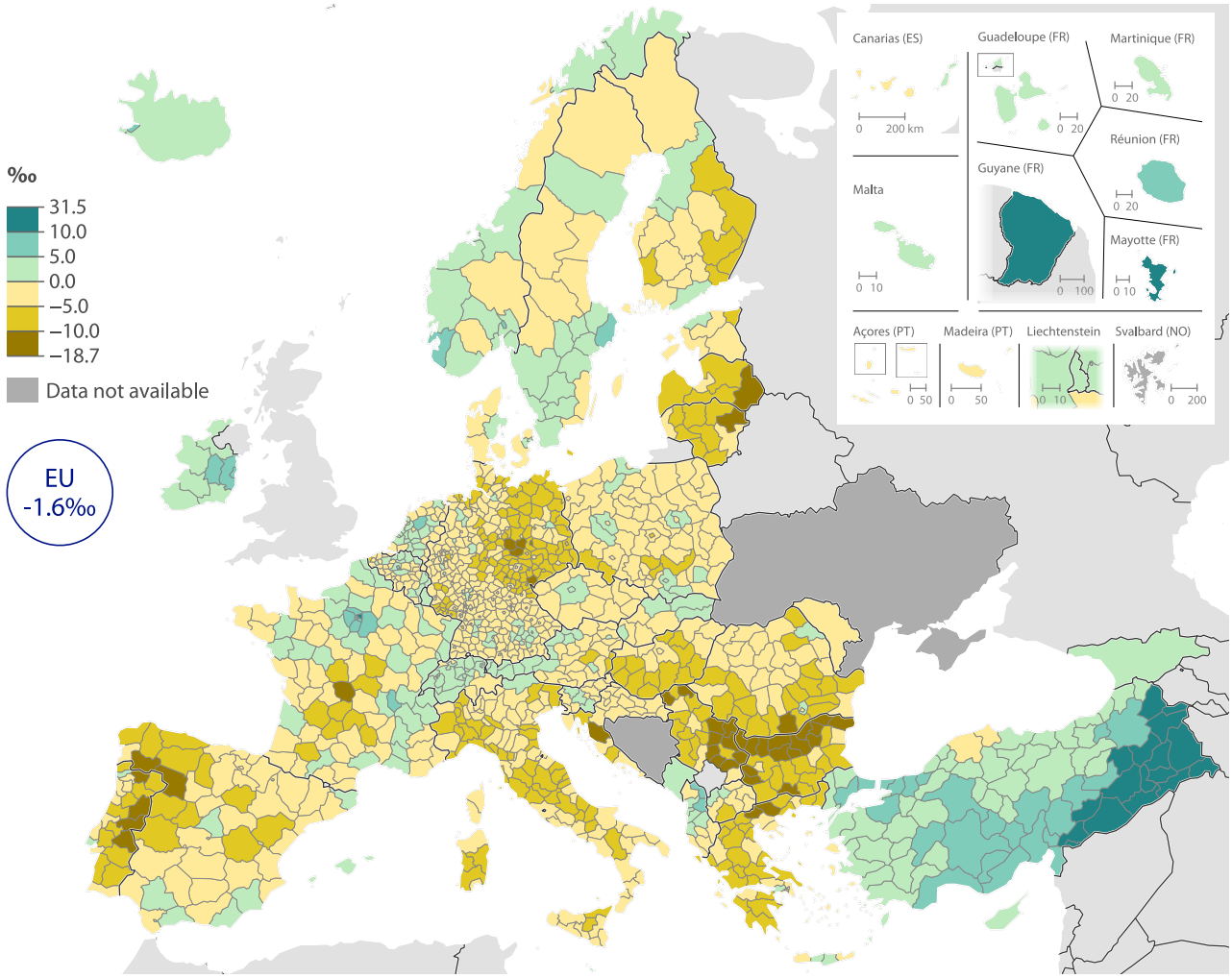
The EU recorded a crude rate of natural population change of -1.6‰ over the period from 1 January 2014 to 1 January 2025. Overall, negative rates of natural change were widespread across the EU, with more than 4 out of every 5 NUTS level 3 regions (963 out of the 1 165 for which data are available, or 82.7%) recording a negative rate during the period under consideration.

Positive crude rates of natural population change were limited to a small number of EU countries: every region in Ireland recorded a positive rate, as did both regions in Malta, alongside Cyprus and Luxembourg. By contrast, negative rates of natural population change were widespread, with several EU countries recording declines across every region. This was the case in Bulgaria, Croatia, Latvia, Lithuania and Hungary. A similar pattern was observed in Italy, where Bolzano-Bozen was the only region to record a positive rate.

Negative crude rates of natural population change indicate that deaths exceeded births over the period from 1 January 2014 to 1 January 2025. In several regions, this imbalance was particularly pronounced, with persistently low rates of natural change, reflecting ageing populations and relatively low fertility levels. There were several clusters of regions where the crude rate of natural population change reflected a decrease below 10‰, see Map 1.3:

- 15 regions in Bulgaria, concentrated in the north
- 6 regions in eastern Germany
- 4 interior regions of Portugal
- 2 regions in the north-western Spain
- 2 regions in northern Greece
- 2 easternmost regions in the Baltic countries of Latvia and Lithuania
- single regions in central France, western Croatia and southern Romania.

**Map 1.3: Crude rate of natural population change**
(‰, by NUTS 3 regions, 2014–24)




Note: Serbia, 2017–24. Czechia, Germany, Luxembourg, Poland and Türkiye: breaks in series.

*Source:* Eurostat (online data codes: demo_r_gind3 and demo_gind)

***Most Iberian, western and northern EU regions recorded positive population growth from net migration between 2014 and 2024***

Net migration plays a key role in shaping population change across the EU, often offsetting negative natural population change. That said, the crude rate of net migration varied considerably across EU countries, reflecting differences in economic opportunities, labour market conditions and patterns of internal and international migration. Map 1.4 illustrates these spatial differences, highlighting regions where net migration made a positive or negative contribution to overall population change.

### More about the data: measuring net migration

Note that statistics on net migration plus statistical adjustment might be affected by statistical inaccuracies or by methodological differences in the 2 components of this indicator. Besides the difference between inward and outward migration, net migration plus statistical adjustment may also cover other changes observed in the population figures between consecutive years that cannot be attributed to births, deaths, immigration or emigration.

Crude rates of net migration at regional level capture population movements into and out of a region, and therefore include flows from within the same country, from other EU countries and from non-EU countries. In many regions, a considerable share of inward migration consists of people moving from other parts of the same country, for example for education, employment or retirement reasons. These flows are particularly evident:

- in capital and other metropolitan regions, as well as in their neighbouring regions (which may benefit from their proximity to major urban labour markets and comparatively lower housing costs)
- in coastal regions, which may be attractive retirement destinations.

Elsewhere, net migration may be strongly influenced by international flows. This is particularly relevant for some peripheral regions of the EU, which may act as entry points for non-EU migrants.

The EU recorded a crude rate of net migration plus statistical adjustment of 3.4‰ over the period from 1 January 2014 to 1 January 2025. Positive rates of change were widespread across most Iberian, western and northern EU regions. Indeed, more than three quarters of NUTS level 3 regions (892 out of the 1 165 for which data are available, or 76.6%) recorded a positive rate during the period under consideration.

There were 73 regions across the EU where the crude rate of net migration plus statistical adjustment was at least 10.0‰ between 1 January 2014 and 1 January 2025. The highest numbers of regions were recorded in some of the largest EU countries, including Germany (28 regions), Spain (9 regions) and France (8 regions).

- In Germany, the highest rate was recorded in the Barnim, a commuter region located to the north-east of Berlin, where the crude rate of net migration plus statistical adjustment stood at 15.2‰.
- In Spain, the highest rate was observed in El Hierro, at 15.7‰. This may, at least in part, reflect its role as an initial reception point for some migrant arrivals, rather than long-term settlement.
- In France, the highest rate was recorded in Corse-du-Sud, at 13.6‰.

Within the group of 73 regions where the crude rate of net migration plus statistical adjustment was at least 10.0‰ there were several capital regions with relatively high growth rates:

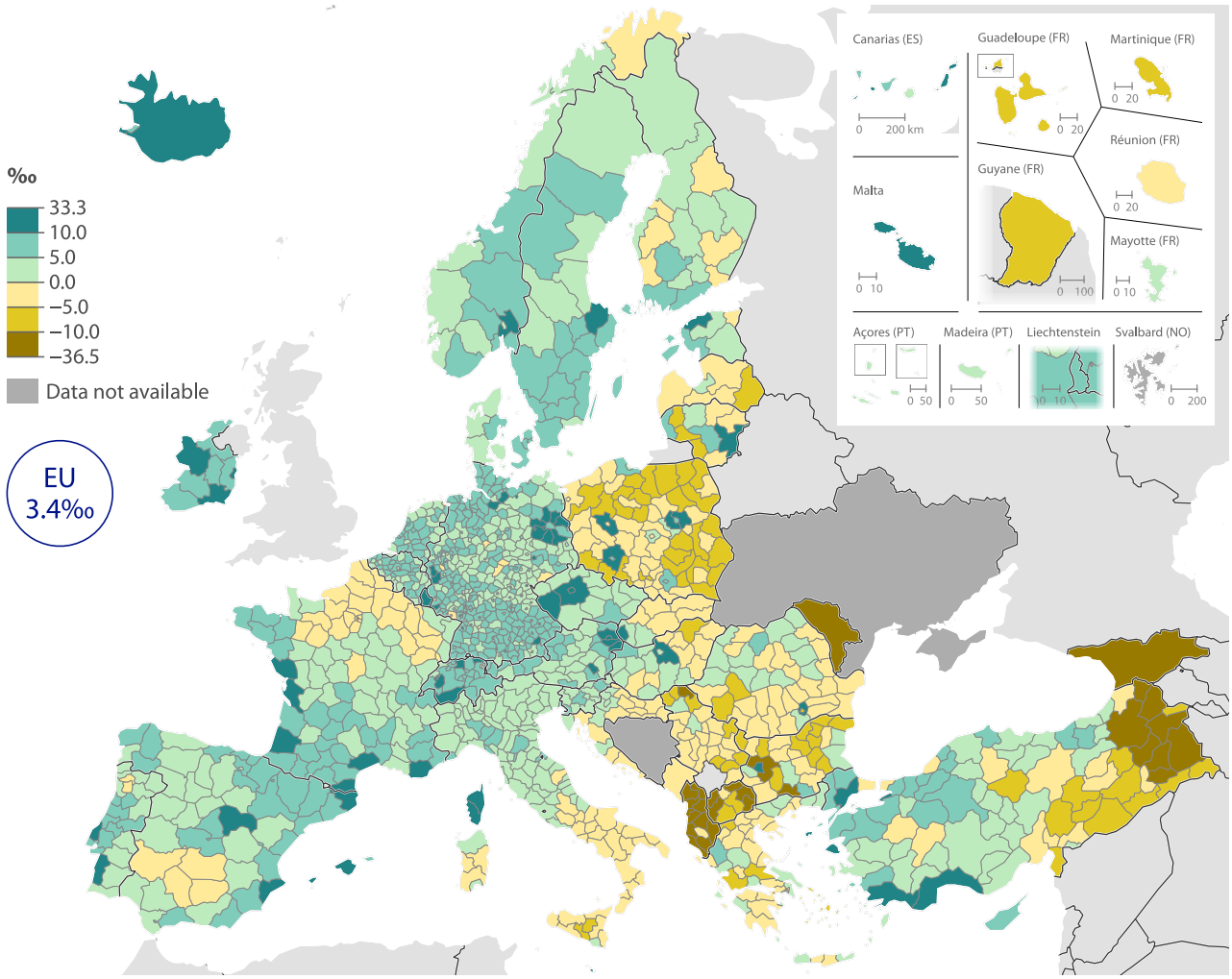
- Malta (25.7‰)
- the Czech capital region of Hlavní město Praha (14.7‰)
- the Slovak capital of Bratislavský kraj (13.9‰)
- the Bulgarian capital of Sofia (stolitsa) (11.4‰)
- the Irish capital of Dublin (11.3‰)
- the Austrian capital of Wien (11.1‰).

There were several clusters of regions that recorded negative crude rates of net migration plus statistical adjustment over the period from 1 January 2014 and 1 January 2025. This was the case, for example, in much of northern France, southern Spain, southern Italy and parts of Greece. Negative rates were also widespread across most eastern EU countries, as well as in Latvia and Lithuania.

At the lower end of the distribution, there were 3 regions in the EU where the crude rate of net migration plus statistical adjustment was lower than -10.0‰, indicating sustained net outflows of population relative to the size of the resident population. Such outflows may reflect a combination of internal migration towards other regions within the same country, including nearby regions within commuting distance, as well as outward movement to other EU countries or non-EU countries. The regions were:

- Sofia in Bulgaria (-35.6‰)
- Paris in France (-12.0‰)
- Smolyan in Bulgaria (-10.5‰).

**Map 1.4:** Crude rate of net migration plus statistical adjustment
(‰, by NUTS 3 regions, 2014–24)




Note: Serbia, 2017–24. Czechia, Germany, Luxembourg, Poland and Türkiye: breaks in series.

*Source:* Eurostat (online data codes: demo_r_gind3 and demo_gind)

## Fertility

### More about the data: measuring fertility

The total fertility rate is the average (mean) number of children who would be born to a woman during her lifetime, if she were to spend her childbearing years conforming to the age-specific fertility rates of a given year.

The natural replacement rate – the average number of live births per woman required to keep the population size constant in the absence of migration – is estimated to be around 2.10 children per woman for developed countries.

The number of live births across the EU was 5.1 million in 1990. Some 30 years later it had declined to 4.1 million. After a modest rebound in 2021, the downward trend resumed. The decline in births then accelerated in 2022 and 2023, falling 5.1% and 5.4%, respectively, before slowing somewhat to a 3.1% decrease in 2024. The most recent data available indicate that there were 3.6 million live births, representing an overall decrease of 30.2% compared with 1990.

In 2024, the EU's total fertility rate was 1.34 live births per woman; this was the lowest rate recorded since the start of the time series in 2001. Over the last 2 decades, the fertility rate remained consistently below the natural replacement rate of 2.10, fluctuating within the range of 1.34 to 1.57 live births per woman.

***Several of France's outermost regions recorded some of the highest fertility rates in the EU***

Map 1.5 shows the distribution of total fertility rates across NUTS level 3 regions. In 2024, the regional distribution was somewhat skewed: among the 1 165 regions for which data are available, 439 regions (37.7%) recorded total fertility rates below the EU level, while 714 regions (61.3%) had rates above the EU level; 12 regions had the same fertility rate as the EU average.

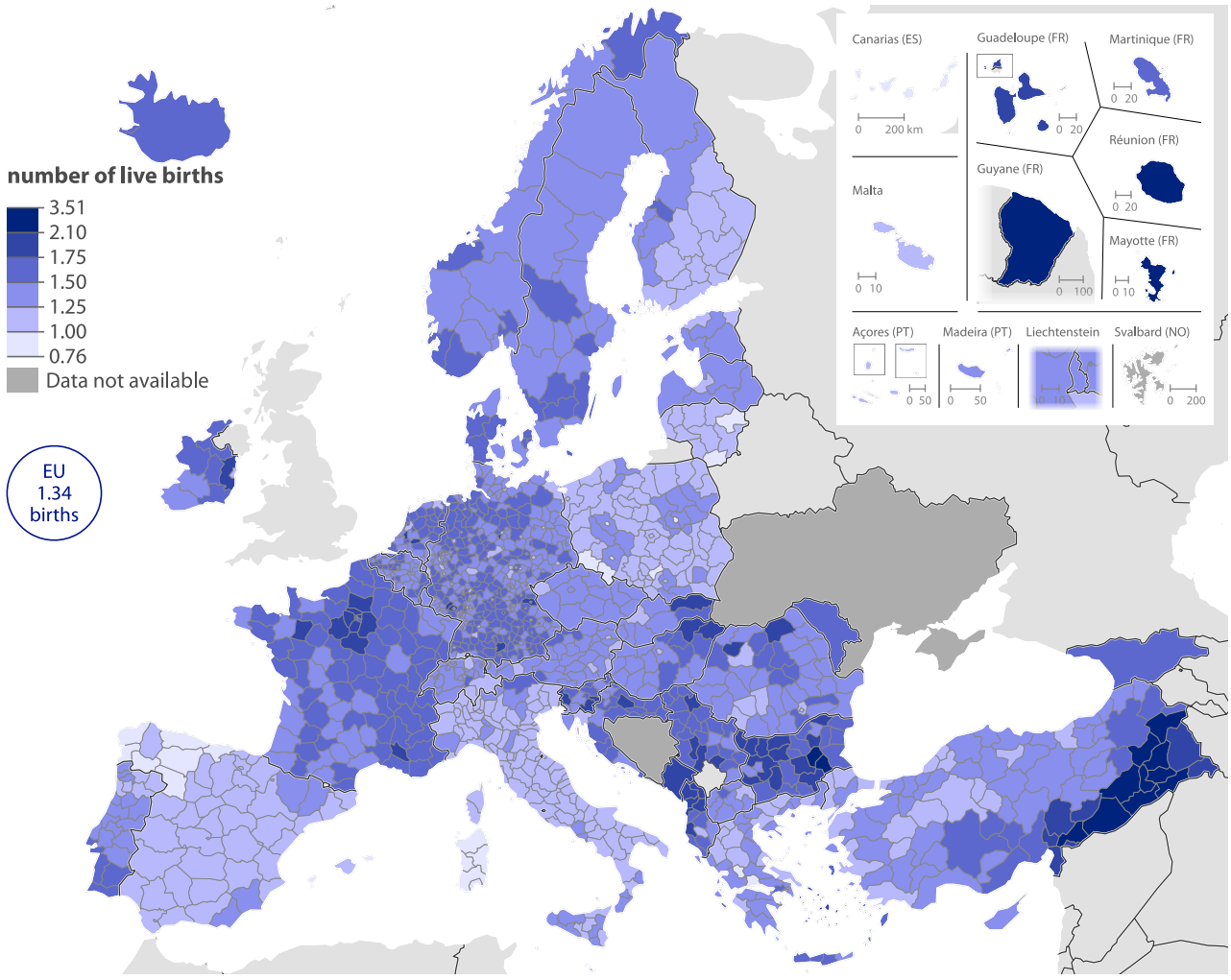
The highest total fertility rates in the EU were recorded across Bulgaria and France. Relatively high rates (of at least 1.75 live births per woman) were observed in 14 regions from each of Bulgaria and France, 6 regions from Germany (2023 data), 3 regions from Slovenia, 2 regions from each of Hungary, the Netherlands and Romania, as well as single regions from Ireland, Greece, Croatia and Slovakia.

By contrast, total fertility rates were particularly low in Spain (most notably in the north-west and certain island regions) and across much of Italy (notably in Sardegna). The lowest rates (less than 1.00 live births per woman) were observed in 16 Spanish regions, 7 Polish regions, 5 Italian regions, 3 Greek regions, as well as 2 regions from each of Germany (2023 data) and Lithuania.

A more detailed analysis of the latest regional data for 2024 reveals that:

- by far the highest total fertility rates in the EU were observed in the French outermost regions of Mayotte (3.51 live births per woman) and Guyane (3.10 live births per woman), while La Réunion (2.11 live births per woman) also recorded a rate that was slightly above the natural replacement level
- the Bulgarian regions of Sliven (2.58 live births per woman) and Yambol (2.42 live births per woman) were the only other regions across the EU to record total fertility rates above the natural replacement level
- at the lower end of the distribution, 4 island regions in Spain's Canarias recorded the lowest total fertility rates in the EU; La Palma had the lowest rate at 0.76 live births per woman, with only slightly higher values in Tenerife, La Gomera and Gran Canaria
- leaving aside these Spanish island regions, the next lowest total fertility rates were observed in the sparsely populated Greek regions of Evrytania and Fokida, the Italian island regions of Cagliari and Sud Sardegna, and the north-western Spanish regions of Ourense and Pontevedra
- it was relatively common for the lowest total fertility rate within a country to be recorded in the capital region; this was the case for Byen København (Denmark), Põhja-Eesti (Estonia), Dublin (Ireland), Rīga (Latvia), Budapest (Hungary), Malta (Malta) and Groot-Amsterdam (the Netherlands)
- otherwise, some of the lowest fertility rates in the EU were typically observed in other large metropolitan regions and in selected regions characterised by a high concentration of students (for example, certain regions in Germany).

**Map 1.5:** Total fertility rate
(average number of live births per woman, by NUTS 3 regions, 2024)




Note: Germany and Moldova, 2023.

*Source:* Eurostat (online data codes: demo_r_find3 and demo_find)

***Women in the EU are giving birth later in life***

A growing proportion of women in the EU are giving birth later in life, which helps explain, at least in part, relatively low fertility levels. This may be linked, among other factors, to:

- higher female participation in further education and/or a growing share of women establishing a career before starting a family
- employment uncertainty, for example due to temporary or precarious employment
- rising costs for raising children and housing.

### More about the data: the median age of women at childbirth

The median age at childbirth is the value that divides all recorded ages of mothers at childbirth into 2 equal halves when they are arranged in ascending order. In other words, half of all births occur to mothers younger than this age and half to mothers older. It is generally considered a more robust indicator of the 'typical age' at childbirth, as it is less sensitive to extreme values at either end of the distribution.

Eurostat also publishes the mean age of women at childbirth: this is calculated as a weighted average of the mother's ages at childbirth, using age specific fertility rates as weights. The mean value can be influenced by extreme observations, such as cases where a small number of women give birth at unusually young or older ages, which may shift the average away from the central tendency of the distribution.

Across the EU, the median age of women at childbirth rose from 31.0 to 31.9 years between 2014 and 2024. During this decade, the rise in the median age had a fairly regular pattern of development, with modest annual increases interspersed with occasional years of stability.

***In 2024, the predominantly urban region of Voreios Tomeas Athinon, located to the north of the Greek capital, recorded the highest median age for mothers at childbirth …***

Figure 1.2 shows that in 2024, among NUTS level 3 regions:

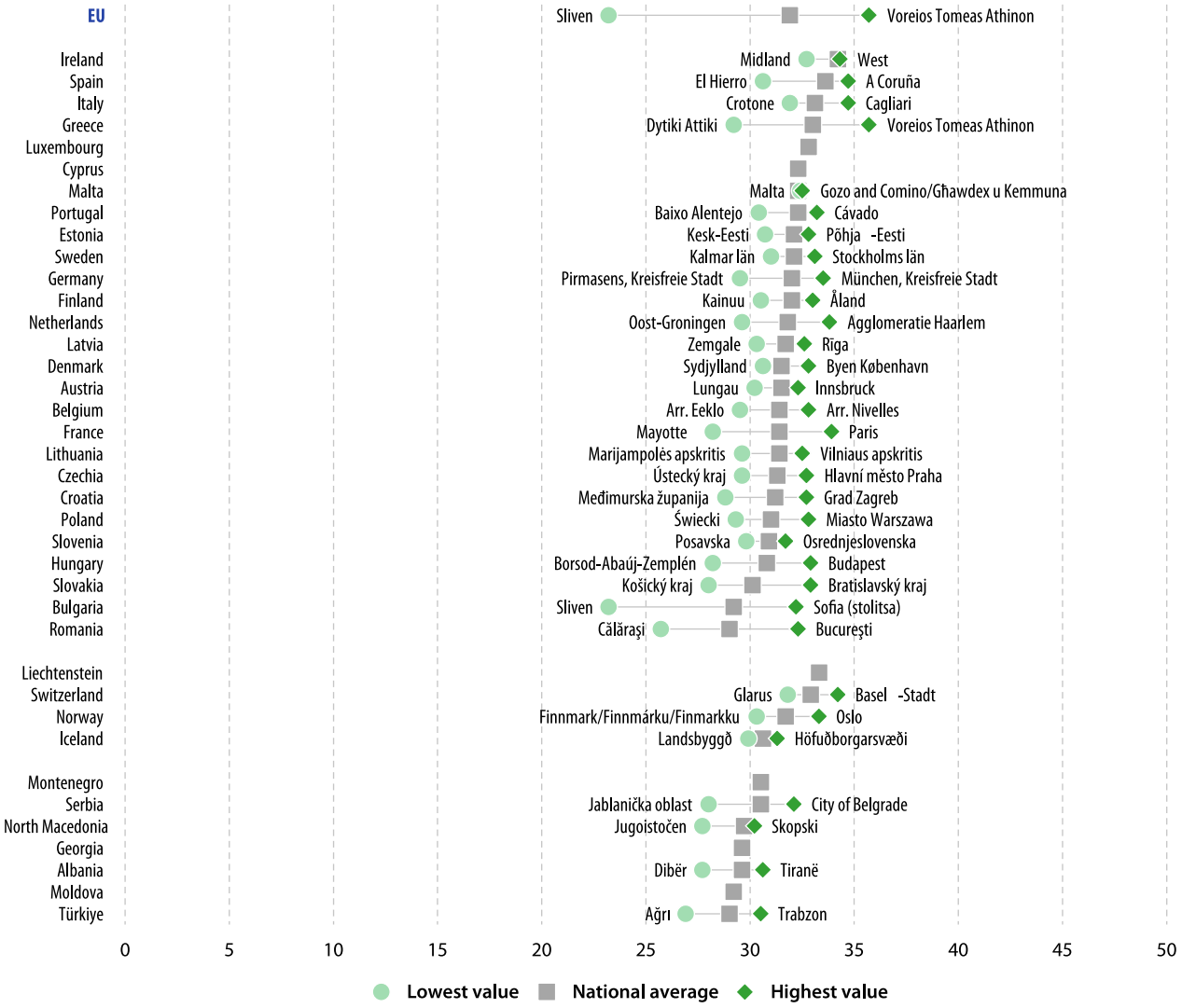
- some of the highest median ages of mothers at childbirth were observed in southern EU countries, although relatively high values were also recorded in Ireland
- the highest median ages were recorded in and around the Greek capital: Voreios Tomeas Athinon (to the north; 35.7 years), Notios Tomeas Athinon (to the south; 34.7 years) and Kentrikos Tomeas Athinon (the capital region; 34.3 years); a similarly high value was also observed in the Greek island region of Lefkada (34.7 years)
- several regions in the northern and north-western Spain also recorded high median ages, including: A Coruña, León (both 34.7 years), Pontevedra (34.5 years), Bizkaia, Valladolid (both 34.3 years), Cantabria, Gipuzkoa (both 34.2 years) and Ourense (34.1 years)
- 3 regions on the Italian island of Sardegna recorded relatively high median ages – Cagliari (34.7 years), Oristano (34.3 years) and Sud Sardegna (34.2 years) – while the Italian capital region of Roma also recorded a high median age (34.1 years)
- the predominantly rural Irish region of West also had a relatively high median age (34.3 years).

Across the 25 EU countries for which regional data are available, capital regions consistently recorded median ages of mothers at childbirth that were higher than the national average. There were 14 countries where the capital region had the highest median age within the national territory. This pattern likely reflects a combination of factors, among which, higher housing costs, longer periods spent in education, higher female labour market participation, greater career orientation and consequently delayed family formation. Across all capital regions of EU countries, the median age of mothers at childbirth in 2024 ranged from 31.7 years in Osrednjeslovenska (Slovenia) to 34.3 years in Kentrikos Tomeas Athinon (Greece).

Relatively low median ages are broadly associated with earlier entry into family formation, which tends to be more common in regions characterised by, among other factors, lower levels of educational attainment, weaker labour market participation and different socio-economic structures and cultures compared with higher-income or more urbanised parts of the EU. In 2024, there were 11 EU regions where the median age of mothers at childbirth was below 27.0 years. All 11 of these regions were located in Bulgaria (6 regions) or Romania (5 regions). The lowest values were observed in:

- the south-eastern Bulgarian regions of Sliven (23.2 years) and Yambol (24.6 years), both of which recorded total fertility rates above the natural replacement level, while a relatively low median age was also observed in the northern Bulgarian region of Lovech (25.7 years)
- the southern Romanian regions of Călăraşi (25.7 years) and Ialomița (26.0 years).

**Figure 1.2:** Median age of mothers at childbirth
(years, by NUTS 3 regions, 2024)




Note: Germany and Moldova, 2023. Jan Mayen (NO0B1) and Svalbard (NO0B2): not available.

*Source:* Eurostat (online data codes: demo_r_find3 and demo_find)

# 2. Health

Health is an important priority for most Europeans who expect to receive efficient healthcare services – for example, if they contract a disease or are in an accident – alongside timely and reliable public health information. The overall health of the EU population is also closely linked to that of the environment through – among other influences – the quality of the air we breathe, the water we drink and the food we eat.

A core commitment within the European Pillar of Social Rights is to ensure that everyone in the EU should have access to affordable, preventive and curative healthcare of good quality. As part of its work in this area, the European Commission has a range of specific actions, including:

- support for the modernisation and digitalisation of health systems
- a pharmaceuticals strategy for Europe
- Europe's Beating Cancer Plan
- the EU's cardiovascular health initiative (Safe Hearts Plan)

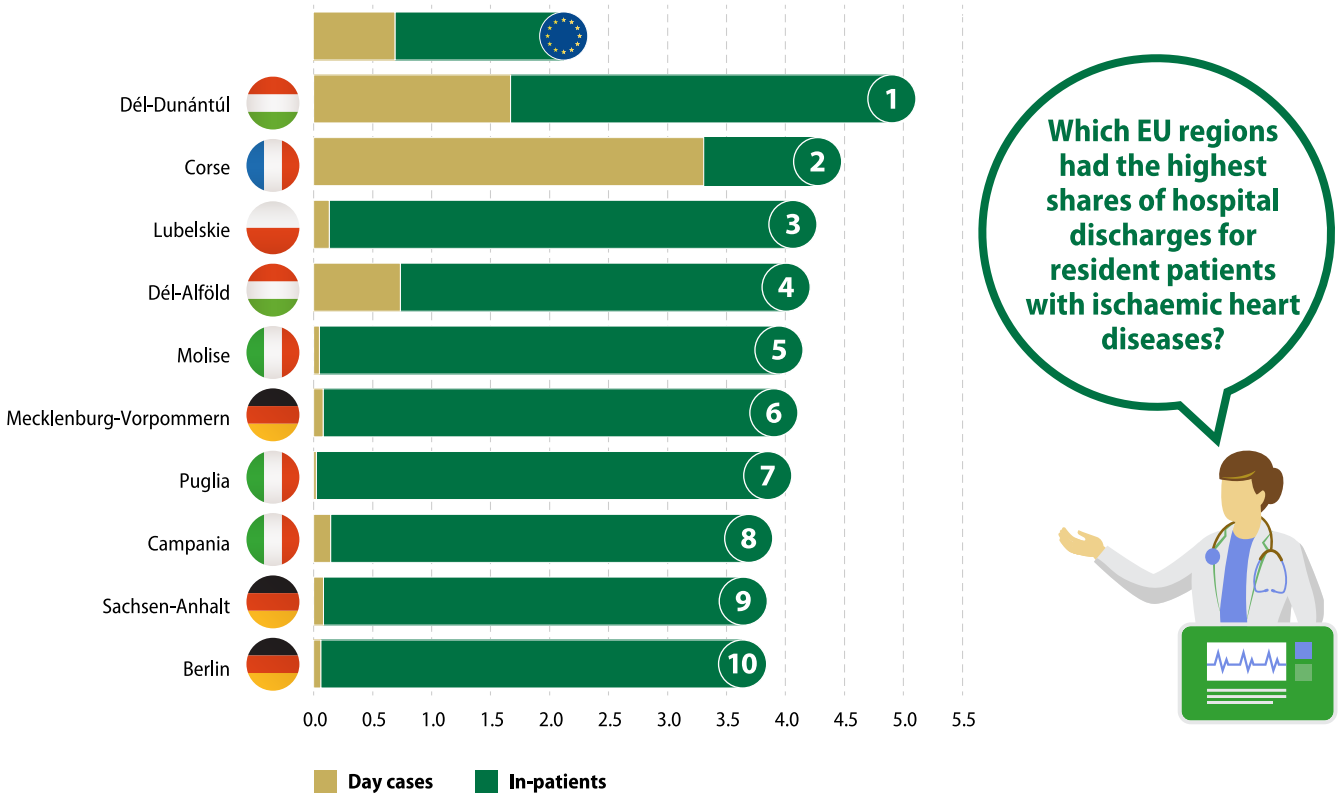
as well as a broad range of complementary initiatives, such as promoting digital health (eHealth), reducing antimicrobial resistance and improving vaccination coverage.

This year's edition of the *Eurostat regional yearbook* highlights diseases of the circulatory system. In December 2025, the European Commission released a *Communication on an EU cardiovascular health plan: the Safe Hearts Plan* (COM(2025) 1024 final). The plan is a strategic response to the EU's leading health challenge. Its aim is to deliver tangible benefits through 3 key pillars:

- prevention
- early detection and screening
- treatment and care (including rehabilitation).

Despite advances in prevention and treatment, cardiovascular disease remains the EU's most pressing public health challenge. In 2023, these diseases resulted in around 1.6 million deaths, while also contributing to long-term disability, reduced independence and a substantial decline in quality of life, as well as having broader impacts on mental well-being and increased strain on families and care givers.

The burden is unevenly distributed across and within EU countries, shaped by factors such as income, education, gender and disability. People in lower socio-economic groups are more likely to develop cardiovascular disease,




(% of all hospital discharges of residents, by NUTS 2 regions, 2023)

Note: based on available data. EU: excluding Denmark and Latvia. Denmark and Latvia: not available.

*Source:* Eurostat (online data codes: hlth_rinpat1_reg, hlth_rinpat1, hlth_rdc1_reg and hlth_rdc1)

often alongside conditions such as diabetes or obesity, leading to poorer health outcomes and reinforcing existing health disparities.

In 2023, patients with ischaemic heart diseases accounted for 2.3% of all resident hospital discharges within the EU. There were 5 NUTS level 2 regions with shares of at least 4.0% (see the infographic above):

- the southern Hungarian regions of Dél-Dunántúl (5.1%) and Dél-Alföld (4.2%)
- the French island region of Corse (4.5%)
- the eastern Polish region of Lubelskie (4.3%)
- the southern Italian regions of Molise (4.2%) and Puglia (4.1%)
- the north-eastern German region of Mecklenburg-Vorpommern (4.1%).

# Healthcare resources

## HOSPITAL BEDS AND MEDICAL DOCTORS

### More about the data: the number of hospital beds and medical doctors

The number of hospital beds and the number of medical doctors serve as indicators to measure the capacity of healthcare systems.

- The number of hospital beds includes beds which are regularly maintained and staffed and immediately available for the care of patients admitted to hospitals; these statistics cover beds in general hospitals and in speciality hospitals.
- The number of medical doctors includes generalists, such as general practitioners (GPs), as well as medical and surgical specialists. These doctors provide services to patients as consumers of health care, including giving advice, conducting medical examinations and making diagnoses, applying preventive medical methods, prescribing medication and treating diagnosed illnesses, giving specialised medical or surgical treatment.

Eurostat gives preference to the concept of 'practising' healthcare staff.

- Data for Greece and Portugal relate to medical doctors 'licensed to practice'.
- Data for Slovakia, North Macedonia and Türkiye relate to 'professionally active' medical doctors.
- Data for Norway include physicians not providing services directly to patients.
- Data for Serbia relate to medical doctors in institutions under the Ministry of Health (therefore, excluding the private health sector).

Within this section on healthcare resources, data are generally presented for NUTS level 2 regions. Only national data are available for Germany (for hospital beds and medical doctors), Ireland (for medical doctors) and the Netherlands (for hospital beds).

***Availability of hospital beds was generally higher in eastern EU countries: the Polish region of Zachodniopomorskie recorded the lowest ratio in 2023, with 1 hospital bed for every 79 inhabitants***

In 2023, there were 2.29 million hospital beds across the EU. This equated to 511 hospital beds per 100 000 inhabitants, or, expressed differently, an average of 1 hospital bed for every 196 people. These EU averages mask considerable disparities across NUTS level 2 regions.

- The lowest bed-to-population ratios (indicating the highest availability of beds) were recorded in the Polish region of Zachodniopomorskie (1 hospital bed for every 79 inhabitants), the Romanian capital region of Bucureşti-Ilfov (95) and the Hungarian capital region of Budapest (103).
- The highest ratios were observed in the French outermost region of Mayotte (1 hospital bed for every 679 inhabitants), the Portuguese region of Oeste e Vale do Tejo (628) and the Swedish region of Västsverige (596).

Differences in healthcare systems, funding models and population density can influence the regional distribution of hospital beds. That said, major hospitals, specialised medical centres and teaching hospitals are generally located in capital regions, often contributing to higher capacity. However, such specialised services concentrated in capital regions may serve patients from other regions, such that demand exceeds what would be expected based solely on their resident populations. This was particularly evident in Belgium, Czechia, Denmark, Croatia, Lithuania, Hungary, Romania, Slovenia and Slovakia, as their capital regions recorded the lowest ratio of inhabitants per hospital bed in 2023.

There were 62 NUTS level 2 regions with fewer than 175.0 inhabitants per hospital bed in 2023. In addition to the capital regions mentioned above, this group included every region of Bulgaria and all but 1 of the regions in Czechia, Hungary, Romania and Slovakia, as well as a majority of the regions in Austria and Poland; it also included Germany (national data).

At the other end of the distribution, there were 64 NUTS level 2 regions with at least 300.0 inhabitants per hospital bed in 2023. This was the case for every region of Denmark and Sweden, as well as for a majority of regions in Spain, Italy, Portugal and Finland; it also applied in Cyprus as well as Ireland and the Netherlands (both national data).

A range of different factors may contribute to these higher ratios, although their relevance differs by region, including:

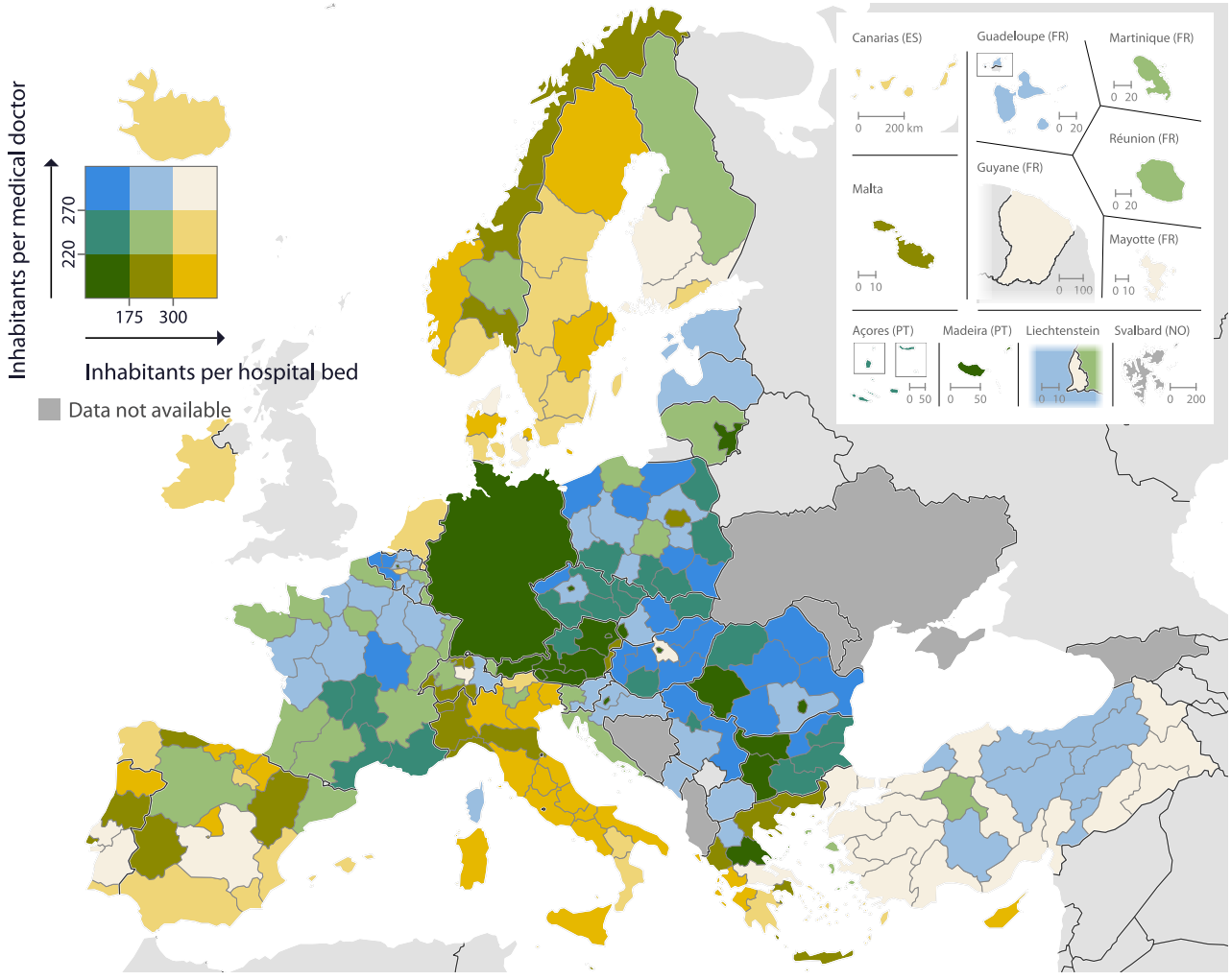
- national healthcare models that place greater emphasis on primary and preventative care, outpatient services, shorter hospital stays and care provided at home or in nursing facilities
- differences in healthcare infrastructure and capacity planning
- low population density, such that the population numbers cannot sustain some specialised facilities and services.

***The supply of medical doctors was relatively high in capital regions, as well as across Germany, Austria and several regions in southern Europe***

In 2023, there were 1.98 million medical doctors in the EU, which equated to 442 doctors for every 100 000 inhabitants, or, expressed differently, an average of 226 inhabitants for every medical doctor.

As for hospital beds, capital regions often have a concentration of medical doctors. This may reflect capital regions functioning as referral hubs, attracting patients from other regions, while professional training, research institutions and administrative headquarters further reinforce physician numbers in these regions. The lowest ratios of inhabitants per medical doctor (in other words, the highest availability of medical doctors) were recorded in the Greek capital region of Attiki (119 inhabitants for every medical doctor), the Portuguese capital region of Grande Lisboa (123) and the Romanian capital region of Bucureşti-Ilfov (124); note that Greek and Portuguese values are likely to be inflated since the data concern medical doctors licensed to practice.

**Map 2.1: Hospital beds and medical doctors**
(inhabitants per bed and per doctor, by NUTS 2 regions, 2023)




Note: Germany, Ireland and the Netherlands: national data. Sweden: 2022. Finland and North Macedonia: 2021.

*Source:* Eurostat (online data codes: hlth_rs_bdsrg2, hlth_rs_bds1, hlth_rs_physreg, hlth_rs_phys and demo_gind)

High ratios of inhabitants to medical doctors may result from a range of factors, including the organisation of healthcare resources, limited funding and/or a lack of trained staff (recruitment and retention issues, excessive workload/burnout). These regions tend to be predominantly rural and are often quite remote. The highest ratios were observed in the French outermost region of Mayotte (1 203 inhabitants for every medical doctor), the Dutch regions of Flevoland (798) and Zeeland (593) – not shown in Map 2.1 due to partial data availability – the Romanian region of Sud-Muntenia (589) and the Polish region of Mazowiecki regionalny (465).

Map 2.1 shows information for both indicators (hospital beds and medical doctors), reflecting variations in how healthcare systems are organised and how services are delivered. A relatively low ratio of inhabitants per medical doctor alongside a higher ratio of inhabitants per hospital bed may indicate a stronger emphasis on outpatient and primary care, or a greater concentration of medical doctors within non-hospital settings (such as clinics or specialist practices). Conversely, a relatively low ratio of inhabitants per hospital bed combined with a relatively high ratio of inhabitants per medical doctor may point to more hospital-centred care models, differences in staffing structures, or variations in how services are provided across inpatient and outpatient settings.

## Mortality and causes of death

### MORTALITY

Since 2002 (the first year for which data are available), life expectancy at birth in the EU has followed a generally upward trend. However, it fell in both 2020 and 2021 reflecting the impact of the COVID-19 pandemic. It subsequently recovered in 2022 and continued to rise in 2023 and 2024, albeit more slowly in the latter year. By 2024, EU life expectancy stood at 81.5 years, some 0.2 years above its pre-pandemic level.

There are a number of drivers that can impact inter-regional differences in life expectancy, including:

- proximity to healthcare services – for example, capital regions tend to have a greater number and variety of healthcare facilities compared with rural regions
- the prosperity of a region – for example, life expectancy is generally above average in regions characterised by a higher standard of living and below average in regions characterised by poverty and social deprivation
- lifestyle and cultural differences – for example, the type of work that predominates in a region, the typical diet of a region, or the incidence of smoking and alcohol consumption
- climatic conditions – for example, people living in warm and relatively dry climates tend to live longer.

Map 2.2 presents life expectancy at birth for females and for males. Both maps use the same class boundaries in their legends to facilitate comparison. In 2024, female life expectancy at birth in the EU was 84.1 years. This equated to a gap of 5.2 years between the sexes, as male life expectancy at birth was 78.9 years.

***Comunidad de Madrid recorded the highest female life expectancy at birth, at 87.9 years in 2024***

In 2024, the highest levels of female life expectancy at birth were recorded across much of Spain, Italy and France. Relatively high values – at least 85.5 years – were also observed for multiple regions in Greece, Austria, Portugal and Sweden, as well as for Cyprus, Luxembourg and one region in each of Belgium and Slovenia.

The Spanish capital region of Comunidad de Madrid recorded the highest female life expectancy at birth, peaking at 87.9 years in 2024. The next highest values were (also) concentrated in central and northern Spain: Castilla y León (87.4 years), Comunidad Foral de Navarra and País Vasco (both 87.3 years). This group was followed by the northern Italian region of Provincia Autonoma di Trento (87.2 years), the French capital region of Ile-de-France and the northern Spanish region of Galicia (both 87.0 years).

Across the 244 EU regions for which data are available, the French outermost region of Mayotte recorded the lowest female life expectancy at birth (76.3 years) in 2024. There were 3 other regions – Severozapaden and Severen tsentralen in northern Bulgaria and Észak-Magyarország in northern Hungary – which also recorded female life expectancy at birth below 79.0 years.

***Stockholm recorded the highest male life expectancy at birth, at 83.5 years in 2024***

In 2024, the highest levels of male life expectancy at birth were concentrated in Denmark, Ireland, Spain, Italy, the Netherlands, Finland and Sweden. Every region in each of these countries recorded a level of male life expectancy above the EU average of 78.9 years. The same was true in Austria, apart from the capital region of Wien, and in Cyprus, Luxembourg and Malta (2023 data).

The Swedish capital region of Stockholm recorded the highest male life expectancy at birth (83.5 years) in 2024, followed by the Spanish capital region of Comunidad de Madrid (83.1 years) and the northern Italian regions of Provincia Autonoma di Bolzano/Bozen (82.9 years) and Provincia Autonoma di Trento (82.8 years).

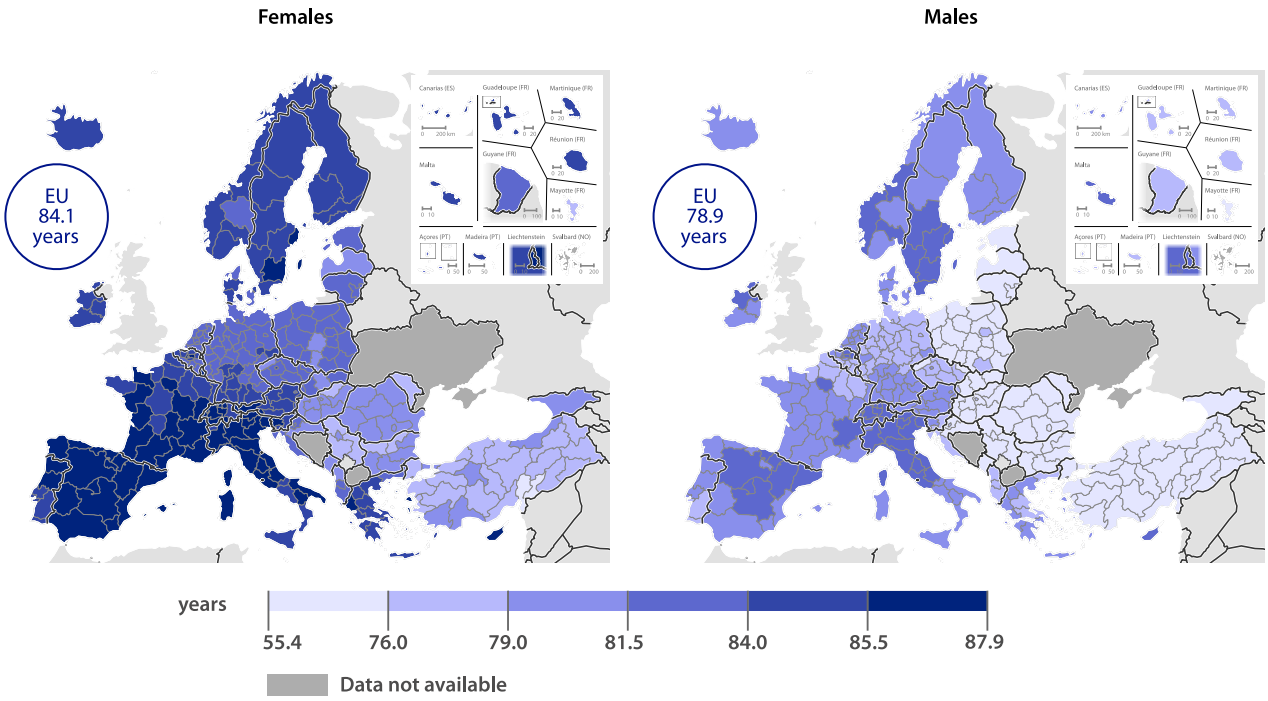
There were 48 NUTS level 2 regions across the EU where male life expectancy at birth was below 76.0 years in 2024 (as indicated by the lightest shade in Map 2.2). These regions were predominantly located in eastern Europe, as well as the Baltic countries:

- every region of Bulgaria and Romania
- all but 1 of the regions in Hungary and Slovakia (the exceptions being the capital regions of Budapest and Bratislavský kraj)
- all but 2 of the regions in Poland (the exceptions being the capital region of Warszawski stołeczny and the southern region of Małopolskie)
- every region in the Baltic countries.

The Bulgarian region of Severozapaden recorded the lowest male life expectancy at birth (70.1 years) in 2024. There were 6 other regions with male life expectancy below 72.0 years, including:

- Severen tsentralen and Severoiztochen in Bulgaria
- Latvia
- Észak-Magyarország in Hungary
- Nord-Est and Sud-Est in Romania.

**Map 2.2: Life expectancy at birth**
(years, by NUTS 2 regions, 2024)




Note: Greece, Malta, Austria, Portugal, Norway, Moldova and Türkiye: 2023

*Source:* Eurostat (online data codes: demo_r_mlifexp and demo_mlexpec)

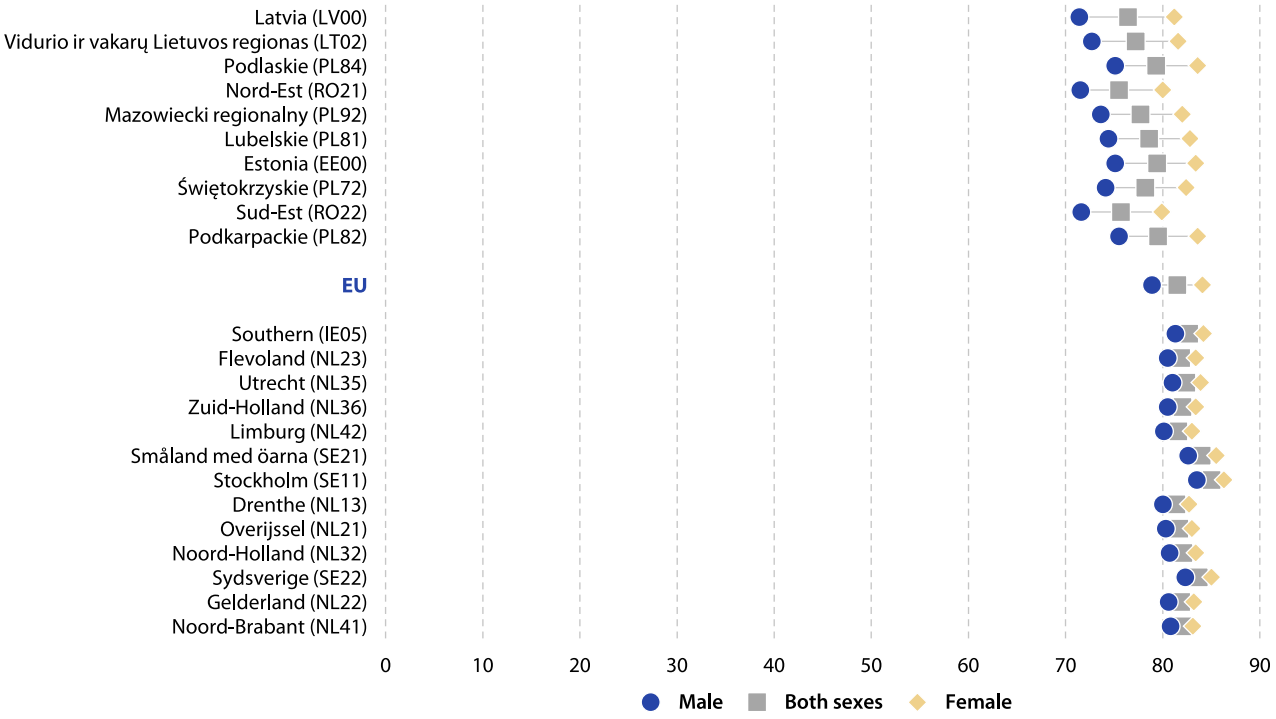
***Female life expectancy was higher than male life expectancy across every region of the EU***

In 2024, all 244 NUTS level 2 regions had higher female than male life expectancy at birth. The Baltic countries, along with several regions in Poland and Romania, reported some of the largest gender gaps. In Latvia, female life expectancy at birth (81.2 years) exceeded that of males (71.4 years) by 9.8 years.

At the other end of the range, the narrowest gender gaps were concentrated across the Netherlands and Sweden. The Dutch region of Noord-Brabant recorded the smallest difference between the sexes, as female life expectancy at birth (83.1 years) exceeded that of males (80.8 years) by 2.3 years in 2024. Alongside the many Dutch and Swedish regions with narrow gaps, gaps of no more than 3.5 years were also observed in:

- Prov. Antwerpen in Belgium
- the Danish capital region of Hovedstaden
- Southern region in Ireland
- Ciudad de Ceuta in Spain
- Mayotte in France
- the neighbouring Italian regions of Emilia-Romagna and Toscana.

**Figure 2.1:** Gender gap in life expectancy at birth
(years, by NUTS 2 regions, 2024)




Note: the figure shows the EU regions with the widest and narrowest gender gaps; the gender gap is computed as female life expectancy minus male life expectancy. The rankings include more than 10 regions if several regions have identical gender gaps.

*Source:* Eurostat (online data codes: demo_r_mlifexp and demo_mlexpec)

## CAUSES OF DEATH

A wide range of factors determine regional mortality patterns, with causes of death linked, among other issues, to age structures, sex distributions, access to and the quality of health care, living/working conditions, types of occupation, lifestyle choices and the surrounding environment. Since a region's (or a country's) population structure can strongly influence crude death rates, statisticians typically compare statistics on the causes of death using standardised death rates.

### More about the data: standardised death rates

This section about causes of death presents information based on standardised death rates. Statisticians compute these rates by taking a weighted average of age-specific mortality rates, using the age distribution of a standard reference population as the weighting factor.

Since age and sex significantly influence most causes of death, standardised death rates can be used to facilitate comparisons between different populations or between different countries/regions. By adjusting for differences in age structure – particularly the higher mortality risk among older people – these rates allow more accurate comparisons across regions and over time. They support epidemiological analyses by enabling direct comparisons between causes of death, making it possible to assess whether mortality from one cause is higher or lower than from another (independent of the age differences observed between different subpopulations or different regions).

Statistics on causes of death are based on the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).

***In 2023, there were 4.9 million deaths in the EU***

The COVID-19 crisis led to an increase in the total number of deaths across the EU: this figure increased by more than 0.5 million in 2020 and by a further 112 000 in 2021 reaching a peak of 5.3 million. In 2022, the total number of deaths in the EU fell 139 000 to 5.2 million. The downward pattern continued in 2023, as the number of deaths fell by a further 303 000 to 4.9 million (still 203 000 higher than its pre-pandemic level).

***Diseases of the circulatory system accounted for almost 1 in 3 deaths across the EU in 2023***

In 2023, based on standardised death rates:

- diseases of the circulatory system – including ischemic heart disease, hypertensive diseases and cerebrovascular diseases – accounted for 32.5% of all deaths across the EU (there is a special focus on these diseases at the end of this chapter)
- cancer (malignant neoplasms) was the second most common cause of death – accounting for 24.2% of all deaths
- diseases of the respiratory system – including conditions such as chronic obstructive pulmonary disease, pneumonia and asthma – accounted for 7.8% of all deaths
- other causes of death accounted for the remaining 35.5% of deaths.

Map 2.3 details the share of all deaths accounted for by 4 broad categories: diseases of the circulatory system, cancer, diseases of the respiratory system and all other causes of death. Diseases of the circulatory system were the main cause of death in 65 out of 92 NUTS level 1 regions in 2023, while cancer was the main cause of death in the remaining 27 regions.

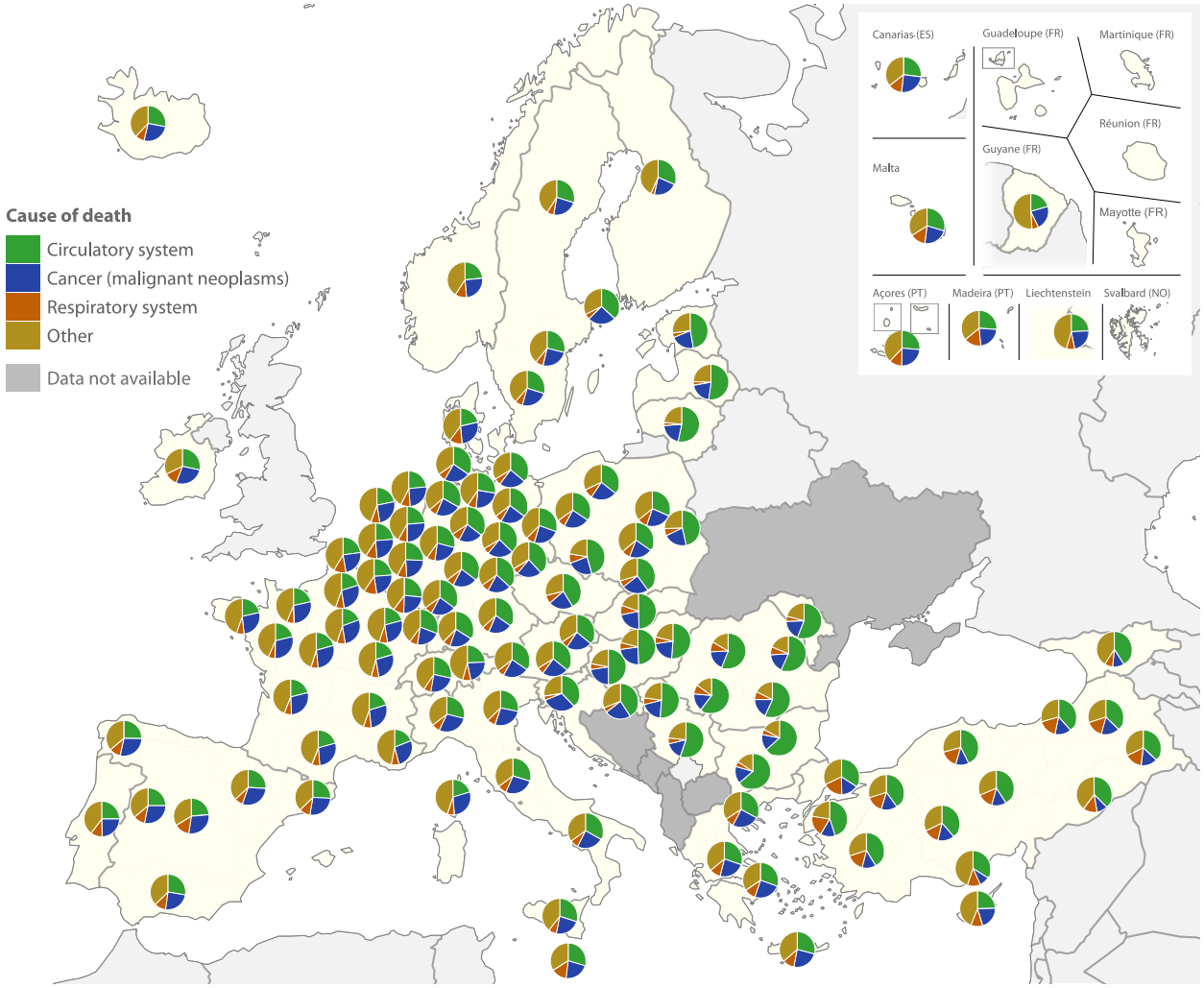
In 2023, the vast majority of regions in Baltic and eastern EU countries recorded a higher share of deaths from diseases of the circulatory system compared with other regions; this was also the case in most regions of Germany and Austria. Cancer accounted for a relatively high share of deaths in Belgium, France and the Netherlands, as well as much of Spain. Compared with the EU average, diseases of the respiratory system represented a higher proportion of all deaths in Belgium, Denmark, Ireland and Portugal, in most regions of Greece and Spain, and in Cyprus, Luxembourg and Malta.

Based on standardised death rates, important differences can be observed in the distribution of mortality patterns by cause of death.

- The share of all deaths (computed from standardised death rates) for diseases of the circulatory system was particularly high in the Bulgarian regions of Yugozapadna i Yuzhna tsentralna Bulgaria (63.8% of all deaths) and Severna i Yugoiztochna Bulgaria (63.3%); this was almost twice as high as the average for the EU (32.5% of all deaths). The Romanian regions of Macroregiunea Patru, Macroregiunea Trei and Macroregiunea Doi also reported relatively high shares of all deaths from diseases of the circulatory system (75-85% higher than the EU average). These differences may reflect a combination of regional demographic and health-related factors, such as a higher prevalence of risk factors including hypertension, obesity and smoking, as well as less favourable long-term prevention and health outcomes. By contrast, in the French regions of Provence-Alpes-Côte d'Azur and Ile-de-France, the share of deaths from circulatory diseases was less than 60.0% of the EU average, while relatively low death rates for circulatory diseases were more generally observed across all French regions, as well as in Denmark.
- Cancer mortality was more evenly distributed across the EU, accounting for 14.8% to 31.0% of all regional deaths (based on standardised death rates); as a result, clusters of elevated cancer mortality were less common. Slovenia recorded the highest share of deaths from cancer. The relatively even distribution of cancer deaths across the EU may reflect a broad set of risk factors which are common across populations, including ageing, long-term exposure to environmental and occupational carcinogens, and lifestyle-related behaviours such as smoking and alcohol consumption, leading to fewer pronounced regional concentrations compared with other causes of death.
- In the Portuguese island region of Região Autónoma da Madeira, the share of deaths from respiratory diseases was almost twice as high as the EU average, while relatively high death rates were also observed in Malta and the Spanish capital region of Comunidad de Madrid. These elevated values may reflect a combination of demographic, environmental and behavioural factors, including population ageing, exposure to air pollution (from road traffic, ozone or Saharan dust events) and high numbers of smokers.

A special focus on diseases of the circulatory system is provided at the end of this chapter.

**Map 2.3:** Main causes of death
(% of all deaths, by NUTS 1 regions, 2023)




Note: the most common causes of death in the EU were – diseases of the circulatory system (32.5%), cancer (malignant neoplasms; 24.2%), diseases of the respiratory system (7.8%).

*Source:* Eurostat (online data code: hlth_cd_asdr2)

## POTENTIAL YEARS OF LIFE LOST

In 2023, 1.56 million EU residents died before the age of 75, equivalent to 32.1% of all deaths. As a result, there were 4 700 potential years of life lost per 100 000 residents of this age. The causes of death with the highest rates of potential years of life lost were cancer (1 393 years per 100 000 residents), diseases of the circulatory system (848 years per 100 000 residents) and external causes of death (730 years per 100 000 residents). Together, these 3 causes accounted for 63.2% of all potential years of life lost among people under the age of 75.

Map 2.4 shows regional variations in potential years of life lost among residents under the age of 75. In 2023, The highest values for NUTS level 2 regions were mainly concentrated in eastern and Baltic EU countries, while the lowest values were often in northern Italy. There was a skewed regional distribution, insofar as 99 regions recorded values that were above the EU average, while there were 145 regions below it.

At the top end of the range, 22 regions reported at least 7 500 potential years of life lost per 100 000 inhabitants in 2023, including:

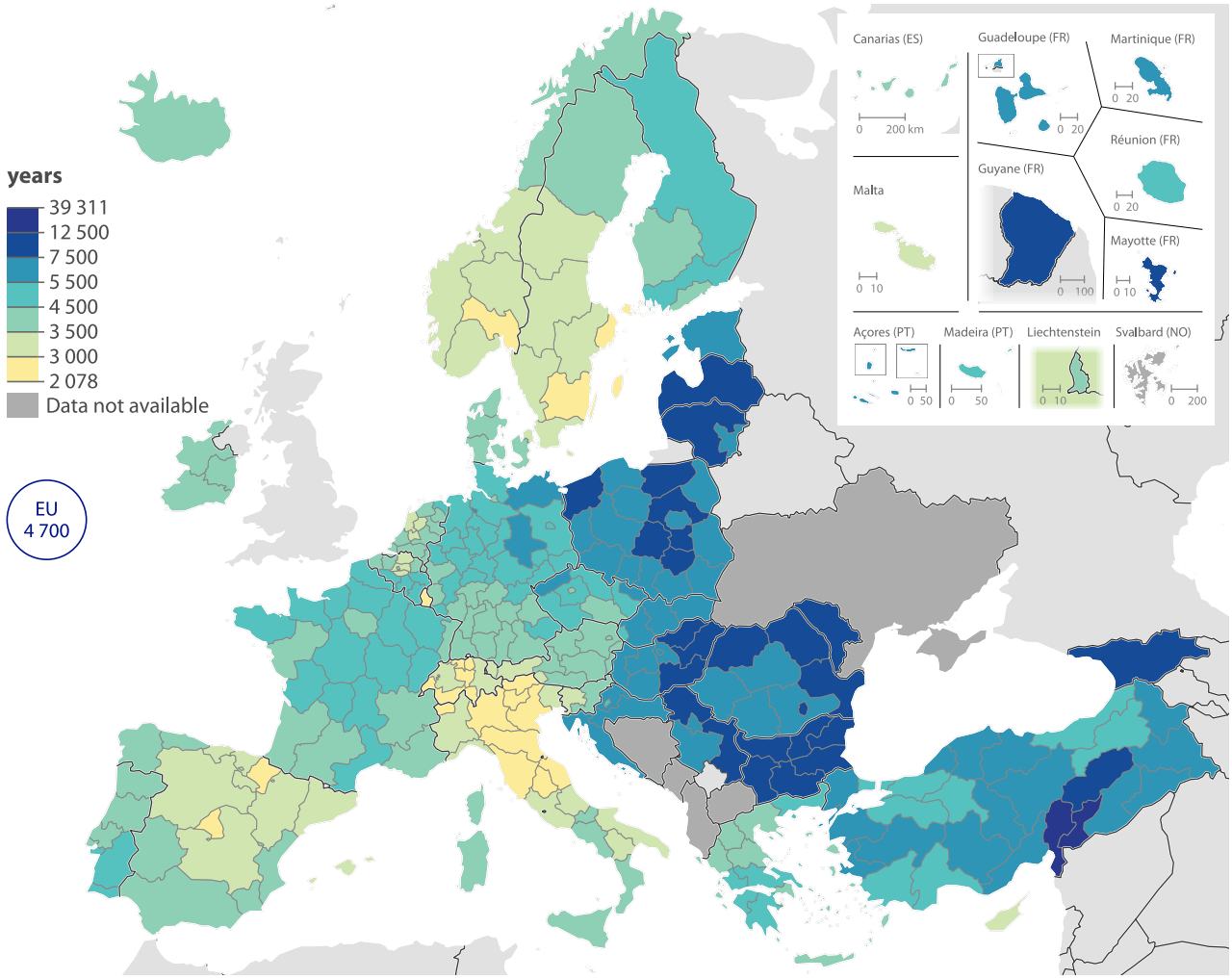
- all 6 regions in Bulgaria, peaking at 10 229 years in Severozapaden
- 5 regions in Poland
- 4 regions in Romania, with a peak of 9 255 years in Nord-Est (the third highest value in the EU)
- 3 regions in Hungary
- 2 outermost regions in France
- 1 region in Lithuania
- Latvia, with 9 461 years (the second highest value in the EU).

Very high values were also observed in southern Türkiye, which may reflect the severe impact of the 2023 Kahramanmaraş earthquakes. These earthquakes resulted in widespread mortality among younger populations in southern Türkiye and neighbouring Syria, primarily due to traumatic injuries and, to a lesser extent, secondary causes of death such as exposure and hypothermia. Hatay, Kahramanmaraş, Osmaniye (39 311 potential years of life lost per 100 000 inhabitants) and Gaziantep, Adıyaman, Kilis (21 497 years per 100 000 inhabitants) were particularly affected.

There were 15 regions across the EU with fewer than 3 000 potential years of life lost per 100 000 inhabitants in 2023. Their low values reflect, among other factors, high overall life expectancy, coupled with relatively low premature mortality among younger age groups and lower levels of poverty and deprivation. This group of 15 regions included:

- 9 regions from northern and central Italy
- 2 regions from Spain, including the capital region of Comunidad de Madrid
- 2 regions from Sweden, including the capital region of Stockholm
- the Finnish archipelago of Åland
- Luxembourg.

**Map 2.4: Potential years of life lost**
(years per 100 000 inhabitants aged less than 75, by NUTS 2 regions, 2023)




*Source:* Eurostat (online data code: hlth_cd_ypyll)

## Focus on diseases of the circulatory system

Diseases of the circulatory system are the leading cause of death in the EU. The high level of deaths from circulatory diseases may be linked to ageing populations, lifestyle-related risks such as poor diet, physical inactivity, smoking and alcohol consumption, as well as persistent inequalities in access to preventive care and treatment. These diseases place a considerable burden on individuals, contributing to long-term disability and reduced quality of life. They also lead to substantial economic costs through higher healthcare expenditure, reduced labour market participation and productivity losses.

The EU has strengthened its policy focus on cardiovascular health as part of its broader approach to non-communicable diseases and prevention. Recent initiatives under the European Health Union framework include the Safe Hearts Plan, unveiled in December 2025. It addresses key challenges related to cardiovascular diseases by supporting health promotion and prevention, early detection and screening, as well as treatment, care and rehabilitation.

### More about the data: diseases of the circulatory system

The statistics presented below are primarily based on information pertaining to Chapter IX of the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10), which refers to diseases of the circulatory system (ICD-10 I00-I99). Data on hospital discharges are disseminated according to the international shortlist for hospital morbidity tabulation (ISHMT). Diseases of the circulatory system include:

- hypertensive diseases
- ischaemic heart diseases, including
  - angina pectoris
  - acute myocardial infarction
  - other ischaemic heart disease
- pulmonary heart disease and diseases of pulmonary circulation
- other forms of heart disease
- cerebrovascular diseases
- diseases of arteries, arterioles and capillaries
- diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified
- other and unspecified disorders of the circulatory system, including acute rheumatic fever and chronic rheumatic heart diseases.

***Circulatory diseases accounted for 14.1% of resident in-patient discharges in 2023***

In 2023, there were 9.5 million in-patient hospital discharges for diseases of the circulatory system, accounting for 14.1% of all resident in-patient discharges in the EU. Map 2.5 illustrates differences in hospital in-patient discharges across NUTS level 2 regions, reflecting a range of underlying factors, such as population health and risk profiles, the organisation of healthcare systems, differences in admission and discharge practices, the age structure of regional populations, disease prevalence and management, and access to outpatient and preventive care.

Across the 244 regions for which data are available in 2023, there were 100 regions where the rate of resident in-patient discharges for diseases of the circulatory system was above the EU average (2 119 discharges per 100 000 inhabitants), compared with 144 below it. The overall distribution of values around the EU average was positively skewed, with a relatively long tail of higher values in a small number of regions. At the extremes of the distribution:

- 20 regions recorded rates of at least 3 500 discharges per 100 000 inhabitants (as shown by the darkest shade)
- 16 regions reported particularly low values, fewer than 1 000 discharges per 100 000 inhabitants (as shown by the lightest shade).

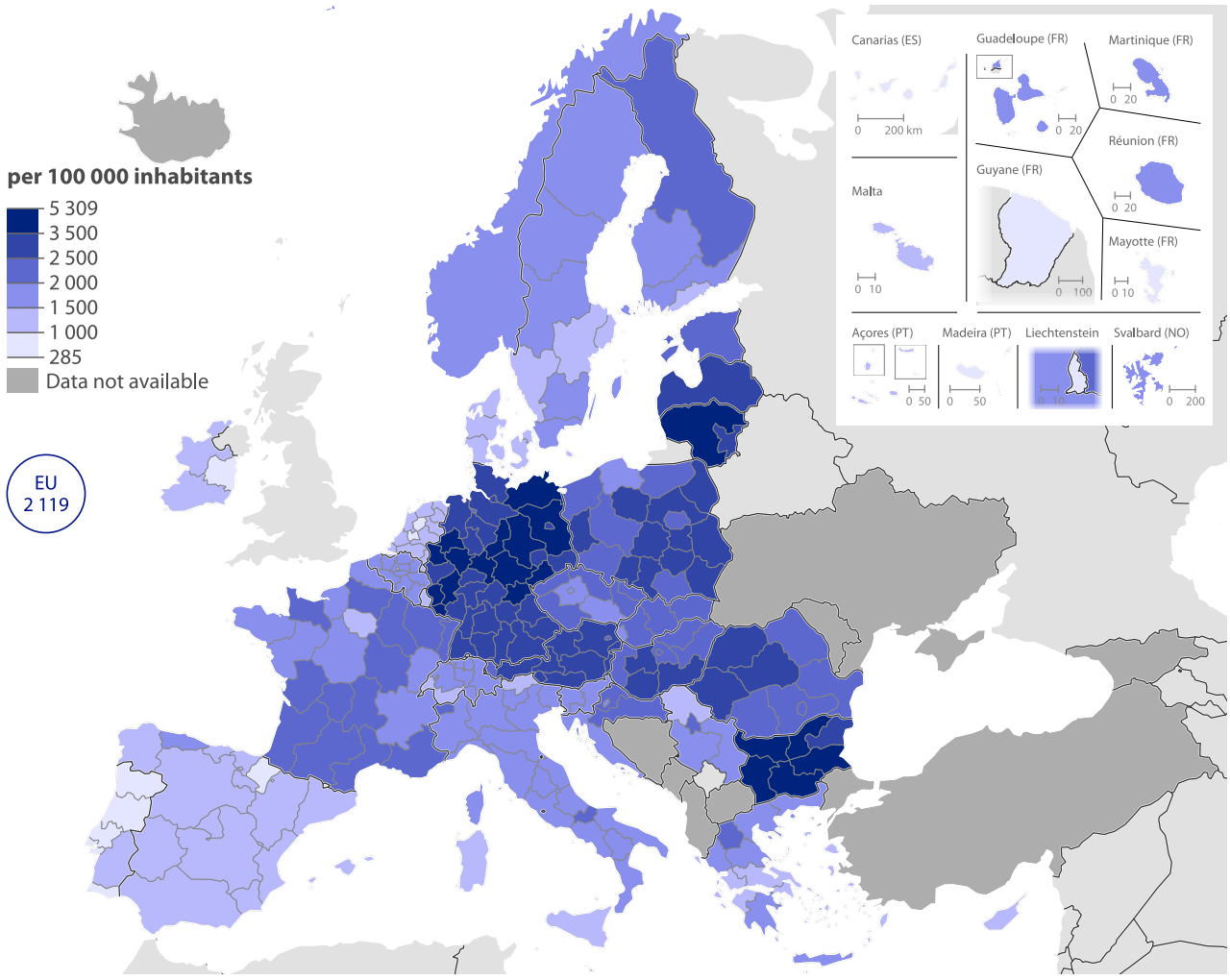
In 2023, some of the highest hospital in-patient discharge rates for diseases of the circulatory system were concentrated in regions across Bulgaria, Germany and Lithuania. The north-western Bulgarian region of Severozapaden recorded the highest rate, with 5 309 resident in-patient discharges per 100 000 inhabitants. The second and third highest rates were also recorded in Bulgaria – Severen tsentralen (4 956 per 100 000 inhabitants) and Yuzhen tsentralen (4 733 per 100 000 inhabitants) – followed by the eastern German region of Sachsen-Anhalt (4 524 per 100 000 inhabitants).

At the other end of the distribution, the lowest hospital in-patient discharge rates for diseases of the circulatory system were observed across regions in Denmark, Ireland, Spain, the Netherlands and Portugal. In 2023, the Portuguese island region of Região Autónoma da Madeira had the lowest rate, with 285 resident in-patient discharges per 100 000 inhabitants. There were 2 other regions with fewer than 500 discharges: the French outermost region of Mayotte (390 per 100 000 inhabitants) and Oeste e Vale do Tejo in Portugal (470 per 100 000 inhabitants).

As such, hospital in-patient discharge rates for diseases of the circulatory system varied widely across EU regions. In 2023, the rate in Severozapaden was 18.6 times as high as that recorded in Região Autónoma da Madeira. This wide variation is likely to reflect a combination of factors, including differences in the organisation of healthcare systems and the delivery of care, particularly the balance between inpatient, outpatient and primary care services. Differences in lifestyle and the effectiveness of prevention strategies may also influence hospitalisation rates. Data on hospital discharges are best interpreted in conjunction with indicators of mortality and, more broadly, measures such as potential years of life lost.

An alternative way of assessing regional variations is to consider the share of resident in-patient discharges for diseases of the circulatory system in the total number of all discharges. Using this measure, the highest proportion was recorded in Vidurio ir vakarų Lietuvos regionas in Lithuania (20.6%), while the only other region to record a share of more than 20.0% was Molise in Italy. By contrast, diseases of the circulatory system accounted for 4.6% and 5.8% of all discharges among resident in-patients in the French outermost regions of Mayotte and Guyane, with the next lowest share observed in Região Autónoma da Madeira (8.0%). As such, the ratio between the lowest and highest shares was 1 : 4.4.

**Map 2.5: Hospital discharges for diseases of the circulatory system**
(resident in-patients per 100 000 inhabitants, by NUTS 2 regions, 2023)




Note: Norway, national data.

*Source:* Eurostat (online data codes: hlth_rinpat2_reg, hlth_rinpat1 and demo_gind)

***In 2023, almost a third of all deaths in the EU were due to diseases of the circulatory system***

In 2023, there were 1.6 million deaths across the EU attributed to diseases of the circulatory system; this was equivalent to 32.5% of all deaths. The regional distribution was somewhat skewed, with 108 out of 244 NUTS level 2 regions for which data are available (44.3% of all regions) reporting rates at or above the EU average, while there were 136 regions below.

At the top end of the distribution, there were 25 regions where diseases of the circulatory system accounted for at least half of all deaths in 2023 (as shown by the darkest shade in Map 2.6). These regions were exclusively located in eastern and Baltic EU countries:

- all regions in Bulgaria (6 regions) and Romania (8 regions)
- 6 out of 8 regions in Hungary
- both regions in Lithuania
- 2 out of 4 regions in Slovakia
- Latvia.

In 2023, the Bulgarian regions of Yuzhen tsentralen and Yugoiztochen recorded the highest shares of deaths from diseases of the circulatory system, at 67.3% and 66.4%, respectively. All 6 regions in Bulgaria reported shares of deaths from diseases of the circulatory system of at least 61.0%, with Sud-Vest Oltenia in Romania (63.8%) the only other region across the EU to reach such a level. In a similar manner, every region of Romania recorded a share of deaths from diseases of the circulatory system of at least 53.0%, with the Lithuanian region of Vidurio ir vakarų Lietuvos regionas (53.7%) the only other region to reach this threshold.

The share of deaths attributed to diseases of the circulatory system was particularly low across a broad belt of regions extending from Denmark through the Netherlands, Belgium and France, and into Spain and Portugal; it was also relatively low in Cyprus. In 2023, there were 5 NUTS level 2 regions where fewer than 20.0% of all deaths were attributed to diseases of the circulatory system (as shown by the lightest shade in Map 2.6). All 5 were located in France, with the lowest share recorded in the outermost region of Martinique (18.2%). The remaining regions with shares of deaths from diseases of the circulatory system below 20.0% were Provence-Alpes-Côte d'Azur, Guadeloupe, the capital region of Ile-de-France and Franche-Comté. Excluding the atypical region of Mayotte (30.5%), all of the remaining regions of France recorded shares of no more than 22.4%.

Outside France, similarly low values – no more than 22.4% – were observed in:

- all 5 Danish regions, with the lowest value recorded in the capital region of Hovedstaden (20.5%)
- 3 regions in the Netherlands – Zuid-Holland, Utrecht and Groningen.

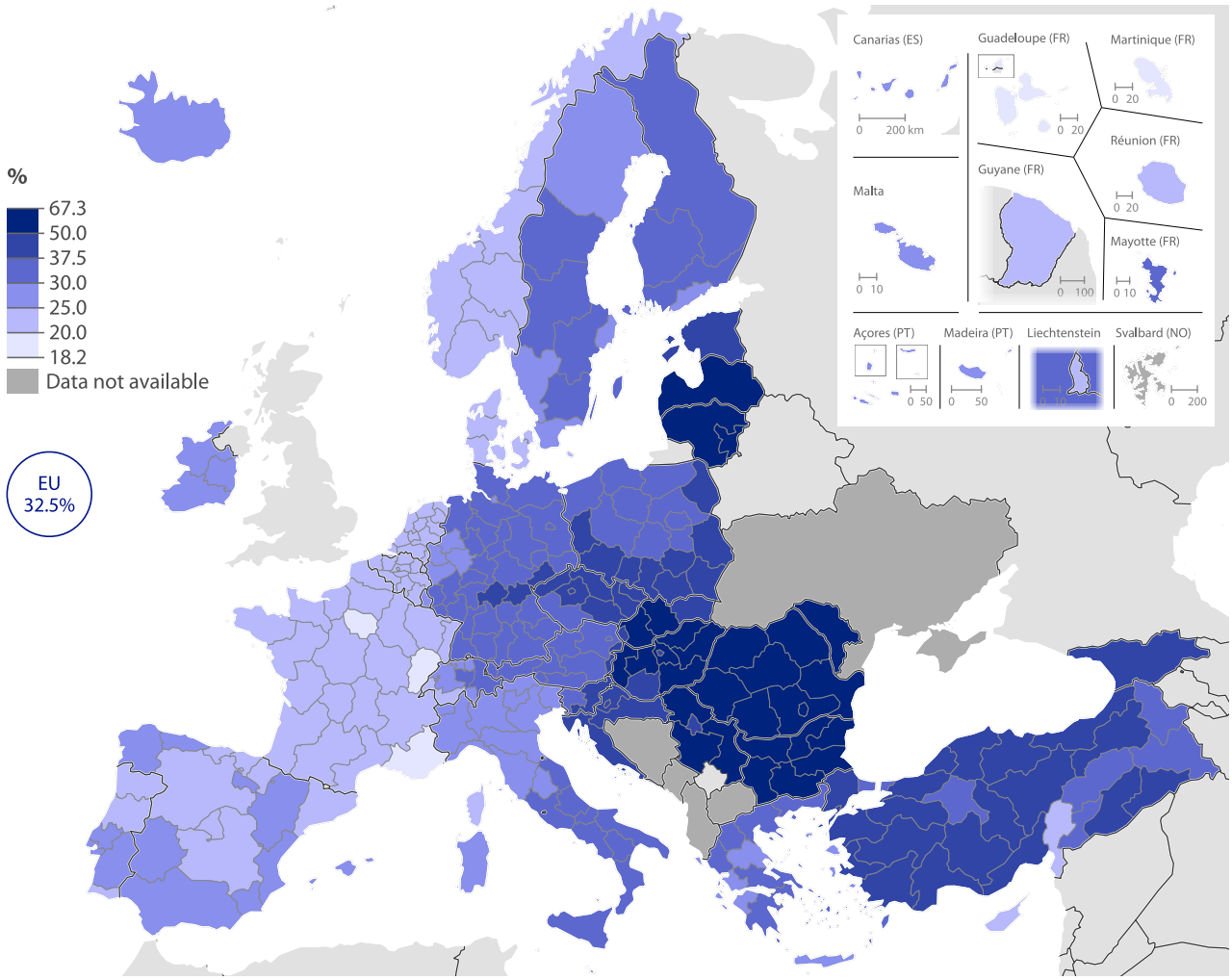
***In 2023, male death rates for diseases of the circulatory system were consistently higher than female rates across every region in the EU***

In 2023, diseases of the circulatory system claimed the lives of 742 900 men across the EU, compared with 846 400 women. Based on standardised death rates, this corresponded to 377.9 deaths per 100 000 male inhabitants (31.4% of all male deaths), compared with 261.8 deaths per 100 000 female inhabitants (33.5% of all female deaths).

The highest regional death rates from diseases of the circulatory system in 2023 were recorded in Bulgaria.

- Among males, all Bulgarian regions reported rates above 1 000 deaths per 100 000 inhabitants. Észak-Magyarország in Hungary and Sud-Est in Romania were the only other NUTS level 2 regions to exceed this level.
- A similar pattern was observed among females, with the 5 highest regional rates in Bulgaria (the only exception being the capital region of Yugozapaden). The 5 regions with the next highest female rates were 4 regions from Romania – including the capital region of Bucureşti-Ilfov, which had the highest female rate outside Bulgaria, at 700.7 deaths per 100 000 inhabitants – and Észak-Magyarország in Hungary.

**Map 2.6:** Deaths due to diseases of the circulatory system
(% of all deaths, by NUTS 2 regions, 2023)



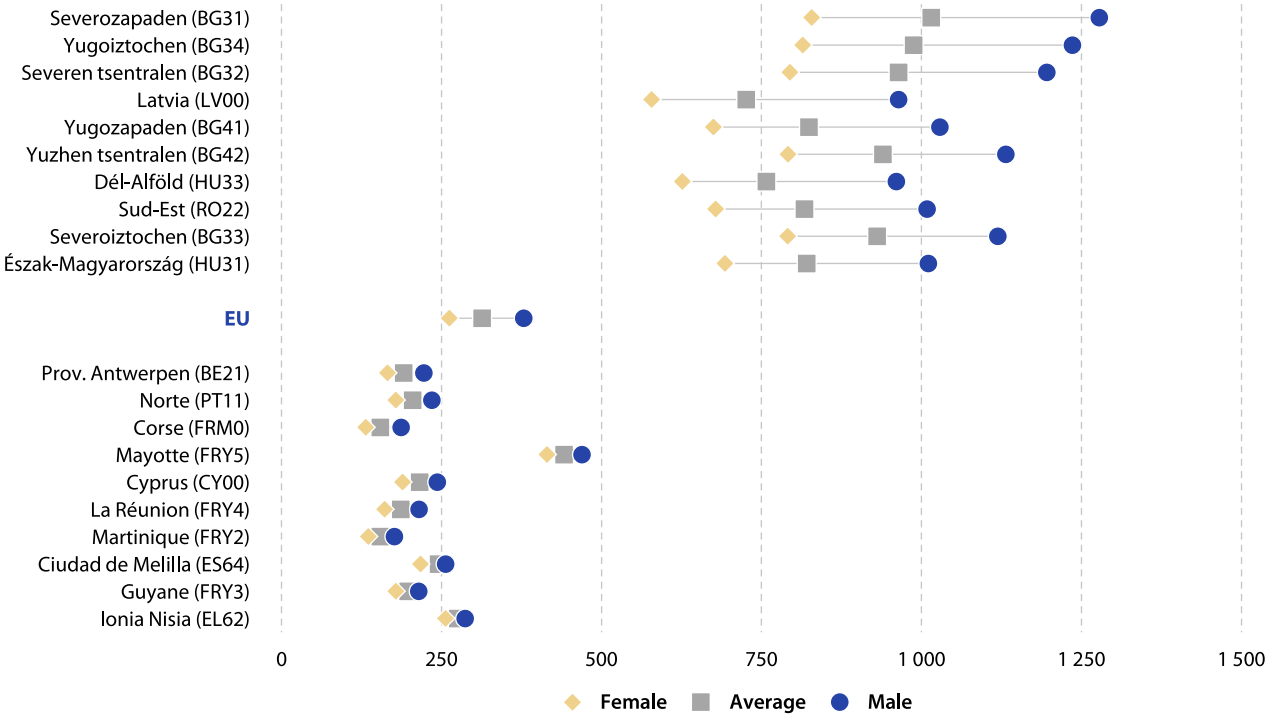

Note: based on standardised death rates per 100 000 inhabitants.

*Source:* Eurostat (online data code: hlth_cd_asdr2)

Figure 2.2 illustrates gender gaps in mortality rates for circulatory diseases, highlighting NUTS level 2 regions with the widest and narrowest differences (calculated as the male death rate minus the female death rate). In 2023, the rates for males exceeded those for females across every region of the EU.

- The widest gender gaps were generally observed in regions characterised by relatively high mortality rates for both sexes. All 6 regions of Bulgaria featured among the 10 EU regions with the widest gaps. The widest of all was observed in Severozapaden, where the male death rate for diseases of the circulatory system stood at 1 277.5 deaths per 100 000 inhabitants, compared with 828.5 for females. The remaining regions in this group at the upper end of the distribution included Latvia, Dél-Alföld and Észak-Magyarország (both in Hungary) and Sud-Est (Romania).
- At the other end of the spectrum, the narrowest gender gap was recorded in the Greek region of Ionia Nisia, where male and female standardised death rates for diseases of the circulatory system were relatively similar (286.3 and 256.2 deaths per 100 000 inhabitants, respectively). Other regions with relatively narrow gender gaps included 5 regions from France (4 outermost regions and Corse), Ciudad de Melilla in Spain, Cyprus, Norte in Portugal and Prov. Antwerpen in Belgium.

**Figure 2.2: Gender gap in death rates for diseases of the circulatory system**
(per 100 000 inhabitants, by NUTS 2 regions, 2023)




Note: the figure shows the EU regions with the widest and narrowest gender gaps; the gender gap is computed as the male death rate minus the female death rate.

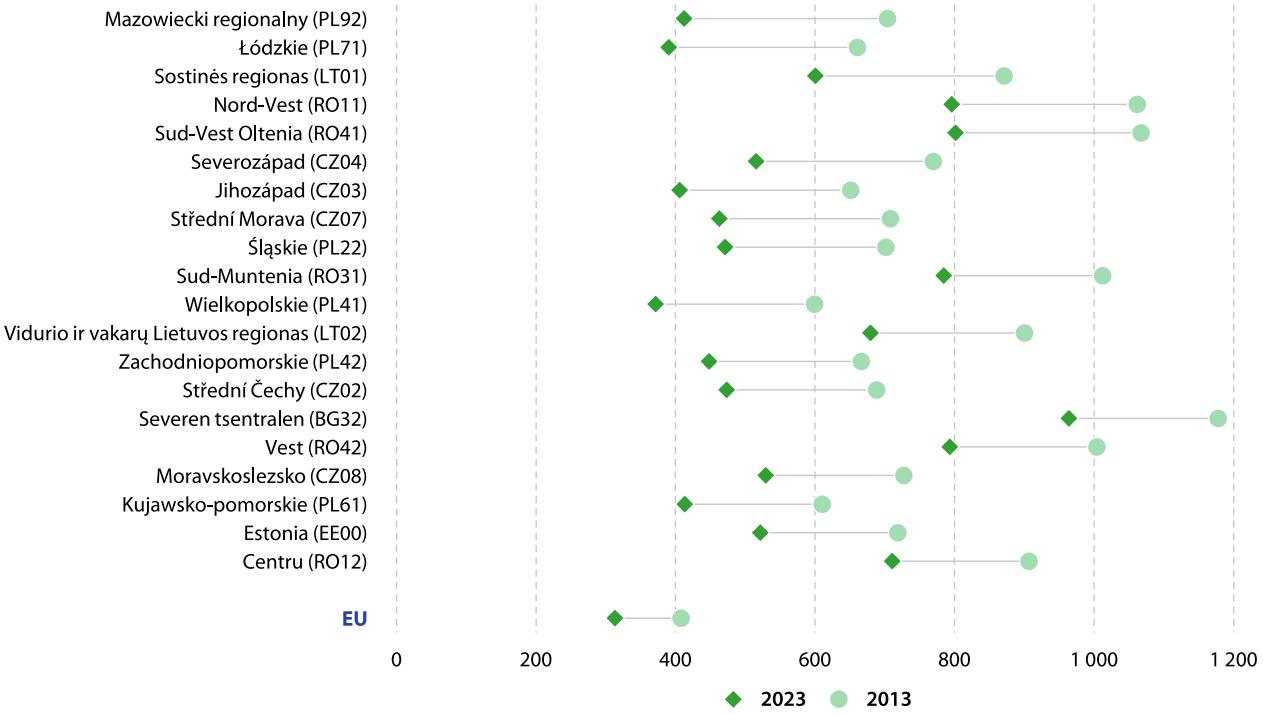
*Source:* Eurostat (online data code: hlth_cd_asdr2)

***The Polish regions of Mazowiecki regionalny and Łódzkie recorded the largest declines in death rates from diseases of the circulatory system***

Figure 2.3 illustrates changes in standardised death rates for diseases of the circulatory system over the latest decade for which data are available. Across the EU, the rate declined from 407.6 to 313.0 deaths per 100 000 inhabitants between 2013 and 2023. The largest absolute decreases were recorded in the Polish regions of Mazowiecki regionalny (which surrounds the capital) and Łódzkie, with rates falling from 703.6 to 412.1 and from 660.4 to 390.1 deaths per 100 000 inhabitants, respectively. The 20 EU regions with the largest absolute declines in death rates were all located in eastern and Baltic countries, including 6 regions from Poland, 5 regions from each of Czechia and Romania, both regions in Lithuania, a single region from Bulgaria, and Estonia.

Mazowiecki regionalny and Łódzkie also recorded the largest relative reductions in death rates from diseases of the circulatory system, with falls of 41.4% and 40.9%, respectively, between 2013 and 2023. The next largest relative fall (down 38.8%) was observed in the Greek region of Voreio Aigaio, which had a comparatively low initial death rate. By contrast, the death rate increased in 2 EU regions over the period under consideration. In the French outermost region of Mayotte, it rose from 387.3 to 441.3 deaths per 100 000 inhabitants (up 13.9%), while in the Spanish island region of Canarias it increased from 207.2 to 232.8 deaths per 100 000 inhabitants (up 12.4%).

**Figure 2.3: Development of death rates for diseases of the circulatory system**
(per 100 000 inhabitants, by NUTS 2 regions, 2013 and 2023)




Note: the chart shows data for the 20 EU regions with the largest decreases in death rates per 100 000 inhabitants between 2013 and 2023. Several regions in the Netherlands and Portugal: incomplete data.

*Source:* Eurostat (online data code: hlth_cd_asdr2)

# 3. Education

Alongside the provision of health care, public spending on education is widely regarded as one of the most important investments in human capital. Education can play a key role in advancing socio-economic progress, especially in an increasingly globalised world where a highly skilled workforce has the potential to strengthen productivity, foster innovation and enhance competitiveness.

This chapter presents data following the common progression of pupils and students through different levels of the education system (according to the International standard classification of education (ISCED); see box below for more details), before looking at educational attainment levels and the transition from education into work. Administrative data on the participation of pupils and students in various levels of education generally refer to 2024, while the latest information from other datasets (surveys) generally concerns 2025.

The infographic below presents data for the 10 NUTS level 2 regions across the EU with the highest shares of people aged 25 to 34 with a tertiary level of educational attainment. In 2025, several of these were capital regions. For example, the share reached 77.4% in Sostinės regionas (Lithuania), 72.7% in Ile-de-France (France), 70.4% in Eastern and Midland (Ireland) and 69.6% in Warszawski stołeczny (Poland).

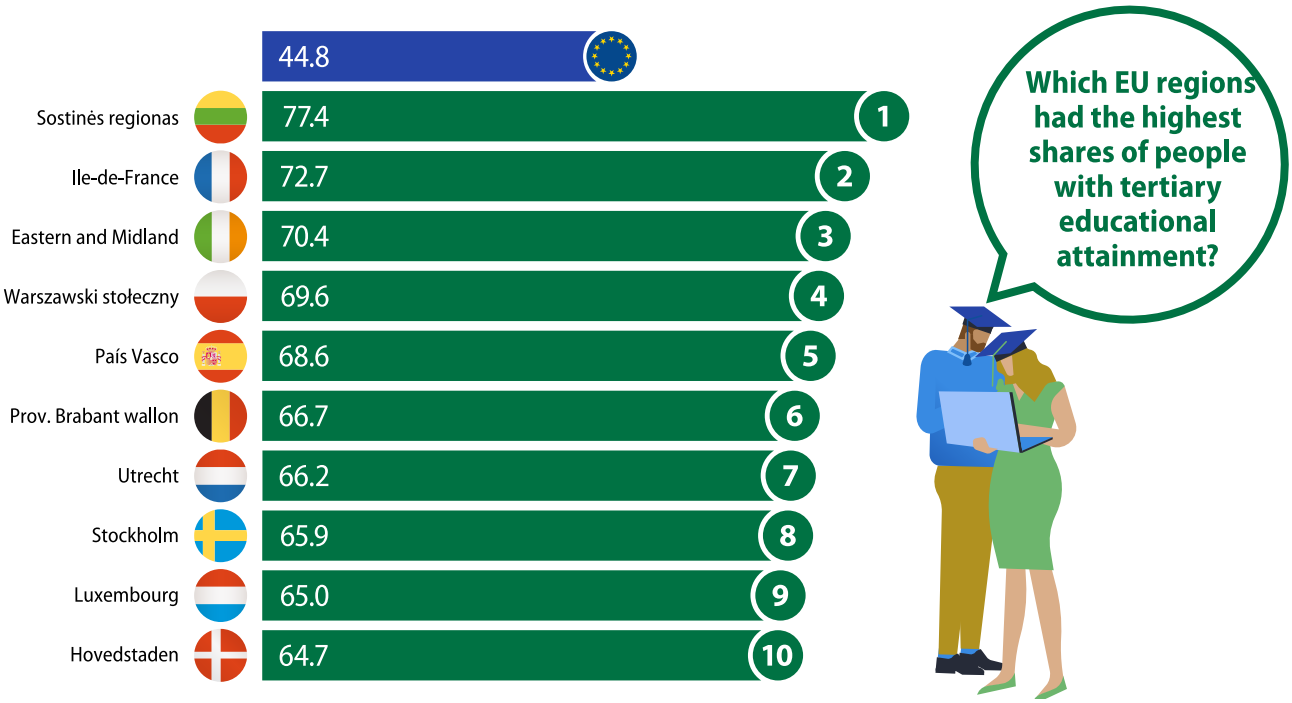
### European Education Area

Education and training play a vital role in the economic and social strategies of the EU. In February 2021, a *Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)* (2021/C 66/01) was adopted. It sets out 7 policy targets for the European Education Area that are designed to remove barriers to learning and improve access to quality education for all. The first targets were established for 2025, namely, that:

- at least 60% of recent graduates from vocational education and training (VET) should have participated in work-based learning during their studies
- at least 47% of adults aged 25 to 64 should have participated in learning during the previous 12 months.

The second set of targets refer to 2030:

- less than 15% of pupils aged 15 should be low-achievers in reading, mathematics and science
- less than 15% of pupils in the eighth grade (aged 14 or 15) should be low-achievers in computer and information literacy




(% of people aged 25–34, by NUTS 2 regions, 2025)

Note: Åland (FI20), not available.

*Source:* Eurostat (online data code: edat_lfse_04)

- at least 96% of children between the age of 3 and the starting age for compulsory primary education should participate in early childhood education and care
- less than 9% of young people (aged 18 to 24) should leave education and training early
- at least 45% of people aged 25 to 34 should have a higher education qualification.

Several of these targets are referred to within this chapter.

## Enrolments

In 2024, there were an estimated 94.7 million pupils and students enrolled across the EU in all levels of education from pre-primary to tertiary (as covered by ISCED levels 02 to 8).

### More about the data: classifying education levels

As national education systems vary in terms of structure and curricular content, statistics on education and training are compiled according to the international standard classification of education (ISCED). This is the reference classification for organising formal education programmes and related qualifications by education levels and fields into internationally agreed categories.

The most recent version of the ISCED classification – ISCED 2011 – was adopted by the UNESCO General Conference in November 2011 and identifies the following levels of education:

- early childhood education – ISCED level 0
  - early childhood educational development – ISCED code 010
  - pre-primary education – ISCED code 020
- primary education – ISCED level 1
- lower secondary education – ISCED level 2
- upper secondary education – ISCED level 3
- post-secondary non-tertiary education – ISCED level 4
- tertiary education – ISCED levels 5 to 8
  - short-cycle tertiary education – ISCED level 5
  - bachelor's or equivalent level – ISCED level 6
  - master's or equivalent level – ISCED level 7
  - doctoral (PhD) or equivalent level – ISCED level 8.

Across all EU countries, school attendance is compulsory – at least for primary and lower secondary education.

Young people who have successfully completed lower secondary education may enter upper secondary education (ISCED level 3), when they generally have to choose certain subjects or specialisations to study, alongside their future education and/or career paths. Upper secondary (or intermediate) education typically ends in the EU when students are aged 17 or 18. These programmes are designed primarily to prepare students so that they may continue their studies at a tertiary level (general programmes), or to provide them with skills and competencies that are relevant for a specific occupation or trade (vocational programmes).

Tertiary education (ISCED levels 5 to 8) builds on secondary education, providing learning activities at a higher level of complexity. This level of higher education – provided by universities and other tertiary educational institutions – can play an important role in society, fostering innovation, while increasing economic development and growth.

### PARTICIPATION RATES IN EARLY CHILDHOOD EDUCATION

Research has shown that early experiences of children often play a critical role in long-term development. Early childhood education and care programmes, which are intentionally designed to support children's cognitive, language, physical and socio-emotional development, are considered educational in the ISCED classification (ISCED level 0, early childhood education) ([1]).

Early childhood education programmes are typically designed to introduce young children to organised instruction outside of the family context. Programmes have an intentional education component and target children below the age of entry into primary education (ISCED level 1). Early childhood education programmes constitute the first level of education and training systems and play a key role in redressing 'unequal' life chances, tackling inequalities by preventing the formation of early skills gaps.

([1]) At this age, learning activities are very different to the traditional methods adopted within the context of compulsory schooling, and – most of the time – take place alongside / as part of caring activities (in other words, supervision, nutrition and health). According to ISCED, programmes providing only childcare – without a sufficient set of purposeful learning activities – are not classified as early childhood education

## More about the data: statistics on early childhood education and care

Within the strategic framework for European cooperation in education and training towards the European Education Area and beyond, a key policy target concerns the share of young children – between the age of 3 and the starting age of compulsory primary education – who participate in early childhood education and care. Eurostat data on early childhood education (ISCED level 0) are used to measure progress towards the goal of having at least 96% of children in this age group participating in early childhood education and care by 2030 ([2]).

Within this section, regional statistics presented for Germany relate to NUTS level 1 regions, while national data are presented for the Netherlands.

Based on the latest available data, there were an estimated 15.6 million children (of any age) enrolled in early childhood education across the EU in 2024 (data for Belgium, Greece, Italy and Malta only cover pre-primary education). Map 3.1 shows a more detailed picture for 198 NUTS level 2 regions, it covers pupils between the age of 3 and the starting age of compulsory education at primary level. While the participation rate in early childhood education averaged 94.4% across the whole of the EU, there were considerable differences in regional rates. The highest rates were generally recorded in western regions of the EU and lower rates across several eastern regions. Capital regions had higher participation rates than their respective national averages in several EU countries, including Belgium, Germany, Croatia, Hungary, Poland and Slovakia. By contrast, capital regions in countries such as Czechia, Italy, Portugal or Romania recorded below-average rates.

([2]) It should be noted that the wording of the EU target is for participation in 'early childhood education and care' and not 'early childhood education'. Early childhood education and care refers to any regulated arrangement for children from birth to compulsory primary school age, regardless of the programme content, whereas early childhood education refers specifically to ISCED programmes. The former encompasses not only early childhood education but also programmes which do not meet the minimum requirements to be classified as such (for example, childcare only programmes). Although the EU target is for participation in early childhood education and care, the Regulation stipulates that Eurostat's data on participation rates in early childhood education will be used to measure progress towards this target. This means that, in practice, the EU target for participation in early childhood education and care programmes concerns only those programmes which meet criteria to be classified as early childhood education. For more details on the difference between these 2 terms, please consult an article on early childhood education statistics.

***In 2024, there were 20 regions across the EU where practically every child (100.0%) between the age of 3 and the age for starting compulsory primary education participated in early childhood education***

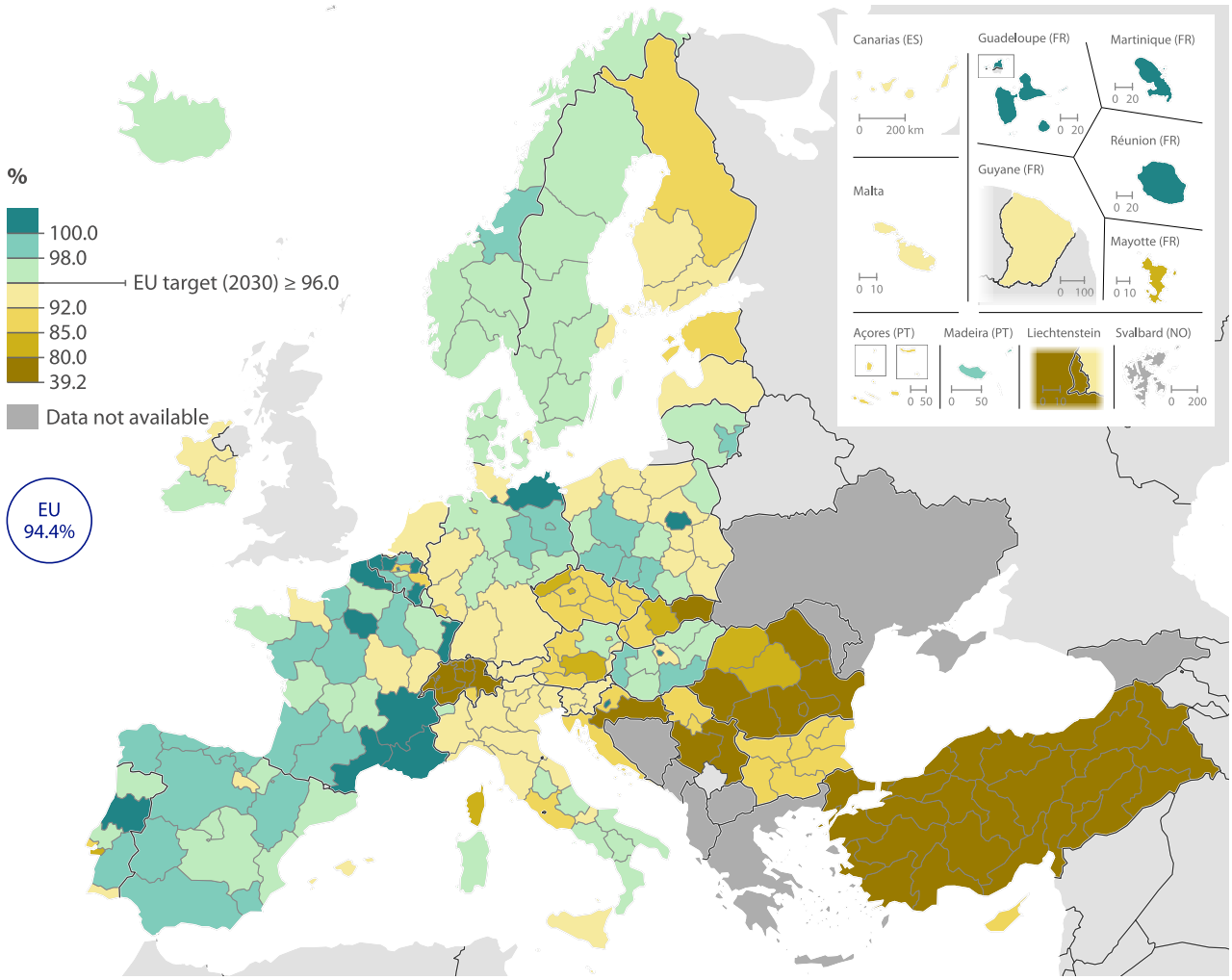
By 2024, the share of children between the age of 3 and the starting age for compulsory primary education participating in early childhood education had already reached the EU's strategic target of 96.0% in exactly half of all EU regions for which data are available (99 out of 198 regions) – see Map 3.1. These 99 regions, which had already met or exceeded the 2030 target were mainly concentrated in Belgium, Denmark, Germany, Spain, France, Lithuania, Hungary, Poland, Portugal and Sweden (for each of these countries, more than half of all regions had reached this level); Luxembourg had also achieved the policy target of 96.0%.

At the upper end of the distribution, 20 EU regions recorded participation rates of 100.0% in early childhood education. Almost half of these were located in France (9 regions), while a further five were in neighbouring Belgium. Across the EU, there were 5 capital regions with universal enrolment of young children in early childhood education, namely Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (Belgium), Ile-de-France (France), Grad Zagreb (Croatia), Budapest (Hungary) and Warszawski stołeczny (Poland). As such, it is interesting to note that while some of the lowest participation rates were observed in eastern EU countries, 3 of the 5 capital regions with universal enrolment were also located in the same group of countries.

In 2024, the share of young children participating in early childhood education was below 85.0% in 17 of the 198 regions for which data are available. These regions with relatively low participation rates were mainly concentrated in eastern EU countries, including all 8 regions of Romania, 2 regions from each of Czechia and Slovakia, as well as a single region from Croatia. This group also included the French island regions of Mayotte and Corse, as well as a single region from each of Austria and Portugal. At the lower end of the distribution, there were 5 EU regions where the participation rate in early childhood education was below 75.0%:

- 4 of these were located in Romania – Nord-Est recorded the lowest share in the EU (70.6%), while the remaining regions included the capital of Bucureşti-Ilfov, Sud-Muntenia and Sud-Est
- the only other region below this level was Východné Slovensko in Slovakia.

**Map 3.1:** Participation rates in early childhood education
(%, by NUTS 2 regions, 2024)




Note: pupils participating in early childhood education from the age of 3 to the starting age of compulsory education at primary level, as a share of the population of the corresponding age. Germany: NUTS level 1. The Netherlands: national data. Iceland: 2023. Liechtenstein: 2022.

*Source:* Eurostat (online data code: educ_uoe_enra22)

## PARTICIPATION IN TERTIARY EDUCATION

The number of people enrolling in tertiary education across the EU has risen in recent decades, reflecting several factors, such as:

- demographic patterns
- changes in labour force participation (particularly for women)
- increased demand from employers for tertiary education qualifications (for jobs that previously required a secondary level of education)
- an increased awareness of the benefits of tertiary education
- access to student finance, scholarships and other benefits
- different patterns of learning mobility (within and from outside of the EU)
- an increased demand for longer tertiary education (such as the extension from a bachelor's degree to master's or doctoral (PhD) studies)
- an increasing share of adults participating in lifelong learning.

Looking ahead, developments in artificial intelligence (AI) may also influence enrolment patterns across tertiary education. On the one hand, AI is likely to increase demand for advanced digital, analytical and interdisciplinary skills, which could encourage higher participation in tertiary studies. On the other hand, as AI automates a growing share of routine tasks, employers may place less emphasis on traditional degree-based qualifications for some roles, instead prioritising specific, verifiable skills and competencies.

***In 2024, there were 19.1 million tertiary education students enrolled across the EU***

There were approximately 19.1 million students enrolled in the EU's tertiary education institutions in 2024. As such, tertiary students accounted for 1 in 5 (20.1%) of the total number of pupils and students enrolled within the EU's education system. A majority of the students enrolled in the tertiary education sector were female (54.9% of the total).

In 2024, 11.2 million EU students were enrolled in bachelor's programmes. This figure was approximately twice as high as the count of students enrolled in master's programmes (5.6 million). The other 2 types of tertiary programmes had fewer students: 1.5 million enrolled in short-cycle programmes (either academic or vocational) and 0.7 million in doctoral programmes. As noted above, females made up the majority of students enrolled in tertiary education. This gender gap was particularly apparent among students studying for a master's degree (where 58.6% were female) and somewhat smaller among students studying for a bachelor's degree (where 54.3% were female). By contrast, males accounted for a small majority of the students pursuing a short-cycle tertiary education qualification (51.5%) and a doctoral degree (50.3%).

The highest absolute numbers of tertiary students were recorded in predominantly urban regions from some of the most populous EU countries. In 2024, the French capital region of Ile-de-France (791 400 students) and the German region of Nordrhein-Westfalen (772 100 students; NUTS level 1) were the only regions within the EU to record more than 0.5 million tertiary students enrolled. A further 13 regions had between 250 000 and 500 000 tertiary students enrolled:

- 4 regions in Spain – the capital region of Comunidad de Madrid, Cataluña, Andalucía and Comunitat Valenciana
- 3 regions in Germany – Bayern, Baden-Württemberg and Hessen (all NUTS level 1)
- 3 regions in Italy – the capital region of Lazio, Lombardia and Campania
- the capital regions of Warszawski stołeczny (Poland) and Attiki (Greece)
- the French region of Rhône-Alpes.

Map 3.2 shows the proportion of all tertiary students enrolled in bachelor's, master's or doctoral degrees (note that short-cycle tertiary education has been omitted due to partial coverage for some regions). Each national education system has its own specific characteristics, with a particular offer of fields or levels of education. This may explain why some regions have no students enrolled for short-cycle tertiary education qualifications or for a master's or doctoral (PhD) degree, as these educational levels are not offered. In such cases, the shares of students enrolled in other types of tertiary education may be higher than elsewhere. For example, in the Finnish archipelago of Åland, a bachelor's degree was the only form of tertiary education available and therefore accounted for 100.0% of all tertiary enrolments.

***In 2024, the most populous German region – Nordrhein-Westfalen – recorded the highest number of students enrolled in bachelor's programmes***

In 2024, there were 11.2 million students across the EU enrolled in bachelor's programmes. Across NUTS level 2 regions, there were 8 regions where more than 90.0% of tertiary students followed a bachelor's programme: the Finnish region of Åland, as noted above, had the highest share (100.0%), while the others in this group included:

- 3 regions in Greece – Sterea Elláda, Ipeiros and Kriti
- 2 regions in Belgium – Prov. West-Vlaanderen and Prov. Luxembourg
- 2 regions in Spain – the autonomous Ciudades de Ceuta y Melilla.

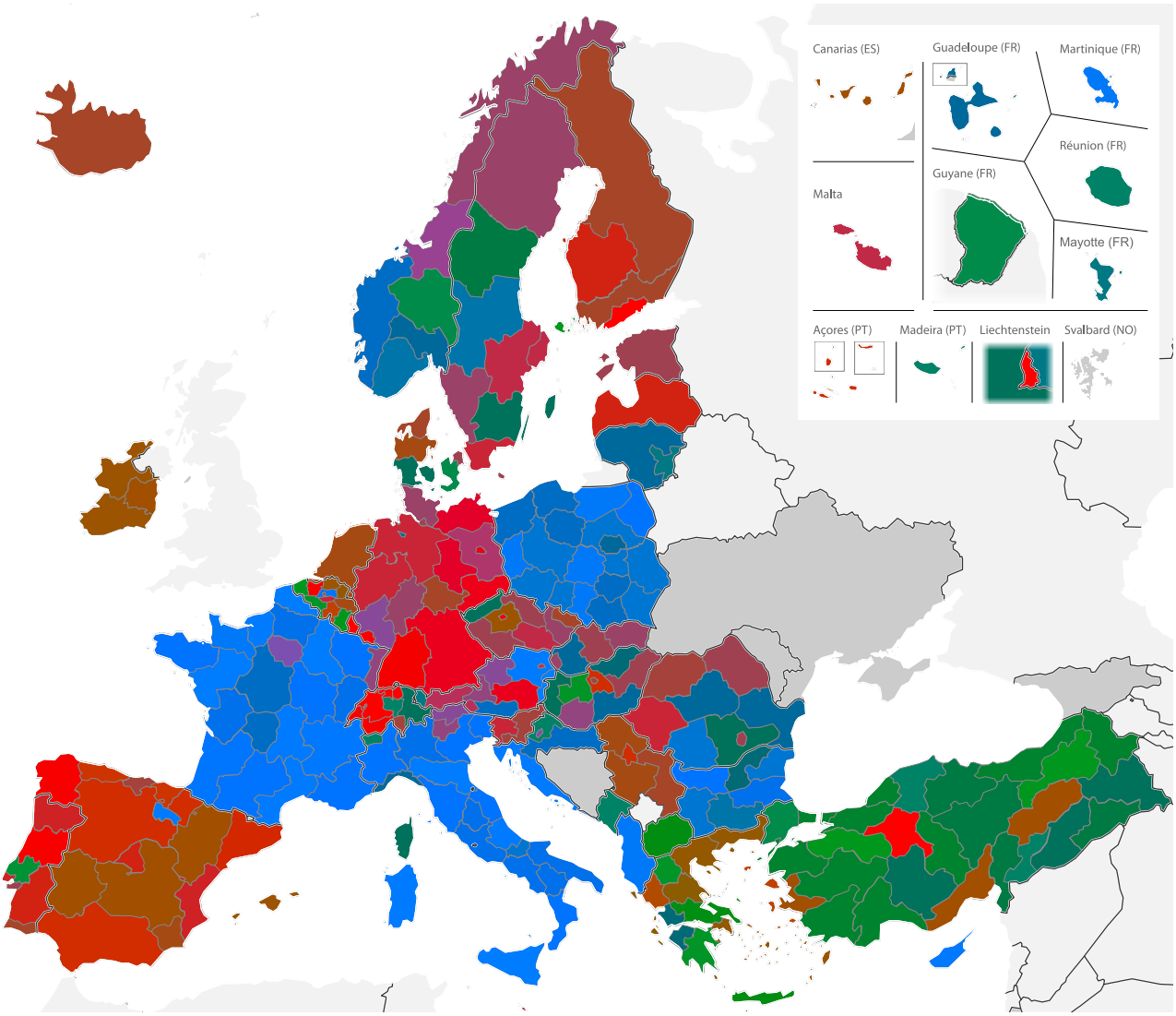
In absolute terms, the highest numbers of tertiary students studying for a bachelor's degree in 2024 were concentrated in Nordrhein-Westfalen (467 200; NUTS level 1), followed by the French, Spanish, Greek and Italian capital regions of Ile-de-France (334 700), Comunidad de Madrid (261 700), Attiki (258 900) and Lazio (251 900).

***The French capital region of Ile-de-France recorded the highest number of master's students in 2024***

There were 5.6 million students enrolled to study for a master's education across the EU in 2024. There were 4 NUTS level 2 regions where more than half of all tertiary students (excluding short-cycle tertiary education) followed a master's programme: Burgenland (80.6%) and Niederösterreich (58.5%) in eastern Austria, La Rioja in northern Spain (55.2%) and Cyprus (51.0%).

In absolute terms, the highest number of students studying for a master's degree in 2024 was observed in the French capital region of Ile-de-France (323 000 students; just 11 700 fewer than were studying for a bachelor's degree). There were also relatively high counts in 2 German regions (both NUTS level 1) and 2 Italian regions – Nordrhein-Westfalen (263 500 students), Bayern (176 400 students), Lazio (146 900 students) and Lombardia (145 100 students).

**Map 3.2: Students enrolled in tertiary education**
(% of all tertiary students excluding short-cycle tertiary education, by NUTS 2 regions, 2024)

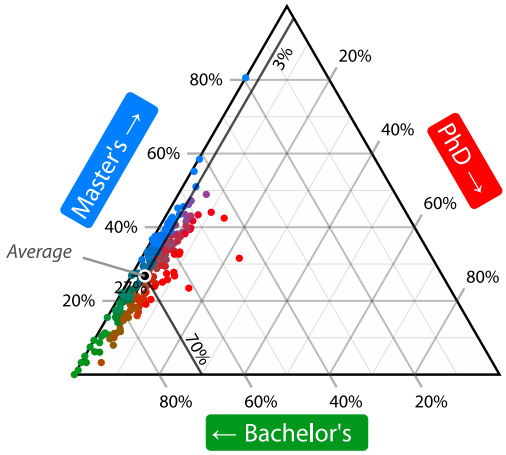



Note: share of students enrolled in ISCED levels 6, 7 and 8. Germany: NUTS level 1. The Netherlands and Albania: national data. Iceland and Albania: 2023. Liechtenstein and Türkiye: 2022.

*Source:* Eurostat (online data code: educ_uoe_enrt06)

**Education level**

Compared with the EU average:
areas with more green have a higher % of bachelor's students
areas with more blue have a higher % of master's students
areas with more red have a higher % of PhD students




***In 2024, the German region of Nordrhein-Westfalen had the highest number of students enrolled in doctoral (PhD) programmes***

In 2024, there were 726 700 doctoral or equivalent students enrolled in the EU. Luxembourg (14.0%) and the eastern German region of Sachsen (10.2%; NUTS level 1) were the only regions in the EU to report double-digit shares of tertiary students (excluding short-cycle tertiary education) enrolled in a doctoral programme. The next highest shares were recorded in the German regions of Baden-Württemberg (8.3%), Saarland (8.2%), Bayern and Berlin (both 7.5%), as well as the Portuguese region of Centro (8.2%) and the Finnish capital region of Helsinki-Uusimaa (8.0%).

The highest numbers of doctoral students in 2024 were recorded in 3 German regions (all NUTS level 1): Nordrhein-Westfalen (41 400 students), Bayern (33 700 students) and Baden-Württemberg (32 800 students). Outside Germany, the next highest count was observed in the French capital region of Ile-de-France (26 500 students).

Figure 3.1 shows substantial regional variation in tertiary education participation by educational level and by sex.

## PARTICIPATION IN SHORT-CYCLE TERTIARY EDUCATION

Across the EU, short-cycle tertiary education accounted for a single-digit share of tertiary students for both men and women in 2024. However, considerably higher shares were recorded in several Austrian, Spanish and French outermost regions. These shares peaked in the western Austrian region of Vorarlberg, where 56.9% of male tertiary students and 55.4% of female tertiary students were enrolled in short-cycle programmes.

Some of the widest gender gaps in 2024 were observed in the French outermost regions: for example, the participation rate for short-cycle tertiary education was considerably higher among men than women in Martinique (43.7% compared with 26.9%) and Mayotte (50.2% compared with 36.3%). Outside France, a relatively wide gender gap was also recorded in the northern Spanish region of País Vasco (32.2% for men compared with 18.5% for women).

Overall, there were 32 regions across the EU where a higher share of female than male tertiary students were enrolled in short-cycle tertiary education. This gap was most pronounced in Latvia, where the female participation rate was 7.3 percentage points higher than the male rate in 2024, with the next widest gap in the easternmost Austrian region of Burgenland (3.6 percentage points).

## PARTICIPATION IN BACHELOR'S PROGRAMMES

Within the EU, a majority of the tertiary students following a bachelor's programme in 2024 were female; 6.1 million compared with 5.1 million male students. Together, they accounted for 59.1% of all tertiary education students, with a higher relative share among male students (60.1% of all male tertiary students) compared with female students (58.3% of all female tertiary students).

In the Finnish region of Åland, all male and female tertiary students in 2024 were enrolled in bachelor's programmes. Relatively high shares were also recorded in Prov. Luxembourg in Belgium, as well as Sterea Elláda and Ipeiros in Greece, where at least 90.0% of both male and female tertiary students were studying at bachelor's level. There were 3 other regions – all located in Greece – where at least 90.0% of male tertiary education students were enrolled in bachelor's programmes.

In 2024, there were 121 out of 211 NUTS level 2 regions for which data are available, where the share of male tertiary education students enrolled in bachelor's programmes was higher than the corresponding share among female students. The widest gender gaps were observed in the south-eastern Polish region of Podkarpackie (76.4% for men compared with 58.7% for women) and in the western Greek region of Dytiki Elláda (80.0% for men compared with 62.9% for women). By contrast, in 89 regions, the share of female tertiary education students enrolled in bachelor's programme was higher. The widest gender gap in favour of women was recorded in the north-western Italian region of Liguria, where 71.6% of female tertiary education students were enrolled in bachelor's programmes compared with 58.7% for men.

## PARTICIPATION IN MASTER'S PROGRAMMES

Across the EU, there were 3.3 million female and 2.3 million male students enrolled in master's programmes in 2024. This corresponded to 31.3% of all female tertiary education students, compared with 27.1% of male tertiary education students.

The share of female tertiary education students enrolled in master's programmes was higher than the corresponding share for males in 164 out of the 211 NUTS level 2 regions for which 2024 data are available. The widest gender gap in favour of women was recorded in Cyprus, where 57.7% of female tertiary education students followed a master's programme, compared with 35.6% of male tertiary education students. By contrast, in 46 regions the share of male tertiary education students enrolled in master's programme was higher. The widest gender gap in favour of men was recorded in the easternmost Austrian region of Burgenland – which also had the highest overall share of master's students – with 68.3% of male tertiary education students enrolled in master's programmes compared with 59.4% of female tertiary education students.

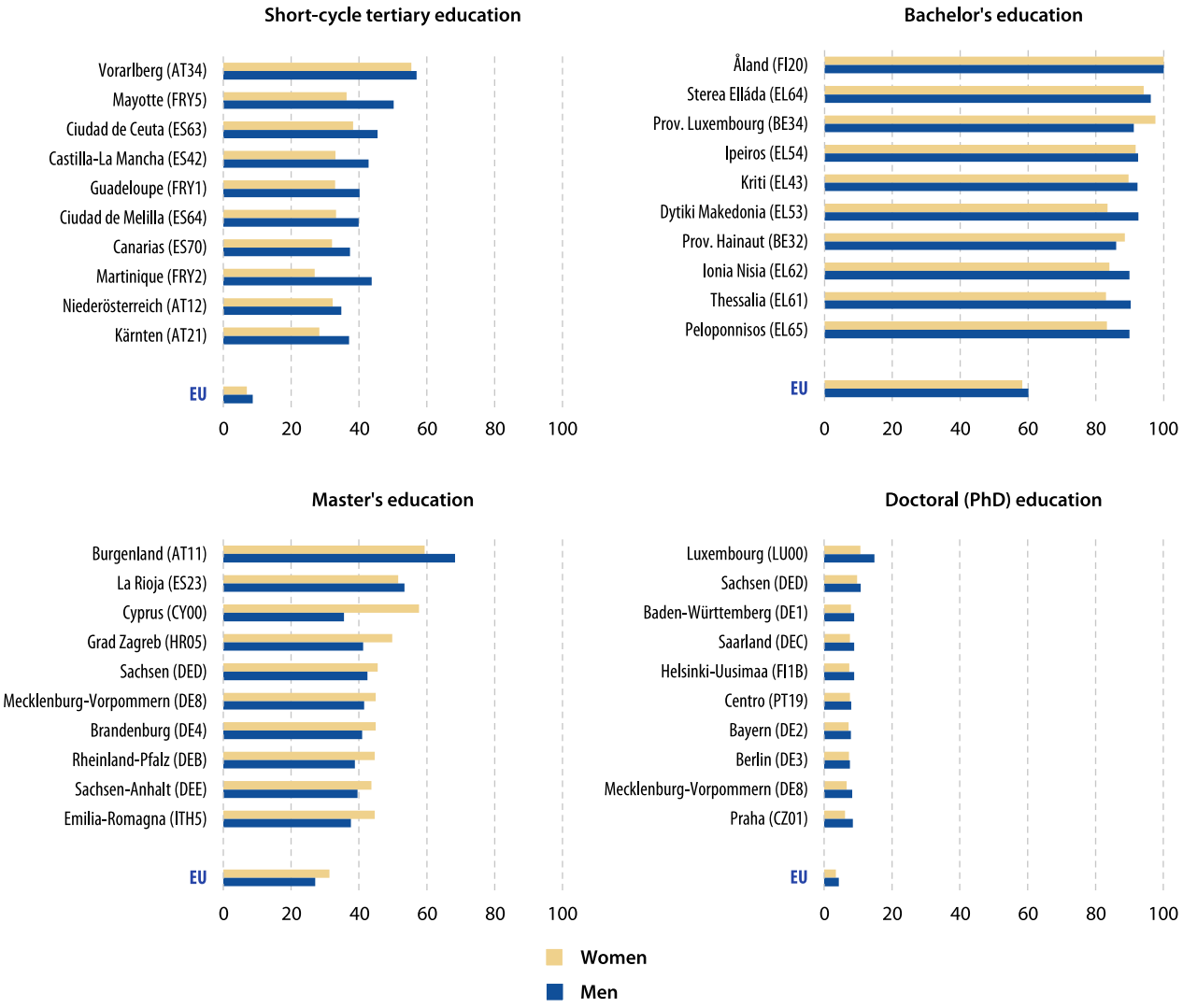
## PARTICIPATION IN DOCTORAL PROGRAMMES

There was a broadly even distribution of doctoral (PhD) students by sex, with 365 600 male and 361 100 female students across the EU in 2024. A higher share of male tertiary education students was enrolled in doctoral programmes (4.3%) compared with female students (3.4%). Luxembourg recorded the highest shares of tertiary education students enrolled in doctoral programmes for both sexes: 14.8% for males and 10.7% for females. The eastern German region of Sachsen (NUTS level 1) and the

northern Italian region of Provincia Autonoma di Bolzano/ Bozen were the only other regions in the EU to report double-digit shares for either sex: in Sachsen, 10.7% of male tertiary education students were enrolled in doctoral programmes, while in Bolzano/Bozen the share for males was 10.0%.

In most EU regions, participation rates in doctoral programmes were relatively low. In 2024, there were 11 NUTS level 2 regions that did not offer doctoral programmes. Overall, a higher proportion of male than female tertiary education students were enrolled in doctoral programmes, a pattern observed in 177 out of 211 regions for which data are available. The widest gender gaps in favour of men were recorded in the northern Italian region of Provincia Autonoma di Bolzano/ Bozen (10.0% for men compared with 3.1% for women), Luxembourg (where there was a gap of 4.2 percentage points) and the Czech region of Moravskoslezsko (6.4% compared with 2.9%). By contrast, in 23 regions across the EU, the share of female tertiary education students enrolled in doctoral programmes was higher than that of males. The widest gender gap in favour of women was observed in the Croatian region of Sjeverna Hrvatska (2.4% for women compared with 0.7% for men).

**Figure 3.1: Students enrolled in tertiary education**
(% of female/male tertiary students in each level of tertiary education, by NUTS 2 regions, 2024)




Note: the figure shows the EU regions with the highest shares (ranked on the average share for both sexes) of students for each level of education. Germany: NUTS level 1. The Netherlands: national data. Subject to data availability.

*Source:* Eurostat (online data code: educ_uoe_enrt06)

## Educational attainment

A basic level of education is desirable for all, as it provides the opportunity to participate in economic and social life. Nevertheless, people with higher levels of educational attainment generally tend to experience a wider range of job opportunities, higher levels of income and tend to be more satisfied with life, while they usually have a lower likelihood of being unemployed.

### More about the data: educational attainment

Educational attainment is measured as the highest level of education successfully completed, based on the ISCED classification. These statistics refer to the education level reached prior to the survey interview. Note that some people in the target age range might:

- still be studying (for a higher level of education)
- have completed their highest level of education in a different region from where they were living at the time of the survey.

### PEOPLE WITH AN UPPER SECONDARY OR POST-SECONDARY NON-TERTIARY EDUCATION QUALIFICATION

In 2025, 41.7% of people in the EU aged 25 to 34 had attained an upper secondary or post-secondary non-tertiary level of education (ISCED levels 3 and 4). This represented a decrease of 0.3 percentage points compared with 2024 and continued a downward trend observed over the past 2 decades, from a peak of 52.9% in 2002 (when the time series began). During this period, the share of people with an upper secondary or post-secondary non-tertiary level of educational attainment fell each year, consistent with rising participation in tertiary education (see below), with the largest annual decrease observed in 2023 (down 1.0 percentage points).

Map 3.3 shows regional variations in the share of people aged 25 to 34 who had attained an upper secondary or post-secondary non-tertiary level of education in 2025. At the top end of the distribution, there were 16 NUTS level 2 regions where at least 60.0% of people had attained an upper secondary or post-secondary non-tertiary level of education (shown by the darkest shade in the map). These regions were predominantly located in eastern EU countries, reflecting a greater prevalence of the vocational education and training pathway into skilled employment. This group of 16 was composed of:

- 5 regions in Czechia
- 4 regions in Hungary
- 2 regions in each of Croatia and Romania
- 1 region in Slovakia
- as well as single regions in Greece and Italy.

In 2025, the highest proportion of people aged 25 to 34 with an upper secondary or post-secondary non-tertiary education qualification was recorded in the Greek island region of Voreio Aigaio (70.0%). High shares were also observed in the Hungarian regions of Nyugat-Dunántúl (68.3%) and Dél-Alföld (66.6%), as well as the Romanian region of Vest (67.7%).

At the other end of the range, 17 NUTS level 2 regions reported that less than a quarter of all people aged 25 to 34 had an upper secondary or post-secondary non-tertiary level of educational attainment in 2025 (as shown by the lightest shade in Map 3.3). Spain accounted for 14 of these 17 regions, with shares below 20.0% in:

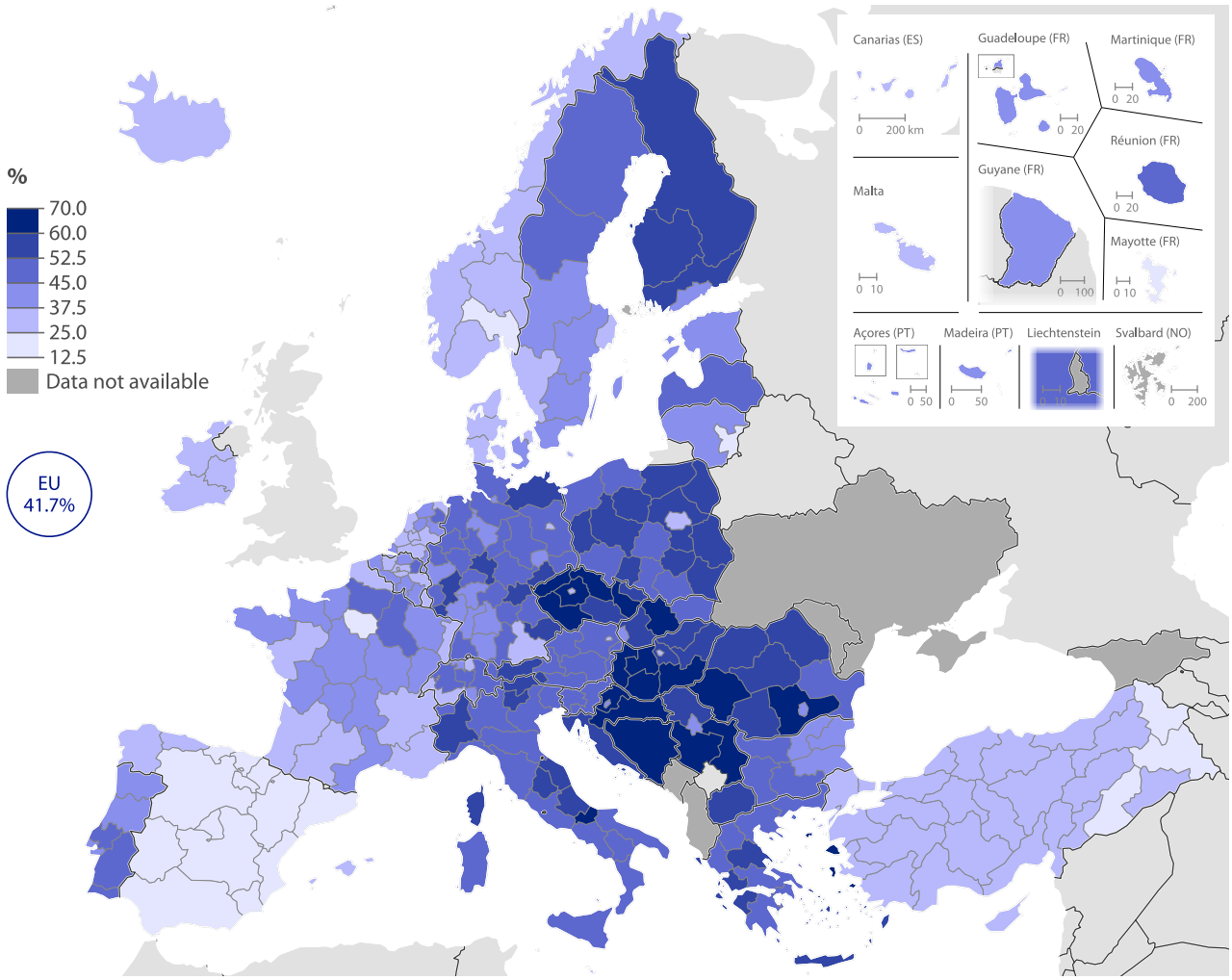
- Ciudad de Ceuta (12.5%)
- Cataluña (18.5%)
- País Vasco (19.1%)
- Comunitat Valenciana (19.9%).

The only Spanish regions with shares of 25.0% or above were the island regions of Illes Balears and Canarias, the north-western regions of Principado de Asturias and Galicia, and Ciudad de Melilla.

Outside Spain, there were 2 capital regions where less than a quarter of all people aged 25 to 34 had attained an upper secondary or post-secondary non-tertiary education qualification in 2025:

- Ile-de-France in France (20.4%)
- Sostinės regionas in Lithuania (21.5%).

**Map 3.3:** Educational attainment – upper secondary and post-secondary non-tertiary
(% of people aged 25–34, by NUTS 2 regions, 2025)




Note: ISCED levels 3 and 4. Iceland: 2024. Ciudad de Ceuta (ES63), Ciudad de Melilla (ES64) and Corse (FRM0): low reliability.

*Source:* Eurostat (online data code: edat_lfse_04)

## PEOPLE WITH A TERTIARY LEVEL OF EDUCATIONAL ATTAINMENT

Map 3.4 shows the regional distribution of tertiary educational attainment, defined as the share of people with a higher level of educational attainment (ISCED levels 5 to 8). The data refer to people aged 25 to 34, by which age the vast majority of the population have completed their education. The strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021 to 2030) sets an EU-wide target in this area: by 2030, at least 45% of people aged 25 to 34 should have attained a tertiary level of education.

***Almost 40% of EU regions had already reached the policy goal for tertiary educational attainment***

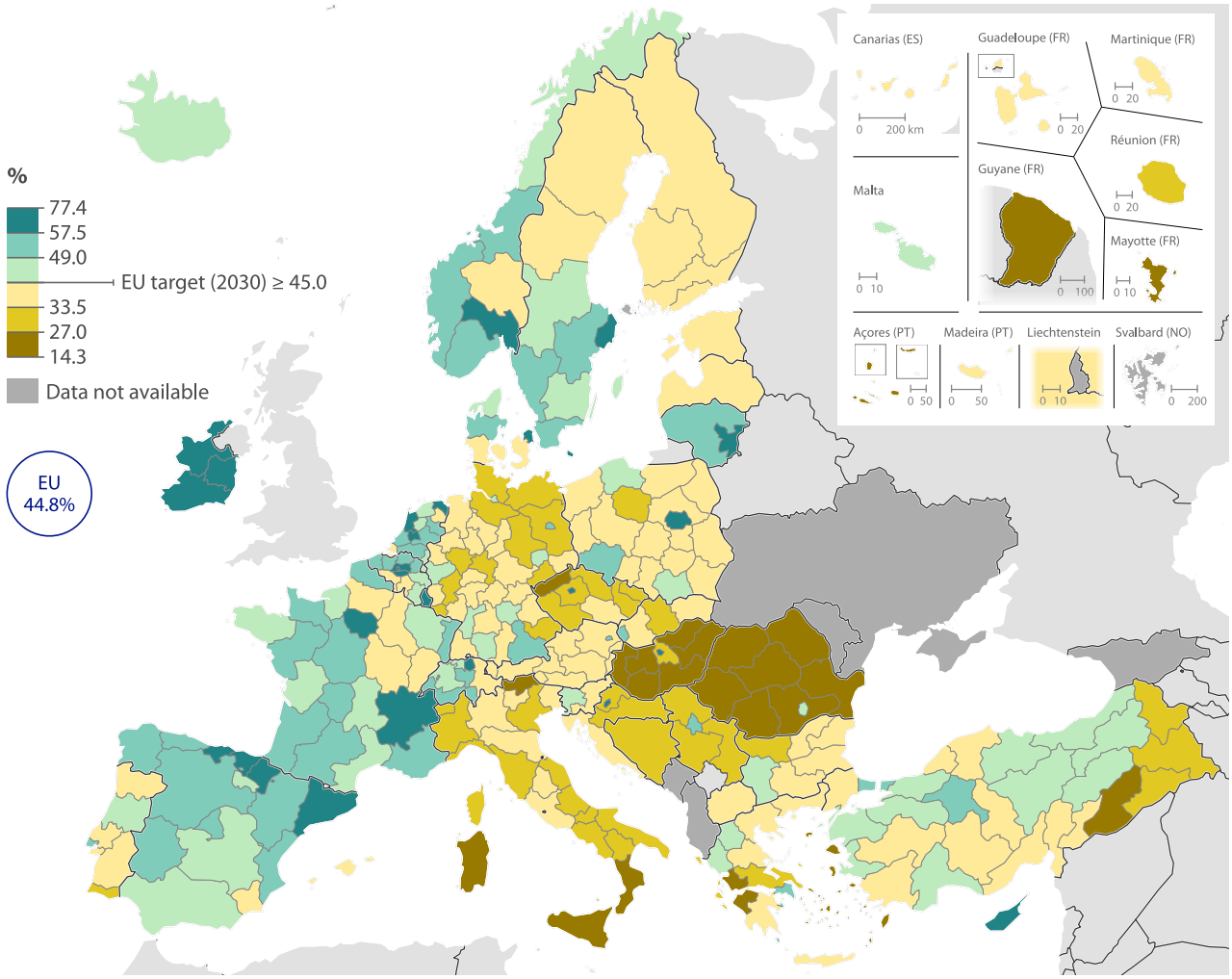
In 2025, 44.8% of the EU population aged 25 to 34 had a tertiary level of educational attainment; note that some people within this age group might still be studying. Of the 243 NUTS level 2 regions for which data are available, 93 had already surpassed the EU's policy target of 45.0%.

At the top end of the distribution, 24 regions reported that at least 57.5% of people aged 25 to 34 had attained a tertiary level of education in 2025. The highest shares were observed in the capital regions of Lithuania, France, Ireland and Poland, peaking at 77.4% in Sostinės regionas,

while shares ranging from 69.6% and 72.7% were recorded in the other 3 capital regions. These 24 regions attract highly qualified individuals, reflecting significant 'pull effects' associated with diverse educational, employment and social opportunities. They are typically characterised by high-quality universities and a focus on research and innovation. The group was composed of:

- the capital regions of Belgium, Czechia, Denmark, Ireland, France, Croatia, Lithuania, Hungary, the Netherlands, Poland and Sweden
- 4 regions from Spain, located in the north and east
- the remaining 2 regions in Ireland
- Utrecht and Groningen in the Netherlands
- Prov. Brabant Wallon and Prov. Vlaams-Brabant in Belgium
- Rhône-Alpes in France
- Cyprus and Luxembourg.

**Map 3.4: Educational attainment – tertiary**
(% of people aged 25–34, by NUTS 2 regions, 2025)




Note: ISCED levels 5–8. Iceland: 2024. Trier (DEB2), Ciudad de Melilla (ES64), Corse (FRM0), Valle d'Aosta/Vallée d'Aoste (ITC2) and Região Autónoma dos Açores (PT20): low reliability.

*Source:* Eurostat (online data code: edat_lfse_04)

At the bottom end of the distribution, 25 NUTS level 2 regions reported that fewer than 27.5% of people aged 25 to 34 had attained a tertiary level of education in 2025. The lowest shares were observed in the French outermost region of Mayotte (14.3%) and 3 Romanian regions: Sud-Est (16.4%), Sud-Muntenia (16.7%) and Vest (17.3%). These 25 regions were primarily rural or geographically remote, often characterised by relatively large agricultural sectors and more limited opportunities for highly skilled employment. In several regions, vocational education plays a more prominent role, with young people entering the labour market via apprenticeships or training schemes rather than through tertiary education. The group was mainly concentrated in eastern and southern EU countries and included:

- 7 of the 8 regions in Romania, the exception being the capital region of Bucureşti-Ilfov
- 6 of the 8 regions in Hungary, the exceptions the capital region of Budapest and Pest (which surrounds the capital)
- 5 regions in Italy, including the islands of Sicilia and Sardegna
- 3 regions in Greece, including the island regions of Voreio Aigaio and Notio Aigaio
- Severozápad in Czechia
- the island region of Região Autónoma dos Açores in Portugal
- the outermost regions of Mayotte and Guyane in France.

## Transition from education to work

When students complete their studies, several barriers can restrict their transition into the labour market. These include a lack of relevant work experience, insufficient skills, limited job opportunities in the region where they reside or high unemployment levels during an economic downturn. The final section of this chapter provides an insight into the situation of young people aged 18 to 24 as they seek to move from education into work, while it also highlights the exposure of vocational education graduates to work-based learning.

### EARLY LEAVERS FROM EDUCATION AND TRAINING

Within the EU, education policy seeks to ensure that everyone (irrespective of age) has the skills, knowledge and capabilities to develop their careers. The transition from education into work may prove particularly difficult for people with low levels of literacy and numeracy, those who leave education at an early age, and people coming from disadvantaged backgrounds. A particular area of concern is the proportion of early leavers from education and training. These people are defined here as individuals aged 18 to 24 who have at most a lower secondary level of educational attainment (ISCED levels 0 to 2) and who were not engaged in any further education and training (during the 4 weeks preceding the labour force survey (EU-LFS)). The proportion of early leavers is 1 of 7 key targets outlined in the strategic framework for European cooperation in education and training towards the European Education Area and beyond; the EU has set a goal to reduce the proportion of early leavers to less than 9.0% by 2030.

***Within the EU, the share of young people who were early leavers from education and training was 9.1% in 2025***

Over the past 2 decades, the proportion of early leavers from education and training among people aged 18 to 24 has steadily declined across the EU. Starting at 16.9% in 2002 (the first year of the time series), the share fell continuously until 2017, when it reached 10.5%. It then remained stable in 2018 before resuming its downward path. After another brief pause (no change in 2023), the rate declined further and stood at 9.1% by 2025. As such, the latest rate for the EU is within 0.2 percentage points of the 2030 policy target for early leavers from education and training.

Within the EU, the number and share of early leavers from education and training is influenced by a range of factors, including geography and sex.

- Spatially, the share of early leavers tends to be higher in sparsely populated regions and former industrial heartlands. This may be linked, among other reasons, to limited educational opportunities and weak local labour markets, which discourage young people from staying (longer) in education and training, while acting as a 'push factor' encouraging those with higher levels of educational attainment to seek opportunities elsewhere.
- Gender differences also play a considerable role, with young men generally more likely to leave education and training earlier than young women. This reflects the pattern observed above, whereby young women were more likely than young men to have a tertiary level of educational attainment (see Figure 3.2 below).

***More than half of all regions had attained the EU's policy target for early leavers***

In 2025, more than half (100 out of 196) of the NUTS level 2 regions for which data are available had a share of early leavers from education and training below the 9.0% policy target (see Map 3.5). These 100 regions were spread across much of the EU. Subject to data availability – with data for some countries available only at NUTS level 1 and others having partial coverage, all due to relatively low data reliability – they included:

- every region of Greece, Croatia, Lithuania, Poland, Slovenia and Sweden
- all but 1 region in Czechia
- as well as Ireland, Latvia, Luxembourg and Slovakia.

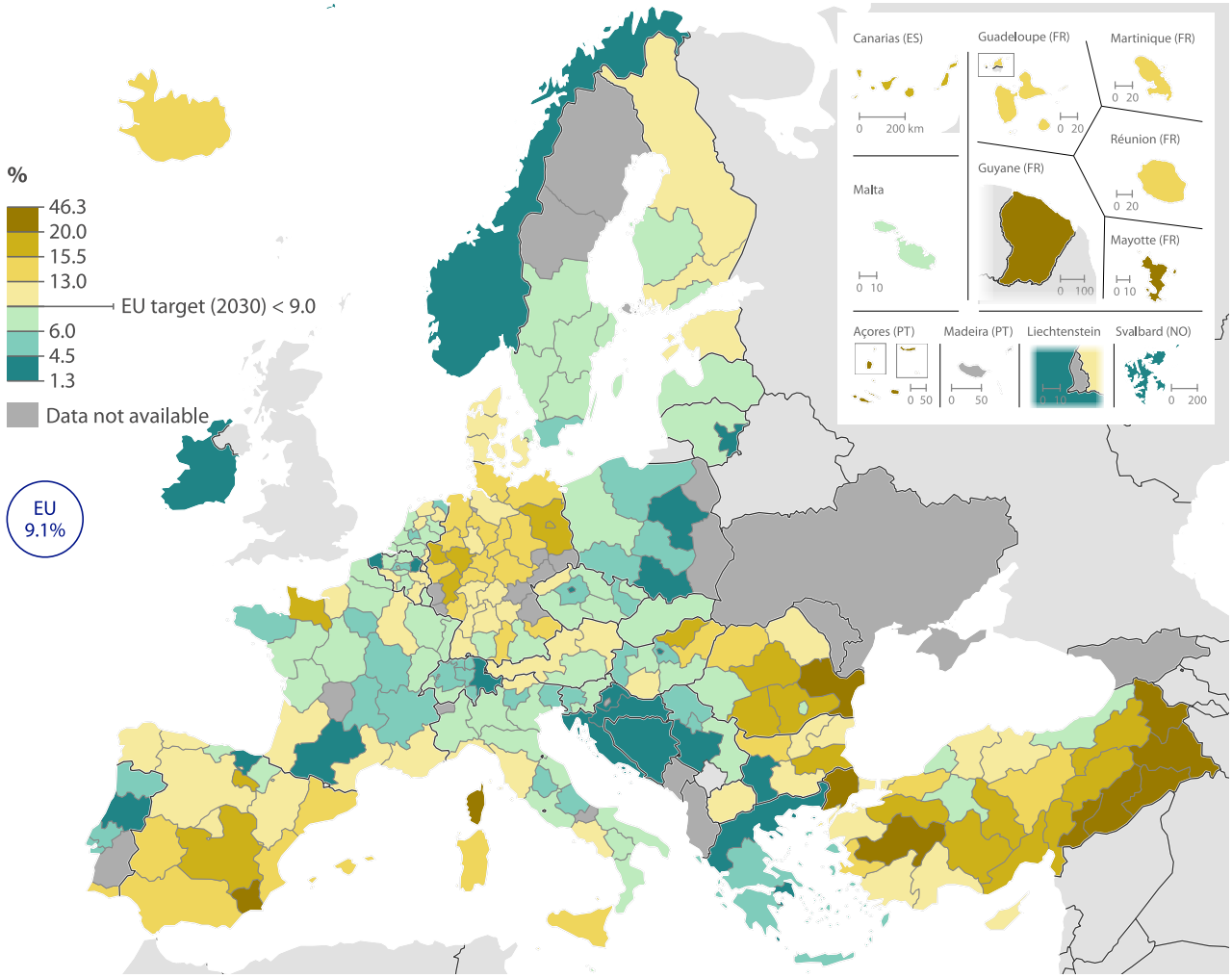
The lowest share of early leavers from education and training was recorded in the Czech capital region of Praha (1.3% in 2024). The next lowest shares, in 2025, were recorded in the Croatian regions of Jadranska Hrvatska (2.0%) and Sjeverna Hrvatska (2.3%), the Greek regions of Voreia Elláda (2.1%) and the capital of Attiki (2.4%), as well as the Lithuanian capital region of Sostinės regionas (2.3%).

At the other end of the range, 20 NUTS level 2 regions had a share of early leavers from education and training of at least 15.5% in 2025. This group was located primarily in Germany (5 regions), Spain, France and Romania (all 4 regions), although it also included single regions from each of Bulgaria, Hungary and Portugal. Many of these regions were characterised as sparsely populated, island and/or peripheral regions, but with some notable exceptions; it is likely that a disproportionately high share of students from island and/or peripheral regions have to leave home if they wish to follow a particular course or programme, leaving behind a higher concentration of early leavers. Berlin was the only capital region in this group, with a 15.7% share of early leavers.

The share of early leavers from education and training exceeded 20.0% in 6 disparate regions:

- the French outermost regions of Mayotte (38.9%) and Guyane (25.5%)
- the Romanian region of Sud-Est (25.1%)
- the French island region of Corse (21.5%; 2023 data)
- the Portuguese island region of Região Autónoma dos Açores (21.1%)
- the southern Spanish Región de Murcia (20.6%).

**Map 3.5: Early leavers from education and training**
(% of people aged 18–24, by NUTS 2 regions, 2025)



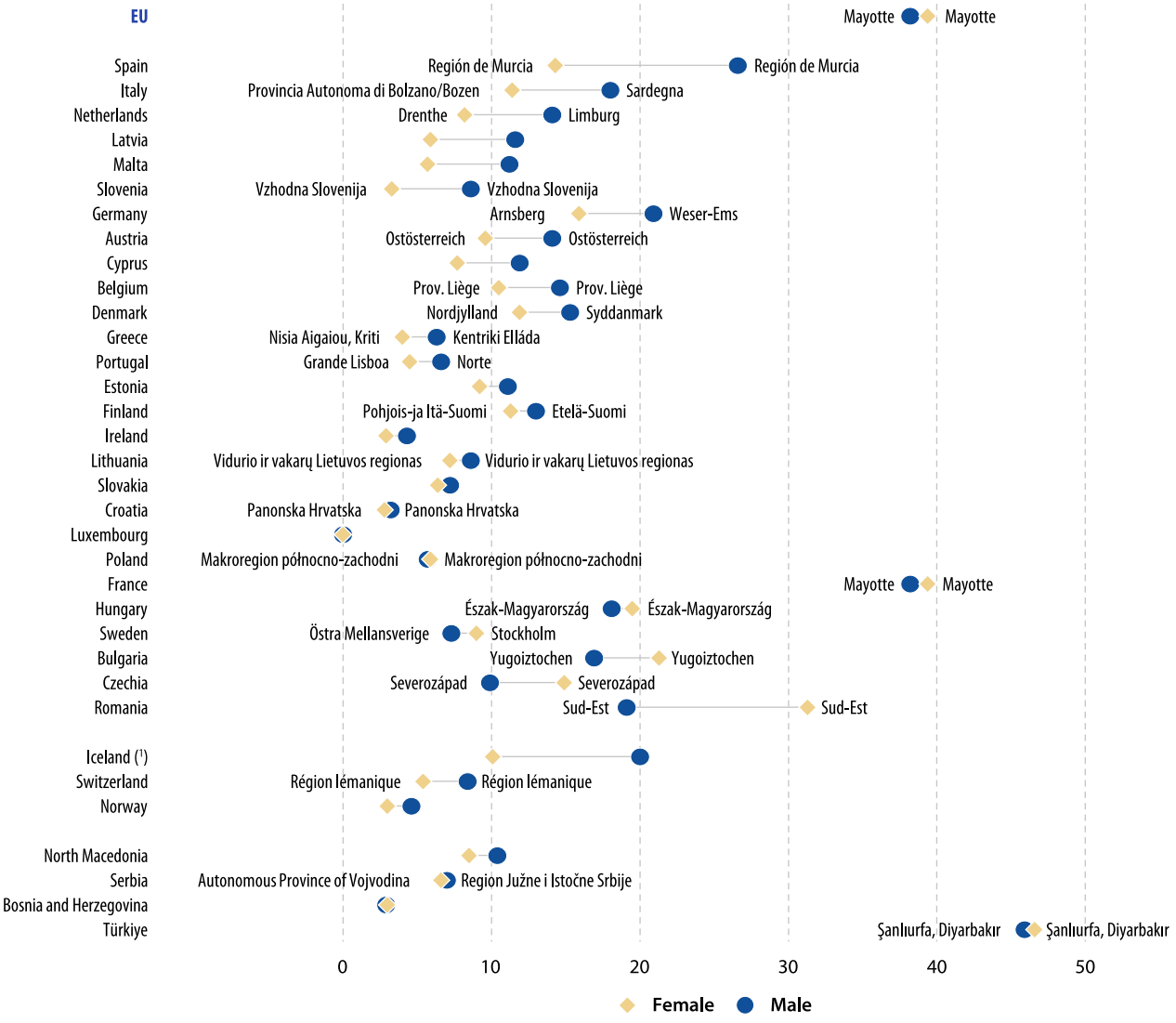

Note: Greece, Austria and Poland, NUTS level 1. Ireland, Slovakia and Norway: national data. Several regions only have data for 2023 or 2024 (too many to document). Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: edat_lfse_16)

Figure 3.2 highlights the NUTS level 2 regions with the highest shares of early leavers from education and training among men and women aged 18 to 24. In 2025, the French outermost region of Mayotte recorded the highest share among men (38.2%) and women (39.4%).

It was relatively common for the highest shares among both men and women to be recorded for the same region within each EU country. This suggests that regional factors are more important than gender-specific ones. Many of these regions face structural disadvantages, such as lower socio-economic development, weaker education systems or limited access to quality jobs. As a result, both sexes face similar pressures to leave education early, including financial constraints and early entry into low-skilled work. This pattern – where both men's and women's highest regional shares occurred in the same region – was observed in 12 of the 20 countries for which regional data are available for 2025.

**Figure 3.2: Early leavers from education and training**
(% of people aged 18–24, by sex and NUTS 2 regions, 2025)




(1) 2024.

Note: the figure shows, for each country and subject to availability, the region with the highest share of female early leavers and the highest share of male early leavers. Ranked on the gap between male and female early leavers. Greece, Austria and Poland, NUTS level 1. Ireland, Slovakia and Norway: national data. Several regions only have data for 2023 or 2024 (too many to document). Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: edat_lfse_16)

In Spain, Región de Murcia recorded the highest shares for both sexes in 2025, with a considerable gender gap and substantially higher rates among men than women (a difference of 12.3 percentage points). By contrast, in 4 eastern EU countries – Romania, Czechia, Bulgaria and Hungary – as well as in France and in Sweden, the highest regional share of early leavers among women exceeded the highest regional share among men. The largest gap was recorded in Sud-Est in Romania, where the share of early leavers among women was 12.2 percentage points higher than among men.

***In approximately 4 out of 5 regions across the EU, the share of early leavers from education and training was higher among young men than young women in 2025***

More than 1 in 10 young men aged 18 to 24 across the EU (10.6% in 2025) were early leavers from education and training, compared with 7.5% of young women in the same age group; this resulted in a gender gap of 3.1 percentage points. A similar pattern was observed across most EU regions: among the 138 regions for which data are available, 109 reported a higher share of early leavers among young men (than young women). The largest regional gender gaps were recorded in Spain:

- in Illes Balears, the share of young men who were early leavers was 15.5 percentage points higher than for young women
- in La Rioja, the gap was 12.6 points
- in Región de Murcia, the gap was 12.3 points.

The French outermost region of Guyane was the only other region in the EU with a double-digit gender gap, with the rate for young men 11.3 points higher than that for young women.

Among the 27 EU regions where, in 2025, the share of early leavers from education and training was higher for young women than for young men, the largest gender gaps were recorded in Romania:

- in Sud-Est, the rate for young women was 12.2 percentage points higher than for young men
- in Sud-Muntenia, the gap was 7.0 points
- in Centru, the gap was 6.5 points
- the next largest gap was observed in the Czech region of Severozápad, where the rate for young women was 5.0 points higher than that for young men.

## EXPOSURE OF VET GRADUATES TO WORK-BASED LEARNING

EU policymakers place considerable emphasis on work-based learning as a key component of vocational education and training (VET), recognising its role in easing the transition from education to employment and strengthening labour market relevance. Through a range of initiatives, they seek to ensure that VET systems combine classroom instruction with practical experience in real work environments, thereby improving a graduates' employability and skills. These efforts focus on expanding apprenticeship schemes, strengthening cooperation between education providers and employers, and improving the quality and availability of work-based training opportunities.

Work-based learning is widely acknowledged as a central feature of high-performing VET systems, as it allows learners to develop job-specific competences alongside transversal skills such as problem-solving, communication and teamwork. Exposure to real work environments during training also helps VET graduates make more informed career choices and facilitates smoother school-to-work transitions.

### More about the data: exposure of VET graduates to work-based training

A *Council Recommendation of 24 November 2020 on vocational education and training (VET) and the European Education Area* set a policy objective that, by 2025, at least 60% of recent VET graduates in the EU should have experienced work-based learning for at least 1 month.

The indicator used to monitor this target captures exposure to work-based learning as part of VET programmes, including apprenticeships, traineeships and other structured workplace training that forms an integral part of the curriculum.

The indicator is derived from the EU's labour force survey:

- the denominator covers graduates aged 20 to 34 with upper secondary or post-secondary non-tertiary vocational educational attainment (ISCED code 35 and ISCED code 45) who completed their studies during the previous 3 years
- the numerator includes those who reported at least 1 month of work experience while studying in a workplace (a company, government or non-profit organisation).

***In 2025, almost two thirds of vocational graduates in the EU had been exposed to work-based training***

Within the EU, 66.0% of vocational graduates aged 20 to 34 from upper secondary and post-secondary non-tertiary education (ISCED 35 and 45) had been exposed to at least 1 month of work-based learning in 2025; this was 6.0 percentage points higher than the EU target of 60.0%.

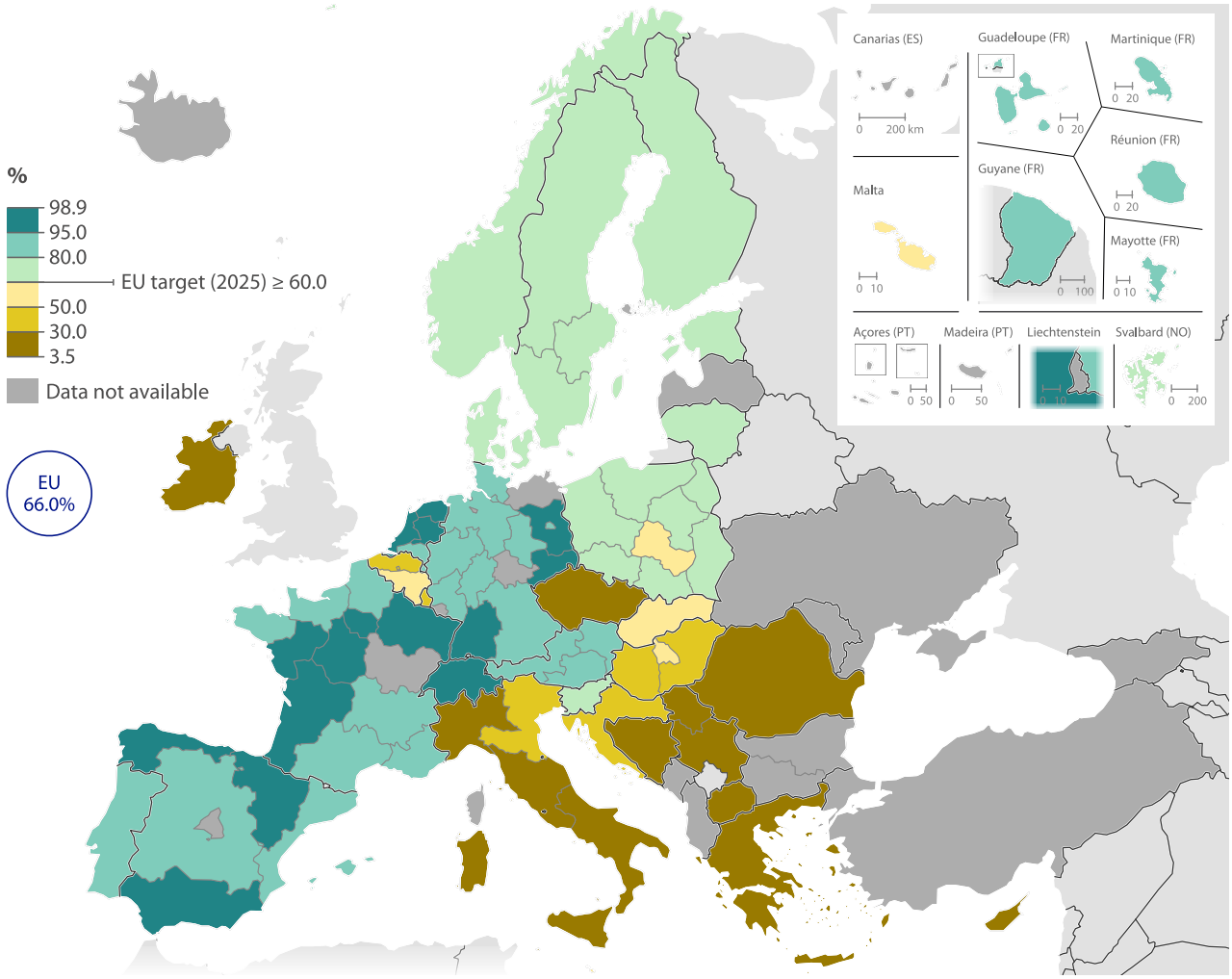
At NUTS level 1, the vast majority of regions (51 out of 72 for which data are available) also recorded shares above the 60.0% target in 2025. Subject to data availability, this was the case in all regions of Germany, Spain, France, the Netherlands, Austria and Sweden. Shares above the target were also observed for Denmark, Estonia, Lithuania, mainland Portugal, Slovenia and Finland (excluding Åland).

At the upper end of the distribution, 14 regions recorded shares of at least 95.0%. This group included 5 regions in France, and 3 regions in each of Germany, Spain and the Netherlands. The highest regional shares were observed in the Spanish regions of Noroeste and Noreste, at 98.9% and 98.0%, respectively.

By contrast, all of the regions in Belgium, Italy and Hungary recorded shares below 60.0%; this was also the case for Czechia, Ireland, Greece, Croatia, Cyprus, Luxembourg (2023 data), Malta, Romania and Slovakia as well as in 1 Polish region. At the lower end of the distribution, 9 regions had shares below 30.0%, including:

- Romania, which had the lowest share in the EU, at 9.1%
- Italy, where 4 out of 5 regions had shares below 30.0%, including Sud which was the only other region in the EU to record a single-digit share (9.6%); the exception was Nord-Est (33.9%)
- Czechia, Cyprus, Greece and Ireland.

**Map 3.6:** Exposure of VET graduates to work-based learning
(% of people aged 20–34, by NUTS 1 regions, 2025)




Note: for people having left education and training 3 years or less before the reference period. Greece and Romania: national data. Luxembourg: 2023. Includes data with low reliability (too many regions to document).

*Source:* Eurostat (labour force survey and online data code: edat_lfse_9919)

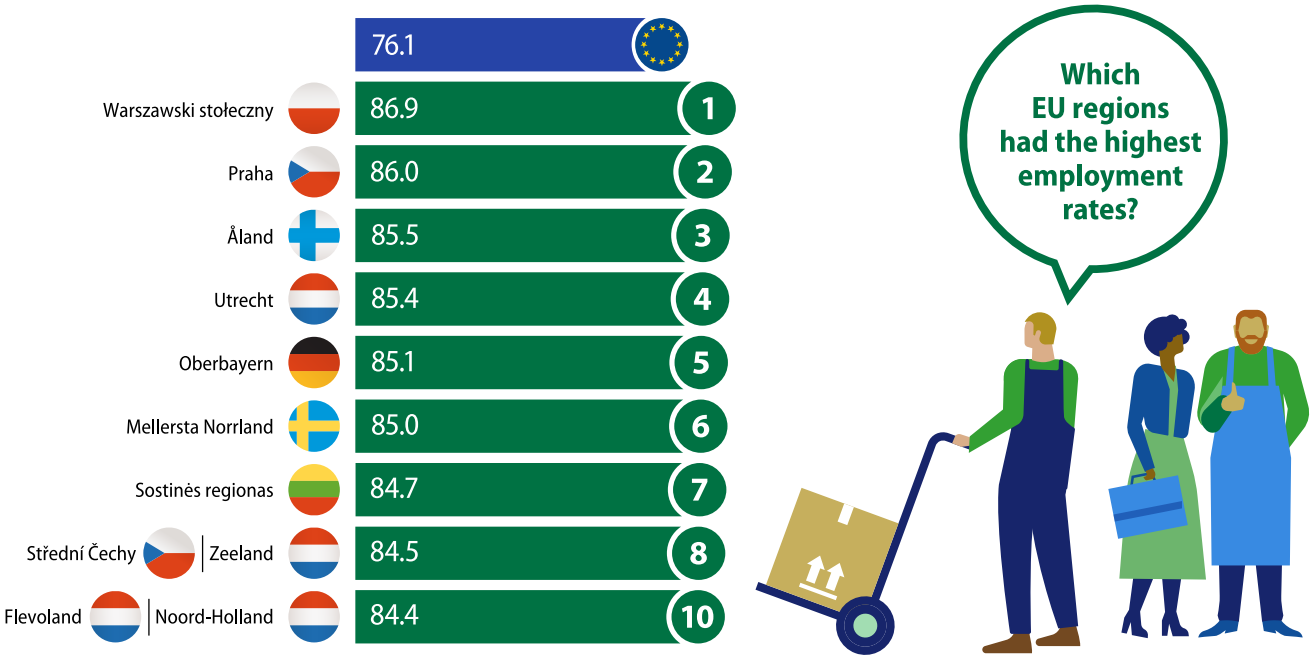
# 4. Labour market

On 4 March 2021, the European Commission set out its ambition to build a stronger, more social EU by focusing on jobs and skills, paving the way for a fair, inclusive and resilient socio-economic recovery from the COVID-19 crisis. *The European Pillar of Social Rights Action Plan* (COM(2021) 102 final) outlines specific actions and headline targets to improve employment, skills and social protection across the EU. One of its principal targets is to have, by 2030, an EU employment rate of at least 78% among people aged 20 to 64.

Employment and social policies offer a broad range of practical benefits for people living in the EU, including employment support, mobility within the labour market, skills development, social protection and inclusion, as well as range of different rights at work.

In 2025, there were 259.7 million people aged 20 to 64 in the EU (those considered to be of core working age). Of these, the labour force was composed of 209.9 million people, of which 197.7 million were employed and 12.1 million were unemployed (not employed, actively seeking and available for work). There were 49.8 million people outside the labour force, for example students, retired people (if under the age of 65), people caring for other family members, volunteers and those unable to work due to a long-term illness or disability. Across NUTS level 2 regions, the Polish capital region of Warszawski stołeczny (86.9%) and the Czech capital region of Praha (86.0%) recorded the highest employment rates in 2025 among people aged 20 to 64. There were 2 other capitals that also ranked among the 10 EU regions with the highest employment rates: Sostinės regionas in Lithuania and Noord-Holland in the Netherlands.

This chapter examines employment and unemployment patterns across EU regions, offering a detailed analysis of regional labour markets, with a focus on young people. It highlights key indicators such as employment rates, young people who are neither in employment nor in education and training (NEET) and unemployment rates, providing an insight into regional disparities.




(% of people aged 20–64, by NUTS 2 regions, 2025)

Note: Corse (FRM0), low reliability.

*Source:* Eurostat (online data code: lfst_r_lfe2emprt)

# Employment

## More about the data: employment rate targets

One of the EU's key policy objectives is to increase the number and share of people in work. This goal has been central to EU employment policies since the launch of the European employment strategy in 1997 and was subsequently integrated into the Lisbon and Europe 2020 strategies.

The employment rate is a key indicator in the social scoreboard, which monitors the implementation of the European Pillar of Social Rights. By 2030, the EU has set a target of having an employment rate of at least 78% among its core working-age population (those aged 20 to 64). This age range reflects the growing share of young people who remain within education into their late teens and beyond, potentially limiting early labour market participation, while most EU residents retire by the age of 65.

Individual EU countries have different employment rate targets. To achieve the overall EU target of 78% by 2030, individual countries presented and agreed national targets in June 2022. These are generally higher for countries that already had relatively high rates. For example, the target for Hungary has been set at 85.0%, for Malta at 84.6% and for Germany at 83.0%.

The employment rate is also included in the EU's sustainable development goals (SDGs) indicator set. Goal 8 seeks to promote sustained, inclusive and sustainable economic growth, through full and productive employment and decent work for all.

***In 2025, the EU's employment rate was 1.9 percentage points below its 2030 target***

Prior to the COVID-19 crisis, the EU's employment rate for the core working-age population (people aged 20 to 64) increased steadily for 6 consecutive years, reaching 72.7% by 2019. This upward development was interrupted in 2020 when the pandemic contributed to a fall of 1.0 percentage points. However, the employment rate rebounded in 2021, returning to above its pre-pandemic level, and continued to rise in subsequent years, with particularly sharp increases in 2021 (up 1.4 points) and 2022 (up 1.5 points). By 2025, the EU's employment rate had climbed to an all-time high (time series starts in 2009) of 76.1%, which was 1.9 points below the European Pillar of Social Rights Action Plan target for 2030.

Map 4.1 shows the employment rate in 2025 for NUTS level 2 regions. Almost half (47.1%) of all EU regions – 115 out of 244 regions – had already reached or surpassed the EU's target of 78.0% by 2025. These 115 regions were found in clusters, with high concentrations in Czechia (all 8 regions), Denmark (4 out of 5 regions), Germany (34 out of 38 regions; the exceptions being Bremen, Berlin, Düsseldorf and Arnsberg), Ireland (all 3 regions), Hungary (6 out of 8 regions), the Netherlands (all 12 regions), Portugal (7 out of 9 regions), Slovakia (3 out of 4 regions) and Sweden (all 8 regions); this group also included Estonia, Cyprus and Malta.

In 2025, a small group of 6 regions recorded the highest employment rates among NUTS level 2 regions, with rates of at least 85.0%:

- Warszawski stołeczny, the Polish capital region (86.9%)
- Praha, the Czech capital region (86.0%)
- the archipelago of Åland in Finland (85.5%)
- Utrecht in the Netherlands (85.4%)
- the southern German region of Oberbayern (85.1%)
- the northern Swedish region of Mellersta Norrland (85.0%).

Beyond these 6 regions, a further 23 regions posted employment rates of at least 83.5% in 2025. These regions were concentrated in Germany (9 regions) and the Netherlands (6 regions), while Hungary and Sweden each accounted for 2 regions. The remaining regions in this group of 23 were distributed across Czechia, Lithuania, Malta and Slovakia (with a single region from each).

In 2025, all multi-regional northern, eastern and southern EU countries reported that their capital region had a higher employment rate than their national average. For example, Romania's capital region of Bucureşti-Ilfov had an employment rate of 81.1%, which was 12.1 percentage points above the national average of 69.0%. By contrast, this pattern was reversed in 3 western EU countries – Belgium, Germany and Austria – where the capital regions recorded employment rates that were below their respective national averages. Indeed, a closer inspection reveals that Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (63.9%) and Wien (71.3%) registered the lowest employment rates across all regions of Belgium and Austria, respectively.

***In 2025, the French outermost regions of Mayotte and Guyane and the southern Italian regions of Calabria, Campania and Sicilia recorded the lowest employment rates***

Many of the regions with relatively low employment rates were rural, sparsely populated, or regions on the periphery of the EU. This pattern was particularly apparent in southern regions of Spain and Italy, much of Greece, some regions in Romania, and the outermost regions of France. These regions were typically characterised by limited employment opportunities, especially for individuals with intermediate and high skill levels.

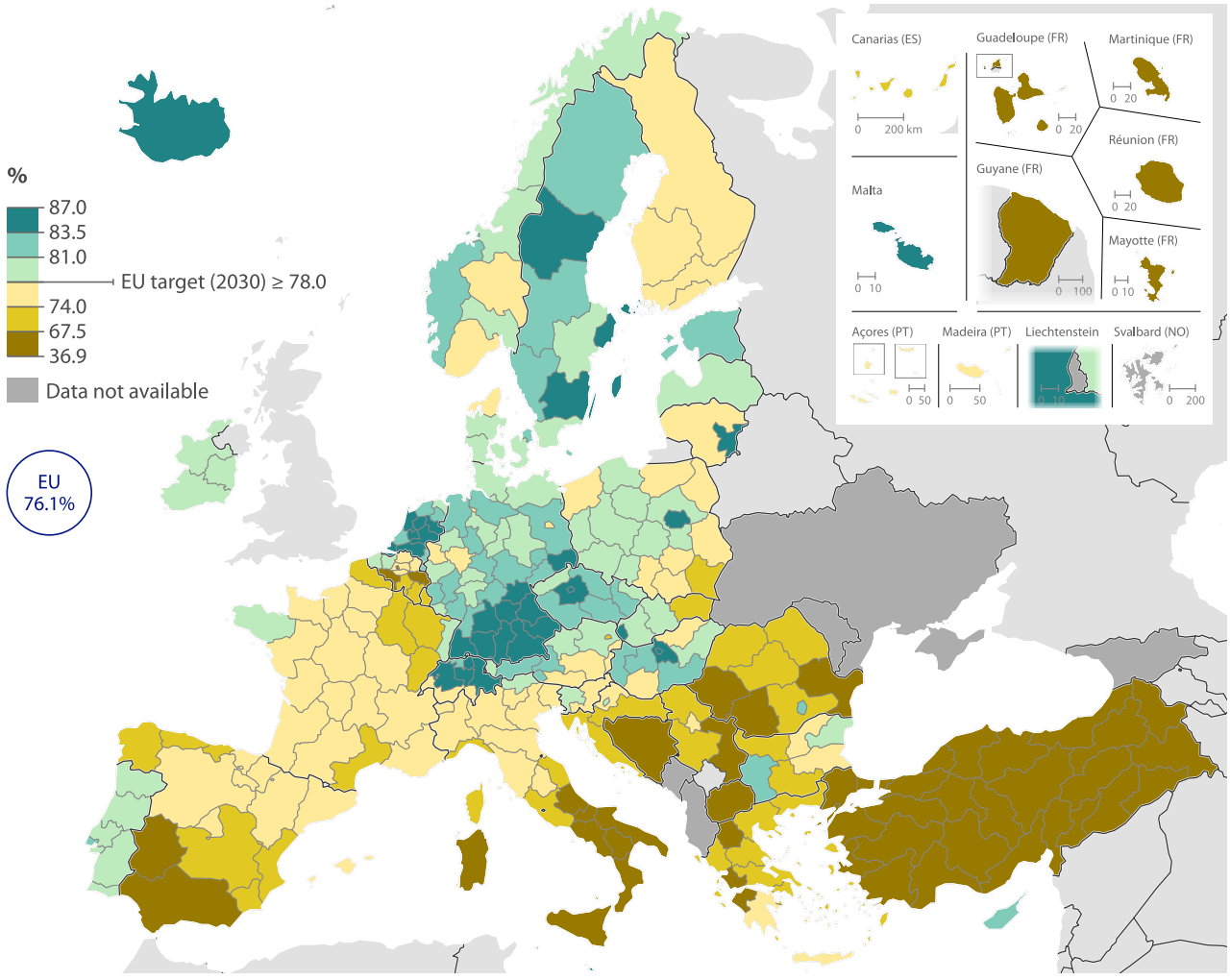
Former industrial heartlands form another group of regions characterised by relatively low employment rates.

Some of these have witnessed the negative impact of globalisation on traditional sectors of their economies (such as coal mining, steel or textiles manufacturing). Examples include a band of regions running from north-east France into the Région wallonne (Belgium).

In 2025, approximately a quarter of all EU regions – 64 out of 244 regions – recorded employment rates below 74.0%. Among others, this group comprised:

- 11 French regions, including all 5 outermost regions; Mayotte and Guyane recorded the lowest employment rates in the EU, at 36.9% and 50.0%, respectively
- 11 Italian regions, concentrated almost exclusively in central and southern Italy, with the lowest rates observed in Calabria (50.3%), Campania (50.8%) and Sicilia (51.4%)
- 11 out of 13 Greek regions, the exceptions being Kriti and Peloponnisos
- 11 Spanish regions, many of them peripheral, island or predominantly rural regions
- 7 of the 8 Romanian regions, the exception being the capital region of Bucureşti-Ilfov
- the capital regions of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest in Belgium (63.9%), Lazio in Italy (69.3%), Wien in Austria (71.3%) and Attiki in Greece (73.1%); Luxembourg (73.9%) also recorded a relatively low employment rate.

**Map 4.1: Employment rate**
(% of people aged 20–64, by NUTS 2 regions, 2025)




Note: Iceland, 2024. Corse (FRM0): low reliability.

*Source:* Eurostat (online data code: lfst_r_lfe2emprtn)

***In 2025, Italy had the highest regional disparity for employment rates***

Several EU countries face considerable labour market disparities across their regions, with labour shortages in some regions contrasted against persistently high unemployment in others. A population-weighted coefficient of variation provides a means to analyse these inter-regional disparities. Figure 4.1 shows that, in 2025, Italy had the highest regional disparities in employment rates, with a coefficient of variation of 15.1%. Broadly, there was a north-south split: for example, the Alpine region of Provincia Autonoma di Bolzano/Bozen recorded the highest employment rate in Italy (80.0%), while the southern region of Calabria had the lowest (50.3%).

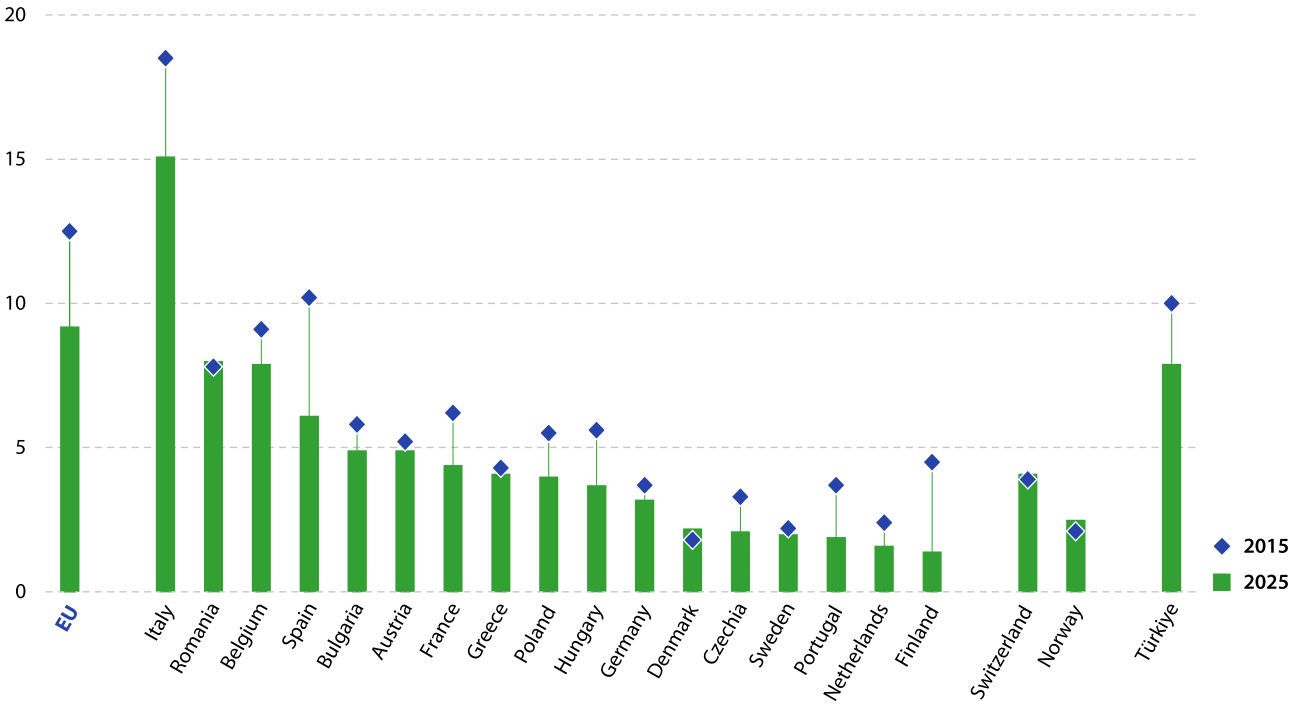
Romania (8.0%), Belgium (7.9%) and Spain (6.1%) had the next highest coefficients of variation for regional employment rates in 2025:

- in Belgium, the highest regional employment rates were generally recorded in Vlaams Gewest, while lower rates were observed in Région wallonne and particularly in the capital region
- in Romania, the highest regional employment rate was in the capital region of Bucureşti-Ilfov (81.1%), with notably lower rates observed in all other regions, in particular, Sud-Vest Oltenia (61.7%) and Sud-Est (62.1%)
- in Spain, the highest regional employment rates were generally recorded in northern and eastern regions, as well as the capital region; lower rates were observed in peripheral, southern and western regions.

At the other end of the range, the lowest regional disparities in employment rates – with a coefficient of variation of 2.0% or less – were recorded in the Nordic EU countries of Finland and Sweden, as well as the Netherlands and Portugal.

Figure 4.1 shows that regional employment rates converged to some degree between 2015 and 2025. The coefficient of variation for the EU as a whole fell from 12.5% to 9.2%. In 15 (out of 17) EU countries for which data are available, the disparities between inter-regional employment rates narrowed. The largest falls – in relative terms – occurred in Finland, Portugal and Spain, where the coefficient decreased by at least 40%. By contrast, Denmark and Romania were the only EU countries to report an increase in regional disparities, rising 22.2% and 2.6%, respectively.

**Figure 4.1: Regional disparities in employment rates**
(coefficient of variation in %, people aged 20–64, by NUTS 2 regions, 2015 and 2025)




Note: as measured by population-weighted coefficient of variation for countries with more than 4 level 2 regions (Estonia, Ireland, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia, Slovakia, Iceland, Liechtenstein, Bosnia and Herzegovina, Montenegro, Moldova, North Macedonia, Georgia, Albania and Serbia: not applicable).

*Source:* Eurostat (online data code: lfst_r_lmder)

***The EU's gender employment gap was 9.7 percentage points in 2025***

The gender employment gap is included in the EU's SDGs indicator set. Goal 5 seeks to achieve gender equality by, among other actions, ending all forms of discrimination, violence, and any harmful practices against women and girls, while promoting women's social and economic empowerment.

Long-standing challenges related to female participation in the labour force are reflected in persistent gender gaps in employment and pay. These gaps exist for a variety of reasons, including:

- women often bear a disproportionate share of unpaid care and household chores that may limit their availability for paid employment
- gender bias and discrimination when hiring, promoting and paying women
- fewer women in leadership positions to draw attention to gender-related policies or to mentor more junior female staff
- a lack of affordable childcare and support for working parents
- disincentives in tax and benefit system that can lead to second earners bearing a higher tax burden when they choose to participate in the labour market
- occupational segregation, with women often concentrated in specific activities that are characterised by lower wages and/or fewer opportunities for career development.

In 2025, the EU employment rate for men aged 20 to 64 was 80.9%, while the corresponding rate for women of the same age was considerably lower, at 71.2%. This resulted in a gender employment gap – defined here as the difference between male and female employment rates – of 9.7 percentage points.

As part of its broader target to increase the overall employment rate to 78% by 2030, the European Pillar of Social Rights Action Plan also includes a subgoal of halving the gender employment gap. This implies reducing the gap to 5.7 percentage points by 2030, equivalent to an average annual decrease of 0.5 points from 2019 onwards. According to the latest available data, the gender employment gap in the EU fell from 10.0 percentage points in 2024 to 9.7 points in 2025.

***In 2025, more than a quarter of EU regions already had a gender employment gap below the 2030 target***

As noted above, regions with relatively narrow gender employment gaps are often characterised by high overall employment rates, which may reflect more inclusive labour markets, higher female participation and greater availability of part-time or flexible working arrangements. In 2025, 65 out of 244 NUTS level 2 regions – corresponding to more than a quarter of all EU regions – recorded a gender employment gap of less than 5.7 percentage points, thereby already surpassing the European Pillar of Social Rights Action Plan target for 2030 (see Map 4.2). These 65 regions were mainly concentrated in France (14 regions), Germany (12 regions), Sweden (7 out of 8 regions), Belgium (5 regions), Portugal (5 regions) and Finland (all 5 regions); among others, they also included all of the Baltic regions, as well as both regions in Slovenia.

Some of the lowest gender employment gaps were recorded in Baltic and Nordic regions. In 2025, there were 8 regions where the gap between male and female employment rates was less than 1.0 percentage points. In 5 of these regions, male employment rates remained slightly higher. This group included:

- the Finnish regions of Etelä-Suomi, Länsi-Suomi (both 0.1 percentage points) and Åland (0.7 percentage points)
- Estonia (0.5 percentage points)
- the Lithuanian region of Vidurio ir vakarų Lietuvos regionas (0.7 percentage points).

Furthermore, there were 3 regions that reported higher female (than male) employment rates:

- the Lithuanian capital region of Sostinės regionas, where the female employment rate was 3.3 points higher than the male rate
- the French outermost regions of Martinique and Guadeloupe, where female employment rates exceeded male rates by 5.0 and 1.0 percentage points, respectively. This atypical pattern may reflect a combination of factors, including higher male participation in informal or seasonal activities (such as fishing), alongside higher levels of female employment in the relatively stable public-sector and service-sector occupations.

***The widest gender employment gaps were recorded in the central Greek region of Sterea Elláda and the southern Italian regions of Puglia, Campania and Sicilia***

Despite some progress in reducing the gender employment gap, female employment rates continue to lag behind male rates in the vast majority of EU regions. Regions with wider gaps are often characterised by high unemployment, weaker and more informal labour markets, and a higher share of women outside the labour force. Low female employment rates may reflect a combination of constraints: women are more likely to take on unpaid family and caregiving responsibilities, while limited access

to affordable childcare and support for older people, alongside persistent expectations around traditional family roles, can further reduce their participation in paid employment.

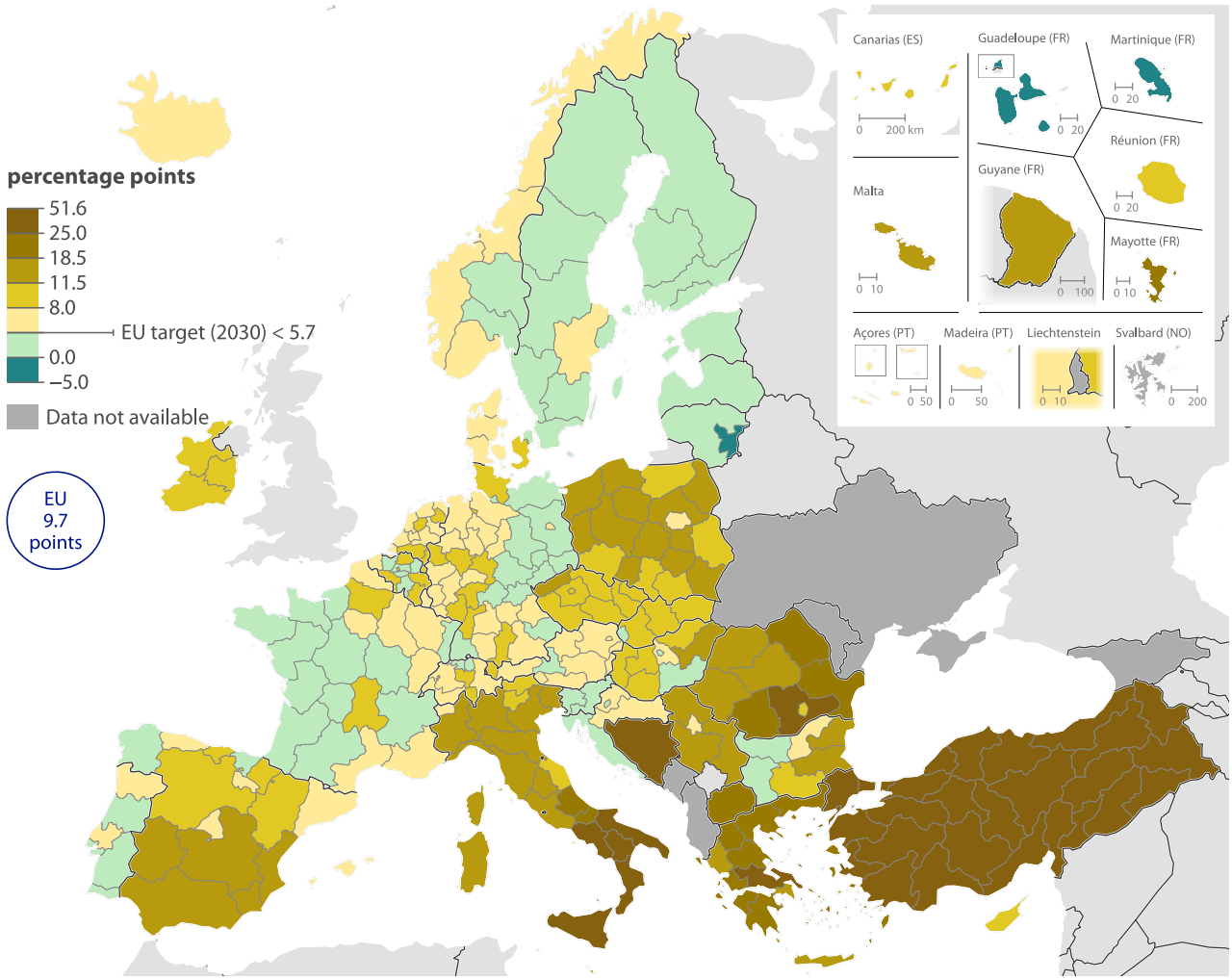
In 2025, 26 NUTS level 2 regions reported gender employment gaps of at least 18.0 percentage points. These regions were concentrated in southern and eastern EU countries:

- 10 of the 13 regions in Greece (the exceptions being Attiki, Ipeiros and Kriti)
- 8 regions in Italy, 7 of which were in the south (the exception being Veneto)
- 5 of the 8 regions in Romania (the exceptions being Bucureşti-Ilfov, Nord-Vest and Vest)
- the Spanish autonomous regions of Ciudad de Melilla and Ciudad de Ceuta
- the French outermost region of Mayotte.

At the very upper end of the distribution, the widest gender employment gaps in the EU were observed in:

- the central Greek region of Sterea Elláda, which recorded a gender employment gap of 29.0 percentage points in 2025; this may reflect, at least in part, a high male employment rate (the highest in Greece), with a concentration of jobs in traditionally male-dominated industrial sectors
- the southern Italian regions of Puglia (28.7 percentage points), Campania (28.2 points), Sicilia (28.1 points), Calabria (25.4 points) and Basilicata (25.3 points)
- Sud-Muntenia in southern Romania (25.1 points), the only other region in the EU with a gap of at least 25.0 percentage points.

**Map 4.2: Gender employment gap**
(percentage points, people aged 20–64, by NUTS 2 regions, 2025)




Note: the gender employment gap is the employment rate of men minus the employment rate of women. Iceland: 2024. Corse (FRM0): low reliability.

*Source:* Eurostat (online data code: lfst_r_lfe2emprtn)

## EMPLOYMENT RATES BY EDUCATIONAL ATTAINMENT

### More about the data: employment rates by educational attainment

An individual's level of educational attainment can play a key role when seeking employment. People with a tertiary level of educational attainment (as defined by the international standard classification of education (ISCED 2011 levels 5 to 8)) generally enjoy the most success when trying to find work. They also tend to be better shielded from the risks of unemployment than their peers with lower levels of educational attainment.

The data presented in this section concern people aged 25 to 64, as this represents a cohort of individuals who have generally completed their education or training and are most likely to be actively participating in the labour market. As such, it excludes younger individuals who may still be studying, as well as older individuals who may be in retirement.

In 2025, 185.1 million people aged 25 to 64 were employed across the EU. The largest share of this cohort consisted of people with an upper secondary or post-secondary non-tertiary education (ISCED levels 3 to 4; 44.3%), closely followed by those with a tertiary level of educational attainment (ISCED levels 5 to 8; 41.5%). A relatively small share of the EU workforce had no more than a lower secondary education (ISCED levels 0 to 2; 14.1%).

The strong links between educational attainment and employment opportunities are reflected in the latest EU employment rates for 2025:

- 58.9% for people with no more than a lower secondary education (hereafter referred to as a low level of education)
- 78.5% for people with an upper secondary or post-secondary non-tertiary education (a medium level of education)
- 88.1% for people with a tertiary level of education (a high level of education).

Map 4.3 presents employment rates in 2025 for people aged 25 to 64 according to these 3 different levels of educational attainment.

- There were 53 NUTS level 2 regions where fewer than half of all people with a low level of education were in employment. By contrast, employment rates for people with medium or high levels of education exceeded 50.0% in every region of the EU.
- There were 83 NUTS level 2 regions where at least 90.0% of all people with a high level of education were in employment. By contrast, employment rates for people with low or medium levels of education remained consistently below 90.0% across every region of the EU.

***In 2025, the Slovak region of Východné Slovensko recorded an employment rate of 25.6% among people with a low level of education, the smallest share among EU regions***

The first part of Map 4.3 shows employment rates for people aged 25 to 64 with a low level of education. In 2025, there were 53 NUTS level 2 regions with employment rates below 50.0% for this cohort. This group included two capital regions: Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (Belgium) and Grad Zagreb (Croatia). These 53 regions were mainly concentrated in:

- eastern EU countries (excluding Czechia, Hungary and Slovenia)
- Belgium, particularly in the south
- north-eastern France and the outermost regions of France
- southern Italy.

In 2025, the lowest employment rates for people aged 25 to 64 with a low level of education were recorded in the eastern Slovak region of Východné Slovensko (25.6%) and the French outermost regions of Mayotte (27.0%) and Guyane (28.3%); in other words, around a quarter of people in this cohort were in employment. A further 8 regions reported employment rates below 40.0%:

- the Romanian regions of Sud-Est (36.9%), Sud-Vest Oltenia (37.1%) and Centru (38.4%)
- Panonska Hrvatska in Croatia (37.6%)
- Severozapaden in Bulgaria (38.3%)
- the southern Italian regions of Campania (38.6%) and Sicilia (38.8%)
- the French outermost region of Guadeloupe (39.2%).

***Employment rates for people with a medium level of education were generally low across southern Italy, with Calabria recording the lowest rate (56.0% in 2025)***

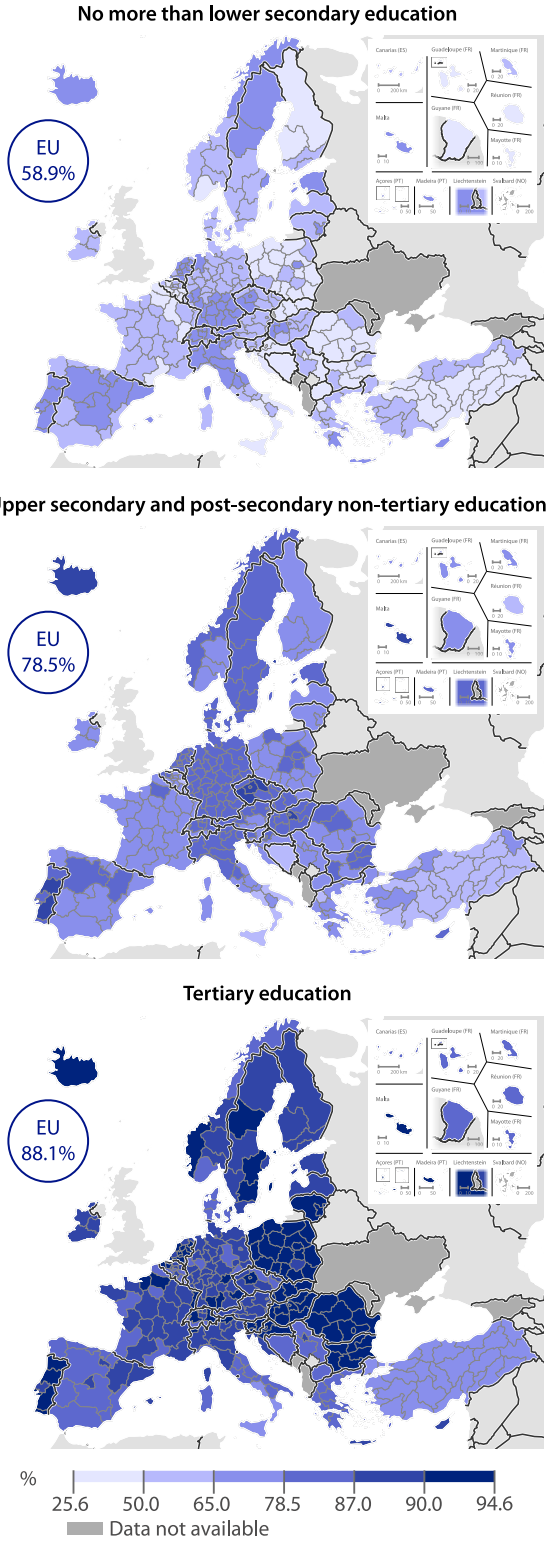
The second map shows employment rates for people aged 25 to 64 with a medium level of education. In 2025, there were 10 NUTS level 2 regions that recorded an employment rate of at least 87.0% for this cohort, they included:

- 4 regions from Czechia (including the capital region of Praha)
- 3 regions from Portugal
- Malta
- Åland in Finland
- Pest in Hungary.

At the lower end of the distribution, there were 3 regions where, in 2025, fewer than 60.0% of people with a medium level of education were in employment:

- the southern Italian regions of Calabria (56.0%) and Campania (59.2%)
- the Belgian capital region – Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (58.3%).

**Map 4.3:** Employment rate by educational attainment
(% of people aged 25–64, by NUTS 2 regions, 2025)




Note: Iceland, 2024. Corse (FRM0) and Åland (FI20): low reliability. Trier (DEB2), Dresden (DED2), Chemnitz (DED4), Grad Zagreb (HR05), Lubuskie (PL43) and Opolskie (PL52): low reliability for no more than lower secondary education.

*Source:* Eurostat (online data codes: lfst_r_lfe2eedu and lfst_r_lfsd2pop)

***The highest employment rate among tertiary-educated people was recorded in the Portuguese Região Autónoma dos Açores (94.6% in 2025)***

The third map shows employment rates for people aged 25 to 64 with a high level of education. In 2025, there were 83 NUTS level 2 regions across the EU that recorded employment rates of at least 90.0% for this cohort. These regions were mainly clustered across:

- Bulgaria (all 6 regions)
- Croatia (3 out of 4 regions)
- Lithuania (both regions)
- Hungary (all 8 regions)
- the Netherlands (8 out of 12 regions)
- Poland (16 out of 17 regions)
- Portugal (8 out of 9 regions)
- Romania (all 8 regions)
- Slovenia (both regions)
- Slovakia (all 4 regions)
- Malta had a similarly high level.

The highest proportion of tertiary-educated people in employment was recorded in the Portuguese island region of Região Autónoma dos Açores (94.6%). Employment rates above 93.0% were also observed in 5 regions located in eastern EU countries:

- the capital regions of Yugozapaden in Bulgaria (93.6%), Warszawski stołeczny in Poland (93.5%) and Bratislavský kraj in Slovakia (93.3%)
- the Romanian regions of Nord-Est (93.4%) and Centru (93.3%).

In 2025, employment rates for people aged 25 to 64 with a tertiary level of education were generally higher in capital regions than their respective national averages. This may reflect the ability of capital regions to attract highly qualified individuals, exerting considerable 'pull effects' through the diverse educational, employment and social/lifestyle opportunities that they offer. This pattern was particularly evident in several eastern and southern EU countries, for example:

- in Czechia, the employment rate for tertiary-educated people in the capital region of Praha was 2.6 percentage points above the national average
- in Spain, the rate in the capital region of Comunidad de Madrid was 2.2 percentage points above the national average.

A similar, although less pronounced, situation was observed in Slovakia, Greece, Croatia, Poland, Denmark, Bulgaria and Lithuania, where the gap between these 2 rates also exceeded 1.0 percentage points.

By contrast, there were 4 western EU countries where employment rates for tertiary-educated people in the capital region were at least 1.0 percentage points below the national average:

- in Belgium, the employment rate for tertiary-educated people in the capital Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest was 6.1 percentage points below the national average
- in Austria, the rate in the capital region of Wien was 4.5 percentage points below the national average.

A similar, although less pronounced, pattern was observed in Germany and France, where the gap between the capital region and the national rate was 2.9 and 1.0 percentage points, respectively.

There were 4 regions across the EU where, in 2025, the employment rate for people aged 25 to 64 with a high level of education was below 78.5%. These regions were predominantly rural, typically characterised by relatively large agricultural sectors and more limited opportunities for highly skilled employment. They were exclusively located in southern EU countries:

- 3 regions in Italy – Calabria (73.1%, the lowest rate in the EU), Sicilia and Campania
- Ionia Nisia (75.8%) in Greece.

## Focus on young people in the labour market

### YOUNG PEOPLE NEITHER IN EMPLOYMENT NOR IN EDUCATION AND TRAINING (NEET)

**More about the data: young people neither in employment nor in education and training (NEET)**

The share of young people (aged 15 to 29) who are neither in employment nor in education and training (NEET) provides a useful measure for studying the vulnerability of young people in terms of their labour market participation and social exclusion.

The NEET rate is expressed relative to the total population of the same age (15 to 29); the numerator includes not only young people who are unemployed but also young people who are outside the labour force for reasons other than education or training (for example, because they are unable to work for health reasons, caring for family members, volunteering or travelling).

Within the framework of the European Pillar of Social Rights Action Plan, the EU has set a policy target to reduce the NEET rate from 12.6% (in 2019) to 9.0% by 2030. This target forms part of broader efforts to strengthen labour market participation and improve social inclusion among young people. Lowering the share of young people who are neither in employment nor in education and training is also considered important for helping to address skills shortages and supporting the EU's long-term economic competitiveness.

The NEET rate is also included in the EU's SDG indicator set. Goal 8 seeks to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

***In 2025, 11.0% of young people aged 15 to 29 in the EU were neither in employment nor in education and training***

Economic crises tend to impact young people disproportionately, as they are more likely to work under temporary and other atypical contracts that are easier to terminate. The NEET rate helps assess the share of young people who have not transitioned from education or training to employment. It is generally seen as a more comprehensive measure than the unemployment rate, as it more closely reflects young people's risk of social and labour market exclusion.

Having peaked at 16.1% in 2013, the EU's NEET rate subsequently fell during 6 consecutive years. The COVID-19 pandemic reversed this trend, pushing the NEET rate up to 13.8% in 2020, after which it resumed its downward trajectory. By 2025, it stood at 11.0%, marking a modest decrease of 0.1 percentage points compared with the previous year.

Of the 241 NUTS level 2 regions for which data are available in 2025, 146 regions recorded NEET rates below the EU average of 11.0%. A further 93 regions reported rates above the EU average, while 2 regions – Latvia and Etelä-Suomi in Finland – had the same rate as the EU (see Map 4.4). This uneven split suggests a skewed distribution, with relatively few high values pulling the EU average upward.

At the upper end of the distribution, 27 regions recorded NEET rates of at least 16.0% among young people aged 15 to 29. The highest rates were generally observed in predominantly rural regions of southern and eastern EU countries, as well as in the French outermost regions. Within this group, 5 regions had NEET rates of at least 25.0%, including:

- the French outermost regions of Mayotte (47.2%), Guyane (31.9%) and La Réunion (25.2%), with Mayotte recording the highest NEET rate in the EU
- the Romanian regions of Sud-Vest Oltenia (27.9%) and Sud-Est (26.3%)
- the Bulgarian region of Severozapaden (25.3%).

***The lowest NEET rate was in the Hungarian capital region of Budapest, 3.8% in 2025***

In 2025, 87 NUTS level 2 regions reported a NEET rate of 9.0% or less (the EU's policy target to be reached by 2030). This group was mainly concentrated in northern Belgium (5 regions, mainly from Vlaams Gewest), Czechia (6 out of 8 regions), Ireland (2 out of 3 regions), northern and central Italy (7 regions), the Netherlands (all 12 regions), Slovenia (both regions), Slovakia (3 out of 4 regions) and Sweden (all 8 regions); it also included Luxembourg and Malta.

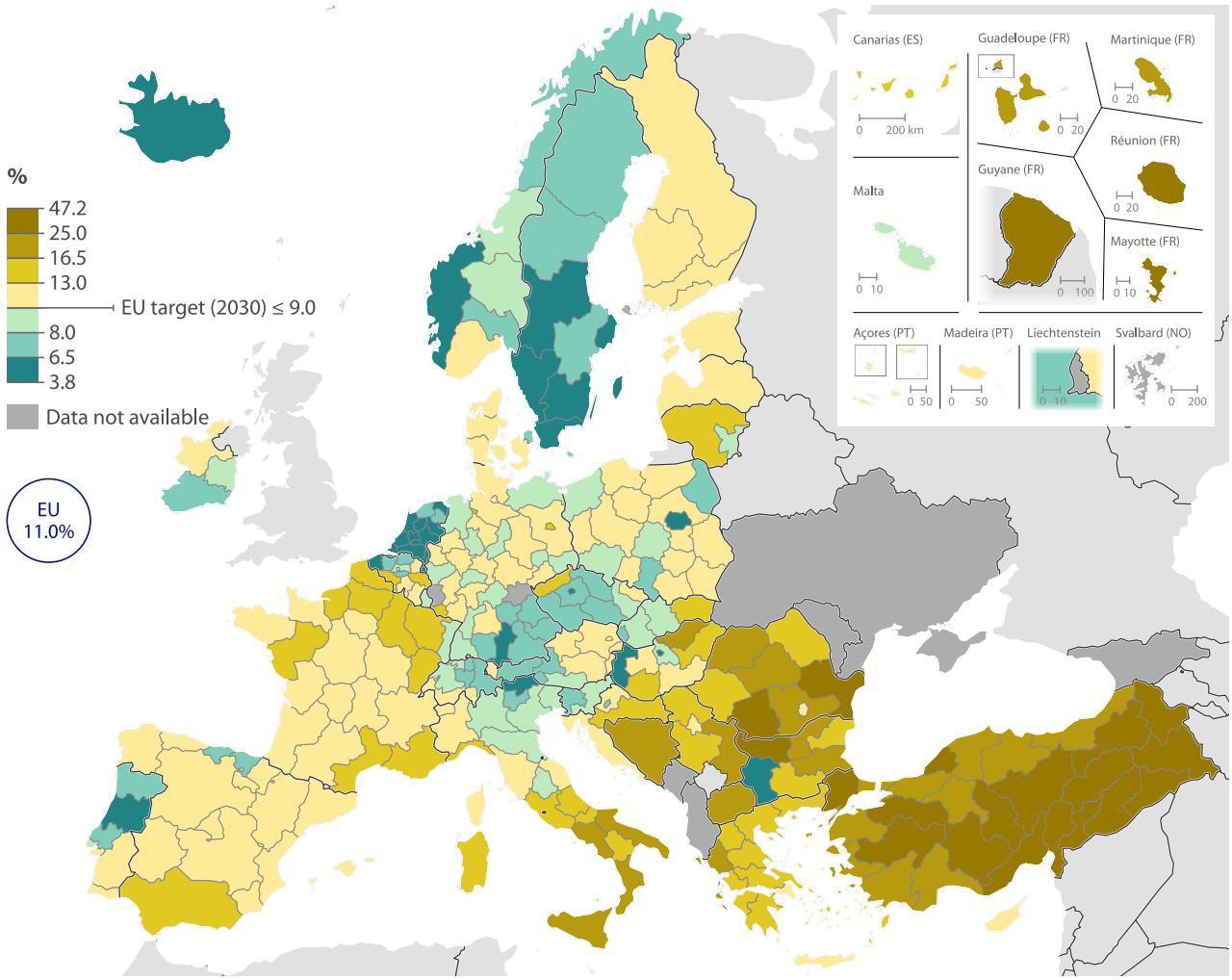
Looking in more detail at the lower end of the distribution, 24 regions recorded NEET rates below 6.5% in 2025, including:

- the capital regions of Hungary, Czechia, Poland, the Netherlands, Bulgaria and Sweden; the Hungarian capital region of Budapest recorded the lowest rate in the EU, at 3.8%
- a further 9 regions from the Netherlands (in addition to the capital region of Noord-Holland), with the lowest rate in Utrecht (4.0%); the only Dutch regions to record rates above 6.5% were Drenthe and Friesland
- 4 regions from Sweden (in addition to the capital region of Stockholm), with the lowest rate observed in Sydsverige (4.6%)
- 5 other regions with particularly low rates, dispersed across the EU, including Schwaben in southern Germany, Provincia Autonoma di Bolzano/Bozen in northern Italy, Nyugat-Dunántúl in western Hungary, Prov. West-Vlaanderen in northern Belgium and Centro in Portugal.

In 2025, capital regions in the EU generally recorded lower NEET rates than their national averages. There were only 5 exceptions observed among multi-regional EU countries, where the rate in the capital region was higher than the national average:

- Berlin in Germany (13.9%), where the share of young people neither in employment nor in education or training was 4.4 percentage points above the national average (9.5%)
- Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest in Belgium (12.8%), 3.0 points above the national average (9.8%)
- Wien in Austria (12.9%), 2.6 percentage points above the national average (10.3%)
- Lazio in Italy (13.7%), slightly above the national average (13.3%)
- Eastern and Midland in Ireland (8.3%), marginally above the national average (8.1%).

**Map 4.4:** Young people neither in employment nor in education and training
(% of people aged 15–29, by NUTS 2 regions, 2025)




Note: Valle d'Aosta/Vallée d'Aoste (ITC2), Mellersta Norrland (SE32) and Iceland, 2024. Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: edat_lfse_22)

***EU youth unemployment rate for people aged 15 to 29 was 11.7% in 2025***

In 2025, the EU's youth unemployment rate (defined here for people aged 15 to 29) was 11.7%, almost twice as high as the overall unemployment rate (for people aged 15 to 74), which stood at 6.0% (see the next section for more information). High levels of youth unemployment can lead to considerable economic and social challenges. Indeed, persistent unemployment among young people is likely to increase the risk of poverty, social exclusion and mental health issues, while reducing lifetime earnings and productivity. It may also contribute to concerns about social cohesion and public confidence in institutions. Youth employment is a key priority, with the EU aiming to reduce youth unemployment and increase the youth employment rate, ensuring young citizens have access to opportunities. The Youth Guarantee, reinforced in 2020, provides young people with an offer of employment, education, apprenticeship or traineeship within 4 months of becoming unemployed or leaving education.

Unemployment rates in the EU vary considerably as a function of age: in 2025, they were highest among young people aged 15 to 29 (11.7%) and lowest among people aged 45 to 54 and aged 55 to 64 (both 4.4%). Subject to data availability, young people systematically faced the highest unemployment rates in every NUTS level 2 region. For example, in the Croatian capital region of Grad Zagreb, the unemployment rate of young people (12.2%) was 4.1 times as high as the overall rate (3.0%), while in the southern Italian region of Sicilia, the unemployment rate of young people (27.2%) was 15.0 percentage points higher than the overall rate (12.2%).

Map 4.5 illustrates the distribution of youth unemployment rates among people aged 15 to 29 across NUTS level 2 regions. In 2025, the highest youth unemployment rates were mainly concentrated in southern EU countries, although several regions in Belgium, France, Romania and Sweden also recorded relatively high rates. By contrast, some of the lowest rates were observed in a band of regions extending from the Netherlands, Germany, northern Italy and Austria through parts of Poland, Czechia and Hungary.

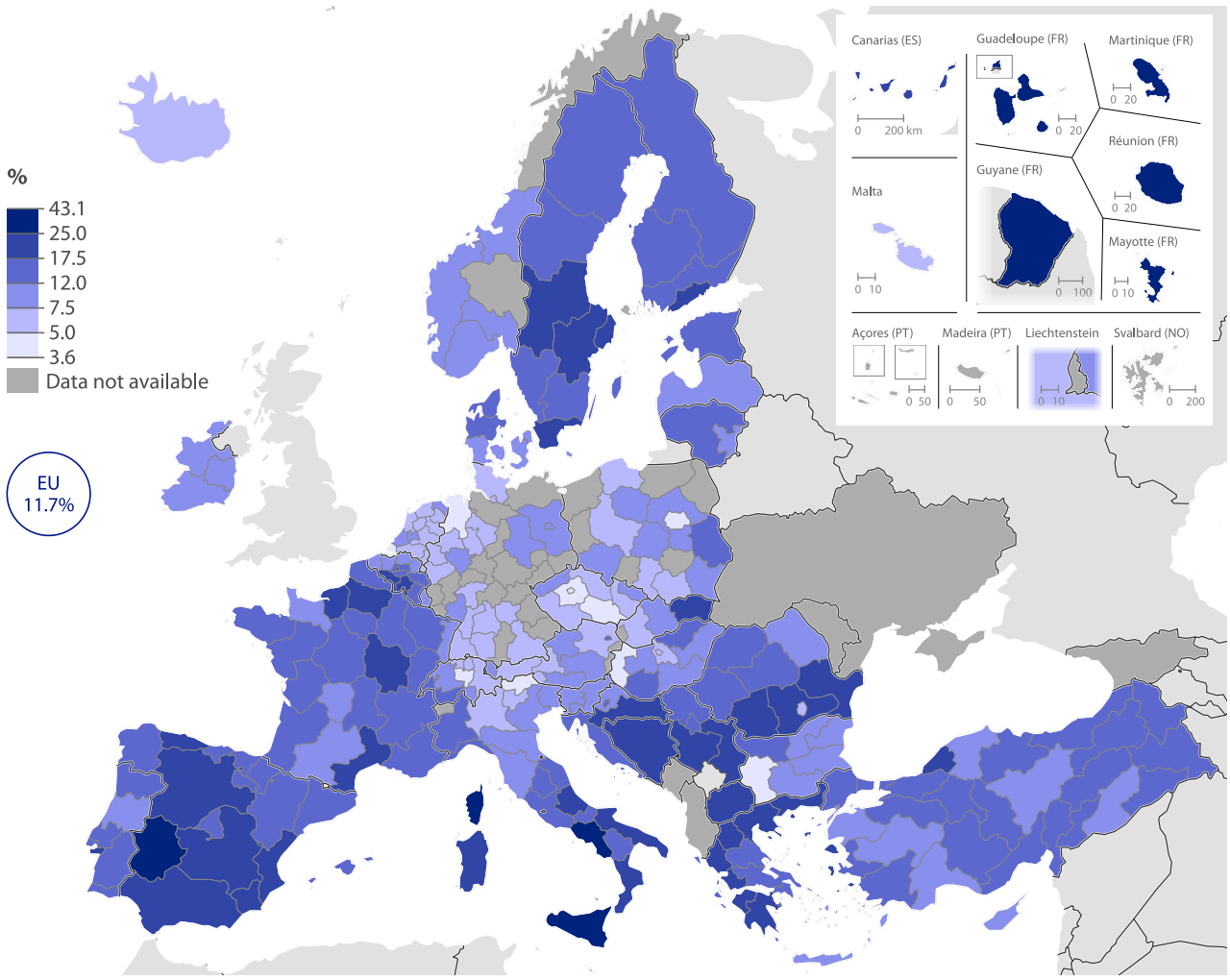
In 2025, particularly high youth unemployment rates – of at least 25.0% – were recorded in 11 regions across the EU, including:

- the Spanish autonomous regions of Ciudades de Ceuta y Melilla and the western Spanish region of Extremadura
- all 5 of the French outermost regions – Mayotte, Martinique, Guadeloupe, Guyane and La Réunion – as well as the French island region of Corse (2024 data)
- the southern Italian regions of Campania and Sicilia.

At the lower end of the distribution, the lowest youth unemployment rates were generally observed in predominantly urban regions, including several capital regions. In total, there were 9 regions in the EU that recorded rates below 5.0%:

- 3 capital regions in eastern EU countries – Yugozapaden (Bulgaria), Warszawski stołeczny (Poland) and Praha (Czechia)
- 2 additional regions in Czechia – Střední Čechy and Jihovýchod
- Weser-Ems in north-western Germany
- Nyugat-Dunántúl in western Hungary
- Provincia Autonoma di Bolzano/Bozen in northern Italy (2024 data)
- Zeeland in the south-west of the Netherlands, which recorded the lowest youth unemployment rate in the EU, at 3.6%.

**Map 4.5: Youth unemployment rate**
(% of labour force among people aged 15–29, by NUTS 2 regions, 2025)




Note: Corse (FRM0), Provincia Autonoma di Bolzano/Bozen (ITH1) and Iceland, 2024. Bucureşti-Ilfov (RO32): 2023. Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: lfst_r_lfu3rt)

## Unemployment

The unemployment rate is an important indicator with both economic and social dimensions. From an economic perspective, unemployment reflects unused labour capacity and can reduce a country's or region's productive potential. It also leads to lower tax revenues and higher public spending on social benefits. At the same time, unemployment has significant social impacts. It results in a loss of income for individuals. Beyond these financial effects, it is also associated with a higher risk of poverty, social exclusion, debt and homelessness, and may have adverse effects on (mental) health and overall well-being.

### More about the data: the unemployment rate

Within this section, data are presented for people aged 15 to 74; this is the standard age range used by Eurostat and the International Labour Organization (ILO) for analysing unemployment. The unemployment rate is defined as the share of unemployed people (aged 15 to 74) in the total labour force (in other words, employed and unemployed people) of the same age group.

Note that the unemployment rate is not the opposite of the employment rate, as the two indicators use different denominators: the unemployment rate is based on the labour force, while the employment rate is based on the population.

The EU unemployment rate fell from a peak of 11.6% in 2013, declining over 6 consecutive years to 6.8% by 2019. With the onset of the COVID-19 crisis, the rate increased 0.4 percentage points in 2020 and remained almost unchanged in 2021 (down 0.1 points), as the pandemic continued to affect much of the EU economy. Following a marked decline in 2022, unemployment continued to fall in 2023 and 2024 at a more moderate pace, reaching its lowest rate since the start of the time series in 2009. The rate was unchanged in 2025, at 6.0%.

In 2025, there were 13.3 million unemployed people aged 15 to 74 across the EU. Compared with 2024, the number of unemployed people in 2025 was 223 000 higher.

Map 4.6 presents unemployment rates (for people aged 15 to 74) across NUTS level 2 regions. In 2025, the distribution of regional unemployment rates was slightly skewed towards lower values: of the 241 NUTS level 2 regions for which data are available, 103 had rates above the EU average of 6.0%, while 137 were below this level; Piemonte (northern Italy) reported an unemployment rate equal to the EU average. The highest regional unemployment rates were generally concentrated in southern EU countries and France's outermost regions, while the lowest rates were mainly observed across eastern EU countries and parts of southern Germany and northern Italy.

In 2025, 23 regions across the EU reported unemployment rates of at least 10.0%, as shown by the darkest shade in Map 4.6. At the upper end of the distribution, the Spanish autonomous region of Ciudad de Melilla and the French outermost region of Mayotte recorded the highest rates, both 24.9%, closely followed by Ciudad de Ceuta (24.3%). Leaving these atypical Spanish and French regions aside, the highest unemployment rates – above 12.0% – were observed in:

- the north-western Greek region of Dytiki Makedonia
- several other Spanish regions – Andalucía, Extremadura, Canarias, Castilla-La Mancha and Región de Murcia
- the southern Italian regions of Campania and Sicilia
- the Belgian capital region of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest.

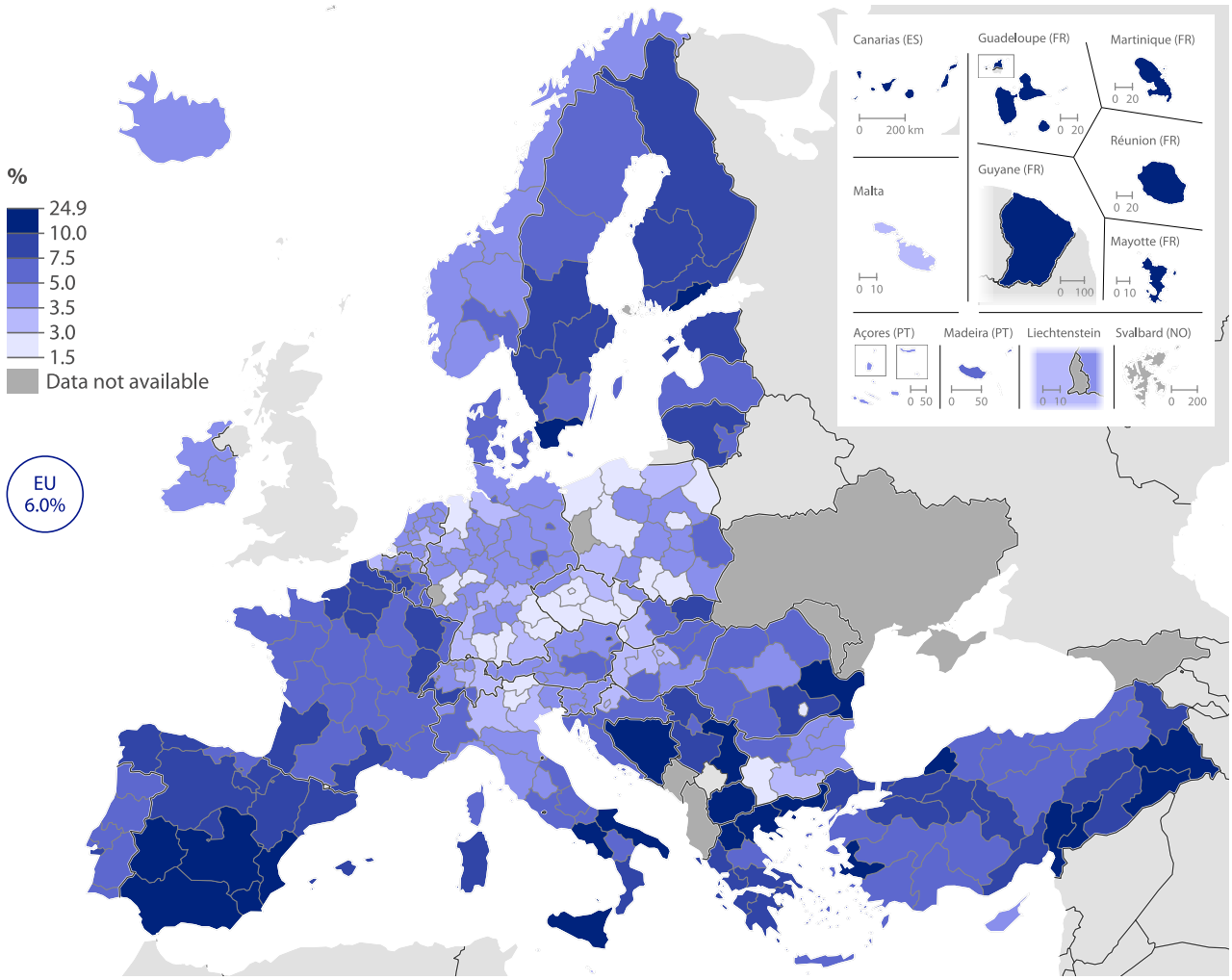
***The Czech region of Střední Čechy (which surrounds the capital region of Praha) reported the lowest regional unemployment rate in the EU, at 1.5% in 2025***

At the lower end of the distribution, there were 25 regions with unemployment rates below 3.0% in 2025, as shown by the lightest shade in Map 4.6. These regions were mainly concentrated in Czechia (5 regions), Germany and Poland (both 7 regions). There were a number of other regions that recorded rates below this level including Yugozapaden (the Bulgarian capital region), Provincia Autonoma di Bolzano/Bozen and Provincia Autonoma di Trento (northern Italy), Zeeland (the Netherlands), Bucureşti-Ilfov (the capital region of Romania) and Bratislavský kraj (the capital region of Slovakia). The Czech region of Střední Čechy (which surrounds the capital region of Praha) recorded the lowest unemployment rate in the EU, at 1.5%.

Unemployment rates in the capital regions of multi-regional eastern and Baltic EU countries were consistently below their national averages. In 2025, this pattern was particularly pronounced in Romania and Slovakia, where national rates were 3.4 and 2.2 times as high as than those in Bucureşti-Ilfov and Bratislavský kraj, respectively.

By contrast, capital regions in most western and Nordic EU countries recorded higher unemployment rates than their national averages. This pattern was observed for Belgium, Denmark, Germany, Ireland, France, Austria, Finland and Sweden. In this group of countries, capital regions often recorded the highest regional unemployment rate; the only exceptions were France and Sweden. The contrast was most evident in Belgium, where Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest recorded an unemployment rate of 12.6%, which was more than twice the national average (6.4%). A comparable, although less pronounced, pattern was observed in the German and Austrian capital regions of Berlin and Wien, as their unemployment rates were 1.7 times as high as their respective national averages.

**Map 4.6:** Unemployment rate
(% of labour force among people aged 15–74, by NUTS 2 regions, 2025)




Note: Iceland, 2024. Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: lfst_r_lfu3rt)

***In 2025, almost a third of unemployed people in the EU had been jobless for more than a year***

Long-term unemployment is a major challenge in the EU, that may impact both individual well-being and social cohesion. High rates often signal structural issues in the labour market, skill mismatches or economic stagnation, leading to income loss, social exclusion and increased pressure on public welfare systems and community well-being. A *Council recommendation on the integration of the long-term unemployed into the labour market* (2016/C 67/01) includes 3 key steps (aimed at supporting vulnerable groups):

- encouraging registration with an employment service
- providing individual in-depth assessments
- offering job integration agreements.

In March 2024, the European Commission presented an action plan to tackle labour and skills shortages driven by demographic changes, emerging skill demands and poor working conditions. Building on existing initiatives – including the European Pillar of Social Rights Action Plan – it supports training, mobility and attracting talent – one of its key measures is the financing of new projects aimed at achieving zero long-term unemployment. Furthermore, a range of active labour market policies, including job training and upskilling, wage subsidies for hiring long-term unemployed people, public employment programmes, job matching services and school-to-work transition programmes are funded through EU cohesion instruments.

In 2025, 4.2 million people across the EU had been unemployed for more than a year. The long-term unemployment ratio – which is defined as the share of unemployed people (aged 15 to 74) that has been unemployed for 12 months or more – stood at 31.6%.

Map 4.7 shows the long-term unemployment ratio (for people aged 15 to 74) across NUTS level 2 regions. Of the 207 regions for which data are available in 2025, 86 recorded ratios above the EU average of 31.6%, while 120 were below and 1 recorded the same rate. The highest ratios were predominantly concentrated in a cluster of regions in Baltic, southern and eastern EU countries, as well as in southern Belgium, eastern Germany and the French outermost regions.

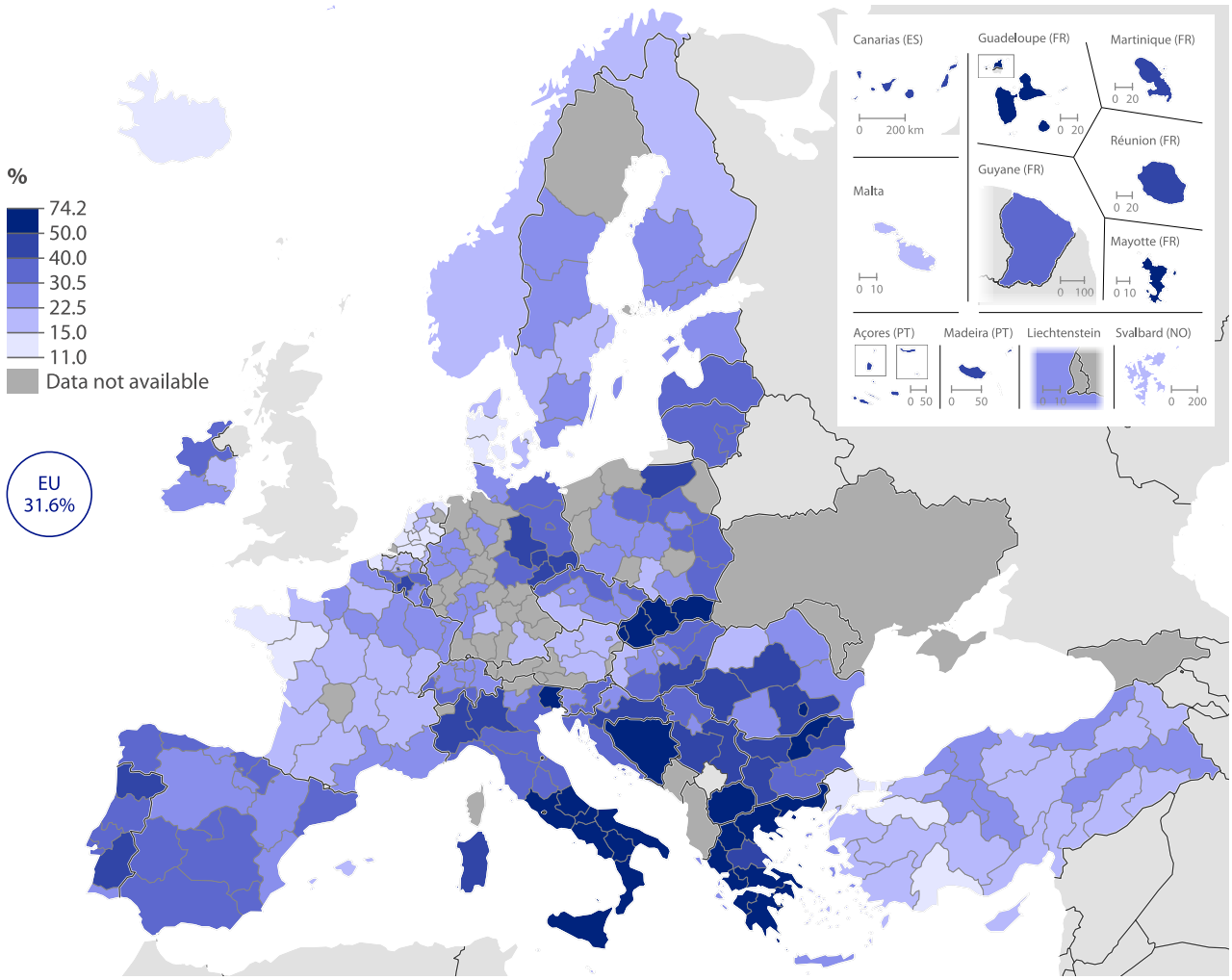
There were 27 regions across the EU where the long-term unemployment ratio was at least 50.0% (indicating that at least half of all unemployed people had been without work for at least a year). Such patterns may reflect structural characteristics of regional labour markets, including skills mismatches, limited job creation, and broader economic conditions such as deindustrialisation or economies with a high reliance on agriculture and a limited industrial or service base, often accompanied by outward migration of younger populations. This group of 27 regions included:

- all 4 regions in Slovakia (2024 data for Bratislavský kraj), with the easternmost region of Východné Slovensko recording the highest ratio in the EU, with almost three quarters (72.5%) of unemployed people without work for at least a year
- 8 of the 13 regions in Greece, with the highest ratio observed in Sterea Elláda (66.9%)
- 9 of the 21 regions in Italy, predominantly in the southern half of the country, with the highest ratio recorded in Molise (70.1%)
- the Spanish autonomous regions of Ciudades de Ceuta y Melilla
- the northern Bulgarian region of Severen tsentralen
- the French outermost regions of Mayotte and Guadeloupe
- the Romanian capital region of Bucureşti-Ilfov.

In 2025, there were 13 regions across the EU where the long-term unemployment ratio was below 15.0% (as shown by the lightest shade in Map 4.7). These regions were concentrated in the Netherlands, with Utrecht recording the lowest ratio in the EU, at 11.0%. The remainder of this group of 13 regions was composed of:

- 6 additional regions from the Netherlands
- 3 of the 5 regions in Denmark, including the capital region of Hovedstaden
- 2 regions in north-west France, Bretagne and Pays de la Loire
- Prov. West-Vlaanderen in northern Belgium.

**Map 4.7: Long-term unemployment ratio**
(% of unemployed people aged 15–74, by NUTS 2 regions, 2025)




Note: Norway, national data. Several regions only have data for 2023 or 2024 (too many to document). Includes data with low reliability (too many regions to document).

*Source:* Eurostat (online data code: lfst_r_lfu2ltu)

# 5. Living conditions

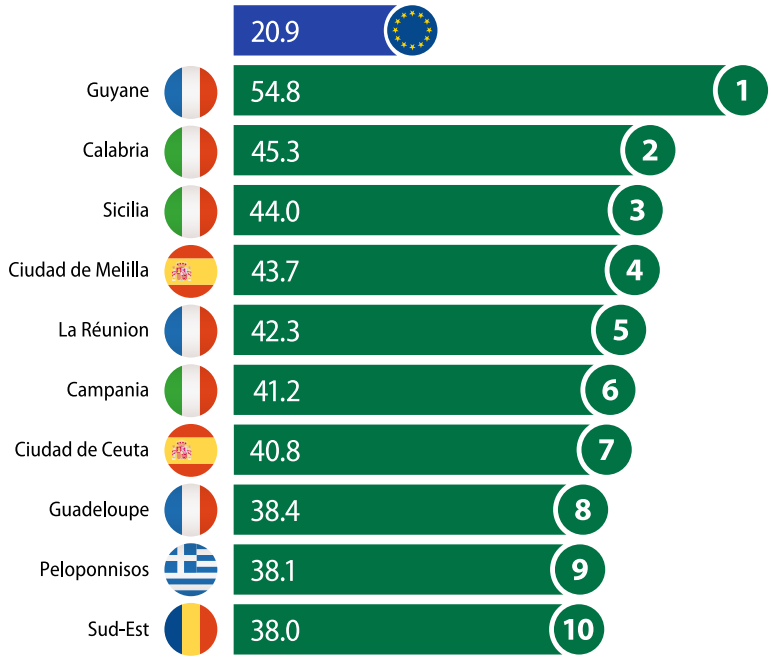
By global standards, most people living in the European Union (EU) enjoy relatively high standards of living. This reflects the EU's relatively high levels of income and wealth, as well as its well-established network of social protection systems that provide a safety net for those in need. Nevertheless, 92.7 million people in the EU – or 20.9% of the population – were at risk of poverty or social exclusion in 2025. Across the NUTS level 2 regions of the EU, the French outermost region of Guyane recorded the highest rate, at 54.8%. It was the only region in the EU where more than half of the population faced such a risk (see the infographic below for more information).

Sociodemographic characteristics such as age, educational attainment, sex and country of birth / citizenship can influence an individual's living conditions. Wider societal developments – including globalisation – together with major shocks such as the global financial and economic crisis, the COVID-19 pandemic, the impact of Russia's war of aggression against Ukraine, the cost-of-living crisis or recent developments in Iran and the wider region – can also have a significant impact. In some cases, these events can rapidly reverse more gradual, long-term reductions in inequality.

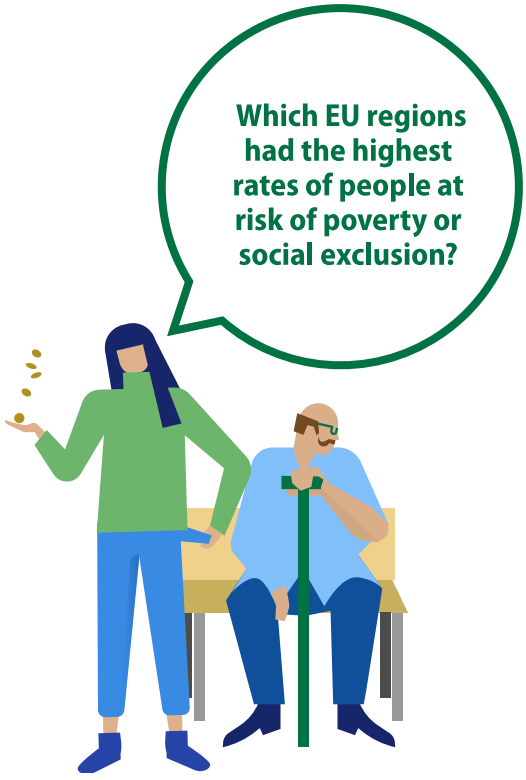
Since late 2021, living conditions across the EU have been shaped by sustained pressures on household budgets, with the cost of living remaining a key concern for many families. Housing affordability has deteriorated as a result of rising rents, house prices and mortgage costs. At the same time, volatile energy prices have continued to put a strain on household finances, reinforcing broader affordability challenges. This chapter of the *Eurostat regional yearbook* includes a special focus on housing (see below).

## People at risk of poverty or social exclusion

Absolute poverty is a lack of basic human needs, for example, food, shelter, water, sanitation facilities, health or education; in other words, a situation where a household's income is insufficient to afford the basic necessities of life. By contrast, relative poverty concerns a situation where a household's income is below a certain percentage of the median household income of the country where they live.




(% of population, by NUTS 2 regions, 2025)




*Source:* Eurostat (online data codes: ilc_peps11n and ilc_peps01n)

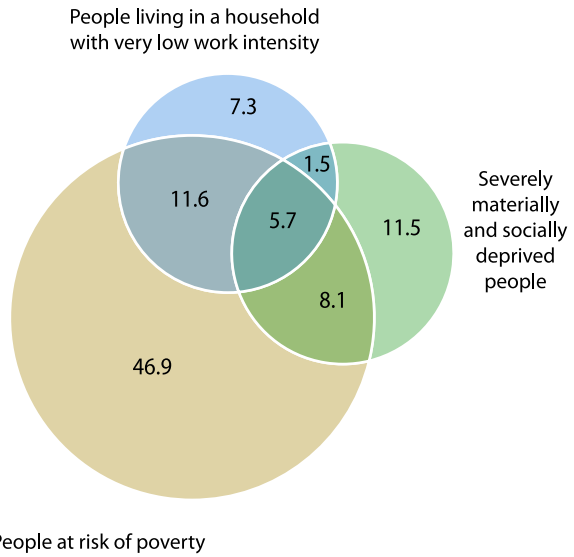
On 4 March 2021, the European Commission presented its vision for a stronger social Europe, aiming to reinforce education, skills and employment policies as part of a fair and inclusive recovery from the COVID-19 crisis. The initiative also sought to reduce inequalities, combat discrimination and support vulnerable groups at risk of poverty and social exclusion.

The European Pillar of Social Rights Action Plan sets out a range of policy commitments and establishes 3 headline EU targets to track progress; 1 of these targets seeks to reduce the number of people at risk of poverty or social exclusion by at least 15 million people by 2030 (compared with 2019 levels), including at least 5 million children.

As noted above, there were 92.7 million people in the EU facing the risk of poverty or social exclusion in 2025. This social vulnerability is spread across the overlapping risks of poverty, severe material and social deprivation, and very low work intensity; Figure 5.1 provides more information on the layered patterns of social disadvantage. Among these, 72.4 million were at risk of poverty:

- 46.9 million people, were at risk of poverty but not severely materially and socially deprived and not living in a household with very low work intensity
- 11.6 million people were at risk of poverty and were living in a household with very low work intensity, but were not severely materially and socially deprived
- 8.1 million were at risk of poverty and were severely materially and socially deprived, but were not living in a household with very low work intensity
- 5.7 million people faced all 3 of these risks simultaneously.

**Figure 5.1: Intersections for the at risk of poverty or social exclusion rate**
(million people, EU, 2025)




*Source:* Eurostat (online data code: ilc_pees01n)

Among those not at risk of poverty, 11.5 million people across the EU in 2025 were severely materially and socially deprived, 7.3 million were living in a household with very low work intensity, and 1.5 million experienced both these forms of deprivation and very low work intensity concurrently.

### More about the data: at risk of poverty or social exclusion

The indicator for people at risk of poverty or social exclusion is based on measures of relative poverty, severe material and social deprivation, and quasi-joblessness. The number/rate of people at risk of poverty or social exclusion combines these criteria to cover people who are in at least 1 of the following situations:

- at risk of poverty – people with an equivalised disposable income (after social transfers) below the at-risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income
- facing severe material and social deprivation – people unable to afford at least 7 out of 13 deprivation items (6 related to the individual and 7 related to the household) that are considered desirable, or even necessary, to lead an adequate quality of life
- living in a household with very low work intensity – where adults aged 18 to 64 years (excluding students aged 18 to 24 years and retired people under the age of 65 years) worked for 20% or less of their combined potential working time during the previous 12 months.

For EU statistics on income and living conditions (EU-SILC):

- data for the Finnish regions of Länsi-Suomi and Åland are aggregated (the same value is shown for both regions)
- due to changes in regional boundaries, data are only available for the reference years of 2024 and 2025 (no earlier years) for Utrecht, Zuid-Holland (both the Netherlands), Centro, Grande Lisboa, Península de Setúbal, Alentejo and Oeste e Vale do Tejo (all Portugal)
- there is no information for Mayotte in France
- an earlier reference year is sometimes used for individual regions/countries (see specific footnotes under each map/figure for more information).

***More than 1 in 5 of the EU's population was at risk of poverty or social exclusion in 2025***

Map 5.1 shows the regional distribution of people at risk of poverty or social exclusion across NUTS level 2 regions. In 2025, the regional distribution of this indicator was somewhat skewed, as less than 40% of all EU regions (95 out of the 243 for which data are available) recorded at risk of poverty or social exclusion rates that were higher than the EU average, 2 regions had the same rate, while 146 regions had rates that were lower.

In 2025, there were 24 regions in the EU where at least 31.5% of the population was at risk of poverty or social exclusion (they are shown by the darkest shade in Map 5.1). The highest risks were principally observed in southern, eastern and outermost regions of the EU:

- these regions were concentrated in Spain (5 regions), Bulgaria, Greece, Italy (4 regions each), France (3 outermost regions) and Romania (2 regions)
- this group also included 2 predominantly urban regions in western EU countries – the capital region of Belgium, Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest and Bremen in north-western Germany.

At the upper end of the distribution, there were 5 regions within the EU that reported at risk of poverty or social exclusion rates that were more than double the EU average (20.9%):

- the highest rate was observed in the French outermost region of Guyane, where 54.8% of the population was at risk, along with another French outermost region, La Réunion (42.3%)
- in southern Italy, the neighbouring regions of Calabria and Sicilia had the second and third highest rates (45.3% and 44.0%, respectively)
- the autonomous Spanish region of Ciudad de Melilla (43.7%) completed this group.

At the lower end of the distribution, there were 24 regions across the EU where less than 13.0% of the population was at risk of poverty or social exclusion in 2025 (they are shown by the lightest shade in Map 5.1). This group included:

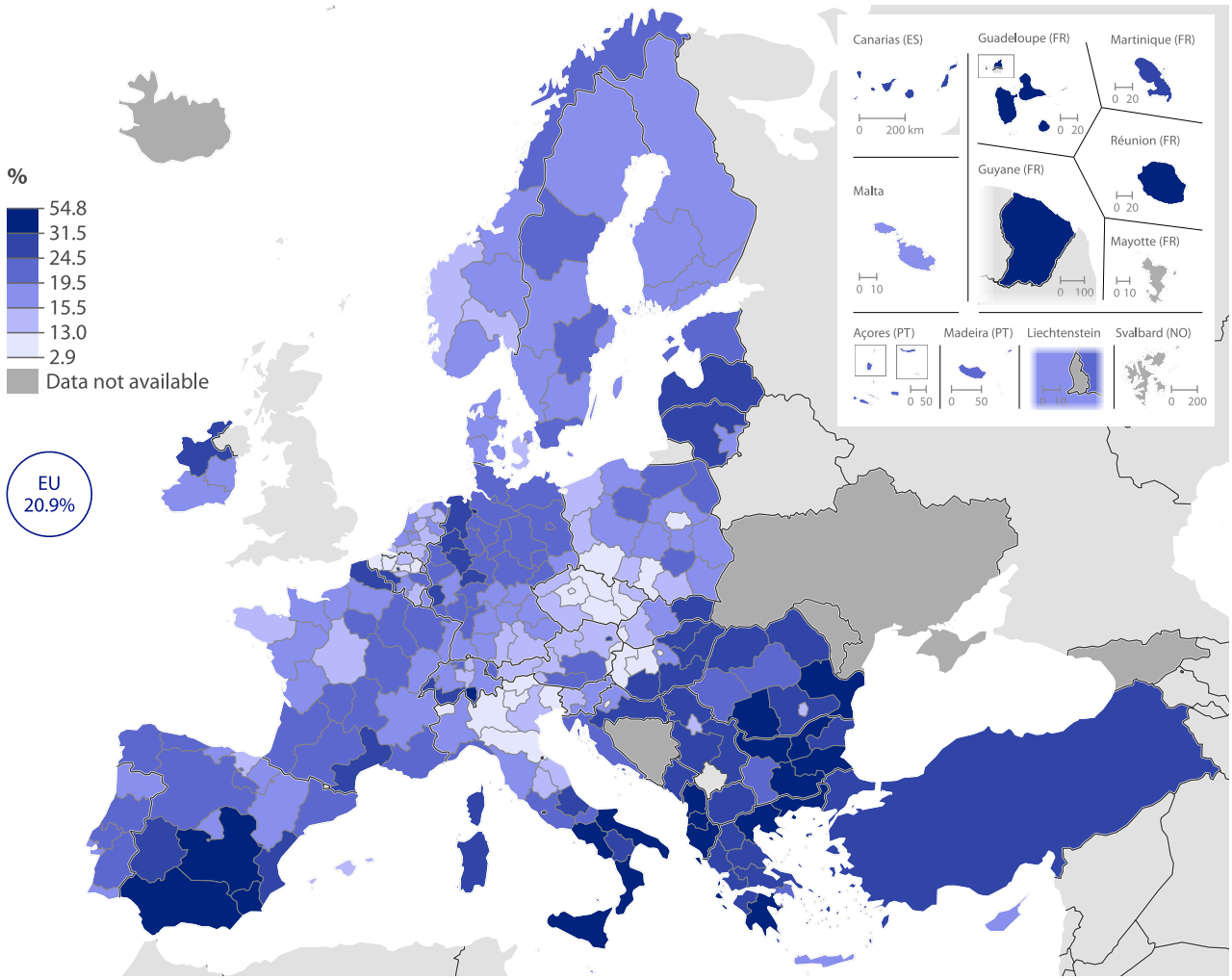
- 5 capital regions, all located in eastern EU countries
  - the Slovak capital region of Bratislavský kraj had, by far, the lowest rate in the EU, at 2.9%
  - the other 4 capital regions included Warszawski stołeczny (Poland), Praha (Czechia), Budapest (Hungary) and Grad Zagreb (Croatia)
- 6 regions from northern Italy, including Valle d'Aosta/ Vallée d'Aoste (5.6%) and Provincia Autonoma di Bolzano/Bozen (7.0%), which had the second and third lowest at risk of poverty or social exclusion rates
- 4 additional regions in Czechia
- 4 regions from Vlaams Gewest in northern Belgium
- 2 additional regions for each of Hungary and Poland
- a single region from Austria.

In 2025, people living in the capital regions of eastern EU countries generally faced a lower risk of poverty or social exclusion compared with those living in non-capital regions. For example, in Slovakia, the national at risk of poverty or social exclusion rate (16.7%) was 5.8 times as high as the rate recorded in the capital region of Bratislavský kraj (2.9%).

A similar pattern was observed in Poland, Romania, Hungary and Croatia, where the national rate was at least 50% higher than in the capital region as was also the case in Lithuania. This pattern – with a higher national average than the rate for the capital region – was also present in several other EU countries (although with narrower gaps): Bulgaria, Spain, Czechia, Slovenia, Greece, Portugal, Finland, Ireland, Italy and Sweden.

By contrast, the situation was reversed in several western and 1 Nordic EU country. In Belgium, the rate in the capital region was more than double the national average, while in Austria it was 1.6 times as high. Capital regions in Germany, the Netherlands and Denmark also recorded higher risks of poverty or social exclusion compared with their respective national averages, while in France the capital region had almost the same rate as the national average.

**Map 5.1:** People at risk of poverty or social exclusion
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

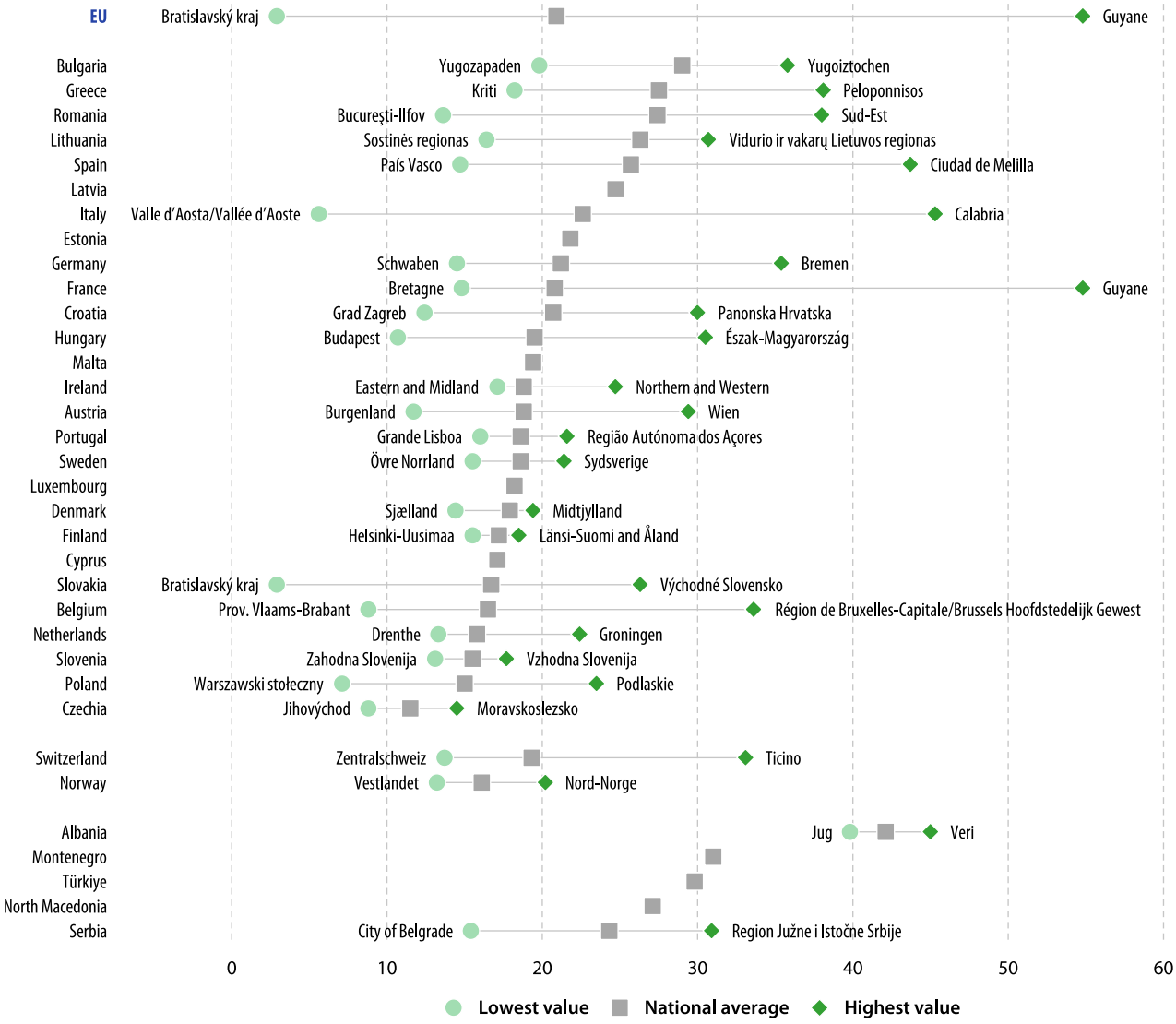
*Source:* Eurostat (online data codes: ilc_peps11n and ilc_peps01n)

Figure 5.2 highlights the regions in each of the EU countries with the highest and lowest at risk of poverty or social exclusion rates; it also provides information for the national average. There were considerable inter-regional differences in some EU countries, most notably:

- Slovakia, where the rate in Východné Slovensko was 9.1 times as high as in the capital region of Bratislavský kraj
- Italy, where the rate in Calabria was 8.1 times as high as in Valle d'Aosta/Vallée d'Aoste
- Belgium, where the rate in Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest was 3.8 times as high as in Prov. Vlaams-Brabant
- France, where the rate in Guyane was 3.7 times as high as in Bretagne.

By contrast, in 6 EU countries in 2025, the region with the highest share of people at risk of poverty or social exclusion was no more than 1.5 times as high as the region with the lowest share. The narrowest gap was recorded in Finland, where the highest regional share was observed in Länsi-Suomi and Åland (18.5%; a single region for the purpose of this chapter), which was about 1.2 times as high as the lowest regional share in the capital region of Helsinki-Uusimaa (15.5%). The other 5 countries with relatively small inter-regional differences were Denmark, Sweden, Portugal, Slovenia and Ireland.

**Figure 5.2:** People at risk of poverty or social exclusion
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_peps11n and ilc_peps01n)

## People at risk of poverty

In 2025, 72.4 million people in the EU were at risk of poverty (after social transfers), representing 16.3% of the population, some 0.1 percentage points higher than in 2024. Some of the highest regional rates for people at risk of poverty were concentrated in southern, eastern and Baltic EU countries. By contrast, some of the lowest rates were recorded in a cluster of regions stretching from central/northern Italy through Austria and southern Germany, into Hungary, Czechia and Poland. Another cluster of regions with low rates was found in northern Belgium and the Netherlands, while several capital regions also recorded relatively low rates.

### More about the data: at-risk-of-poverty rate

The at-risk-of-poverty rate (after social transfers) is 1 of 3 criteria used to identify people who are at risk of poverty or social exclusion. It identifies the proportion of the population who live in a household with an annual equivalised disposable income that is below 60% of the national median. While the threshold is the same for all EU countries in percentage terms (60%), it varies in monetary terms as median incomes differ – sometimes considerably – between countries.

Map 5.2 shows the at-risk-of-poverty rate for NUTS level 2 regions. In 2025, the regional distribution of this rate was somewhat skewed: there were 108 regions that recorded a rate above the EU average of 16.3%, while the remaining 135 regions had lower than average rates.

***In 2025, the French outermost region of Guyane reported the highest at-risk-of-poverty rate***

The French outermost regions of Guyane (50.7%) and La Réunion (36.4%), the autonomous Spanish regions of Ciudad de Melilla (39.3%) and Ciudad de Ceuta (37.0%), and the southern Italian regions of Sicilia (38.4%) and Campania (35.6%) recorded the highest at-risk-of-poverty rates among NUTS level 2 regions. These were the only regions across the EU where more than a third of the population was at risk of poverty in 2025. An additional 22 regions had at-risk-of-poverty rates covering between a quarter and a third of their populations. Together, these 28 regions with the highest at risk of poverty rates are shown in the darkest shades in Map 5.2.

***… while the lowest rates were recorded in the Slovak and Romanian capital regions of Bratislavský kraj and Bucureşti-Ilfov***

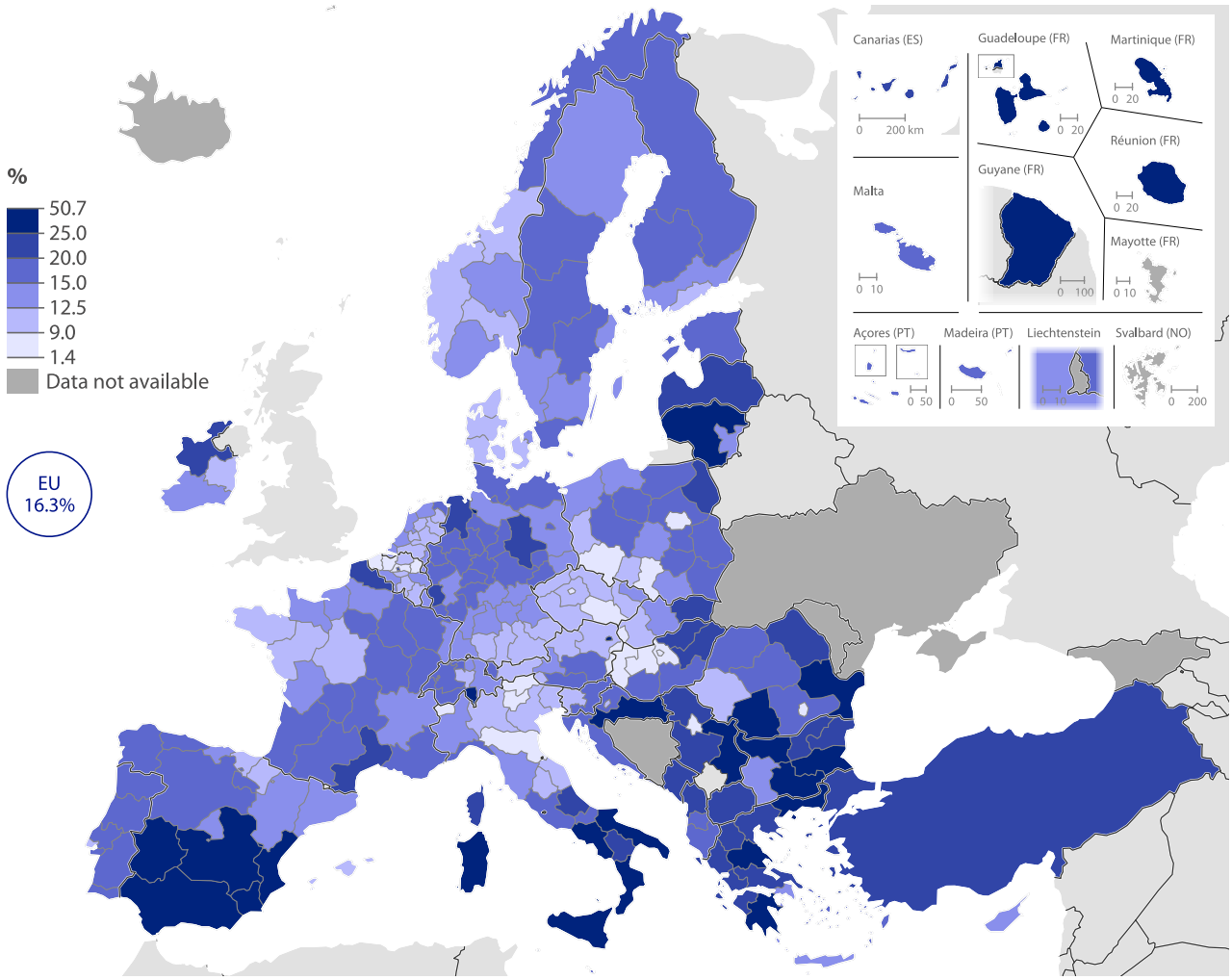
By contrast, at the lower end of the distribution, there were 20 NUTS level 2 regions where the at-risk-of-poverty rate was below 9.0% in 2025 (as shown by the lightest shade). Many of these regions were predominantly urban regions (including capitals) and/or regions characterised by relatively low unemployment rates and relatively high standards of living. This group of 20 regions included:

- 4 regions each from northern Belgium, Hungary (including Budapest) and northern Italy
- 3 regions from Poland (including Warszawski stołeczny)
- 2 regions from Czechia (including Praha)
- the capital regions of Bratislavský kraj and Bucureşti-Ilfov
- Burgenland from eastern Austria.

These 20 regions with a relatively low risk of poverty in 2025 included 5 capital regions, all from eastern EU countries: Bratislavský kraj in Slovakia (1.4%), Bucureşti-Ilfov in Romania (2.7%), Warszawski stołeczny in Poland (6.1%), Praha in Czechia (6.8%) and Budapest in Hungary (7.2%). The next lowest shares among capital regions were observed in the Irish and Finnish capital regions of Eastern and Midland (10.4%) and Helsinki-Uusimaa (10.8%). While Bratislavský kraj and Bucureşti-Ilfov had, by far, the lowest at-risk-of-poverty rates in 2025, rates below 6.0% were also recorded in:

- the northern Italian regions of Provincia Autonoma di Bolzano/Bozen and Valle d'Aosta/Vallée d'Aoste
- the northern Belgian regions of Prov. West-Vlaanderen and Prov. Vlaams-Brabant.

**Map 5.2:** At-risk-of-poverty rate
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_li41 and ilc_li02)

Across several EU countries – for example, Slovakia, Romania, Italy, France, Belgium and Spain – there was a considerable degree of inter-regional variation for at-risk-of-poverty rates in 2025 (see Figure 5.3):

- in Slovakia, the rate in the easternmost region of Východné Slovensko was 14.6 times as high as in the capital region of Bratislavský kraj
- in Romania, the at-risk-of-poverty rate in Sud-Vest Oltenia was 10.3 times as high as in the capital region of Bucureşti-Ilfov
- in Italy, the rate in the southern region of Sicilia was 8.3 times as high as in the northern region of Provincia Autonoma di Bolzano/Bozen
- in France, the rate in the outermost region of Guyane was 4.8 times as high as in the western region of Bretagne
- in Belgium, the rate in the capital region of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest was 4.2 times as high as in Prov. Oost-Vlaanderen
- in Spain, the at-risk-of-poverty rate in Ciudad de Melilla was 4.2 times as high as in the northern region of País Vasco.

In 2025, the risk of monetary poverty was relatively high in several predominantly urban regions of western EU countries (when compared with other regions within the same country). Examples included Bremen (Germany) at 27.5%, Wien (Austria) at 25.2%, the Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (Belgium) at 23.3% and Hovedstaden (Denmark) at 12.8%. By contrast, some of the highest at-risk-of-poverty rates in eastern and southern EU countries were observed in predominantly rural regions, including Sicilia (Italy) at 38.4%, Peloponnisos (Greece) at 30.1%, Panonska Hrvatska (Croatia) at 28.6%, Sud-Vest Oltenia (Romania) at 27.8%, Podlaskie (Poland) at 21.7% and Alentejo (Portugal) at 17.9%.

**Figure 5.3:** At-risk-of-poverty rate
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_li41 and ilc_li02)

## Severe material and social deprivation, and economic strain

The severe material and social deprivation rate measures the share of people whose living conditions are severely constrained by an enforced lack of items that are necessary and desirable to lead an adequate life. It reflects enforced inability to afford basic goods, services or social activities – such as a meal with protein, adequate heating, or spending social time with family and/or friends.

The EU's severe material and social deprivation rate rose during the cost-of-living crisis, peaking at 6.8% in 2023. A year later, it fell 0.4 percentage points, returning to its pre-crisis level, with an additional modest reduction the following year (down 0.1 points). In 2025, there were 26.9 million people across the EU that were facing severe material and social deprivation; this was equivalent to 6.3% of the total population.

### More about the data: severe material and social deprivation

The severe material and social deprivation rate is 1 of 3 criteria used to identify people at risk of poverty or social exclusion. It is defined as the share of people who are unable to afford at least 7 out of 13 items (6 related to the individual and 7 related to the household) that are considered desirable – or even necessary – to lead an adequate quality of life.

**List of items related to the individual**

- having an internet connection
- replacing worn-out clothes by some new ones
- having 2 pairs of properly fitting shoes (including a pair of all-weather shoes)
- spending a small amount of money each week on themselves
- having regular leisure activities
- getting together with friends/family for a drink/meal at least once a month

**List of items related to the household**

- capacity to face unexpected expenses
- capacity to afford paying for 1-week annual holiday away from home
- capacity to being confronted with payment arrears (on mortgage or rental payments, utility bills, hire purchase instalments or other loan payments)
- capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every 2nd day
- ability to keep home adequately warm
- have access to a car/van for personal use
- replacing worn-out furniture

***In 2025, the highest severe material and social deprivation rates were recorded in the south-eastern corner of the EU: in Sud-Est (Romania), more than a quarter of the population faced such deprivation***

Map 5.3 shows the regional distribution of severe material and social deprivation rates. In 2025, the highest rates among NUTS level 2 regions were concentrated in Greece, Romania, Bulgaria, the outermost regions of France and Hungary. The lowest rates were observed in northern and central Italy, Slovenia, Austria, Croatia, the Netherlands, Poland and northern Sweden. Of the 243 regions for which data are available, 155 had rates below the EU average of 6.3%, 3 had the same rate, and 85 recorded higher than average rates.

In 2025, Sud-Est in Romania (27.2%) recorded the highest severe material and social deprivation rate. It was the only EU region where more than a quarter of the population was affected by the enforced inability to afford basic goods, services or social activities. There were 3 other regions in the EU where more than a fifth of the population faced severe material and social deprivation:

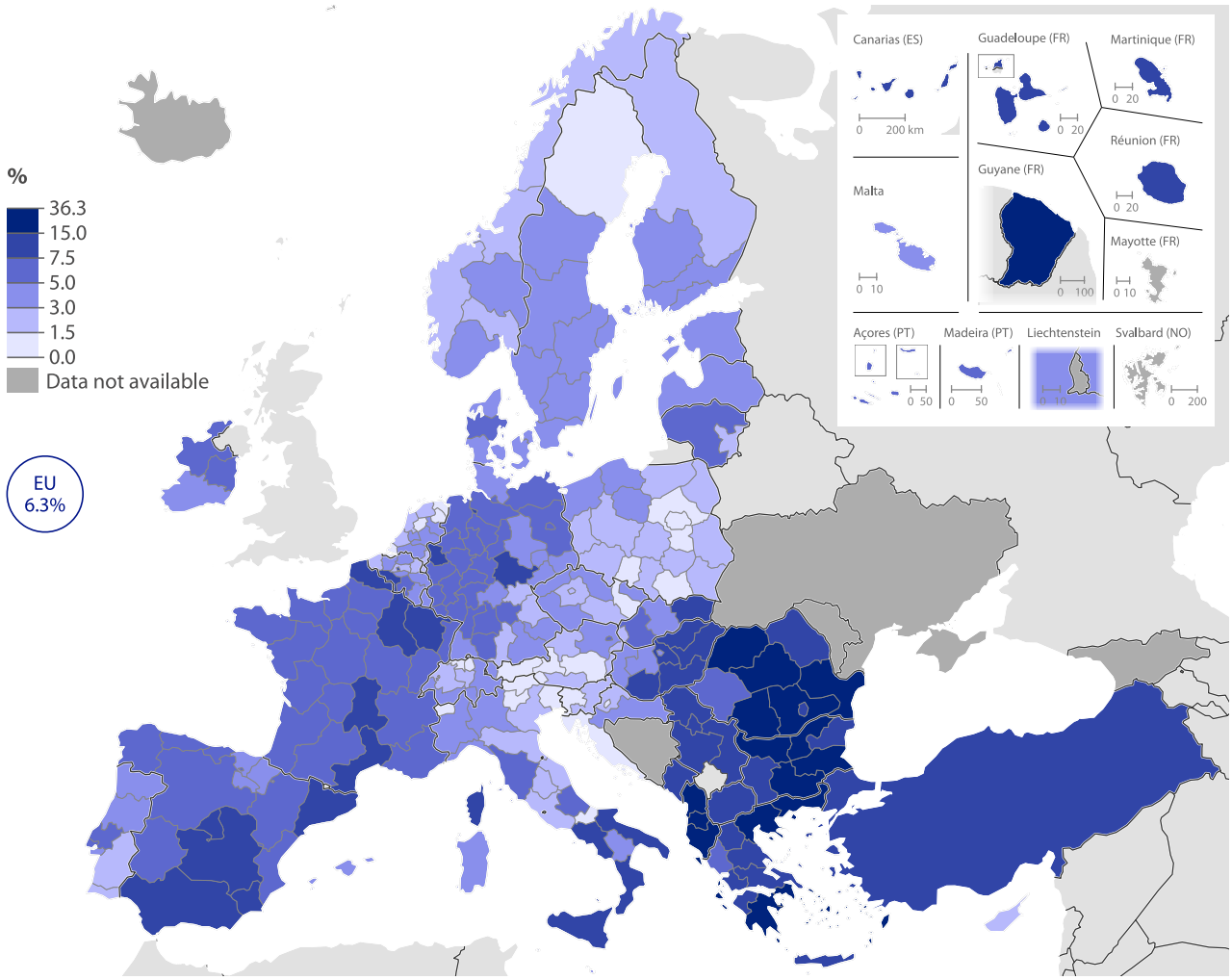
- Ionia Nisia in Greece (23.3%)
- Yugoiztochen in Bulgaria (21.1%)
- Guyane in France (also 21.1%).

At the other end of the distribution, every region of Czechia, Denmark, Croatia, the Netherlands, Austria, Poland, Slovenia, Finland and Sweden had a severe material and social deprivation rate that was below the EU average of 6.3% in 2025; this was also the case in Estonia, Cyprus, Latvia, Luxembourg and Malta.

In 2025, there were 10 regions in the EU with severe material and social deprivation rates of less than 1.0%:

- the Italian regions of Provincia Autonoma di Trento (which had the lowest rate in the EU), Molise and Valle d'Aosta/Vallée d'Aoste
- the Dutch regions of Zeeland, Drenthe and Groningen
- the Austrian regions of Salzburg and Tirol
- the Polish regions of Opolskie and Małopolskie.

**Map 5.3:** Severe material and social deprivation rate
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

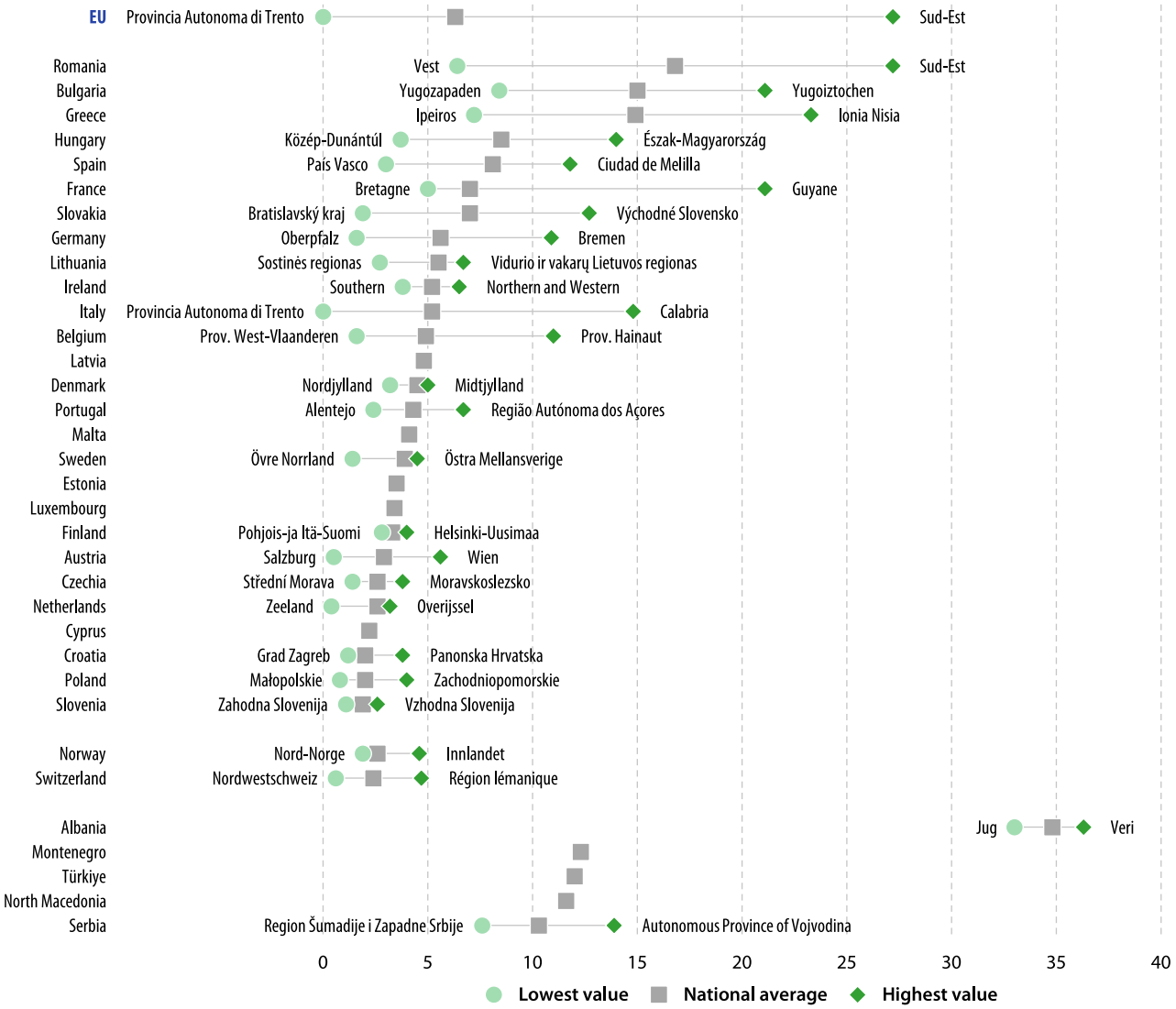
*Source:* Eurostat (online data codes: ilc_mdsd18 and ilc_mdsd11)

Figure 5.4 highlights the NUTS level 2 regions in each country that recorded the highest and lowest severe material and social deprivation rates. In 2025, there were 10 EU countries where at least 1 region recorded a double-digit rate: Romania, Greece, Bulgaria, France, Italy, Hungary, Slovakia, Spain, Belgium and Germany. At the lower end of the distribution, all of the regions in Slovenia, the Netherlands, Czechia, Croatia, Poland, Finland, Sweden and Denmark recorded rates of no more than 5.0%; this was also the case in Cyprus, Luxembourg, Estonia, Malta and Latvia.

Several EU countries recorded a considerable degree of inter-regional variation for severe material and social deprivation rates in 2025. In Austria, the highest rate was recorded in the capital region of Wien (5.6%); although this was below the EU average of 6.3% it was nevertheless 11.2 times as high as the lowest rate in Austria, as observed in Salzburg (0.5%). There was a similar pattern in the Netherlands, where the highest regional rate was observed in the eastern region of Overijssel (3.2%). While this was also considerably lower than the EU average, it was nevertheless 8.0 times as high as in the south-western region of Zeeland (0.4%). There were also relatively large differences between the highest and lowest regional rates in Belgium (where the highest rate was 6.9 times as high as the lowest), Germany (6.8 times as high), Slovakia (6.7 times as high) and Poland (5.0 times as high).

By contrast, Finland recorded the smallest degree of inter-regional variation in severe material and social deprivation rates in 2025. The highest rate in Finland was recorded in the capital region of Helsinki-Uusimaa (4.0%), which was 1.4 times as high as the lowest rate, as observed in Pohjois- ja Itä-Suomi (2.8%). There were also relatively small differences between the regions in Denmark (where the highest rate was 1.6 times as high as the lowest) and in Ireland (1.7 times as high).

**Figure 5.4:** Severe material and social deprivation rate
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_mdsd18 and ilc_mdsd11)

## People living in a household with very low work intensity

In 2025, there were 26.1 million people (aged 0 to 64) across the EU living in a household with very low work intensity, representing 7.9% of this subpopulation.

### More about the data: very low work intensity

The share of people (aged 0 to 64) living in a household with very low work intensity is 1 of the 3 criteria used to identify people at risk of poverty or social exclusion. Working-age adults with low work intensity are defined as people aged 18 to 64 (excluding students aged 18 to 24 and retired people under the age of 65) who worked for 20% or less of their combined potential working time during the previous 12 months. Households composed only of children, of students younger than 25 and/or of people aged 65 or more are excluded from the calculation of this indicator.

***In 2025, 7.9% of the EU population was living in a household with very low work intensity***

Out of the 243 NUTS level 2 regions for which data are available, 98 recorded shares of people living in households with very low work intensity above the EU average (7.9%). By contrast, 139 regions reported lower than average shares, while a further 6 regions had the same share as the EU average.

Map 5.4 highlights the EU regions with a relatively high share of people living in households with very low work intensity (as shown by the darkest shade). In 2025, there were 23 regions with shares of at least 13.0%, distributed across several EU countries:

- 6 regions from Italy, located in the south or on islands
- 5 regions from France, the northern region of Nord-Pas de Calais and 4 outermost regions (no data for Mayotte)
- 4 predominantly urban regions from Germany, including the capital region of Berlin
- 3 regions from Belgium, including the capital Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest
- 2 autonomous regions from Spain, Ciudad de Ceuta and Ciudad de Melilla
- the Lithuanian region of Vidurio ir vakarų Lietuvos regionas
- the north-western Bulgarian region of Severozapaden
- the capital region of Austria, Wien.

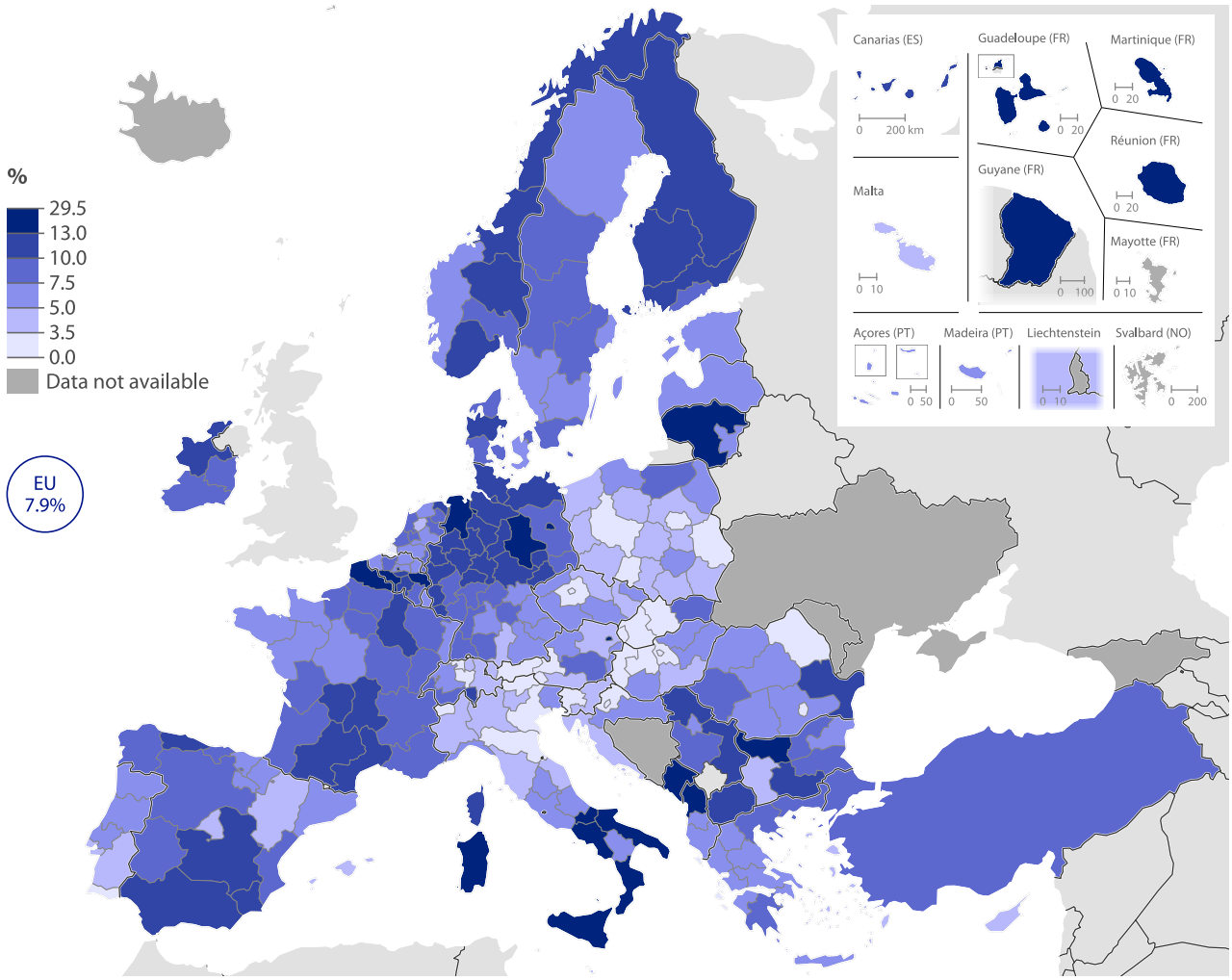
In 2025, the highest proportion of people living in a household with very low work intensity was recorded in the French outermost region of Guyane (29.5%). Along with the Spanish autonomous cities of Ceuta and Melilla, as well as 2 other French outermost regions, there were 3 additional regions in the EU where more than a fifth of the population lived in such households:

- Bremen in northern Germany (22.7%)
- the Belgian capital Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (22.1%)
- Campania in southern Italy (20.3%).

By contrast, there were 27 regions in the EU where fewer than 3.5% of people were living in a household with very low work intensity in 2025 (as shown by the lightest shade in Map 5.4). These regions were distributed across 12 different EU countries.

- The EU countries with the highest numbers of regions included Italy (4 northern regions), Hungary (4 western regions), Poland (4 regions) and Slovakia (3 western regions).
- Overall, this group was geographically concentrated in eastern EU countries, although it also included several regions in the south and west:
  - in addition to the 4 northern Italian regions, it also included Ionia Nisia (Greece) and Algarve (Portugal)
  - as well as Tirol and Salzburg (both Austria) and Zeeland (the Netherlands).
- This group of 27 regions also included 6 capital regions, all located in eastern EU countries: Bratislavský kraj (0.6%), Bucureşti-Ilfov (0.9%), Grad Zagreb (1.6%), Warszawski stołeczny (1.9%), Praha (2.7%) and Budapest (2.8%).
- The lowest regional share was recorded in Valle d'Aosta/ Vallée d'Aoste (0.0%) in northern Italy.

**Map 5.4:** **People living in households with very low work intensity**
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_lvhl21n and ilc_lvhl11n)

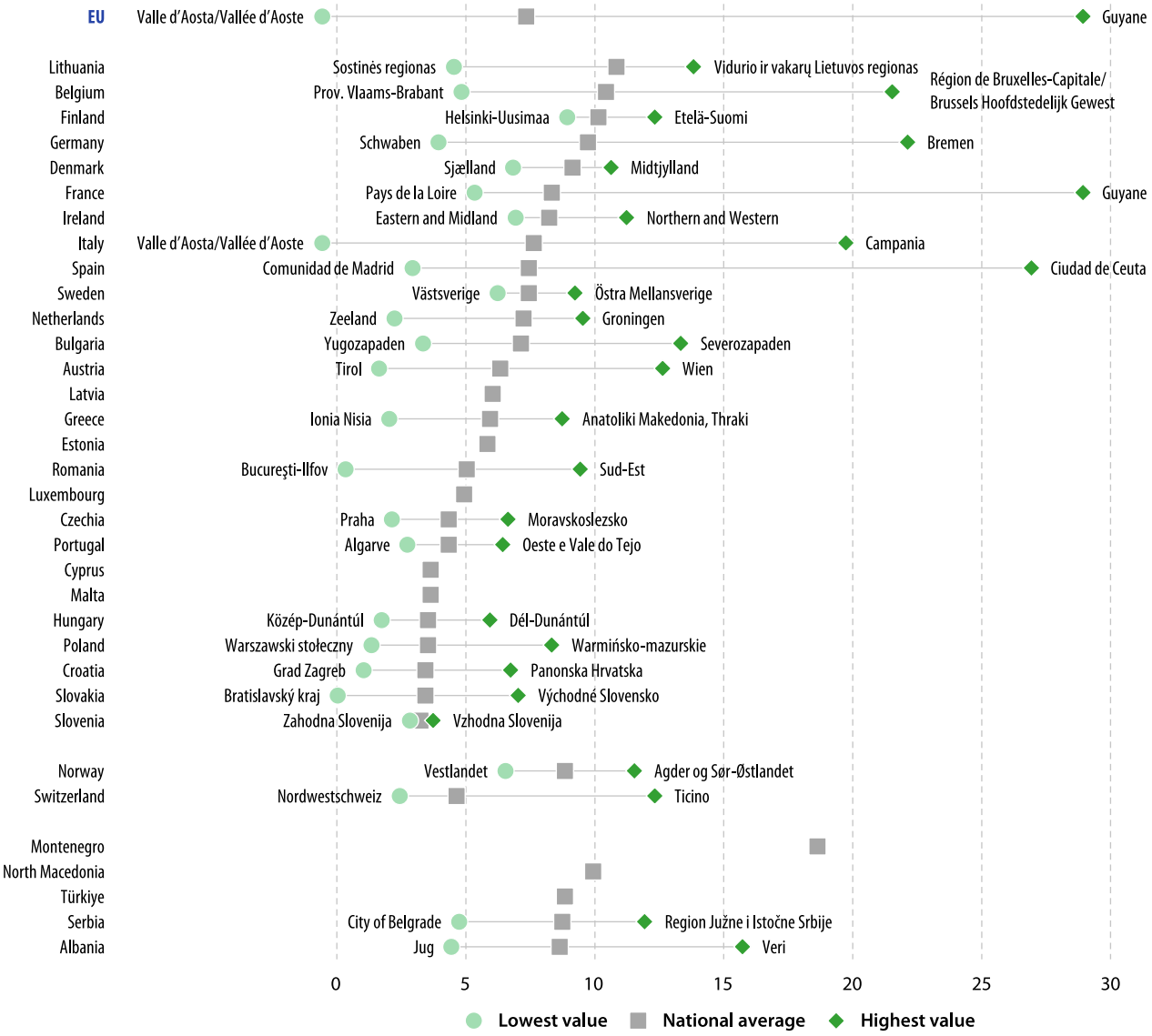
In 2025, the ratio between the highest and lowest regional shares of people living in households with very low work intensity varied considerably across EU countries. The largest disparities were recorded in Slovakia – where the regional share in Východné Slovensko was 12.7 times as high as in the capital region of Bratislavský kraj – with relatively wide gaps also observed in Romania (where the largest regional share was 11.1 times as high as the smallest regional share), followed by Spain (7.9 times as high) and Austria (6.0 times as high). There was also a wide disparity in Italy, where the share in Campania was 20.3% and that in Valle d'Aosta/Vallée d'Aoste was 0.0%, the third largest percentage point difference, behind Spain (24.0 points) and France (23.6 points).

At the other end of the distribution, inter-regional differences were much smaller in Slovenia – where, in 2025, the regional share in Vzhodna Slovenija was 1.3 times as high as in the capital region of Zahodna Slovenija. Relatively narrow gaps were also observed in Finland and Sweden (where the largest regional share was 1.4 times as high as the smallest regional share), Denmark (1.5 times as high) and Ireland (1.6 times as high).

In 2025, there were 13 EU countries where at least 1 region recorded a double-digit share of people living in households with very low work intensity, while every region across the remaining 14 countries had single-digit shares. In Spain, the largest regional share in Ciudad de Ceuta (27.5%) was 3.4 times as high as the national average (8.0%) – the largest ratio among EU countries – closely

followed by France, where the largest regional share in Guyane (29.5%) was 3.3 times as high as the national average (8.9%). By contrast, there were much narrower gaps for several EU countries. For example, the highest regional share in Slovenia was recorded in Vzhodna Slovenija (4.3%) which was 1.1 times as high as the national average. Relatively low ratios were also observed in Denmark, Finland, Sweden (all 1.2 times as high as the national average), Lithuania, the Netherlands and Ireland (all 1.3 times as high). These relatively small differences may reflect, at least in part, the small number of regions in Lithuania, Slovenia, Ireland and the Nordic EU countries.

**Figure 5.5: People living in households with very low work intensity**
(% of population, by NUTS 2 regions, 2025)




Note: Türkiye, national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_lvhl21n and ilc_lvhl11n)

## Focus on housing

Housing affordability has become an increasingly important dimension of economic strain, as housing costs have risen rapidly in many parts of the EU. Higher rents, rising mortgage interest rates and increasing house prices have reduced the disposable income available for other essential expenditures, particularly among low-income households, young people and tenants living in predominantly urban regions. In some regions, a shortage of housing supply has further intensified affordability pressures, contributing to wider inequalities in living conditions and financial security.

### More about the data: housing cost overburden rate

The housing cost overburden rate is defined as the share of the population living in a household where housing costs represent more than 40% of total disposable household income (both the numerator and denominator are expressed net of housing allowances).

Housing costs include the total amount of money regularly spent to maintain a household, not limited to rent or mortgage payments. They comprise essential expenses such as utilities (electricity, gas, water), service charges, regular maintenance and repairs, property-related taxes and home insurance. These costs exclude non-essential or discretionary expenditures such as furniture, household appliances or home improvements.

The housing cost overburden rate is used in the Social Scoreboard of the European Pillar of Social Rights, which monitors progress in the context of the European Semester.

***The highest housing cost overburden rate in 2025 was recorded in the Greek region of Anatoliki Makedonia, Thraki (33.9%)***

According to the most recent data available, 7.7% of the EU's population were overburdened by housing costs in 2025. This marked a decrease of 0.5 percentage points compared with 2024 (when the rate was 8.2%).

The housing cost overburden rate was generally higher in predominantly urban regions than in predominantly rural regions. Map 5.5 shows the cost of housing accounted for more than 40% of household budgets in a high proportion of households across Greece and Denmark, as well as in most western regions of Germany and in several capital regions.

In 2025, there were 20 NUTS level 2 regions in the EU where at least 16.0% of the population faced a housing cost overburden (as shown by the darkest shade in Map 5.5). These 20 regions included:

- all 13 regions from Greece
- all 5 regions from Denmark
- Trier from western Germany
- the Belgian capital Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest.

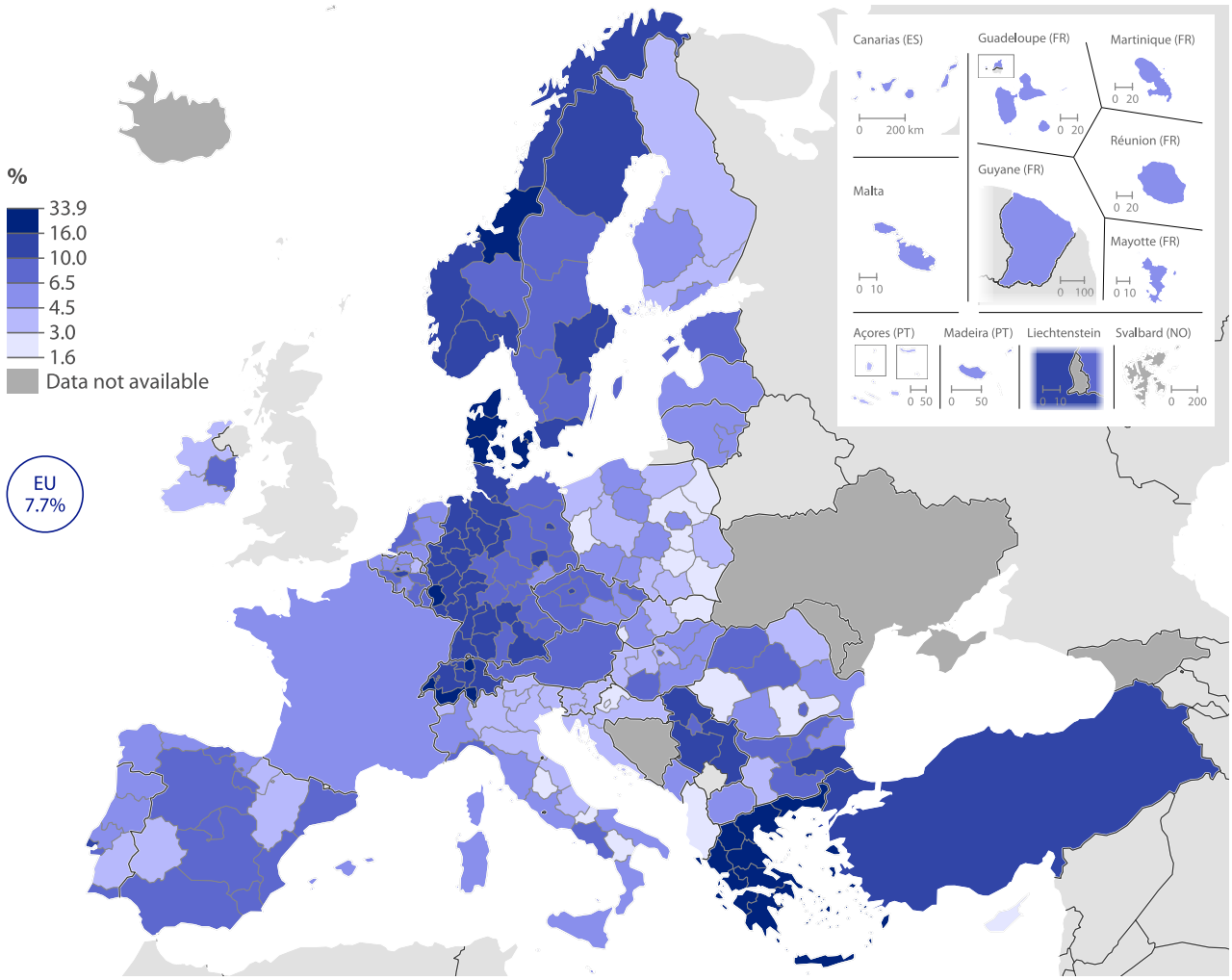
In 2025, the housing cost overburden rate in Greece ranged from a low of 18.5% in Kriti to a high of 33.9% in the northern region of Anatoliki Makedonia, Thraki; the highest rate in the EU. The western Greek region of Peloponnisos (33.3%) was the only other region in the EU where at least one third of the population lived in a dwelling where housing costs exceeded 40% of disposable household income. In Denmark, the highest rate was observed in the capital region of Hovedstaden (26.6%), while the remaining 4 Danish regions had broadly similar shares, ranging from 21.0% to 22.6%. Outside Greece and Denmark, Trier in Germany recorded the highest housing cost overburden rate, at 18.1%. This may be linked, at least in part, to cross-border commuting, with many residents living in Germany but working in Luxembourg. This demand pressure can contribute to higher rents and house prices, particularly in nearby commuter towns and villages.

***The lowest housing cost overburden rate in 2025 was recorded in the Slovak capital region of Bratislavský kraj (1.6%)***

At the lower end of the distribution, there were 15 NUTS level 2 regions where the housing cost overburden rate was less than 3.0% in 2025. These 15 regions were distributed over 6 different EU countries, with 5 regions located in Poland (4 of which were in the east), 3 regions in Italy, as well as 2 regions in each of Croatia, Romania and Slovakia; Cyprus also had a low rate.

In 2025, the lowest housing cost overburden rate in the EU was observed in the Slovak capital region of Bratislavský kraj (1.6%). The rate in Anatoliki Makedonia, Thraki was therefore 21.2 times as high as the rate recorded in Bratislavský kraj, while the EU average was 4.8 times as high as this lowest rate. The Slovak capital region was somewhat atypical among regions with low housing cost overburden rates, as the only other capital region in this group was Grad Zagreb in Croatia, while most of the remaining regions with low values were predominantly rural.

**Map 5.5:** Housing cost overburden rate
(% of population, by NUTS 2 regions, 2025)




Note: the Netherlands, NUTS level 1. France, Austria, Albania and Türkiye: national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023. Wielkopolskie (PL41), Zachodniopomorskie (PL42), Pomorskie (PL63) and Warszawski stołeczny (PL91): low reliability.

*Source:* Eurostat (online data codes: ilc_lvho07_r and ilc_lvho07a)

### More about the data: economic strain

Economic strain refers to a set of indicators that measure self-perceived financial difficulties of households. This concept is covered by a group of indicators collected as part of the EU-SILC survey, designed to capture material hardship and/or financial stress.

While economic strain is not generally used as a headline indicator within EU policy development, it does play a key role in understanding living conditions and poverty (beyond income-based measures). Various measures of economic strain are included in composite indicators such as the severe material and social deprivation rate. Some of the most common measures include, whether households:

- have arrears on mortgage/rent, utility bills, hire purchase instalments or other loan payments
- can keep their home adequately warm.

***In 2025, almost 1 in 10 people across the EU faced arrears on mortgage, rent, utility bills or hire purchase***

Economic strain has gained renewed attention in light of the ongoing cost-of-living crisis. Rising inflation, surging energy prices and challenges around housing affordability have placed considerable pressure on household budgets, particularly among vulnerable groups. Indicators of economic strain can reveal growing disparities in financial resilience, which may be used to understand where support is most needed.

Map 5.6 focuses on the share of individuals falling behind on payments for mortgages, rent, utilities or hire purchase agreements. In 2025, these issues affected 9.2% of the EU population. The highest regional shares across NUTS level 2 regions were recorded in the south-eastern part of the EU, as well as in some of the French outermost regions.

In 2 western regions of Greece, more than half of the population was falling behind on payments for mortgages, rent, utilities or hire purchase agreements in 2025:

- the highest share in the EU was recorded in the island region of Ionia Nisia, where approximately two thirds (66.3%) of the population faced such an economic strain
- the second highest share was in the mainland region of Dytiki Elláda (50.7%).

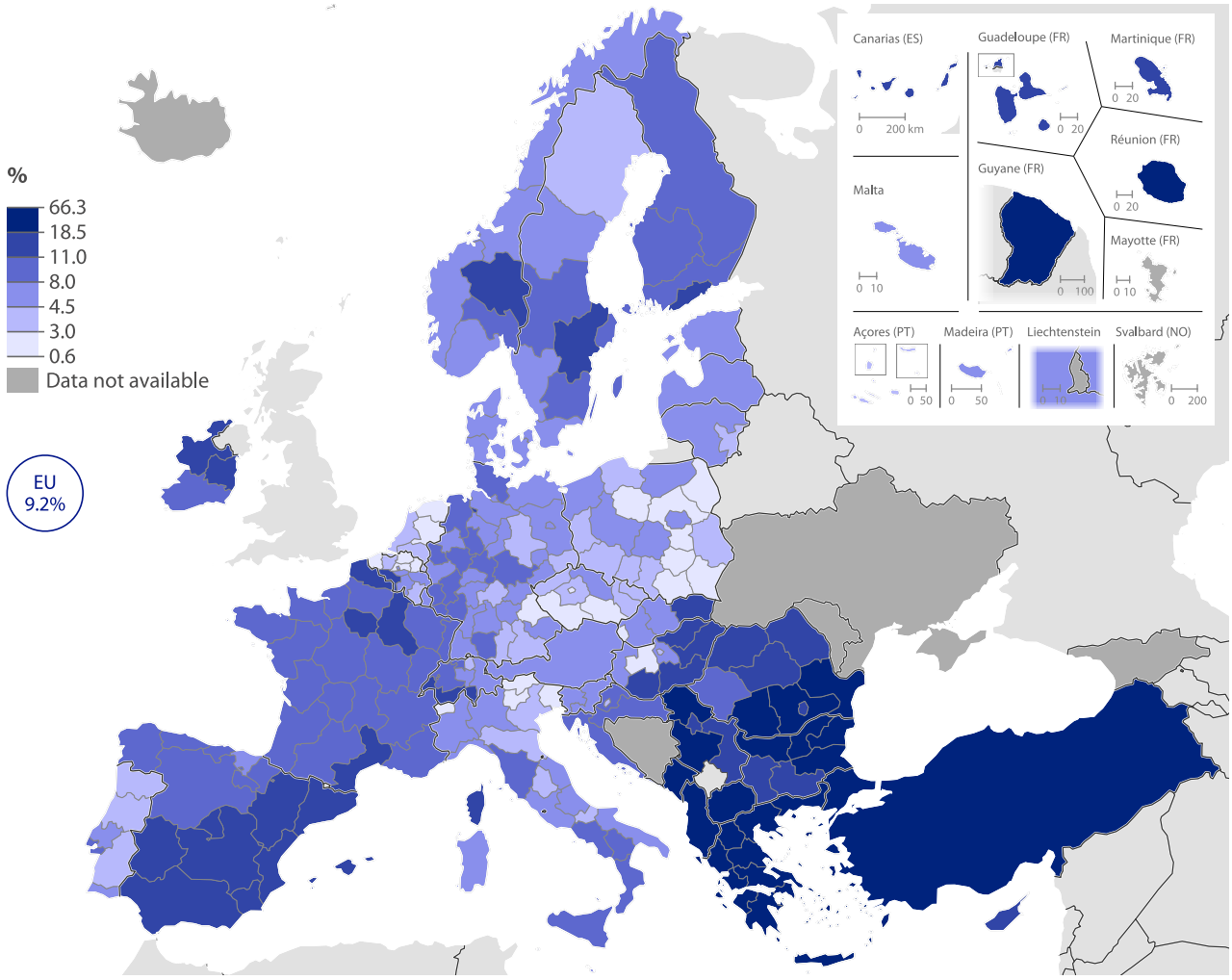
The share of people in arrears on mortgage, rent, utility bills or hire purchase payments was more than twice the EU average in 24 regions, as shown by the darkest shade in Map 5.6. This group included all 13 regions of Greece (which recorded the 13 highest regional shares in the EU), 4 regions of Bulgaria, 3 regions of Romania, as well as 2 French outermost regions and the autonomous Spanish regions of Ciudad de Ceuta and Ciudad de Melilla.

By contrast, the northern Italian region of Provincia Autonoma di Trento (0.6%) had the lowest share of people falling behind on payments for mortgages, rent, utilities or hire purchase agreements in 2025. There were 21 other regions across the EU where the share of people in arrears was less than 3.0%:

- 6 regions from central and eastern Poland
- 4 regions from northern Belgium
- 3 regions from Czechia, including the capital region of Praha
- 3 further regions from northern Italy (in addition to Provincia Autonoma di Trento)
- 2 regions from the east of the Netherlands (NUTS level 1)
- single regions from Germany and Hungary
- the capital region of Bratislavský kraj in Slovakia.

The cost-of-living crisis reflects prices increasing at a faster pace than wages, resulting in a decline in purchasing power. The initial surge in food, energy and other goods and services prices may be attributed, at least in part, to Russia's military aggression against Ukraine, which began in 2022. Although inflation moderated, price levels remained historically high. More recent developments in Iran and the wider region led to renewed concerns about upward pressure on energy prices and knock-on effects across other sectors, including transport, travel, fertiliser production and global agricultural output.

**Map 5.6: Arrears on mortgage, rent, utility bills or hire purchase**
(% of population, by NUTS 2 regions, 2025)




Note: the Netherlands, NUTS level 1. Austria, Albania and Türkiye: national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_mdes05_r and ilc_mdes05)

***In the Greek region of Dytiki Elláda, more than 3 in 10 people were unable to keep their home adequately warm in 2025***

In 2025, some 8.8% of the EU population lived in a household that struggled to keep their home adequately warm. Map 5.7 shows that the economic strain on households to keep their homes adequately warm (as shown by the darkest shade in the map) was particularly concentrated in southern EU countries, as well as in Bulgaria and Lithuania. There were 21 NUTS level 2 regions where at least 17.5% of the population lived in households struggling to keep their homes adequately warm. As was the case for the share of people falling behind on payments for mortgages, rent, utilities or hire purchase agreements, the 2 highest regional shares were observed in western Greece (although the order of these 2 regions was reversed):

- the highest share in the EU was recorded in the mainland region of Dytiki Elláda (30.4%)
- the second highest share was in the island region of Ionia Nisia (25.8%).

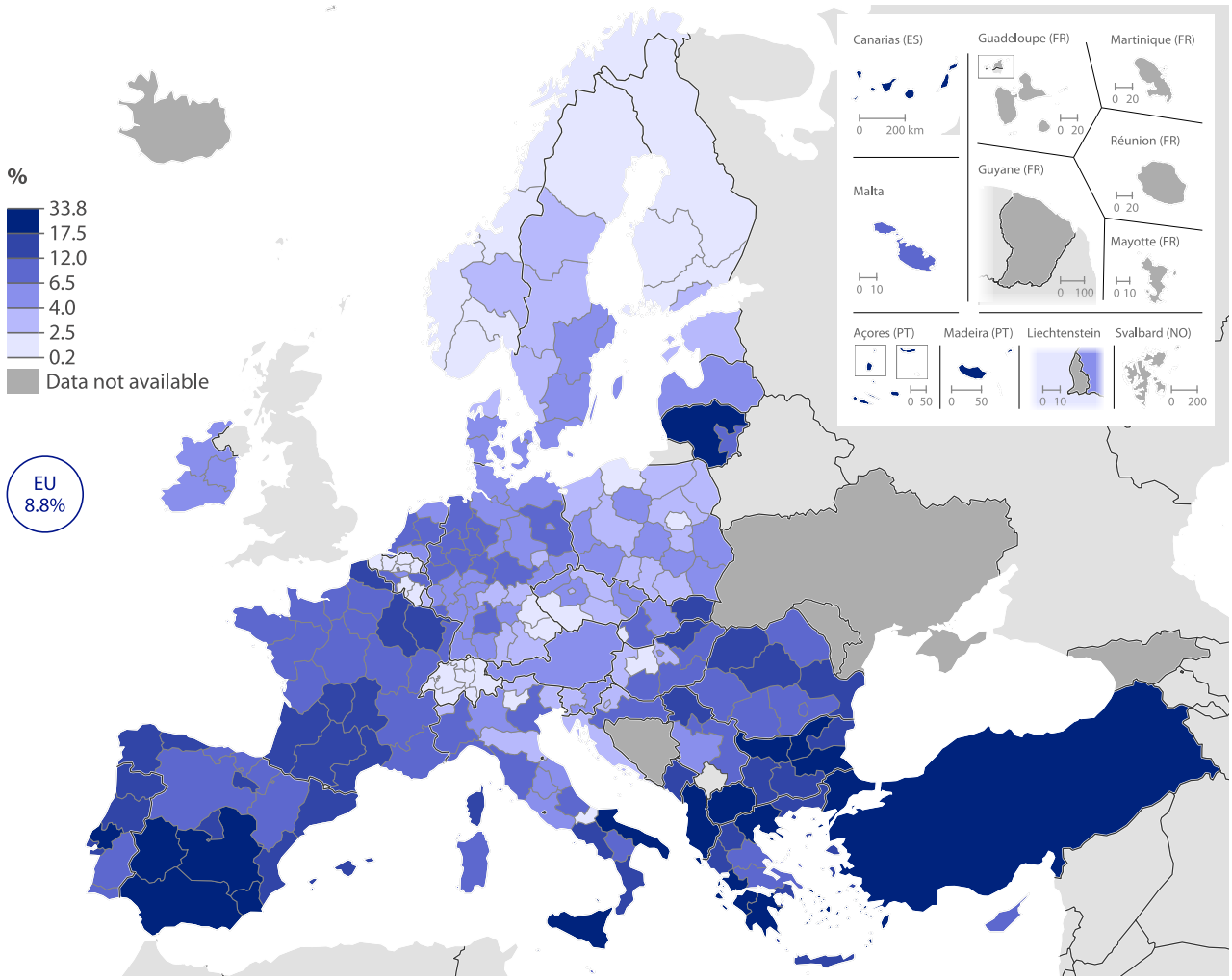
There were 3 additional regions from Greece – Kentriki Makedonia, Peloponnisos and Notio Aigaio – where, in 2025, more than a fifth of the population lived in a household struggling to keep their home adequately warm. This pattern was repeated in the Portuguese regions of Região Autónoma dos Açores and Oeste e Vale do Tejo, as well as in the Spanish autonomous region of Ciudad de Ceuta.

By contrast, across many regions of Belgium and Finland, a relatively small proportion of people lived in households unable to keep their home adequately warm. In 2025, there were 21 NUTS level 2 regions where less than 2.5%

of the population lived in a household facing this form of economic strain:

- 7 regions from Belgium, including Prov. Antwerpen (which had the lowest share in the EU, at 0.4%)
- 4 regions from Finland
- 2 regions from each of Germany, Italy and Poland (including the capital region of Warszawski stołeczny)
- single regions from Czechia, Hungary and Sweden
- Bratislavský kraj, the capital region of Slovakia.

**Map 5.7: Inability to keep the home adequately warm**
(% of population, by NUTS 2 regions, 2025)




Note: the Netherlands, NUTS level 1. Austria, Albania and Türkiye: national data. Länsi-Suomi (FI19) and Åland (FI20) are aggregated (same value for both regions). Switzerland, North Macedonia and Serbia: 2024. Montenegro and Albania: 2023.

*Source:* Eurostat (online data codes: ilc_mdes01_r and ilc_mdes01)

## Criminal justice

### More about the data: crime and criminal justice statistics

The statistics presented in this section are based on official figures for police-recorded offences (criminal acts), classified according to the International classification of crime for statistical purposes (ICCS).

The number of police-recorded crimes varies considerably across the EU. This may reflect, among other factors, differences in the likelihood of reporting crimes to the police (especially minor offences), variations in national legislation and different police practices for recording crimes. As such, Eurostat advises against cross-country comparisons; instead, the data presented in this section should be analysed within individual countries (inter-regional comparisons).

The data shown in this section are based on crime rates, defined as the number of police-recorded crimes per 100 000 inhabitants for NUTS level 2 regions. Only national data are available for the Netherlands and Sweden, while data for Italy (as well as Albania) refer to 2023.

Domestic burglary is defined as breaking in and stealing, in other words, getting unauthorised access to a dwelling for theft or intent of theft (with or without forcing locks, doors, windows and so on). Theft is defined as taking property unlawfully – without violence, force, threat, coercion or deception – with the intent to keep it permanently without consent.

Intentional homicide is defined as killing a human being wilfully and illegally; in other words, the intent was to cause death or serious injury, but not necessarily that it was planned beforehand. This is a wider concept than murder, for which also planning and other criteria are considered. Intentional homicide statistics:

- include murder, deadly assault, assassination, terrorism, femicide, infanticide, voluntary manslaughter, extrajudicial killings and illegal killing by police or military
- exclude attempted homicide, justifiable self-defence, assisted suicide, euthanasia and abortion.

Special care should be taken when analysing the statistics presented below, as there may be very low counts of intentional homicides in some regions. Counts can vary considerably over time, especially in jurisdictions with small populations, whereby a small increase/decrease in the number of homicides may lead to a relatively large change in crime rates from 1 year to the next.

You can find more information about how crimes are classified across EU regions in the metadata.

Based on the latest information available, there were an estimated 700 700 police-recorded domestic burglaries across the EU in 2024 (including 2021 data for Luxembourg and excluding Ireland, Cyprus and Hungary).

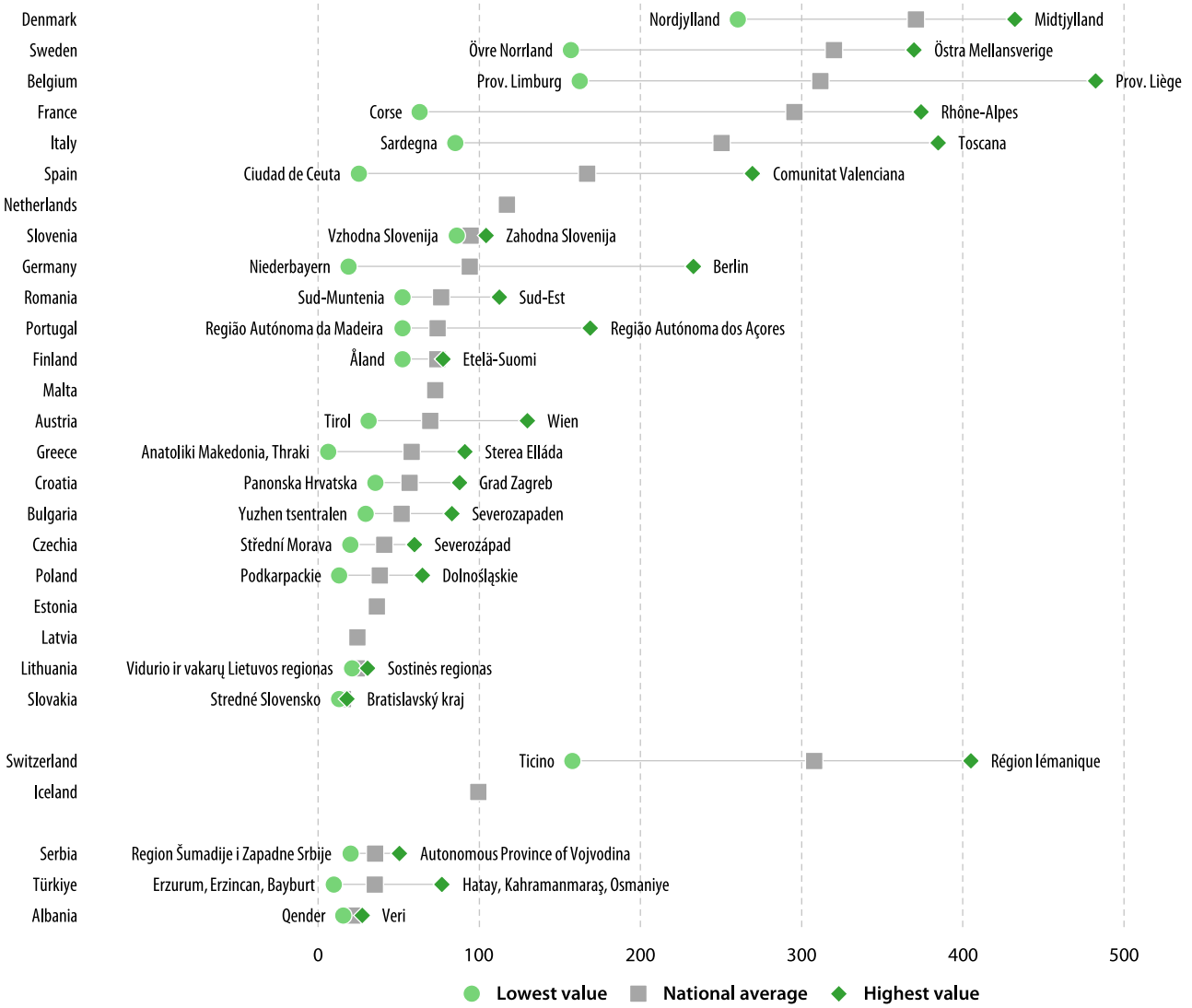
Figure 5.6 highlights the regional distribution of police-recorded offences for domestic burglaries in 2024. Note these figures are normalised, using incidence rates per 100 000 inhabitants to enable more relevant comparisons between regions of different population sizes.

- In Germany, Croatia, Lithuania, Austria, Slovenia and Slovakia, the capital regions of Berlin, Grad Zagreb, Sostinės regionas, Wien, Zahodna Slovenija and Bratislavský kraj – recorded the highest incidence rates for domestic burglaries.
- By contrast, none of the remaining capital regions in multi-regional EU countries recorded the lowest incidence rate for domestic burglaries.

In relative terms (compared with national averages), the highest incidences of domestic burglaries were recorded in the German capital region of Berlin, where burglaries were 2.5 times as likely as the national average. Relatively high indices (more than 1.5 times the national average) were also observed in:

- the Portuguese island region of Região Autónoma dos Açores
- the Austrian capital region of Wien
- the south-western Polish region of Dolnośląskie
- the eastern Spanish region of Comunitat Valenciana
- the north-western Bulgarian region of Severozapaden
- the central Greek region of Sterea Elláda.

**Figure 5.6:** Police-recorded offences – burglaries of private residential buildings
(per 100 000 inhabitants, by NUTS 2 regions, 2024)




Note: the Netherlands and Sweden, national data. Italy and Albania: 2023. Ireland, Cyprus, Luxembourg and Hungary: not available.

*Source:* Eurostat (online data codes: crim_gen_reg and crim_off_cat)

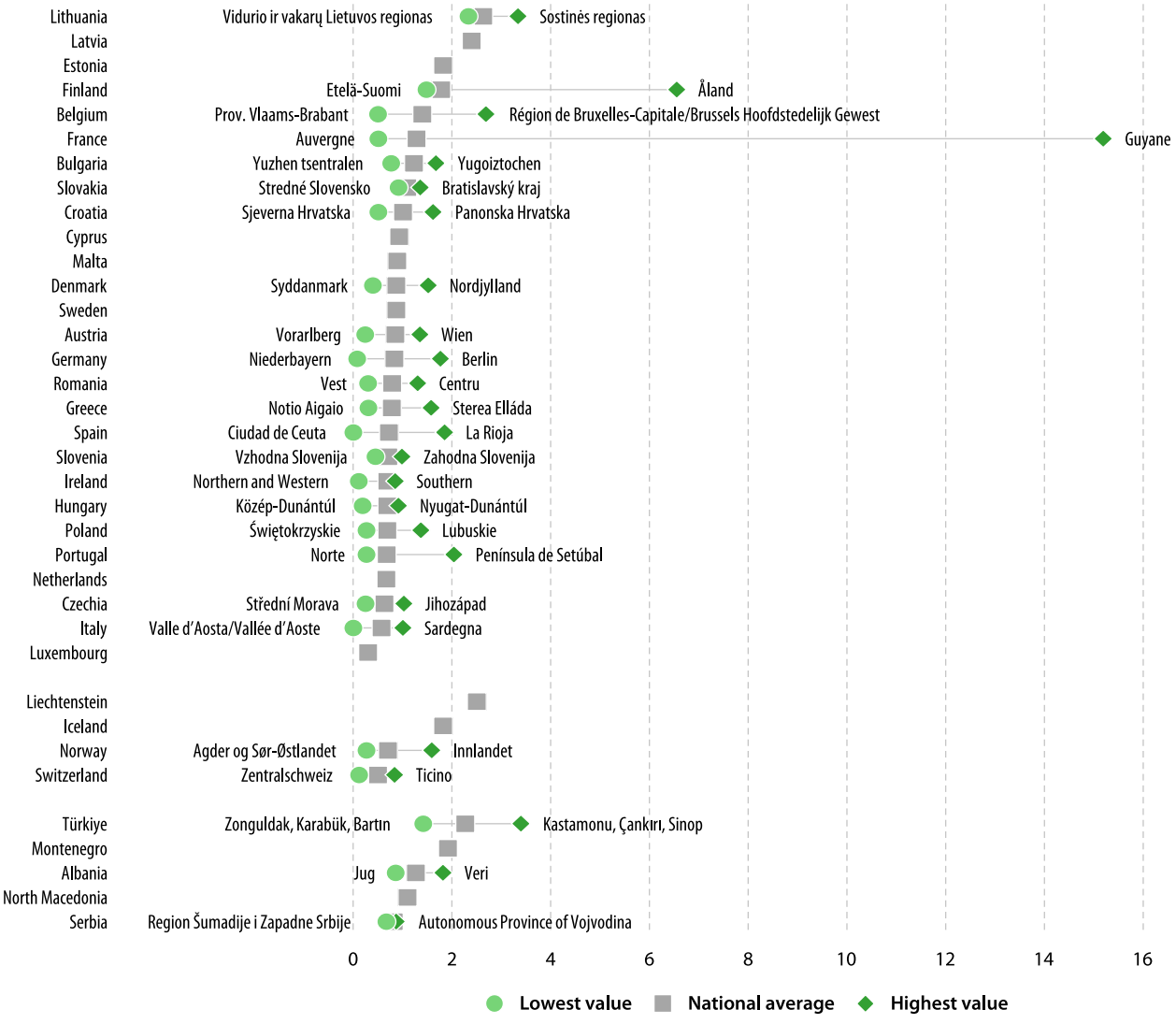
### *Very high incidence of intentional homicide in French outermost regions in 2024*

In 2024, there were 3 950 police-recorded intentional homicides within the EU. Most EU countries had a relatively narrow range of inter-regional variation for incidence rates of intentional homicides. However, there were a few outliers with much higher incidence rates, including several of the outermost regions of France and the Finnish archipelago of Åland.

- In relative terms, Guyane in France had the highest incidence of intentional homicide in 2024, at 11.9 times the French national average. The remaining French outermost regions – other than La Réunion – also recorded high rates: Martinique (6.3 times the national average), Guadeloupe (4.7 times) and Mayotte (4.4 times), while Corse had the next highest rate (3.3 times the national average).
- In Åland, there were 2 intentional homicides in 2024, compared with none the year before. Due to its very small population, this resulted in a high incidence rate that was 3.7 times the national average.

There were 6 multi-regional EU countries where the capital region recorded the highest incidence of intentional homicide in 2024. In Germany, the incidence rate for Berlin was more than twice the national average (2.1 times), with comparatively lower levels of variation observed in Belgium (1.9 times), Austria (1.6 times), Slovenia (1.4 times), Lithuania (1.3 times) and Slovakia (1.2 times). By contrast, the capital regions of Spain, France, Poland, Portugal, Romania and Finland recorded incidence rates that were below their respective national averages.

**Figure 5.7: Police-recorded offences – intentional homicide**
(per 100 000 inhabitants, by NUTS 2 regions, 2024)




Note: the Netherlands and Sweden, national data. Italy and Albania: 2023.

*Source:* Eurostat (online data codes: crim_gen_reg and crim_off_cat)

# 6. Digital society

People use information and communication technologies (ICTs) for work, study, news, communication, entertainment, online transactions and interacting with public services. ICT innovations also create new business opportunities. To take full advantage of these technologies, fast and reliable internet access is essential.

Europe's digital decade policy programme has 12 key policy targets for 2030, among which:

- at least 80% of people aged 16 to 74 should have at least basic digital skills
- at least 75% of EU enterprises should use cloud computing, data analytics, or artificial intelligence in their business operations.

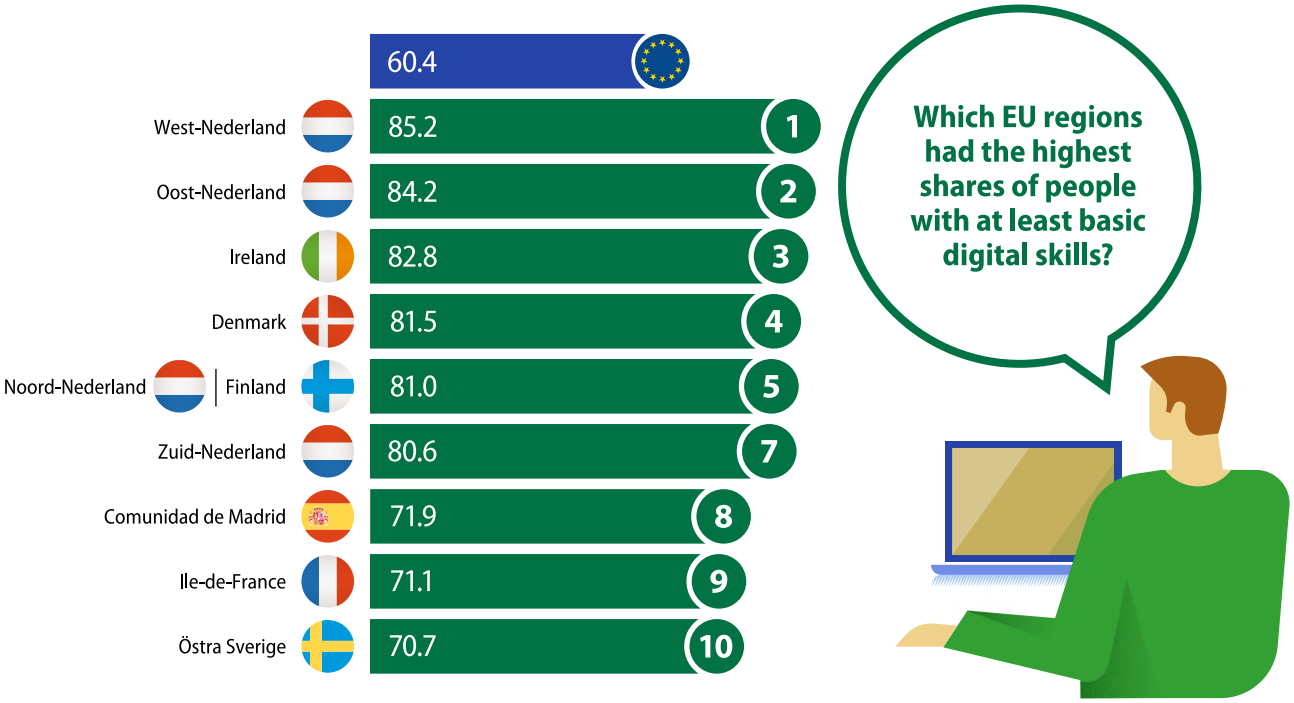
To support these goals, the *Digital Services Act* (Regulation (EU) 2022/2065) regulates online platforms to prevent illegal activities and misinformation, while protecting user rights. Meanwhile, the *Artificial Intelligence (AI) Act* (Regulation (EU) 2024/1689) manages AI risks and promotes trust in AI systems.

**More about the data: survey on the use of ICT in households and by individuals**

The ICT statistics presented in this section cover people aged 16 to 74.

The EU survey on the use of ICT in households and by individuals collects data on ICT usage. It is usually conducted during the second quarter of each year, although the precise date can vary between EU countries. In general, the data presented below usually refer to the first quarter of the reference year; they concern activities carried out by people during the 3 months prior to the survey.

Data are generally presented for NUTS level 2 regions. Exceptions include Germany, Greece and Türkiye (where the data refer to level 1 regions), as well as Croatia, Norway and Albania (where national data are usually presented). The information on digital skills is presented for NUTS level 1 regions (exceptions include Finland where national data are used).




(% of people aged 16–74, by NUTS 1 regions, 2025)

Note: during the 3 months preceding the survey. Finland: national data. France: low reliability. Several regions in Germany: not available.

*Source:* Eurostat (online data codes: isoc_r_dskl_i and isoc_sk_dskl_i21)

Based on data for 2025, the infographic above shows there were 7 NUTS level 1 regions in the EU where more than 4 out of 5 people aged 16 to 74 had at least basic digital skills. The highest shares were recorded in West-Nederland (85.2%) and Oost-Nederland (84.2%), while all 10 of the regions with the highest shares were located in western or Nordic EU countries.

## Daily internet users

Internet access comes in a variety of forms:

- broadband access includes cable and fibre-optic connections that deliver high-speed internet through traditional infrastructure
- wireless access includes options like Wi-Fi and mobile broadband that are generally accessed via routers or cellular networks
- satellite internet reaches remote areas and offers connectivity when other technological options are limited.

Within this section, connection to the internet (or 'access') does not refer to 'connectability' (can a connection be provided in the household's street or local area), but rather to 'connectivity', in other words, whether anyone in the household is able to use the internet if so desired. In 2025, the share of EU households connected to the internet was 94.7%.

Internet users are defined as people aged 16 to 74 using the internet at home, at work, or elsewhere, for private or professional purposes, and regardless of the device or the type of connection used.

***In 2025, almost 9 out of every 10 people aged 16 to 74 in the EU made use of the internet on a daily basis***

In 2025, 89.5% of people aged 16 to 74 in the EU reported using the internet on a daily basis during the 3 months preceding the ICT survey. This share was 1.2 percentage points higher than in 2024 (or 1.4% higher), and 24.2 points higher than in 2015 (or 37.0% higher; note there is a break in series). The last few years have been characterised by slower growth in the proportion of people using the internet on a daily basis, as this indicator approaches saturation for many groups in society (particularly among younger generations).

There were 98 NUTS level 2 regions in the EU where the share of people using the internet daily was above the EU average of 89.5%, while a slightly higher number (110 regions) had a share that was below.

***In 2025, daily internet use exceeded 80.0% in most EU regions, peaking at 100.0% in Flevoland (the Netherlands)***

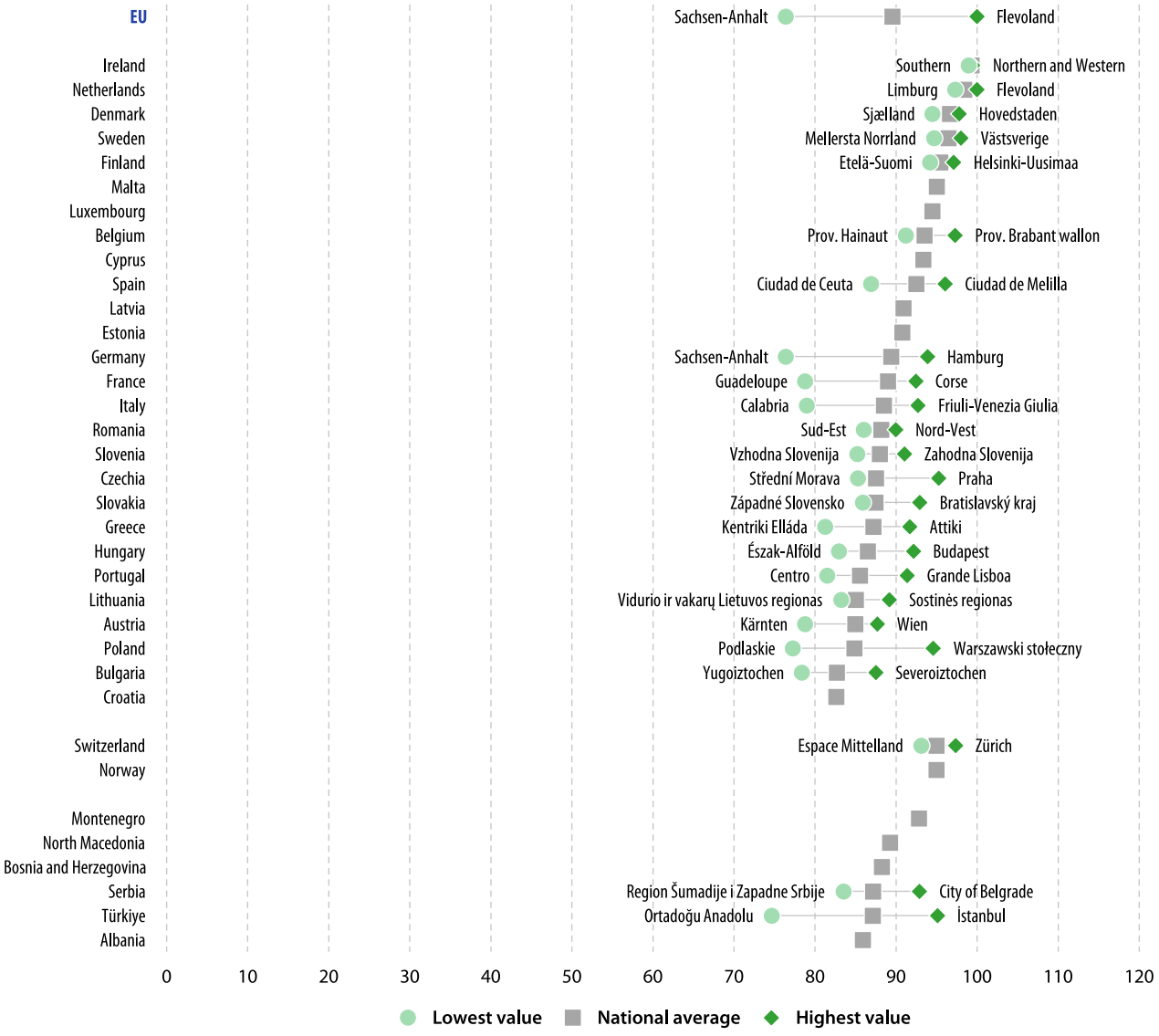
In 2025, the highest proportions of daily internet users were observed in Ireland and the Netherlands. Notably, the Dutch region of Flevoland recorded a peak value of 100.0%. Overall, the 14 EU regions with the highest shares were exclusively located in these 2 countries, with all 3 Irish regions and all but 1 of the Dutch regions included (the exception being the southernmost region of Limburg). Outside of Ireland and the Netherlands, the next highest shares were recorded in the Swedish region of Västsverige and the Danish capital region of Hovedstaden.

At the other end of the distribution, there were 11 regions in the EU where fewer than 80.0% of people used the internet on a daily basis in 2025. This group included 4 regions from Poland, 3 regions from Bulgaria and single regions from each of Germany, France, Italy and Austria. The eastern German region of Sachsen-Anhalt recorded the lowest share of daily internet users, at 76.4%. The next lowest value was observed in the north-eastern Polish region of Podlaskie (77.3%).

Figure 6.1 presents the share of people using the internet daily in 2025, highlighting the highest and lowest regional shares in each country, together with each national average. In most EU countries, regional differences were relatively small. This was particularly the case for countries with high overall shares, such as Ireland, the Netherlands and the Nordic EU countries. By contrast, the widest ranges were observed across Germany, Poland, Italy and France.

- In Germany, Hamburg had the highest share (93.9%) of people using the internet on a daily basis, some 17.5 percentage points above the lowest share that was recorded in Sachsen-Anhalt (76.4%).
- In Poland, the highest regional share was recorded in the capital region of Warszawski stołeczny (94.6%), while Podlaskie had the lowest share (77.3%).
- There was also a relatively wide range in Italy, from a high of 92.7% in Friuli-Venezia Giulia to a low of 79.0% in Calabria.
- In France, the island region of Corse recorded the highest share (92.4%; low reliability), compared with a low of 78.8% in the outermost region of Guadeloupe.

**Figure 6.1:** Daily internet users
(% of people aged 16–74, by NUTS 2 regions, 2025)




Note: during the 3 months preceding the survey. Germany, Greece and Türkiye: NUTS level 1. Croatia, Norway and Albania: national data. Albania: 2024. Corse (FRM0): low reliability. Mayotte (FRY5) and Åland (FI20): not available.

*Source:* Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_ifp_fu)

## Internet activities

The widespread adoption of mobile devices like smartphones and tablets has significantly increased people's use of the internet, while the variety of activities carried out online has also expanded rapidly. Some of the most popular activities on the internet include:

- learning and skills development
- remote work
- accessing information
- entertainment
- staying connected with family and friends
- engaging with government services
- online shopping (e-commerce).

### PARTICIPATION IN SOCIAL NETWORKS

Social networks are online platforms that enable individuals to connect, interact and share content with others. Some of the most popular networks include Facebook, Instagram, TikTok, Snapchat and X. These platforms typically allow users to create personal profiles, share photos and videos, and communicate with others through messaging, comments or other forms of interaction.

While social media has transformed communication and information sharing, it has, in recent years, given rise to a range of concerns (particularly for younger users). These include issues such as excessive screen time and its potential impact on mental well-being and attention spans, the spread of misinformation, as well as issues linked to data privacy and the use of personal information.

***More than 2 out of 3 people across the EU used social networks in 2025***

In 2015, less than half (47.9%) of the EU's population aged 16 to 74 used social networks during the 3 months preceding the ICT survey. Despite a slight decline in 2021, the share of people using social networks in the EU generally rose at a steady pace year on year, reaching 67.3% in 2025, an increase of 2.4 percentage points compared with the previous year.

Among NUTS level 2 regions, the proportion of people using social networks was unevenly distributed around the EU average. In 2025, there were 121 regions that had shares above the EU average and 86 below; Luxembourg had an identical share. Some of the highest shares of people using social networks were concentrated in regions of Denmark, the Netherlands, Romania, Finland and Hungary; similarly high shares were also recorded in Cyprus and Malta, as well as single regions from Greece and Ireland. Indeed, contrary to the situation for most ICT indicators, relatively high shares of social network use were recorded across several regions in eastern and southern EU countries.

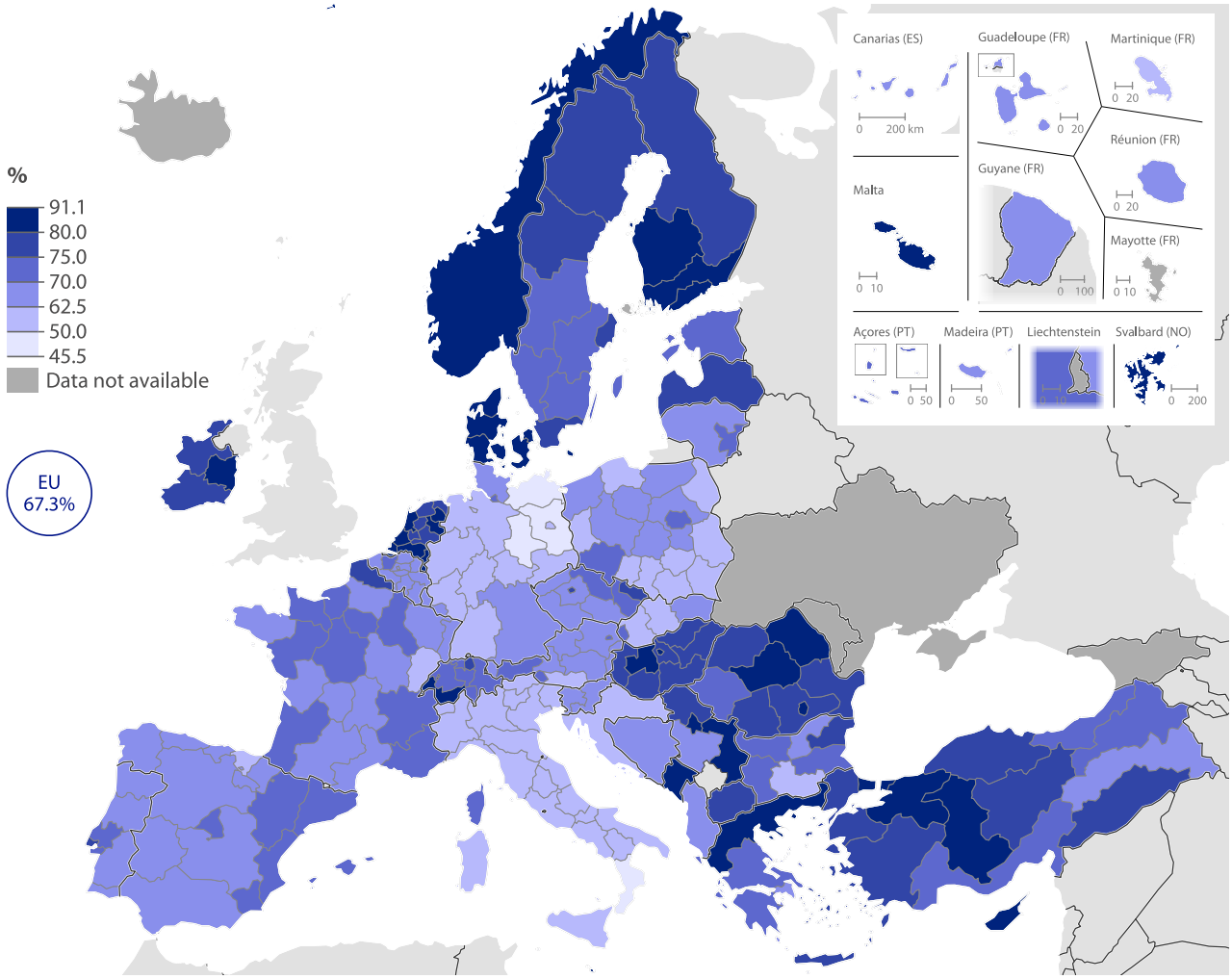
Map 6.1 shows the regional distribution of people aged 16 to 74 using social networks. In 2025, there were 24 NUTS level 2 regions where at least 80.0% of people used social networks. This group included all 5 regions that compose Denmark, including Nordjylland, which recorded the highest share in the EU (91.1%). The rest of this group of 24 regions consisted of:

- 7 regions in the Netherlands (including the capital region of Noord-Holland)
- 3 regions in Romania (including the capital region of Bucureşti-Ilfov)
- 3 regions in Finland (including the capital region of Helsinki-Uusimaa)
- 2 regions in Hungary (including the capital region of Budapest)
- the Irish capital region of Eastern and Midland
- a single region from Greece
- Cyprus and Malta.

At the other end of the distribution, there were 4 regions in the EU that reported less than half of their population aged 16 to 74 using social networks in 2025 (as indicated by the lightest shade in Map 6.1):

- 3 regions in eastern Germany – Mecklenburg-Vorpommern (47.0%), Brandenburg (47.9%) and Sachsen-Anhalt (48.4%)
- a single region in southern Italy – Calabria (45.5%).

**Map 6.1:** Participation in social networks
(% of people aged 16–74, by NUTS 2 regions, 2025)




Note: during the 3 months preceding the survey. Germany, Greece and Türkiye: NUTS level 1. Croatia, Norway and Albania: national data. Albania: 2024. Corse (FRM0): low reliability.

*Source:* Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_ac_i)

## INTERNET BANKING

In recent years, the EU's banking sector has seen significant growth in online services. Consumers now visit their local branch less frequently or not at all, while the number of branches has declined, and online transfers and e-payments have become the norm. Internet banking reduces demand for physical branches and their associated costs. Furthermore, it offers greater convenience, allowing banking transactions and other banking activities to be carried out at any time of day and from almost anywhere. However, while internet banking has numerous benefits, it also presents challenges, such as:

- accessibility issues
- security and privacy concerns
- technical disruptions to services.

***Across the EU, 7 out of 10 people made use of internet banking in 2025***

In 2025, 69.7% of the EU's population aged 16 to 74 used the internet for banking during the 3 months preceding the ICT survey. Map 6.2 shows the share of people using internet banking across NUTS level 2 regions. Some of the highest regional shares were recorded in the Baltic and Nordic EU countries, Czechia, Ireland, the Netherlands and several regions of Belgium and France.

In 2025, at least 95.0% of people used internet banking in every region of Denmark, as well as in 8 of the 12 regions in the Netherlands, two regions of Finland and the Irish capital region. The Danish region of Syddanmark recorded the highest regional share of people using internet banking, at 98.4%.

The share of people making use of internet banking was often higher in capital regions than in surrounding regions. In 2025, this pattern was evident in Yugozapaden (Bulgaria), Praha (Czechia), Eastern and Midland (Ireland), Attiki (Greece), Sostinės regionas (Lithuania), Budapest (Hungary), Wien (Austria), Warszawski stołeczny (Poland), Grande Lisboa (Portugal), Bucureşti-Ilfov (Romania), Zahodna Slovenija (Slovenia) and Bratislavský kraj (Slovakia).

***In 2025, the lowest shares of people using internet banking were recorded in Bulgaria, and Romania***

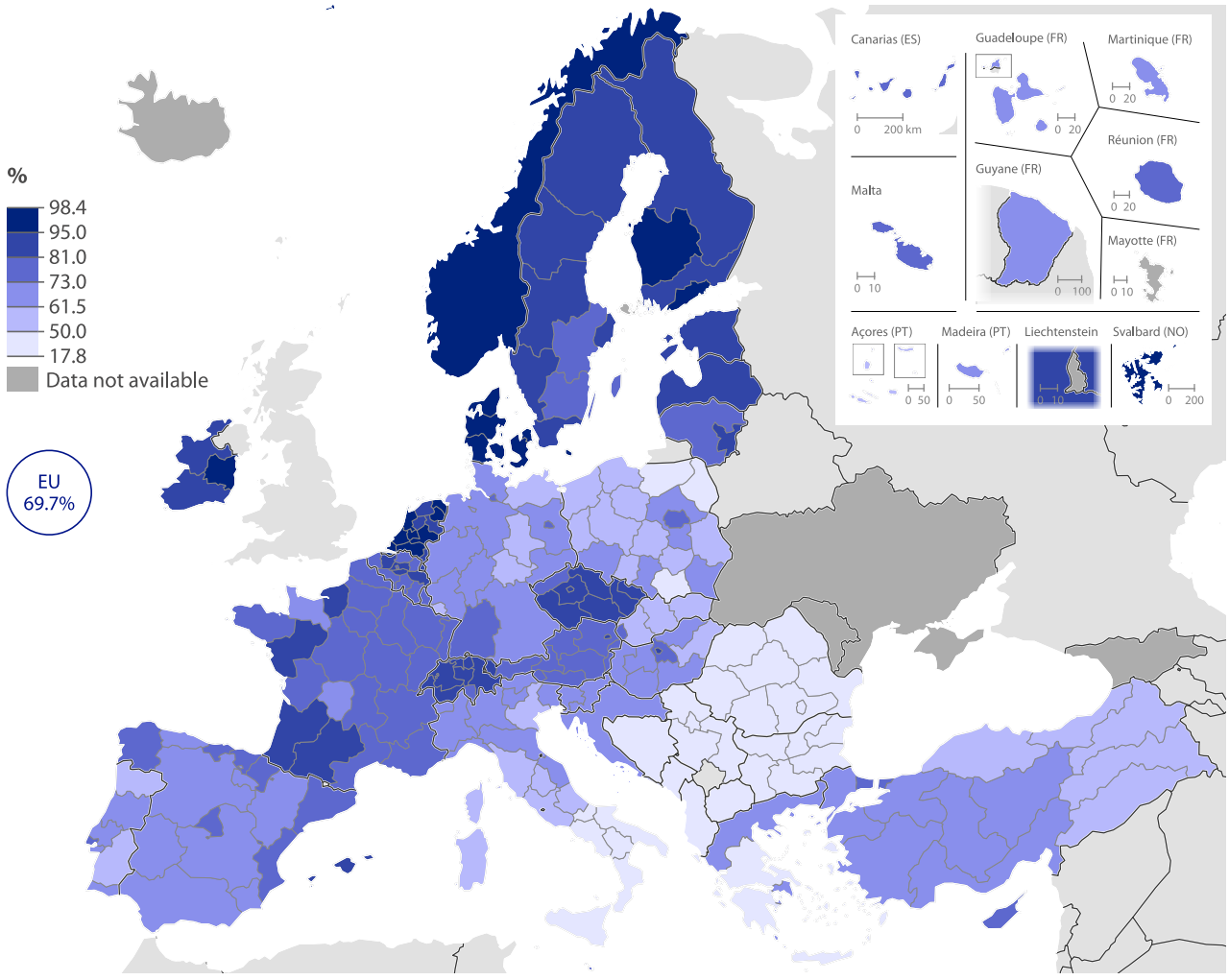
Several eastern and southern regions of the EU had relatively low shares of people aged 16 to 74 using internet banking. In 2025, this was particularly the case in Bulgaria, Romania, and – to a somewhat lesser extent – parts of Greece, southern Italy and eastern Poland. This pattern might be attributed to a range of different factors, as many of these regions:

- were predominantly rural, characterised by relatively low levels of internet connectivity and digital literacy
- had relatively elderly population structures, with a preference for cash transactions and concerns about online banking security.

The lowest shares of people making use of internet banking were recorded in the Romanian region of Sud-Vest Oltenia (17.8%) in 2025 and the Bulgarian regions of Yugoiztochen (21.7%) and Yuzhen tsentralen (25.0%). Indeed, every region of Bulgaria and Romania reported that less than half of its population used internet banking. This was also the case in several other EU regions, including:

- the southern Italian regions of Calabria, Campania, Basilicata, Molise, Sicilia and Puglia
- the Polish regions of Warmińsko-mazurskie, Małopolskie and Podlaskie
- the Greek regions of Nisia Aigaiou, Kriti and Kentriki Elláda.

**Map 6.2:** Use of internet banking
(% of people aged 16–74, by NUTS 2 regions, 2025)




Note: during the 3 months preceding the survey. Germany, Greece and Türkiye: NUTS level 1. Croatia, Norway and Albania: national data. Albania: 2024. Corse (FRM0): low reliability.

*Source:* Eurostat (online data codes: isoc_r_iuse_i and isoc_ci_ac_i)

## ONLINE INTERACTION WITH PUBLIC AUTHORITIES

Online interaction with public authorities refers to the use of digital services that enable individuals and businesses to access administrative procedures, information and support online. It is a key element of the EU's eGovernment and digital public services strategy, aiming to improve accessibility, efficiency, transparency and cross-border public service delivery, such as submitting tax declarations, applying for social benefits, registering a business or managing a digital identity.

In 2025, more than half (57.7%) of the EU population aged 16 to 74 reported using the internet to interact with public authorities, reflecting the continued expansion of digital public services across EU countries. Note that the recall period for this indicator differs from that used elsewhere in this section, as the data relate to interactions during the 12 months preceding the ICT survey.

Use of specific e-government services varied considerably depending on the type and complexity of the interaction. The most frequently used service across the EU was accessing personal data held by public administrations (41.3% in the 12 months preceding the ICT survey). There was also a strong uptake for a number of other procedures, such as submitting tax declarations online (38.2%) and downloading or printing official forms (36.7%). By contrast, there were lower levels of engagement for other administrative processes: for example, 20.7% of the EU population reported accessing public databases or registers online, while 18.1% used the internet to apply for or request social benefits and entitlements.

In 2025, the highest shares of people using the internet to interact with public authorities were concentrated in the Baltic, Benelux and Nordic EU countries, Ireland, Hungary, and several regions of France (see Map 6.3). The Finnish and Danish capital regions recorded the highest proportions, Helsinki-Uusimaa (93.3%) and Hovedstaden (91.9%), while there were 15 other NUTS level 2 regions where at least 85.0% of the population interacted with public authorities (as shown by the darkest shade):

- 5 regions from the Netherlands
- the 4 remaining regions of Denmark
- the 3 remaining regions of Finland (data for Åland are not available)
- 2 regions from Sweden
- the capital region of Hungary, Budapest.

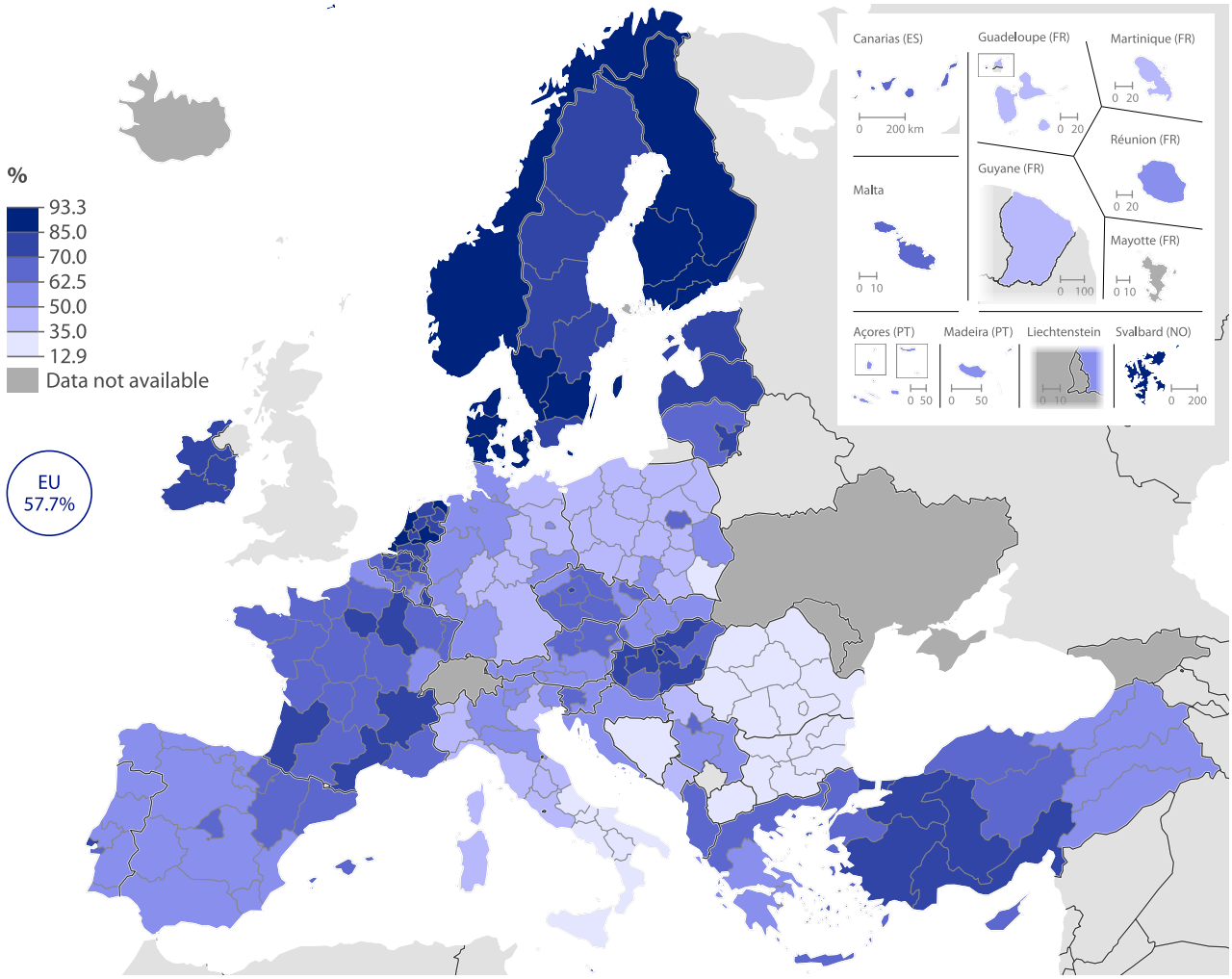
There were 22 NUTS level 2 regions across the EU where fewer than 35.0% of people used the internet to interact with public authorities in 2025 (as shown by the lightest shade). This group included:

- all 8 regions of Romania
- 7 regions in southern Italy
- all 6 regions of Bulgaria
- the south-eastern Polish region of Podkarpackie.

Low shares of people using the internet to interact with public authorities may reflect a broad range of factors, including fragmented and inconsistent provision of public digital services, relatively low levels of basic digital skills within a population, and limited trust in online public services.

Looking in more detail, the lowest shares of online interaction with public authorities were consistently recorded in Romania. Indeed, only 6 regions across the EU reported shares below 20.0% in 2025, and all of these were located in Romania. The lowest share was recorded in Sud-Vest Oltenia (12.9%). By contrast, the share of people making use of the internet to interact with public authorities in the Finnish capital region of Helsinki-Uusimaa (93.3%) was 7.2 times as high as in Sud-Vest Oltenia.

**Map 6.3: Online interaction with public authorities**
(% of people aged 16–74, by NUTS 2 regions, 2025)




Note: during the 12 months preceding the survey. Germany, Greece and Türkiye: NUTS level 1. Croatia, Norway and Albania: national data. Albania: 2024. Corse (FRM0): low reliability.

*Source:* Eurostat (online data codes: isoc_r_gov_i and isoc_ciegi_ac)

## Digital skills

Digital skills have become increasingly important, enabling people to navigate online environments, access information and participate in the digital economy, while also supporting broader learning, working and social opportunities. These skills can help overcome geographical and social barriers; for example, they can help people living in remote regions or from socially disadvantaged groups to make effective use of online services.

The digital decade policy programme provides a framework for Europe's digital transformation, setting common objectives and targets. It reflects the EU's broader ambition to achieve digital sovereignty in an open and interconnected world, supporting an inclusive, sustainable and competitive digital future. The programme sets a number of key objectives, including that at least 80% of the population should have basic digital skills by 2030. While basic digital skills are essential for all, older adults, people with low levels of education and people outside the labour market face higher risks of digital exclusion. By contrast, advanced ICT skills are increasingly important, both for competitiveness and technological sovereignty.

### More about the data: defining digital skills

The digital skills of individuals may be measured through a digital skills indicator. This is a composite indicator covering activities in 5 areas of digital competence.

- Information and data literacy: articulating information needs; locating and retrieving digital data, information and content; judging the relevance of a source and its content; storing, managing, organising digital data, information and content.
- Communication and collaboration: interacting, communicating and collaborating through digital technologies while being aware of cultural and generational diversity; participating in society through public and private digital services and participatory citizenship; managing one's digital identity and reputation.
- Digital content creation: creating and editing digital content; improving and integrating information and content into an existing body of knowledge while understanding how copyright and licences are to be applied; knowing how to give understandable instructions for a computer system.
- Problem-solving: identifying needs and problems, and resolving conceptual problems and problem situations in digital environments; using digital tools to innovate processes and products; keeping up-to-date with the digital evolution.
- Safety skills: protecting devices, content, personal data and privacy in digital environments; protecting physical and psychological health, and being aware of digital technologies for social well-being and social inclusion; being aware of the environmental impact of digital technologies and their use.

To achieve at least a basic overall level of digital skills, individuals must have performed at least 1 activity in each of these 5 areas of competence. For example, within digital content creation, they should have carried out at least 1 of the following: using word processing software; using spreadsheets; editing photos, video or audio files; copying or moving files between folders, devices or cloud storage; creating files combining elements such as text, images, tables, charts, animation or sound; using advanced spreadsheet functions (such as formulas, macros and other developer tools) to organise, analyse or modify data; writing code in a programming language.

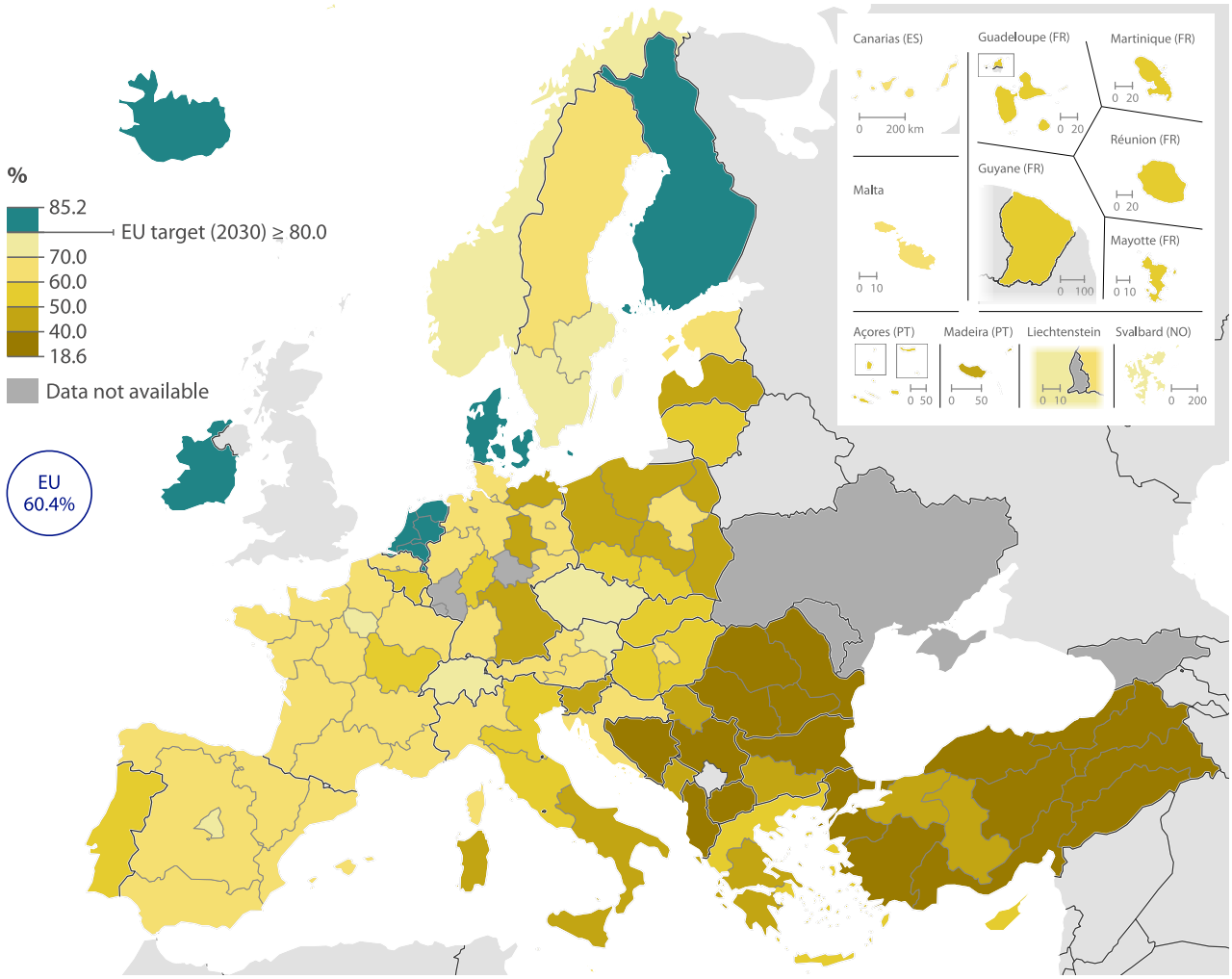
***In 2025, West-Nederland recorded the highest regional share of people with at least basic digital skills, at 85.2%***

In 2025, 60.4% of people aged 16 to 74 in the EU had at least basic digital skills; this figure was 19.6 percentage points below the policy target for 2030. Map 6.4 shows the regional distribution across NUTS level 1 regions; this is relatively homogeneous within individual EU countries, while more pronounced differences could be observed between countries. Across the EU, the regional distribution was slightly skewed, as 49 regions (out of the 87 for which data are available) recorded shares above the EU average, while 38 were below it.

The highest regional shares of people with at least basic digital skills – already at or above the policy target of 80.0% – were recorded in Denmark, Ireland, the Netherlands and Finland. By contrast, the lowest shares were observed in eastern EU countries, in particular Bulgaria and Romania. Looking in more detail, the Dutch regions of West-Nederland (85.2%) and Oost-Nederland (84.2%) had the highest regional shares, while 5 other regions also recorded shares above the policy target of 80.0%: Ireland (82.8%), Denmark (81.5%), the 2 remaining Dutch regions of Noord-Nederland (81.0%) and Zuid-Nederland (80.6%), and Finland (81.0%). There was a notable gap to the next highest share, recorded in the Spanish capital region of Comunidad de Madrid (71.9%).

At the other end of the distribution, the lowest shares of people with at least basic digital skills were concentrated in eastern EU countries. In 2025, there were 5 regions where fewer than 40.0% of people had these skills: all 4 regions from Romania – including Macroregiunea Patru, which recorded the lowest share in the EU (27.1%) – and Severna i Yugoiztochna Bulgaria.

**Map 6.4:** **People with at least basic digital skills**
(% of people aged 16–74, by NUTS 1 regions, 2025)




Note: during the 3 months preceding the survey. Finland: national data. Albania: 2023. Iceland: 2021. France: low reliability.

*Source:* Eurostat (online data codes: isoc_r_dskl_i and isoc_sk_dskl_i21)

## ICT usage in enterprises

The European Commission's priorities for 2024 to 2029 focus on boosting productivity through digital technologies, including investment in areas such as:

- digital infrastructures
- supercomputing, semiconductors, the internet of things and quantum computing
- other strategic technologies (such as artificial intelligence, space, clean tech and biotech).

These policy priorities are expected to have a significant impact on ICT usage in enterprises by accelerating the availability and adoption of advanced digital infrastructures and services. In particular, they are likely to facilitate greater integration of high-performance computing and AI-driven applications into business processes, thereby supporting increased digitalisation, efficiency gains and innovation capacity across enterprises in the EU.

### More about the data: ICT usage in enterprises

The information presented in this section is based on results of an EU survey on ICT usage and e-commerce in enterprises.

Regional ICT statistics are presented for NUTS level 2 regions. They cover enterprises with 10 or more people employed in NACE Sections C to N (excluding K) and Group 95.1, hereafter referred to as the 'non-financial business economy'. Exceptions include Belgium (where the data refer to NUTS level 1 regions) and Germany, Ireland, Greece, France, Italy, the Netherlands, Portugal, Finland, Albania, Serbia and Türkiye (where national data are presented). Data for Romania relate to reference year 2023 instead of 2025.

***More than half of all enterprises in the EU's non-financial business economy made use of business software in 2025***

In 2025, some 53.5% of all enterprises in the EU's non-financial business economy used business software (defined here as software for enterprise resource planning (ERP), customer relationship management (CRM) or business intelligence (BI)). Figure 6.2 highlights that a relatively high proportion of enterprises in Denmark, Finland, Belgium and the Netherlands used business software. By contrast, the share of enterprises using business software was relatively low in several eastern EU countries – in particular, Bulgaria and Romania.

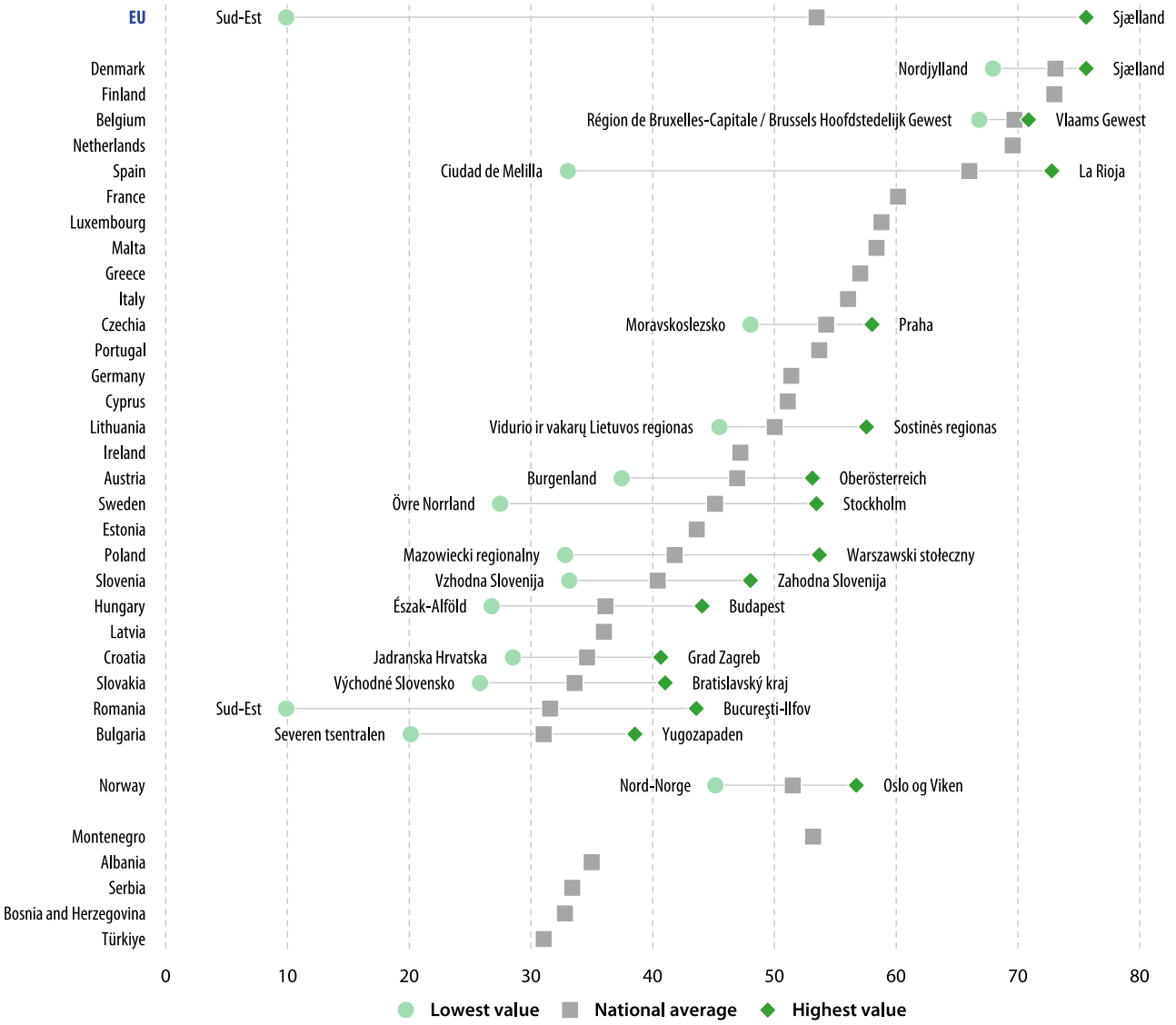
The share of enterprises using business software varied considerably across the EU. In 2025, there were 74 regions (out of a total of 115 for which data are available) that reported shares below the EU average, while 40 regions were above it; the Swedish capital region of Stockholm had an identical share to the EU average. This apparent imbalance is partly due to the use of national data for several EU countries with many regions: for example, France, the Netherlands and Finland are each represented as a single region, and all had shares that were considerably above the EU average. By contrast, Germany – for which only national data are available – had a share that was slightly below the EU average.

At the top end of the distribution, the Danish region of Sjælland recorded the highest share (75.6% of enterprises making use of business software). Several other regions also reported shares of at least 70.0%, including: the Spanish regions of La Rioja, País Vasco, Cataluña and Aragón; the Danish regions of Midtjylland, Syddanmark and Hovedstaden; the Belgian region of Vlaams Gewest; and Finland. In several multi-regional eastern EU countries, capital regions typically recorded the highest share of enterprises making use of business software reflecting a concentration of knowledge-intensive service enterprises and administrative headquarters; this pattern was also evident in Sweden and Lithuania.

In 2025, 8 regions across the EU reported less than a quarter of enterprises using business software. This group comprised 6 regions in Romania (all based on 2023 data) and 2 regions in Bulgaria. Sud-Est (Romania) recorded the lowest share across EU regions with 9.9% of enterprises using business software. There were 2 other Romanian regions that had shares below 20.0%, namely Sud-Vest Oltenia (11.1%) and Sud-Muntenia (13.7%), while Severen tsentralen (20.1%) had the lowest share in Bulgaria.

There were considerable variations in the share of enterprises using business software across many parts of the EU, with particularly pronounced differences in Spain and Romania. In Spain, regional shares ranged from a high of 72.8% in La Rioja down to 33.0% in Ciudad de Melilla. Romania (2023 data) also had a wide range, albeit at generally lower levels, with a peak of 43.6% in București-Ilfov and a low of 9.9% in Sud-Est.

**Figure 6.2:** Enterprises using business software
(% of enterprises, by NUTS 2 regions, 2025)




Note: covers enterprises with 10 or more people employed in NACE Sections C to S (excluding K) and NACE Group 95.1. Business software includes software for enterprise resource planning (ERP), customer relationship management (CRM) or business intelligence (BI). Belgium: NUTS level 1. Germany, Ireland, Greece, France, Italy, the Netherlands, Portugal, Finland, Albania, Serbia and Türkiye: national data. Romania: 2023. Mellersta Norrland (SE32): not available.

*Source:* Eurostat (online data codes: isoc_r_eb_iipn2 and isoc_eb_iipn2)

***Midtjylland in Denmark was the only region in the EU where more than half of enterprises made use of artificial intelligence in 2025***

In 2025, 20.0% of enterprises with 10 or more people employed in the EU's non-financial business economy used artificial intelligence (AI). This share increased considerably in recent years (see below for more details).

### More about the data: artificial intelligence

AI refers to the ability of machines or computers to perform tasks that typically require human intelligence. The statistics presented below concern enterprises making use of at least 1 of the following AI technologies generating pictures, videos, sound/audio:

- performing analysis of written language
- converting spoken language into machine-readable format
- generating written or spoken language or programming code
- identifying objects or persons based on images
- using machine learning
- automating different workflows or assisting in decision-making
- enabling physical movement of machines via autonomous decisions based on observation of surroundings.

As with the previous section on enterprise use of business software, the statistics below are presented for an aggregate covering the non-financial business economy – as defined by NACE Sections C to N (excluding K) and Group 95.1.

In 2025, the Danish region of Midtjylland (50.8%) recorded the highest share of enterprises using at least 1 AI technology (see Map 6.5). There were 7 other regions in the EU with shares of at least 35.0%, including:

- Stockholm, the capital region of Sweden (44.8%), and Västsverige (37.1%)
- Sjælland in Denmark (42.7%)
- the Belgian capital region of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (42.3%; NUTS level 1)
- Finland (37.8%; national data)
- Wien, the capital region of Austria (37.4%), and Vorarlberg (36.4%).

The share of enterprises using AI technologies was particularly low in regions characterised by limited internet use/access. This suggests that structural factors – such as the composition of regional economies or infrastructure gaps – may help explain some of the observed differences. In 2025, the lowest enterprise adoption rates for AI were generally recorded in eastern EU countries. Overall, there were 9 EU regions that reported fewer than 5.5% of enterprises using AI, including:

- Severozapaden (1.8%), Yugoiztochen (4.5%), Yuzhen tsentralen (4.6%) and Severen tsentralen (4.8%) in Bulgaria
- Mazowiecki regionalny (2.9%), which surrounds the capital region of Warszawski stołeczny (where a much higher share was recorded, at 16.0%), Warmińsko-mazurskie (4.5%) and Świętokrzyskie (5.3%) in Poland
- Ciudad de Melilla (3.5%) in Spain
- Romania (5.2%).

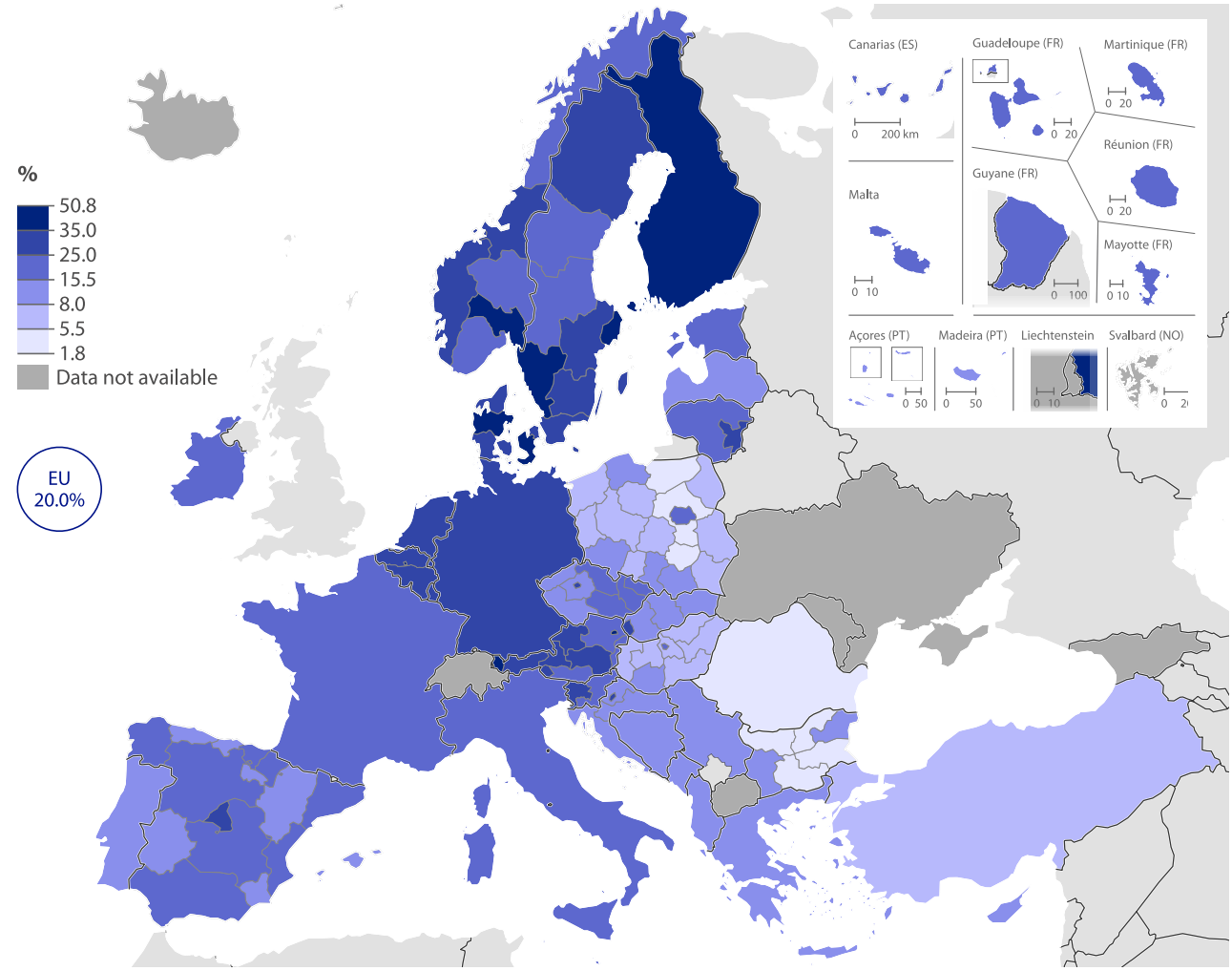
There were considerable inter-regional variations in the share of enterprises making use of AI. In 2025, the largest absolute differences were observed in:

- Denmark, from a high of 50.8% in Midtjylland to a low of 32.1% in the neighbouring region of Nordjylland (a difference of 18.7 percentage points)
- Spain, from a high of 27.4% in the capital region of Comunidad de Madrid to a low of 3.5% in Ciudad de Melilla (a difference of 23.9 points)
- Austria, from a high of 37.4% in the capital region of Wien to a low of 18.3% for the easternmost region of Burgenland (a difference of 19.1 points).

There were also considerable differences in relative terms, for example:

- in Spain, the highest share was recorded in Comunidad de Madrid (27.4%); this was 7.8 times as high as the lowest share in Ciudad de Melilla (3.5%)
- in Bulgaria, the highest share was in the capital region of Yugozapaden (13.3%); this was 7.4 times as high as the lowest share in Severozapaden (1.8%).

**Map 6.5: Enterprises using artificial intelligence**
(% of enterprises, by NUTS 2 regions, 2025)




Note: covers enterprises with 10 or more people employed in NACE Sections C to S (excluding K) and NACE Group 95.1. Belgium: NUTS level 1. Germany, Ireland, Greece, France, Italy, the Netherlands, Portugal, Romania, Finland, Albania, Serbia and Türkiye: national data.

*Source:* Eurostat (online data codes: isoc_r_eb_ain2 and isoc_eb_ain2)

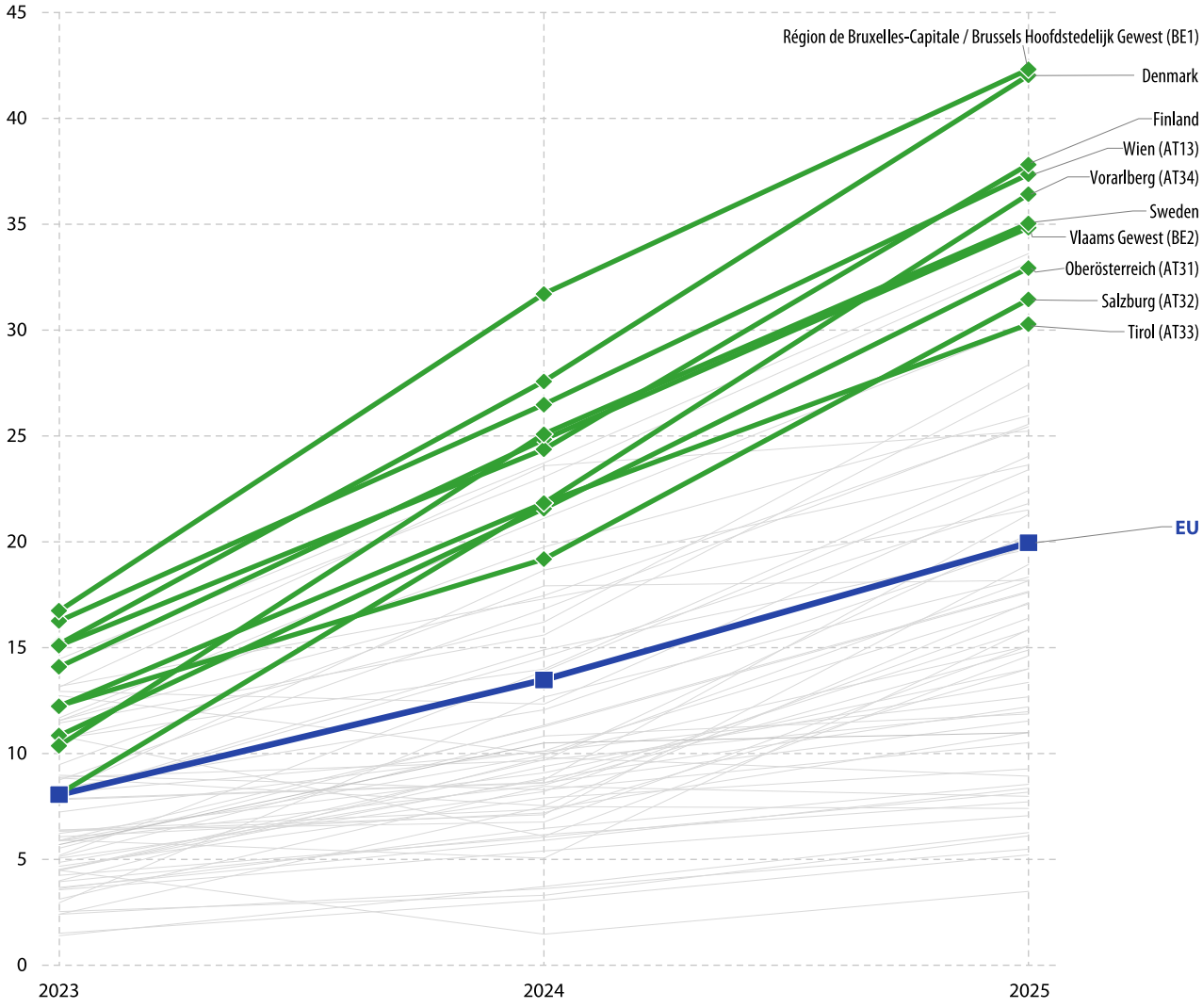
Figure 6.3 also presents information on enterprise use of AI, highlighting those regions (subject to data availability) that recorded the fastest uptake in recent years. Across the EU, the share of enterprises within the non-financial business economy using AI increased from 8.1% in 2023 to 20.0% by 2025, representing a gain of 11.9 percentage points.

A closer look at developments across EU regions indicates that there was a relatively rapid uptake of AI in absolute terms. The most pronounced growth was recorded in Denmark, where the share of enterprises using AI grew from 15.2% in 2023 to 42.0% in 2025 (up 26.8 percentage points). Marked increases were also observed in the Belgian Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (up 25.6 points), Sweden (up 24.7 points) and in the westernmost Austrian region of Vorarlberg (up 24.2 points).

The proportion of EU enterprises using AI in 2025 was 2.5 times as high as in 2023. In relative terms, the strongest growth across regions was recorded in the easternmost Austrian region of Burgenland, where enterprise use of AI was 6.2 times as high (rising from 2.9% in 2023 to 18.3% in 2025). Substantial increases were also observed in Estonia (4.5 times as high; rising from 5.2% to 23.4%) and in the northern Hungarian region of Észak-Magyarország (also 4.5 times as high; rising from 1.4% to 6.3%).

While the share of enterprises using AI increased in recent years for the vast majority of regions, a small number recorded annual declines. Falls were more frequently observed between 2023 and 2024 than between 2024 and 2025, with no region recording a decline for both periods. Between 2023 and 2024, the largest decreases were observed in the Spanish regions of La Rioja (where enterprise use of AI fell from 10.8% to 6.1%), Ciudad de Melilla (from 4.5% to 1.5%) and Principado de Asturias (from 12.7% to 10.0%). The largest decrease between 2024 and 2025 was recorded in Greece, as the share fell from 9.8% to 8.9%.

**Figure 6.3: Enterprises using artificial intelligence**
(% of enterprises, by NUTS 2 regions, 2023–25)




Note: covers enterprises with 10 or more people employed in NACE Sections C to S (excluding K) and NACE Group 95.1. The chart highlights developments for the 10 regions in the EU with the largest increases (in percentage point terms) between 2023 and 2025. Belgium: NUTS level 1. Bulgaria, Czechia, Denmark, Germany, Ireland, Greece, France, Italy, Lithuania, the Netherlands, Poland, Portugal, Romania, Finland and Sweden: national data (incomplete or not available for NUTS level 2).

*Source:* Eurostat (online data codes: isoc_r_eb_ain2 and isoc_eb_ain2)

# Economy and finance

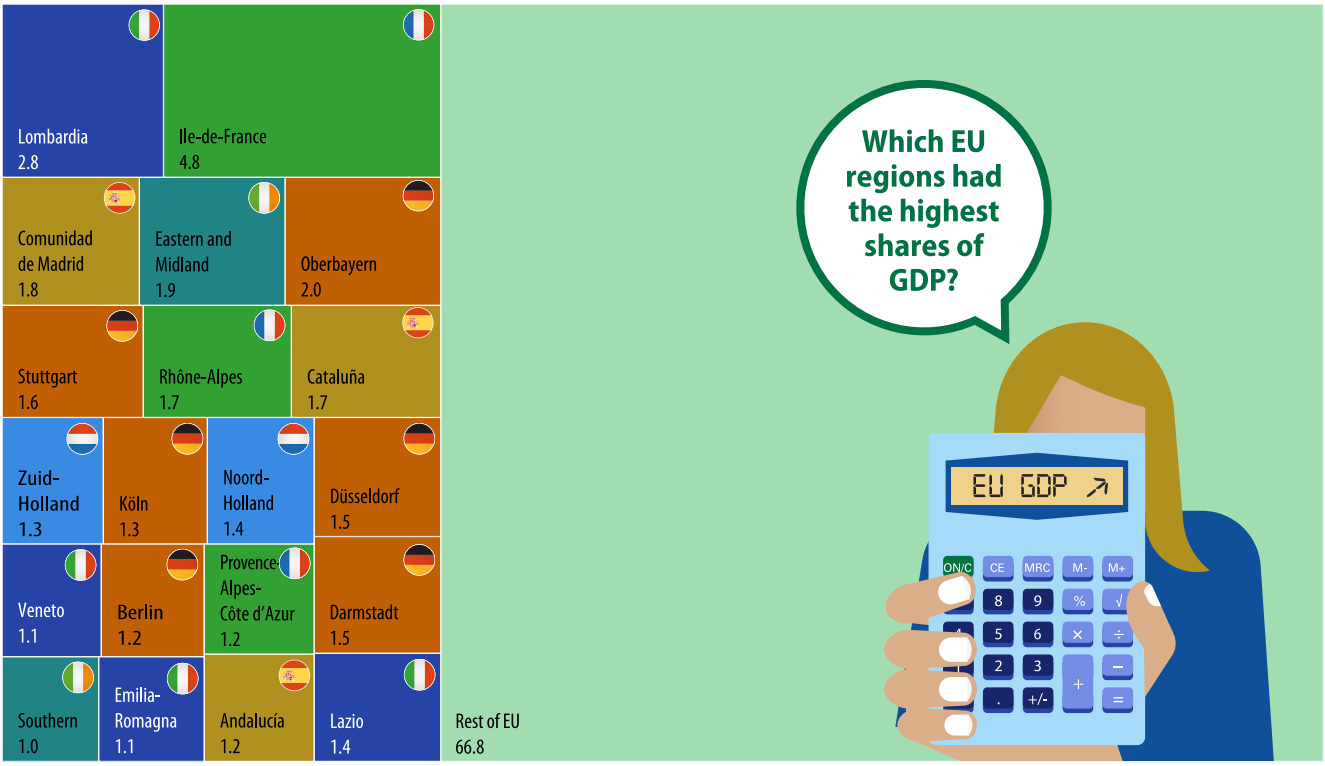


# 7. Economy

Between 2008 and 2024, the EU economy grew overall by 18.2% in real terms, despite a series of atypical shocks, including the global financial and economic crisis, the European sovereign debt crisis, Brexit, the COVID-19 pandemic and Russia's war of aggression against Ukraine. Such events have added to structural challenges – including climate change, ageing populations, weak productivity growth, inequality, and territorial disparities – while also exacerbating policy-driven issues such as energy security/supply and defence spending, as well as cyclical pressures like the cost-of-living crisis.

The EU's gross domestic product (GDP) has fluctuated widely in recent years, reflecting the impact of these atypical shocks, with economic activity contracting in 2009 (down 4.3%), 2012 (down 0.8%) and 2020 (down 5.6%). By contrast, there were strong rebounds in 2021 (up 6.4%) and 2022 (up 3.5%), followed by modest rates of growth in 2023 (up 0.4%) and 2024 (up 1.1%).

The French capital region of Ile-de-France had the largest share of the EU's GDP (4.8%) in 2024, nearly twice that of Lombardia in northern Italy (2.8%). There were 17 other regions that accounted for more than 1.0% of the EU's GDP, including 6 from Germany, 3 from each of Spain and Italy, and 2 from each of France and the Netherlands. Among these 19 regions with the highest shares, 6 were capital regions – namely, those of France, Ireland, Spain, Italy, the Netherlands and Germany. These 19 regions with the highest shares of the EU's GDP collectively accounted for 32.2% of economic output. By comparison, the 170 regions across the EU with the lowest levels of GDP together contributed a similar share (32.3%).




(% share of EU total, by NUTS 2 regions, 2024)

*Source:* Eurostat (online data code: nama_10r_2gdp)

# Regional gross domestic product (GDP) and gross value added

The EU's GDP at market prices was €18.0 trillion in 2024, equivalent to an average of €39 900 per inhabitant. However, behind these aggregate figures, the performance of individual regions varied considerably. Patterns of regional economic development are explored in more detail below.

## LARGEST REGIONAL ECONOMIES IN THE EU

In 2024, 10 NUTS level 2 regions within the EU had GDP exceeding €250 billion. The French capital region, Ile-de-France, had by far the largest regional economy (€866 billion), followed by Lombardia in northern Italy (€505 billion) and Oberbayern in southern Germany (€359 billion). Three other regions had GDP above €300 billion: Eastern and Midland (the capital region of Ireland), Comunidad de Madrid (Spain's capital region) and Cataluña (also Spain). The remaining regions within the top 10 had GDP between €250 and €300 billion: Rhône-Alpes (France) and Stuttgart, Düsseldorf and Darmstadt (all Germany).

### More about the data: measuring the size of an economy

The central measure of national accounts, GDP, summarises the economic position of a country or a region. This well-known balance has traditionally been divided by the total number of inhabitants to create the derived indicator of GDP per inhabitant.

While GDP continues to be used for monitoring economic developments, playing an important role in economic decision-making, it is complemented by other indicators to inform policy debates on, for example, social and environmental issues. This is because GDP does not take account of externalities such as environmental sustainability or other issues, like income distribution or social inclusion. These are increasingly seen as important drivers for sustainable development and the overall quality of life.

In order to compensate for price level differences between countries, GDP can be converted using conversion factors known as purchasing power parities (PPPs). The use of PPPs, rather than market exchange rates, results in data being denominated in an artificial common currency unit called a purchasing power standard (PPS). In contrast to euro-based (€) series, a series denominated in PPS tends to have a levelling effect, as countries and regions with very high GDP per inhabitant in euro terms also tend to have relatively high price levels. For example, the cost of living in Luxembourg is generally much higher than the cost of living in Bulgaria.

Regional economic statistics are usually reported in current price (or 'nominal') terms; in other words, their current value during the particular reference year in question. To make comparisons over time, it is usually more revealing to use a volume series, where values are adjusted to take account of price changes; in other words, they have been deflated. During periods of high inflation – such as the recent cost-of-living crisis – a time series presented in current price terms will show faster growth than a volume series. For example, suppose GDP rose from €100.0 billion to €110.0 billion, while inflation was 8.0%. In volume terms using the prices of the first year, GDP in the second year would be €101.85 billion, implying real growth of 1.85%, compared with a 10.0% increase in nominal terms.

***In 2024, GDP per inhabitant in the capital region of Ireland – Eastern and Midland – was 2.7 times as high as the EU average***

Map 7.1 is based on regional GDP per inhabitant, adjusted for purchasing power and expressed as an index relative to the EU average. It is an important measure, reflecting regional wealth and living standards. Furthermore, the EU's cohesion policy uses this ratio to identify less-developed regions, targeting funding at those below 75% or 100% of the EU average, thereby aiming to reduce regional disparities and promote convergence.

In 2024, the distribution of GDP per inhabitant was relatively skewed: 37% of NUTS level 2 regions – 90 out of 244 for which data are available – recorded levels at or above the EU average.

In 2024, the highest levels of GDP per inhabitant in PPS were largely found in:

- a band of regions stretching from the Benelux countries, down through Germany, into Austria and northern Italy
- several of the EU's capital regions, as well as another region in Ireland.

There were 19 NUTS level 2 regions across the EU where GDP per inhabitant was at least 50% above the EU average in 2024. This group included:

- 11 capital regions, namely those of Ireland, Czechia, Belgium, Romania, Denmark, the Netherlands, Hungary, France, Poland, Slovakia and Sweden
- Luxembourg
- the Irish region of Southern
- the German regions of Hamburg, Oberbayern and Stuttgart
- the Dutch region of Utrecht
- the northern Italian region of Provincia Autonoma di Bolzano/Bozen
- the Belgian region of Prov. Brabant wallon.

Among these relatively 'wealthy' regions, the Irish capital region of Eastern and Midland had the highest level of regional GDP per inhabitant; its ratio was 2.7 times as high as the EU average in 2024. There were 2 other regions where GDP per inhabitant was more than 2.0 times as high as the EU average: Luxembourg (2.5) and another Irish region, Southern (2.2).

**More about the data: comparing GDP per inhabitant across EU regions**

Some of the economic differences between regions may reflect the (sometimes artificial) administrative boundaries that are used to delineate regions. It is often the case that part of the income generated in 'wealthy' regions may be attributed to labour input from commuters who live in surrounding regions where, among other possible advantages, housing and other costs may be lower.

In addition, some regions with high levels of GDP are characterised by a strong presence of multinational enterprises. This may distort their levels of economic activity, especially if assets (for example, technology patents) are domiciled in a region. For example, the Southern region of Ireland hosts several of the world's top technology and pharmaceutical businesses.

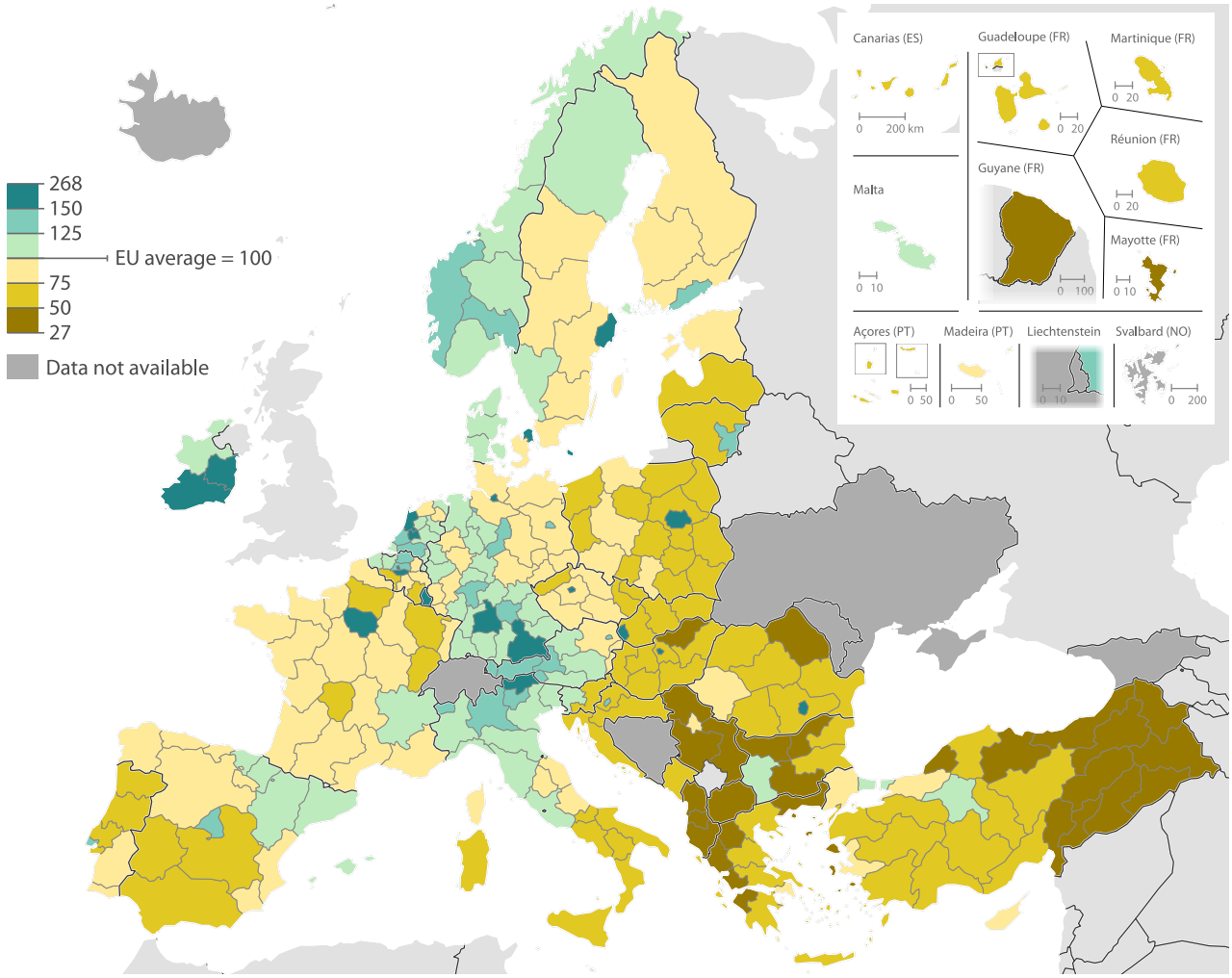
Across the vast majority of EU countries, capital regions had the highest level of GDP per inhabitant. In 2024, there were 3 exceptions:

- Germany, where Hamburg, Oberbayern, Stuttgart, Darmstadt, Bremen and Braunschweig recorded higher levels than the capital region of Berlin
- Italy, where Provincia Autonoma di Bolzano/Bozen, Lombardia, Valle d'Aosta/Vallée d'Aoste, Provincia Autonoma di Trento and Emilia-Romagna recorded higher levels than the capital region of Lazio
- Austria, where Salzburg recorded a higher level than the capital region of Wien.

Map 7.1 also shows that many regions with relatively low levels of GDP per inhabitant were concentrated in south-east Europe or the EU's outermost regions. In 2024, 12 NUTS level 2 regions had GDP per inhabitant below 50% of the EU average:

- 2 French regions, with Mayotte (30%) and Guyane (41%) recording the lowest values across the EU
- 5 Greek regions
- 3 Bulgarian regions
- single regions from Hungary and Romania.

**Map 7.1: GDP per inhabitant**
(index relative to EU average = 100, by NUTS 2 regions, 2024)




Note: based on purchasing power standards (PPS). Albania: 2022. Norway: 2021.

*Source:* Eurostat (online data code: nama_10r_2gdp)

Map 7.2 shows the overall change in GDP across EU regions between 2019 and 2024. It illustrates developments by comparing the last pre-COVID reference year with the most recent available data, highlighting regions that have returned to – or remain below – their pre-pandemic levels of economic activity.

Between 2019 and 2024, the EU's GDP grew overall by 5.6% in real terms. Developments across the 244 NUTS level 2 regions for which data are available varied considerably. A total of 197 regions recorded positive growth, with higher levels of economic activity in 2024 than in 2019. By contrast, GDP fell across 46 regions, and remained unchanged in a single region.

The most robust GDP growth was recorded in the Irish capital region of Eastern and Midland – which also had the highest GDP per inhabitant – as GDP rose 38.0% between 2019 and 2024. The other 2 Irish regions also saw very high increases: Northern and Western up 36.4% (the second highest in the EU) and Southern up 26.0% (sixth highest). Outside of Ireland, the highest growth rates were in:

- the Romanian capital region of Bucureşti-Ilfov (up 33.0%)
- Malta (up 32.9%)
- the French outermost region of Mayotte (up 32.1%).

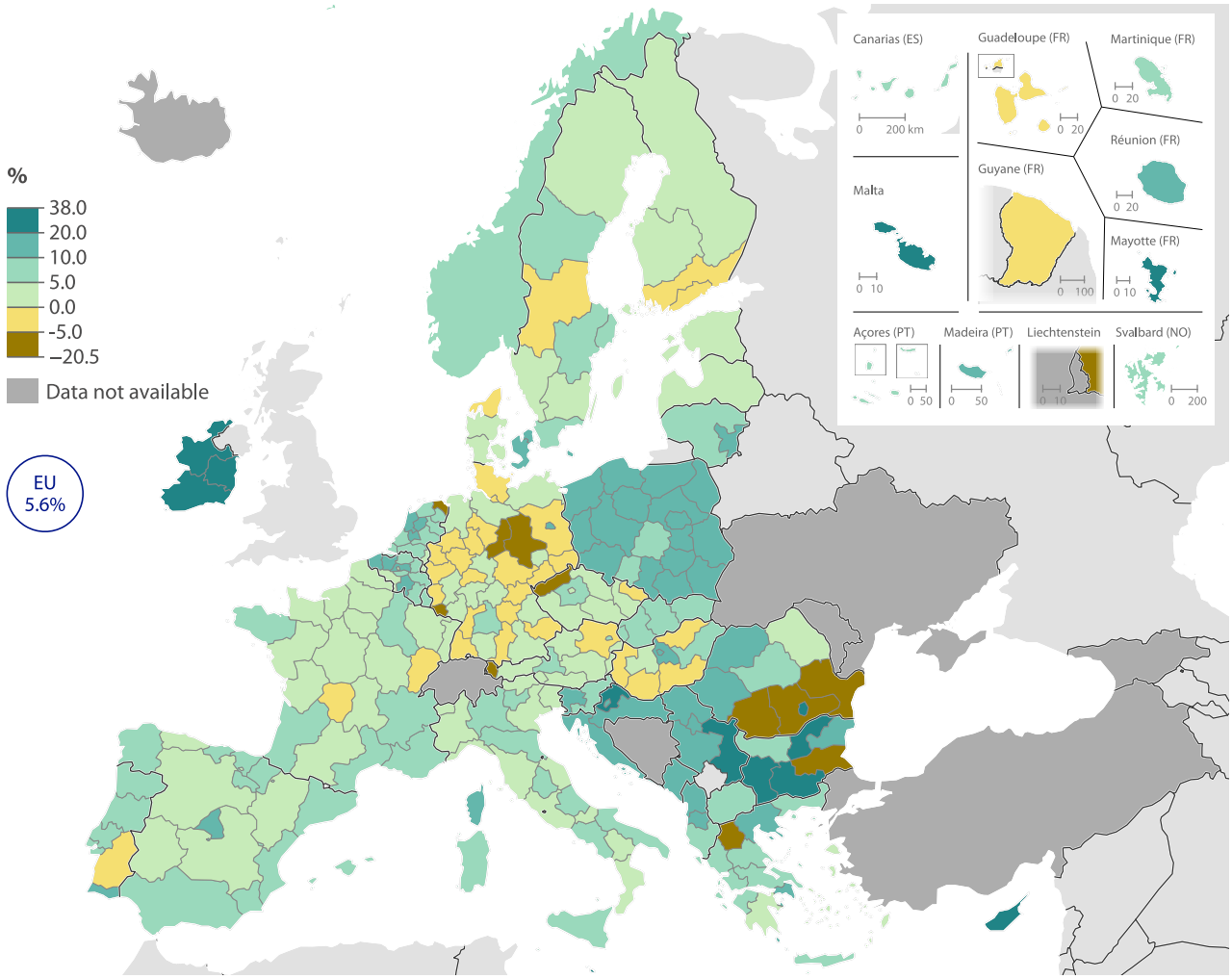
Almost all of the EU's capital regions recorded an expansion in economic activity during the period under consideration, with Helsinki-Uusimaa (Finland) the only exception; its GDP fell 1.9% in real terms.

The largest contraction in economic activity between 2019 and 2024 was registered in the Bulgarian region of Yugoiztochen, where GDP fell 20.5%, reflecting,

among other factors, structural economic challenges, weak investment, low productivity and demographic pressures. There were 4 other regions that recorded double-digit contractions:

- Dytiki Makedonia (Greece)
- Groningen (the Netherlands), where natural gas extraction from the main gas field was phased-out in 2024
- Sud-Muntenia and Sud-Vest Oltenia (both Romania).

**Map 7.2:** Change in GDP
(% in real terms, by NUTS 2 regions, 2019–24)



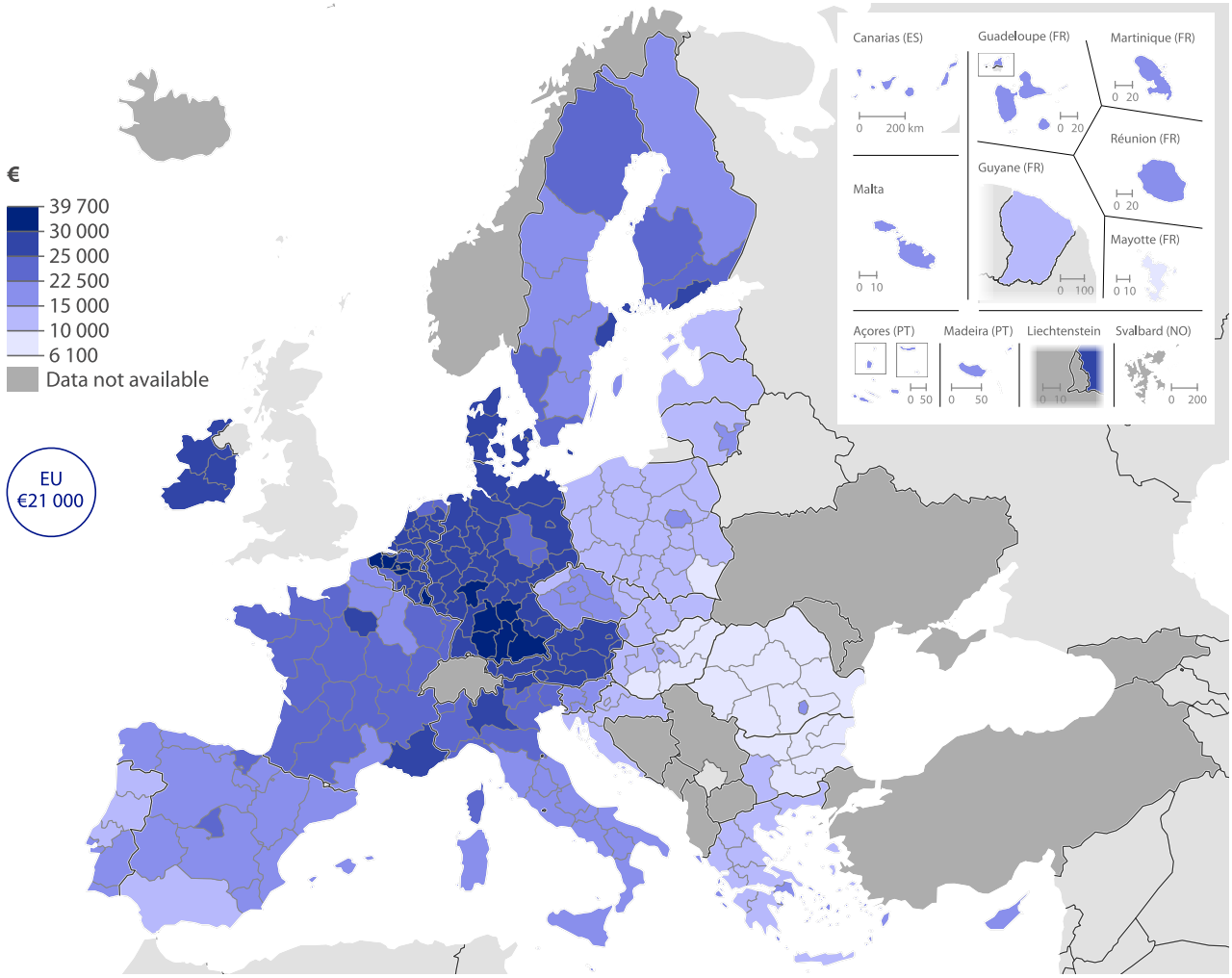

*Source:* Eurostat (online data code: nama_10r_2gvagr)

# Income

## NET DISPOSABLE INCOME

Having analysed GDP from the output side, this section examines income. The focus is on net disposable income, which includes earnings from wages and salaries, self-employment and income from investments such as interest, dividends and rents. Net disposable income represents the total amount of money households have available for spending and saving, after deducting taxes and mandatory social contributions, and including any transfers or benefits they receive from the government.

**Map 7.3: Net disposable income**
(€ per inhabitant, by NUTS 2 regions, 2023)




*Source:* Eurostat (online data code: nama_10r_2hhinc)

In 2023, net disposable income across the EU was €9 461 billion, which was €703 billion higher than in 2022, representing an increase of 8.0%; note that during this period, both wages and salaries and the general cost of living were rising relatively quickly.

When expressed in relation to the total population, net disposable income in the EU averaged €21 000 per inhabitant in 2023. This monetary average was slightly skewed, as 130 out of 244 NUTS level 2 regions for which data are available (53.3% of all regions) had net disposable income per inhabitant higher than the EU average. Map 7.3 shows that some of the highest levels of net disposable income per inhabitant were concentrated in the Benelux countries, Denmark, Germany, Ireland and Austria.

Across NUTS level 2 regions, Luxembourg recorded the highest average, as net disposable income per inhabitant stood at €39 700 in 2023. This was followed, at some

distance, by Oberbayern in Germany (€34 700) and the Belgian region of Prov. Vlaams-Brabant (€31 700). There were 8 other regions where net disposable income was at least €30 000 per inhabitant, 5 of which were in Germany (concentrated in the south) and 3 in Belgium (in the north and centre).

At the other end of the range, there were 18 NUTS level 2 regions where net disposable income was less than €10 000 per inhabitant in 2023:

- a majority were concentrated in Romania (7 regions), Bulgaria (5 regions) and Hungary (4 regions)
- while there were also single regions from France and Poland.

In 2023, the lowest level of net disposable income among NUTS level 2 regions was recorded in the Bulgarian region of Severozapaden (€6 100 per inhabitant). As such, net disposable income per inhabitant in Luxembourg was 6.5 times as high as in Severozapaden. Note that these figures are expressed in euro terms and do not account for differences in local price levels. Regions with high euro-denominated incomes tend to also have a higher cost of living – for example, prices in Luxembourg are generally higher than those in Bulgaria.

## NET DISPOSABLE INCOME PER INHABITANT RELATIVE TO GDP PER INHABITANT

### More about the data: analysing regional statistics for net disposable income

Economic hubs across the EU tend to drive wealth creation. Part of the output generated in these regions, however, comes from commuters who live in surrounding regions (or even other countries). In regional accounts, GDP is recorded where it is generated (the place of work), whereas income is recorded where people live (their place of residence). Consequently, the ratio of net disposable income per inhabitant to GDP per inhabitant is generally lower in regions that concentrate economic activity – for example, capital regions and other major urban centres – and higher in surrounding regions where a significant part of the workforce commutes to work elsewhere.

For example, the regional economy of the Czech capital region of Praha benefits from inflows of commuters from the surrounding region of Střední Čechy. In a similar vein, the relatively high level of GDP per inhabitant recorded in Luxembourg may, at least in part, be attributed to the impact of cross-border commuters from the neighbouring regions of Prov. Luxembourg (Belgium), Trier (Germany) and Lorraine (France).

The types of economic activities located within individual regions also affect the relationship between net disposable income and GDP. In regions specialised in activities characterised by higher levels of productivity (such as pharmaceutical manufacturing or information and communication technology), average wages and salaries tend to be relatively high, while remuneration often represents a smaller share of value added. By contrast, average wages and salaries tend to be lower in regions specialised in less-productive activities, such as agriculture or tourism-related activities.

In 2023, net disposable income averaged €21 000 per inhabitant across the EU, while GDP per inhabitant was €38 400. As such, net disposable income per inhabitant accounted for 55% of GDP per inhabitant. Looking back to 2019, the share of net disposable income in GDP was also 55%, suggesting that disposable incomes have grown at a similar pace to GDP in recent years.

Map 7.4 presents the latest developments in net disposable income per inhabitant relative to GDP per inhabitant; the data are expressed as an index with 2019 set equal to 100.0. This indicator reflects changes in residents' purchasing power relative to regional economic output. Values above 100.0 indicate that disposable incomes grew faster (or declined slower) than GDP between 2019 and 2023, while values below 100.0 indicate slower income growth.

Across NUTS level 2 regions, there were few clear patterns to the development of net disposable income relative to GDP between 2019 and 2023. Lower indices were generally observed in peripheral regions of the EU. By contrast, higher indices were often concentrated along a west–east corridor, starting in France, extending through Belgium and the Netherlands, continuing across Germany and Austria, and reaching into Czechia, Hungary and eastern Poland.

The fastest income growth was concentrated in Czechia, where net disposable incomes rose more than 10% faster than GDP in a majority of regions. The only exceptions were Severovýchod, Praha and Jihovýchod, where incomes still grew faster than economic output.

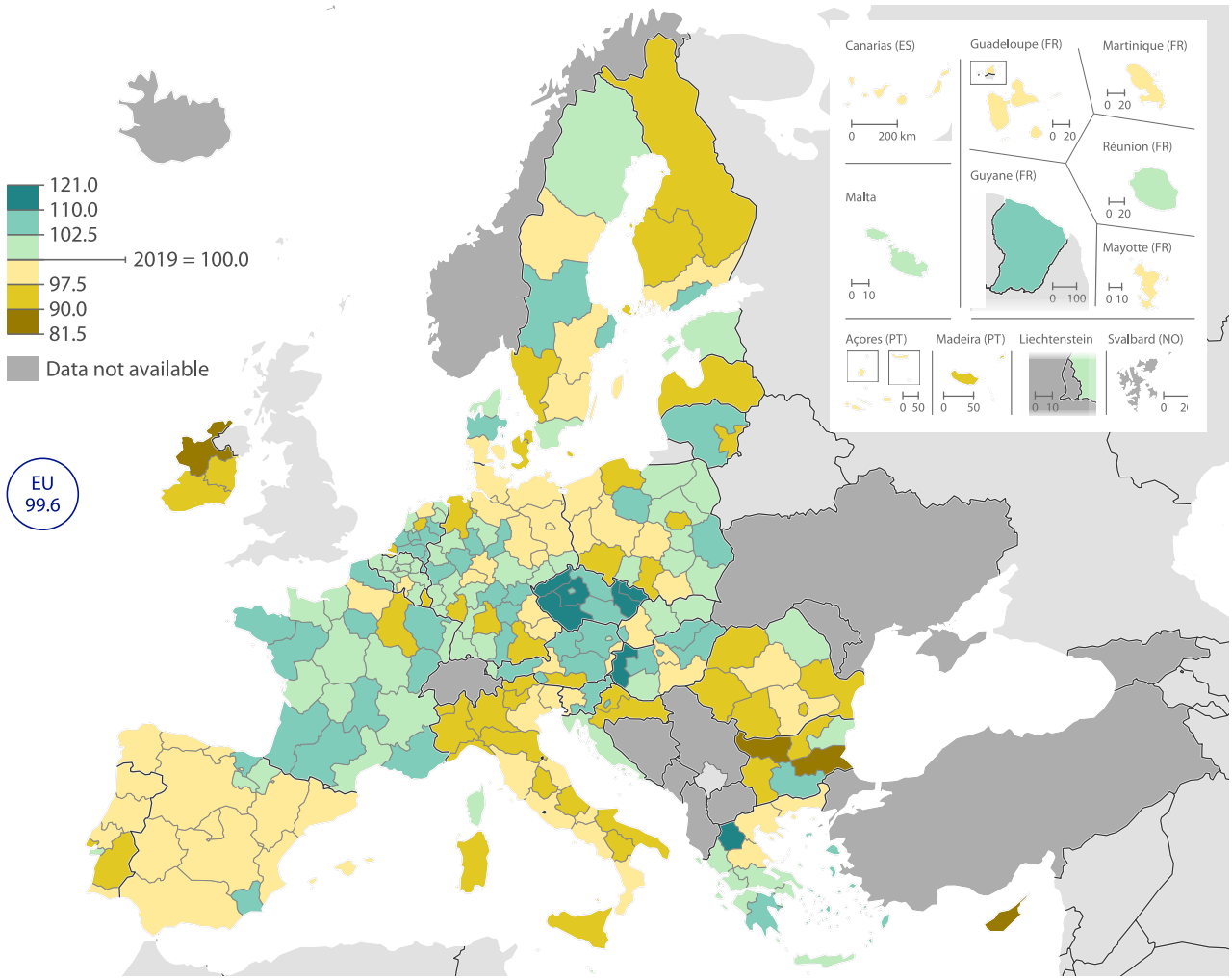
Outside Czechia, only 2 other regions saw income growth exceed GDP growth by more than 10%: Dytiki Makedonia in northern Greece (which recorded the fastest relative growth across the EU) and the westernmost region of Hungary, Nyugat-Dunántúl.

In Dytiki Makedonia, there was almost no change in GDP per inhabitant between 2019 and 2023, up from €15 200 to €15 500 (an increase of 2.0%), while net disposable income per inhabitant grew from €10 700 to €13 200 (an increase of 23.4%).

Between 2019 and 2023, there were 118 NUTS level 2 regions across the EU where GDP grew faster (or declined more slowly) than net disposable income. There were 4 regions that recorded indices in 2023 that were below 90.0, as rapid economic growth outpaced income growth:

- Severozapaden and Yugoiztochen in Bulgaria
- Northern and Western in Ireland
- Cyprus.

**Map 7.4: Net disposable income per inhabitant as a share of GDP per inhabitant**
(index relative to 2019 = 100.0, by NUTS 2 regions, 2023)




*Source:* Eurostat (online data codes: nama_10r_2hhinc and nama_10r_2gdp)

Employee compensation is defined (within national accounts) as remuneration, in cash or in kind (such as a company car or vouchers for meals), payable by an employer to an employee in return for work done; it also includes payments linked to social contributions (such as health or pension contributions).

In 2023, the compensation of employees across the EU was valued at €8.12 billion, compared with €9.46 billion for net disposable income; as such, employee compensation accounted for 85.9% of net disposable income. Across NUTS level 2 regions, this share ranged from a low of 39.9% in the Greek island region of Ionia Nisia to a high of 125.1% in the Danish capital region of Hovedstaden. The high share in Hovedstaden may reflect, among other factors:

- a substantial proportion of compensation being paid in taxes and social contributions
- households acting as net contributors, paying more in taxes and contributions than they receive in benefits (a common feature for 'wealthier' regions)
- high housing costs and borrowing (which can result in negative net property income and reduced levels of disposable income)
- commuting effects (which increase compensation recorded in capital regions).

Alongside the Danish capital region, similar patterns – with shares exceeding 100.0% – were also observed in the capital regions of Ireland, Sweden, Finland, the Netherlands, Croatia and France; this was also the case in Luxembourg. These observations underline that employee compensation can represent a relatively high share of net disposable income in (capital) regions with high wages and salaries, significant taxation and substantial income redistribution, especially if a large proportion of the workforce earning wages and salaries resides outside the region.

Map 7.5 presents information on the compensation of employees as a share of net disposable income. This indicator can be used to analyse the structure of household income and the relative importance of wages and salaries compared with other sources of income, such as investments or social transfers. A higher share suggests that income is primarily driven by wages and salaries, while a lower share indicates that non-labour sources may contribute more substantially to households' net disposable income. It should be noted that employee compensation is recorded before deductions for income taxes and social contributions, whereas net disposable income is measured after these deductions.

Map 7.5 presents regional data for NUTS level 2 regions in 2023, expressed as an index with the national average set equal to 100.0. Values above this level indicate that employee compensation accounts for a larger share of household income than the national average (this is often the case in regions with higher wages and salaries, significant taxation and extensive redistribution). Lower values tend to be found in regions characterised by lower wages and salaries or where non-labour sources (such as property or investment income) make up a larger portion of households' net disposable income.

High indices were particularly evident in several capital regions. The Romanian capital region of Bucureşti-Ilfov recorded the highest value across NUTS level 2 regions in 2023, as employee compensation was equal to 96.4% of net disposable income, which was 132.5% of the national average (72.7%). Relatively high index values were also observed in 3 other eastern capital regions: Bratislavský kraj in Slovakia (122.9% of the national average), Grad Zagreb in Croatia (119.1%) and Yugozapaden in Bulgaria (117.2%). There were 3 other regions that recorded indices of at least 115.0%: the northern Italian region of Provincia Autonoma di Bolzano/Bozen (116.6%), as well as the capital regions of France (115.6%) and Spain (115.0%).

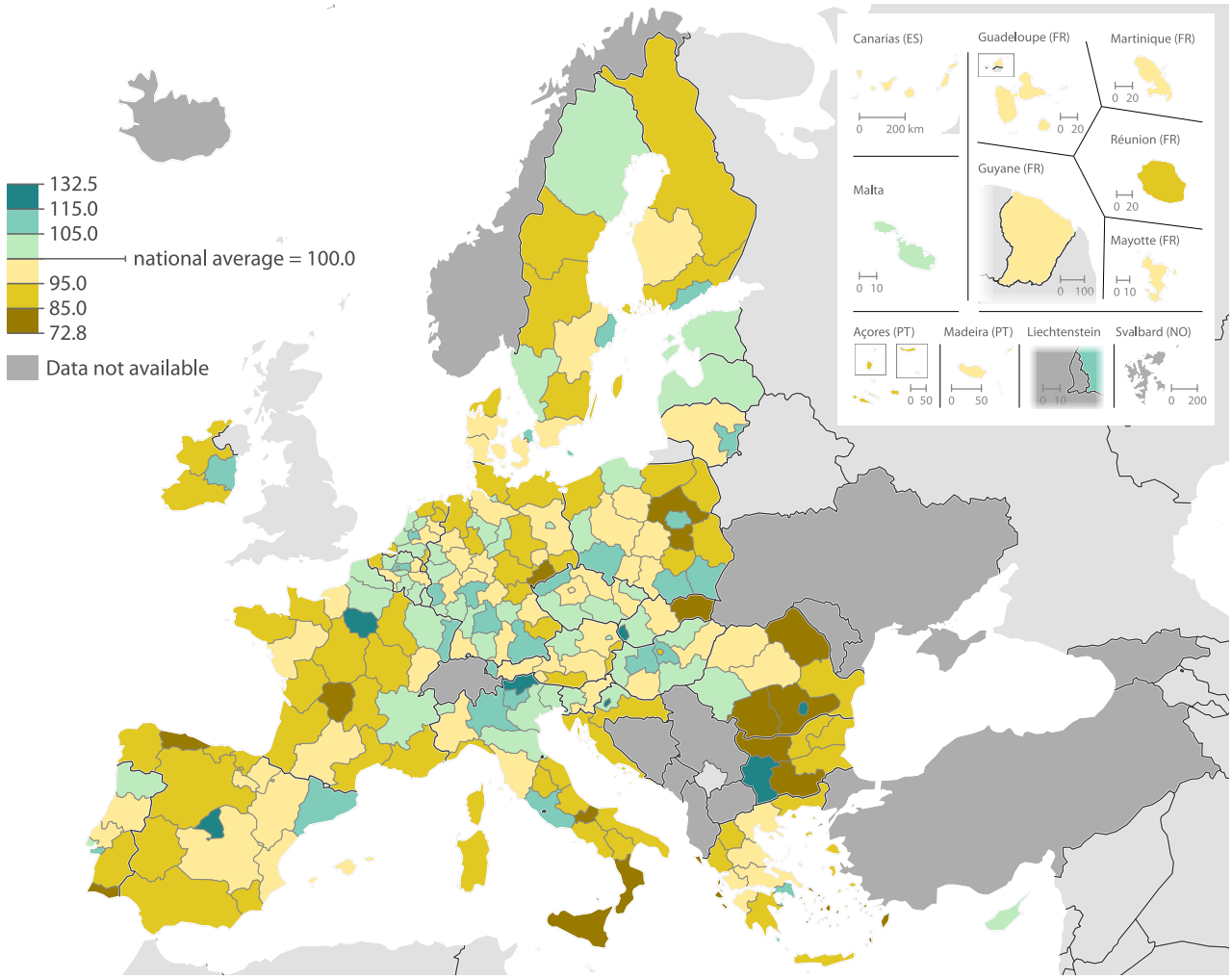
At the other end of the range, there were 16 NUTS level 2 regions where the share of employee compensation in net disposable income was lower than 85.0% of the national average in 2023. This group was composed of:

- 3 regions from each of Italy and Romania
- 2 regions from each of Bulgaria and Greece
- single regions from Germany, Spain, France, Poland, Portugal and Slovakia.

Some of the lowest regional shares were recorded in relatively rural areas that are well known as tourist destinations, including the Greek island regions of Ionia Nisia and Notio Aigaio, the southern Italian regions of Calabria and Sicilia, the Algarve in southern Portugal, and Principado de Asturias in northern Spain.

In these regions that are popular with tourists, the share of employee compensation in net disposable income is often relatively low because a substantial portion of household income comes from non-labour sources. High-value property or capital ownership can generate significant non-wage income through rentals or business profits, while the compensation of employees is often seasonal, part-time and relatively low.

**Map 7.5: Employee compensation as a share of net disposable income**
(index relative to national average = 100.0, by NUTS 2 regions, 2023)




*Source:* Eurostat (online data code: nama_10r_2hhinc)

## Productivity indicators

### HOURS WORKED PER EMPLOYEE IN INDUSTRY

The final section of this chapter presents information on productivity indicators. It includes measures for hours worked per employee (which can reveal differences in work patterns) and employment and real labour productivity which capture the output generated by workers. Together, these indicators highlight regional variations in labour market structure, labour utilisation and efficiency, providing an insight into differences in regional economic performance.

The data shown in Map 7.6 relate to the industrial economy, as defined by NACE Rev. 2 Sections B to E. In 2023, the EU's industrial economy had 31.6 million employees. Together, they worked a total of 52.2 billion hours, equivalent to 1 651 hours per employee, or an average of 31.7 hours per week. Note that this figure is a simple calculation based on the absolute values for hours worked and employees, and it does not account for time off – including holidays or sickness – which would likely increase the average number of hours worked by each employee. Equally, it does not take account of part-time or seasonal work.

In 2023, there were 18 NUTS level 2 regions where industrial employees worked an average of at least 2 000 hours. These regions were concentrated in just three EU countries: 10 from Poland, 6 from Greece and 2 from Croatia. The highest average was recorded in the Croatian capital region of Grad Zagreb, at 2 575 hours per employee.

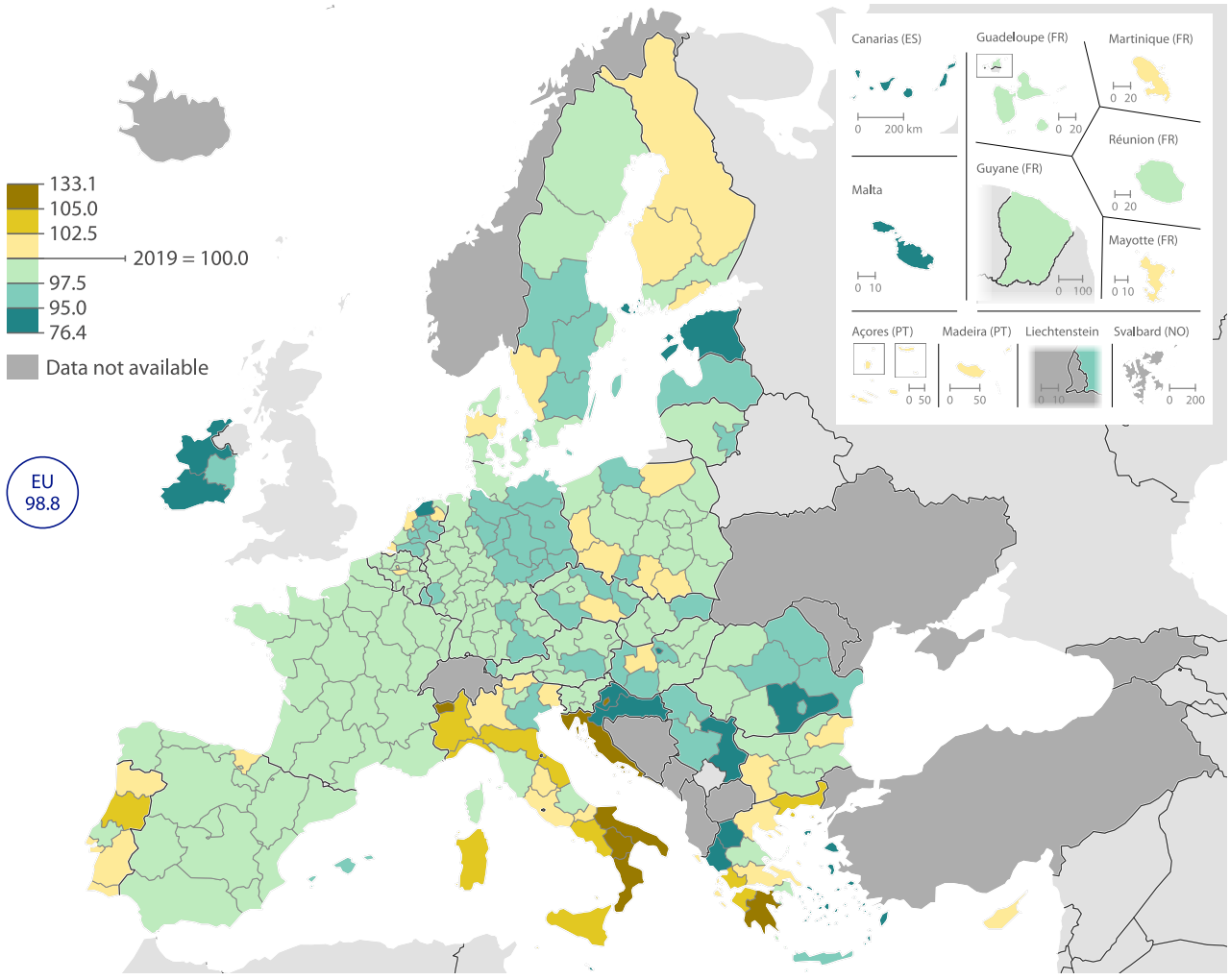
Across the EU, the average number of hours worked by industrial employees fell modestly between 2019 and 2023, from 1 670 to 1 651 hours per employee; equivalent to a decrease of almost 20 hours per employee. Expressed as an index with 2019 set equal to 100.0, the EU index for hours worked per industrial employee stood at 98.8 in 2023.

In Map 7.6, values below 100.0 indicate that average hours worked per industrial employee declined. This may reflect factors such as more part-time or seasonal work, reduced or shared working hours, organisational changes or temporary labour market disruptions. Most decreases were modest. The largest declines – more than 10.0% – were recorded in the Croatian region of Sjeverna Hrvatska, the Spanish region of Ciudad de Ceuta, the Greek region of Dytiki Makedonia and the Irish region of Northern and Western.

By contrast, values above 100.0 indicate that average hours worked per industrial employee rose, because the total number of hours worked increased faster (or decreased more slowly) than the number of employees. Increases were generally modest – less than 5.0% – although there were several regions in southern and eastern EU countries that reported higher increases:

- Grad Zagreb and Jadranska Hrvatska in Croatia (note that both have a break in series)
- Calabria, Valle d'Aosta/Vallée d'Aoste, Basilicata and Puglia in Italy
- Peloponnisos in Greece.

**Map 7.6: Hours worked per employee in industry**
(index relative to 2019 = 100.0, by NUTS 2 regions, 2023)




Note: Croatia, break in series.

*Source:* Eurostat (online data codes: nama_10r_3empers and nama_10r_2emhrw)

## EMPLOYMENT AND REAL LABOUR PRODUCTIVITY

### More about the data: analysing regional statistics for labour productivity

Labour productivity can be defined as GDP (or gross value added) divided by a measure of labour input, typically the number of people employed or the total number of hours worked. The information presented in Map 7.7 is based on labour productivity per hour worked, which should not be influenced by changes in the structure of the employment market. For instance, the ratio is not impacted if there is a shift from full-time to part-time work, or if working hours are curtailed (for example, due to labour market restrictions).

High labour productivity may be linked to the efficient use of labour and/or reflect the skills and experience of the labour force. These in turn may result from the specific mix of activities present in each regional economy as some activities, for example, knowledge-intensive industrial activities and business or financial services tend to be characterised by higher levels of labour productivity (as well as higher levels of employee compensation).

In 2019, the number of people employed across the EU stood at 209.9 million. By 2023, this had increased by 7.8 million (3.7%), reaching 217.7 million. In 2023, each person working in the EU generated an average of €49.3 of value per hour worked. When expressed in constant (2020) prices, this figure can be used to construct indices that measure real productivity changes adjusted for inflation.

Map 7.7 shows the development of employment and real labour productivity between 2019 and 2023 for NUTS level 2 regions. Values above 100.0 indicate that a region experienced an increase in employment and/or real productivity during this period.

The vast majority of EU regions saw employment growth between 2019 and 2023, up in 202 out of 232 regions for which a complete set of information are available. While the EU-wide average increase was 3.7%, several regions recorded double-digit employment growth:

- Sjeverna Hrvatska in Croatia, which had the largest expansion, at 29.8% (note there is a break in series)
- 4 of the French outermost regions (all except Mayotte)
- all 3 Irish regions
- Pest in Hungary
- Luxembourg and Malta.

A majority of NUTS level 2 regions across the EU also reported an increase in real labour productivity between 2019 and 2023, with 147 out of 232 regions reporting growth. Real labour productivity in the EU rose by 2.2%, while 24 regions recorded double-digit increases. These regions were predominantly located in eastern EU countries, with the highest counts in Croatia (all 4 regions), Bulgaria, Romania and Slovakia (3 regions each), Poland (2 regions) and a single region from Hungary. The remainder of this group included all 3 regions of Ireland, 2 regions from Austria, the French outermost region of Mayotte, the Lithuanian capital region of Sostinės regionas, and Malta.

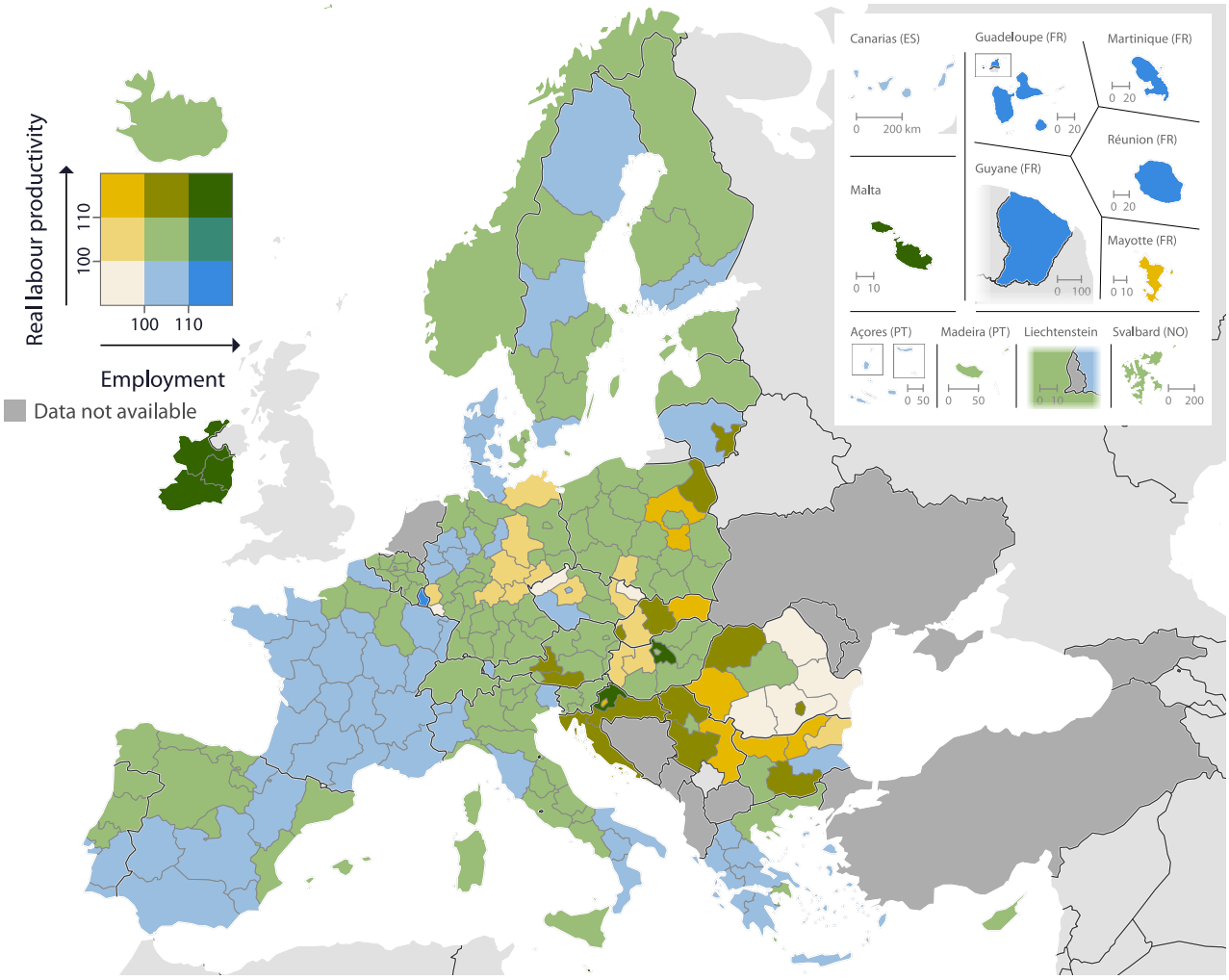
Between 2019 and 2023, 6 regions recorded at least 10.0% growth for both employment and real labour productivity. This group comprised:

- all 3 Irish regions
- Sjeverna Hrvatska in Croatia
- Pest in Hungary
- Malta.

By contrast, there was only 1 region in the EU that experienced declines of at least 5.0% for both employment and real labour productivity between 2019 and 2023. In the Romanian region of Sud-Muntenia, employment decreased 9.5%, while real labour productivity fell 7.7%.

Any declines in employment and real labour productivity may reflect a combination of factors, including the sectoral composition of regional economies – where activity is concentrated in vulnerable industries such as agriculture or traditional manufacturing – outflows of labour to other regions or abroad, and structural challenges such as low levels of investment.

**Map 7.7: Employment and real labour productivity**
(index relative to 2019 = 100.0, by NUTS 2 regions, 2023)




Note: EU indices for 2023, 103.7 for employment and 102.2 for real labour productivity. Croatia: break in series.

*Source:* Eurostat (online data codes: nama_10r_3empers, nama_10r_2rlp, nama_10_pe and nama_10_lp_ulc)

# 8. Business

Presented according to the activity classification NACE, this chapter is divided into 2 parts.

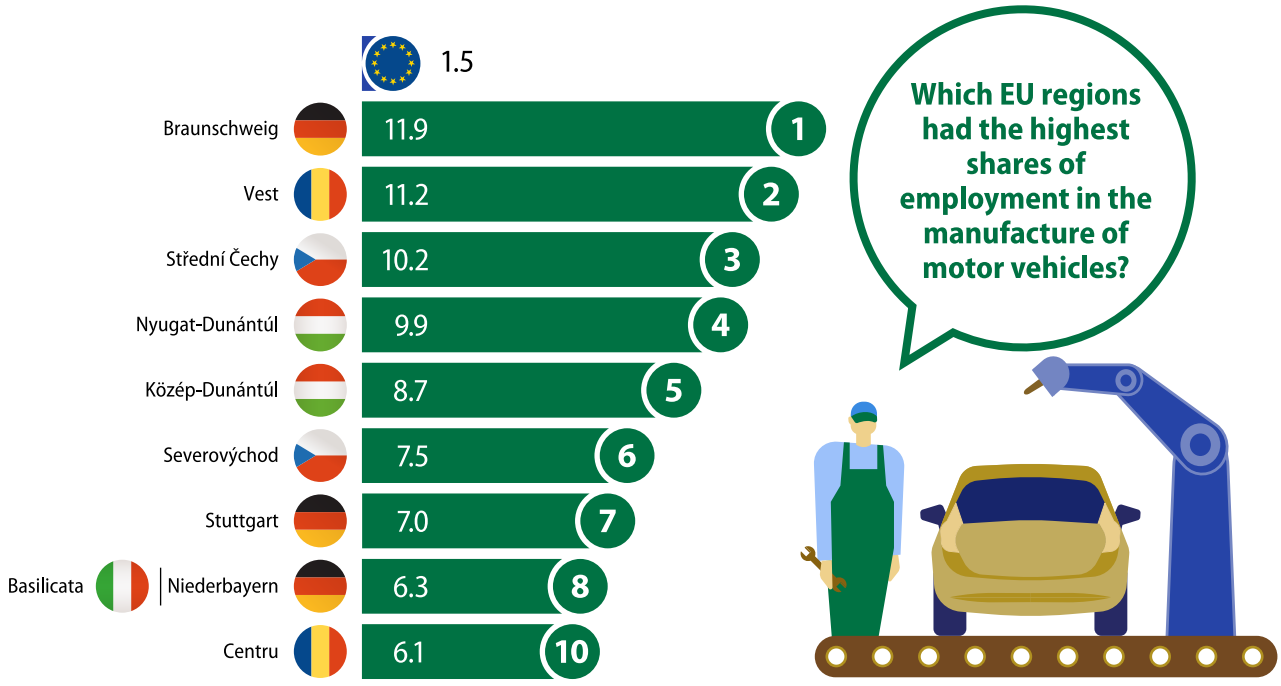
- The first draws on selected regional business demography statistics, including enterprise birth and death rates, and the share of high-growth enterprises.
- The second presents structural business statistics for the business economy, manufacturing and market services, highlighting regional patterns of specialisation and concentration.

As part of the European Commission's 2024 to 2029 priorities, *A new plan for Europe's sustainable prosperity and competitiveness* outlines a strategic vision to strengthen EU economic resilience while promoting environmental sustainability and social well-being. Key objectives include simplifying business processes, fostering circular and sustainable activities, improving economic resilience, increasing productivity through digital technologies, prioritising research and innovation, boosting investment, and addressing skills and labour gaps.

The *Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation* (COM(2025) 85 final) will mobilise over €100 billion to support clean manufacturing. The European Commission plans a new framework to accelerate the rollout of renewable energy deployment, decarbonise industry and ensure sufficient production capacity for clean technologies. It aims to stimulate demand for EU-made clean products by embedding sustainability, resilience and 'made in Europe' criteria into public and private procurement.

Recent policy directions highlight innovation, decarbonisation, digitalisation and supply chain resilience. In motor vehicle manufacturing, measures such as carbon dioxide standards, battery value chains, skills development and regulatory alignment aim to improve productivity, cost efficiency and the EU's global competitiveness.

In 2023, motor vehicle manufacturing (NACE Division 29) accounted for 1.5% of employment in the EU's business economy. There were 3 regions that registered double-digit shares: Braunschweig in Germany, Vest in Romania and Střední Čechy in Czechia (see the infographic below for details).




(% of business economy employment, by NUTS 2 regions, 2023)

Note: the manufacture of motor vehicles, trailers and semi-trailers is defined by NACE Division 29. The business economy is defined as NACE Sections B to S, excluding Section O and Division 94. The infographic is based on non-confidential data (some NACE activities are not available which may impact the total calculated for the overall size of the business economy).

*Source:* Eurostat (online data codes: sbs_r_nuts2021 and sbs_sc_ovw)

## Business demography

Business demography statistics capture key events in an enterprise's life cycle, offering an insight into overall business dynamics. New and fast-growing enterprises are often highly agile, helping to boost efficiency and productivity in the economy. The data presented in the section below cover:

- the birth of new enterprises
- the growth and survival of existing enterprises, with a focus on high-growth enterprises
- enterprise deaths.

### More about the data: business demography statistics

Business demography statistics are presented for the business economy – defined here as NACE Sections B to N and P to R and Divisions 95 and 96 – covering industry, construction, distributive trades and other market services.

Business demography indicators are generally presented for 2023; the latest information for enterprise death rates concerns 2022.

For enterprise birth and death rates, data are not available for NUTS level 2 regions in Belgium, Norway, Albania, Serbia and Türkiye; national data are shown instead.

High-growth enterprises are of particular interest to policymakers because they have the potential to boost regional economic performance, create jobs and, if sustained, reshape economic structures. In this publication, high-growth enterprises are defined as those meeting the following criteria: • at least 10 employees in 2020 • average annual employee growth over 10% between 2020 and 2023.

High-growth enterprises may create new markets or compete in existing domestic and/or international markets. While their expansion does not always directly translate into economic growth at a national level, it is nevertheless correlated positively with the overall economic performance of a country.

### ENTERPRISE BIRTHS AND DEATHS

***In 2023, the EU's enterprise birth rate was 10.5%***

The enterprise birth rate measures the number of new enterprises born during a year in relation to the total population of active enterprises in the same year. In 2023, there were 3.5 million enterprise births within the EU's business economy. When expressed relative to the total number of enterprises (33.2 million), this equated to an enterprise birth rate of 10.5%.

In 2023, enterprise birth rates for the business economy across NUTS level 2 regions were unevenly distributed. Some 34.2% of regions (80 out of 234) recorded rates above the EU average, 64.5% were below, and 1.3% had a rate that was identical to the average. This suggests that entrepreneurial activity tends to be geographically concentrated within the EU.

Map 8.1 shows that enterprise birth rates were relatively homogeneous across many EU countries, suggesting that the underlying national business environment, administrative, macro- and socio-economic conditions likely have an important impact. For example, every NUTS level 2 region in Portugal had an enterprise birth rate of at least 14.4%, while all regions in Czechia, Denmark, Greece, Italy, Hungary, Austria, Finland and Sweden recorded rates below the EU average of 10.5% (this was also the case in Belgium, Cyprus and Luxembourg).

Predominantly urban regions – especially those in and around capital cities – are often found to record some of the highest enterprise birth rates. In 2023, the capital regions of Czechia, Denmark, Germany, Ireland, Greece, Austria, Poland, Romania, Slovenia and Finland posted the highest rates of enterprise creation in their respective countries. Several factors may drive these high rates of business formation, including the presence of an innovative environment, research clusters, technology hubs, easier market access, modern infrastructure or a concentration of skilled labour.

In 2023, 22 NUTS level 2 regions recorded an enterprise birth rate of at least 14.0% within their business economies (see Map 8.1).

- Some of the highest rates were concentrated in France (8 regions) and Portugal (all 9 regions).
    - In France, the 5 outermost regions had the highest rates of enterprise creation, peaking at 53.9% in Mayotte – by far the highest rate among EU regions. Outside of its outermost regions, the capital region of Ile-de-France had the highest enterprise birth rate, at 15.9%.
    - In Portugal, every region recorded a rate of at least 14.0% in 2023, peaking at 20.7% in the southern region of Península de Setúbal; Algarve (18.7%) and the capital region of Grande Lisboa (18.6%) followed with the next highest rates.
- This group of 22 regions also included both Lithuanian regions, Bucureşti-Ilfov (the capital region of Romania), as well as Estonia and Malta.

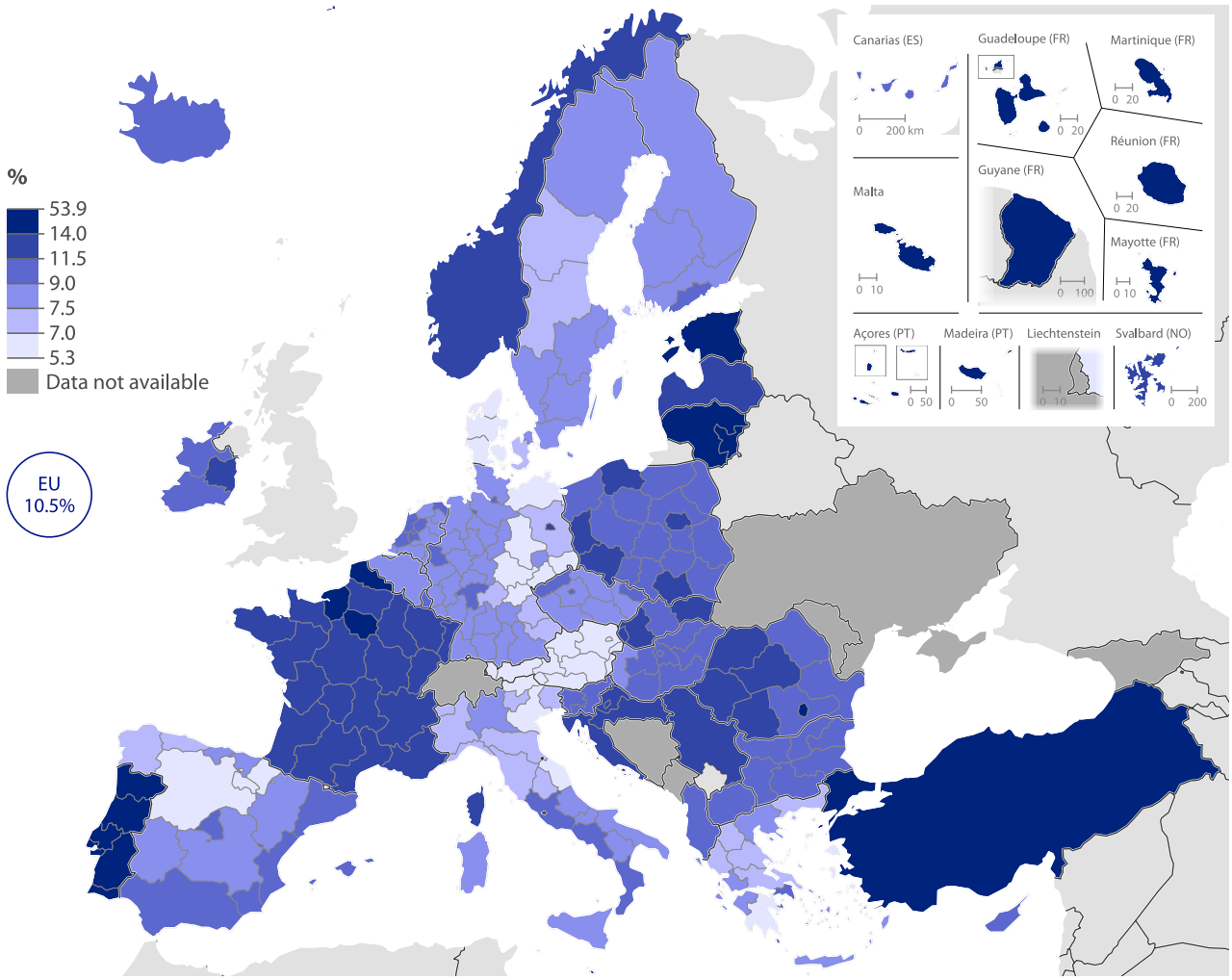
Rural and less economically developed regions often register lower enterprise birth rates. This may reflect

relatively static local economies, with a lack of factors stimulating new business activity; alternatively, it may indicate barriers to entrepreneurship, such as cultural attitudes toward risk, limited access to capital or shortages of skilled labour.

In 2023, 26 NUTS level 2 regions recorded enterprise birth rates for their business economies that were below 7.0%. These regions were concentrated in Austria (all 9 regions) and Germany (6 regions); they were joined by 3 regions from each of Denmark, Spain and Italy, as well as 2 regions in Greece.

- In Austria, the lowest enterprise birth rates were observed in the westernmost regions: Vorarlberg (5.3%), Tirol and Salzburg (both 5.7%).
- The neighbouring eastern regions of Thüringen and Chemnitz reported the lowest rates in Germany (both 5.3%).
- Midtjylland recorded Denmark's lowest rate (6.5%).
- In Spain, 3 northern regions – Comunidad Foral de Navarra, La Rioja and Castilla y León –reported the lowest rates (all 6.8%).
- The northern region of Provincia Autonoma di Bolzano/ Bozen had the lowest rate in Italy (6.2%).
- In Greece, the island region of Voreio Aigaio recorded the lowest rate (6.5%).

**Map 8.1: Enterprise birth rate**
(% of enterprise births among active enterprises, by NUTS 2 regions, 2023)




Note: in the business economy, as defined by NACE Sections B to S, excluding Section O and Division 94. Belgium, Norway, Albania, Serbia and Türkiye: national data. North Macedonia, Serbia and Türkiye: 2022.

*Source:* Eurostat (online data codes: bd_hgnace_r and bd_l_form)

## ENTERPRISE DEATH RATE

***In 2022, the EU's enterprise death rate was 8.4%***

In 2022, 2.7 million enterprises definitively ceased activity within the EU's business economy; expressed relative to the total enterprise population of 32.6 million, this equated to an enterprise death rate of 8.4%. The distribution of enterprise death rates was somewhat skewed: around 3 out of 5 NUTS level 2 regions for which data are available (142 out of 234, or 60.7%) reported rates below the EU average.

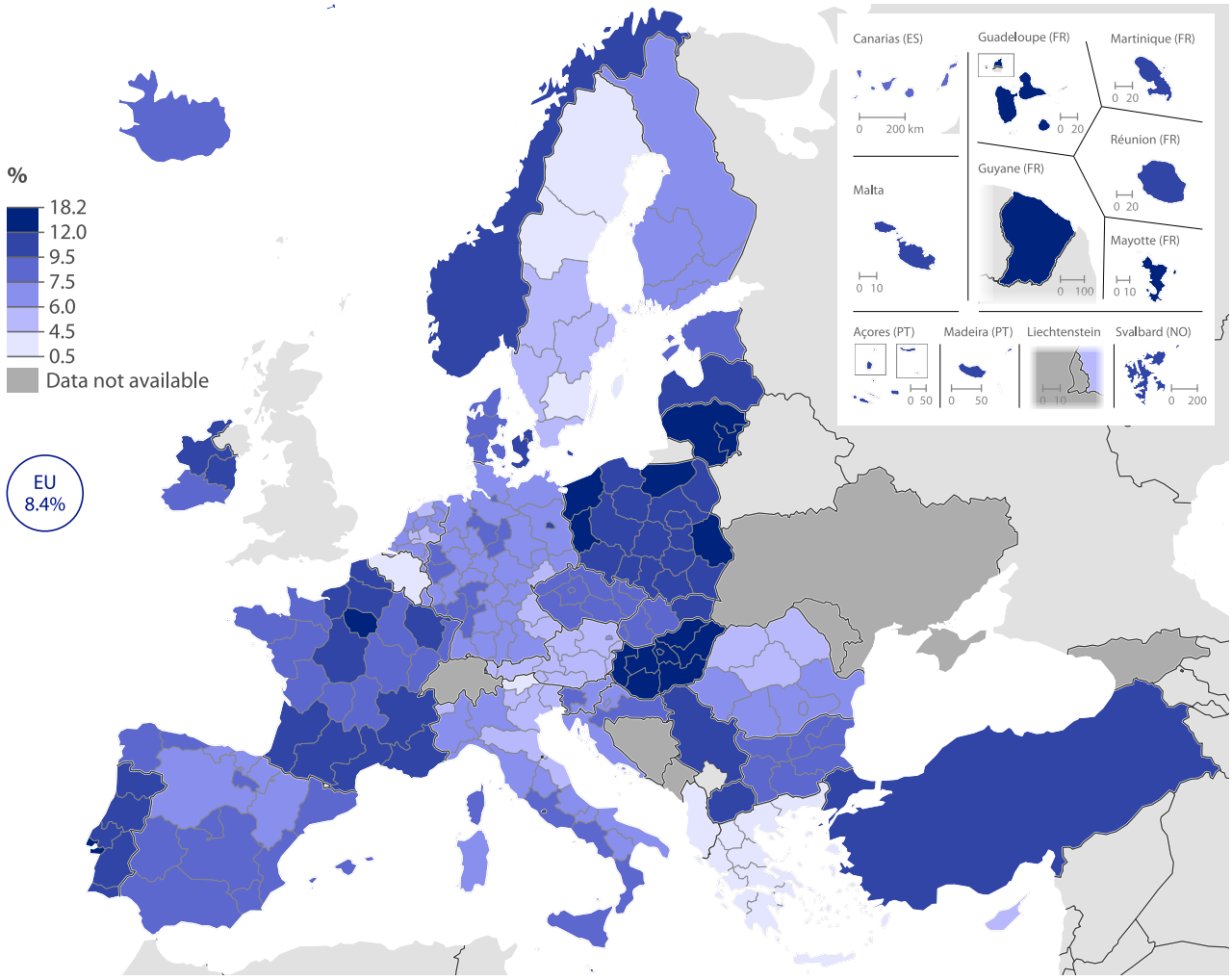
Regional enterprise death rates across the business economy tended to be within a relatively narrow range in most EU countries. It was relatively common for regions with high enterprise birth rates to also record high enterprise death rates. This is not surprising, as dynamic and innovative enterprises entering a market may be in a position to drive less productive incumbents out of the market ('creative destruction'). Moreover, a more risk-prone culture might lead to the creation of new enterprises that, however, do not stand the test of time.

Map 8.2 shows a band of relatively high enterprise death rates along the eastern flank of the EU, stretching from the Baltic countries down to Hungary. High death rates were also common across Portugal and in some regions of France. At the top of the distribution:

- the French overseas region of Mayotte recorded the highest regional enterprise death rate, at 18.2% (and also had the highest enterprise birth rate)
- the next highest rates were in the neighbouring Hungarian regions of Budapest (17.7%) and Pest (17.6%)
- 17 additional regions reported enterprise death rates of at least 12.0%, including
    - all 6 remaining Hungarian regions
    - 4 Polish regions
    - the French capital region, Ile-de-France, along with 2 other outermost regions, Guyane and Guadeloupe
    - both regions of Lithuania
    - 2 Portuguese regions, including the capital region of Grande Lisboa.

At the other end of the spectrum, the lowest enterprise death rates in 2022 were consistently observed in Greece. All 13 Greek regions ranked near the bottom, with rates consistently below 4.0%. The island regions of Kriti (1.5%; 2021 data), Voreio Aigaio (1.9%; 2021 data) and Notio Aigaio (2.4%) recorded the lowest values. Outside Greece, the northern Swedish regions of Mellersta Norrland (3.9%) and Övre Norrland (4.2%), along with the northern Italian region of Provincia Autonoma di Bolzano/Bozen (4.2%), also reported low enterprise death rates; Belgium (4.2%; national data) had a comparable rate.

**Map 8.2:** Enterprise death rate
(% of enterprise deaths among active enterprises, by NUTS 2 regions, 2022)




Note: in the business economy, as defined by NACE Sections B to S, excluding Section O and Division 94. Belgium, Norway, Albania, Serbia and Türkiye: national data. Voreio Aigaio (EL41), Kriti (EL43) and Türkiye: 2021.

*Source:* Eurostat (online data codes: bd_hgnace_r and bd_l_form)

## HIGH-GROWTH ENTERPRISES

***In 2023, 10.5% of all enterprises in the EU were high-growth enterprises***

There were 180 200 high-growth enterprises across the EU in 2023 (see the shaded box above for a definition). High-growth enterprises accounted for 10.5% of the total number of active enterprises with at least 10 employees in the EU's business economy. There was a relatively even distribution of high-growth enterprises among NUTS level 2 regions: 104 regions out of the 234 for which data are available (or 44.4%) recorded shares that were above the EU average.

The presence of high-growth enterprises reflects, at least in part, the underlying structure of each region's business economy. Several factors tend to support rapid enterprise growth:

- relatively small enterprises often grow faster than larger ones – a pattern often referred to as the 'catch-up' process
- enterprises located in regions specialised in dynamic sectors of the economy such as information and communication technologies, life sciences or knowledge-intensive services typically grow more rapidly
- a favourable business environment – such as a well-developed innovation ecosystem, easy access to capital and a skilled workforce.

Figure 8.1 presents information for those regions with the highest and lowest shares of high-growth enterprises in

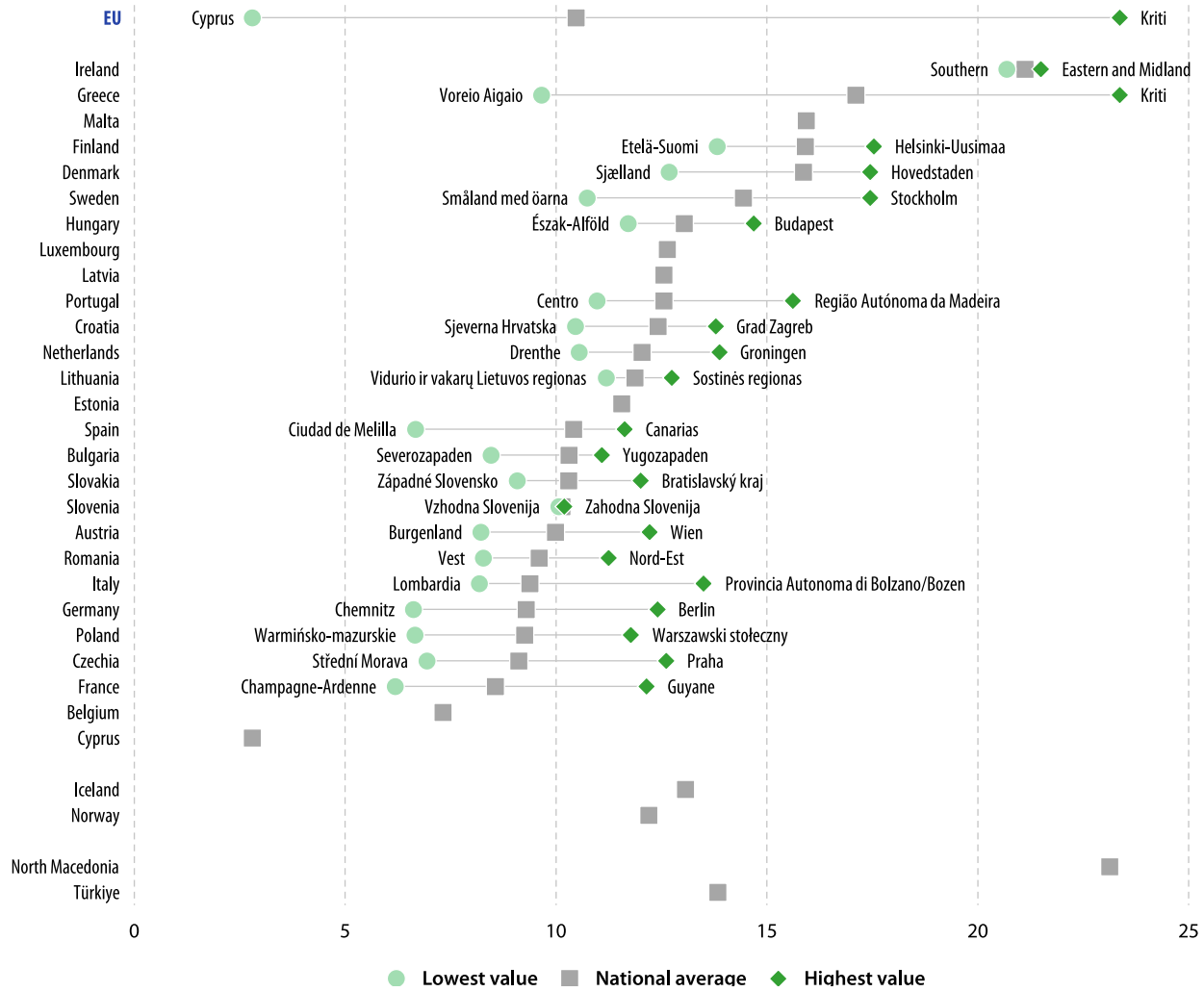
each country. In 2023, Kriti in Greece recorded the highest share of high growth enterprises (23.4%) across NUTS level 2 regions, while the only other regions to record shares of more than 20.0% were all located in Ireland, peaking at 21.5% in the capital region of Eastern and Midland. There were also relatively high shares of high-growth enterprises in the Nordic countries, peaking in the capital regions of Helsinki-Uusimaa, Hovedstaden and Stockholm (all 17.5%).

In 2023, a majority of EU countries reported that their capital region had the highest share of high-growth enterprises on their national territory. This pattern likely reflects factors such as a favourable business climate (as mentioned above) alongside a critical mass of potential business and/or household clients. The only exceptions (among multi-regional EU countries) were Greece, Spain, France, Italy, the Netherlands, Portugal and Romania, although:

- Ile-de-France had the third highest share in France, behind the outermost regions of Guyane and La Réunion
- Noord-Holland had the second highest share in the Netherlands, behind Groningen
- Grande Lisboa had the third highest share in Portugal, behind Região Autónoma da Madeira and Algarve.

Across the EU, regional shares of high-growth enterprises varied considerably within some EU countries. Greece had the widest range, with the share in Kriti (23.4%) some 13.7 percentage points higher than in Voreio Aigaio (9.7%). Sweden, France, Germany, Czechia, Italy, Poland and Spain each exhibited ranges of at least 5.0 percentage points between their highest and lowest regions. By contrast, Slovenia and Ireland recorded the narrowest ranges, less than 1.0 percentage points difference between their highest and lowest regions; however, both countries have relatively few regions – just 2 and 3, respectively.

**Figure 8.1:** High-growth enterprises
(% of active enterprises, by NUTS 2 regions, 2023)




Note: in the business economy, as defined by NACE Sections B to S, excluding Section O and Division 94. Belgium, Norway and Türkiye: national data. Voreio Aigaio (EL41), Notio Aigaio (EL42) and Türkiye: 2022.

*Source:* Eurostat (online data codes: bd_hgnace_r and bd_hg)

# Regional patterns of employment specialisation and concentration

## MANUFACTURING

Manufacturing is defined as NACE Section C. It covers activities ranging from craft industries to large-scale industrial production across a wide range of sectors, including the manufacture of food, beverages and tobacco, wood and paper, chemicals and pharmaceuticals, fabricated metal products and transport equipment. It does not include mining and extraction, energy and water supply, nor construction and civil engineering.

Manufacturing is considered vital to the EU economy, driving productivity, innovation and exports. It supports millions of jobs, strengthens regional development and underpins strategic autonomy in key products such as pharmaceuticals, machinery and green technologies.

In 2023, the EU's manufacturing sector comprised 2.2 million enterprises, employing 30.3 million people, with total wages and salaries valued at €1 126 billion. Although accounting for 6.6% of all enterprises within the business economy, manufacturing had a significantly higher share of employment (18.7%). Average earnings in the manufacturing sector were also higher than the business economy average, as indicated by its 24.1% share of total wages and salaries. Map 8.3 clearly shows the relative weight of the manufacturing sector in the business economy across these 3 indicators.

### More about the data: structural business statistics

Structural business statistics (SBS) provide detailed data on economic activities across hundreds of sectors, broken down by enterprise size (micro, small, medium-sized and large enterprises) and by region. They cover issues such as labour input, value added, productivity, profitability and investment. This information can be used to explore (among other issues) structural shifts in an economy, national or regional specialisations, and sectoral patterns of concentration.

The legal basis for European business statistics changed with the adoption of *Regulation (EU) 2019/2152 on European business statistics* in November 2019. It created a cross-cutting legal framework for the collection, compilation, transmission and dissemination of statistics, covering the economic activities of market producers within the business economy (as defined by NACE Rev. 2 Sections B to N, P to R and Divisions 95 and 96).

The data are based on non-confidential data: some activities are not available for a small number of regions, which may lead to an underestimation of the overall size of the business economy and a corresponding overestimation of the shares attributed to individual activities.

It should be noted that the data for the EU aggregate (and some non-EU countries) presented in this section are based on enterprises, while regional statistics are based on local units.

### *High presence of manufacturing local units across Czechia and Slovakia*

In 2023, the EU's manufacturing sector accounted for 6.6% of all enterprises within the business economy. Across EU regions, local units within manufacturing tend to be larger than average (in size), employing more people and accounting for a disproportionately high share of wages and salaries within the overall business economy. Regions in northern and western EU countries tend to have larger, more capital-intensive local units, while regions in southern and eastern EU countries are often characterised by smaller, family-owned or medium-sized local units. This reflects, among others, differences in industrial structure/tradition, investment, access to finance and technological capacity.

Map 8.3 shows the relative importance of the manufacturing sector in terms of its share of local units within the business economy. In 2023, there were 9 out of 90 NUTS level 1 regions for which data are available, where the manufacturing sector accounted for a double-digit share of the total number of local units within the business economy. Other than Nord-Est Italy, all of these regions were located in eastern EU countries. The highest shares were recorded in Czechia (14.6%) and Slovakia (13.5%).

At the other end of the scale, manufacturing local units generally represented a very small share of all local units in several capital regions and regions with prominent tourist destinations, both of which are typically dominated by service activities. Luxembourg (1.9%), Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (2.7%), Berlin (2.9%) and Região Autónoma da Madeira (2.9%) were the only regions across the EU where manufacturing local units accounted for fewer than 3.0% of all local units in the business economy.

### *Manufacturing employed a third of the business economy workforce in Dunántúl*

Map 8.3 also shows the relative weight of the manufacturing sector in terms of its contribution to employment within the business economy. In 2023, 18.7% of the EU's business economy workforce was employed in manufacturing enterprises. This share was considerably higher in several NUTS level 1 regions (based on local units data), peaking at 33.0% in the western Hungarian region of Dunántúl, which hosts industrial clusters in sectors such as motor vehicles, electronics and machinery, with its strong manufacturing specialisation supported by its attractiveness to foreign investors.

There were 6 other EU regions where the manufacturing sector accounted for at least 3 out of 10 people within the business economy workforce in 2023:

- Macroregiunea Unu and Macroregiunea Patru in Romania (both 31.7%)
- Baden-Württemberg (31.5%) and Thüringen (30.5%) in Germany
- Alföld és Észak in Hungary (31.2%)
- Czechia (30.9%).

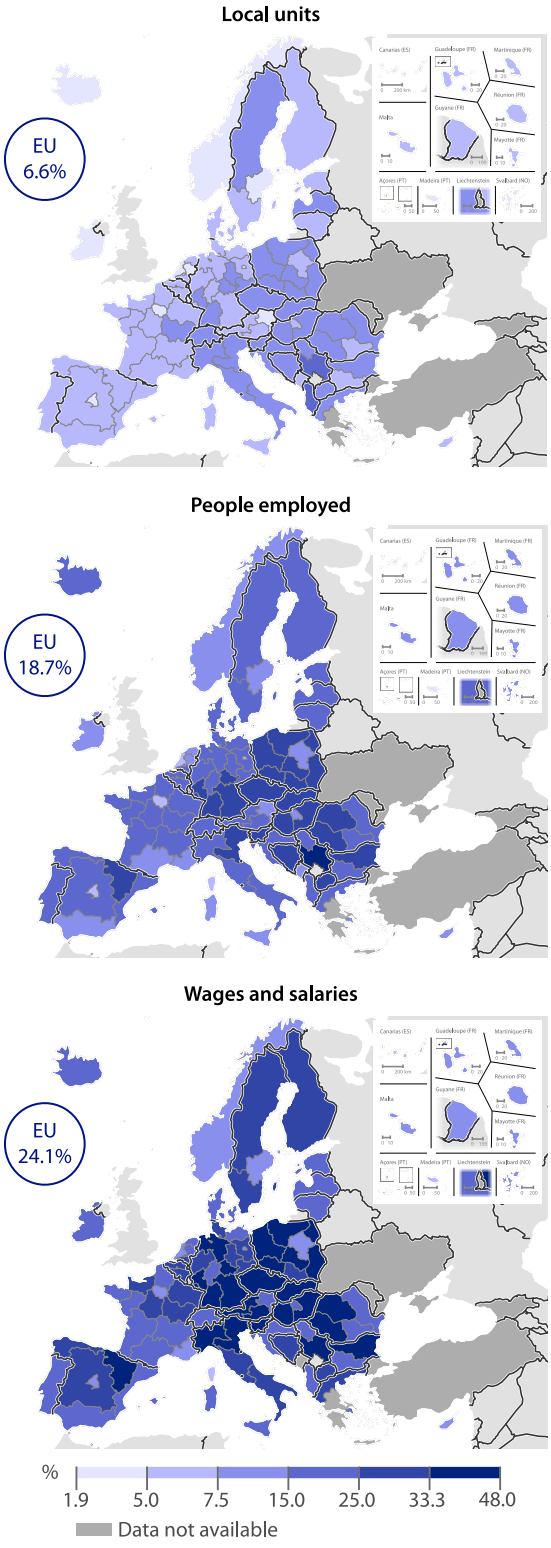
In absolute terms, the German regions of Bayern (1.6 million people), Baden-Württemberg (1.5 million), and Nordrhein-Westfalen (also 1.5 million) had the largest manufacturing workforces in the EU. Only 3 other NUTS level 1 regions employed more than 1.0 million people in manufacturing: the Italian regions of Nord-Ovest and Nord-Est, and Czechia.

### *Manufacturing accounted for a particularly high share of wages and salaries in the business economies of Dunántúl and Baden-Württemberg*

The manufacturing sector across the EU generally provides relatively high wages and salaries, reflecting its capital-intensive nature, reliance on skilled labour, a prevalence of high-value and innovation, and productivity gains from advanced technology and automation. This pattern is especially evident in a cluster of regions stretching from northern Italy and southern Germany into eastern Europe, where established industrial clusters and foreign direct investment (FDI), supported by supplier networks, sustain relatively well-paid manufacturing employment.

In 2023, the level of manufacturing wages and salaries peaked, among NUTS level 1 regions, at €93.6 billion in Baden-Württemberg (south-west Germany). This region is among the EU's leading manufacturing hubs, renowned for high-value, technology-intensive industries such as the manufacture of motor vehicles, machinery, electronics, pharmaceuticals and medical technology. Its innovative and diversified industrial clusters, skilled workforce and extensive research activities underpin well-paid manufacturing jobs.

**Map 8.3:** Regional specialisation in manufacturing
(% of business economy, by NUTS 1 regions, 2023)




Note: EU, Switzerland, Bosnia and Herzegovina, Montenegro, North Macedonia (only for wages and salaries) and Albania: based on data for enterprises instead of local units.

*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

Wages and salaries were also relatively high – in absolute terms – in 2 other German regions: €90.8 billion in Bayern and €80.7 billion in Nordrhein-Westfalen, underlining Germany's substantial contribution to the EU's manufacturing base. The next highest value was observed in Italy's Nord-Ovest region (€45.9 billion).

There were several NUTS level 1 regions within the EU where the manufacturing sector accounted for close to half of all wages and salaries within the business economy (see Map 8.3). The highest regional shares in 2023 were recorded in the western Hungarian region of Dunántúl (48.0%) and the German region of Baden-Württemberg (45.1%). There were 3 other regions that recorded shares that were higher than 40.0%, namely, Alföld és Észak in Hungary (44.6%), Nord-Est in Italy (42.6%) and Thüringen in Germany (40.1%).

## AVERAGE NUMBER OF PEOPLE EMPLOYED PER LOCAL UNIT

Map 8.4 illustrates the average number of people employed per local unit in the business economies of NUTS level 1 regions. Shown as an index (with the EU average equal to 100.0), the map highlights regional differences in business structures, providing insights into productivity and economic specialisation. Higher values typically reflect capital-intensive operations benefitting from economies of scale, while lower values indicate smaller units generally characterised by more labour-intensive activity.

In 2023, an average of 4.9 people were employed per local unit active in the EU's business economy. Among the EU countries, Germany – and to a lesser degree, Denmark and Romania – were characterised by larger local units in terms of average employment.

The highest numbers of people employed per local unit were consistently observed in Germany. In 2023, the average number of people employed peaked at 13.1 per local unit in the northern region of Bremen. In 7 additional German regions – Baden-Württemberg, Hamburg, Niedersachsen, Saarland, Hessen, Nordrhein-Westfalen and Sachsen-Anhalt – each local unit employed, on average, more than twice as many people as the EU average.

In 2023, the lowest average number of persons employed per local unit was recorded in the French region of Corse, with 2.2 persons employed per unit. Low averages – fewer than 3.0 people employed per unit – were also observed in several other regions, including:

- Régions Ultrapériphériques Françaises and Provence-Alpes-Côte d'Azur in France
- Kentriki Elláda in Greece
- Slovakia
- West-Nederland and Noord-Nederland in the Netherlands
- Isole in Italy
- Região Autónoma dos Açores in Portugal
- Åland in Finland.

Some of the smallest local units were observed in island regions, where economic activity is often concentrated in local businesses, particularly in service-oriented or artisanal sectors. These structures often result in more fragmented production, limited economies of scale and a greater reliance on labour-intensive activities.

## AVERAGE WAGES AND SALARIES PER PERSON EMPLOYED

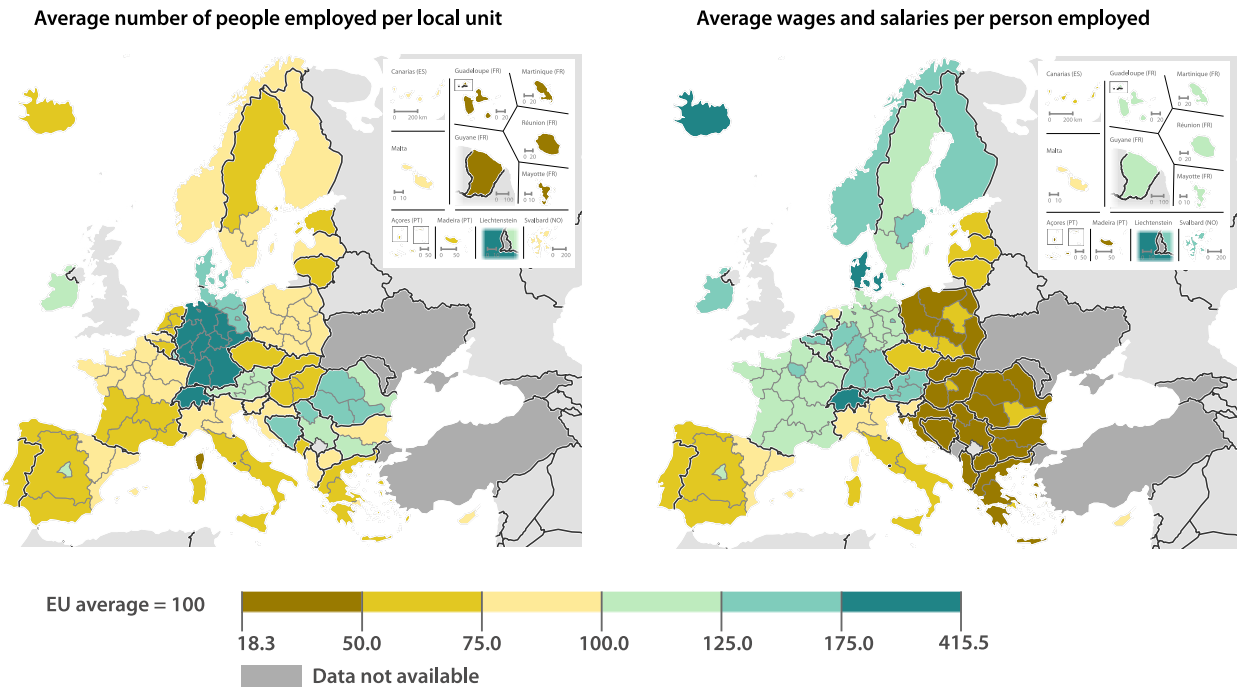
Map 8.4 also shows average wages and salaries per person employed in the business economies of NUTS level 1 regions. Presented as an index (with the EU average equal to 100.0), it highlights regional variations in remuneration. Higher values may be associated with more productive, technology-driven or skills-intensive activities, while lower values typically correspond to regions dominated by more labour-intensive activities. Note that the use of the number of persons employed rather than the number of employees understates the calculated average; ratios for those regions with a high incidence of self-employment and/or unpaid family workers will be particularly affected.

In 2023, people employed within the EU's business economy received an average of €28 900 as a wage or salary. Across NUTS level 1 regions, the highest average wages and salaries were observed in Luxembourg (€66 400) and Denmark (€52 800). This may reflect, at least in part, highly productive, capital- and skill-intensive economies, along with labour regulations and wage-setting mechanisms aligned with local living costs. Aside from Luxembourg and Denmark, several other EU regions recorded wages and salaries per person employed at least 25.0% above the EU average:

- 7 predominantly western regions of Germany
- all 3 Austrian regions
- 2 Belgian regions
- both Finnish regions
- single regions from France, the Netherlands and Sweden (all including their capitals)
- Ireland.

Wages and salaries per person employed were considerably below the EU average in most Greek regions and across many eastern parts of the EU in 2023. The lowest averages were recorded in the Greek regions of Kentriki Elláda (€5 900; 20.4% of the EU average), Nisia Aigaiou-Kriti (€7 700; 26.7%) and Voreia Elláda (€8 300; 28.9%). The only other region with wages and salaries per person employed below €10 000 was Severna i Yugoiztochna Bulgaria (€8 400; 29.0%).

**Map 8.4: Labour market indicators**
(index relative to EU average = 100.0, business economy, by NUTS 1 regions, 2023)




Note: EU, Switzerland, Bosnia and Herzegovina, Montenegro, North Macedonia (only for average wages and salaries per person employed) and Albania: based on data for enterprises instead of local units.

*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

***The EU's manufacturing base has migrated eastwards***

The manufacturing sector has long been regarded as a cornerstone of economic prosperity in the EU. However, over several decades it has experienced wide-ranging transformations, through outsourcing, globalisation, changes to business paradigms (such as just-in-time manufacturing), the growing importance of digital technologies, or concerns linked to sustainable production and the environment.

There has generally been an eastward shift in the EU's manufacturing base during the last 2 to 3 decades, reflecting, among other factors, integration in the single market, sectoral specialisation and differences in:

- labour costs
- taxes and subsidies
- skills and qualifications
- natural resource endowments.

Eastern EU countries have increasingly served as manufacturing bases for multinational enterprise groups from other EU countries – particularly Germany – as well as for non-EU multinational enterprise groups seeking access to the EU's single market. Enterprises in multinational enterprise groups often form an integral part of international supply chains, with relatively highly skilled workforces.

In 2023, the 3 largest manufacturing subsectors in the EU (based on enterprise data) – in employment terms and as defined by NACE divisions – were the:

- manufacture of food products (NACE Division 10) with 4.3 million people or 2.6% of the business economy workforce
- manufacture of fabricated metal products, except machinery and equipment (NACE Division 25), with 3.7 million people, or 2.3%
- manufacture of machinery and equipment not elsewhere classified (NACE Division 28), with 3.1 million people, or 1.9%.

There were only 3 other manufacturing subsectors which accounted for at least 1.0% of the EU's business economy workforce: the manufacture of motor vehicles, trailers and semi-trailers (NACE Division 29; 1.5%), the manufacture of rubber and plastic products (NACE Division 22; 1.0%) and the manufacture of electrical equipment (NACE Division 27; 1.0%).

Figure 8.2 presents data for 24 different manufacturing subsectors, showing the NUTS level 2 region (based

on local units data) with the highest and the lowest shares of business economy employment, as well as the EU average (based on enterprise data). For example, in the manufacture of food products, the Polish region of Mazowiecki regionalny – which surrounds the capital – recorded the highest regional share in 2023, with 8.6% of its business economy workforce employed in this subsector, more than 3 times the EU average of 2.6%. At the other end of the spectrum, employment in food manufacturing accounted for 0.7% of the business economy workforce in the Swedish capital region of Stockholm.

***Primary processing activities are often located close to the source of raw materials***

Figure 8.2 highlights how employment in various manufacturing subsectors was often highly skewed. In some activities, a few regions recorded very high employment shares, while most other regions had relatively low shares. In statistical terms, this kind of distribution can be referred to as being 'positively skewed'. For example, the 5 EU regions with the largest workforces in the manufacture of leather and related products (NACE Division 15) – Toscana, Veneto, Marche (all in Italy), Norte (Portugal) and Comunitat Valenciana (Spain) – together accounted for almost 40% of the EU's employment in this subsector.

Manufacturing subsectors that involve primary processing were often located close to the source of their raw materials. There were 4 regions across the EU where the manufacture of food products accounted for at least 7.5% of business economy employment in 2023: Ipeiros and Thessalia (both in Greece), Bretagne (France) and Mazowiecki regionalny (Poland). La Rioja in Spain (2.9%), Champagne-Ardenne in France (2.1%), Trier in Germany (1.6%) and Alentejo in Portugal (also 1.6%) had the highest employment shares for the manufacturing of beverages (NACE Division 11). Regions specialised in the manufacture of textiles (NACE Division 13) were often located close to an abundant supply of water; Norte in Portugal (2.4%) had the highest regional share. The Croatian region of Panonska Hrvatska had the highest employment share (4.4%) for the manufacture of wood and wood products, except furniture (NACE Division 16), while Mellersta Norrland in Sweden had the highest share (3.1%) for the manufacture of paper and paper products (NACE Division 17).

***German regions often specialise in export-orientated subsectors***

Germany exports a relatively high proportion of its manufacturing output; this is particularly the case for its motor vehicles, machinery, electrical and chemical subsectors. In 2023 and among NUTS level 2 regions of the EU:

- Braunschweig in northern Germany had the highest employment share (11.9%) for the manufacture of motor vehicles, trailers and semi-trailers (NACE Division 29)
- Stuttgart in south-western Germany had the highest employment share (7.6%) for the manufacture of machinery and equipment not elsewhere classified (NACE Division 28)
- Rheinhessen-Pfalz in western Germany had the highest employment share (5.5%) for the manufacture of chemicals and chemical products (NACE Division 20)
- Oberpfalz in south-eastern Germany had the highest employment share (4.8%) for the manufacture of electrical equipment (NACE Division 27).

***The manufacture of transport equipment is characterised by clusters of economic activity***

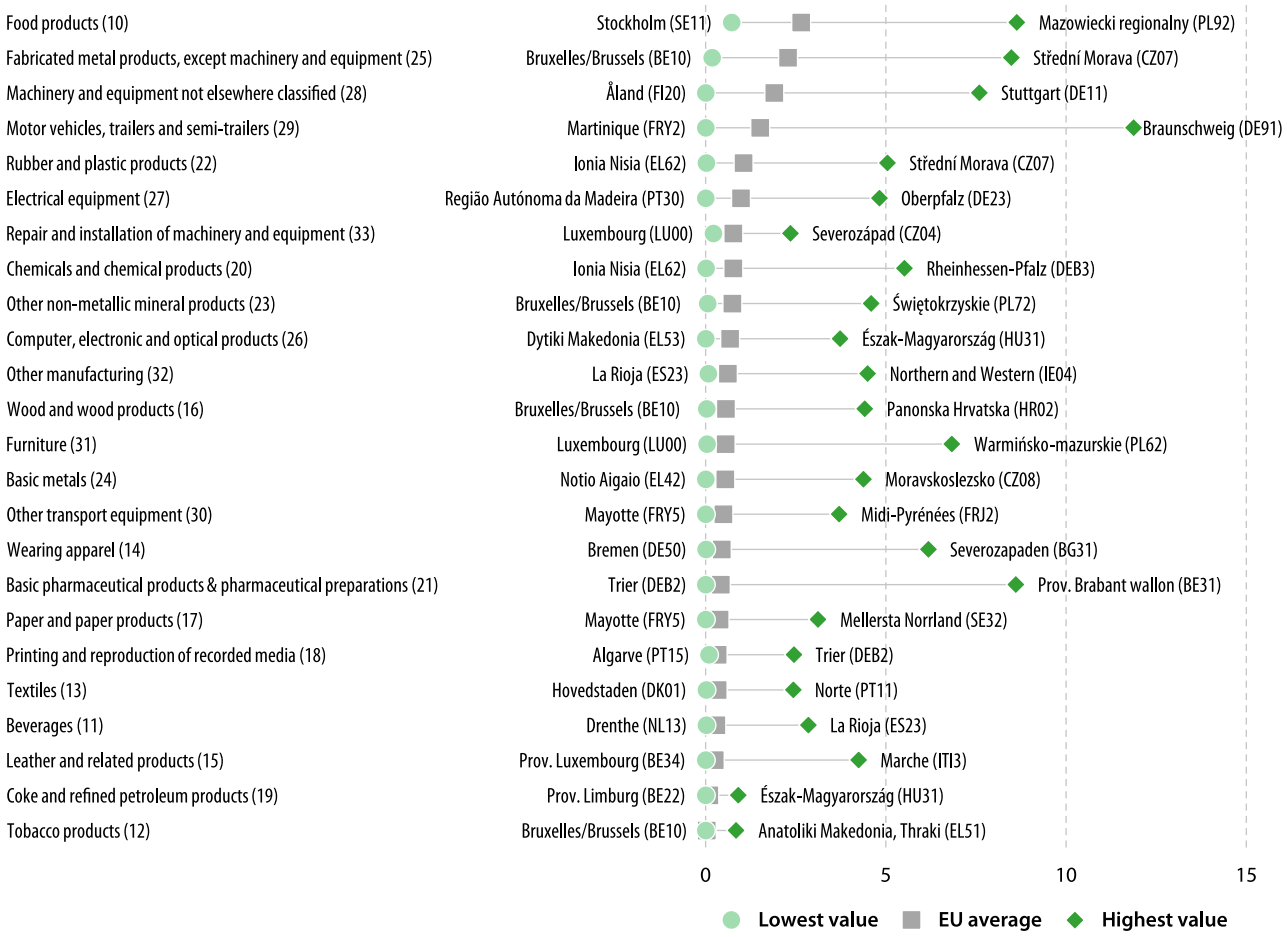
In the EU, the manufacture of transport equipment is a prime example of an industrial cluster characterised by highly integrated production chains. Over time, some production has shifted to seek to benefit from international value chains. This process has, for example, led to a redeployment of production towards several eastern EU countries.

In 2023, aside from Braunschweig in Germany (mentioned above), the highest levels of employment specialisation for the manufacture of motor vehicles were observed in:

- the Romanian region of Vest (11.2% of business economy employment)
- the Czech regions of Střední Čechy (10.2%) and Severovýchod (7.5%)
- the western Hungarian regions of Nyugat-Dunántúl (9.9%) and Közép-Dunántúl (8.7%).

Midi-Pyrénées in south-western France was the most specialised region in the EU for the manufacture of other transport equipment (NACE Division 30), with these activities accounting for 3.7% of its business economy workforce, reflecting a key presence within the aerospace subsector.

**Figure 8.2: Regional specialisation among manufacturing activities**
(% of business economy employment, by NUTS 2 regions, 2023)




Note: NACE codes are given in brackets after each of the activity labels. The figure is based on non-confidential data (some activities are not available for a small number of regions). EU average: based on data for enterprises instead of local units. Excluding Ciudad de Ceuta (ES63) and Ciudad de Melilla (ES64): only partial information.

*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

## MARKET SERVICES

***Some market service activities are widely spread across the EU territory, whereas others are concentrated within close proximity to a mass of potential clients***

In 2023, EU enterprises in market services – comprising NACE Sections G to N and P to R, as well as Divisions 95 and 96 – employed 114.6 million people, accounting for 70.6% of total employment across the business economy.

There were 12 NUTS level 2 regions (based on local units data) across the EU where market services provided more than 85.0% of the business economy workforce in 2023:

- the capital regions of Berlin (Germany), Comunidad de Madrid (Spain), Noord-Holland (the Netherlands), Wien (Austria), Grande Lisboa (Portugal) and Bratislavský kraj (Slovakia)
- the popular holiday destinations of Ionia Nisia, Notio Aigaio, Voreio Aigaio (all in Greece) and Canarias (Spain)
- 2 additional regions from the Netherlands – Utrecht and Zuid-Holland.

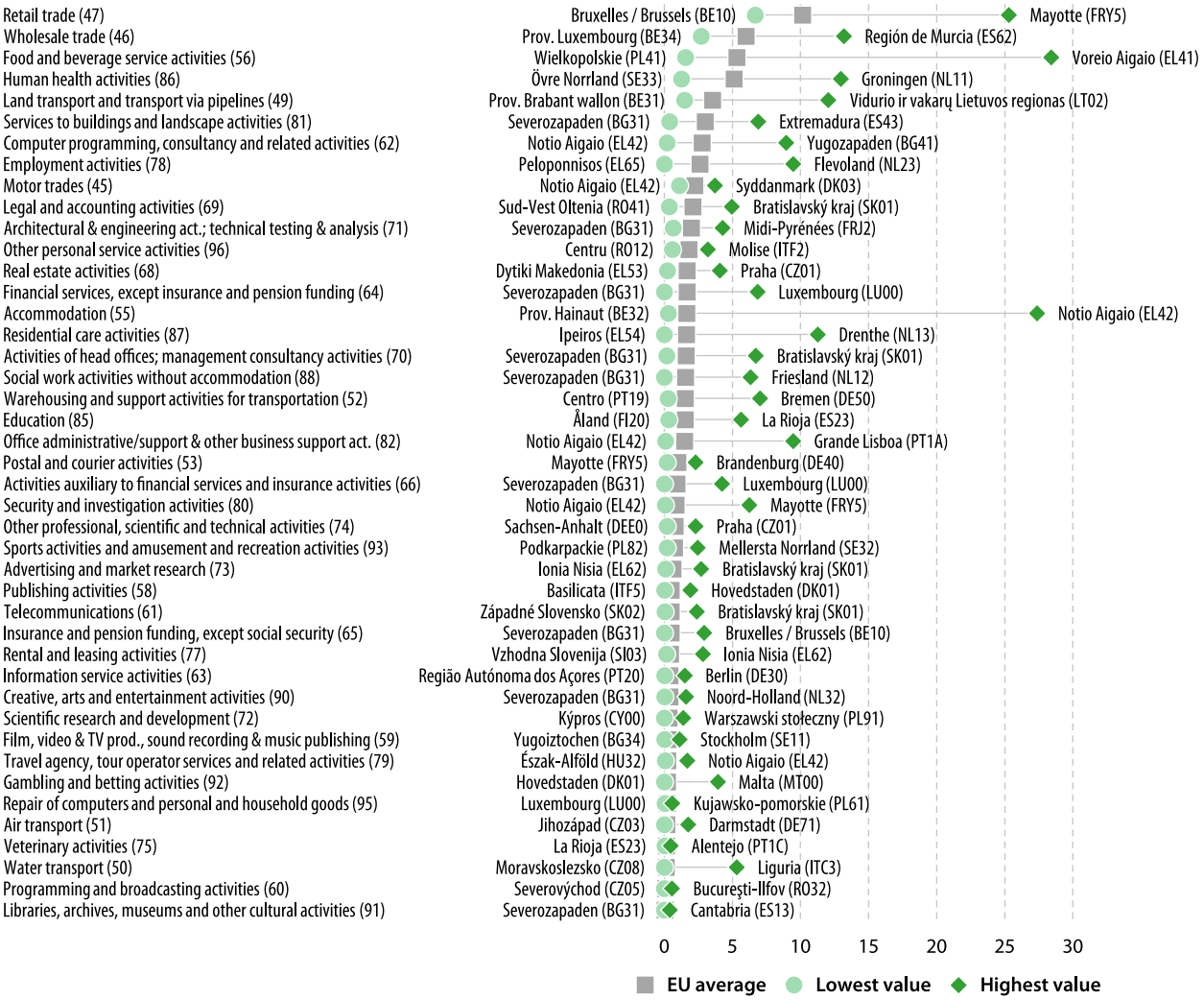
Figure 8.3 presents information for 43 different market service activities (NACE divisions), highlighting the NUTS level 2 regions with the highest degrees of employment specialisation. Variations in employment specialisation may reflect, among other issues, access to skilled labour, the adequate provision of infrastructure, climatic and geographic conditions, proximity to a critical mass of customers, market access or legislative constraints.

Retail trade (NACE Division 47) accounted for 10.1% of the EU's business economy workforce in 2023. Wholesale trade (NACE Division 46) had the next highest share, at 6.0%, followed by food and beverage service activities (NACE Division 56; 5.3%) and human health activities (NACE Division 86; 5.1%). These are all examples of service activities that are commonly found in every NUTS level 2 region of the EU.

Capital regions were among some of the most specialised regions for a range of service activities that rely on the close proximity of a large number of potential clients (be these other businesses, households or governments). For example, in 2023:

- Grande Lisboa (Portugal) had the highest employment share for office administrative/support and other business support activities, at 9.5%
- Yugozapaden (Bulgaria) for computer programming, consultancy and related activities (8.9%)
- Bratislavský kraj for activities of head offices, management consultancy activities (6.7%), legal and accounting activities (5.0%), advertising and market research (2.7%) and for telecommunications (2.4%)
- Luxembourg for financial services, except insurance and pension funding (6.8%) and activities auxiliary to financial services and insurance activities (4.2%)
- Malta for gambling and betting activities (4.0%)
- Bruxelles-Capitale/Brussels Hoofdstedelijk (Belgium) for insurance and pension funding, except social security (2.9%)
- Praha (Czechia) for real estate activities (4.1%) and other professional, scientific and technical activities (2.3%)
- the capital regions of Denmark, Germany, the Netherlands, Poland, Romania and Sweden were each the most specialised region for a single service activity.

**Figure 8.3: Regional specialisation among market service activities**
(% of business economy employment, by NUTS 2 regions, 2023)




Note: NACE codes are given in brackets after each of the activity labels. The figure is based on non-confidential data (some activities are not available for a small number of regions). EU average: based on data for enterprises instead of local units. Excluding Ciudad de Ceuta (ES63) and Ciudad de Melilla (ES64): only partial information. Includes estimates made for the purpose of this publication.

*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

## HIGH-TECHNOLOGY MANUFACTURING

### More about the data: high-technology manufacturing

For the purpose of this section, high-technology manufacturing is defined as the manufacture of pharmaceuticals (NACE Divisions 21) and computer, electronic and optical products (NACE Division 26). These manufacturing subsectors play a key role in the EU economy, as they drive innovation, support high-skilled employment and generate significant value added, thereby strengthening productivity, global competitiveness and the EU's strategic technological autonomy.

The data are based on non-confidential data: some activities are not available for a small number of regions, which may lead to an underestimation of the overall size of their high-technology manufacturing sectors (incomplete data for Noroeste and Centro (Spain), Cyprus, Lithuania, Südösterreich and Westösterreich (Austria), all regions of Poland except for Makroregion województwo mazowieckie, Continente (Portugal) and Slovakia).

***In Denmark and Südösterreich, high-technology manufacturing accounted for 2.5% of the business economy workforce in 2023***

The information presented in Map 8.5 highlights regional patterns of employment specialisation and concentration for high-technology manufacturing. In 2023, enterprises in these manufacturing subsectors employed 1.8 million people across the EU, accounting for 1.1% of the business economy workforce.

Among NUTS level 1 regions (based on local units data), Denmark and the Austrian region of Südösterreich recorded the highest shares of their business economy workforces employed in high-technology manufacturing (both had a 2.5% share in 2023). Denmark is relatively specialised in pharmaceuticals manufacturing, while Südösterreich is relatively specialised in electronic, semiconductor and advanced component manufacturing (such as automotive components).

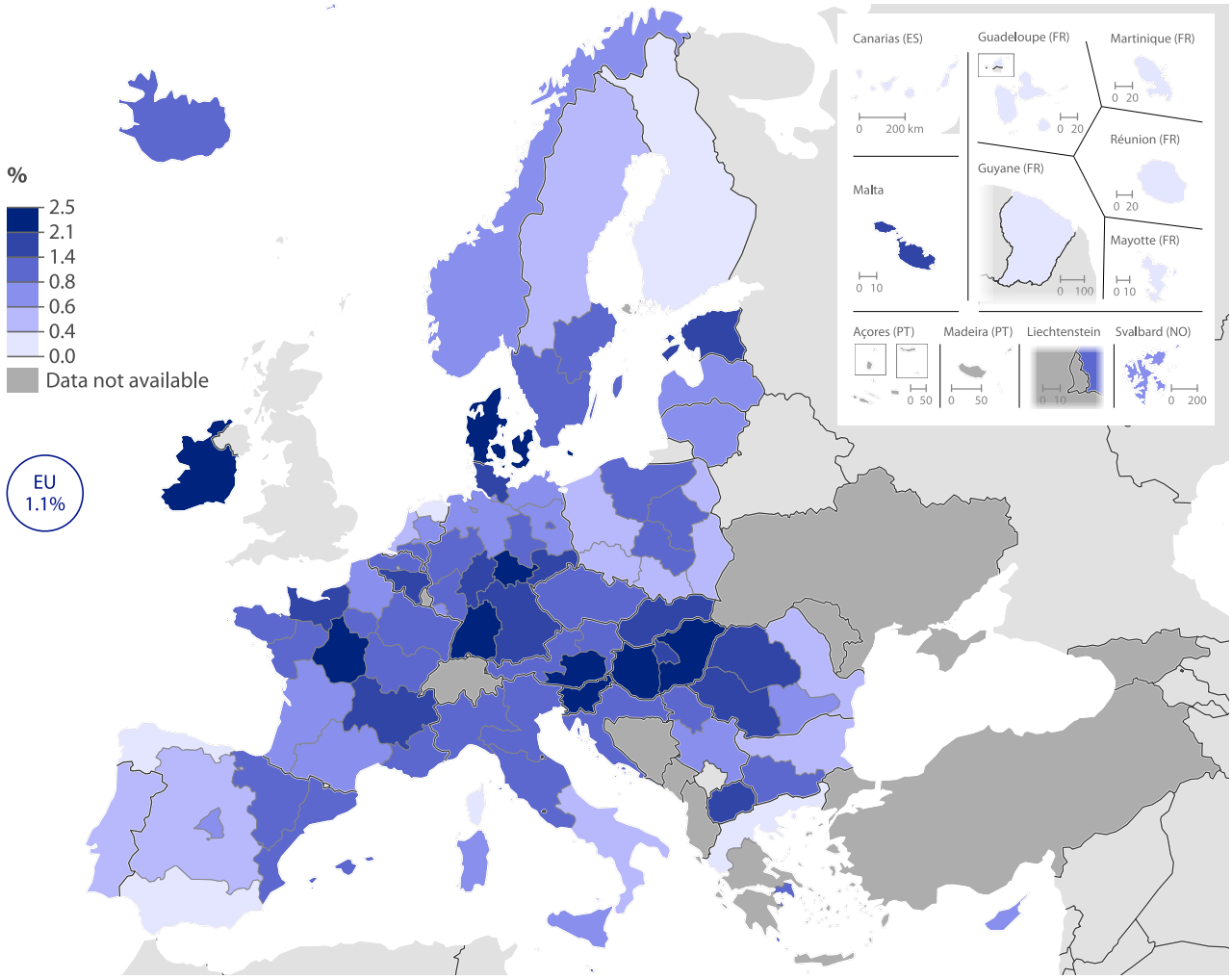
The next highest shares of employment in high-technology manufacturing were observed in:

- the eastern German region of Thüringen, the eastern Hungarian region of Alföld és Észak and Slovenia (each with a 2.4% share)
- the south-western German region of Baden-Württemberg and the western Hungarian region of Dunántúl (each with a share of 2.3%)
- Ireland and the French region of Centre — Val de Loire (each with a share of 2.1%)
- Région wallonne in southern Belgium (2.0%).

Considerable inter-regional differences exist within some EU countries. Regions located relatively close to capital cities often record comparatively high shares of high-technology employment, perhaps reflecting factors such as access to skilled labour, universities and research centres, transport networks and, in some cases, lower-cost locations for industrial activities (than metropolitan regions). Conversely, rural and peripheral regions often face structural challenges, including underdeveloped infrastructure, population decline and lower levels of investment. For example, the share of high-technology manufacturing in business economy employment peaked in France in Centre — Val de Loire (2.1% in 2023), reflecting its strong concentration of technology-intensive industries, including pharmaceuticals. In contrast, very low shares were observed in the island regions of Corse and the Régions Ultrapériphériques Françaises, where high-technology manufacturing activity was particularly limited.

An analysis by NUTS level 2 regions shows even wider inter-regional disparities within EU countries. In Belgium, the region of Prov. Brabant wallon, located close to Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest and benefiting from links to research/innovation networks, recorded a particularly high share (9.5% of its business economy's employment was high-technology manufacturing in 2023), whereas the southernmost region of Prov. Luxembourg had a much lower share (0.3%). Similarly, Denmark's capital region of Hovedstaden recorded a share of 4.7%, which was around 12 times as high as in the southern region of Syddanmark (0.4%).

**Map 8.5: Employment in high-technology manufacturing**
(% of business economy employment, by NUTS 1 regions, 2023)




Note: EU, based on data for enterprises instead of local units.
Under-estimates: incomplete data for many regions.

*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

## KNOWLEDGE-INTENSIVE HIGH-TECHNOLOGY SERVICES

### More about the data: knowledge-intensive services

Knowledge-intensive services rely on specialised skills, innovation and a highly educated workforce to generate value. Covering sectors such as information technology, finance, consulting and legal services, they are key drivers of productivity, innovation and competitiveness, supporting high-value industries and underpinning the sustained performance of modern economies.

Within this section, knowledge-intensive high-technology services are defined by the following activities: motion picture, video and television programme production, sound recording and music publishing activities (NACE Division 59); programming and broadcasting activities (NACE Division 60); telecommunications (NACE Division 61); computer programming, consultancy and related activities (NACE Division 62); information service activities (NACE Division 63); scientific research and development (NACE Division 72).

The data are based on non-confidential data: some activities are not available for a small number of regions, which may lead to an underestimation of the overall size of the business economy and a corresponding overestimation of the shares attributed to knowledge-intensive high-technology services.

In 2023, enterprises in knowledge-intensive high-technology services employed 7.1 million people across the EU (equivalent to 4.4% of the business economy workforce). There were 6 NUTS level 2 regions (based on local units data) where more than 150 000 people were employed in these services – all of them either capital regions or economically dominant hubs for high-tech employment:

- the French capital region of Ile-de-France (465 600)
- the Spanish capital region of Comunidad de Madrid (271 900)
- the German regions of Oberbayern (199 300) and the capital Berlin (177 900)
- the Polish capital region of Warszawski stołeczny (190 800)
- the northern Italian region of Lombardia (183 500).

The regional distribution of the knowledge-intensive high-technology services workforce was heavily skewed. Only 55 out of 244 NUTS level 2 regions for which data are available – equivalent to 22.5% of all regions – reported an employment share above the EU average. Notably, the 7 regions with the highest shares were all capital regions, predominantly in eastern EU countries, each recording double-digit employment shares in these services:

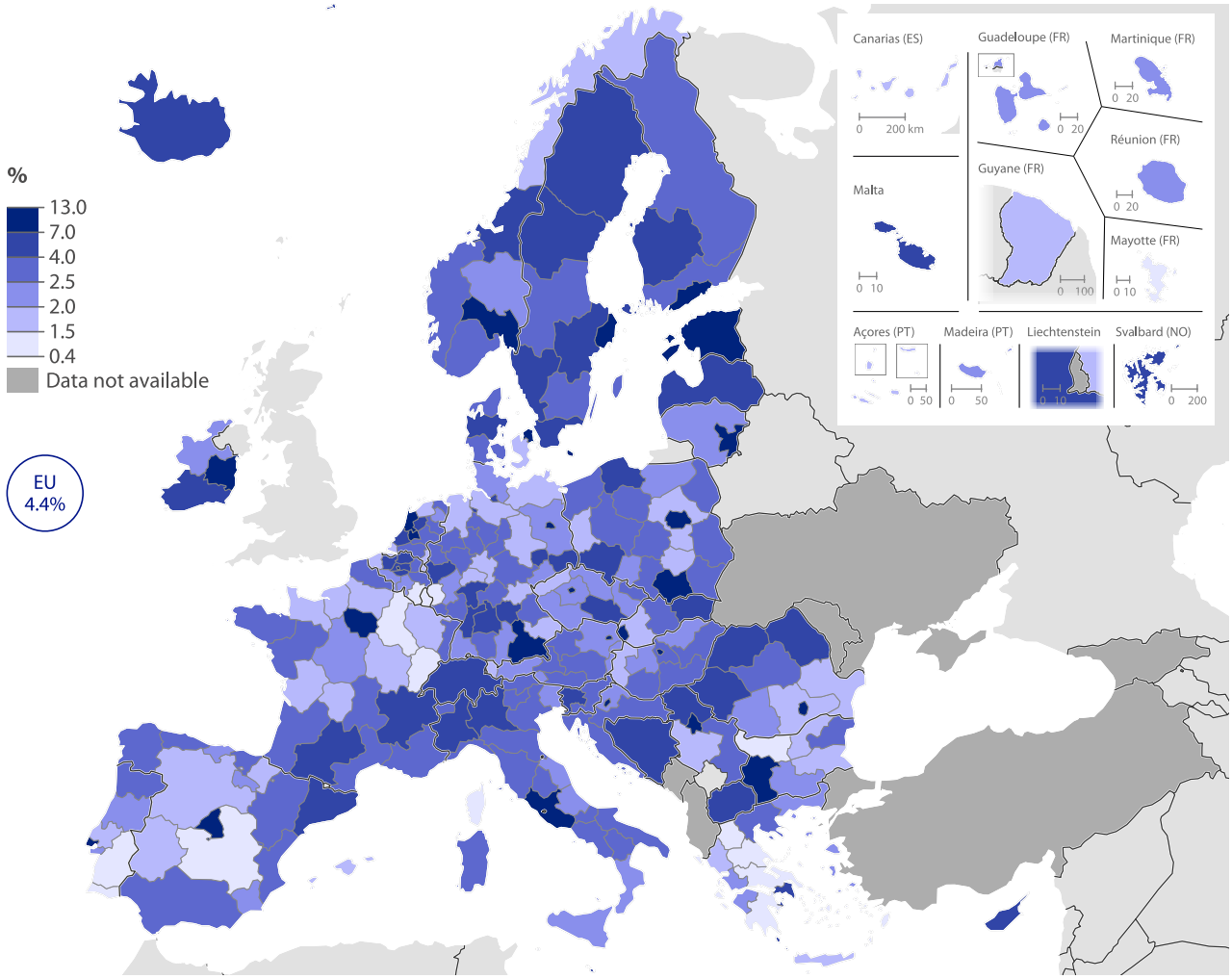
- the Bulgarian region of Yugozapaden (13.0%)
- the Slovakian region of Bratislavský kraj (12.2%)
- the Croatian region of Grad Zagreb (10.6%)
- the Hungarian region of Budapest (10.6%)
- the Romanian region of Bucureşti-Ilfov (10.5%)
- the German region of Berlin (10.4%)
- the Polish region of Warszawski stołeczny (10.2%).

This high concentration of knowledge-intensive high-technology services employment in capital regions may reflect a number of different factors, including:

- the presence of universities and research institutes, supplying skilled labour
- higher levels of digital skills among urban populations
- capital regions acting as magnets for internal migration, attracting talent from smaller cities and rural regions
- relatively high levels of foreign direct investment (when global enterprises establish operations in capital cities).

At the lower end of the distribution, 19 predominantly rural NUTS level 2 regions – mostly in southern EU countries – had knowledge-intensive high-technology services accounting for less than 1.5% of their business economy workforces in 2023. Specifically, this group comprised 6 regions in Greece, 4 in France, 3 in Spain, 2 in Portugal, and 1 in each of Belgium, Bulgaria and Germany; this was also the case in Luxembourg. The lowest shares – below 1.0% – were observed in the autonomous Spanish cities, the Greek island regions of Notio Aigaio and Ionia Nisia, and the French outermost region of Mayotte.

**Map 8.6:** **Employment in knowledge-intensive high-technology services**
(% of business economy employment, by NUTS 2 regions, 2023)




Note: Switzerland, national data. EU, Switzerland and Bosnia and Herzegovina: based on data for enterprises instead of local units.

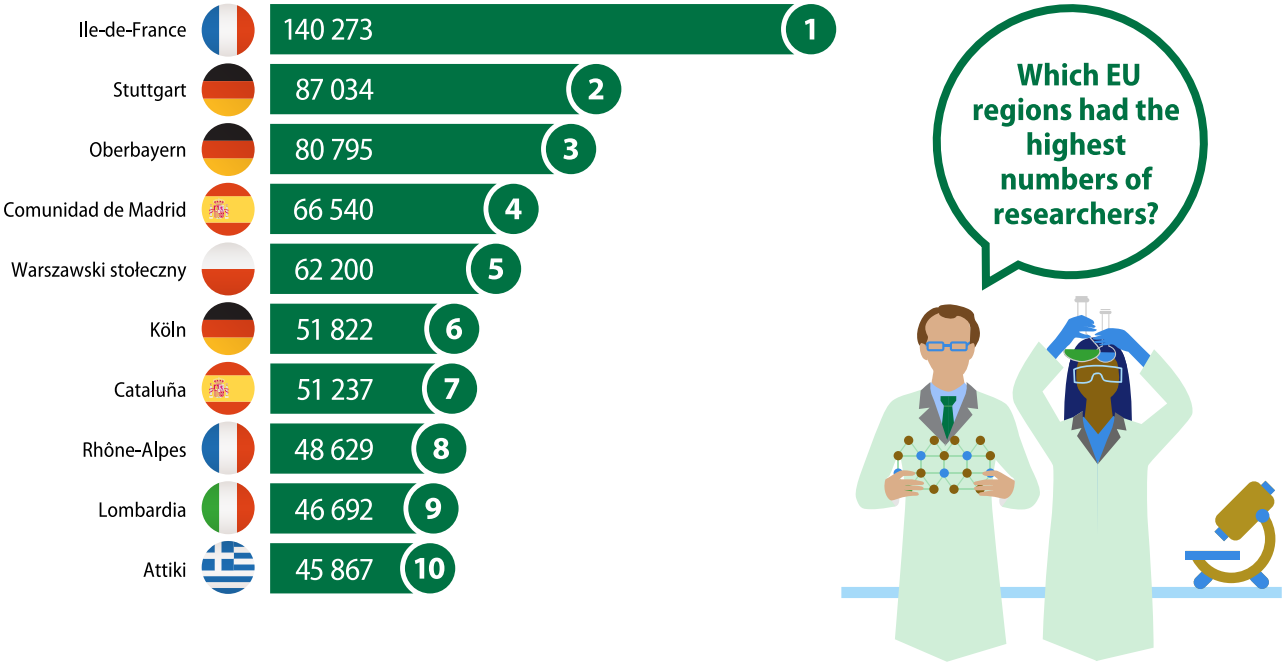
*Source:* Eurostat (online data codes: sbs_r_nuts2021, sbs_sc_ovw and sbs_ovw_act)

# 9. Research and development

Research and development (R&D) is a principal driver of economic growth, productivity and long-term competitiveness, both within the European Union (EU) and beyond. It has the potential to help address some of the world's greatest economic, societal and ecological challenges; in doing so, it can improve the daily lives of millions of people. For example, it can lead to digital innovations that transform how we work and communicate, medical breakthroughs that improve health outcomes, or cleaner technologies that reduce environmental impacts. This chapter starts with an analysis of R&D expenditure patterns, in terms of R&D intensity, R&D expenditure per inhabitant and R&D intensity by sector of performance.

Education, training and lifelong learning play a vital role in developing a region's capacity to innovate. Human capital is a key input for research and innovation activities, as the availability of scientists, engineers and other highly qualified professionals can influence a region's capacity to generate new knowledge and transform it into innovative products, services and processes. A strong research workforce may also help foster collaboration between businesses, universities and public institutions, thereby supporting the diffusion of knowledge and technological progress. The second half of this chapter presents key statistics on R&D personnel and researchers, as well as human resources in science and technology (HRST).

The infographic below shows that the French capital region of Ile-de-France had the highest number of researchers among NUTS level 2 regions, with 140 273 in 2023. The German regions of Stuttgart, Oberbayern and Köln, the Spanish regions of Comunidad de Madrid and Cataluña, as well as the Polish capital region of Warszawski stołeczny were the only other regions in the EU to report more than 50 000 researchers.




(head count, by NUTS 2 regions, 2023)

Note: France, data in full-time equivalents (FTEs). RUP FR — Régions Ultrapériphériques Françaises (FRY) and the Netherlands: not available.

*Source:* Eurostat (online data code: rd_p_persreg)

## R&D expenditure

R&D may be defined as creative and systematic work undertaken to increase the stock of knowledge or to devise new applications of existing knowledge. Gross domestic expenditure on R&D (GERD) includes research expenditure made by businesses, higher education institutions, governments and private non-profit organisations. In 2023, the EU's GERD was valued at €389.2 billion; this is the latest year for which regional statistics are available. Fresher data are available for the EU total, which show that GERD increased 3.6% (in current price terms) to €403.3 billion in 2024.

Research and development activities are usually highly concentrated in regional clusters. Research-intensive regions are often characterised by the presence of academic institutions, science parks, high-technology industrial activities and/or knowledge-based services. Regions with clusters of innovative activity tend to develop self-perpetuating systems: the concentration of competitive and cooperative enterprises in related activities may attract start-ups, other market players and highly qualified personnel which in turn drives the creation of new technologies and innovative output. Many of the EU's predominantly urban regions concentrate R&D expenditure and human capital, such as:

- major innovation hubs, including Stuttgart, Rheinhessen-Pfalz, Karlsruhe, Oberbayern and Braunschweig (all in Germany), which host highly developed engineering businesses
- regional innovation centres in smaller EU countries, such as Prov. Brabant wallon and Prov. Vlaams-Brabant in Belgium, which exhibit some of the highest R&D intensities in the EU, benefitting from strong linkages between universities, research institutes and enterprises
- capital-city knowledge hubs, such as Hovedstaden (Denmark), Wien (Austria), Helsinki-Uusimaa (Finland) or Stockholm (Sweden), which host enterprise headquarters, universities and public research institutions.

***Highly concentrated R&D intensity: fewer than a quarter of all regions above the EU average in 2023***

The regional distribution of R&D expenditure underlines the significance of research clusters in the EU. In 2023, the highest level of R&D expenditure was recorded in the French capital region of Ile-de-France (€24.1 billion), followed by the German regions of Stuttgart (€20.5 billion) and Oberbayern (€18.4 billion). The Dutch region of West-Nederland (€11.5 billion; NUTS level 1) was the only other region in the EU to have in excess of €10.0 billion of R&D expenditure.

The distribution of R&D expenditure is therefore highly skewed: the 51 NUTS level 2 regions (out of 231 for which data are available) with more than €2.0 billion of R&D expenditure, together accounted for 72.4% of EU intramural R&D expenditure in 2023.

**More about the data: R&D statistics**

Starting from reference year 2021, statistics on R&D expenditure and employment have a new legal basis – the EBS Regulation (*Regulation (EU) 2019/2152 of the European Parliament and of the Council of 27 November 2019 on European business statistics* and *Commission Implementing Regulation (EU) 2020/1197 consolidated*); it has resulted in improved regional coverage for statistics on R&D.

The methodology for R&D statistics is laid down in the *Frascati manual* (OECD, 2015). It provides guidelines for collecting and reporting data on research and experimental development, with definitions of basic concepts and classifications for compiling R&D statistics.

Regional R&D statistics are generally presented for NUTS level 2 regions. Exceptions are the Netherlands (where the data refer to NUTS level 1 regions), Switzerland and Albania (where national data are presented). For the purposes of the analyses of regions meeting specific criteria, these alternative territorial units are included in the counts alongside NUTS level 2 regions.

R&D intensity is often used as an indicator of an economy's innovative capacity; it is defined as the ratio of R&D expenditure to gross domestic product (GDP). Despite modest increases over the past 2 decades, R&D intensity in the EU remains well below a long-standing 3.00% target. It rose temporarily during the COVID-19 crisis, before broadly returning to pre-pandemic levels – 2.26% in 2023 and 2.24% in 2024. The latest regional R&D statistics are available for the 2023 reference year; regional statistics are collected every other year for odd-numbered reference years, and the data for 2025 will be published in the next edition.

Compared with an analysis of R&D expenditure patterns, the regional distribution of R&D intensity is less influenced by the size of different regions, or the use of different NUTS levels / national data for some EU countries. Nevertheless, the regional distribution of R&D intensity was also heavily skewed: in 2023, fewer than a quarter (51 out of 231) of all regions for which data are available had an intensity ratio above the EU average of 2.26%.

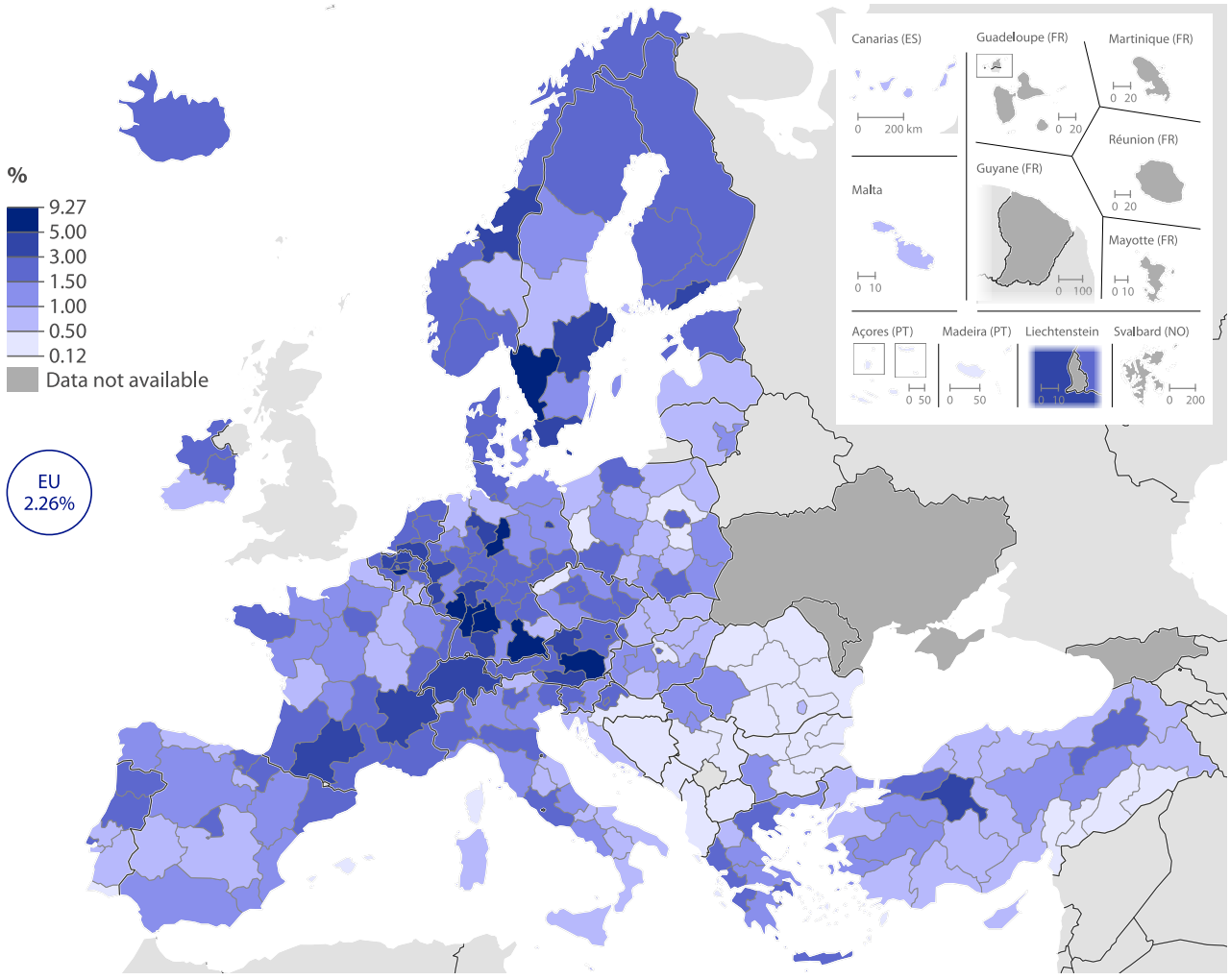
In 2023, 28 NUTS level 2 regions recorded R&D intensity above 3.00%, as shown by the darkest shades in Map 9.1. These regions were concentrated in western and northern EU countries: Germany (11 regions), Belgium, Austria, Sweden (4 regions each), France (2 regions) and a single region from each of Denmark, the Netherlands and Finland. Within this group, there were 5 capital regions: Hovedstaden (4.63%), Wien (3.95%), Helsinki-Uusimaa (3.95%), Stockholm (3.53%) and Berlin (3.07%).

The highest level of R&D intensity was recorded in Prov. Brabant wallon (9.27% in 2023). The research profile of this region is strongly shaped by a concentration of pharmaceutical activities, university-based research and specialised capabilities in, among other activities, life sciences, medical imaging, computing and telecommunications.

The next highest ratios were observed in the German regions of Stuttgart (7.83%), Braunschweig (6.10%) and Karlsruhe (5.90%). These regions are characterised by the combination of advanced manufacturing and research-intensive activities. A strong industrial base – particularly in engineering – is complemented by growing specialisation in emerging technologies such as biotechnology, nanotechnology and artificial intelligence. For example, in the Stuttgart region, global engineering firms such as Bosch, Mercedes-Benz and Porsche play a central role in shaping the regional innovation system.

At the other end of the scale, 25 regions across the EU recorded R&D intensity below 0.50% in 2023 (shown in the lightest shade in Map 9.1). These regions were concentrated primarily in eastern EU countries, including Romania (6 regions), Bulgaria (5 regions), Poland (2 regions), as well as single regions in Czechia, Croatia and Hungary. A further group of regions with very low R&D intensity was located in southern EU countries, comprising 3 regions from Spain, 3 from Portugal and 2 from Greece. The final region in this group was the French island region of Corse. Most of these very low R&D intensity regions were characterised as predominantly rural regions or islands.

**Map 9.1: R&D intensity**
(%, by NUTS 2 regions, 2023)




Note: R&D intensity is defined as gross domestic expenditure on R&D (GERD) relative to gross domestic product (GDP). The Netherlands: NUTS level 1. Switzerland and Albania: national data. Albania: 2022. Norway, and Bosnia and Herzegovina: 2021.

*Source:* Eurostat (online data code: rd_e_gerdreg)

***In 2023, R&D expenditure per inhabitant peaked at €5 931 per inhabitant in the Belgian region of Prov. Brabant Wallon***

An alternative way to analyse the relative importance of R&D expenditure across different regions is to express it relative to population size, allowing spending levels to be compared on a per-inhabitant basis (rather than in absolute terms or in relation to GDP). This normalisation helps account for differences in country or regional scale and provides a clearer indication of investment intensity. In 2023, total R&D expenditure across the EU averaged €869 per inhabitant. While 2023 remains the most recent year for which regional data are available, more up-to-date figures for the EU aggregate indicate that expenditure rose to €898 per inhabitant in 2024.

In 2023, 20 NUTS level 2 regions recorded R&D expenditure per inhabitant of at least €2 000 (as shown by the darkest shade in Map 9.2), confirming a high concentration of R&D activity in a relatively small number of regions. These 20 regions were located exclusively in northern and western EU countries: Germany (9 regions), Belgium (4 regions), Austria and Sweden (both 2 regions), and single regions from each of Denmark, Ireland and Finland.

As was the case for R&D intensity (see above), the highest regional values for R&D expenditure per inhabitant in 2023 were recorded in the Belgian region of Prov. Brabant Wallon (€5 931 per inhabitant) and the German region of Stuttgart (€4 945 per inhabitant). There were 4 other regions with expenditure of more than €3 000 per inhabitant: the Danish capital region of Hovedstaden (€3 944 per inhabitant; that had the tenth highest ratio for R&D intensity) and the German regions of Oberbayern (€3 909 per inhabitant; eighth highest), Braunschweig (€3 304 per inhabitant; third highest) and Karlsruhe (€3 191 per inhabitant; fourth highest).

The skewed nature of R&D expenditure was apparent insofar as 7 out of every 10 regions (168 out of 231 for which data are available) in the EU had a level of R&D expenditure per inhabitant that was below the EU average in 2023. This was the case in most eastern and southern EU countries, including:

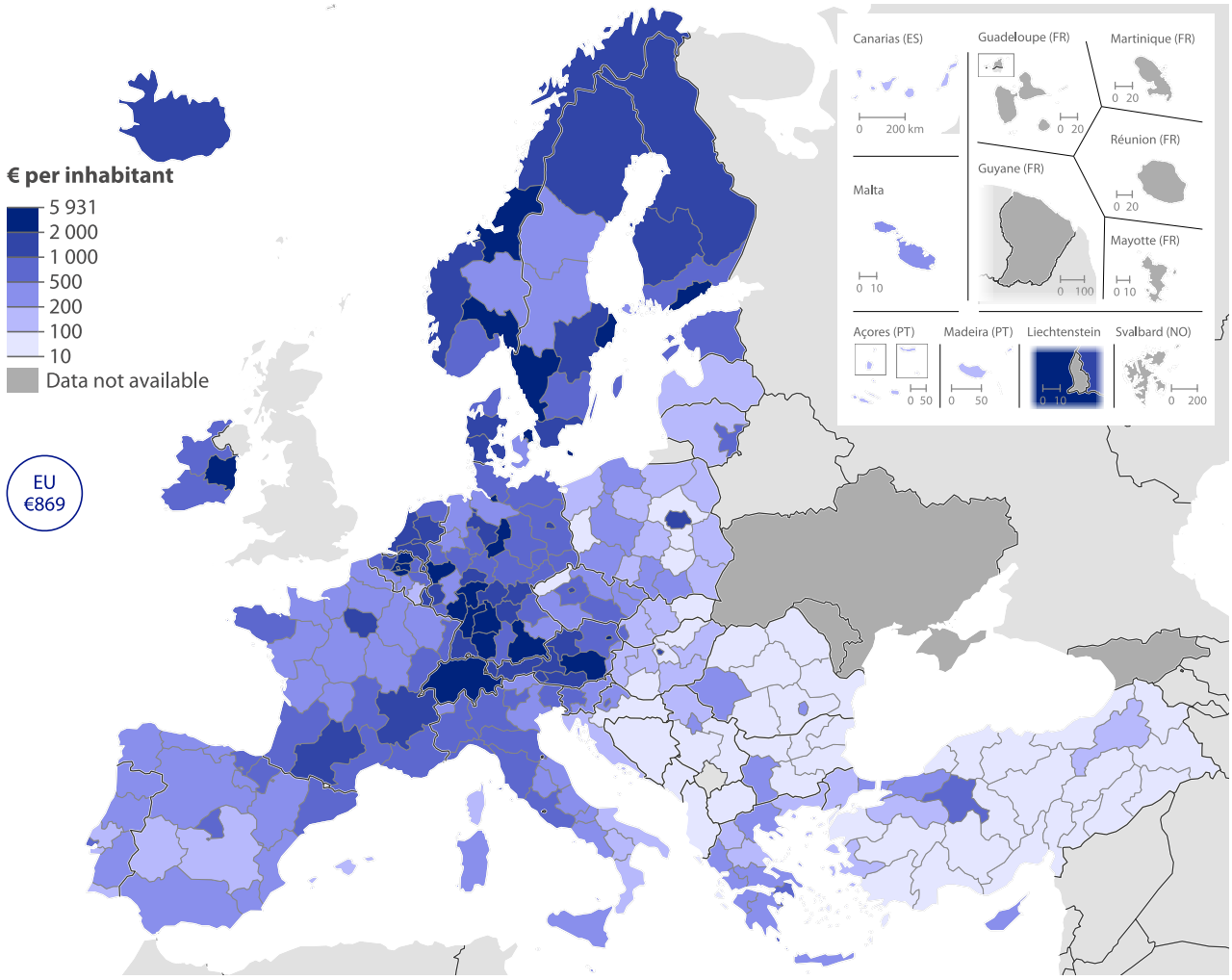
- every region of Bulgaria, Greece, Croatia, Lithuania, Portugal, Romania and Slovakia
- all but 1 of the regions in Czechia, Italy, Hungary, Poland and Slovenia – the exceptions being Emilia-Romagna in Italy and the capital regions in the other countries
- Estonia, Cyprus, Latvia and Malta.

In 2023, 24 NUTS level 2 regions recorded R&D expenditure of less than €100 per inhabitant (as shown by the lightest shade in Map 9.2), highlighting regions with very limited R&D activity. These regions were predominantly located in eastern EU countries: Romania (6 regions), Bulgaria (5 regions), Poland, Hungary (3 regions each), as well as single regions from each of Czechia, Croatia and Slovakia. This group of 24 regions also included 4 regions from southern EU countries, specifically Greece and Spain (2 regions each). Within this group, some of the lowest levels of R&D expenditure per inhabitant were observed in Romania, particularly in Sud-Est (€15 per inhabitant) and Sud-Vest Oltenia (€22 per inhabitant).

The skewed and concentrated nature of R&D expenditure is further illustrated by comparing expenditure per inhabitant between regions. In 2023, expenditure in the Belgian region of Prov. Brabant Wallon – the EU region with the highest level of expenditure per inhabitant – was:

- 33 times as high as in Prov. Luxembourg, the Belgian region with the lowest level of expenditure per inhabitant
- 395 times as high as in Sud-Est in Romania, the EU region with the lowest level of expenditure per inhabitant.

**Map 9.2:** R&D expenditure
(€ per inhabitant, by NUTS 2 regions, 2023)




Note: the Netherlands, NUTS level 1. Switzerland and Albania: national data. Albania: 2022. Bosnia and Herzegovina: 2021.

*Source:* Eurostat (online data code: rd_e_gerdreg)

Table 9.1 confirms that regions with high levels of R&D intensity also tend to record high levels of R&D expenditure per inhabitant. In 2023, this pattern was frequently observed for capital regions, which recorded the highest values for both indicators in Bulgaria, Czechia, Denmark, Ireland, Croatia, Lithuania, Hungary, Poland, Portugal, Slovenia, Slovakia and Finland.

A closer examination of the results shows that the same region recorded the highest values for both indicators in all but 4 of the multi-regional EU countries in 2023. The only exceptions were:

- Greece, where the highest R&D intensity was recorded in the north-western region of Ipeiros, while the highest R&D expenditure per inhabitant was observed in the capital region of Attiki
- France, where the south-western region of Midi-Pyrénées, a major aerospace and high-technology cluster, recorded the highest R&D intensity, while the capital region of Ile-de-France recorded the highest R&D expenditure per inhabitant
- Italy, where Piemonte, a region with a long-established automotive and advanced engineering manufacturing base, recorded the highest R&D intensity, while Emilia-Romagna, specialising in automotive engineering, agri-food activities and biomedicine, recorded the highest R&D expenditure per inhabitant
- Romania, where Vest, with automotive supply chains and electrical engineering activity, recorded the highest R&D intensity, while the capital region of Bucureşti-Ilfov recorded the highest R&D expenditure per inhabitant.

**Table 9.1:** R&D indicators
(by NUTS 2 regions, 2023)

| | Highest region | R&D intensity (%) | Highest region | R&D expenditure (€ per inhabitant) |
|---|---|---|---|---|
| EU | Prov. Brabant wallon | 9.27 | Prov. Brabant wallon | 5 931 |
| BE | Prov. Brabant wallon | 9.27 | Prov. Brabant wallon | 5 931 |
| BG | Yugozapaden | 1.24 | Yugozapaden | 293 |
| CZ | Praha | 2.69 | Praha | 1 693 |
| DK | Hovedstaden | 4.63 | Hovedstaden | 3 944 |
| DE | Stuttgart | 7.83 | Stuttgart | 4 945 |
| EE | – | 1.84 | – | 514 |
| IE | Eastern and Midland | 2.19 | Eastern and Midland | 2 453 |
| EL | Ipeiros | 1.81 | Attiki | 506 |
| ES | País Vasco | 2.35 | País Vasco | 930 |
| FR | Midi-Pyrénées | 4.14 | Ile-de-France | 1 940 |
| HR | Grad Zagreb | 2.26 | Grad Zagreb | 754 |
| IT | Piemonte | 2.13 | Emilia-Romagna | 917 |
| CY | – | 0.68 | – | 225 |
| LV | – | 0.83 | – | 172 |
| LT | Sostinės regionas | 1.48 | Sostinės regionas | 585 |
| LU | – | 1.09 | – | 1 312 |
| HU | Budapest | 2.24 | Budapest | 1 009 |
| MT | – | 0.59 | – | 223 |
| NL | Zuid-Nederland | 3.42 | Zuid-Nederland | 1 980 |
| AT | Steiermark | 5.31 | Steiermark | 2 571 |
| PL | Warszawski stołeczny | 2.80 | Warszawski stołeczny | 1 175 |
| PT | Grande Lisboa | 2.08 | Grande Lisboa | 838 |
| RO | Vest | 1.21 | Bucureşti-Ilfov | 337 |
| SI | Zahodna Slovenija | 2.64 | Zahodna Slovenija | 973 |
| SK | Bratislavský kraj | 1.80 | Bratislavský kraj | 828 |
| FI | Helsinki-Uusimaa | 3.95 | Helsinki-Uusimaa | 2 432 |
| SE | Västsverige | 5.70 | Västsverige | 2 853 |
| IS | – | 2.62 | – | 1 981 |
| NO | Trøndelag/Tröndelage | 5.09 | Trøndelag/Tröndelage | 2 779 |
| CH | – | 3.22 | – | 3 022 |
| BA | – | 0.19 | – | 10 |
| ME | – | 0.34 | – | 39 |
| MK | – | 0.37 | – | 29 |
| AL | – | 0.20 | – | 13 |
| RS | Aut. Province of Vojvodina | 1.31 | City of Belgrade | 218 |
| TR | Ankara | 4.42 | Ankara | 753 |

Note: the Netherlands, NUTS level 1. Switzerland and Albania: national data. Albania: 2022. Norway: 2021 for R&D intensity. Bosnia and Herzegovina: 2021.

*Source:* Eurostat (online data code: rd_e_gerdreg)

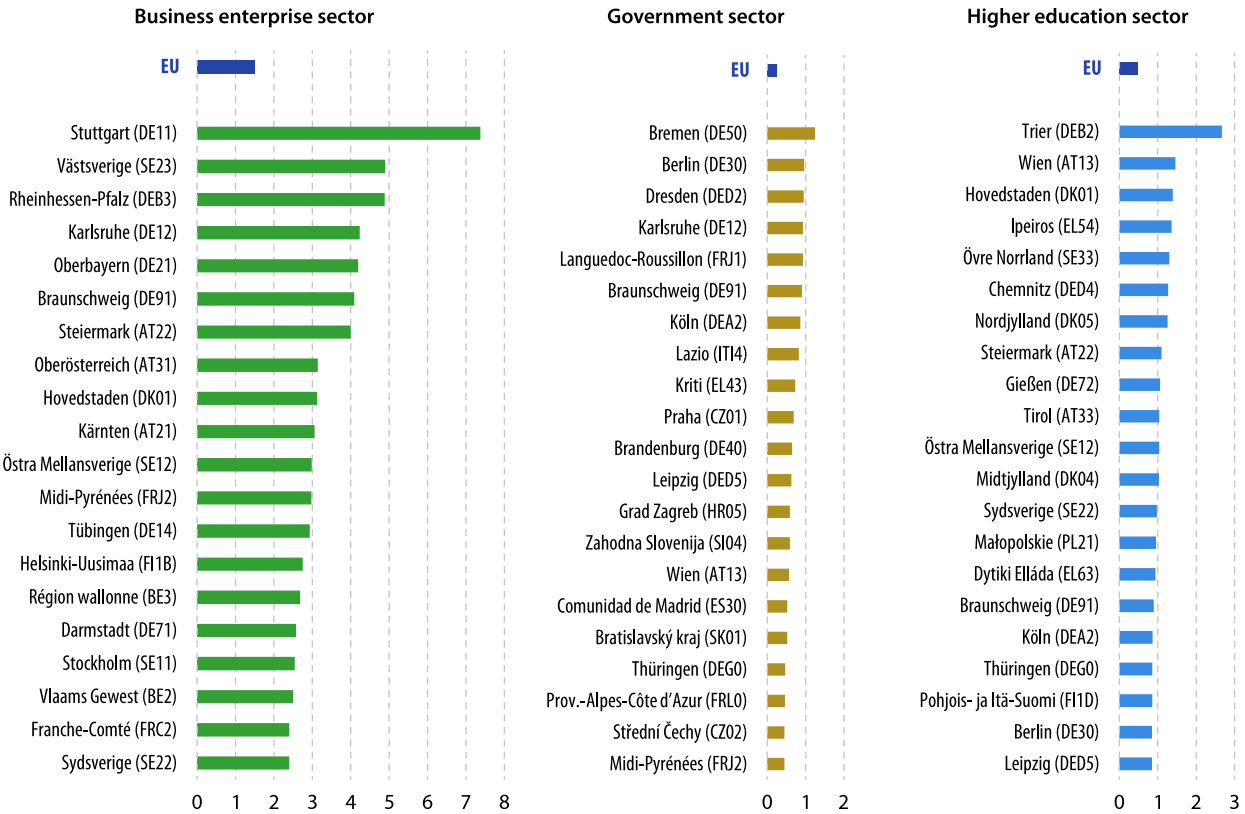
R&D intensity by sector of performance breaks down expenditure across business enterprises, government, higher education and the private non-profit sector. A high level of R&D intensity in the business enterprise sector typically reflects strong innovation performance in the private sector. In the government sector, relatively high ratios may indicate the presence of major public research institutes or national laboratories, whereas in higher education, high ratios typically reflect the presence of universities with strong research capacity and a significant role in national R&D activity.

Across the EU in 2023, R&D expenditure as a share of GDP was highest in the business enterprise sector (1.50%), followed by higher education (0.48%), government (0.24%) and the private non-profit sector (0.03%); Figure 9.1 provides a more detailed view of the regional distribution of R&D expenditure by sector of performance (no information is shown for the relatively small private non-profit sector).

In 2023, R&D intensity in the business enterprise sector stood at 1.50% across the EU. The highest values for NUTS level 2 regions were concentrated in a relatively small number of highly industrialised and innovation-driven regions across Germany, the Nordic EU countries, Austria, France and Belgium. Stuttgart in Germany (7.37%) recorded, by far, the highest ratio, followed by the western Swedish region of Västsverige (4.89%) that includes Göteborg as its main economic hub. Relatively high ratios were also observed in several other regions across Germany, including Rheinhessen-Pfalz (4.88%), Karlsruhe (4.23%), Oberbayern (4.19%) and Braunschweig (4.09%).

R&D intensity for the EU's government sector stood at 0.24% in 2023. The highest regional values were concentrated in Germany, reflecting the presence of major public research institutions and federal research organisations. Bremen in the north-west of Germany recorded the highest ratio (1.24%), followed by Berlin (0.96%), Dresden (0.95%) and Karlsruhe (0.93%). Relatively high ratios were also observed in several other capital regions, including Lazio (Italy), Praha (Czechia), Grad Zagreb (Croatia), Zahodna Slovenija (Slovenia), Wien (Austria), Comunidad de Madrid (Spain) and Bratislavský kraj (Slovakia).

**Figure 9.1:** R&D intensity
(%, by sector of performance and NUTS 2 regions, 2023)




Note: the figure shows the EU regions with the highest R&D intensities, based on non-confidential data. The rankings include more than 20 regions if several regions have identical values.

*Source:* Eurostat (online data code: rd_e_gerdreg)

The higher education sector can play a key role in national R&D systems, as universities are major centres of basic research and human capital formation and can be used by governments to strengthen research activity in regions characterised by limited private sector involvement. Across the EU, R&D intensity in the higher education sector stood at 0.48% in 2023, with the highest regional values spread across 5 different EU countries. The western German region of Trier recorded the highest ratio (2.67%), followed by the Austrian capital region of Wien (1.46%), the Danish capital region of Hovedstaden (1.39%), the north-western Greek region of Ipeiros (1.36%) and the northern Swedish region of Övre Norrland (1.30%).

## R&D personnel and researchers

As a leading global producer of scientific knowledge, the EU welcomes researchers from all over the world. In May 2021, the European Commission adopted a communication on a *Global Approach to Research and Innovation – Europe's strategy for international cooperation in a changing world* (COM(2021) 252 final).

In 2023, there were 3.3 million full-time equivalents (FTEs) in the EU categorised as R&D personnel and researchers. To put this figure into context, R&D personnel and researchers accounted for 1.57% of the total labour force. While only a partial set of regional data is available at the time of writing, the latest information for the EU shows a marginal increase in 2024, with the number of R&D personnel and researchers rising to 3.4 million FTEs.

The share of R&D personnel and researchers in the EU labour force has increased steadily since 2000 (the start of the time series), rising from 0.90% to 1.59% in 2024. This upward trend has been driven mainly by the business enterprise sector, which employs about three fifths of the R&D workforce.

### More about the data: R&D personnel

R&D personnel consist of all individuals employed directly in the field of R&D. Alongside researchers, this also includes technicians and equivalent staff as well as supporting staff (such as managers, administrators and clerical staff). R&D personnel are employed in public and private sectors (in businesses, governments, higher education and the private non-profit sector) to create new knowledge, products, processes and methods, as well as to manage and support the projects concerned.

Researchers are people engaged in R&D activities. They are defined as '… professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, as well as in the management of the projects concerned … They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods'.

For statistical purposes, indicators on R&D personnel and researchers are compiled as both head counts and as FTEs; the latter are used as the numerator for the indicators presented in this section.

The share of R&D personnel and researchers in the labour force forms part of the indicator list used by Eurostat to monitor progress towards the United Nations' sustainable development goals, in particular, target 9.5 that focuses on strengthening scientific research and increasing the number of research and development workers.

Regional statistics on R&D personnel are generally presented for NUTS level 2 regions. Exceptions are the Netherlands (where the data refer to NUTS level 1 regions) and Switzerland (where national data are presented).

In 2023 (the latest reference year for which regional statistics are available), there were 68 (out of 231) NUTS level 2 regions in the EU where the share of R&D personnel and researchers (measured in FTEs) in the labour force was equal to or above the EU average. As such, and in common with many other science and technology indicators, the distribution of R&D personnel and researchers was highly skewed.

In 2023, there were 23 NUTS level 2 regions where R&D personnel and researchers (measured in FTEs) accounted for at least 2.50% of the labour force; they are shown with the darkest shade in Map 9.3. At the top end of the distribution, the share reached 4.88% in the south-western German region of Stuttgart, a major industrial hub and home to companies like Mercedes-Benz and Porsche. There were 4 other regions with shares above 4.00%:

- the capital regions of Praha (4.65%) and Budapest (4.06%) in Czechia and Hungary
- Prov. Brabant wallon (4.46%) and Prov. Vlaams-Brabant (4.39%) in Belgium.

Capital regions made up almost half (11 out of 23) of this group of regions where R&D personnel and researchers accounted for at least 2.50% of the labour force. Alongside the capital regions of Czechia and Hungary (mentioned above), there were:

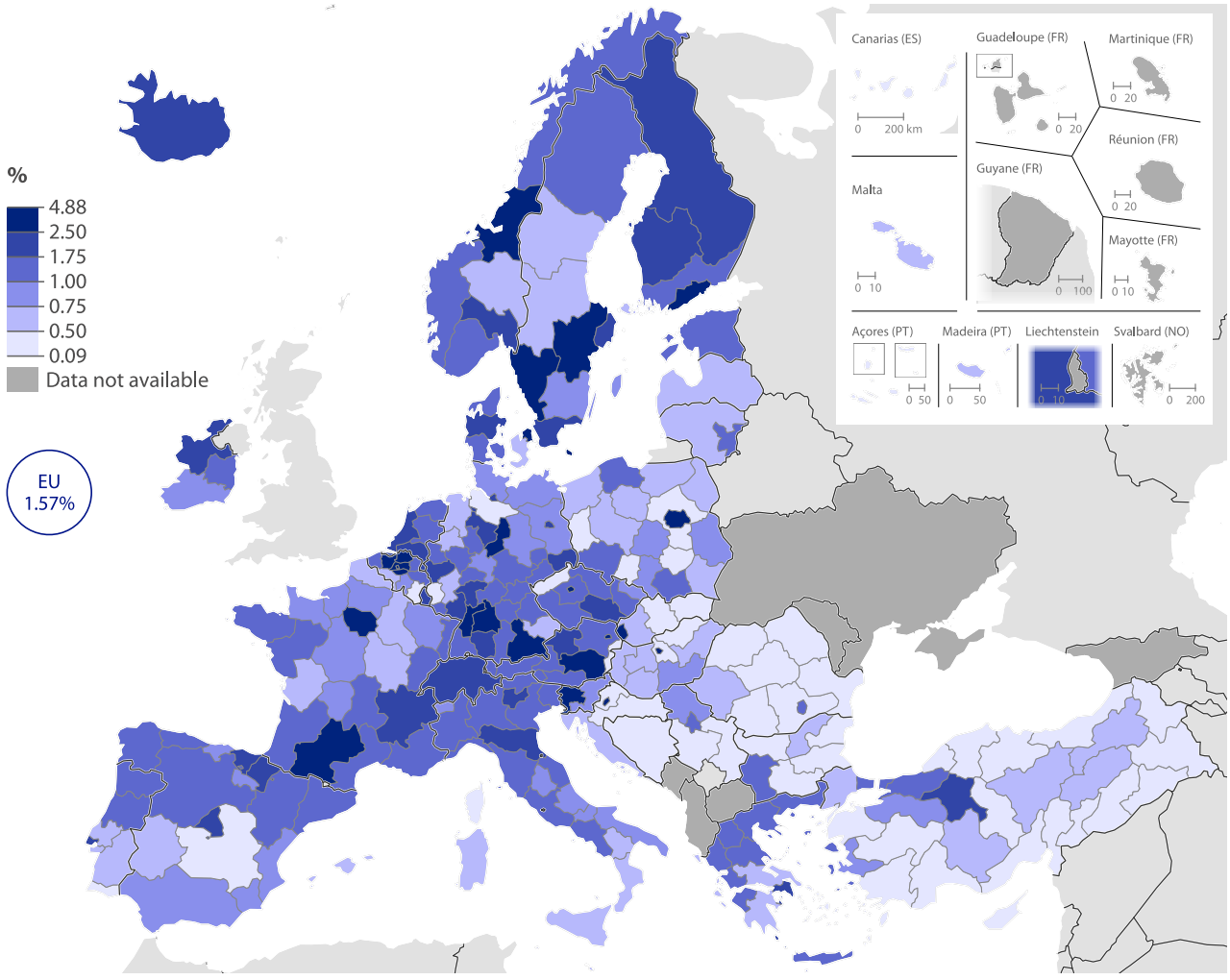
- 4 other capital regions from eastern EU countries, namely those of Poland, Slovakia, Croatia and Slovenia
- 3 capital regions from western EU countries, namely those of France, Belgium and Austria
- 2 capital regions from Nordic EU countries, namely those of Denmark and Finland

- the remaining 12 regions with shares of at least 2.50% were almost exclusively located in western EU countries, the only exceptions being Västsverige and Östra Mellansverige (both in Sweden).

This high concentration of research activity in capital regions may be attributed to several reinforcing factors, including, among others: a concentration of research institutions, universities and scientific organisations; modern research infrastructure and equipment; high levels of funding for research and innovation; collaborative and networking opportunities; a broad range of job opportunities for researchers.

At the lower end of the distribution, there were 34 NUTS level 2 regions where, in 2023, the share of R&D personnel and researchers (measured in FTEs) in the labour force was less than 0.50% (as shown by the lightest shade in Map 9.3). A majority of these regions (21 regions) were concentrated in eastern EU countries, principally across Romania (6 out of 8 regions, the only exceptions being the capital region of Bucureşti-Ilfov and Vest), Bulgaria (4 regions) and Poland (also 4 regions). The lowest share was recorded in the Romanian region of Sud-Vest Oltenia (0.09%).

**Map 9.3:** R&D personnel and researchers
(% of labour force, by NUTS 2 regions, 2023)




Note: for the numerator, data are in full-time equivalents (FTEs). The Netherlands: NUTS level 1. Switzerland: national data. Bosnia and Herzegovina: 2021.

*Source:* Eurostat (online data code: rd_p_persreg)

## Human resources in science and technology

In 2025, there were 128.2 million people in the EU classified as HRST, representing 49.9% of the EU's labour force. Among them, 103.4 million people met the HRST educational criterion, 81.6 million met the occupational criterion and 56.8 million met both the educational and occupational criteria. This latter group – those who are both qualified in science and technology and employed in related occupations – constitutes what is often referred to as 'core HRST'. These people are the main focus of the information presented in this section.

### More about the data: statistics on core human resources in science and technology

The criteria used to define human resources in science and technology statistics (HRST) are generally broader than those used to delineate R&D personnel and researchers; the latter refer specifically to occupations. HRST are defined as people who fulfil at least 1 of the following criteria:

- HRST by education – have successfully completed a tertiary education, as defined by the international standard classification of education (ISCED) levels 5 to 8
- HRST by occupation – are employed in a science and technology occupation, as defined by the international standard classification of occupations (ISCO) major groups 2 and 3.

Core HRST are the people who meet both of the above criteria. These individuals are particularly relevant as they combine formal qualifications with practical engagement in the field. Common roles taken by people classified as core HRST include scientists and engineers, teaching professionals, health professionals, business and administration professionals, information and communications technology (ICT) professionals, lab technicians, medical and pharmaceutical technicians, business and administration associate professionals, and ICT technicians.

Regions with high absolute numbers of core HRST and high shares of core HRST in their labour force are likely to experience a number of benefits, such as higher productivity, higher wage levels and clusters of research and technology activity. Factors such as these, in turn, are likely to reinforce their attractiveness to graduates and to (new) businesses, thereby generating spillover effects.

Map 9.4 shows the distribution of core HRST across NUTS level 2 regions. In 2025, some of the EU's most populous regions were also home to some of the highest numbers of core HRST (as shown by the size of the circles in the map). The French regions of Ile-de-France and Rhône-Alpes (2.5 million and 1.1 million, respectively), the Spanish regions of Comunidad de Madrid, Cataluña and Andalucía (1.3 million, 1.2 million and 0.9 million, respectively), the Italian region of Lombardia (0.9 million), the German region of Oberbayern (0.8 million) and the Polish capital region of Warszawski stołeczny (also 0.8 million) were the only EU regions to report more than 0.75 million core HRST. An additional 16 regions each had between 0.50 and 0.75 million core HRST. This group included 5 regions from Germany, 3 from France, 2 from the Netherlands and a single region from each of Ireland, Greece, Spain, Italy, Poland and Sweden.

In 2025, there were 43 NUTS level 2 regions where the share of core HRST in the labour force was at least 30.0% (as shown by the darkest shade in Map 9.4). This group included:

- 7 out of 11 regions in Belgium
- 5 out of 8 regions in Sweden
- the capital region of every multi-regional EU country except Lazio (Italy) and Zahodna Slovenija (Slovenia)
- at least 1 other region in Germany, Spain, France, the Netherlands and Poland
- Cyprus and Luxembourg.

Looking in more detail, the Hungarian capital region of Budapest (46.9%), the Polish capital region of Warszawski stołeczny (45.5%) and Luxembourg (45.0%) recorded the highest shares of core HRST in their labour forces in 2025. There were 8 other regions with shares of at least 40.0%:

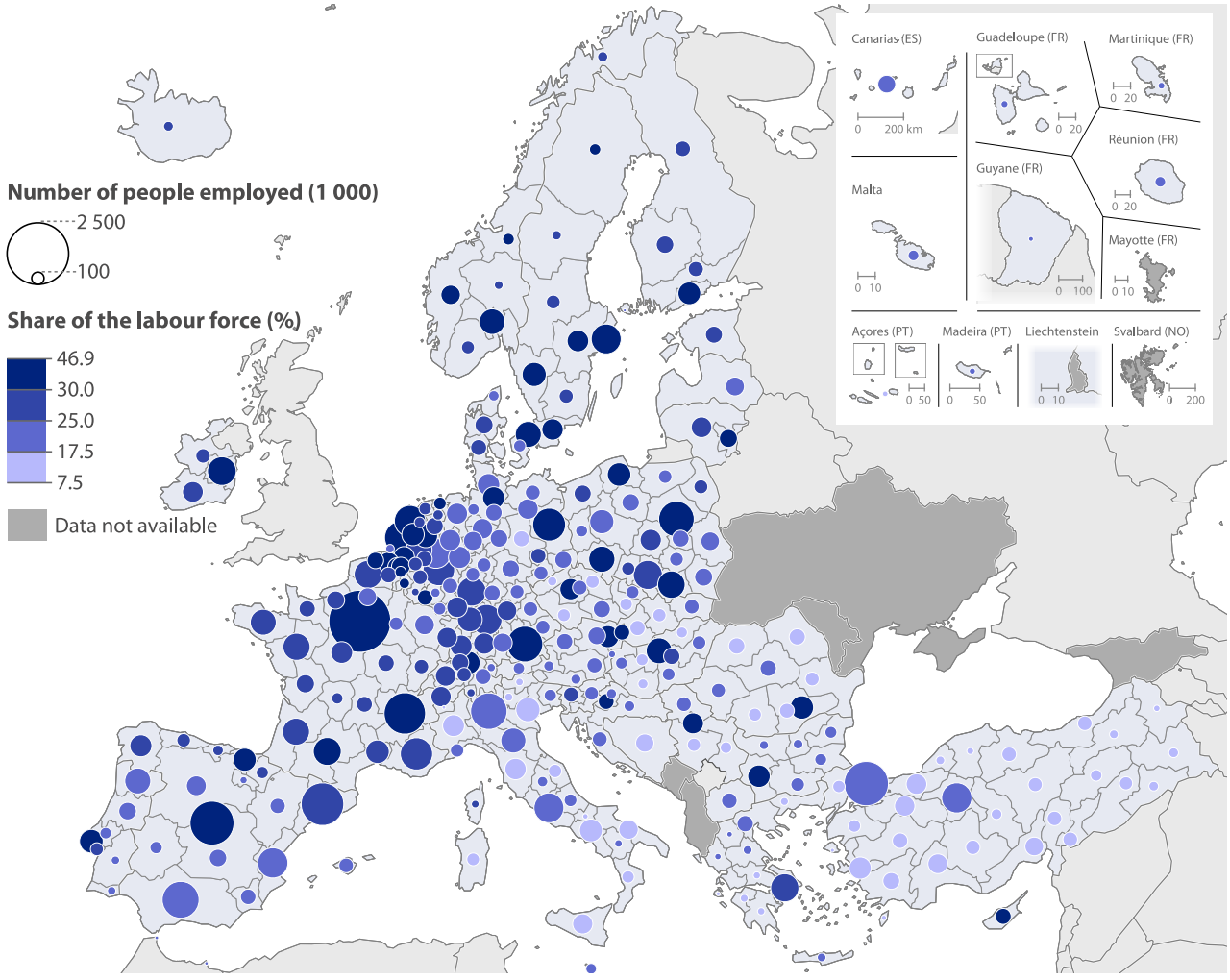
- 6 capital regions – Grad Zagreb (Croatia; 41.8%), Praha (Czechia; 41.4%), Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (Belgium; 41.0%), Sostinės regionas (Lithuania; 41.0%), Stockholm (Sweden; 40.7%) and Ile-de-France (France; 40.1%)
- Prov. Brabant wallon (Belgium; 41.1%)
- Utrecht (the Netherlands; 40.0%).

At the lower end of the distribution, 36 NUTS level 2 regions had a share of core HRST in the labour force below 17.5% in 2025 (as shown by the lightest shade in Map 9.4). These regions were mostly rural and/or peripheral and were predominantly located in eastern and southern EU countries. The only exception from western or northern EU countries was Sachsen-Anhalt in Germany, where the relatively low share may be linked to a more traditional industrial structure, long-term population decline and outward migration of qualified working-age people. This group of 36 regions also included:

- 5 out of 8 regions in Romania
- 13 out of 21 regions in Italy
- 7 out of 13 regions in Greece
- 4 out of 8 regions in Czechia
- 2 out of 4 regions in Slovakia
- 3 out of 8 regions in Hungary
- 1 region in Portugal.

Looking more closely, the Czech region of Severozápad (10.9%), the Romanian region of Sud-Muntenia (11.8%) and the Greek island region of Ionia Nisia (also 11.8%) recorded the lowest regional shares of core HRST in their respective labour forces in 2025.

**Map 9.4: Core human resources in science and technology**
(by NUTS 2 regions, 2025)




Note: EU = 56.8 million people employed as core human resources in science and technology, equivalent to 25.7% of the labour force. Iceland: 2024. Corse (FRM0) and Åland (FI20): low reliability.

*Source:* Eurostat (online data code: hrst_st_rcat)

Table 9.2 summarises the NUTS level 2 regions with the highest numbers and shares of core HRST in 2025. Capital regions generally dominated, recording both the highest absolute number and the highest share in 16 of the 22 multi-regional EU countries. The exceptions were Belgium, Germany, Italy, Lithuania, the Netherlands and Portugal.

**Table 9.2: Core human resources in science and technology**
(by NUTS 2 regions, 2025)

| | Highest region | Number (million) | Highest region | Share (% of labour force) |
|---|---|---|---|---|
| EU | Ile-de-France | 2.5 | Luxembourg | 46.9 |
| BE | Prov. Antwerpen | 0.3 | Prov. Brabant wallon | 41.1 |
| BG | Yugozapaden | 0.3 | Yugozapaden | 32.4 |
| CZ | Praha | 0.3 | Praha | 41.4 |
| DK | Hovedstaden | 0.4 | Hovedstaden | 39.4 |
| DE | Oberbayern | 0.8 | Berlin | 36.1 |
| EE | – | 0.2 | – | 25.5 |
| IE | Eastern and Midland | 0.5 | Eastern and Midland | 36.9 |
| EL | Attiki | 0.5 | Attiki | 29.6 |
| ES | Comunidad de Madrid | 1.3 | Comunidad de Madrid | 33.0 |
| FR | Ile-de-France | 2.5 | Ile-de-France | 40.1 |
| HR | Grad Zagreb | 0.2 | Grad Zagreb | 41.8 |
| IT | Lombardia | 0.9 | Lazio | 23.0 |
| CY | – | 0.2 | – | 32.1 |
| LV | – | 0.2 | – | 24.8 |
| LT | Vidurio ir vakarų Lietuvos r. | 0.3 | Sostinės regionas | 41.0 |
| LU | – | 0.2 | – | 45.0 |
| HU | Budapest | 0.4 | Budapest | 46.9 |
| MT | – | 0.1 | – | 22.1 |
| NL | Zuid-Holland | 0.7 | Utrecht | 40.0 |
| AT | Wien | 0.3 | Wien | 30.6 |
| PL | Warszawski stołeczny | 0.8 | Warszawski stołeczny | 45.5 |
| PT | Norte | 0.4 | Grande Lisboa | 31.5 |
| RO | Bucureşti-Ilfov | 0.4 | Bucureşti-Ilfov | 31.0 |
| SI | Zahodna Slovenija | 0.1 | Zahodna Slovenija | 29.5 |
| SK | Bratislavský kraj | 0.2 | Bratislavský kraj | 39.5 |
| FI | Helsinki-Uusimaa | 0.3 | Helsinki-Uusimaa | 34.6 |
| SE | Stockholm | 0.6 | Stockholm | 40.7 |
| IS (1) | – | 0.1 | – | 26.8 |
| NO | Oslo og Viken | 0.4 | Oslo og Viken | 37.5 |
| CH | Zürich | 0.3 | Zürich | 36.2 |
| BA | – | 0.2 | – | 15.4 |
| MK | – | 0.2 | – | 19.9 |
| RS | City of Belgrade | 0.3 | City of Belgrade | 34.2 |
| TR | İstanbul | 1.3 | Ankara | 23.7 |

(1) 2024.

*Source:* Eurostat (online data code: hrst_st_rcat)

The final part of this chapter provides a regional analysis of human resources in science and technology by sex. The EU actively promotes gender equality in the fields of science, technology, engineering, and mathematics, through a broad range of policies/initiatives, including gender equality plans within the EU's research framework programme called Horizon Europe. The European research area and the European Institute for Gender Equality both promote initiatives such as gender mainstreaming, training programmes, and networking opportunities for female scientists and engineers.

Looking in more detail, capital regions recorded the highest shares of core HRST in the labour force in all but 2 of the multi-regional EU countries:

- in Belgium, Prov. Brabant wallon (41.1%) recorded a marginally higher share than the capital region of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (41.0%)
- in the Netherlands, Utrecht (40.0%) recorded a somewhat higher share than the capital region of Noord-Holland (36.5%).

In terms of absolute numbers of core HRST, the only multi-regional EU countries where the capital region did not record the highest count were:

- Prov. Antwerpen in northern Belgium (0.3 million core HRST)
- Oberbayern in southern Germany (0.8 million)
- Lombardia in northern Italy (0.9 million)
- Vidurio ir vakarų Lietuvos regionas in Lithuania (0.3 million)
- Zuid-Holland in the Netherlands (0.7 million)
- Norte in Portugal (0.4 million).

In 2025, there were 20.2 million scientists and engineers in the EU. A minority (40.8 %) of the scientists and engineers in the EU were female.

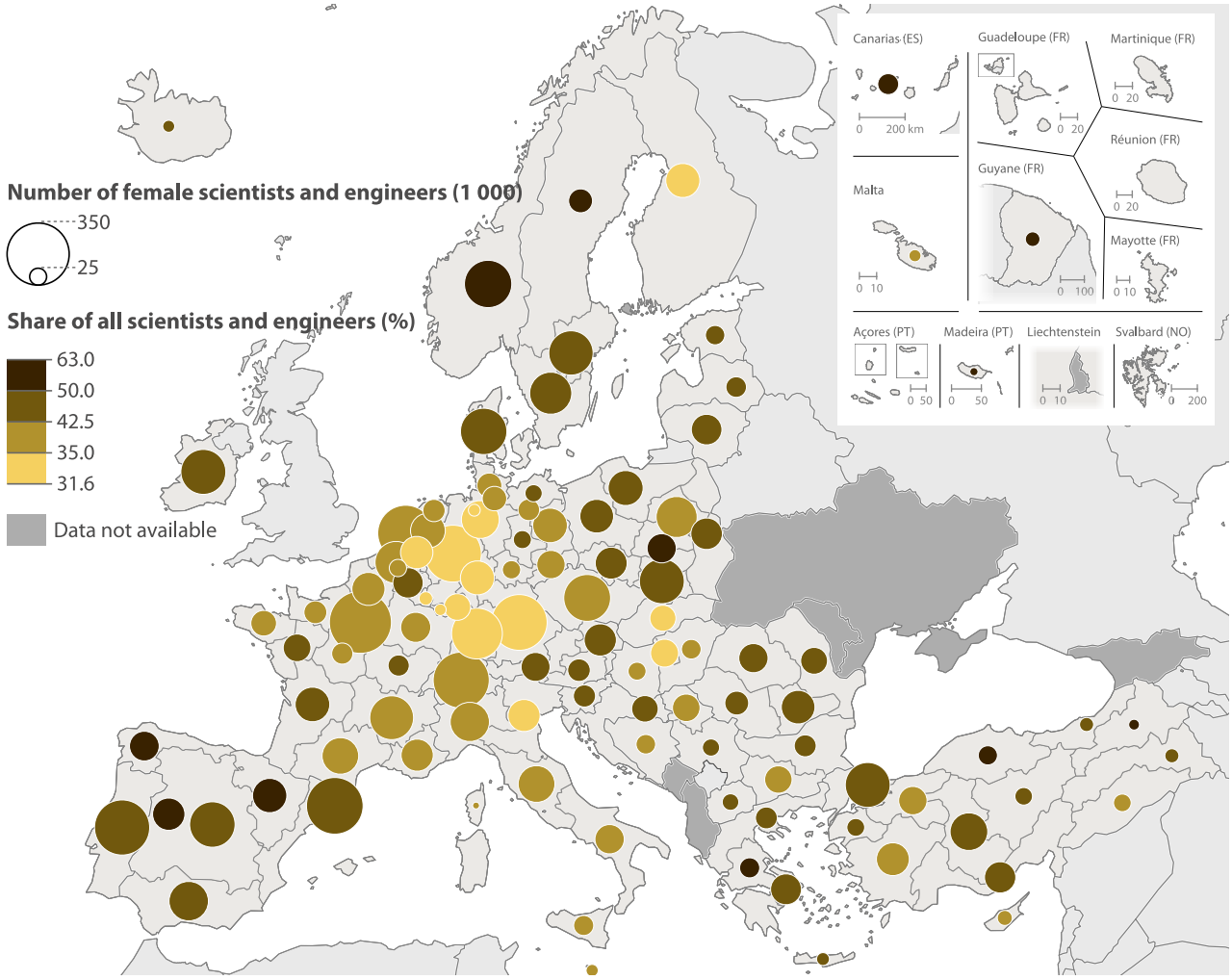
Map 9.5 shows the total number of female scientists and engineers (indicated by the size of each circle) and their share of all scientists and engineers (indicated by the shade of each circle). In 2025, there were 8.2 million female scientists and engineers in the EU.

In 2025, the highest numbers of female scientists and engineers were observed in some of the EU's most populous regions. Among NUTS level 1 regions, the French capital region of Ile-de-France recorded the highest count, with 336 300. It was followed by a group of regions with very similar levels, ranging between 265 100 and 281 400 female scientists and engineers: Nordrhein-Westfalen and Bayern in Germany, Este in Spain, West-Nederland in the Netherlands and Continente in Portugal.

There were 10 NUTS level 1 regions where females accounted for more than half of all scientists and engineers in 2025. A majority of these were located in southern EU countries: 4 regions from Spain, 2 from Portugal and a single region from Greece; the remaining 3 regions included Makroregion centralny in Poland, the northernmost region of Sweden and the French outermost regions. Most of this group had relatively small numbers of scientists and engineers. The highest count was observed in Noreste (Spain), with 102 700 female scientists and engineers, the 27th highest value among the 91 regions for which data are available. Although females accounted for a majority (60.0%) of the scientists and engineers in Região Autónoma dos Açores (Portugal; the second highest share), they numbered 4 800, which was the second lowest count, larger only than in the French island region of Corse.

At the lower end of the distribution, there were 14 regions in the EU where females accounted for less than 35.0% of all scientists and engineers in 2025. A majority of these regions (8 out of 14) were concentrated in Germany, including several with a strong industrial base, such as Baden-Württemberg (32.2%), Bayern (34.8%) and Nordrhein-Westfalen (34.9%). The lowest share of female scientists and engineers was observed in the central Hungarian region of Közép-Magyarország, where 68 100 females accounted for 31.6% of all scientists and engineers. There were 5 other regions across the EU where females accounted for less than a third of all scientists and engineers: Manner-Suomi (mainland Finland; 31.8%), Slovakia (also 31.8%), the south-western German regions of Baden-Württemberg (32.2%) and Saarland (32.8%) and Nord-Est (Italy; 33.2%).

**Map 9.5:** Female scientists and engineers
(by NUTS 1 regions, 2025)




Note: EU = 8.2 million female scientists and engineers, equivalent to 40.8% of all scientists and engineers. Iceland: 2024. Bremen (DE5), Saarland (DEC), Corse (FRM), Região Autónoma dos Açores (PT2) and Região Autónoma da Madeira (PT3): low reliability.

*Source:* Eurostat (online data code: hrst_st_rsex)

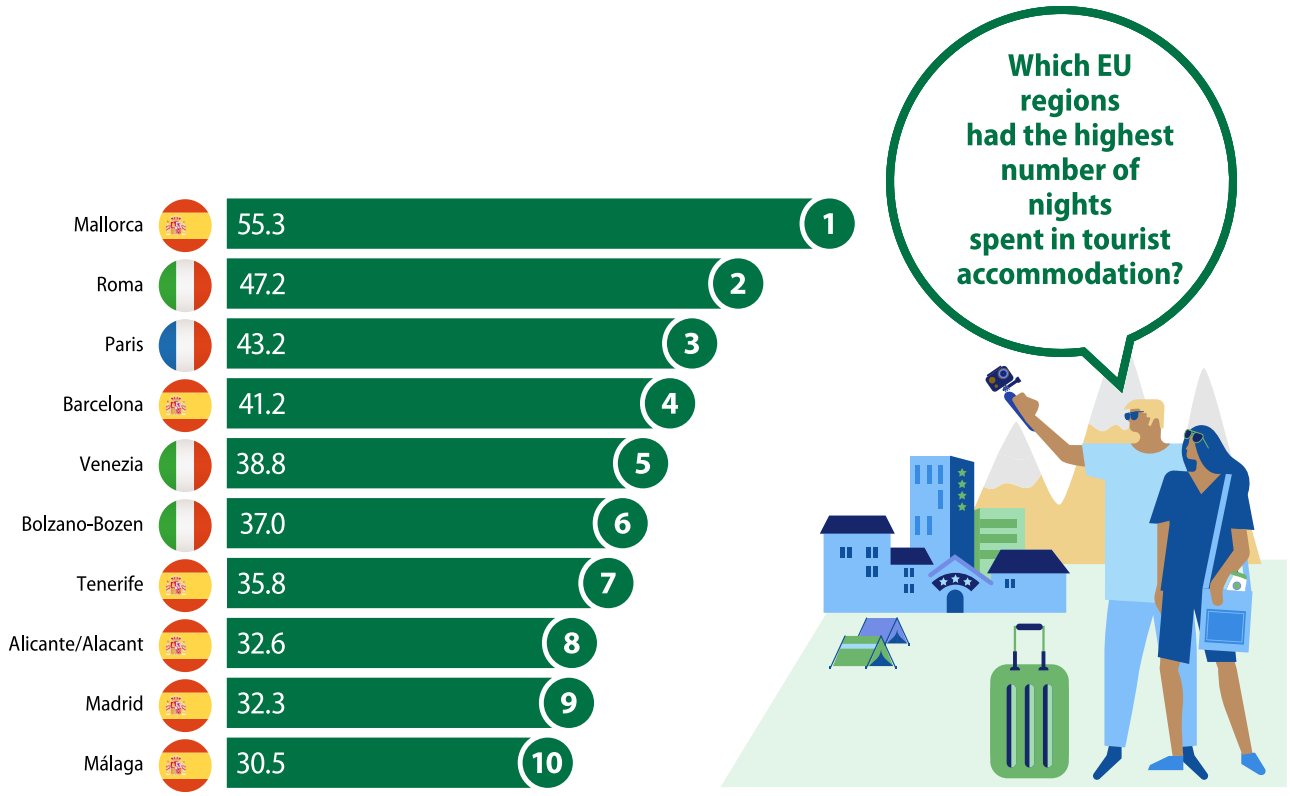
# 10. Tourism

With diverse landscapes, rich cultural heritage and world-class attractions, the EU is a leading tourist destination. Indeed, tourism plays a key role in the EU economy, contributing significantly to economic growth, employment and regional development. It can potentially support regional economies, particularly in coastal, mountain or outermost regions, while also fostering cross-border connections. Jobs created or maintained by tourism can help counteract industrial or rural decline by sustaining local services and infrastructure that might otherwise decline.

Tourism can have negative consequences or externalities. It presents economic challenges, such as seasonal employment fluctuations or excessive demand during peak seasons, placing a strain on local infrastructure and/or acting as a nuisance for local communities. Tourism also has an environmental impact: locally through noise, pollution, waste generation, wastewater discharge and habitat loss, and globally through transport emissions. Understanding regional tourism patterns helps policymakers develop strategies for sustainable growth, balancing economic benefits with social and environmental impacts.

The infographic below provides information on the EU regions with the highest numbers of nights spent in tourist accommodation during 2024. The list includes popular destinations for:

- beach holidays, such as Mallorca, Tenerife, Alicante/Alacant or Málaga in Spain
- city destinations, such as Barcelona or Venezia, as well as the Italian, French and Spanish capital regions of Roma, Paris and Madrid
- mountain destinations, such as Bolzano-Bozen in northern Italy.




(million nights, by NUTS 3 regions, 2024)

Note: there were 3.02 billion nights spent in tourist accommodation across the EU.

*Source:* Eurostat (online data code: tour_occ_nin3)

## Number of nights spent in tourist accommodation

### More about the data: tourism statistics

Tourism, in a statistical context, refers to the activity of people taking a trip to a destination outside their usual environment, for less than a year. This definition is wider than the common everyday definition, insofar as it encompasses not only private leisure trips but also visits to family and friends, as well as business trips. Visitors include tourists (who are visitors with at least 1 overnight stay – as presented in this chapter) and same-day visitors.

Tourism statistics are traditionally collected from suppliers of tourism services through surveys of tourist accommodation establishments or from administrative data. These establishments include all types of accommodation which provide, as a paid service, accommodation for tourists. They are defined according to the activity classification NACE and include:

- hotels and similar establishments (NACE Group 55.1)
- holiday and other short-stay accommodation (NACE Group 55.2)
- camping grounds, recreational vehicle parks and trailer parks (NACE Group 55.3).

The number of nights spent in tourist accommodation reflects both the length of stay and the number of tourists and is considered a key indicator for examining tourism developments, even though it does not cover stays in non-rented accommodation or same-day visits (without an overnight stay).

The statistics presented in this section generally refer to 2024. They are typically shown for NUTS level 3 regions. However, for Belgium, the breakdown between domestic and international tourists is available only at NUTS level 2. For Türkiye, data are available only at NUTS level 2 for the total, domestic and international tourists. Data on nights spent in tourist accommodation establishments by month are also presented for NUTS level 2 regions.

In 2024, there were 3.02 billion nights spent in tourist accommodation across the EU, 51.9% of which were accounted for by domestic tourists and a slightly smaller share by international tourists (48.1%). The total number of nights spent in EU tourist accommodation increased by 2.7% between 2023 and 2024, with a faster growth rate for nights spent by international tourists (5.5%) than for domestic tourists (0.2%).

Map 10.1 presents information for NUTS level 3 regions on the total number of nights spent in tourist accommodation during 2024 (as denoted by the size of each circle). There were 11 regions in the EU where the total number of nights spent exceeded 30.0 million:

- the Spanish island regions of Mallorca (55.3 million nights spent) and Tenerife (35.8 million)
- the capital regions of Roma in Italy (47.2 million), Paris in France (43.2 million), Madrid in Spain (32.3 million) and Berlin in Germany (30.4 million)
- the Spanish coastal regions of Barcelona (41.2 million), Alicante/Alacant (32.6 million) and Málaga (30.5 million)
- the coastal region of Venezia (38.8 million) and the mountainous region of Bolzano-Bozen (37.0 million), both in Italy.

Map 10.1 also provides information on the origin of EU tourists, identifying (according to the colour of each circle), regions where:

- **international tourists** accounted for a majority of the total nights spent
- **domestic tourists** accounted for a majority of the total nights spent.

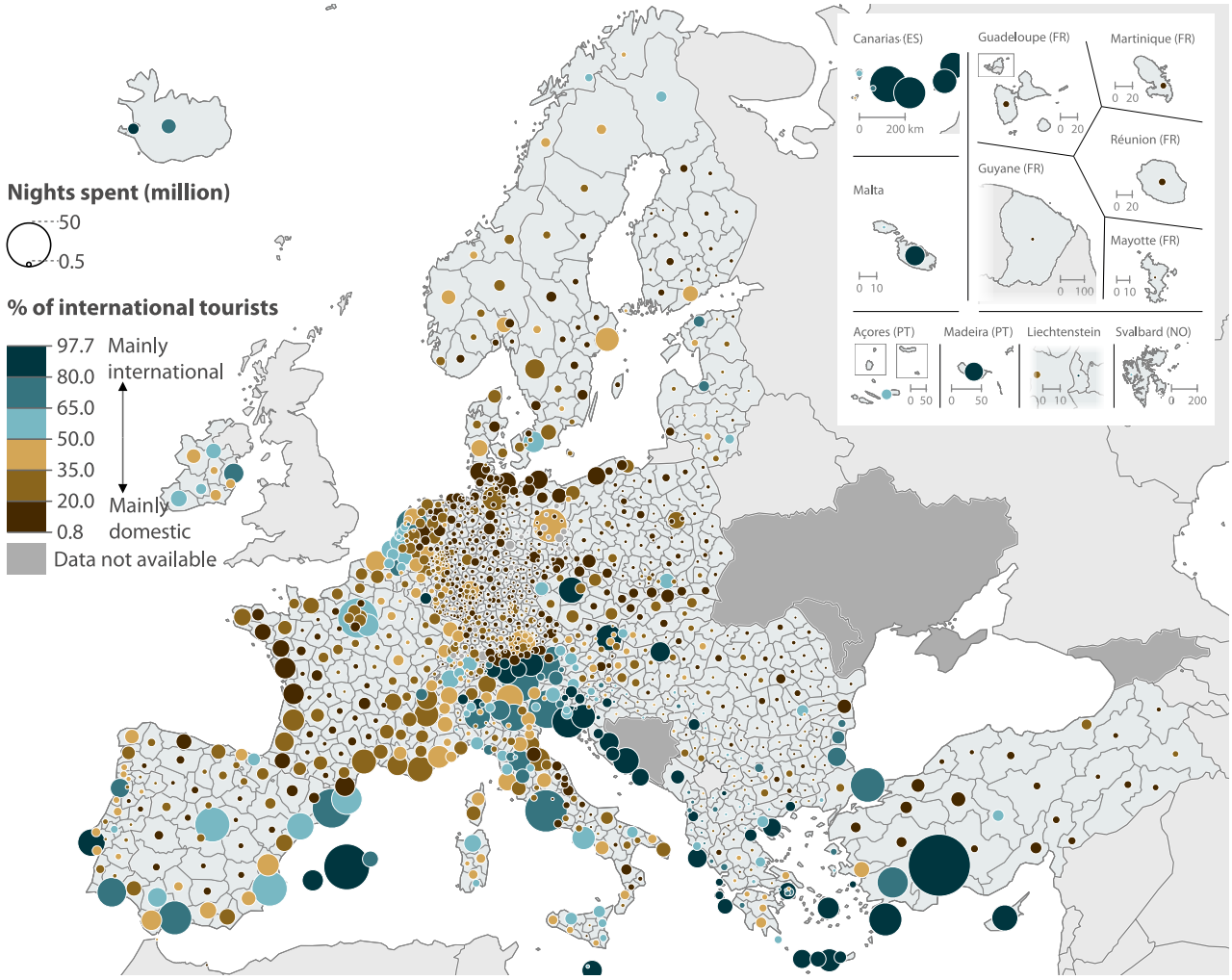
While domestic tourists accounted for approximately half of all nights spent in EU tourist accommodation in 2024, they frequented a much wider range of destinations than international tourists. Indeed, nights spent by domestic tourists outnumbered those spent by international tourists in the vast majority of EU regions (936 out of the 1 102 regions for which data are available).

By contrast, nights spent by international tourists were generally concentrated in a relatively small number of regions that ranked among the EU's most frequented tourist destinations. In 2024, international tourists accounted for at least 65.0% of all nights spent in 93 regions. Most of these regions characterised by a high concentration of international tourists were:

- coastal regions (principally located in the Mediterranean)
- mountainous regions (predominantly in the Alps)
- capital regions (across a broad range of EU countries).

Many of these 93 regions with a high concentration of international tourists experience pronounced seasonal peaks in demand, typically during the summer and/or winter months, which may create tourism pressures and have implications for sustainable development, as well as for the preservation and protection of natural and urban environments (see below for more information on seasonality).

**Map 10.1:** Nights spent in tourist accommodation
(by NUTS 3 regions, 2024)




Note: Belgium and Türkiye, NUTS level 2. Rems-Murr-Kreis (DE116), Schwäbisch Hall (DE11A), Rhein-Neckar-Kreis (DE128), Sonneberg (DEG0V) and Iceland: 2023.

*Source:* Eurostat (online data code: tour_occ_nin3)

***Mallorca recorded the highest number of nights spent by international tourists in 2024, while Berlin recorded the highest number for domestic tourists***

Figure 10.1 shows the most frequented tourist destinations in the EU, based on NUTS level 3 regions. It provides information for those regions with the highest numbers of nights spent in tourist accommodation, detailing the most frequented regions for all tourists, for domestic tourists and for international tourists.

Capital regions serve as economic, political and financial hubs, attracting professionals for meetings, conferences and other corporate activities. They are also cultural destinations, offering historical sites, museums, concert venues, theatres and stadia. As such, capital regions function as both business and cultural centres. In 2024, the EU regions with the highest numbers of nights spent by domestic tourists included:

- Berlin in Germany (17.6 million)
- Paris in France (15.3 million)
- Madrid in Spain (14.5 million)
- Roma in Italy (13.3 million).

Following these 4 capital regions in the EU's largest economies, the highest levels of nights spent by domestic tourists were primarily recorded in coastal and mountainous regions of the larger EU countries. In 2024, domestic tourists spent at least 11.0 million nights in:

- Hérault (12.3 million) and Var (12.0 million) along France's southern coast, which include popular destinations such as Montpellier, Sète, Saint-Tropez and Fréjus
- Hamburg (12.3 million) in northern Germany, a major port known for its maritime heritage, cultural attractions and vibrant neighbourhoods
- Alicante/Alacant (12.1 million) on the south-eastern coast of Spain, including popular destinations such as Benidorm, Altea or Calpe
- Trento (11.0 million) in northern Italy, a popular destination for mountain tourism, including skiing and hiking.

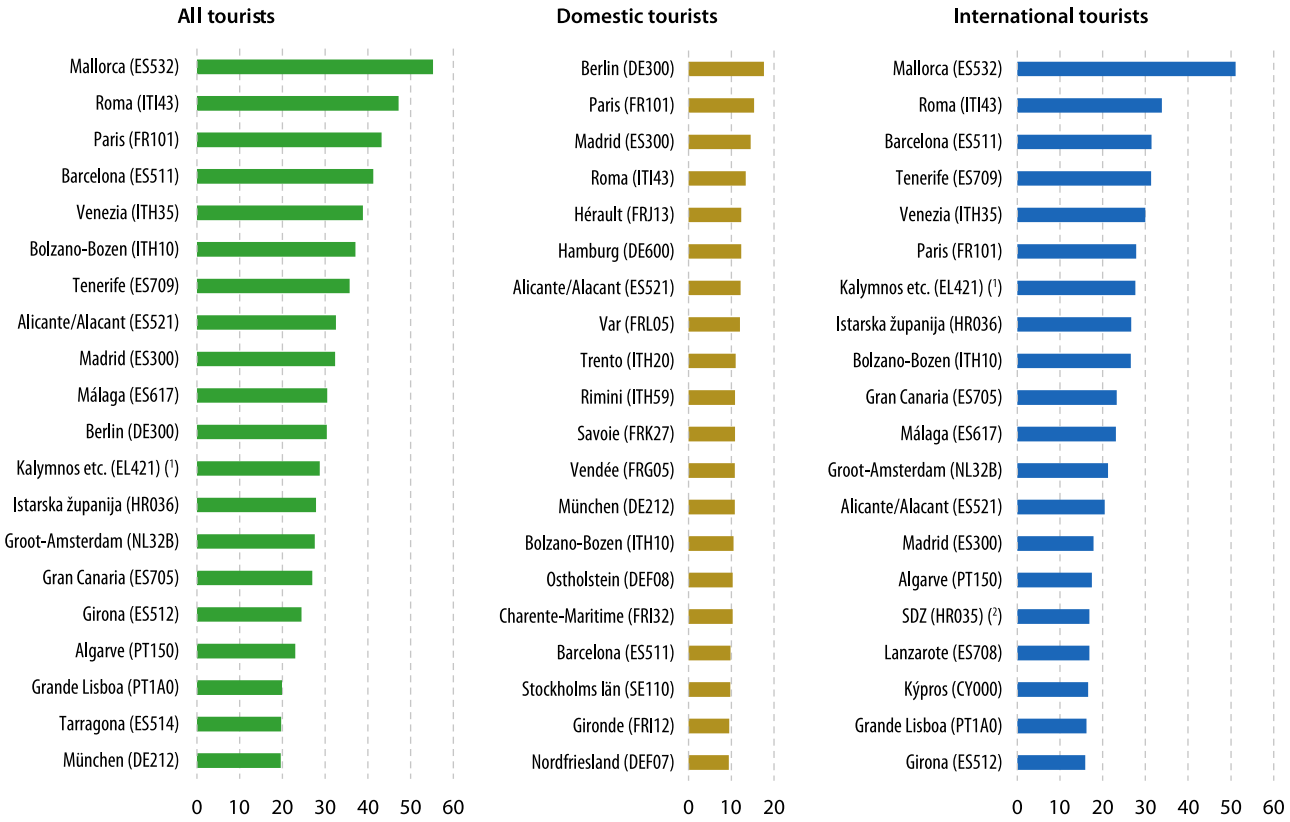
In 2024, the Spanish island region of Mallorca had, by far, the highest number of nights spent in tourist accommodation by international tourists, at 51.2 million. There were 4 other EU regions where international tourists spent at least 30.0 million nights:

- the Italian regions of Roma (33.9 million) and Venezia (30.0 million)
- the Spanish regions of Barcelona (31.4 million) and Tenerife (31.3 million).

The regions with the next highest numbers of nights spent by international tourists were more geographically diverse, with at least 20.0 million nights spent in:

- the Spanish island/coastal regions of Gran Canaria, Málaga and Alicante/Alacant
- the coastal regions of Istarska županija (Croatia) and Kalymnos and its surrounding islands (Greece)
- the capital regions of Paris (France) and Groot-Amsterdam (the Netherlands)
- the mountainous region of Bolzano-Bozen in northern Italy.

**Figure 10.1:** Top tourist regions in the EU
(million nights spent in tourist accommodation, by NUTS 3 regions, 2024)




Note: the scales on the numeric axes are different. Belgium: NUTS level 2. Several regions in Germany (too many to document): not available.

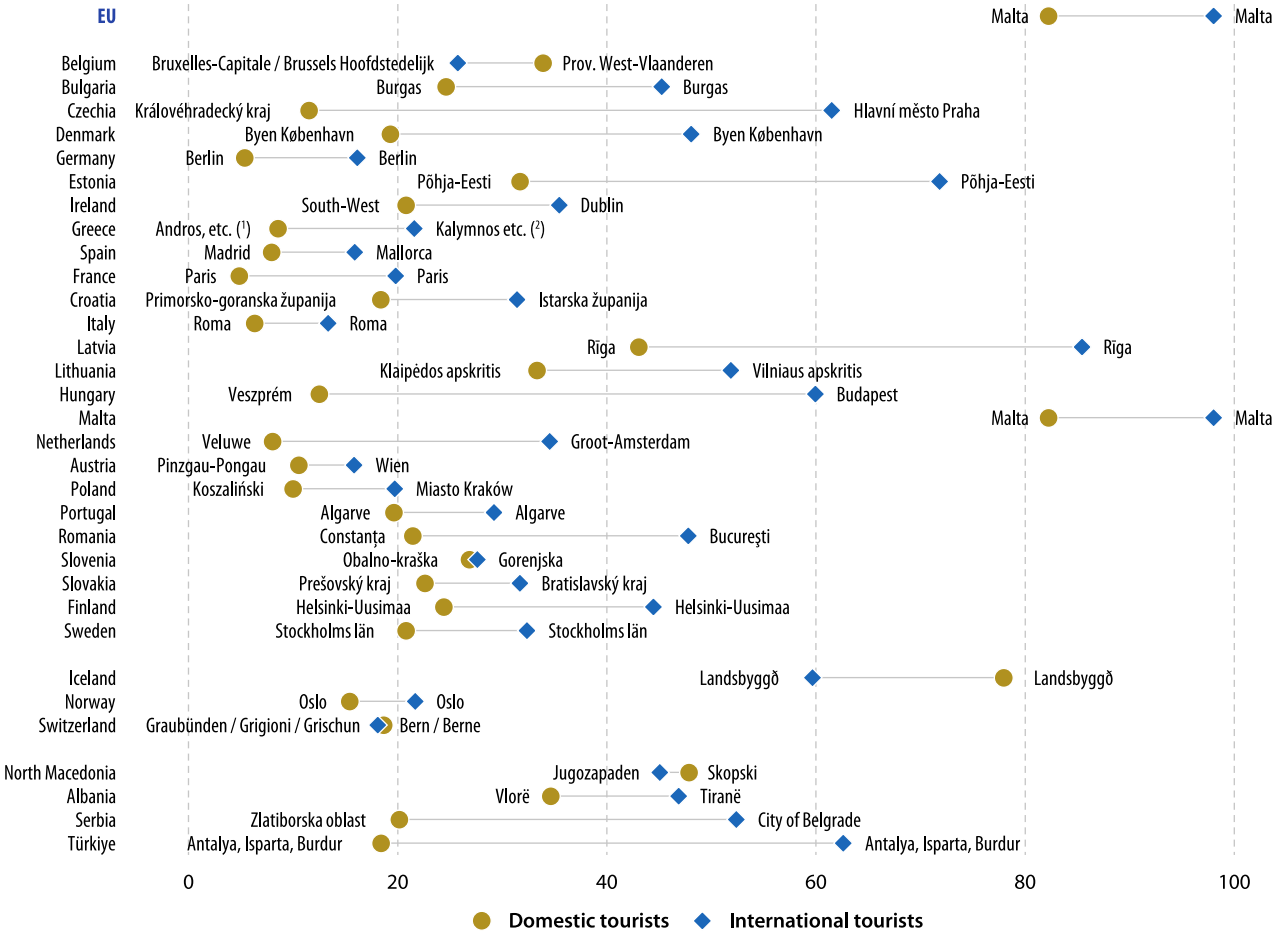
*Source:* Eurostat (online data code: tour_occ_nin3)

(1) Includes also Karpathos – Iroiki Nisos Kasos, Kos, Rodos.
(2) Splitsko-dalmatinska županija.

Figure 10.2 presents, for each EU country, the most frequented region by domestic and by international tourists (based on the regional share of the total number of nights spent in each country). These relative shares reflect, to some degree, the number of regions in each EU country; Cyprus and Luxembourg are single regions at NUTS level 3 (and hence are not shown).

In 2024, there were 11 EU countries (out of 25 for which data are presented) where the same region was the most frequented by both domestic and international tourists. In Denmark, Germany, Estonia, France, Italy, Latvia, Malta, Finland and Sweden this was the capital region: Byen København, Berlin, Põhja-Eesti, Paris, Roma, Rīga, the island of Malta, Helsinki-Uusimaa and Stockholms län. In Bulgaria and Portugal, the most frequented region by both domestic and international tourists was a coastal region: Burgas on the Black Sea coast and the Algarve on the Atlantic coast.

**Figure 10.2: Regional concentration of nights spent in tourist accommodation**
(% share of region in each country, by NUTS 3 regions, 2024)




Note: the figure shows the regions which recorded the highest share in each country (separately for domestic and international tourists). Belgium: NUTS level 2. Cyprus and Luxembourg: single regions at NUTS level 3. Several regions in Germany (too many to document): not available.

(1) Includes also Thira, Kea, Milos, Mykonos, Naxos, Paros, Syros, Tinos.
(2) Includes also Karpathos – Iroiki Nisos Kasos, Kos, Rodos.

*Source:* Eurostat (online data code: tour_occ_nin3)

In more than half of the remaining EU countries (9 out of 14), the capital region was the most frequented region by international tourists in 2024. This was the case in Belgium, Czechia, Ireland, Lithuania, Hungary, the Netherlands, Austria, Romania and Slovakia. In the other 5 countries, the most frequented regions for international tourists included:

- the coastal regions of Kalymnos, Karpathos, Kasos, Kos, Rodos (Greece), Mallorca (Spain) and Istarska županija (Croatia)
- the historic and cultural region of Miasto Kraków (Poland)
- the mountainous region of Gorenjska (Slovenia), which includes the popular tourist attraction of Lake Bled.

Among the 14 EU countries where different regions were most frequented by domestic and by international tourists, domestic tourism in 2024 was often concentrated in regions that are less well-known internationally. Leaving aside the 4 landlocked countries, only 2 of the most frequented regions were not coastal: the capital region of Madrid in Spain and the forested region of Veluwe in the Netherlands. Elsewhere, the following coastal regions recorded the highest numbers of nights spent by domestic tourists:

- Prov. West-Vlaanderen in Belgium (North Sea)
- South-West in Ireland (Atlantic Ocean)
- Andros, Thira, Kea, Milos, Mykonos, Naxos, Paros, Syros, Tinos in Greece (Aegean Sea, eastern Mediterranean)
- Primorsko-goranska županija in Croatia and Obalno-kraška in Slovenia (Adriatic Sea)
- Klaipėdos apskritis in Lithuania and Koszaliński in Poland (Baltic Sea)
- Constanța in Romania (Black Sea).

In the 4 landlocked countries, the highest numbers of nights spent by domestic tourists in 2024 were recorded in:

- Královéhradecký kraj in Czechia, Pinzgau-Pongau in Austria and Prešovský kraj in Slovakia, all relatively mountainous regions
- Veszprém in Hungary, a cultural and historic region that includes wine-growing areas around Lake Balaton.

## Seasonality

Seasonality has a considerable impact on tourism. It is linked to various environmental factors, such as climate or geographical location, as well as socio-economic factors like public and school holidays or factories closing for annual leave. Tourist arrivals are generally more evenly spread than the number of nights spent across the calendar year, due to a higher concentration of longer stays in the summer months.

### More about the data: reading a coxcomb map

A coxcomb map (sometimes referred to as a rose chart or a polar area chart) displays values as slices extending outwards from a central point. Each slice represents a category, often a time period such as a month (as in Map 10.2), and is used to show how values change over time. For a monthly presentation, the full circle is divided into 12 equal segments, 1 for each month. The months are read clockwise starting from 12 o'clock, beginning with January and ending with December.

For these monthly tourism data, there are 2 stacked components representing nights spent by domestic tourists and by international tourists. Comparing total areas across the months reveals seasonal patterns (for example, higher numbers in July and August), while comparing the radial components within each month shows the relative contributions of domestic and international tourists.

***More than half of all nights spent in EU tourist accommodation in 2024 occurred between June and September***

As noted above, a total of 3.02 billion nights were spent in EU tourist accommodation in 2024. The highest shares were recorded in the summer months, peaking at 16.4% in August and 15.0% in July, while June (10.5%) and September (10.0%) were the only other months to record double-digit shares. By contrast, the lowest shares were recorded in January (4.5%) and November (4.8%).

Map 10.2 highlights the most frequented tourist regions in the EU, detailing both the seasonal component and the breakdown by origin of tourist. It confirms the relatively high share of nights spent by international tourists in southern/Mediterranean regions, with domestic tourists accounting for a majority of nights spent across most western, northern and eastern EU countries, with the notable exception of several capital regions that attract large numbers of international tourists.

Looking in more detail at each month in 2024, the following NUTS level 2 regions recorded the highest numbers of nights spent in tourist accommodation by domestic and international tourists combined:

- January – Canarias (Spain), Ile-de-France and Rhône-Alpes (both France)
- February – Canarias, Rhône-Alpes and Tirol (Austria)
- March – Canarias, Ile-de-France and Andalucía (Spain)
- April – Canarias, Ile-de-France and Andalucía
- May – Illes Balears, Cataluña (both Spain) and Ile-de-France
- June – Jadranska Hrvatska (Croatia), Illes Balears and Cataluña

- July – Jadranska Hrvatska, Cataluña and Veneto (Italy)
- August – Jadranska Hrvatska, Cataluña and Veneto
- September – Illes Balears, Jadranska Hrvatska and Cataluña
- October – Canarias, Illes Balears and Ile-de-France
- November – Canarias, Ile-de-France and Andalucía
- December – Canarias, Ile-de-France and Rhône-Alpes

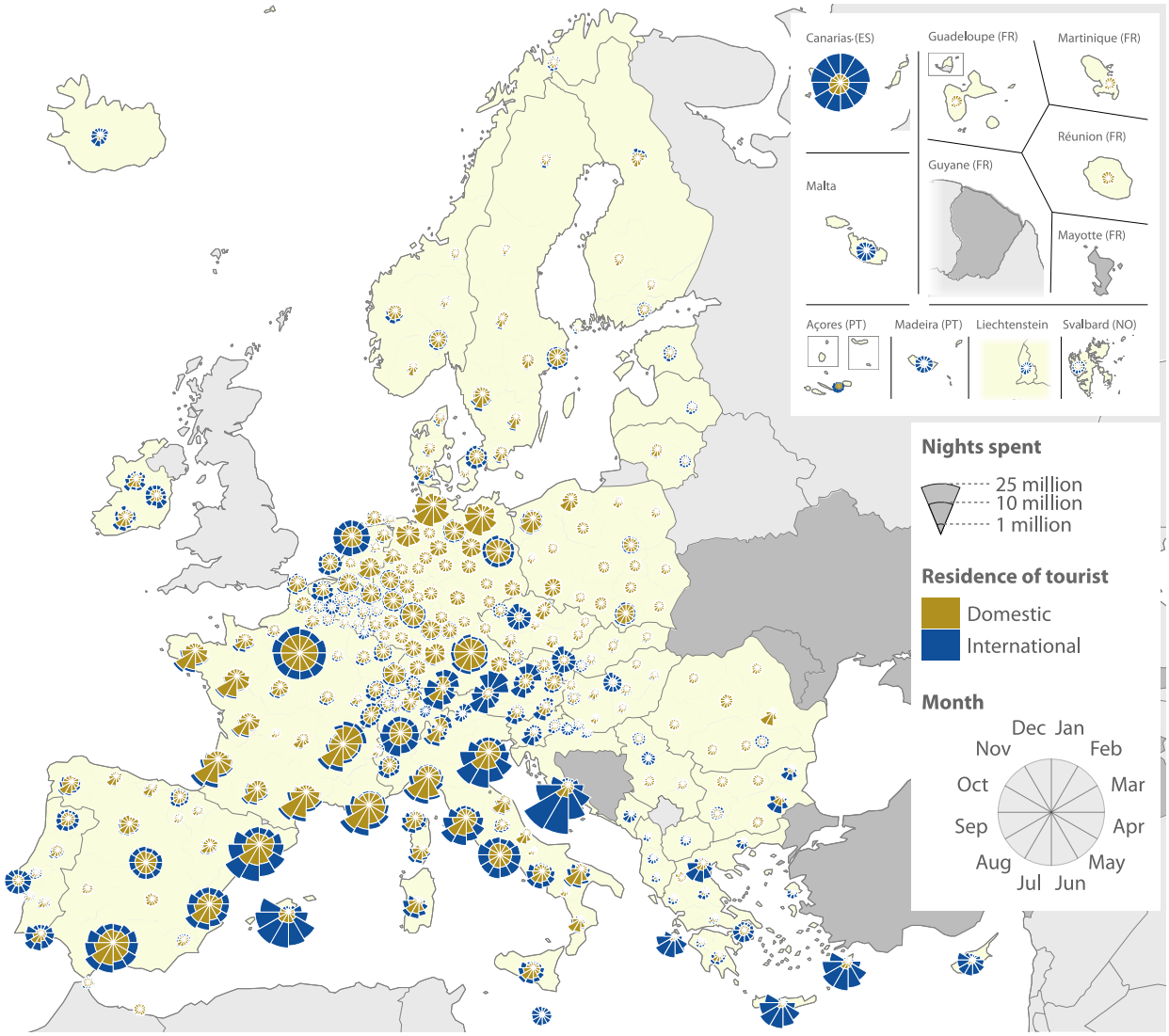
***Languedoc-Roussillon in southern France recorded the highest number of nights spent by domestic tourists during the summer of 2024***

A closer examination of the data shown in Map 10.2 reveals that the south-eastern French region of Rhône-Alpes had the highest number of nights spent by domestic tourists in January, February and March 2024, reflecting the popularity of the Alps during the winter tourism season.

The French capital region of Ile-de-France was the most frequented NUTS level 2 region by domestic tourists in April, October, November and December 2024, likely reflecting short city breaks, as well as professional visits.

The northern German region of Schleswig-Holstein, with its Baltic and North Sea coastlines, recorded the highest number of nights spent by domestic tourists in May 2024, while the central Italian region of Emilia-Romagna, which includes several Adriatic beach resorts (for example, Rimini), recorded the highest count in June 2024. During the peak summer period of July and August 2024, the southern French coastal region of Languedoc-Roussillon recorded the highest number of nights spent by domestic tourists, while the southern Spanish region of Andalucía had the highest count in September 2024.

**Map 10.2:** Nights spent in tourist accommodation
(by NUTS 2 regions, 2024)




Note: the individual symbols for each region should be read like a clock, with 12 o'clock being the start and end of the year.

*Source:* Eurostat (online data codes: tour_occ_nin2m and tour_occ_nim)

***Jadranska Hrvatska on the Croatian Adriatic coastline recorded the highest number of nights spent by international tourists in the height of summer 2024***

Turning to the most frequented NUTS level 2 regions among international tourists, Canarias in Spain recorded the highest number of nights spent in January to April 2024 and again in October to December 2024, reflecting its year-round appeal and relatively stable temperatures. During these months, the number of nights spent by international tourists ranged between 6.8 million and 8.1 million.

By contrast, the Croatian coastal region of Jadranska Hrvatska recorded the highest number of nights spent by international tourists during the summer months. Demand was highly concentrated in July and August 2024, with 22.9 million and 24.3 million nights, respectively. The Adriatic coastal region of Jadranska Hrvatska also recorded in excess of 10.0 million nights spent by international tourists in both June and September 2024, which were also the highest counts in these months among NUTS level 2 regions.

The Spanish island region of Illes Balears recorded the highest number of nights spent by international tourists in May 2024, with visitors to islands such as Mallorca and Ibiza benefitting from the favourable spring climate before the peak summer influx of tourists.

Map 10.3 highlights the peak month for tourism in 2024 among tourists (domestic and international combined) across NUTS level 2 regions.

- In the vast majority of regions – as was the case for the EU as a whole – August was the busiest month of the year; this was the case in 176 out of the 244 regions for which data are available.
- July was the busiest month for 48 of the remaining regions across the EU, while no other month recorded a double-digit count
- October had the next highest figure, with 6 regions – half of which were capitals – reporting their highest number of nights spent during this month
- March, April and November did not feature and were not the busiest tourism month in any of the NUTS level 2 regions.

February 2024 was the busiest tourism month of the year in 3 western regions of Austria, namely, Tirol (5.7 million nights spent in tourist accommodation), Salzburg (3.7 million nights) and Vorarlberg (1.1 million nights).

The only other regions to report February 2024 as their busiest tourism month of the year were the Bulgarian capital region of Yugozapaden (0.5 million nights) and the French outermost region of Guadeloupe (148 000 nights, reflecting the dry season and its warm tropical climate). Similar seasonal patterns were observed in other outermost regions, with peak demand in January for Martinique, May for Mayotte, and October for both La Réunion and Guyane.

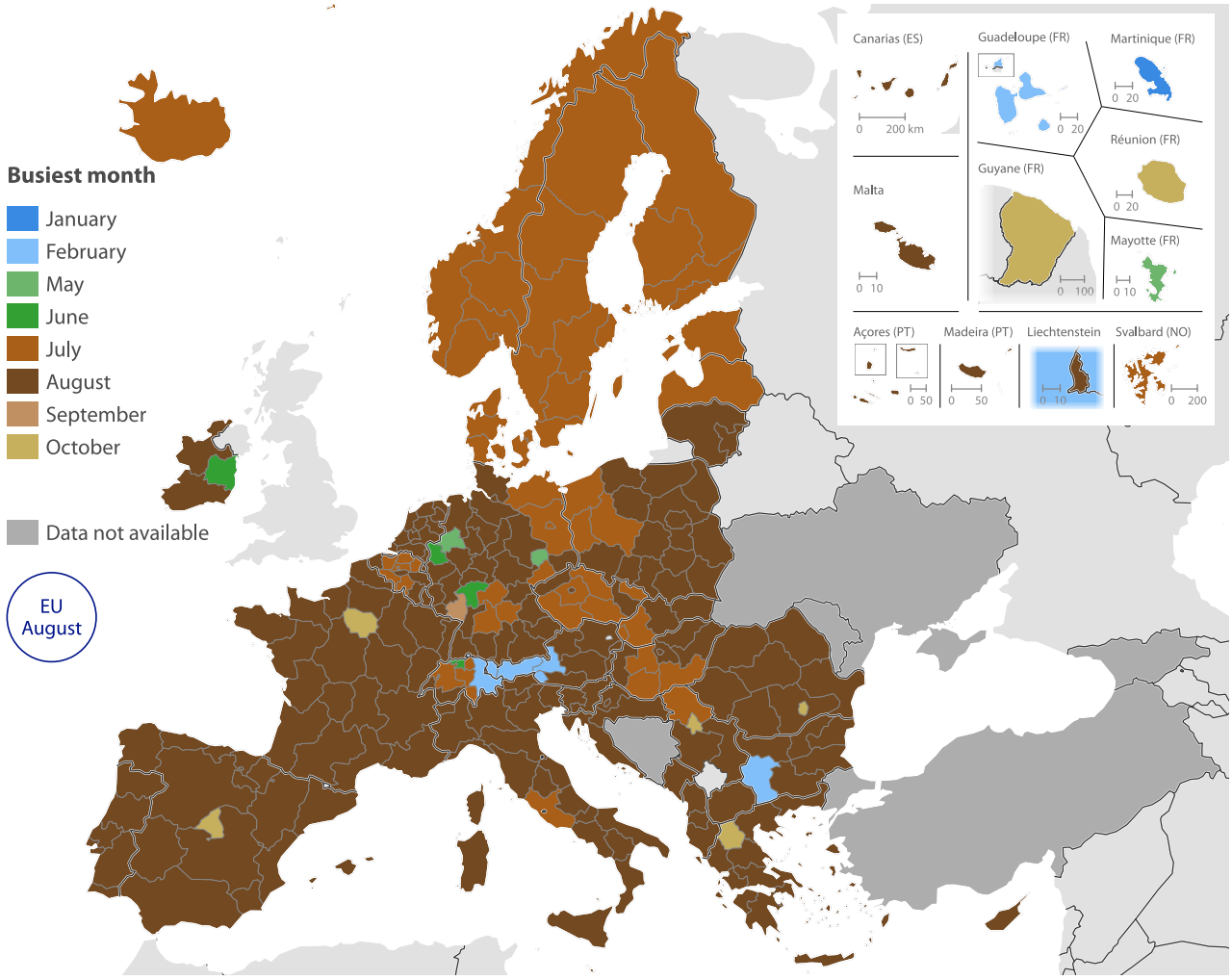
August 2024 was the busiest tourism month across most southern, western and eastern regions of the EU, although capital regions often proved to be an exception, for example:

- in the Bulgarian capital region of Yugozapaden, February recorded the highest number of nights spent in tourist accommodation
- in the Irish capital region of Eastern and Midland, June was the busiest tourism month
- in the Belgian, German, Italian and Slovak capital regions of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest, Berlin, Lazio and Bratislavský kraj, July was the busiest
- in the Spanish, French and Romanian capital regions of Comunidad de Madrid, Ile-de-France and Bucureşti-Ilfov, October recorded the highest number of nights spent in tourist accommodation
- in the Austrian capital region of Wien, December was the busiest month.

In northern regions of the EU, July was generally the busiest tourism month of the year. This pattern was also observed in the capital regions of Hovedstaden, Helsinki-Uusimaa and Stockholm, as well as in Estonia and Latvia. The only exceptions were in Lithuania, where both regions reported their busiest tourism month as August.

Seasonal tourism demand was highly concentrated in many regions across the EU. In 2024, 35.5% of all nights spent in the Romanian coastal region of Sud-Est on the Black Sea were recorded in August. Very high shares were also observed in the southern Italian region of Calabria (32.2% in August) and in the south-eastern Bulgarian coastal region of Yugoiztochen (30.5%). In the Nordic EU countries, 32.0% of the total nights spent in the southern Swedish region of Småland med öarna (which includes the island of Öland) were recorded in July, while a similarly high share was observed in the Finnish archipelago of Åland (30.6).

**Map 10.3:** Busiest tourism month
(based on nights spent in tourist accommodation, by NUTS 2 regions, 2024)




Note: the busiest tourism month in the EU was August with 494.9 million nights spent.

*Source:* Eurostat (online data codes: tour_occ_nin2m and tour_occ_nim)

## Tourism pressures

Since the expansion of mass tourism in the 1950s and 1960s, EU regions have experienced tourism growth in markedly different ways. Some regions continue to attract relatively few visitors, while others have seen substantial increases in visitor numbers. These developments have been shaped by structural changes within the tourism sector, including the emergence of package holidays, the growth of low-cost air travel, the rise of online booking platforms and the diversification of accommodation (for example, the emergence of short-term rental platforms). More recently, tourism patterns have also been influenced by changing work and mobility patterns, including the gradual rise of remote working and digital nomadism, which has contributed to longer stays in certain destinations.

In the EU, tourism policy has increasingly focused on sustainability and resilience, in line with initiatives such as the European Green Deal and the Transition pathway for tourism. These frameworks emphasise the need to:

- balance economic activity with the protection of cultural and natural heritage
- improve environmental performance
- support the digital and green transformation of the sector.

Sustainable tourism encompasses the preservation and enhancement of cultural assets, including the arts and gastronomy, as well as the protection of natural environments and biodiversity. The quality and long-term attractiveness of tourism destinations are closely linked to their environmental integrity and their integration within local communities. For the purpose of this publication, tourism intensity is defined as the number of nights spent in tourist accommodation per 1 000 inhabitants.

***For every 1 000 inhabitants in the EU, an average of 6 725 nights were spent in tourist accommodation during 2024***

In 2024, there were 6 725 nights spent in EU tourist accommodation per 1 000 inhabitants. The regional distribution of tourism intensity was heavily skewed, indicating that mass tourism tends to be concentrated in relatively few regions. The ratio of tourist nights per 1 000 inhabitants was higher than the EU average in fewer than 3 out of 10 NUTS level 3 regions (318 out of 1 117 for which data are available). The statistics presented are likely to underestimate the full extent of tourism pressures, as the numerator does not include same-day visitors, some short-term stays booked via online platforms or stays in non-rented accommodation such as second homes or with friends/relatives.

Map 10.4 shows EU regions experiencing the highest tourism intensity in 2024. A total of 123 NUTS level 3 regions recorded at least 15 000 nights spent in tourist accommodation per 1 000 inhabitants (as indicated by the darkest shade). Many of the regions in this group were located along coastlines or within a corridor extending from southern France through the Alps to western Austria, while others were characterised by their very low population density (for example, the northernmost region of Finland, Lappi).

At the upper end of the distribution, 9 regions exceeded 100 000 nights per 1 000 inhabitants:

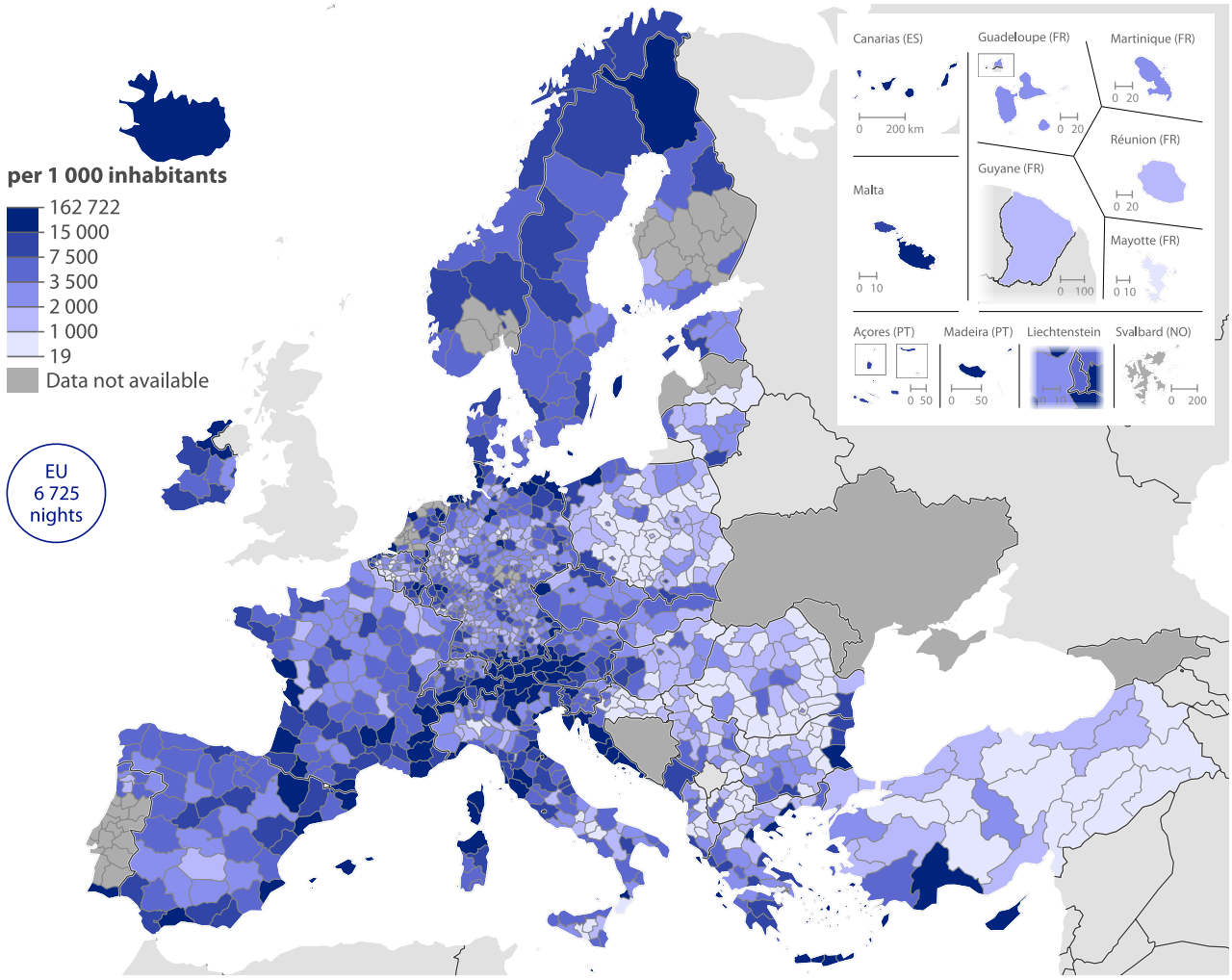
- Zakynthos, a Greek island region in the Ionian Sea, recorded the highest tourism intensity (162 700 nights per 1 000 inhabitants)
- Istarska županija on the Adriatic coast in Croatia recorded the second highest ratio (132 400 nights per 1 000 inhabitants)
- 3 additional Greek island regions also featured among those regions with the highest values
  - Kalymnos, Karpathos – Iroiki Nisos Kasos, Kos and Rodos in the Aegean Sea (130 000 nights per 1 000 inhabitants)
  - Kerkyra in the Ionian Sea (102 700 nights per 1 000 inhabitants)
  - Andros, Thira, Kea, Milos, Mykonos, Naxos, Paros, Syros and Tinos (also in the Aegean Sea; 100 600 nights per 1 000 inhabitants)
- Fuerteventura and Lanzarote in the Spanish region of Canarias recorded the next highest ratios (128 100 and 120 100 nights per 1 000 inhabitants, respectively)
- 2 mountainous regions in western Austria also recorded very high tourism intensity, Tiroler Oberland and Pinzgau-Pongau (116 300 nights and 109 800 nights per 1 000 inhabitants, respectively).

By contrast, there were 126 NUTS level 3 regions across the EU with fewer than 1 000 tourist nights spent per 1 000 inhabitants in 2024 (as shown by the lightest shade in Map 10.4). Most of these regions were clustered in 5 EU countries:

- Poland (29 regions) – with the north-eastern region of Ostrołęcki recording its lowest ratio, at 340 nights spent in tourist accommodation per 1 000 inhabitants
- Romania (24 regions), with the southern region of Teleorman having the lowest ratio in the EU, at 19 nights per 1 000 inhabitants
- Germany (19 regions), with the western city of Herne in North Rhine-Westphalia recording its lowest ratio, at 393 nights per 1 000 inhabitants
- Bulgaria (13 regions), with the western region of Pernik having its lowest ratio, at 320 nights per 1 000 inhabitants
- Belgium (11 regions), with Arr. Soignies, located to the north-east of Mons in the Hainaut region, recording its lowest ratio, at 349 nights per 1 000 inhabitants.

Together with Teleorman in Romania, the Greek region of Dytikos Tomeas Athinon – a densely populated region to the west of the capital, largely composed of industrial and/or residential neighbourhoods – was the only other region in the EU with fewer than 100 tourist nights per 1 000 inhabitants in 2024.

**Map 10.4:** Nights spent in tourist accommodation
(per 1 000 inhabitants, relative to resident population, by NUTS 3 regions, 2024)




Note: Türkiye, level 2. Iceland: national data. Iceland: 2023. Türkiye: 2021.

*Source:* Eurostat (online data codes: tour_occ_nin3 and tour_occ_ninat)

***In 2024, tourism density in the EU stood at 715 nights per square kilometre***

An alternative indicator for analysing tourism pressures is tourism density, defined here as the total number of nights spent in tourist accommodation per square kilometre ($km^2$) of area. In 2024, the EU average was 715 nights spent per $km^2$.

Map 10.5 shows that tourism density was often concentrated in predominantly urban regions, which generally have much smaller areas. In 2024, 115 NUTS level 3 regions had a ratio of at least 5 000 nights spent per $km^2$ (as shown by the darkest shade). The French capital region of Paris was a clear outlier, recording by far the highest concentration of tourists in 2024, with 419 000 nights spent per $km^2$. This was 4.6 times as high as in any other region of the EU: the Greek capital region – Kentrikos Tomeas Athinon – had the second highest ratio, with 90 900 nights spent per $km^2$.

There were 20 NUTS level 3 regions in the EU where the ratio of tourism density was higher than 20 000 nights spent per $km^2$ in 2024. Half of this group consisted of

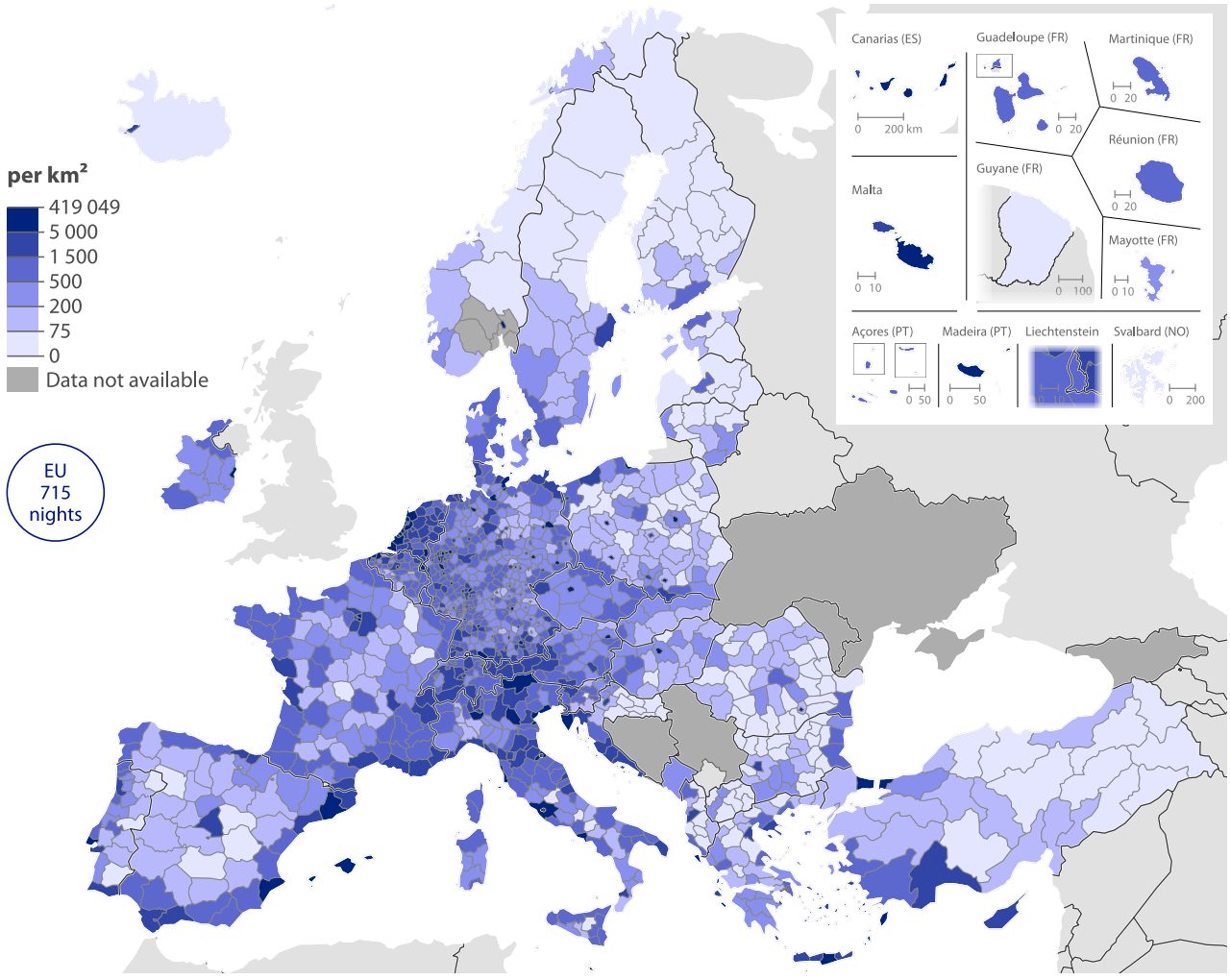
capital regions: those of France and Greece (already mentioned above), together with the capital regions of Denmark, Austria, Belgium, Malta, Czechia, the Netherlands, Germany and Hungary. Particularly high ratios were also recorded in:

- 6 predominantly urban regions of Germany – München, Frankfurt am Main, Düsseldorf, Hamburg, Stuttgart and Nürnberg
- the suburban region of Hauts-de-Seine located to the west of the French capital
- the island region of Lanzarote that forms part of Canarias in Spain
- Miasto Kraków in Poland, a major cultural and short-break destination
- Venezia in Italy, a historic city.

At the other end of the distribution, 115 regions had tourism density ratios below 75 nights per km$^2$ in 2024 (as shown by the lightest shade in Map 10.5). These regions were generally concentrated in rural areas of northern, eastern and southern EU countries. The only regions in western EU countries were the French regions of Haute-Saône, Meuse (both in eastern France), Creuse (central France) and Guyane (an outermost region).

At the very bottom of the distribution, 3 regions recorded particularly low tourism density ratios in 2024: Călăraşi and Teleorman in southern Romania, as well as Guyane, each with fewer than 10 nights per km$^2$.

**Map 10.5: Nights spent in tourist accommodation**
(per km$^2$, relative to area, by NUTS 3 regions, 2024)




Note: Türkiye, level 2. Iceland: 2023. Türkiye: 2021.

*Source:* Eurostat (online data codes: tour_occ_nin3 and tour_occ_ninat)

## Guest nights spent at short-stay accommodation offered via online collaborative economy platforms

Developments in information and communication technologies have had a major impact on the tourist accommodation market. The emergence of online platforms has made it easier for small-scale service providers to advertise/offer their rooms, apartments and holiday homes to potential guests, with a rapid expansion of this market.

The rapid expansion of guest nights spent in short-term accommodation offered via the selected online booking platforms has brought significant benefits to some EU regions. Popular destinations have seen increased visitor numbers, driving economic activity, while investment in short-term accommodation can help to revitalise underused or vacant properties.

On the other hand, housing affordability has become a pressing issue in some regions experiencing a surge in the supply of short-stay accommodation, as long-term rental availability decreases and property prices rise. Additionally, an influx of tourists can lead to overcrowding, straining infrastructure and public services, while communities may be displaced as the character of neighbourhoods changes and local culture and identity are eroded.

### More about the data: experimental statistics on short-stay accommodation offered via online platforms

The information presented up to this point has been based on official tourism statistics, compiled according to *Regulation (EU) No 692/2011*. These statistics provide limited coverage of holiday and short-stay accommodation, as data for holiday homes, apartments and rooms in otherwise private buildings are often outside the scope of tourism registers and surveys.

Official statistics on holiday and short-stay accommodation are generally underestimated, given that several EU countries limit the scope of observations to establishments with, for example, at least 10 bed places. In recent years, this coverage issue has been further compounded by the emergence of online platforms that provide relatively simple methods for private individuals and small enterprises to offer short-stay accommodation; this has led to a surge in the provision of this type of accommodation.

For this reason, Eurostat embarked on an experimental data collection exercise aimed at improving the completeness/coverage of tourism statistics. It is based on a previously unexplored channel, namely data on listings/bookings obtained directly from major online platforms: for 2025, Airbnb, Booking.com and Expedia Group are included in the dataset. The exercise is currently restricted to the collection of information on holiday and short-stay accommodation (NACE Group 55.2), reflecting the principal type of accommodation for service providers within the collaborative economy.

***In 2025, Málaga in southern Spain was the most frequented region for guest nights spent in short-stay accommodation offered via selected online booking platforms***

Figure 10.3 shows the NUTS level 3 regions that recorded the highest number of guest nights in short-stay accommodation booked via online platforms in 2025. The highest count was observed in the southern Spanish coastal region of Málaga, at 26.2 million guest nights, while 10 additional regions reported more than 10.0 million guest nights:

- the capital regions of Roma in Italy (20.0 million), Paris in France (16.7 million), Madrid in Spain (13.2 million) and Grande Lisboa in Portugal (11.8 million)
- 3 additional coastal or island regions in Spain – Alicante/Alacant (17.3 million), Barcelona (15.5 million) and Tenerife (12.5 million)
- 3 coastal regions in other EU countries – Algarve in Portugal (13.4 million), Alpes-Maritimes in France (11.8 million) and Splitsko-dalmatinska županija in Croatia (11.6 million).

The data presented in Figure 10.3 can also be analysed according to the origin of guests. For example, international guests accounted for approximately 4 out of 5 guest nights in Málaga in 2025.

In 2025, the 20 most frequented NUTS level 3 regions for short-stay accommodation booked by domestic guests via the selected online booking platforms were almost exclusively located in Spain and France, with 2 regions from Poland and a single region from Italy as the only exceptions.

- In Spain, the most frequented regions for domestic guests were generally developed, coastal regions on the southern and eastern coastlines – Málaga, Alicante/Alacant and Cádiz – the only exceptions being the capital region of Madrid and the north-western Atlantic coastal region of Asturias.
- In France, several of the regions most frequented by domestic tourists were relatively rural areas, characterised by their coastline and/or mountains, including:
    - Haute-Savoie and Savoie in the Alps
    - Var, Bouches-du-Rhône, Hérault and Alpes-Maritime on the Mediterranean coast
    - Gironde, Charente-Maritime, Vendée, Finistère and Morbihan on the Atlantic coast
    - Pyrénées-Orientales that borders Spain, with both a coastline and a mountainous interior.

In Poland, the 2 most frequented regions included:

- the predominantly rural, southern region of Nowotarski, which acts as a gateway to the Tatra mountains
- the predominantly urban region of Trójmiejski on the northern coastline that includes Gdańsk, Gdynia and Sopot.

- In Italy, the most frequented region was the capital region of Roma.

In the list of the 20 most frequented NUTS level 3 regions by domestic guests in 2025, domestic visitors generally accounted for a higher share of total guest nights than international visitors. This pattern was observed in 15 out of the 20 regions, with exceptions including Málaga, Alicante/Alacant, Madrid, Alpes-Maritimes and Roma (see below for more details concerning international guests).

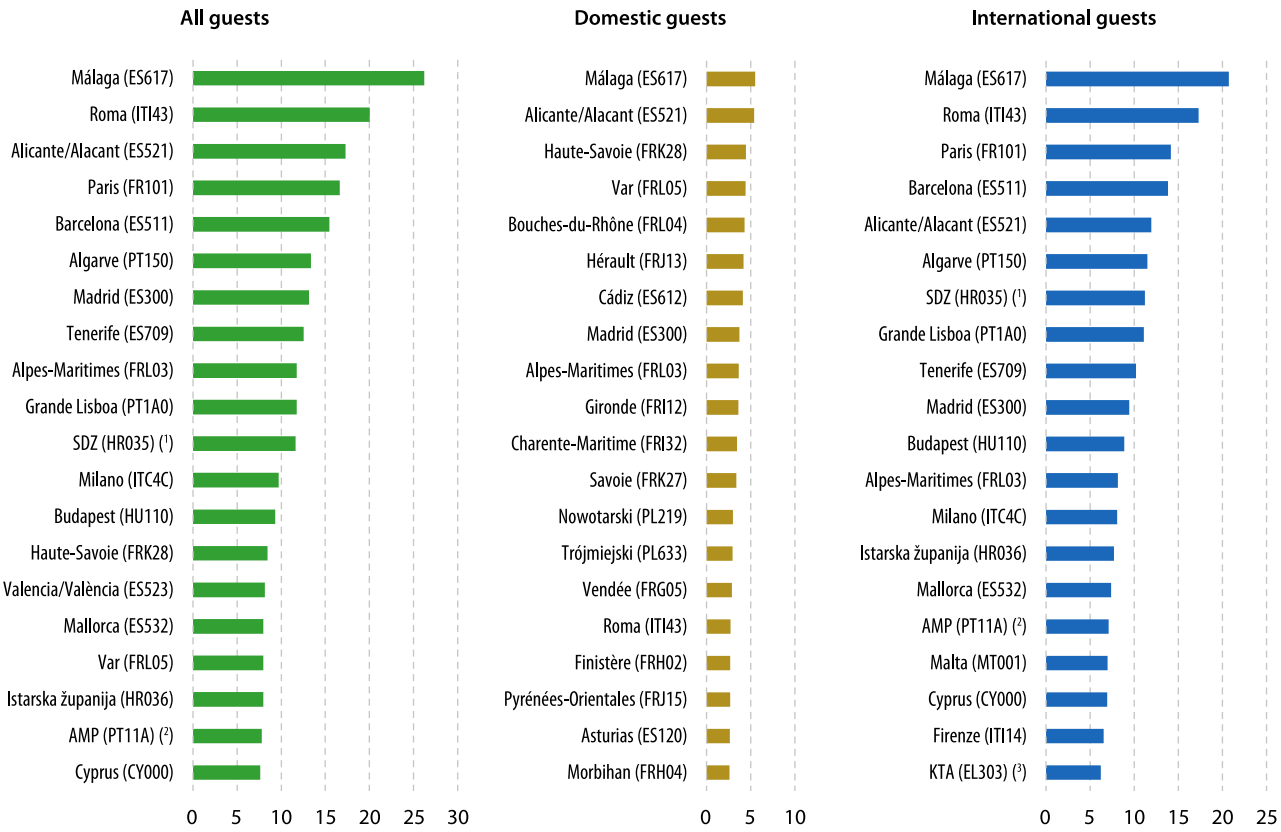
In 2025, 8 countries were represented in the ranking of the 20 most frequented NUTS level 3 regions for short-stay accommodation booked by international guests via the selected online booking platforms. The vast majority of these regions were among Europe's most popular destinations:

- Spain had the highest number of regions, with 6 – Málaga, Barcelona, Alicante/Alacant, Tenerife, Madrid and Mallorca
- Italy followed with 3 predominantly urban regions – Roma, Milano and Firenze
- Portugal also had 3 regions – Algarve, Grande Lisboa and Área Metropolitana do Porto
- there were 2 Croatian regions along the Adriatic coastline – Splitsko-dalmatinska županija (with Split as its capital) and Istarska županija (with Pula as its capital)
- France also had 2 regions – Paris and the Mediterranean region of Alpes-Maritimes
- additional regions included the capitals of Budapest (Hungary), Malta (Malta) and Kentrikos Tomeas Athinon (Greece), as well as Cyprus.

Among the 20 most frequented regions by international visitors for 2025, international guest nights consistently exceeded domestic guest nights. In absolute terms, the largest differences were observed in regions with the highest overall numbers of guest nights: for example, the number of international guest nights exceeded the number of domestic guest nights by 15.2 million in Málaga and by 14.6 million in Roma. Differences of more than 10.0 million nights were also recorded in Barcelona (12.2 million), Paris (11.7 million), Splitsko-dalmatinska županija (10.8 million) and Grande Lisboa (10.4 million).

In relative terms, Malta and 2 Croatian regions recorded the biggest disparities, with international guest nights exceeding domestic guest nights by a factor of 66 : 1 in Malta, 30 : 1 in Istarska županija and 25 : 1 in Splitsko-dalmatinska županija.

**Figure 10.3:** Top tourist regions for short-stay accommodation offered via selected online booking platforms
(million guest nights, by NUTS 3 regions, 2025)




Note: the scales on the numeric axes are different. The figure shows the regions with the highest number of guest nights spent by all tourists, domestic guests and international guests.

*Source:* Eurostat (online data code: tour_ce_oan3)

(1) Splitsko-dalmatinska županija.
(2) Área Metropolitana do Porto.
(3) Kentrikos Tomeas Athinon.

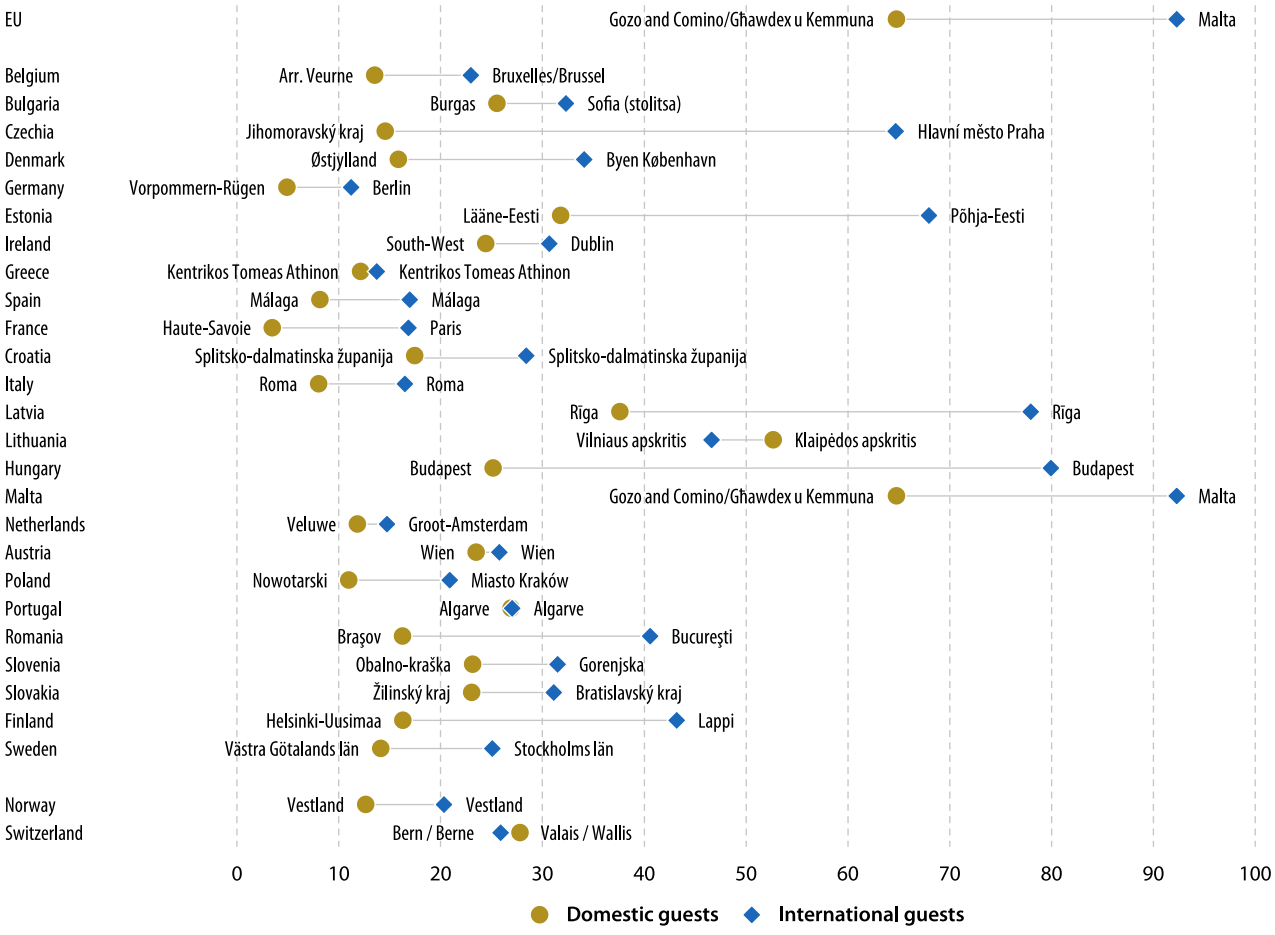
Figure 10.4 presents, for each country, the region with the highest number of guest nights spent in short-stay accommodation offered via selected online booking platforms by domestic and international guests. Cyprus and Luxembourg are single regions at NUTS level 3 and are therefore not shown.

In 2025, there were 8 EU countries (out of 25 for which data are presented) where the same region was the most frequented by both domestic and international guests. In Greece, Italy, Latvia, Hungary and Austria this was the capital region: Kentrikos Tomeas Athinon, Roma, Rīga, Budapest and Wien. In Spain, Croatia and Portugal, a coastal region was the most frequented by both domestic and international guests: Málaga in southern Spain, Splitsko-dalmatinska županija on the Adriatic Sea and the Algarve on the Atlantic coast. In all but 3 of the 17 remaining EU countries, the capital region recorded the highest number of nights spent by international guests. The exceptions were Poland, Slovenia and Finland, where international guests spent a greater number of nights in Miasto Kraków, Gorenjska and Lappi.

Nights spent by domestic guests were generally more widely spread across each territory (rather than being concentrated in relatively few regions). In 2025, the highest shares of nights spent by domestic guests were often observed in less well-known regions (internationally), for example:

- the coastal region of Arr. Veurne (north-west Belgium)
- the region of Jihomoravský kraj, which includes the city of Brno (south-eastern Czechia)
- the region of Østjylland, which includes the city of Aarhus (central Denmark)
- the coastal region of Vorpommern-Rügen (north-eastern Germany)
- the mountainous region of Haute-Savoie (south-east France)
- the mountainous region of Braşov (central Romania).

**Figure 10.4: Regional concentration of guest nights spent at short-stay accommodation offered via selected online booking platforms**
(% share of region in each country, by NUTS 3 regions, 2025)




Note: the figure shows the regions which recorded the highest share in each country (separately for domestic and international guests). Cyprus and Luxembourg: single regions at NUTS level 3. Jan Mayen (NO0B1) and Svalbard (NO0B2): not available.

*Source:* Eurostat (online data code: tour_ce_oan3)

Online booking platforms have made it easier for travellers to book accommodation year-round. Although these platforms provide the opportunity for a more even distribution of tourist flows, some destinations continue to experience considerable peaks in demand.

Map 10.6 illustrates the seasonality of guest nights spent at short-stay accommodation offered via the selected online booking platforms in each month of 2025. Across the EU, there were 952 million guest nights spent in short-stay accommodation offered via the selected online booking platforms. The 3 most popular months were August, July and June, which together accounted for 43.3% of all guest nights spent.

Overall, international guests accounted for 62.2% of the guest nights spent in EU short-stay accommodation offered via selected online booking platforms in 2025. This share peaked in September, June and October, when international guests accounted for around two thirds of all nights spent. By contrast, the lowest shares were recorded in February and December, when international guests accounted for 56.2% and 55.4% of all guest nights spent, respectively.

***Andalucía consistently among the 3 regions with the highest number of guest nights during every month of 2025***

Map 10.6 highlights the most frequented tourist regions in the EU in terms of guest nights spent in short-stay accommodation offered via selected online booking platforms. It shows both seasonal patterns and the breakdown by origin of tourist for 2025 (for guidance on interpreting the map, see the explanation provided above for Map 10.2). The regions with the highest overall numbers of guest nights are represented by the largest areas.

An analysis of the 3 most frequented NUTS level 2regions in each month indicates that activity was predominantly concentrated in France and across southern EU regions. This geographical distribution may reflect, at least in part, differences in the supply and use of short-stay accommodation offered via selected online booking platforms, as well as variations in the use of alternative forms of accommodation such as hotels or campsites, as illustrated below:

- Andalucía in southern Spain was present among the most frequented regions in every month of the year, while the Spanish island region of Canarias featured in January to April and again in November and December
- the French capital region of Ile-de-France was among the most frequented regions in April, May, October and November, while 2 additional French regions also featured – Rhône-Alpes from January to March and again in December, and Provence-Alpes-Côte d'Azur from May to September
- the Croatian coastal region of Jadranska Hrvatska was among the most frequented regions from June to September
- the Italian capital region of Lazio featured in October.

The map confirms the relatively high proportion of nights spent by international guests in southern/Mediterranean regions and in northern regions of the EU, while domestic guests accounted for a majority of nights spent across many western and eastern regions of the EU, with the notable exception of several capital regions that attracted large numbers of international tourists. Looking in more detail at each month in 2025, the following NUTS level 2 regions recorded the highest numbers of international guest nights spent in short-stay accommodation offered via selected online booking platforms:

- Canarias, Andalucía (both Spain) and Ile-de-France (France) in January, March, April, November and December
- Canarias, Andalucía and Rhône-Alpes (France) in February
- Andalucía, Ile-de-France and Jadranska Hrvatska (Croatia) in May, June and September
- Jadranska Hrvatska, Andalucía and Provence-Alpes-Côte d'Azur (France) in July
- Jadranska Hrvatska, Andalucía and Cataluña (Spain) in August
- Andalucía, Ile-de-France and Lazio (Italy) in October.

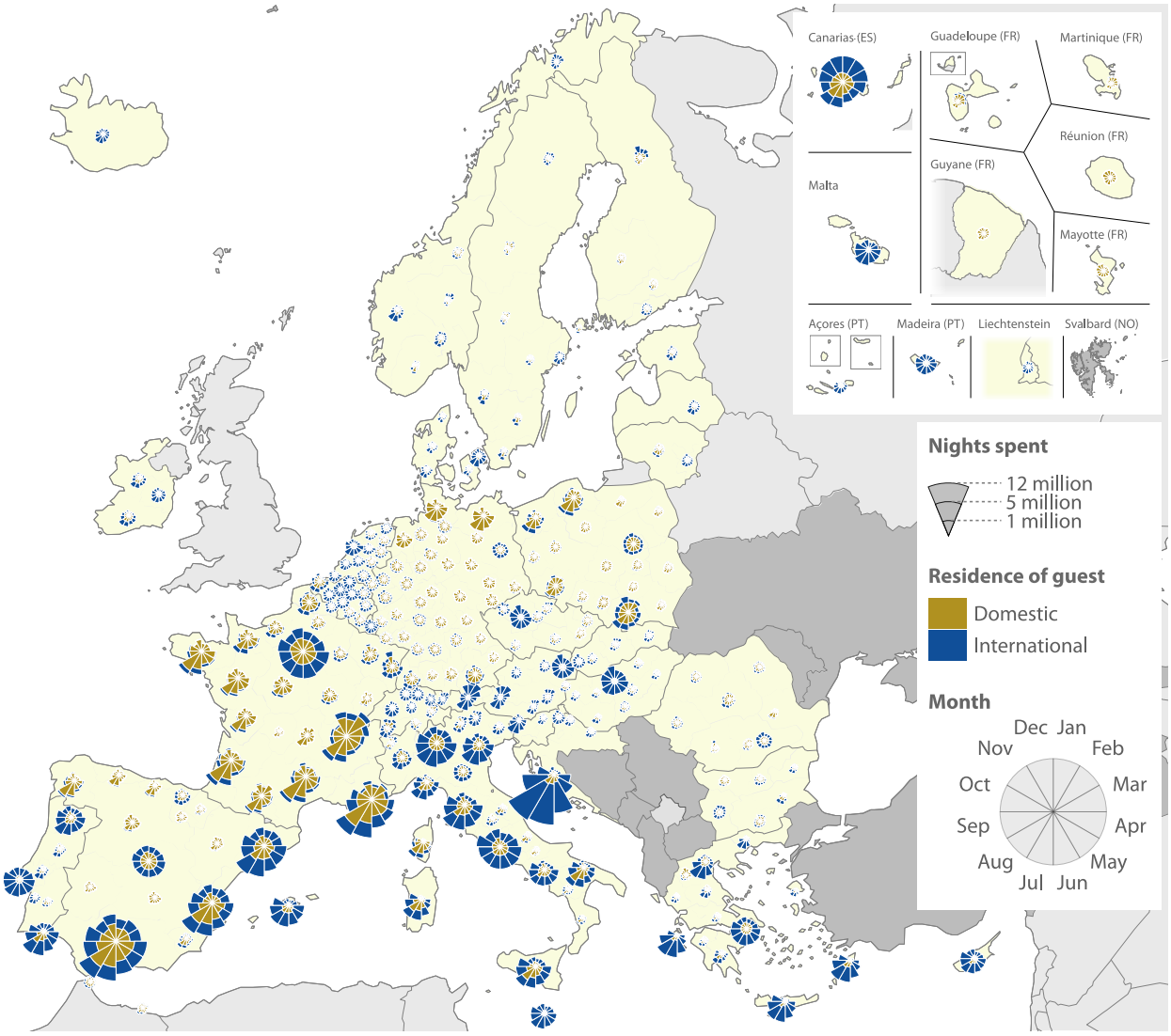
A relatively small group of NUTS level 2 regions recorded the highest numbers of domestic guest nights in short-stay accommodation offered via selected online booking platforms, with the composition of the 3 most frequented regions across each month of 2025 as follows:

- Rhône-Alpes, Provence-Alpes-Côte d'Azur and Andalucía in January to May, October and December
- Andalucía, Comunitat Valenciana (Spain) and Provence-Alpes-Côte d'Azur in June, July and September
- Provence-Alpes-Côte d'Azur, Languedoc-Roussillon (France) and Andalucía in August
- Andalucía, Ile-de-France and Rhône-Alpes in November.

Many regions across the EU exhibited seasonal patterns of tourism demand, particularly during the summer months. This was especially evident in the Croatian coastal region of Jadranska Hrvatska on the Adriatic Sea, where 23.2 million guest nights out of a total of 39.5 million for the whole of 2025 were recorded in July or August. There were 14 additional NUTS level 2 regions where more than half of all guest nights spent in short-stay accommodation offered via selected online booking platforms took place in July or August:

- the Bulgarian coastal regions of Severoiztochen and Yugoiztochen
- the Greek regions of Voreio Aigaio, Anatoliki Makedonia, Thraki, and Ionia Nisia
- the French island region of Corse
- the central Italian region of Marche
- the Hungarian regions of Dél-Dunántúl and Közép-Dunántúl
- the Romanian coastal region of Sud-Est
- the Finnish archipelago of Åland
- the Swedish regions of Småland med öarna, Sydsverige and Västsverige.

**Map 10.6: Guest nights spent at short-stay accommodation offered via selected online booking platforms** (by NUTS 2 regions, 2025)




Note: the individual symbols for each region should be read like a clock, with 12 o'clock being the start and end of the year.

*Source:* Eurostat (online data code: tour_ce_omn12)

# Environment and natural resources



# 11. Transport

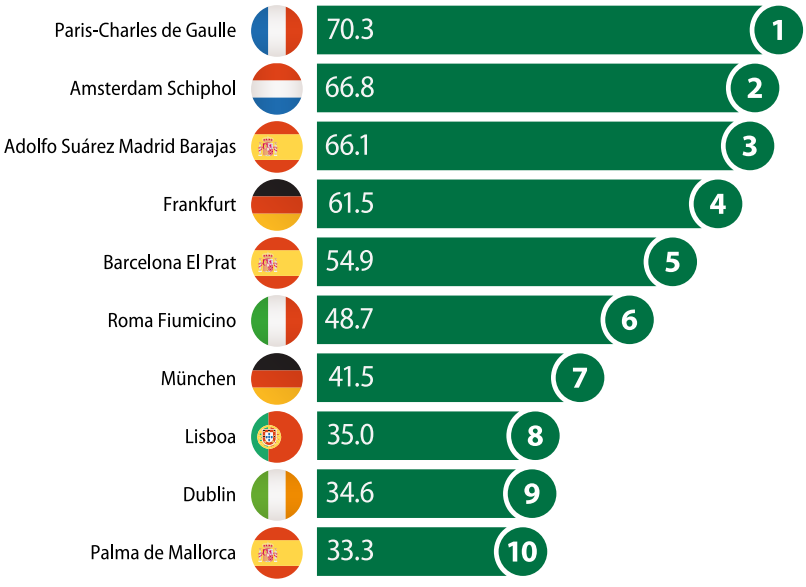
Transport is vital to the EU economy, supporting global supply chains and daily life by enabling the free movement of people and goods within the EU's single market. However, it also generates considerable societal, environmental and economic costs, including greenhouse gas emissions, air pollution, noise, congestion and injuries/fatalities caused by accidents. Accounting for around a quarter of greenhouse gas emissions, the EU's transport policy prioritises safer, more efficient and environmentally sustainable mobility through integrated networks.

The EU's *Sustainable and Smart Mobility Strategy* (COM(2020) 789 final) part of *The European Green Deal* sets out policy initiatives to achieve a greener and more resilient transport system that remains accessible, affordable and inclusive, while promoting high levels of safety and security across all modes of transport. Within the strategy, there are several key milestones, including:

- 30 million zero-emission cars in use by 2030
- a doubling of high-speed rail traffic by 2030
- nearly all new cars, vans, buses and heavy-duty vehicles to be zero-emission by 2050
- cutting transport emissions by 90% by 2050
- a fully operational, multimodal Trans-European Transport Network (TEN-T) connecting Europe sustainably by 2050
- zero-emission large aircraft ready for market by 2050.

In 2024, EU airports carried 1.05 billion passengers. Over recent decades, liberalisation measures have supported the rapid expansion of low-cost airlines and the development of smaller regional airports, which are often less congested and charge lower landing fees than major international hubs. There were 42 airports in the EU that carried at least 10.0 million air passengers. These airports were typically located close to capital cities, major economic centres and popular holiday destinations. Paris-Charles de Gaulle (France) recorded the highest passenger numbers (70.3 million), followed by Amsterdam Schiphol (the Netherlands; 66.8 million) and Adolfo Suárez Madrid Barajas (Spain; 66.1 million). Frankfurt (Germany) and Barcelona El Prat (Spain) were the only other airports to exceed 50 million passengers.

The selection of information presented for regional transport statistics within the *Eurostat regional yearbook* changes on an annual basis (covering different modes of transport and focusing on different passenger/freight indicators). Previous editions of the publication can be found at the bottom of this webpage.







(million, by main EU airports, 2024)

Note: the total number of air passengers carried in the EU was 1 052 million.

*Source:* Eurostat (online data code: avia_paoa)

## Road transport – passenger cars

Roads are the most commonly used transport mode in the EU for both passengers and inland freight. The EU's *Sustainable and Smart Mobility Strategy – putting European transport on track for the future* (COM(2020) 789 final) highlights that, while road mobility brings significant economic and social benefits, it also generates substantial external costs, including greenhouse gas emissions, air pollution, congestion and road accidents. The strategy sets out 10 flagship areas and a series of milestones for 2030 and 2040 in support of the objective of making Europe the first climate-neutral continent by 2050, including an indicative target of at least 30 million zero-emission vehicles on the EU's roads by 2030. More broadly, EU road transport policy objectives include, among others, to improve mobility on increasingly congested networks, reduce fatalities, cut emissions and air pollution, lower dependence on fossil fuel through electrification and improve working conditions for professional drivers.

The passenger car transformed personal mobility, offering freedom and flexibility while contributing to economic development. It also has cultural significance, symbolising status and progress for some, while others opt not to make use of a car. As the EU transitions towards greener technologies, the passenger car remains central to debates on sustainability and innovation.

### More about the data: road transport statistics

Passenger cars are defined as road motor vehicles intended for the carriage of passengers and designed to seat no more than 9 persons (including the driver). This category includes passenger cars, vans designed primarily for transporting passengers, taxis, hire cars, ambulances, police cars, firefighter cars, motor homes and micro cars (not requiring a driving permit), provided they have fewer than 10 seats. Excluded are light goods vehicles, as well as motor coaches, buses, mini-buses and mini-coaches. For France, passenger car statistics refer to NUTS level 1 regions, while only national data are available for Portugal.

Electric vehicles refer to battery electric vehicles (BEVs; also known as fully electric vehicles). Hybrid electric vehicles (HEVs), including plug-in hybrid electric vehicles (PHEVs), as well as hydrogen-powered vehicles, are excluded.

- For statistics on electric passenger cars, the data for France refer to NUTS level 1 regions, while only national data are available for Bulgaria and Portugal. The latest data for Greece and Slovakia refer to 2023.
- For statistics on electric vehicles and recharging points, the data for France refer to NUTS level 1 regions, while only national data are available for Bulgaria, Denmark, Greece, Portugal and Slovakia. No data are available for the outermost regions of France (RUP FR – Régions Ultrapériphériques Françaises (FRY)), which are therefore excluded from both the French national total and the EU aggregate.

In 2024, there were 260 million registered passenger cars in the EU, accounting for around 4 out of every 5 motor vehicles. At regional level (NUTS level 2), the highest count was recorded in Lombardia in northern Italy (6.4 million passenger cars). It was followed by the French capital region of Ile-de-France (5.4 million) and the south-eastern French region of Auvergne-Rhône-Alpes (5.1 million), while there were 6.1 million passenger cars across the whole of Portugal (national data). A further 4 regions recorded between 4.0 and 4.6 million cars: Andalucía and Comunidad de Madrid in Spain, Nouvelle-Aquitaine in south-west France and the Italian capital region of Lazio.

The EU's motorisation rate – defined as the number of passenger cars per 1 000 inhabitants – stood at 578 in 2024 (see Map 11.1). Car ownership is typically lower in regions characterised by extensive and efficient public transport networks offering frequent services. In these regions, people may be less likely to own a vehicle (or multiple vehicles per household), especially in regions impacted by congestion and limited parking availability. This pattern was particularly apparent in capital regions and predominantly urban regions of western and Nordic EU countries. By contrast, in several eastern and southern EU countries, the highest motorisation rates were often recorded in capital regions. Relatively high rates were also observed in some tourist-intensive regions, which may partly reflect the presence of rental vehicle fleets.

Berlin – the capital region of Germany – had one of the lowest motorisation rates in the EU, at 334 passenger cars per 1 000 inhabitants in 2024. Car ownership in Berlin was considerably lower than in any other part of Germany, with the next lowest motorisation rates being recorded in Bremen and Hamburg (427 and 435 passenger cars per 1 000 inhabitants, respectively). Other capital regions to report relatively low motorisation rates – less than 400 passenger cars per 1 000 inhabitants – were those of Austria, Belgium and Sweden.

By contrast, higher motorisation rates are often found in suburban, rural and peripheral regions, possibly reflecting a lack of alternative modes of inland passenger transport. The highest motorisation rates in the EU – at least 700 passenger cars per 1 000 inhabitants in 2024, as shown by the

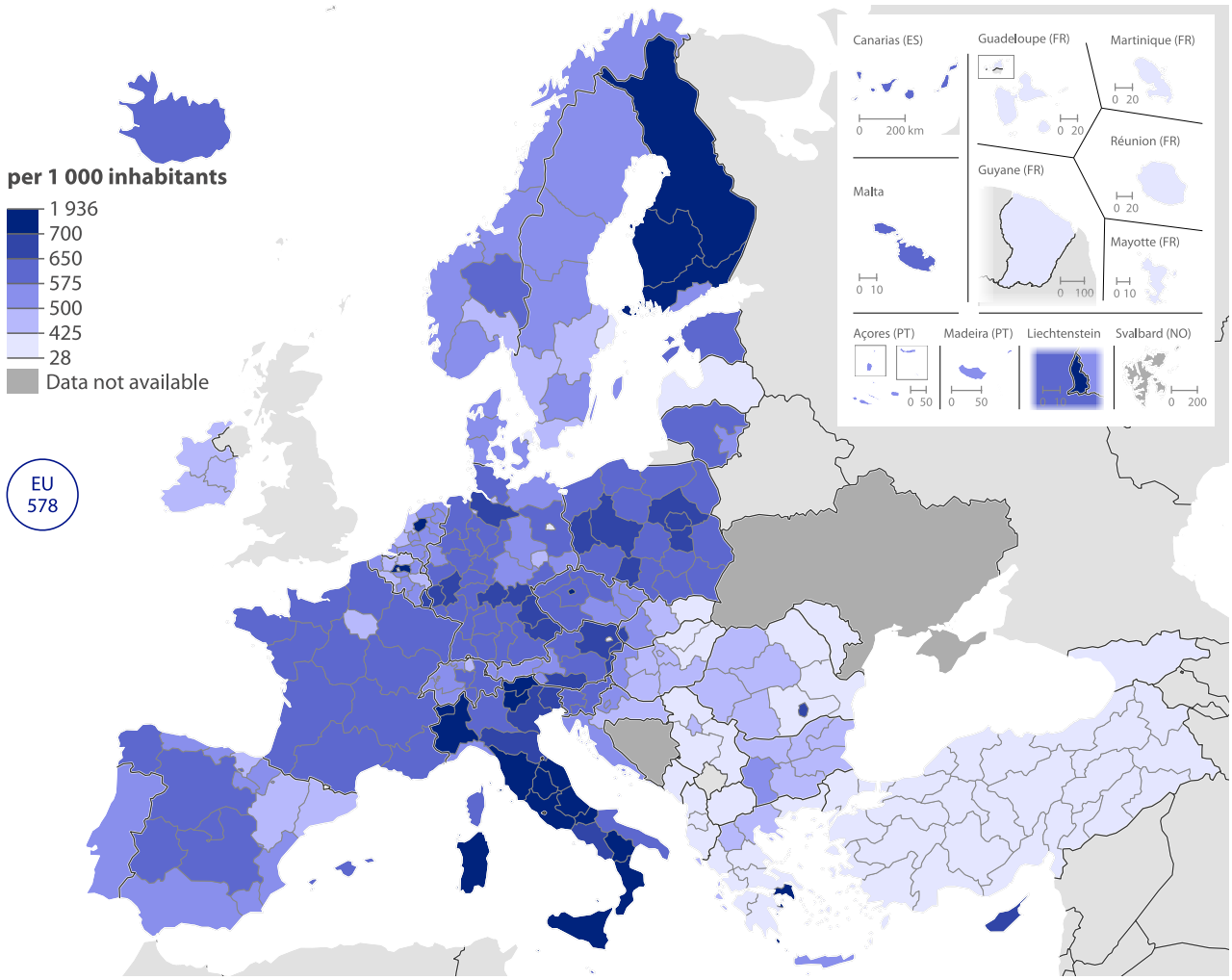
darkest shade in Map 11.1 – were recorded in 22 regions, predominantly in Italy (14 regions, including the capital region of Lazio) and Finland (4 regions). This group also included Praha and Attiki, the capital regions of Czechia and Greece, as well as Prov. Vlaams-Brabant and Flevoland, both of which are located within commuting distance of the Belgian and Dutch capital regions, respectively.

***The motorisation rate in Valle d'Aosta/Vallee d'Aoste (Italy) was 9.3 times as high as that recorded in Peloponnisos (Greece)***

Some of the highest motorisation rates across NUTS level 2 regions were recorded in northern Italy, notably Valle d'Aosta/Vallée d'Aoste (1 936 passenger cars per 1 000 inhabitants in 2024) and Provincia Autonoma di Trento (1 610). These exceptionally high values may reflect specific regional circumstances: for example, in Valle d'Aosta/Vallee d'Aoste, the high rate is, at least in part, influenced by lower taxation on new vehicle registrations. There were also relatively high rates reported in the Dutch region of Flevoland (910 passenger cars per 1 000 inhabitants), the Greek capital region of Attiki (903) and the Finnish archipelago of Åland (867). These 5 regions were the only ones in the EU to report an average of more than 800 passenger cars per 1 000 inhabitants.

The lowest motorisation rates were recorded in the Greek region of Peloponnisos (208 passenger cars per 1 000 inhabitants in 2024) and Sterea Elláda (278). Voreio Aigaio and Dytiki Elláda in Greece, Berlin in Germany and Nord-Est in Romania were the only others in the EU with fewer than 350 passenger cars per 1 000 inhabitants. Overall, 21 regions reported motorisation rates below 425 (shown by the lightest shade in Map 11.1). These were concentrated mainly in eastern and southern EU countries, particularly Greece (8 regions) and Romania (3 regions), but also included several capital regions in western or northern EU countries, as well as Latvia.

**Map 11.1: Passenger cars**
(per 1 000 inhabitants, by NUTS 2 regions, 2024)




Note: France, NUTS level 1. Portugal: national data.

*Source:* Eurostat (online data codes: tran_r_vehst and road_eqs_carhab)

## ELECTRIC PASSENGER CARS

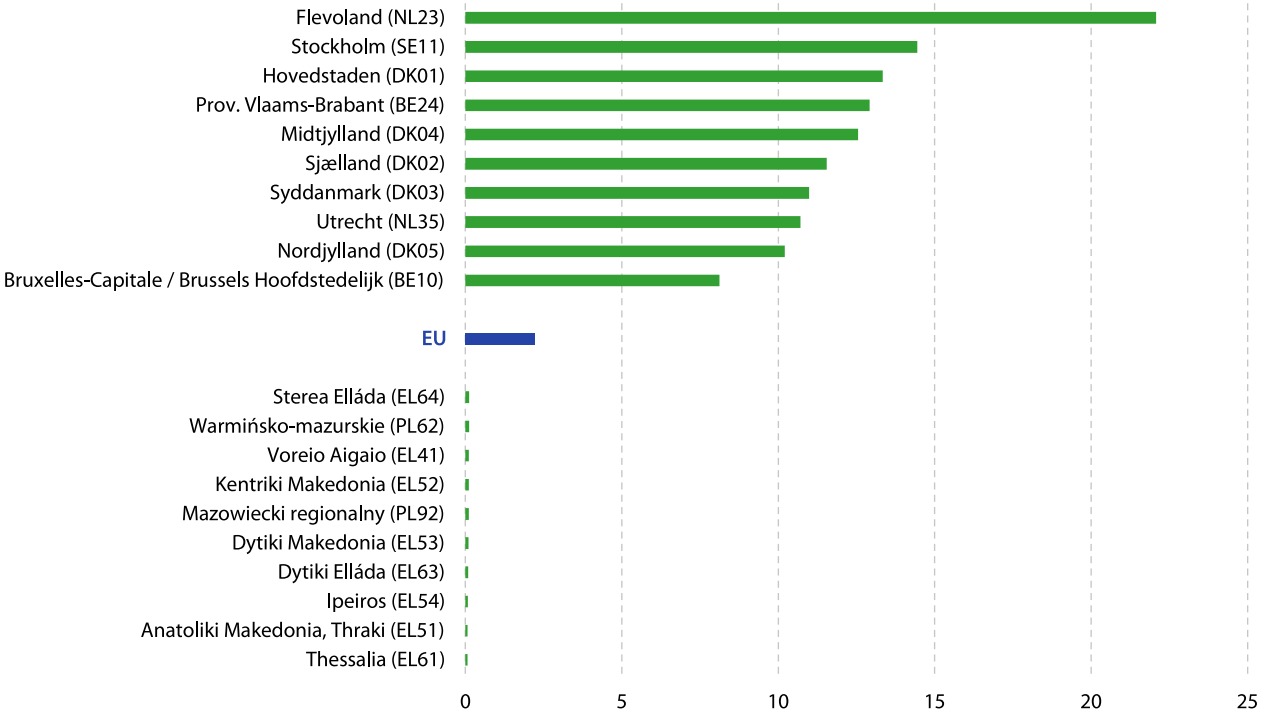
The uptake of electric passenger cars reflects, among other factors, income levels, price differentials between electric and other vehicles, subsidies and incentives, infrastructure investment, battery technology, fuel prices, urban policies, the availability and cost of public transport, and environmental consciousness.

Over the most recent decade for which data are available, the number of electric cars in the EU has grown rapidly, with the total stock surpassing 1.0 million in 2020 and continuing to expand strongly thereafter, exceeding 3.0 million in 2022 and reaching 5.8 million by 2024. While the overall trend remains strongly upward, the pace of growth has shown signs of moderating, with the number of electric passenger cars increasing by 30.2% in 2024 (a lower rate than in previous years). In absolute terms, the largest annual increase was recorded in 2023, when the stock rose by 1.4 million vehicles, followed by a similar increase in 2024, when it grew by a further 1.3 million.

The stock of electric passenger cars in the EU stood at 5.8 million in 2024, equivalent to 2.2% of all passenger cars. The share of electric passenger cars was highest in the Nordic and Benelux EU countries, as well as Austria and Germany. By contrast, electric passenger cars made up smaller shares of the total stock of cars in most southern and eastern regions of the EU.

In 2024, the regional distribution of the share of electric passenger cars among all passenger cars was slightly skewed, with 123 out of the 218 regions (56.4%) recording a share below the EU average. Within most EU countries, the share of electric passenger cars was relatively homogeneous across regions, suggesting that national circumstances (such as the availability of recharging infrastructure) and national policies (such as subsidies and incentives) play an important role in shaping patterns of uptake for these vehicles. For example, all regions in Vlaams Gewest (northern Belgium), Denmark, the Netherlands, Austria and Sweden recorded shares above the EU average, as did Luxembourg and Portugal. By contrast, the Hungarian capital region of Budapest was the only region in the eastern EU countries to record a share that exceeded the EU average.

**Figure 11.1:** Electric passenger cars
(% of all passenger cars, by NUTS 2 regions, 2024)




Note: the figure shows the EU regions with the highest and lowest shares of electric passenger cars in the total number of passenger cars. France: NUTS level 1. Bulgaria and Portugal: national data. Greece and Slovakia: 2023.

*Source:* Eurostat (online data codes: tran_r_elvehst, tran_r_vehst and road_eqs_carpda)

Figure 11.1 shows EU regions with the highest and lowest shares of electric cars in the total number of passenger cars. In 2024, there were 9 regions across the EU that reported double-digit shares. The highest value was recorded in Flevoland (the Netherlands), where more than 1 in 5 passenger cars were electric (22.1%). This unusually high figure may reflect the presence of vehicle leasing companies based in the region, which register large fleets of electric vehicles and thereby inflate the number of registrations relative to the size of the regional population. High shares of electric cars were also observed in the Nordic capital regions of Stockholm (14.4%; Sweden) and Hovedstaden (13.3%; Denmark). This group of 9 regions with double-digit shares also included the other 4 regions in Denmark, where regional shares ranged from 10.2% to 12.6%, as well as Prov. Vlaams-Brabant (Belgium) and Utrecht (the Netherlands).

At the lower end of the distribution, 32 regions reported that electric cars accounted for fewer than 0.25% of all passenger cars in 2024. This group was concentrated in eastern and southern EU countries, particularly Greece (11 of 13 regions; 2023 data), Poland (13 of 17) and Slovakia (3 of 4; 2023 data). Among the 10 regions with the lowest overall shares, 8 were located in Greece and the remaining 2 in Poland. The lowest shares in the EU were recorded in the Greek regions of Thessalia and Anatoliki Makedonia, Thraki, both at 0.07%.

## ELECTRIC RECHARGING POINTS

The majority of recharging points for electric vehicles in the EU are concentrated in predominantly urban regions, leaving rural areas and inter-city routes less well-served. Furthermore, cross-border travel by electric car may be hindered by fragmented payment systems and varying standards, although ongoing efforts aim to improve the interoperability of the EU's charging network.

*Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure* aims to support the EU's climate goals by ensuring the coordinated roll-out of alternative fuels infrastructure and a smooth transition to renewable ('zero-carbon') fuels. The regulation emphasises the need to increase the capacity of public recharging points for electric vehicles, alongside stimulating the deployment of fast charging stations and dedicated infrastructure for heavy-duty vehicles. It sets binding targets for EU countries, including minimum fast-charging densities on some of the EU's principal routes along the TEN-T road network, alongside broader objectives to expand the network to around 3.5 million semi-public or public charging units by 2030.

In 2024, there were 896 700 semi-public and public electric recharging points across the EU. These data are provided by Eco-Movement through the European Alternative Fuels Observatory (EAFO) that is funded by the European Commission's Directorate-General for Mobility and Transport. It is important to note that the main modes of recharging in the EU are private charging at home, followed by workplace charging, while semi-public and public recharging points are generally used less frequently. Home and workplace charging typically rely on lower-power outlets, resulting in longer charging times but lower costs compared with faster, more expensive public charging points.

Semi-public and public electric charging infrastructure is unevenly distributed across the EU. In urban areas of several western EU countries – such as Germany, France and the Netherlands – the network of charging points is relatively dense, reflecting both higher electric vehicle uptake and a greater concentration of the population. This pattern is also evident in regions across northern Belgium and northern Italy. By contrast, eastern EU countries generally have fewer charging points, although these often provide higher recharging capacity.

In 2024, the Netherlands recorded 184 000 semi-public or public recharging points, representing slightly more than a fifth (20.5%) of the EU total. Germany and France followed with shares of 18.2% and 16.2%, respectively, while no other EU country recorded a double-digit share.

Looking in more detail at NUTS level 2 regions, Zuid-Holland in the Netherlands had the highest count of semi-public and public recharging points in 2024, at 47 400. The next highest numbers of recharging points were also recorded in the Netherlands, namely, in the capital region of Noord-Holland (34 000 points) and the southern region of Noord-Brabant (27 500). Outside of the Netherlands, the highest count of semi-public and public recharging points was in the French capital region of Ile-de-France (25 700).

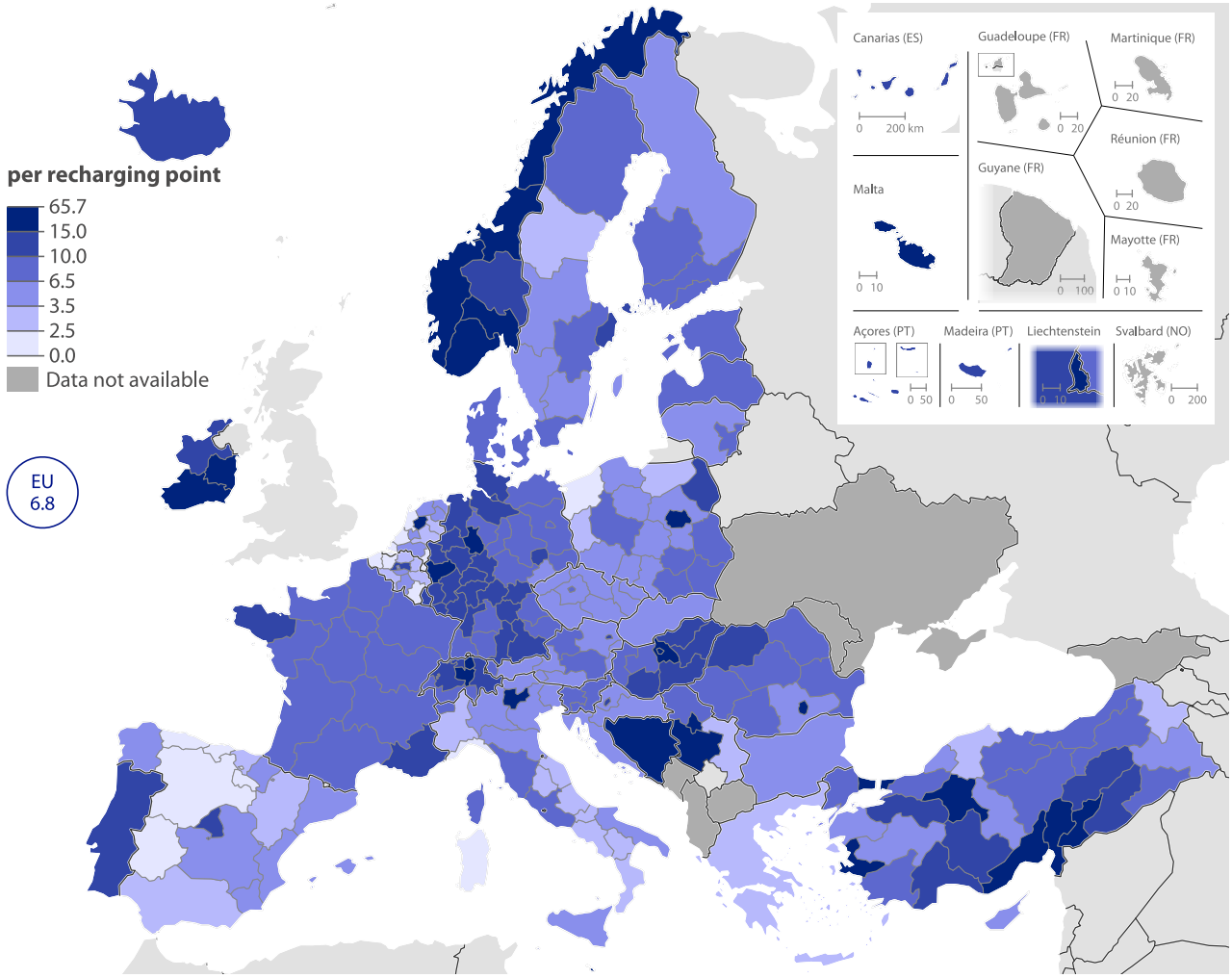
Map 11.2 shows the number of electric vehicles (passenger cars, buses and goods vehicles less than or equal to 3.5 tonnes) per semi-public and public recharging point. In 2024, there were, on average, 6.8 electric vehicles per recharging point across the whole of the EU. The distribution across regions was quite even, insofar as there were 98 regions recording a ratio below the EU average and 98 regions above it, while 2 regions had the same ratio as the EU.

At the upper end of the distribution, there were 11 regions in the EU with an average of at least 15.0 electric vehicles per recharging point in 2024: this may simply reflect potentially high pressure on the charging infrastructure (through a high number of electric vehicles relative to a more limited availability of recharging points), low average use of vehicles (and therefore less frequent need for recharging) or other factors, such as a high proportion of the vehicles registered in a region recharging in other regions (for example because of

commuting flows or because vehicle fleets are used in regions other than where they are registered). This group included 2 western German regions (Köln and Detmold), 2 of the 3 Irish regions (Eastern and Midland, and Southern) and 2 neighbouring regions from Hungary (Budapest and Pest). It also included the northern Italian region of Provincia Autonoma di Trento, Malta, Flevoland in the Netherlands, as well as the Polish and Romanian capital regions of Warszawski stołeczny and Bucureşti-Ilfov.

At the lower end of the distribution, there were 16 regions across the EU with fewer than 2.5 electric vehicles per recharging point in 2024, indicating a comparatively high provision of charging infrastructure relative to electric vehicle uptake and therefore potentially lower pressure on recharging points. This group included 6 predominantly rural regions in Spain, where – excluding the atypical region of Ciudad de Ceuta (incomplete data) – the lowest ratio was recorded in Castilla y León (1.5 electric vehicles per recharging point). It also included 4 regions in the Netherlands, with the lowest ratio observed in Zeeland (1.7 electric vehicles per recharging point), and 3 regions in Belgium, where the lowest ratio was recorded in Prov. Luxembourg (also 1.7). This group of 16 regions also comprised 2 regions in Italy, with Liguria recording a ratio of 2.3 and Sardegna a ratio of 2.4, while the final region was the north-western Polish region of Zachodniopomorskie (also 2.4).

**Map 11.2: Electric vehicles**
(per recharging point, by NUTS 2 regions, 2024)




Note: publicly available and semi-public recharging points. France: NUTS level 1. Bulgaria, Denmark, Greece, Portugal and Slovakia: national data. EU: excluding RUP FR – Régions Ultrapériphériques Françaises (FRY).

*Source:* Eco-Movement and Eurostat (online data codes: tran_r_elvehst, road_eqs_carpda, road_eqs_busmot and road_eqs_lormot)

## ROAD FATALITIES

While freight transport and passenger mobility bring many benefits, they can also come with environmental and societal costs; these include greenhouse gas emissions, pollution, congestion and road accidents, all of which impact our health and well-being.

### More about the data: road fatalities

The EU's road safety policy is guided by a European Parliament resolution on the *EU Road Safety Policy Framework 2021–2030 – Recommendations on next steps towards 'Vision Zero'* (2021/2014), which aims to halve road deaths by 2030 and reduce them to near zero by 2050. A recent European Commission communication (COM(2026) 77 final) indicates that, while progress has been made in reducing the number of road fatalities, the current pace is insufficient to meet either of the targets.

In a statistical context, the number of road fatalities refers to people who died immediately in a road traffic accident or within 30 days as a result of injuries sustained in a road traffic accident. Statistics on road fatalities are available for all NUTS level 2 regions. The latest data for Greece refer to 2023.

Road accident statistics include fatalities for vehicles which are in transit through a region as well as fatalities and injuries of non-residents staying in a region on holiday, for business or another reason. As such, and other things being equal, regions that have transit corridors or regions with high numbers of visitors may well experience a higher incidence of fatalities.

***The northern Italian region of Lombardia had the highest number of road fatalities – 383 in 2024 …***

The EU's roads are among the safest in the world. In 2024, there were 20 210 road fatalities across the EU's territory, equivalent to 45 per million inhabitants.

The northern Italian region of Lombardia recorded the highest number of road fatalities in 2024, with 383 fatalities; this was 6 more than in 2023. The only other regions in the EU where the number of road fatalities reached at least 300 were:

- Andalucía in southern Spain (358 fatalities; 48 more than in 2023)
- Rhône-Alpes in southern France (325 fatalities; 17 more than in 2023)
- Lazio, the Italian capital region (319 fatalities; 27 fewer than in 2023).

At the other end of the range, there were 6 NUTS level 2 regions that recorded fewer than 10 road fatalities in 2024. The sparsely populated Åland archipelago in Finland was the only region in the EU to report no road fatalities – its third consecutive year without any such fatalities. The other regions with fewer than 10 fatalities included:

- the Spanish autonomous regions of Ciudad de Ceuta and Ciudad de Melilla (both recorded a single fatality)
- the northern Italian region of Valle d'Aosta/Vallée d'Aoste (7 fatalities)
- the westernmost region of Austria, Vorarlberg (also 7 fatalities)
- the French outermost region of Mayotte (8 fatalities).

***… while the north-western Bulgarian region of Severozapaden had the highest incidence rate – 148 road fatalities per million inhabitants***

Across the EU, there were 45 road fatalities per million inhabitants in 2024. The regional distribution was relatively even, with 129 of the 244 NUTS level 2 regions for which data are available recording a rate above the EU average, 113 below it, and 2 recording the same value. Map 11.3 highlights that several rural and peripheral regions of the EU reported some of the highest road fatality rates. In 2024, 22 regions recorded at least 80 fatalities per million inhabitants (as shown by the darkest shade on the map). These regions were concentrated in southern and eastern EU countries, as well as in France and southern Belgium. The highest rates, exceeding 100 fatalities per million inhabitants, were observed in:

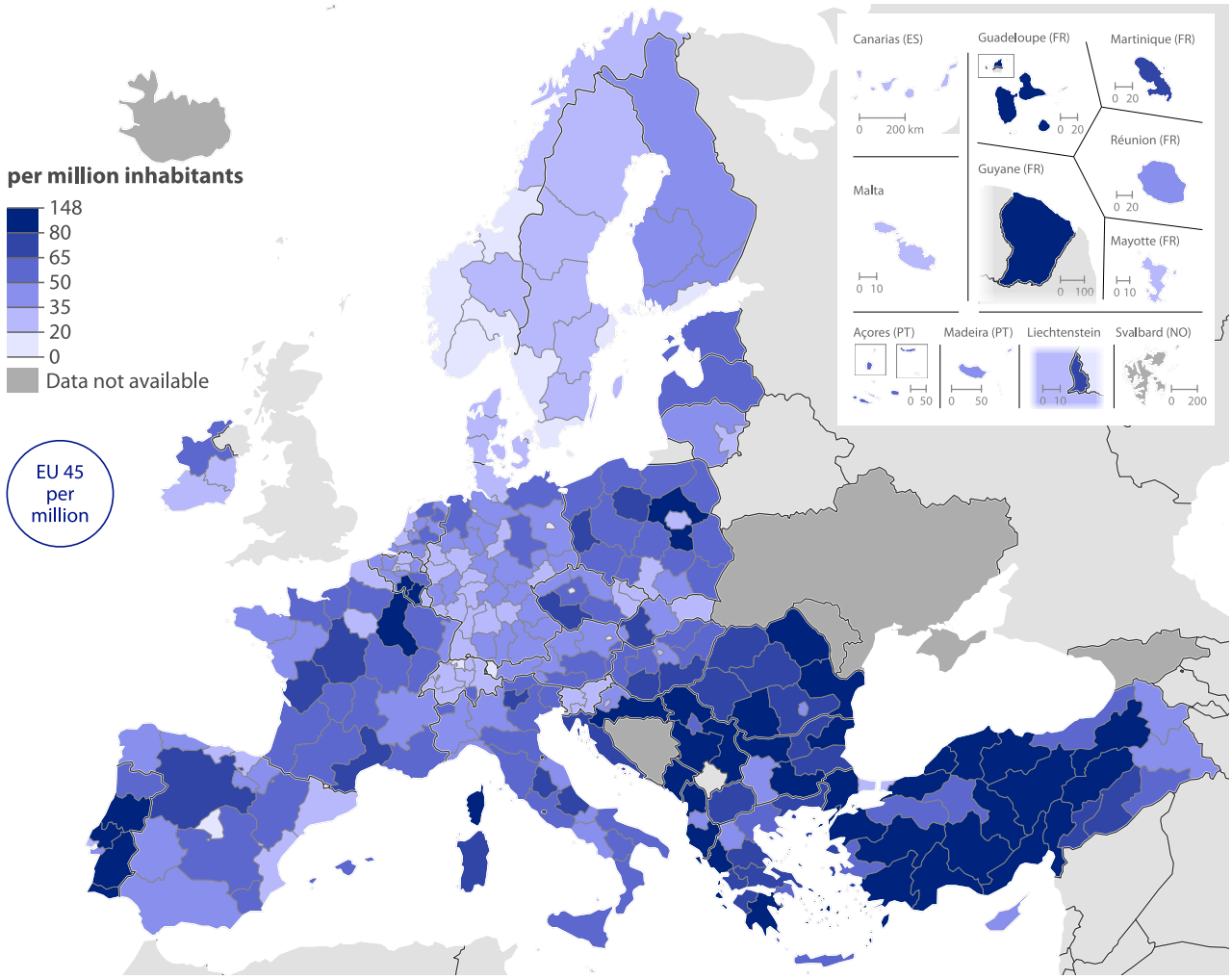
- Severozapaden (north-western Bulgaria), which recorded the highest rate in the EU, at 148 fatalities per million inhabitants
- the southern Portuguese region of Alentejo (137 fatalities per million inhabitants)
- the French outermost regions of Guadeloupe (131 fatalities per million inhabitants) and Guyane (114 fatalities per million inhabitants), as well as the island region of Corse (113 fatalities per million inhabitants)
- the Greek island regions of Ionia Nisia (120 fatalities per million inhabitants; 2023 data) and Notio Aigaio (119 fatalities per million inhabitants; 2023 data)
- the south-western Romanian region of Sud-Vest Oltenia (111 fatalities per million inhabitants).

By contrast, urban and capital regions tended to report much lower incidences of road fatalities. This may reflect factors such as more extensive public transport networks, lower motorisation rates and lower average speeds – for example, due to stricter speed limits in built-up areas or frequent congestion on urban motorway networks.

In 2024, 15 regions recorded fewer than 20 deaths per million inhabitants (they are presented in the lightest shade in Map 11.3). Ciudad de Ceuta, Ciudad de Melilla and Comunidad de Madrid (all Spain) were the only southern regions, while the Czech capital region (Praha) was the only eastern region. Apart from the atypical cases of Åland (Finland; no fatalities) and the two Spanish autonomous cities (both a single fatality), most of these regions were predominantly urban, with 8 of them being capital regions. Among those with the lowest incidence rates were:

- Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest in Belgium (9 road fatalities per million inhabitants)
- Stockholm in Sweden (10 fatalities per million inhabitants)
- Wien in Austria (also 10 fatalities per million inhabitants).

**Map 11.3: Number of road fatalities**
(per million inhabitants, by NUTS 2 regions, 2024)



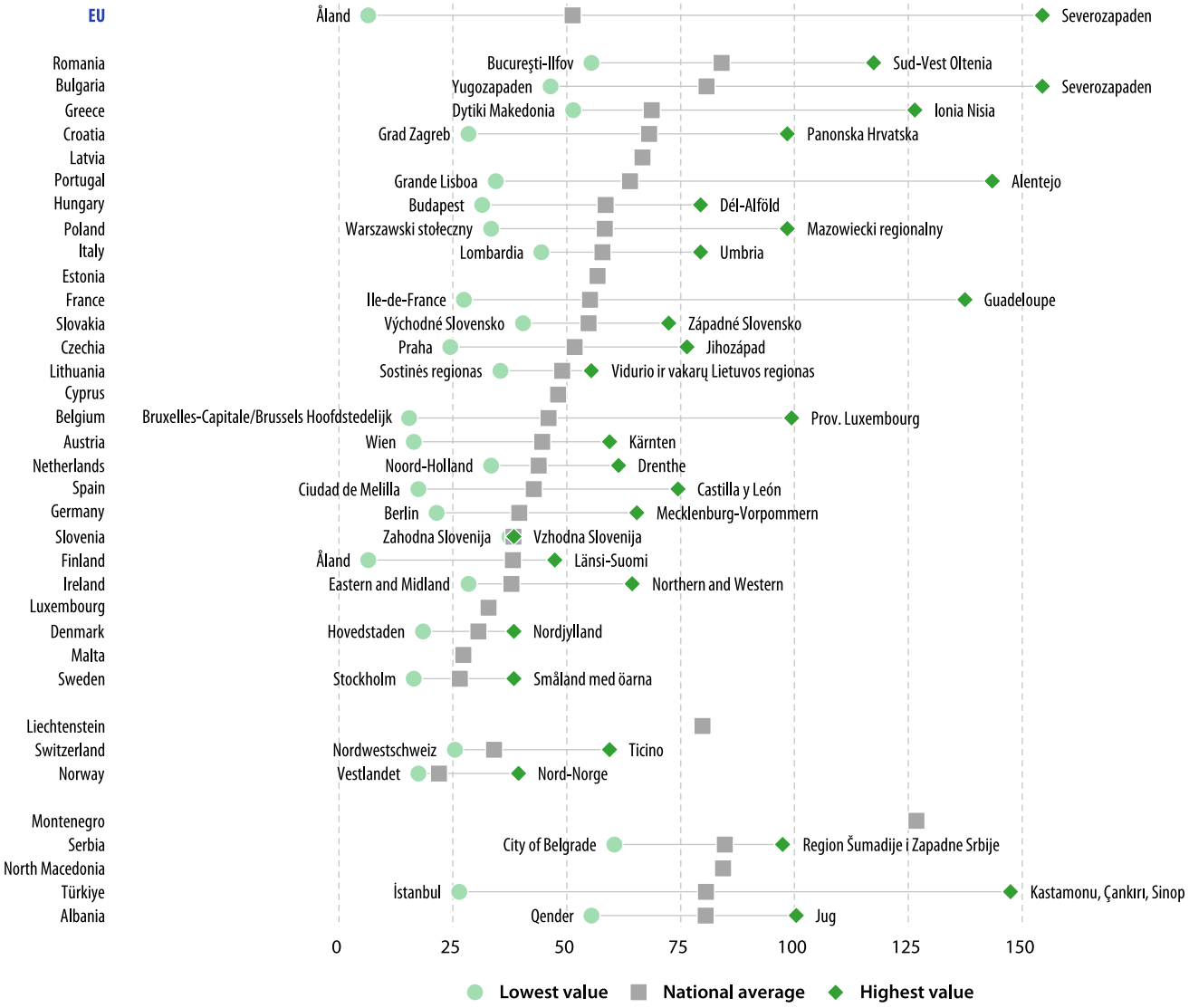

Note: Greece, 2023.

*Source:* Eurostat (online data codes: tran_r_acci and demo_pjan)

Figure 11.2 provides a more detailed picture of the number of road fatalities per million inhabitants, focusing on regions with the highest and lowest ratios in each country. In 2024, inter-regional differences were particularly marked in Belgium, France and Spain, where the fatality rate in the region with the highest value was more than 6.0 times that observed in the region with the lowest value.

- In Belgium, the widest gap was observed between the southern region of Prov. Luxembourg (93 fatalities per million inhabitants) and the capital region of Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest (9 fatalities per million inhabitants), a ratio of 10.3 : 1.
- In France, fatality rates ranged from 131 fatalities per million inhabitants in the outermost region of Guadeloupe to 21 fatalities per million inhabitants in the capital region of Ile-de-France, with the highest value 6.2 times as high as the lowest.
- in Spain, the north-western region of Castilla y León (68 fatalities per million inhabitants) recorded a fatality rate that was 6.2 times higher than in Ciudad de Melilla (11 fatalities per million inhabitants).

**Figure 11.2:** Number of road fatalities
(per million inhabitants, by NUTS 2 regions, 2024)




Note: the figure shows, for each country and subject to availability, the regions with the highest and lowest ratios of road fatalities per million inhabitants. Greece: 2023.

*Source:* Eurostat (online data codes: tran_r_acci and demo_pjan)

Beyond relative comparisons, absolute differences in road fatality rates can be assessed by examining the gap between the highest and lowest regional values in each country. In 2024, absolute differences in regional road fatality rates were particularly pronounced in France, Portugal and Bulgaria, each with a gap between the highest and lowest rates that exceeded 100 fatalities per million inhabitants.

- In France, there was a difference of 110 fatalities per million inhabitants between the rates for Guadeloupe and Ile-de-France.
- In Portugal, the highest road fatality rate was in Alentejo (137 fatalities per million inhabitants), which was 109 fatalities per million inhabitants higher than in the capital region of Grande Lisboa (28 fatalities per million inhabitants).
- In Bulgaria, the road fatality rate peaked at 148 fatalities per million inhabitants in Severozapaden, which was 108 fatalities per million inhabitants more than in the capital region of Yugozapaden (40 fatalities per million inhabitants).

By contrast, several EU countries recorded relatively small differences between their highest and lowest regional road fatality rates in 2024. This pattern was particularly evident in Slovenia, where the inter-regional gap was just 1 fatality per million inhabitants, with the highest rate observed in Vzhodna Slovenija and the lowest in the capital region of Zahodna Slovenija. Relatively small gaps were also observed in Denmark, Lithuania, Sweden and the Netherlands (note that some of these countries consist of a relatively limited number of regions). The widest gap among these 4 countries – a difference of 28 fatalities per million inhabitants – was recorded in the Netherlands, where the north-eastern region of Drenthe had the highest rate and the capital region of Noord-Holland the lowest.

## Maritime transport

The quality of life on many European islands and in peripheral maritime regions depends to a great extent on the availability, reliability and efficiency of maritime transport services. These connections are often the primary link between island communities and the mainland, enabling the movement of passengers, goods, medical supplies and other essential services. Without regular and affordable ferry and shipping routes, residents may face increased isolation, limited access to healthcare and education, as well as higher costs for everyday products.

Maritime transport plays a vital role in supporting local economies, facilitating trade and sustaining tourism, which is a key source of income for many island regions. In this context, strong maritime connections are essential not only for mobility, but also for economic resilience and the broader integration of peripheral regions within the EU.

### MARITIME FREIGHT

Maritime freight services facilitate trade within the EU and between the EU and the rest of the world. Along with other products, they contribute towards the security of supply of energy and food, while providing EU exporters with a means of reaching international markets and non-EU exporters with a means of reaching EU markets; indeed, the vast majority (in tonnage) of the EU's international freight is transported by sea.

The distribution of ports around the EU's coastline reflects a range of influences including (among others) historical trade routes, geographic features, resource endowment, economic activities and political considerations. A large number of the EU's main ports are concentrated along North Sea coastlines, close to some of the most densely populated regions of the EU that are served by an extensive network of motorways, railways, rivers and canals.

***Rotterdam in the Netherlands was the largest port in the EU with almost 400 million tonnes of freight handled in 2024***

In 2024, the gross weight of goods handled in all EU ports was 3.36 billion tonnes. Of this total, 2.08 billion tonnes, or 61.9%, flowed inwards towards the EU. This apparent imbalance may be explained, at least in part, by the nature of EU imports, with a relatively high share of the inward flows made-up of bulk commodities such as raw materials and energy resources. By contrast, when ships leave EU ports they are laden with different types of freight that may be less bulky / of lower weight, for example higher-value manufactured goods.

Map 11.4 shows information for the EU's main ports in 2024, covering only ports handling at least 2.0 million tonnes of freight (inward and outward combined); note that Estonian ports are excluded for confidentiality reasons. The largest freight port in the EU was Rotterdam in the Netherlands. With 397.3 million tonnes of maritime freight handled in 2024, it accounted for 11.8% of all goods handled in EU ports. Inward flows into Rotterdam were particularly significant, standing at 288.0 million tonnes (13.9% of the EU's inward flows), compared with 109.3 million tonnes of outward flows (8.6%).

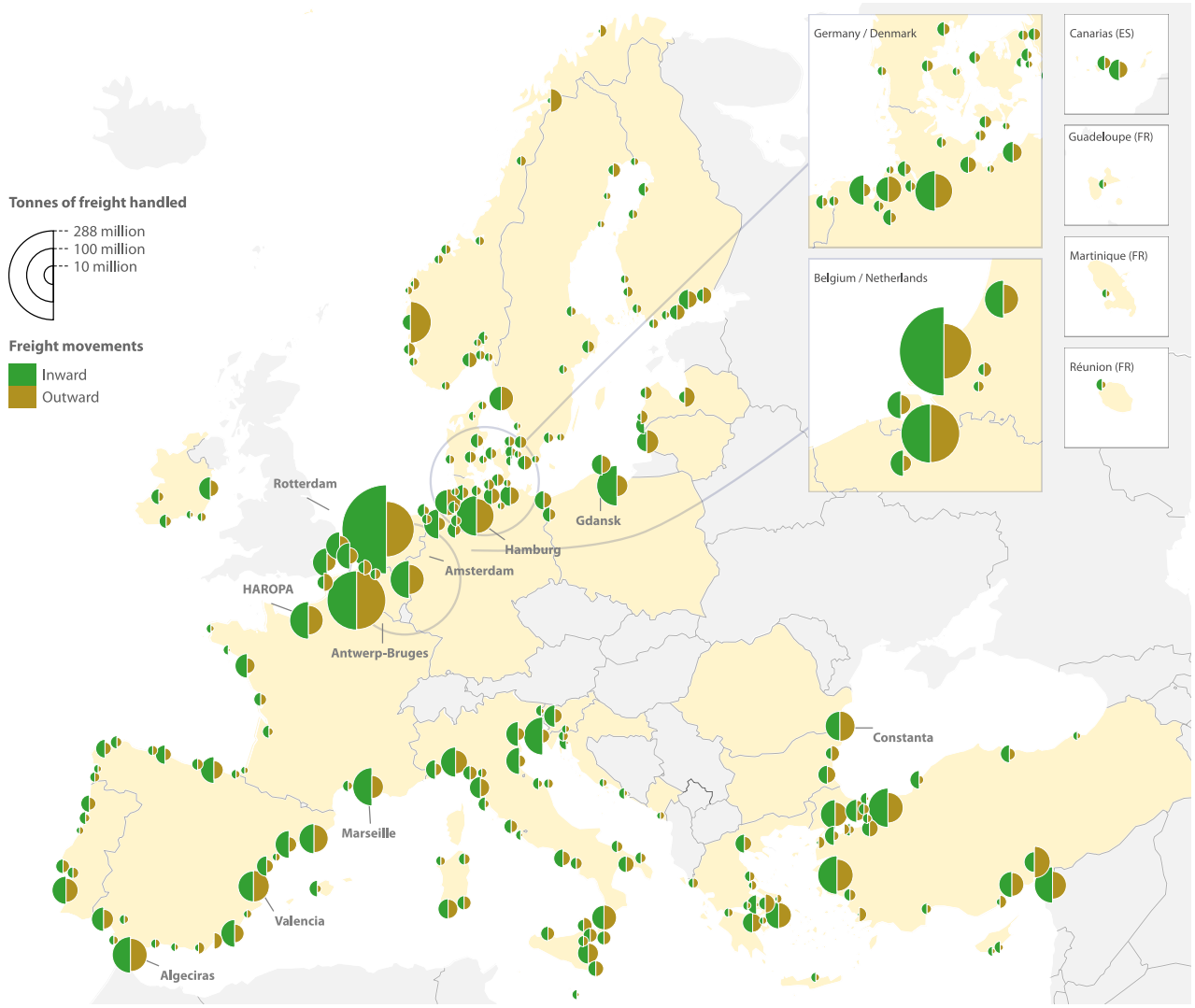
The second largest port in the EU was Antwerp-Bruges in Belgium, which combines the ports of Antwerp and Zeebrugge under a single port authority following a 2022 merger. In 2024, it handled 244.2 million tonnes of maritime freight, equivalent to 7.3% of the EU total and around three fifths of the quantity handled in Rotterdam. Unlike Rotterdam, trade in Antwerp-Bruges was relatively balanced, with inward flows of 123.7 million tonnes (6.0% of the EU's inward flows) and outward flows of 120.6 million tonnes (9.4%).

Several of the next largest freight ports in the EU were also located in the North Sea, within relatively close proximity of Rotterdam and Antwerp-Bruges: the German port of Hamburg (97.0 million tonnes), the Dutch capital of Amsterdam (78.8 million tonnes) and the French channel and river ports of HAROPA (Le Havre, Rouen and Paris; 76.7 million tonnes).

Outside the North Sea basin, several relatively large freight ports were located in the Mediterranean: the Spanish ports of Algeciras (81.5 million tonnes), Valencia (64.5 million tonnes) and Barcelona (55.5 million tonnes), the French port of Marseille (66.0 million tonnes) and the Italian port of Trieste (53.5 million tonnes). There were also 2 other EU ports handling more than 50.0 million tonnes of goods in 2024: the Baltic port of Gdańsk in Poland (71.0 million tonnes) and the Black Sea port of Constanţa in Romania (57.6 million tonnes).

Most of the EU's principal ports have higher levels of inward (rather than outward) flows of maritime freight when measured in tonnes (see Map 11.4). For example, in the EU's principal port of Rotterdam, inward flows were 2.6 times as high as outward flows. Higher ratios were recorded in several other leading ports in the EU: Trieste in Italy (where inward flows were 9.1 times as high as outward flows), Gdańsk in Poland (3.9 times), as well as the French ports of Dunkerque (3.1) and Marseille (3.0).

**Map 11.4: Maritime freight handled**
(by main ports, 2024)




Note: the map shows data for ports with at least 2.0 million tonnes of freight handled (inward and outward combined). Estonian ports excluded. Top 10 EU ports labelled.

*Source:* Eurostat (online data code: mar_go_aa)

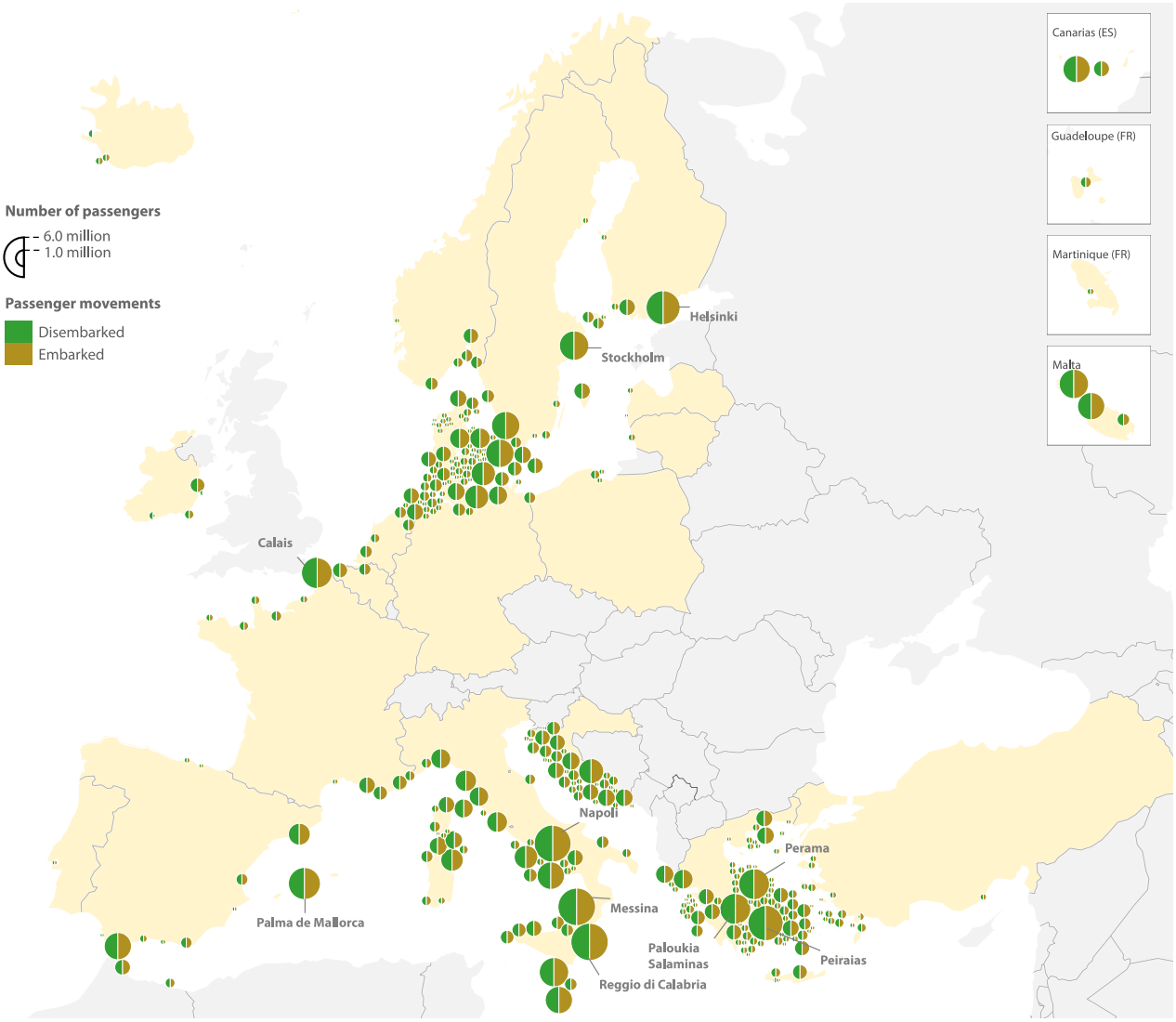
The overall level of maritime freight handled in EU ports decreased 0.2% between 2023 and 2024, with some of the EU's principal ports experiencing much larger falls in the quantity of freight handled (inward and outward combined). The largest decreases – among the top 20 EU ports in 2024 – were recorded in Constanța (-14.3%) and Gdańsk (-11.0%), with 6 other ports also reporting declines, including Rotterdam (-1.1%). By contrast, the fastest growth rate among the top 20 EU ports was recorded at the Atlantic port of Sines in Portugal, where the quantity of freight handled rose 10.7%. The North Sea port of Göteborg in Sweden was the only other port among the top 20 to record a double-digit increase (up 10.1%).

## MARITIME PASSENGERS

In 2024, there were 417.8 million passengers passing through EU ports, with an almost even split between inward and outward journeys (in other words, passengers embarked and disembarked).

Map 11.5 shows information on the principal EU ports for maritime passengers, covering only ports with at least 100 000 passengers carried (total of embarked and disembarked); note that Estonian ports are excluded for confidentiality reasons (Tallinn is among the EU's top ports for passenger traffic).

**Map 11.5: Maritime passengers embarked and disembarked**
(by main ports, 2024)




Note: the map shows data for ports with at least 100 000 passengers embarked and disembarked. Estonian ports excluded. Top 10 EU ports labelled.

*Source:* Eurostat (online data code: mar_pa_aa)

***Messina on the Italian island of Sicilia was the largest port in the EU for maritime passengers, with 11.4 million embarked and disembarked in 2024***

Some of the EU's most frequented maritime passenger routes are concentrated in the Mediterranean Sea. In 2024, the Italian port of Messina (Sicilia) remained the largest passenger port in the EU, with 11.4 million passengers embarked and disembarked, followed by Reggio di Calabria in southern Italy (11.2 million passengers) that acts as the main port linking the Italian mainland to Sicilia. There were 2 other Mediterranean ports with at least 10.0 million maritime passengers:

- the southern Italian port of Napoli (11.0 million passengers), that is used as a gateway to nearby islands and coastal towns, as well as for longer domestic ferry routes and cruise departures
- the Greek port of Peiraiás (10.0 million passengers), located close to the capital city of Athens, which is used as a hub for departures to the Greek islands.

In 2024, among the main EU ports for maritime passengers, the following ports recorded the highest numbers of embarked and disembarked passengers in each EU country (excluding Italy and Greece (which are already mentioned above), and Estonia (no data available for ports)):

- Helsinki, Finland (9.3 million passengers)
- Palma de Mallorca, Spain (8.3 million passengers)
- Calais, France (7.6 million passengers)
- Stockholm, Sweden (6.9 million passengers)
- Mġarr (Gozo), Malta (6.9 million passengers)
- Helsingør (Elsinore), Denmark (6.4 million passengers)
- Split, Croatia (5.0 million passengers).

The overall level of maritime passenger transport in EU ports increased by 6.2% between 2023 and 2024, with most of the EU's principal ports also experiencing growth in their number of embarked and disembarked passengers. The highest annual increases in passenger numbers were recorded in the Italian ports of Napoli (up 26.1%) and Capri (up 21.7%), which are connected by frequent ferry and hydrofoil services. Double-digit increases were also observed in the Greek ports of Perama and Paloukia (both up 13.8%), which are linked by a ferry that connects the Greek capital and its surrounding areas with the nearby island of Salamina. Among the top 20 EU ports for maritime passengers in 2024, there were only 3 that recorded a fall in passenger numbers: the German port of Burgstaaken/Fehmarn (-2.0%), the Swedish port of Stockholm (-1.9%) and the Spanish island port of Santa Cruz de Tenerife (-0.1%).

## Rail transport

The trans-European transport network (TEN-T) is an EU-wide planned network of railways, inland waterways, short sea shipping routes and roads. It aims to link major cities, ports, airports and freight terminals, providing a coherent, efficient, multimodal and high-quality transport infrastructure to support the movement of people and goods. According to current planning within the EU, the core network is expected to be completed by 2030, the extended core network by 2040, and the comprehensive network – designed to connect all regions – by 2050. The TEN-T policy framework is designed to make the EU's transport system greener, more efficient and more resilient.

Within rail transport, there are still several challenges for cross-border services, many of which can be linked to differing national standards in electrification, signalling and track gauge. For example, Ireland, Finland and the Baltic countries use broader track gauges than the standard used in most other EU countries, while Spain and Portugal retain Iberian gauge on conventional lines (although high-speed networks use standard gauge).

To address interoperability issues, the European Railway Traffic Management System (ERTMS) has been developed as a single European standard for train control and command. It is intended to replace more than 20 incompatible national systems, improving cross-border operability, safety and efficiency across the EU's rail network.

In May 2026, the European Commission made 3 proposals for new legislation covering rules to protect rail passengers better, while simplifying the planning and booking of regional, long-distance and cross-border travel, in particular, for rail journeys involving multiple operators. These included:

- putting in place new protection for rail passengers' rights, including assistance, rerouting, reimbursement and compensation
- enabling single-ticket bookings across multiple rail operators, which can be bought in a single transaction through a ticketing platform of their choice
- introducing new obligations for ticketing platforms and operators to ensure fair access to selling tickets and the neutral presentation of travel options.

***In 2024, more than half of the EU's railway lines were electrified***

In 2024, there were around 202 000 km of railway lines across the EU and 332 000 km of tracks; – a line is made up of 1 or more tracks forming a route between 2 points. Note that there are no railways in Cyprus and Malta nor in 15 other EU regions in the EU; there are also no railways in Iceland nor in 1 Norwegian and 1 Turkish region. More than half (57.6%) of the EU's railway lines were electrified. Electrified railway lines offer a number of benefits over diesel-powered trains

running on non-electrified lines: they generally have lower operating costs, improved performance, higher energy efficiency, reduced emissions (especially if powered by renewable energy sources) and they tend to be quieter.

Within the EU, there were 7 NUTS level 2 regions where practically all (100.0%) of the railway lines were electrified in 2024. This was the case in:

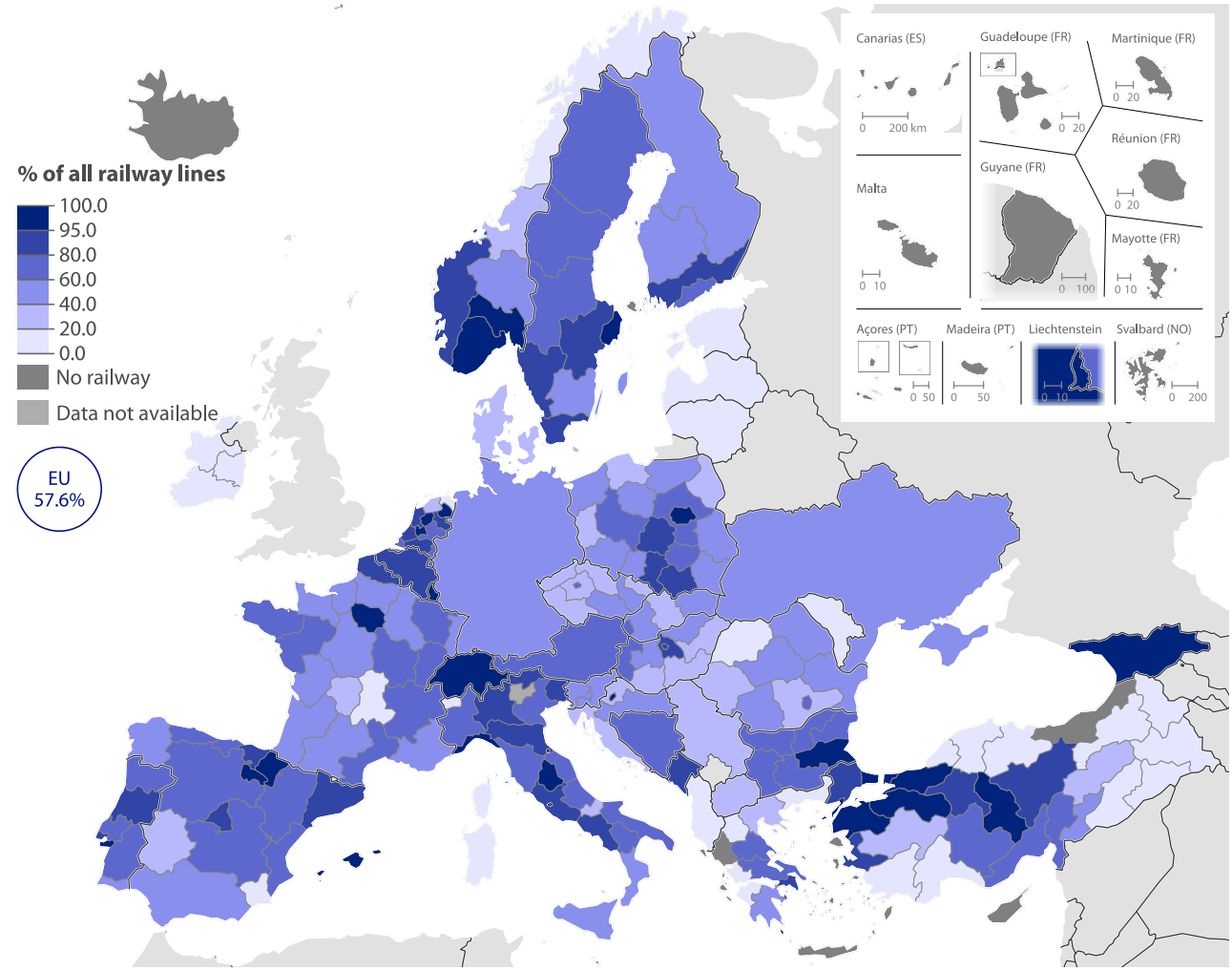
- the Spanish regions of Comunidad Foral de Navarra, La Rioja and Illes Balears
- the Croatian capital region of Grad Zagreb
- the Dutch regions of Drenthe and Flevoland
- the Portuguese region of Península de Setúbal.

Alongside these 7 regions, there were a further 8 regions where the share of electrified railway lines was at least 95.0%. Together, these 2 groups are shown in the darkest shade in Map 11.6. This group of 8 regions – where at least 95.0% (but not 100.0%) of all railway lines were electrified – composed the capital regions of France, Poland and Sweden, as well as Liguria and Umbria in Italy, the eastern Bulgarian region of Yugoiztochen, Luxembourg and the Dutch region of Utrecht.

At the other end of the range, there were 16 regions where fewer than 20.0% of all railway lines were electrified in 2024. This group was widely distributed across the EU and contained all 3 Baltic countries (for which only national data are available): a major infrastructure project – Rail Baltica – is underway, aiming to develop a double-track electrified railway linking the capital cities of the Baltic countries with Poland. Within this group, there were 8 regions where none of the railway lines were electrified:

- the Irish regions of Northern and Western; Southern
- the Greek regions of Anatoliki Makedonia, Thraki; Dytiki Makedonia; Dytiki Elláda
- the French island region of Corse
- the Italian regions of Valle d'Aosta/Vallée d'Aoste; Sardegna.

**Map 11.6: Electrified railway lines**
(% of all railway lines, by NUTS 2 regions, 2024)




Note: Belgium, Denmark, Germany, Lithuania, Austria, Albania and Serbia, national data.

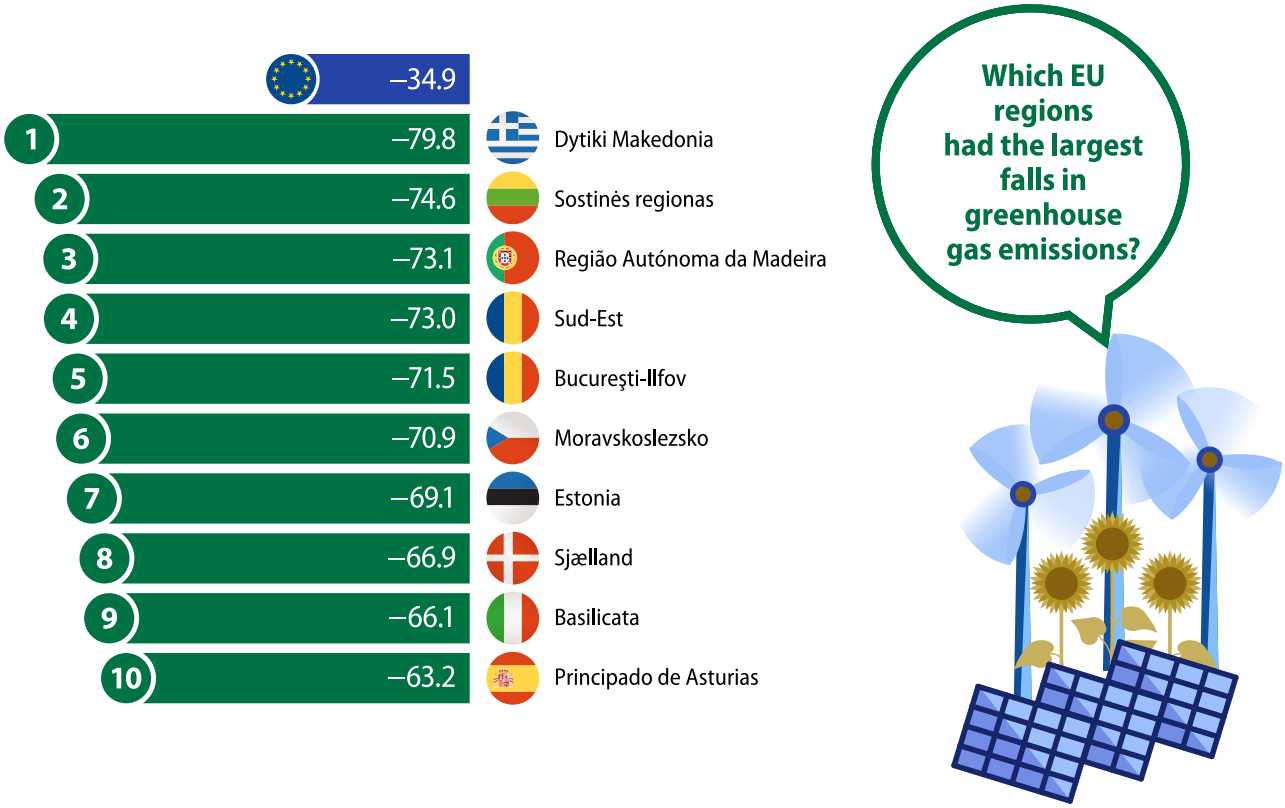
*Source:* Eurostat (online data codes: tran_r_net and rail_if_tracks)

# 12. Environment

Climate change and environmental degradation are among the most pressing global threats, affecting ecosystems, human health and the economy. These challenges are interconnected: while climate change harms biodiversity and alters ecosystems, intact and healthy ecosystems can help mitigate its effects (for example through carbon storage) and support adaptation (by regulating water, reducing floods and heat, preventing desertification and improving air quality).

The United Nations (UN's) 2030 Agenda for Sustainable Development is a long-term strategy that seeks to achieve a range of social, economic, environmental and institutional objectives. The objectives are divided into a set of 17 Sustainable Development Goals (SDGs), with 1 of its core principles being to 'leave no one behind'.

Within the EU, specific indicators are used to measure progress towards achieving the SDGs in a European context. For example, SDG 13, 'take urgent action to combat climate change and its impacts' underscores the risks of global warming and extreme weather. Indeed, 2024 was the hottest year on record globally, leading to record temperatures, widespread displacement of people, as well as economic and social disruption. Despite ongoing international efforts and commitments under the Paris Agreement, it is becoming increasingly challenging to limit long-term warming to 1.5°C. The infographic above highlights that EU greenhouse gas emissions fell by 34.9% between 1990 and 2024, with much larger reductions in greenhouse gas emissions in regions such as Dytiki Makedonia (Greece), Sostinės regionas (Lithuania) and Região Autónoma da Madeira (Portugal).




(% change compared with 1990, by NUTS 2 regions, 2024)

Note: based on the quantity of tonnes of $CO_2$-equivalents using global warming potential values from the IPCC AR5. International shipping and aviation are excluded from the calculation.

*Source:* EDGAR_2025_GHGs_NUTS2. GHG emissions at subnational level, European Commission (JRC), see https://edgar.jrc.ec.europa.eu/dataset_ghg2025_nuts2

## Climate change mitigation

SDG 13 is designed to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters, integrating climate change measures into national policies, while improving education and raising awareness and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

EU countries are legally committed to fighting climate change by shifting to a climate-neutral economy with net-zero greenhouse gas emissions by 2050. *Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality* – hereafter referred to as the European Climate Law – seeks to create a cleaner and healthier EU by transforming the way enterprises and people behave, both in terms of production and consumption patterns. This legal act provides the EU's contribution to the Paris Agreement, which set an ambitious global goal 'to limit the temperature increase to 1.5°C above pre-industrial levels'. Alongside a package of policy initiatives, the European Climate Law makes the European Green Deal's goal of climate neutrality by 2050 legally binding. It also sets an intermediate target: to decrease EU greenhouse gas emissions by at least 55% by 2030 (compared with 1990 levels). Such decreases will require profound and transformative changes, for example, to energy and transport systems, industrial processes and agriculture, as well as increased carbon removal by ecosystems.

Map 12.1 shows progress towards these targets, with greenhouse gas emissions across the EU having fallen by 34.9% between 1990 and 2024. Note: data exclude international shipping and aviation – although both form part of the overall targets – as these items are excluded from the regional datasets presented in this chapter.

***Greenhouse gas emissions fell in approximately 85% of EU regions between 1990 and 2024***

Between 1990 and 2024, greenhouse gas emissions fell in 204 of the 241 NUTS level 2 regions for which data are available, while 37 regions experienced an increase. All regions in Bulgaria, Czechia, Denmark, Germany, Lithuania, Hungary, Romania, Slovenia, Slovakia, Finland and Sweden recorded a decrease in greenhouse gas emissions during the period under consideration; this was the case in Estonia, Latvia, Luxembourg and Malta too.

- Emissions generally declined strongly in eastern and Baltic EU countries.
- Most regions in western and Nordic EU countries experienced modest decreases in greenhouse gas emissions between 1990 and 2024.
- Developments in southern EU countries were more varied, with several regions – including Cyprus – recording sharp increases, while others registered sizeable decreases in emissions; this mixed pattern was observed across all multi-regional countries.

Between 1990 and 2024, greenhouse gas emissions fell by more than 55% in 27 regions. Map 12.1 highlights these regions that have already exceeded the EU's 2030 emissions reduction target:

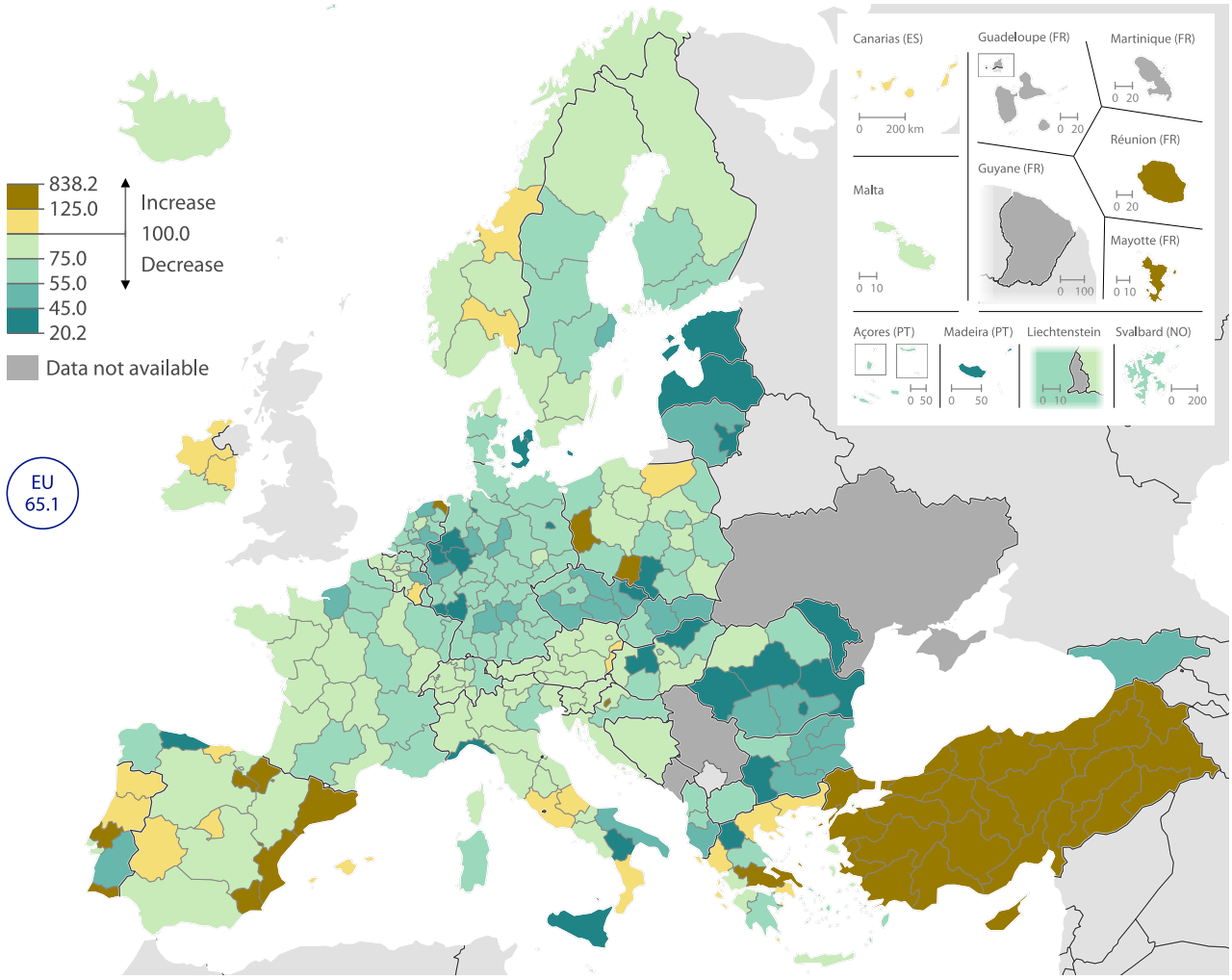
- 7 regions across Germany (including the capital region)
- 4 regions in Romania (including the capital region)
- 3 regions in Italy
- 2 regions in Denmark (including the capital region)
- 2 regions in Hungary
- the capital regions of Bulgaria and Lithuania
- single regions in Czechia, Greece, Spain, Poland and Portugal
- the neighbouring Baltic countries of Estonia and Latvia.

While greenhouse gas emissions across the EU declined by more than a third (34.9%) between 1990 and 2024, several regions recorded considerably larger decreases. Dytiki Makedonia in Greece (down 79.8%) registered the largest decline, partly reflecting the phasing-out of lignite-based electricity generation. The next biggest decreases were in Sostinės regionas, the capital region of Lithuania (down 74.6%), and Região Autónoma da Madeira in Portugal (down 73.1%). In contrast to the general pattern of emissions declining across most eastern and Baltic EU countries, the Croatian capital region and 3 Polish regions recorded increases.

Between 1990 and 2024, greenhouse gas emissions rose in most regions across Ireland and Spain, as well as in Cyprus. Some of the highest increases occurred in regions that are popular with tourists, such as Spain's eastern Mediterranean coast and Portugal's Algarve. At the upper end of the distribution, the largest increases were recorded in the autonomous Spanish cities and the French outermost regions. Elsewhere:

- emissions almost doubled in Región de Murcia (southern Spain; up 97.9%) and also rose at a rapid pace in La Rioja (northern Spain; up 75.7%)
- the next largest increase was observed in Cyprus (where emissions rose 67.1%)
- the Croatian capital region, Grad Zagreb, was the only other region in the EU to report its emissions growing by more than half (up 58.4%).

**Map 12.1: Greenhouse gas emissions**
(index relative to 1990 = 100.0, by NUTS 2 regions, 2024)



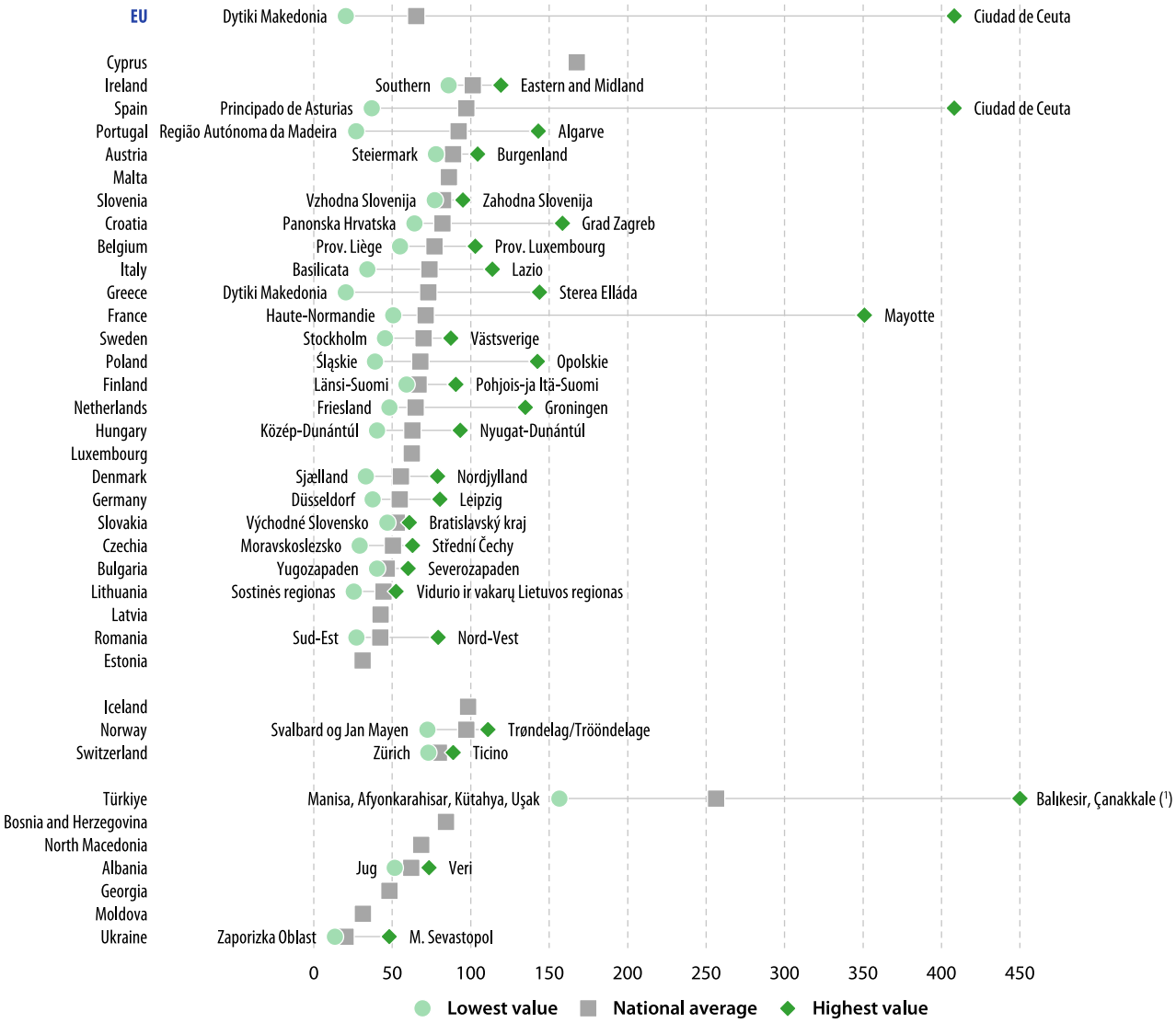

Note: index based on the quantity of tonnes of $CO_2$-equivalents based on global warming potential values from the IPCC AR5. International shipping and aviation are excluded from the calculation.

*Source:* EDGAR_2025_GHGs_NUTS2. GHG emissions at subnational level, European Commission (JRC), see https://edgar.jrc.ec.europa.eu/dataset_ghg2025_nuts2

Figure 12.1 shows the NUTS level 2 regions with the highest and lowest changes in greenhouse gas emissions between 1990 and 2024. It highlights a wide variation of developments among the regions of Spain, Greece, France and Portugal, in contrast to relatively narrow variations observed across the regions of Slovenia, Slovakia, Austria, Ireland, Bulgaria and Finland.

- In Spain, greenhouse gas emissions in Ciudad de Ceuta more than quadrupled compared with 1990 levels. By contrast, emissions in the north-western region of Principado de Asturias fell sharply, registering a fall of 63.2% over the same period. In 2024, the index for Ciudad de Ceuta was 11.1 times as high as the index for Principado de Asturias (representing the largest regional variation across EU countries).
- In Greece, the central mainland region of Sterea Elláda experienced the fastest growth in greenhouse gas emissions, rising by 43.8% between 1990 and 2024. This contrasts sharply with developments in the northern region of Dytiki Makedonia, where emissions fell by 79.8% (representing the largest decrease between 1990 and 2024 across EU regions).
- In France, greenhouse gas emissions in Mayotte were approximately 3.5 times as high in 2024 as in 1990, while the northern region of Haute-Normandie witnessed a near-halving of its emissions over the same period, down 49.5%.
- In Portugal, the southern region of Algarve experienced a 43.1% increase in greenhouse gas emissions between 1990 and 2024, whereas Região Autónoma da Madeira registered a considerable decrease (down 73.1%) during the same period.

**Figure 12.1:** Greenhouse gas emissions
(index relative to 1990 = 100, by NUTS 2 regions, 2024)




Note: index based on the quantity of tonnes of $CO_2$-equivalents based on global warming potential values from the IPCC AR5. International shipping and aviation are excluded from the calculation.

(1) Value truncated at 450; actual value is 838.2.

*Source:* EDGAR_2025_GHGs_NUTS2. GHG emissions at subnational level, European Commission (JRC), see https://edgar.jrc.ec.europa.eu/dataset_ghg2025_nuts2

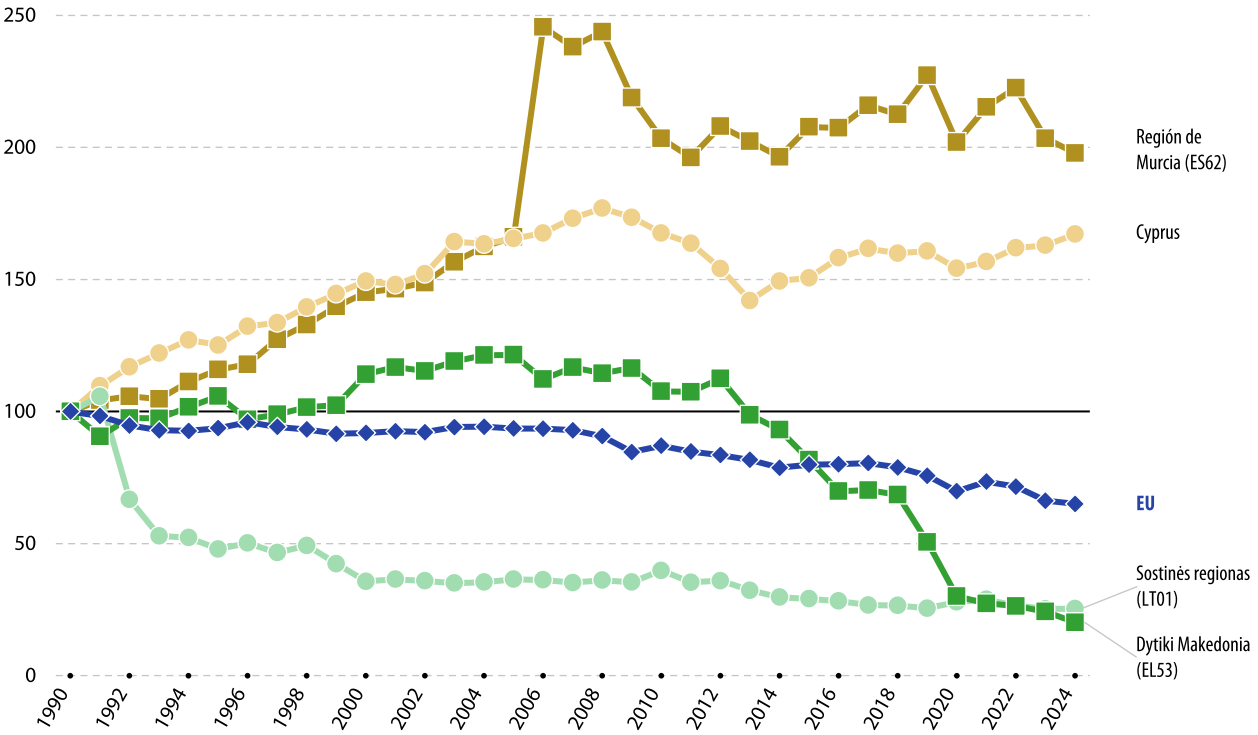
Between 1990 and 2024, greenhouse gas emissions across the EU generally followed a moderate downward path, reflecting steady progress in reducing carbon intensity. Most years saw annual decreases in emissions, although there were intermittent periods with increases (often linked to phases of rapid economic growth), such as in 1995–96, 2000–01, 2003–04 and 2015–16. The most striking falls in EU emissions occurred in 2020 and 2023, with decreases of 7.8% and 7.5%, respectively. The fall in 2020 was largely the result of the COVID-19 pandemic, as an abrupt slowdown in economic activity, linked to widespread lockdowns, sharply curtailed transport, industrial and energy demand. By contrast, the decline in 2023 was linked more to decreases in consumer demand in the face of high prices, structural changes as fossil fuels were replaced by renewable energy (in the face of continued volatility in global energy markets, exacerbated by Russia's war against Ukraine), and improvements in energy efficiency.

The steady progress over time observed across the EU as a whole masks substantial differences in regional developments. Figure 12.2 provides a more detailed picture of the development of greenhouse gas emissions

in the NUTS level 2 regions with the highest/lowest changes between 1990 and 2024; note that a threshold of at least 3 000 tonnes of $CO_2$-equivalents was used when selecting the regions.

- During the period under consideration, Región de Murcia in southern Spain recorded the largest increase in greenhouse gas emissions. The region experienced a particularly sharp rise in emissions between 2005 and 2006, which may be attributed, at least in part, to an expansion of its electricity generation facilities. Emissions fluctuated thereafter but generally followed a downward trend, falling overall by 19.4% between 2006 and 2024.
- Having peaked in 2008 (77.0% higher than in 1990), greenhouse gas emissions in Cyprus fell for 5 consecutive years before resuming a generally upward trend. By 2024, emissions were 67.1% above their 1990 level and just 5.5% below the peak of 2008. The relatively high and growing level of emissions in Cyprus may be linked to continued reliance on fossil fuels, high emissions linked to energy use, transport, waste and household consumption, as well as economic growth outpacing decreases in carbon intensity.
- By 2012, greenhouse gas emissions in the northern Greek region of Dytiki Makedonia were 12.5% higher than their 1990 level. However, a period of rapid change, driven by economic restructuring and the increasing deployment of clean energy sources, led to an overall decline of 82.0% in emissions between 2012 and 2024. The most pronounced annual decreases occurred in 2019 and 2020, when emissions fell by 26.2% and 40.6%, respectively.
- The development of greenhouse gas emissions in the Lithuanian capital region of Sostinės regionas followed a different path (from that observed in Dytiki Makedonia). Emissions fell sharply in the early 1990s, likely linked to post-Soviet economic restructuring. Thereafter, with cleaner energy and efficiency improvements, emissions continued to decline, albeit at a slower pace. Over the most recent decade, emissions in Sostinės regionas generally fell, although annual increases were recorded in 2020 and 2021, as well as a modest increase in 2024 (up 0.3%).

**Figure 12.2:** Greenhouse gas emissions
(index relative to 1990 = 100, selected NUTS 2 regions, 1990–2024)




Note: index based on the quantity of tonnes of $CO_2$-equivalents based on global warming potential values from the IPCC AR5. International shipping and aviation are excluded from the calculation. The figure shows the 2 regions with the highest/lowest changes (among those regions with emissions of at least 3 000 tonnes of $CO_2$-equivalents).

*Source:* EDGAR_2025_GHGs_NUTS2. GHG emissions at subnational level, European Commission (JRC), see https://edgar.jrc.ec.europa.eu/dataset_ghg2025_nuts2

# Climate change impacts

## DROUGHT IMPACT

SDG 15 'life on land' aims to protect, restore and promote the sustainable use of terrestrial ecosystems; sustainably manage forests; combat desertification; halt and reverse land degradation; and halt biodiversity loss. Its objectives are embedded within the European Commission's priorities for 2024 to 2029 under the heading of 'Sustaining our quality of life: food security, water and nature'.

Droughts and water scarcity are becoming increasingly frequent and severe across the EU (ESOTC, 2025). These events reduce water availability, lower agricultural output, accelerate soil erosion and release carbon stored in soils. They also threaten biodiversity, hinder habitat restoration, disrupt species migration and promote the spread of invasive alien species, as highlighted in the EU's *Nature Restoration Regulation* ((EU) 2024/1991), a key element of the EU biodiversity strategy for 2030.

Drought undermines nature's ability to provide environmental, social and economic benefits. It reduces carbon sequestration, jeopardises climate mitigation, and affects adaptation, biodiversity restoration and soil management. Droughts also impede progress towards common agricultural policy (CAP) objectives and the goals of the European green deal, as well as biodiversity and soil initiatives. As such, the EU seeks to reduce drought impacts and strengthen resilience through measures addressing water scarcity, sustainable water management and climate adaptation.

Water scarcity is a major climate change risk that arises when available water resources are insufficient to meet the needs of society, economic sectors and ecosystems. It can compromise water availability for households, agriculture, industry, energy generation and the environment. Meteorological droughts – defined as prolonged periods of below-average precipitation relative to long-term climatic conditions – can provide an early indication of emerging water scarcity. The indicator presented below focuses on meteorological drought impacts, capturing drought-related declines in vegetation productivity. This differs from hydrological droughts, which affect surface and groundwater resources, such as rivers, reservoirs and aquifers, and typically develop after more prolonged precipitation deficits.

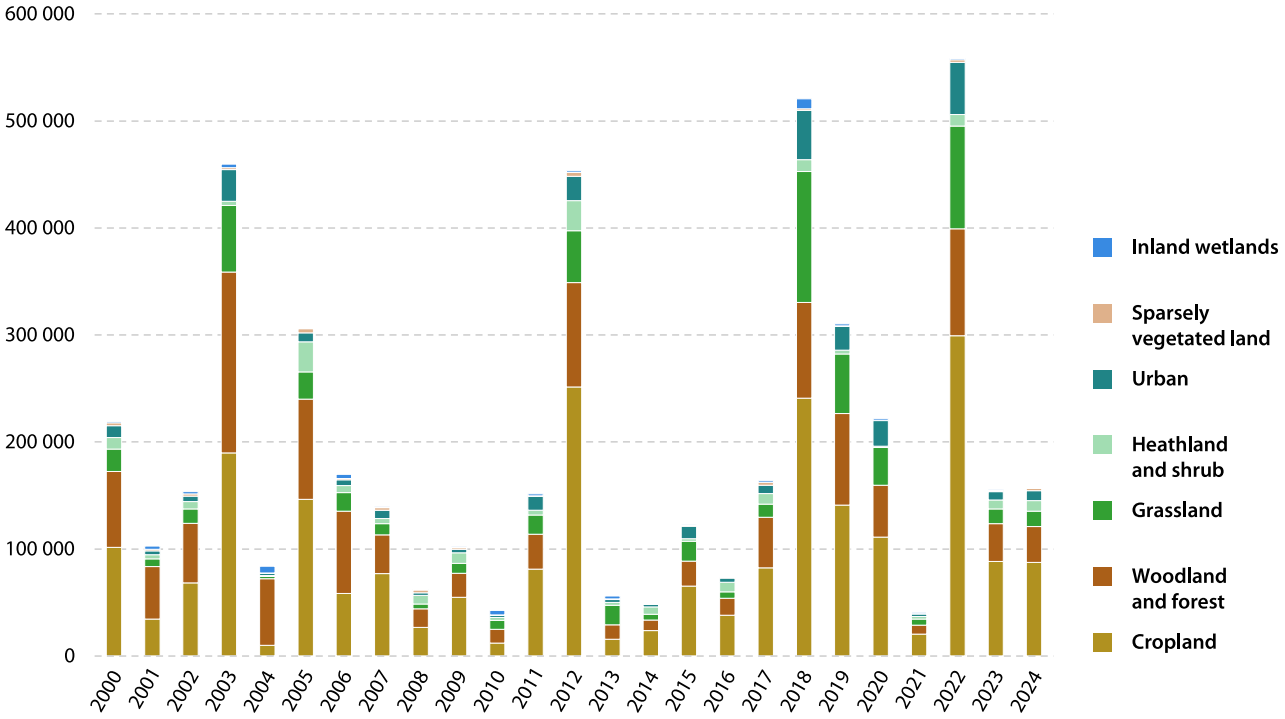
Drought exposure refers to the degree to which an area experiences drought conditions, such as precipitation deficits or soil moisture shortages. Drought impact, by contrast, describes the actual consequences of those conditions on environmental, social or economic systems. In the context of agricultural drought, drought exposure reflects the occurrence of soil moisture deficits, whereas drought impact is observed through reductions in vegetation productivity resulting from those deficits. As a result, areas with similar levels of drought exposure may experience different impacts depending on factors such as vegetation type, land management practices, irrigation and ecosystem resilience.

The European Environment Agency (EEA) monitors drought exposure as a key climate indicator, defined as the area experiencing significant soil moisture deficits relative to the 2000 to 2020 baseline. The drought impact indicator presented in this section tracks reductions in vegetation productivity caused by soil moisture deficits during the growing season. Based on remote-sensing data, it identifies areas where soil moisture falls below the long-term average for the 2000 to 2020 reference period. Drought impact is quantified as the share of a region's area where vegetation productivity does not recover to its baseline (2000 to 2020) conditions because of drought. As a result, the indicator captures areas experiencing above-average drought impacts relative to the long-term record, rather than representing the total area exposed to or affected by drought (EEA, 2025).

Projections indicate that drought conditions in Europe will become more frequent, longer-lasting and more intense under climate change. In 2024, drought exposure covered 601 000 km$^2$ (14% of the EU), below the exceptional peak observed in 2022, but slightly above 2023.

The overall extent of intense drought impacts in the EU has been gradually increasing. Between 2000 and 2024, as the area of drought impact followed an upward development due to low precipitation, high evaporation and intermittent heatwaves. Notably high levels were recorded in 2003, 2012, 2018 and particularly 2022, when the EU experienced its hottest summer to date and its second warmest year on record; approximately 558 000 km$^2$ of land were impacted by drought with vegetation productivity well below the baseline conditions. Pressure on EU ecosystems eased in 2023 and 2024, with broadly similar areas affected. In 2024, 156 700 km$^2$, or 3.7% of the EU's total area, was impacted by drought. The largest areas affected were cropland (55.9% of the impacted area), woodland and forest (21.4%) and grassland (9.1%). Approximately 30% of the EU regions assessed showed evidence of lasting drought impacts in 2024, indicating that vegetation productivity in parts of their territory had not recovered to baseline (2000 to 2020) conditions following drought-related reductions.

**Figure 12.3:** Area of drought impact on ecosystems
(1 000 km², EU, 2000–24)




Note: drought impact is defined for each year as the area where vegetation productivity did not recover to the 2000-20 baseline conditions due to drought.

*Source:* European Environment Agency (EEA) and Eurostat (online data code: sdg_15_42)

***Drought impact was particularly prevalent across south-eastern regions of the EU in 2024***

Map 12.2 shows the share of each region's area exposed to a severe soil moisture deficit in 2024, where – due to drought – vegetation productivity did not recover to baseline (2000 to 2020) conditions. There were 870 regions across the EU where the area impacted by drought remained lower than or equal to the average drought impact recorded for the years 2000 to 2020 (as shown by the lightest shade in the map). This was the case for a band of regions stretching from Portugal and Ireland in the west, through much of Spain, France and the Benelux countries into Germany, Austria and several eastern EU countries. The pattern was more mixed in several of the Nordic and Baltic countries, where some regions experienced higher-than-average drought impacts. Along the easternmost and southernmost edges of the EU, a relatively large number of regions experienced a higher-than-average share of land affected by drought.

In 2024, Malta was the only EU country where drought impact on ecosystems accounted for more than half (57.5%) of its total area. There were 5 other countries in the EU that recorded double-digit shares: Bulgaria (20.1%), Romania (17.5%), Cyprus (13.0%), Greece (11.4%) and Italy (10.7%).

In 2024, the distribution of drought impacts was highly skewed: one quarter (290 out of the 1 160) of the NUTS level 3 regions across the EU for which data are available experienced lasting drought impacts, while three quarters had no lasting impact. These 290 affected regions that were impacted by drought, included:

- every region of Bulgaria, Malta and Romania
- all but 3 regions of Greece (the exceptions being Chios, Larisa and Kerkyra)
- more than half the regions of Poland
- and Cyprus.

Among the 290 regions that experienced some impact from drought during 2024, the regions with the largest areas of land affected – in absolute terms – were:

- Lovech, in northern Bulgaria (998 km²)
- Lleida, in north-eastern Spain (989 km²)
- Caraş-Severin, in western Romania (977 km²).

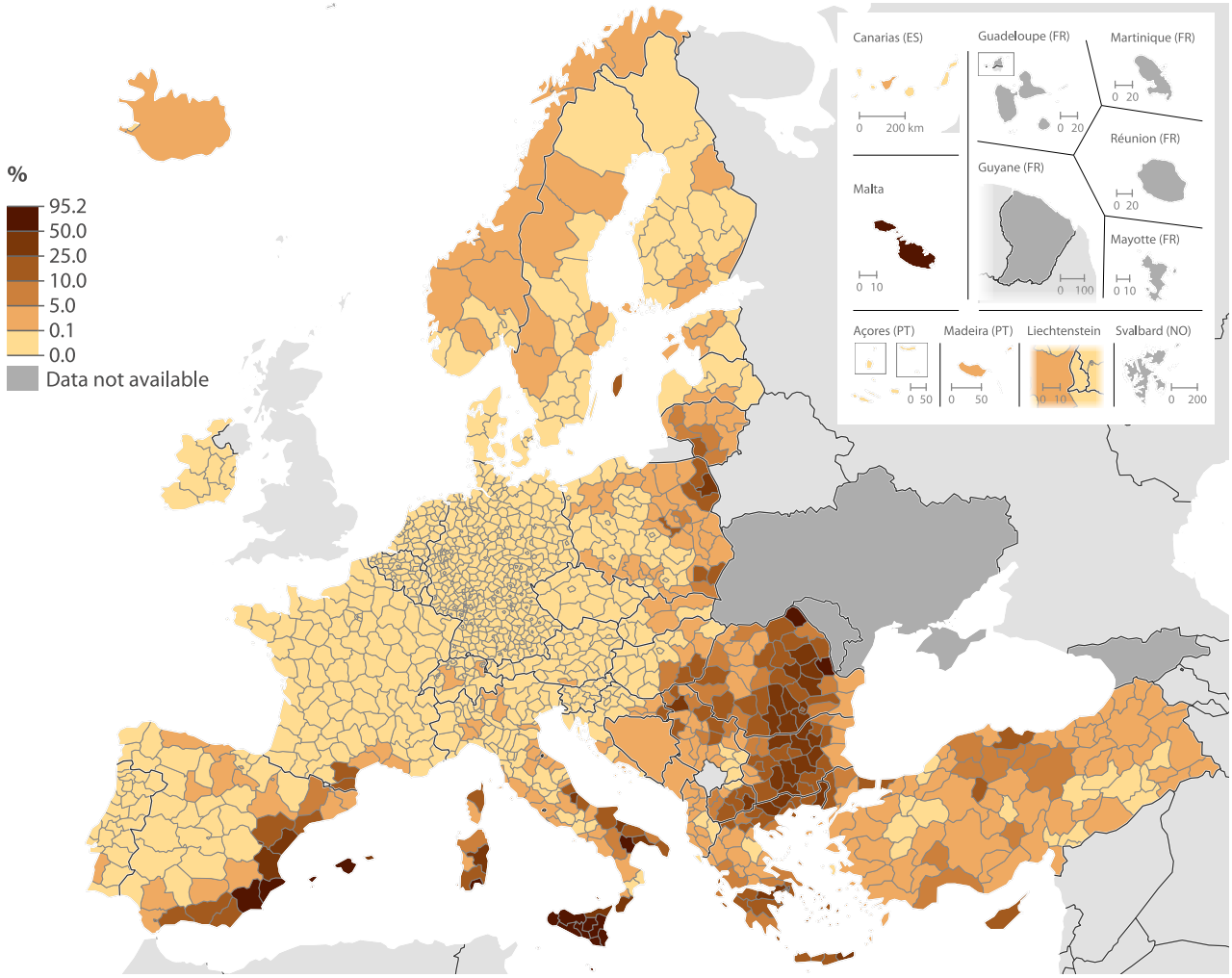
The regions with the highest shares of land impacted by drought were all situated on the Italian island of Sicilia, namely:

- Enna (95.2%)
- Caltanissetta (89.0%)
- Siracusa (87.3%).

More generally, there were 19 regions where more than half of the total area was impacted by drought in 2024. This group included:

- Voreios Tomeas Athinon in Greece
- Eivissa y Formentera, Mallorca, Murcia and Alicante/ Alacant in Spain
- 8 regions on Sicilia, 1 on Sardegna and the south-eastern region of Matera in Italy
- both regions in Malta
- Galaţi and Botoşani in Romania.

**Map 12.2: Drought impact on ecosystems**
(%, by NUTS 3 regions, 2024)




Note: drought impact is defined as the share of each region's area where vegetation productivity did not recover to the 2000–20 baseline condition due to drought.

*Source:* European Environment Agency (EEA) and Eurostat (online data code: sdg_15_42)

## Air quality

SDG 11 'sustainable cities and communities' aims to make cities and human settlements inclusive, safe, resilient and sustainable. A key aspect of this goal is to reduce the environmental impact of urban areas, in particular through improving air quality and enhancing the management of municipal and other forms of waste.

Air quality can deteriorate considerably due to human activities such as industrial processes, the burning of solid fuels, transport, agriculture and the generation or treatment of waste. In addition, natural sources of air pollution include volcanic eruptions, desert dust and sea salt.

Air pollution remains a major cause of premature death and disease across the EU, with fine particulate matter ($PM_{2.5}$) identified as having the most serious human health impacts. Some of the most common causes of both illness and premature death attributed to air pollution include heart disease, stroke, lung disease, lung cancer and asthma; these illnesses also have an associated economic cost through lost working days and healthcare expenditure.

To address this, the EU's zero pollution action plan has set a target to reduce premature deaths caused by fine particulate matter by at least 55% by 2030 (relative to 2005 levels). More broadly, the plan aims to bring air, water and soil pollution down to levels no longer considered harmful to human health and natural ecosystems by 2050.

### More about the data: air quality guidelines, commitments and targets

Premature deaths are deaths that occur before a person reaches an expected age. This expected age is typically the life expectancy of a country, stratified by sex and age. In this context, premature deaths are considered preventable if their cause can be eliminated.

Fine particulate matter refers to particles with a diameter of 2.5 micrometres or less (otherwise referred to as $PM_{2.5}$). In September 2021, the World Health Organization (WHO) issued new global air quality guidelines, emphasising the need to safeguard public health: the long-term guideline level was set as an annual average of 5 µg/m³ for $PM_{2.5}$. These guidelines reflect growing scientific evidence that even low concentrations of air pollution may pose significant risks to human health.

As part of its goal to eliminate pollution by 2050, the European Commission has outlined key targets and initiatives. Among these, an intermediate goal to reduce premature deaths resulting from exposure to air pollution by at least 55% between 2005 and 2030.

In December 2024, a revised *Directive on ambient air quality and cleaner air for Europe* (Directive (EU) 2024/2881) came into force. Under this directive, the European Commission will review the latest scientific evidence on air pollution and its health impacts by the end of 2030 and every 5 years thereafter – or more often if new findings warrant it – to ensure the EU's air quality standards continue to be appropriate. The directive sets a new annual limit value for the EU of 10 µg/m³ for $PM_{2.5}$, to be met by 1 January 2030.

The revised directive also aims to strengthen air quality plans and roadmaps for territorial units where pollution exceeds EU standards. It updates air quality limits for 12 pollutants, including fine particulate matter. In addition, it also provides an opportunity for individuals to seek compensation if their health is harmed due to violations of EU air quality rules.

The penultimate section of this chapter presents statistics on the health impacts of air pollution associated with exposure to fine particulate matter. The EEA estimates that fine particulate matter resulted in 182 400 premature deaths across the EU in 2023 (down 23.5% compared with 2022). Note that all the information in this section on premature deaths attributable to fine particulate matter concerns a cohort of people aged 30 years or more – sometimes referred to as the 'affected population' – as this is the age range generally considered in epidemiological studies.

***In 2023, there were 3 478 premature deaths attributed to fine particulate matter in the northern Italian region of Milano***

The highest numbers of premature deaths among people aged 30 years or more were primarily estimated to have occurred in southern and eastern EU countries, particularly in predominantly urban regions. The northern Italian region of Milano had the highest estimated number (3 478 premature deaths in 2023), followed by the Spanish region of Barcelona (2 883 deaths) and the Italian capital region of Roma (2 743 deaths). There were 3 additional regions in Italy and Spain that were also estimated to have more than 2 000 premature deaths: the Italian regions of Torino and Napoli, and the Spanish capital region of Madrid.

At the other end of the distribution, very low levels were recorded across several parts of northern Europe. In 2023, 17 EU regions had no premature deaths attributed to fine particulate matter among the affected population. The vast majority of these (14 regions) were located in Sweden, primarily in the northern part of the country. The remaining 3 regions were composed of the predominantly rural regions of Arr. Bastogne in southern Belgium, Kesk-Eesti in central Estonia and Lungau in Austria. Finland likewise had a very low estimated value, based on its national data.

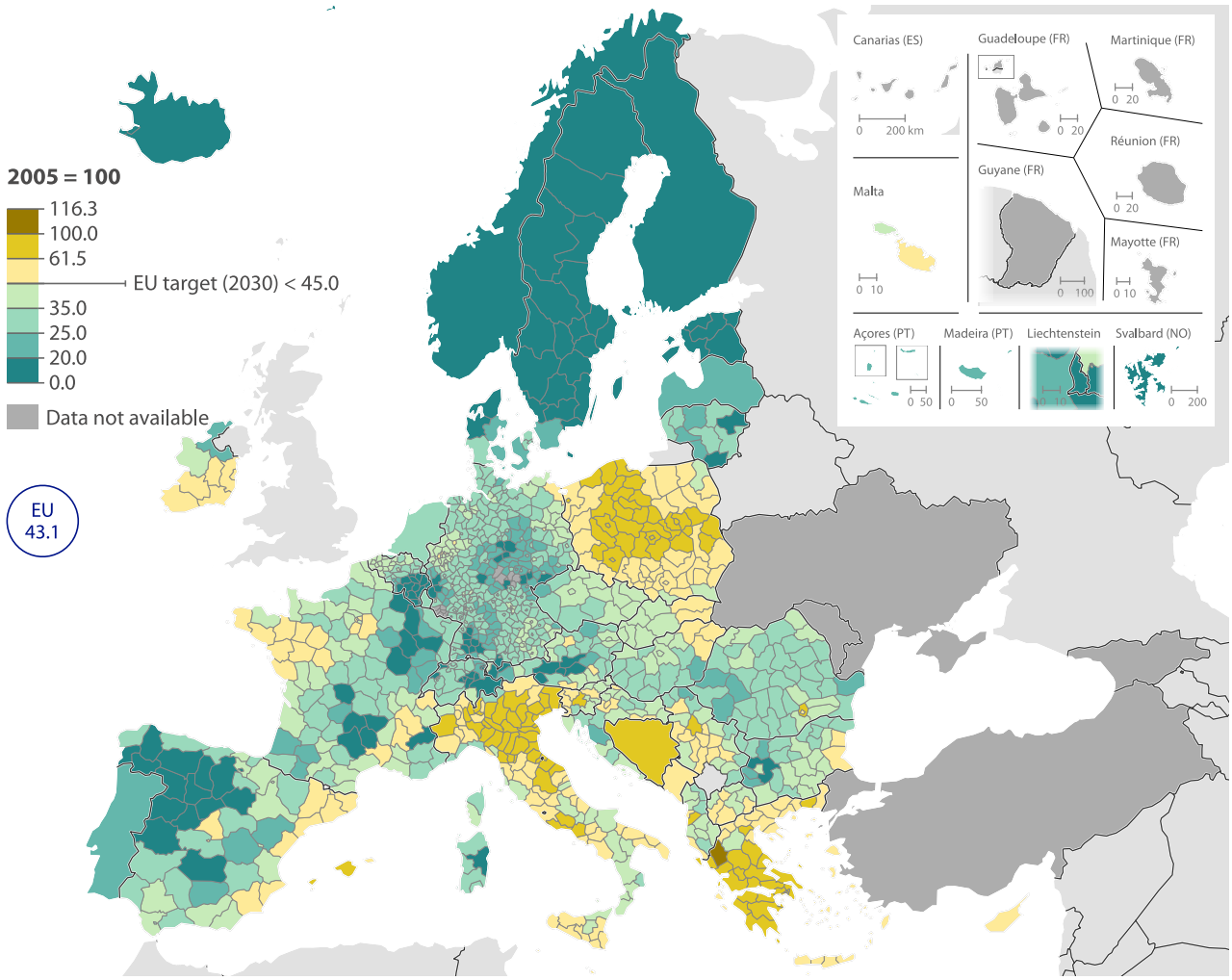
While the absolute number of premature deaths attributed to exposure to fine particulate matter was generally high in some of the most populous regions of the EU, the most significant impacts of air pollution in terms of premature deaths per 100 000 inhabitants were generally observed in industrialised and urbanised regions, particularly across eastern EU countries. These regions are typically characterised by high concentrations of industrial activity in traditional sectors such as coal mining, steel production, cement manufacture and chemical industries. In addition, some also have a relatively high share of households burning coal or wood for heating, and/or suffer from traffic congestion – other factors that may exacerbate air pollution.

***Between 2005 and 2023, the number of premature deaths attributed to fine particulate matter in the EU fell by 56.9%***

Between 2005 and 2023, the number of premature deaths attributed to fine particulate matter among people aged 30 years or more fell from 423 600 to 182 400 within the EU, a decrease of 56.9%.

The regional distribution of changes in premature deaths was skewed: in 754 out of 1 055 regions for which data are available (71.5% of all regions), the number of premature deaths fell faster than the EU average between 2005 and 2023. Note that this relates to the relative change in the rate of premature deaths attributed to fine particulate matter during the period under consideration; it does not reveal whether the initial or final rates were comparatively high or low (for example, relative to the total population). Rather, it reflects the direction and magnitude of change from the initial level.

**Map 12.3: Premature deaths – exposure to fine particulate matter**
(index relative to 2005 = 100, by NUTS 3 regions, 2023)




Note: fine particulate matter is airborne particles with a diameter of 2.5 micrometres or smaller. The index is based on premature deaths per 100 000 inhabitants aged 30 years or more. Latvia, the Netherlands, Portugal, Finland and Norway: national data.

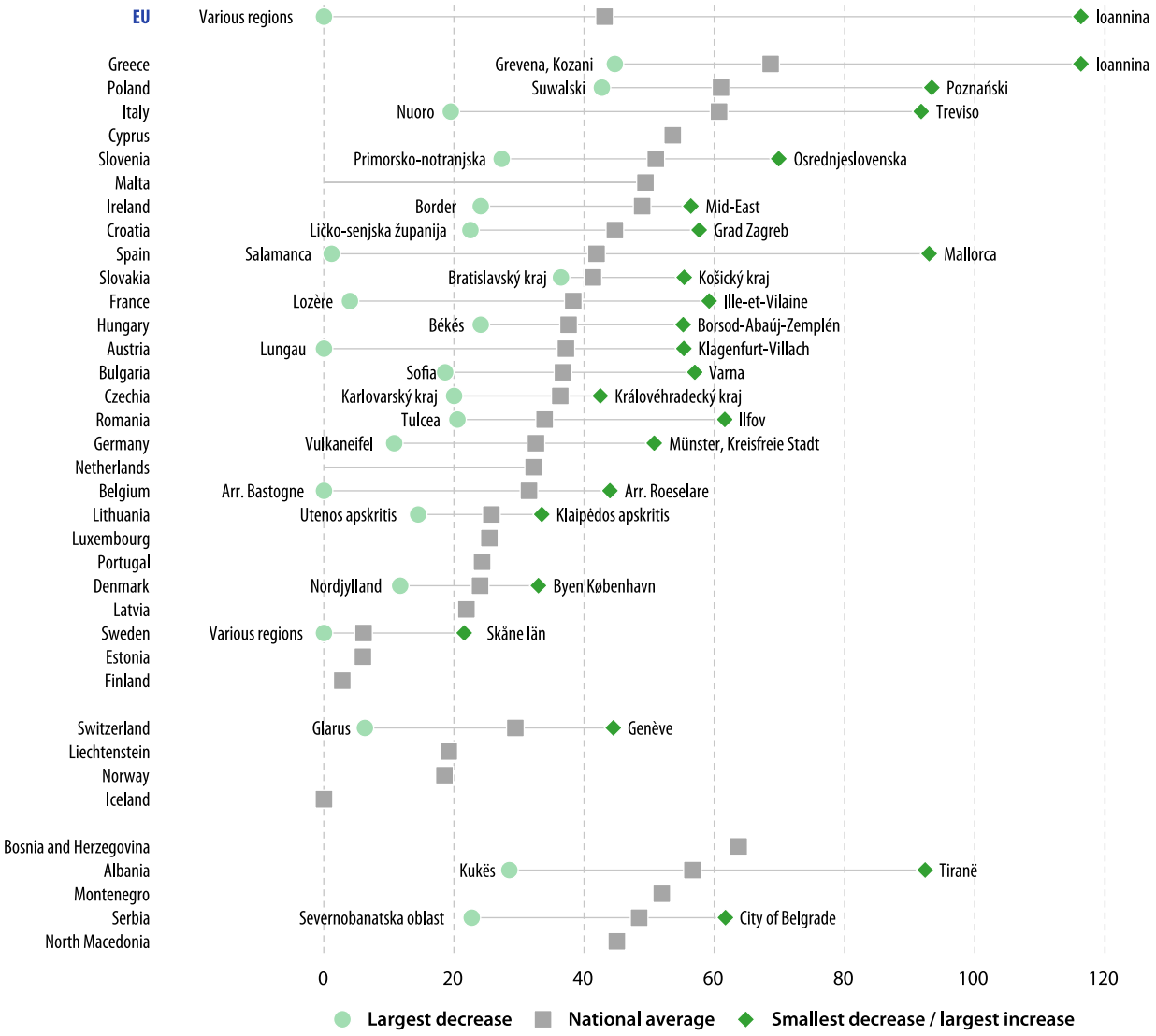
*Source:* European Environment Agency (EEA)

In relation to the 2030 target of reducing the number of premature deaths in the EU among the affected population by at least 55%, 792 regions had already achieved this level of reduction by 2023 (however, it should be noted that the target applies to the EU as a whole rather than to individual regions). This group included:

- every region of Belgium, Czechia, Denmark, Estonia, Lithuania and Sweden
- as well as Latvia, the Netherlands, Portugal and Finland (for which only national data are available).

At the other end of the distribution, the north-western Greek region of Ioannina was the only region in the EU where the estimated number of premature deaths among people aged 30 years or more attributed to fine particulate matter was higher in 2023 than in 2005. This region lies in a mountain basin where atmospheric conditions – particularly in winter – can trap air pollutants and limit their dispersion.

**Figure 12.4: Premature deaths – exposure to fine particulate matter**
(index relative to 2005 = 100, by NUTS 3 regions, 2023)




Note: fine particulate matter is airborne particles with a diameter of 2.5 micrometres or smaller. The index is based on premature deaths per 100 000 inhabitants aged 30 years or more. Latvia, the Netherlands, Portugal, Finland and Norway: national data.

*Source:* European Environment Agency (EEA)

More generally, there were clusters of regions in mainland Greece, northern Italy and central Poland with relatively small decreases in the estimated number of premature deaths attributed to fine particulate matter among the affected population between 2005 and 2023. The use of solid fuel for domestic heating and an ageing population structure may be linked to increased exposure and vulnerability to air pollution in some of these. Furthermore, as with Ioannina, geographical conditions may also play a role. For example, some of the most persistent air pollution issues in Italy are concentrated in the densely populated plains of the Po valley, where topography hinders air circulation and traps pollutants from agriculture, industry and transport.

Figure 12.4 highlights the NUTS level 3 regions in each country with the highest and lowest rates of change in premature deaths among people aged 30 years or more attributed to fine particulate matter. It shows that there were often considerable regional differences in the speed at which the number of premature deaths decreased between 2005 and 2023, for example:

- the Spanish island region of Mallorca experienced an overall decrease of 7.0% in premature deaths, while the western region of Salamanca saw a much larger decrease (98.8%)
- the north-eastern Italian region of Treviso saw its number of premature deaths fall 8.2%, in contrast to an 80.5% decrease in Nuoro (a central region of Sardinia)
- as noted above, the western region of Ioannina had an increase in its number of premature deaths (up 16.3%), which could be contrasted with a 55.3% decrease in the northern Greek region of Grevena, Kozani.

Regional rates of change in premature deaths attributed to fine particulate matter were relatively consistent across several EU countries between 2005 and 2023. In Lithuania, Slovakia, Denmark, Sweden and Czechia, the inter-regional range was around 20 percentage points. In Denmark, for example, deaths fell by 67.0% in the capital region of Byen København (the smallest decrease among Danish regions), compared with an 88.3% fall in the northernmost region of Nordjylland (the largest decrease in Denmark).

## Landscape features

Landscape features have historically been an integral component of agricultural land, closely associated with farming practices and providing a range of environmental and agronomic benefits. However, as farming has grown more intensive, many landscape features have disappeared from agricultural areas or have been left neglected and unmanaged. Landscape features contribute to biodiversity and the provision of ecosystem services, including habitat support, pollination, soil erosion control, water quality protection and climate change mitigation. In addition to environmental benefits, landscape features can also enhance field-level productivity by improving soil fertility, supporting natural pest regulation and increasing water availability.

Across much of the EU, traditional farming systems integrate landscape features, which serve functional roles such as delineating field boundaries, providing shelter for livestock and maintaining ecological connectivity. These landscape features also possess cultural and historical significance, as illustrated by the 'bocage' (hedgerow-dominated) landscapes of north-west France or the dry-stone walls that segment agricultural land in countries such as Ireland and Malta.

Within Regulation (EU) 2021/2115, Annex I established Indicator I.21 – *Enhancing provision of ecosystem services: share of agricultural land covered with landscape features*. This indicator is recognised across several EU policy frameworks, including the common agricultural policy (CAP) and the EU biodiversity strategy for 2030, and is referenced in legislation such as the *Nature Restoration Regulation* ((EU) 2024/1991).

Previously, no EU-wide database on landscape features existed. To address this gap, the Joint Research Centre (JRC), at the request of the Directorate-General for Agriculture and Rural Development, developed a harmonised monitoring system. Building on the existing land use and cover area frame survey (LUCAS), a dedicated landscape features module was introduced to collect detailed information in support of environmental and agricultural monitoring. This has provided consistent data on the distribution and types of landscape features across EU countries and NUTS level 2 regions. It also establishes a long-term, repeatable framework, enabling policymakers to track changes over time and assess the impact of agricultural and environmental policies.

The LUCAS landscape features module only considers such features in an agricultural context. These features are defined as small fragments of non-productive and typically, but not only, semi-natural vegetation present in, or adjacent to, agricultural land, providing ecosystem services and support for biodiversity. To ensure consistency, the module defines minimum and maximum sizes for landscape features:

- linear features have a width greater than 1 metre and smaller than 20 metres
- patchy features have an area between 1 square metre and 5 000 square metres (or 0.5 hectares).

The different landscape features are subsequently grouped into 4 main categories:

- grassy features – comprising field margins, buffer strips and grassed thalwegs (grassed waterways, natural or constructed channels, typically seeded with grass or low-growing vegetation, located along the deepest, most concave line of a valley or slope, used to manage surface run-off, reduce soil erosion and prevent the formation of rills and gullies)
- stony features – covering stone walls, terraces, cairns and rocky outcrops
- wet features – encompassing ditches, ponds, seepage areas and small wetlands
- woody features – including hedges, wooded strips, isolated trees, trees in line and grouped trees.

**Different landscape features – 4 main categories**




**Grassy features**




**Stony features**




**Wet features**



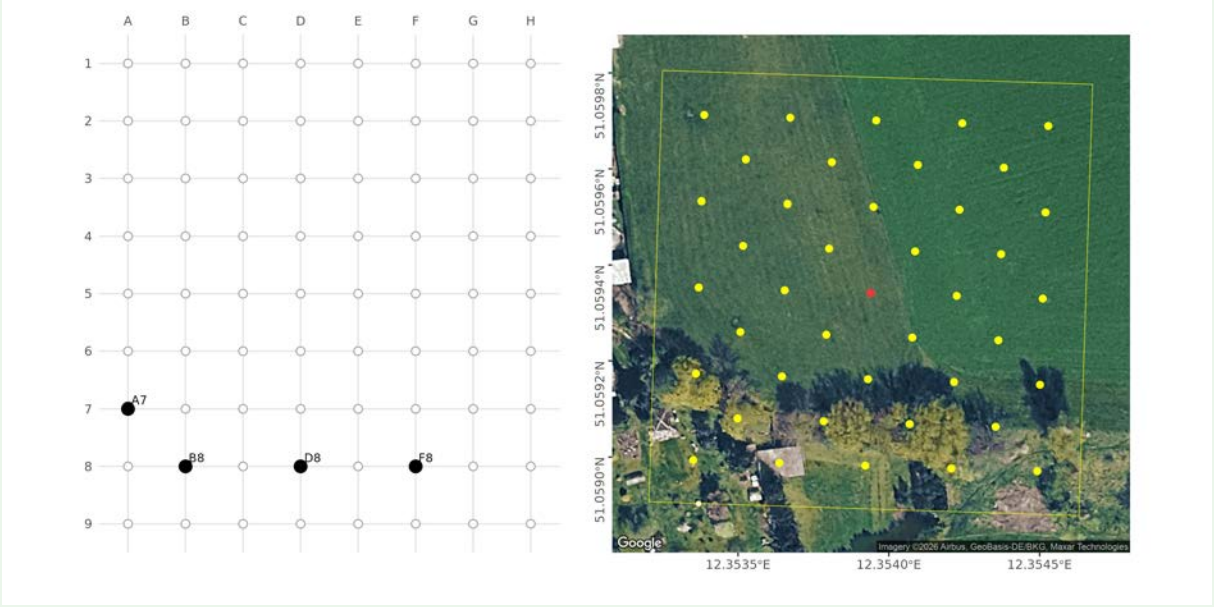

**Woody features**

It is important to note that these landscape features should be located in or adjacent to agricultural land. More specifically, this includes all elements that are lying:

- within an agricultural field (typically within arable land, grassland or permanent crops)
- between agricultural fields
- between an agricultural field and linear infrastructure (a farm track, road or railway)
- between an agricultural field and detached buildings (such as individual farmyards, or agricultural buildings)
- between an agricultural field and water bodies (for examples, rivers, lakes or reservoirs).
- Within the LUCAS landscape features module, the principal indicator for analysis is the ratio between the area covered by landscape features and the area covered by agricultural land, expressed in percent. Estimates of the share of landscape features in agricultural land based on the LUCAS 2022 module results were provided by the JRC.

## THE LUCAS LANDSCAPE FEATURES MODULE

To obtain an unbiased estimation of the share of landscape features in agricultural lands, the LUCAS 2022 module was conducted on a subset of the points observed in the field during the LUCAS survey. The primary observation unit in the module is a 1 hectare quadrat (100 metres by 100 metres), with the LUCAS sample point at its centre. Within each quadrat, landscape features are assessed at 41 locations arranged in an offset grid.




*Background imagery © Google; Imagery © Maxar Technologies*

**Example of the 41 point sampling grid used in the LUCAS landscape features module. The left panel shows the arrangement of the sampling locations, with the central point corresponding to the original LUCAS sample point. The right panel shows the same sampling grid overlaid on an aerial photo.**

The methodology uses a two-step approach:

- at first, an office-based photo-interpretation is conducted using very high resolution images to look for the presence and type of landscape features
- subsequently, a field survey of the same observation units is used to confirm or revise the photo interpretation. Photos are taken of the central point and in the 4 cardinal directions at each point (these are freely available on the Eurostat website).

During the 2022 survey, 92 633 quadrats were surveyed (which encompasses almost 3.8 million data points), providing a comprehensive and accurate assessment of landscape features across the EU.

For more information: JRC Publications – *Estimation of the share of Landscape Features in agricultural land based on the LUCAS 2022 survey*

For more information: Eurostat Statistical Atlas – LUCAS 2022

***Approximately 5.6% of the EU's agricultural land was covered by landscape features in 2022***

The abundance of landscape features is often considered as an important metric for analysing agricultural biodiversity. Based on the LUCAS survey data, the JRC estimates that landscape features covered 5.6% of the EU's agricultural land in 2022, with the largest share attributed to woody features (3.2%), followed by grassy (1.9%), wet (0.4%) and stony (0.2%) features.

Map 12.4 provides information on the distribution of landscape features across NUTS level 2 regions. While there was a very mixed pattern across EU regions, landscape features broadly accounted for a high share of the agricultural land in a band of regions running from southern Bulgaria and Greece, through Croatia and Italy, into France, northern Spain and Ireland. By contrast, relatively low shares were recorded across many regions in the eastern EU countries, as well as in southern Germany and Austria.

There were 23 regions across the EU where the share of landscape features in agricultural land was equal to or above 10.0%. This group of regions was widely distributed among EU counties, including:

- 6 regions stretching along the whole of Italy
- 3 regions in northern Sweden
- 2 predominantly urban regions in Germany (where the overall area given over to agricultural land was small in absolute terms)
- 2 regions in northern Spain
- 2 regions in southern France
- a single region from each of Bulgaria, Greece, Croatia, Hungary, Austria and Portugal
- Cyprus and Malta.

In 2022, the highest regional shares for landscape features in agricultural areas were recorded in the northern Italian region of Valle d'Aosta/Vallée d'Aoste (33.3%; low reliability, likely over-estimated), Malta (30.0%), the northern Swedish region of Mellersta Norrland (23.0%) and Cyprus (21.1%). Within these regions, relatively low levels of large-scale, industrialised agriculture have helped preserve traditional land structures. As a result, landscape features – whether natural (like tree lines and streams) or man-made (like terraces and stone walls) – remain a prominent characteristic of agricultural areas. Their high shares likely reflect a mix of geographic, climatic and historical factors, for example:

- in mountainous regions such as Valle d'Aosta/Vallée d'Aoste, agriculture is constrained by steep slopes, altitude and fragmented terrain, leading to irregular-shaped fields interspersed with features like terraces, hedgerows, stone walls and patches of woodland (often essential for soil stabilisation and water management)

Example of LUCAS point and photos in 4 cardinal directions – Valle d'Aosta/Vallée d'Aoste (ITC2), Italy



North



West



Point



East



South

- in island regions like Malta and Cyprus, limited land availability has resulted in highly structured agricultural landscapes with farmers traditionally relying on terraces, stone walls as field boundaries and irrigation features to maximise productivity and prevent soil erosion in arid environments

Example of LUCAS point and photos in 4 cardinal directions – Cyprus (CY00), Cyprus



North



West



Point



East



South

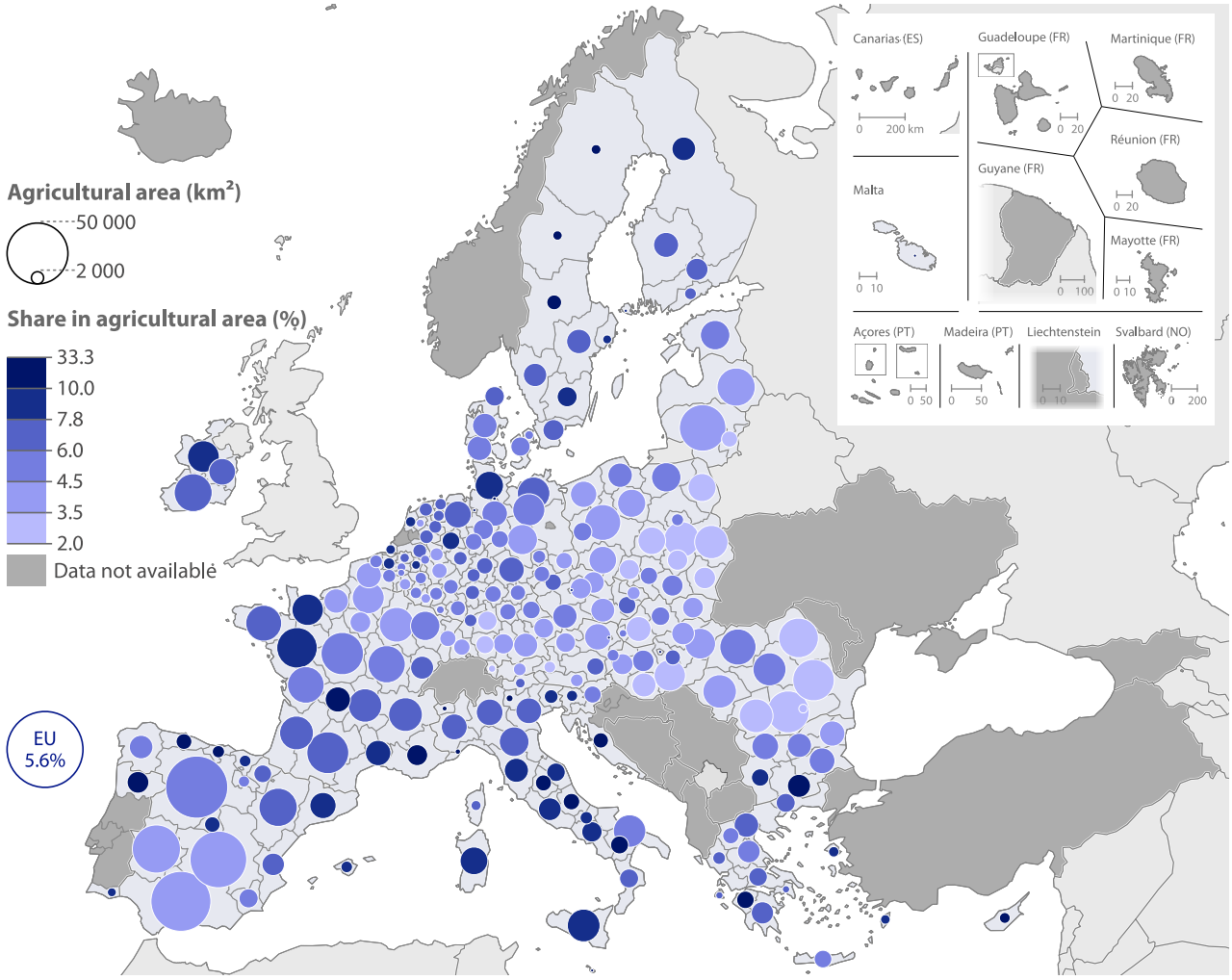
- in more northern and sparsely-populated regions such as Mellersta Norrland, agricultural land is often interspersed with forests, wetlands and natural grasslands, reflecting lower levels of agricultural intensity, with a mixture of cultivated and semi-natural elements.

Example of LUCAS point and photos in 4 cardinal directions – Mellersta Norrland (SE32), Sweden




At the lower end of the range, there were 22 regions across the EU where the share of landscape features in the agricultural area was less than 3.5% in 2022. Several of these regions are characterised by a specialisation in arable farming, with uninterrupted expanses of land, reflecting a process of consolidation and low numbers of landscape features. Some examples include the plains of Picardie in northern France, the capital region of Sostinės regionas in Lithuania, Dél-Dunántúl in Hungary or Sud-Muntenia in Romania.

**Map 12.4:** Landscape features
(by NUTS 2 regions, 2022)




Note: landscape features can include hedges, ponds, ditches or small wooded areas; they are non-productive components of agricultural land, yet their role is fundamental to boost biodiversity and to support ecosystem services.

*Source:* Estimation of the share of Landscape Features in agricultural land based on the LUCAS 2022 survey, European Commission (JRC)

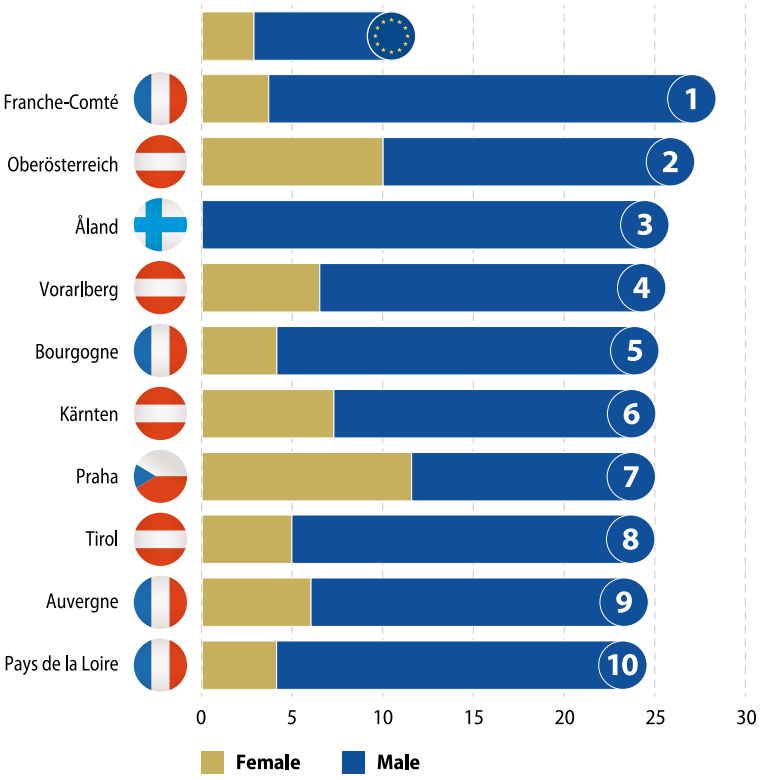
# 13. Agriculture

Agriculture remains a key sector in the EU, shaping not only food and feed supply but also rural landscapes, regional economies and territorial identity. In recent years, farmers have increasingly been encouraged to balance their primary role of food production with the provision of wider public goods. These include the maintenance of countryside landscapes, the preservation of biodiversity, and contributions to environmental sustainability and climate objectives. As a result, agricultural activity is increasingly understood in a broader regional development context, where farming practices interact with environmental management, land use planning and rural development.

Farms in the EU play a crucial role in ensuring the availability of safe, high-quality and affordable food for consumers, while also sustaining a diverse range of regional agricultural products. The food produced by EU farmers is closely linked, through tradition and heritage, to Europe's cultural and territorial diversity. Variations in climate, soil conditions, topography and farming techniques contribute to a wide range of agricultural practices, from intensive arable to extensive pastoral farming, resulting in a diverse range of output and landscapes.

### More about the data: farm structure survey

This article draws on the results of the 2023 farm structure survey. The analyses include only agricultural holdings above the physical thresholds set by *Regulation (EU) 2018/1091 on integrated farm statistics*, which represented an estimated 98% of the utilised agricultural area (UAA), 99% of the livestock units (LSUs) and 99% of the standard output of all farms in the EU. Any references to the UAA, LSUs, standard output, or EU farms relate exclusively to this subset, which is used as the denominator for calculating percentages. Very small agricultural holdings are excluded to ensure comparability.







(% of all farm managers, by NUTS 2 regions, 2023)

Note: excluding very small farms/holdings. Young farm managers are defined as those aged less than 40. EU: provisional. Åland (FI20): the share for young female farm managers = 0.0.

*Source:* Eurostat (online data code: ef_m_farmang)

This final chapter of the *Eurostat regional yearbook* presents agricultural statistics, focusing on 2 principal areas:

- farm structure – with information on the average size of farms, the relative importance of large farms, the share of young farmers and the share of female farm managers
- a focus on precision farming – innovative agricultural techniques that rely on technology to improve productivity (for example, the use of automated machinery to apply pesticides or adjust fertiliser application across different parts of a field, or the use of sensors and drones to monitor crop growth).

In 2023, farm managers aged under 40 – 'young farmers' – accounted for 11.8% of all EU farm managers of holdings above the Regulation physical thresholds (see the previous page, infographic and explanation in the shaded box). The highest regional share was recorded in the eastern French region of Franche-Comté (28.3%). There were 7 other NUTS level 2 regions where at least a quarter of all farm managers were aged under 40: the Austrian regions of Oberösterreich, Vorarlberg, Kärnten and Tirol, the Finnish archipelago of Åland, the French region of Bourgogne and the Czech capital region of Praha.

## Farm structure

Farm structure statistics provide essential insights into the organisation and characteristics of agricultural holdings across the EU. They describe key aspects such as farm size, land use, labour input and the demographic profile of farm managers, offering a basis for analysing structural differences within and between regions. The data may be used, among other purposes, to monitor trends in farm consolidation and generational renewal. Note that, to ensure comparability throughout this chapter, the data exclude very small farms/holdings.

According to the latest available data for 2023, there were 6.1 million farm holdings in the EU above the Regulation physical thresholds, collectively managing 1.51 million km$^2$ of agricultural land; this corresponded to 36.9% of the total land area. These figures underline the continued importance of agriculture in shaping land use patterns and regional development in the EU.

***Farm sizes show limited regional variation across many EU countries***

Map 13.1 shows, for each NUTS level 2 region, the farm size category – based on 4 size categories – that accounted for the largest share of the utilised agricultural area. In 2023, there was little regional variation within many EU countries. For example, large farms of at least 100.0 hectares (ha) were the dominant category in terms of utilised agricultural area across all regions of Bulgaria, Czechia, Denmark, Hungary, Slovakia and Sweden, as well as in Cyprus, Luxembourg and the Baltic EU countries; this was also the case in all but 1 of the regions across (mainland) France, Romania and Finland.

By contrast, farms with between 30.0 and 100.0 hectares accounted for the largest share of utilised agricultural area in the regions of Ireland, much of Belgium and the Netherlands, in a cluster of regions covering southern Germany, most of Austria and northern Italy, as well as in several regions of northern Spain.

At the other end of the spectrum, the smallest farms (with fewer than 30.0 hectares of agricultural area) accounted for the largest share of utilised agricultural area across many of the regions located in the southern EU countries (principally in Greece and Italy), but also in both regions of Slovenia, as well as much of Croatia and Poland.

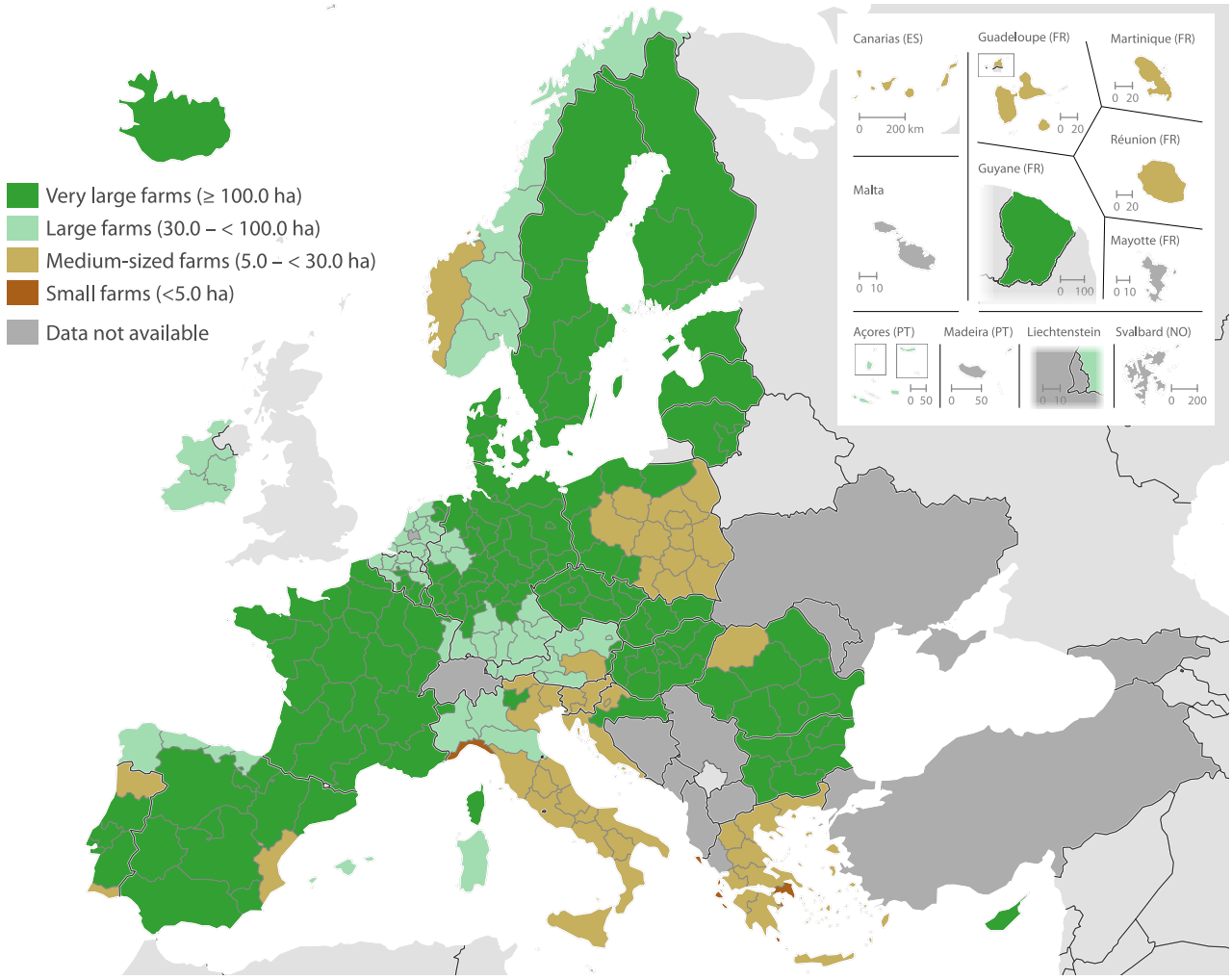
In some regions, the relative importance of large farms (with at least 100.0 hectares of agricultural area) was particularly marked, as they accounted for more than 90.0% of the region's total agricultural area:

- 5 regions from eastern Germany – Sachsen-Anhalt, Mecklenburg-Vorpommern, Brandenburg, Thüringen and Leipzig
- 2 regions in western Slovakia – Bratislavský kraj and Západné Slovensko.

A similar analysis for small farms (with fewer than 5.0 hectares of agricultural area) indicates that their relative importance was particularly marked in other regions, where they accounted for more than a third of the region's agricultural area:

- Attiki (2020 data), Peloponnisos and Kriti in Greece
- Canarias in Spain
- Guadeloupe in France (2020 data)
- Liguria, Calabria and Campania in Italy.

**Map 13.1: Dominant farm size**
(based on % share of utilised agricultural area, by NUTS 2 regions, 2023)




Note: agricultural areas expressed in hectares (ha). Excluding very small farms/holdings. Luxembourg, Iceland and Norway: 2020. Several regions in Greece, France, Croatia, Hungary and the Netherlands (too many to document): 2020. EU and Slovenia: provisional.

*Source:* Eurostat (online data code: ef_m_farmleg)

Since 2010, the average farm size across the EU has generally increased, reflecting ongoing structural change within agriculture. Smaller holdings have declined in number, while larger, more commercially oriented farms have expanded due to consolidation, mechanisation and productivity pressures. This pattern was particularly evident in eastern EU countries such as Bulgaria, Poland and Romania, where a relatively high number of very small semi-subsistence farms consolidated into larger units, as farming shifted towards more market-oriented systems. This process has been reinforced by rural depopulation, with younger people migrating to cities and/or abroad in search of better-paid employment, while older farmers retire without successors.

***Across the EU, average farm size grew from 19.7 hectares in 2010 to 24.7 hectares in 2023***

Map 13.2 shows changes in average farm size – measured in hectares per holding – across 3 reference periods. In the EU, the average of holdings above the Regulation threshold increased from 19.7 hectares in 2010 to 21.5 hectares in 2016, before rising more sharply to 24.7 hectares in 2023. Across NUTS level 2 regions, there were 123 regions (out of 216 for which data are available) where average farm size increased in both periods (from 2010 to 2016 and again from 2016 to 2023). Overall, comparing 2010 and 2023, average farm size increased in 178 of the 216 regions, indicating a widespread pattern of farm consolidation across the EU.

The most marked increases in average farm size were recorded in several regions across Bulgaria. For example, average farm size almost doubled in each period in the north-western region of Severozapaden, rising from 34.6 hectares in 2010 to 62.1 hectares in 2016, before reaching 115.9 hectares in 2023. Substantial increases were also observed in the neighbouring northern Bulgarian regions of Severoiztochen and Severen tsentralen, as average farm size increased by more than 50.0 hectares in both of these regions between 2010 and 2023. Outside Bulgaria, the largest absolute increases were observed in the French regions of Centre — Val de Loire and Franche-Comté, where average farm size grew by 31.3 and 31.2 hectares, respectively.

***In 2023, average farm size peaked at 284.1 hectares in Mecklenburg-Vorpommern, compared with just 0.8 hectares in Região Autónoma da Madeira***

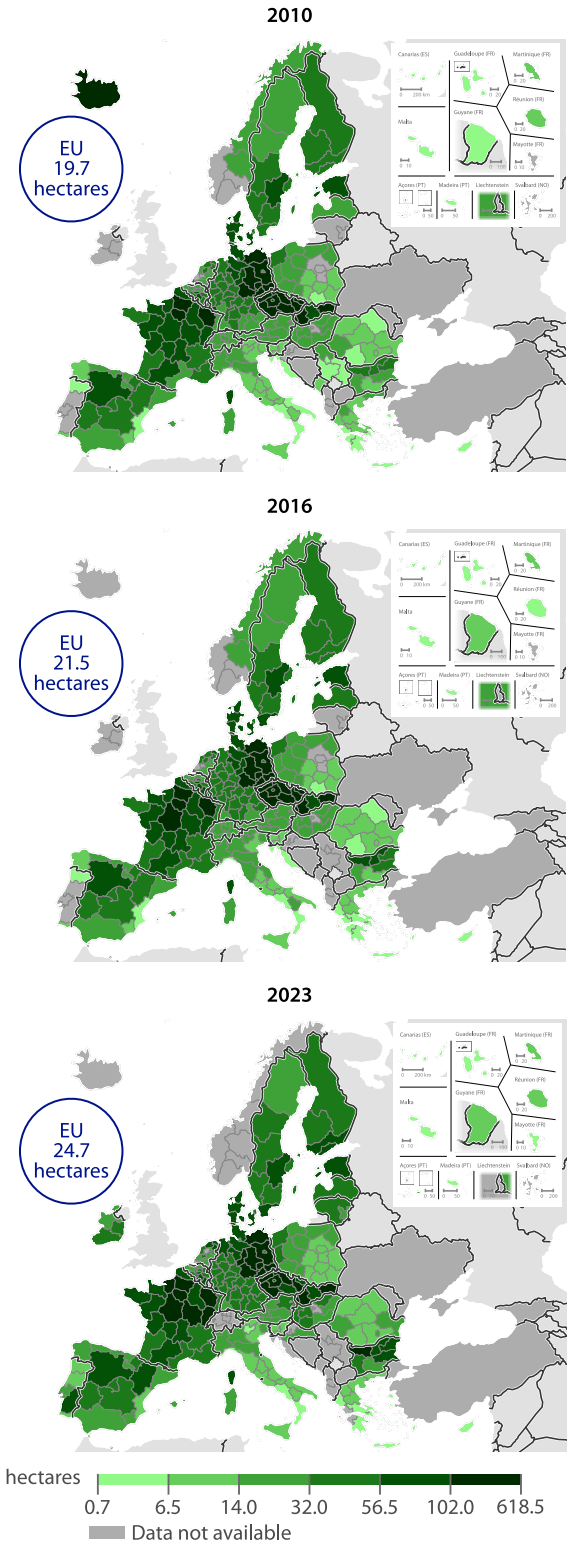
In 2023, the largest average farm size was recorded in the northern-eastern German region of Mecklenburg-Vorpommern, at 284.1 hectares; this was 11.5 times higher than the EU average. There were 4 other regions in eastern Germany where the average size of farms exceeded 190.0 hectares: Sachsen-Anhalt, Brandenburg, Thüringen and Leipzig. The next largest average farm sizes were recorded in the French capital region of Ile-de-France (141.3 hectares) and in the Czech region of Severozápad (138.7 hectares).

At the other end of the range, there were 17 regions within the EU where the average farm size was smaller than 6.5 hectares in 2023 (as shown by the lightest shade in Map 13.2). These 17 regions were concentrated in:

- 7 regions of Greece – including the capital region of Attiki, Peloponnisos, Ipeiros, Kriti, Sterea Elláda, Notio Aigaio and Voreio Aigaio
- 4 regions of Italy – Liguria, Calabria, Campania and Provincia Autonoma di Trento.

However, Região Autónoma da Madeira (Portugal) had the smallest average farm size in 2023, at 0.8 hectares. This reflects, among other factors, the island's steep terrain with agriculture carried out on narrow terraces, as well as the historical division of land among families, resulting in fragmented plots suited to growing high-value crops such as bananas, sugarcane and grapes.

**Map 13.2: Average size of farms**
(hectares per holding, by NUTS 2 regions)




Note: excluding very small farms/holdings. EU and Slovenia: 2023, provisional.

*Source:* Eurostat (online data code: ef_m_farmleg)

***In 2023, large farms (≥ 100.0 hectares) accounted for around 5% of all agricultural holdings in the EU but managed more than half of the total utilised agricultural area***

In 2023, there were 328 700 large farms (each with at least 100.0 hectares) across the EU, representing 5.4% of all agricultural holdings above the Regulation physical thresholds. Together, these large farms managed 80.6 million hectares of agricultural land (around 806 000 km$^2$). In economic terms, large farms generated a standard output of €137.7 billion, accounting for just over a third (around 35%) of the total output of all agricultural holdings.

Figure 13.1 presents the 20 NUTS level 2 regions in the EU where large farms recorded the highest shares of all agricultural holdings, total utilised agricultural area and standard output in 2023. A comparison reveals that 8 regions featured prominently for each of these 3 indicators, namely, the eastern German regions of Brandenburg, Leipzig, Mecklenburg-Vorpommern, Sachsen-Anhalt and Thüringen; the French regions of Ile-de-France and Lorraine; and the Czech region of Severozápad.

In the French capital region of Ile-de-France, the presence of large farms was particularly pronounced, with such holdings accounting for 62.5% of all agricultural holdings in 2023. There were 2 further French regions that recorded majority shares: Centre — Val de Loire (56.6%) and Lorraine (55.4%). There were 4 regions with shares just below half, including Picardie and Bourgogne (also in France), and Sachsen-Anhalt and Mecklenburg-Vorpommern (in eastern Germany).

The standard output of agricultural holdings measures the monetary value of agricultural output at farm-gate prices. In regions characterised by economies of scale, specialised high-value production and efficient production systems, large farms tend to account for a relatively high share of standard output. In 2023, this pattern was particularly evident in German, Czech and Slovak regions, as well as in Estonia, where large farms commonly accounted for more than three quarters of agricultural standard output. At the upper end of the distribution, large farms in the German region of Mecklenburg-Vorpommern generated 86.3% of standard output in agriculture, with a similar share recorded in the French region of Lorraine (86.1%).

***Across the EU, young farmers accounted for about 1 in 9 of all farm managers in 2023; this share peaked at 28.3% in the eastern French region of Franche-Comté***

Farm managers are the people responsible for the normal daily financial and production routines of running a farm, such as decisions on what and how much to plant or rear, and what labour, materials and equipment to employ. Often, the farm manager is also the owner (the 'holder') of the agricultural holding; however, this is not always the case, particularly where the farm has a separate legal identity. Note that, as with the remainder of this chapter, the information presented below excludes very small farms/holdings that fall below the Regulation physical thresholds.

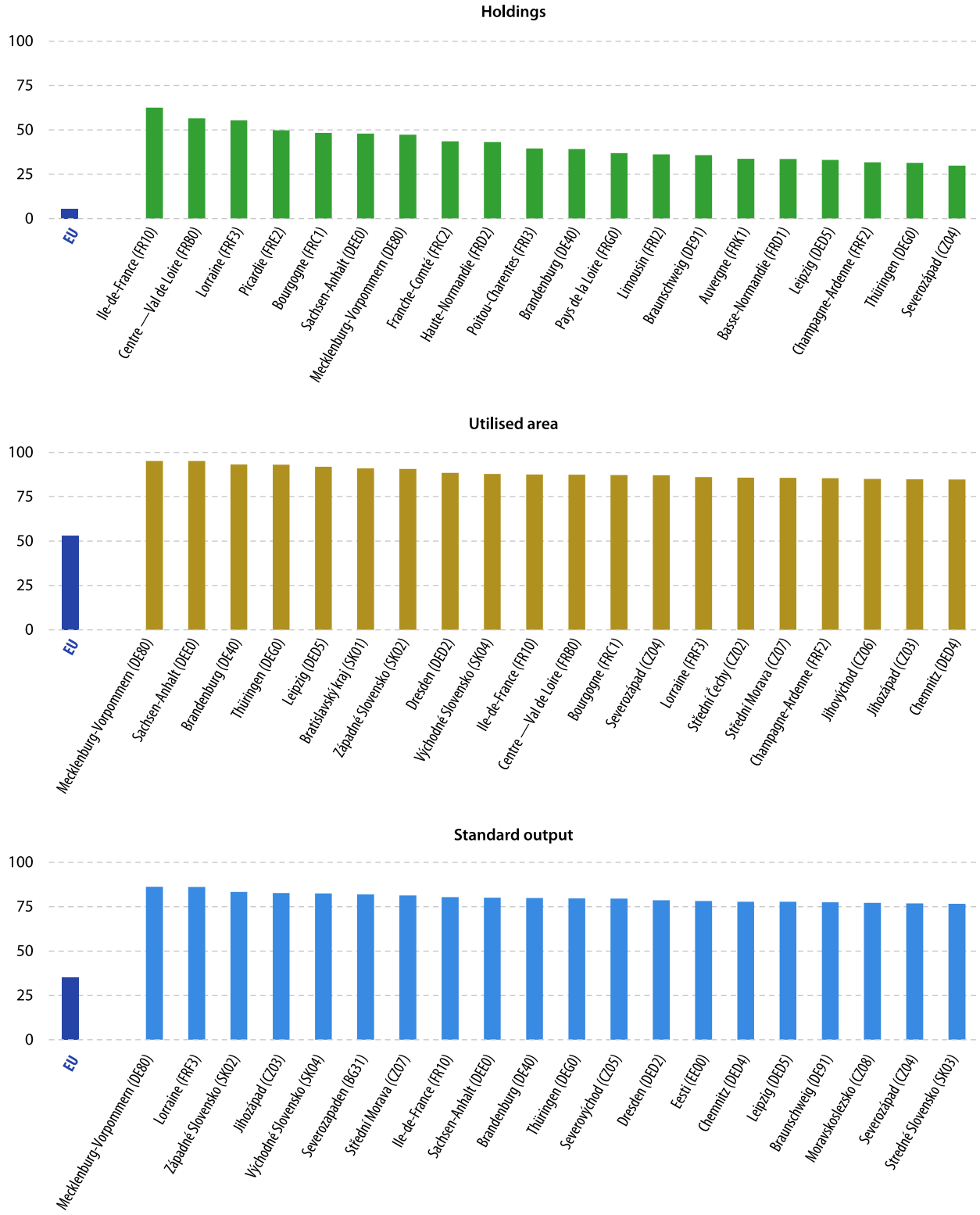
Differences in the structure of agricultural holdings within the EU are often reflected in patterns of ownership and management: smaller farms are typically family-run, while larger farms are more commonly managed by professional managers employed by agricultural enterprises.

Many farm managers in the EU continue to work well beyond what is typically considered retirement age in other sectors of the economy. This slow pace of generational renewal may pose challenges for the long-term sustainability of agriculture, potentially limiting innovation and productivity due to a lack of a more dynamic and diverse farm workforce.

In 2023, there were 723 000 farm managers of EU holdings above the Regulation physical thresholds under the age of 40. By contrast, there were 2.0 million farmers aged 65 or over. Younger farmers are more likely to manage medium-sized or large farms, which may reflect their higher levels of agricultural training, as well as their exposure to modern and innovative practices. Conversely, older farm managers predominantly work on smaller farms, which often yield relatively low levels of agricultural income.

In 2023, young farm managers accounted for 11.8% of all EU farm managers of holdings above the Regulation physical thresholds. Their share was noticeably higher in a broad area extending from France, through the Alps into Czechia, Slovakia and Poland. This pattern may reflect targeted policy support aimed at encouraging more young people into agriculture, including initiatives such as start-up grants, low interest loans, reduced land prices, support with land access, income support, training programmes, and opportunities to foster innovation and diversification.

**Figure 13.1:** Relative importance of large farms
(% share of agricultural total, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. Large farms are defined as having at least 100 hectares. The figure shows, for each indicator, the EU regions with the highest shares for large farms. Greece, Luxembourg, the Netherlands and Slovenia: 2020. Several regions in Germany, France, Croatia, Hungary and Finland (too many to document): 2020. EU: provisional. Ipeiros (EL54) other than for the number of holdings, Ciudad de Ceuta (ES63), Ciudad de Melilla (ES64), Mayotte (FRY5), Malta, Utrecht (NL35), Zuid-Holland (NL36) and Região Autónoma da Madeira (PT30): not available.

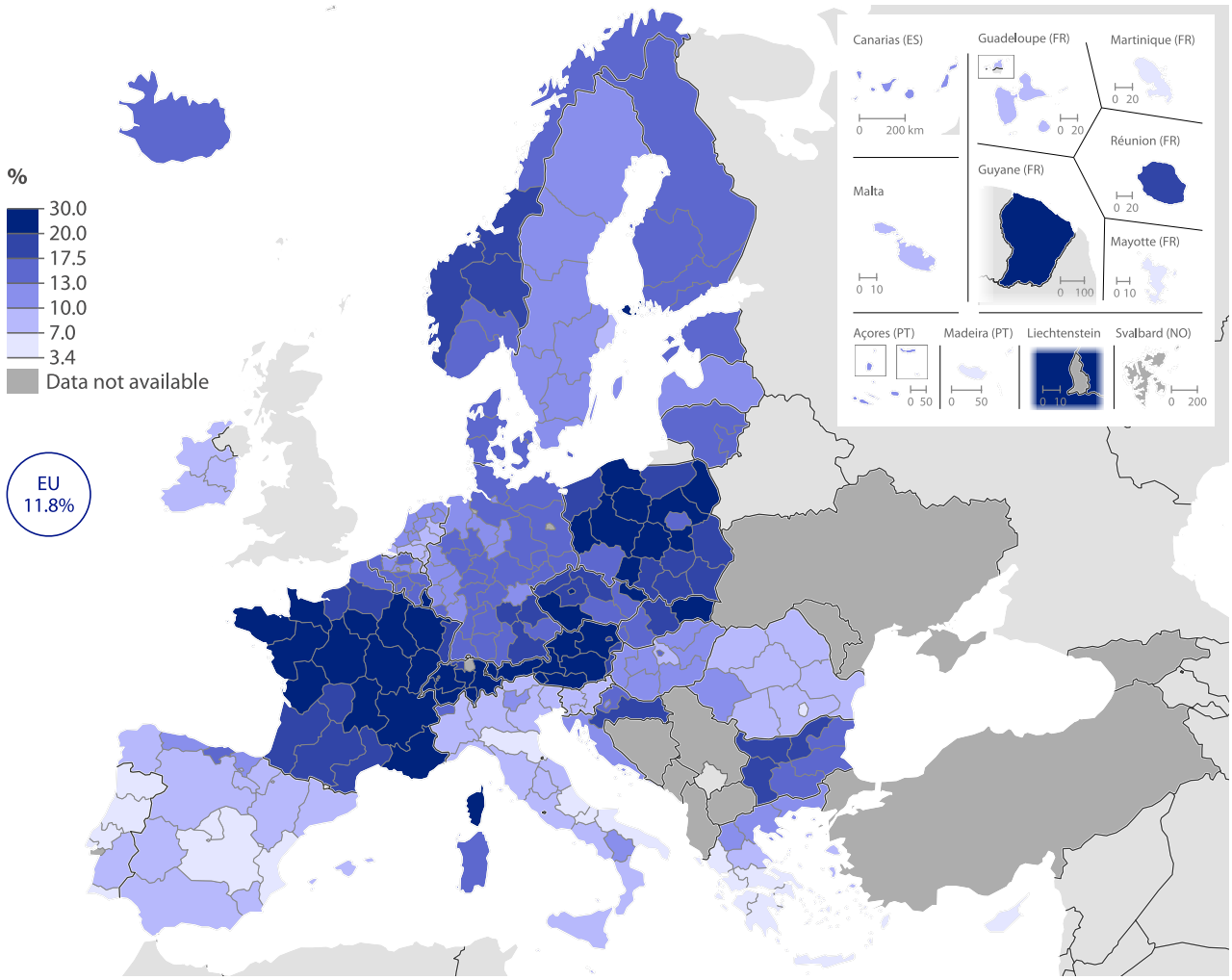
*Source:* Eurostat (online data code: ef_m_farmleg)

By contrast, the lowest shares of young farm managers were concentrated in southern EU countries, Romania and Slovenia. In some regions, this may be linked to challenges in generational transition, such as financial barriers, limited access to land, capital and knowledge, declining rural fertility rates and the appeal of alternative career prospects. The share of young farm managers was also relatively low in several regions across Ireland and the Netherlands, where the consolidation of farming may have created significant barriers to young people wishing to enter the industry.

Map 13.3 highlights the regional distribution of young farm managers in 2023. There were 36 NUTS level 2 regions where the share of young farm managers was at least 20.0% (as shown by the darkest shade). This group included:

- 7 out of 9 regions in Austria (with the capital region of Wien and the easternmost region of Burgenland just below this share)
- 15 regions in France
- 8 regions in Poland
- 3 regions in Czechia
- a single region from each of Slovakia and Finland
- Luxembourg.

**Map 13.3: Young farm managers**
(% of all farm managers, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. Young farm managers are defined as those aged less than 40. Budapest (HU11), Região Autónoma da Madeira (PT30), Helsinki-Uusimaa (FI1B), Iceland, Norway and Switzerland: 2020. EU and Slovenia: provisional.

*Source:* Eurostat (online data code: ef_m_farmang)

In 2023, Franche-Comté in eastern France (28.3%) and Oberösterreich in northern Austria (27.2%) had the highest shares of young farm managers.

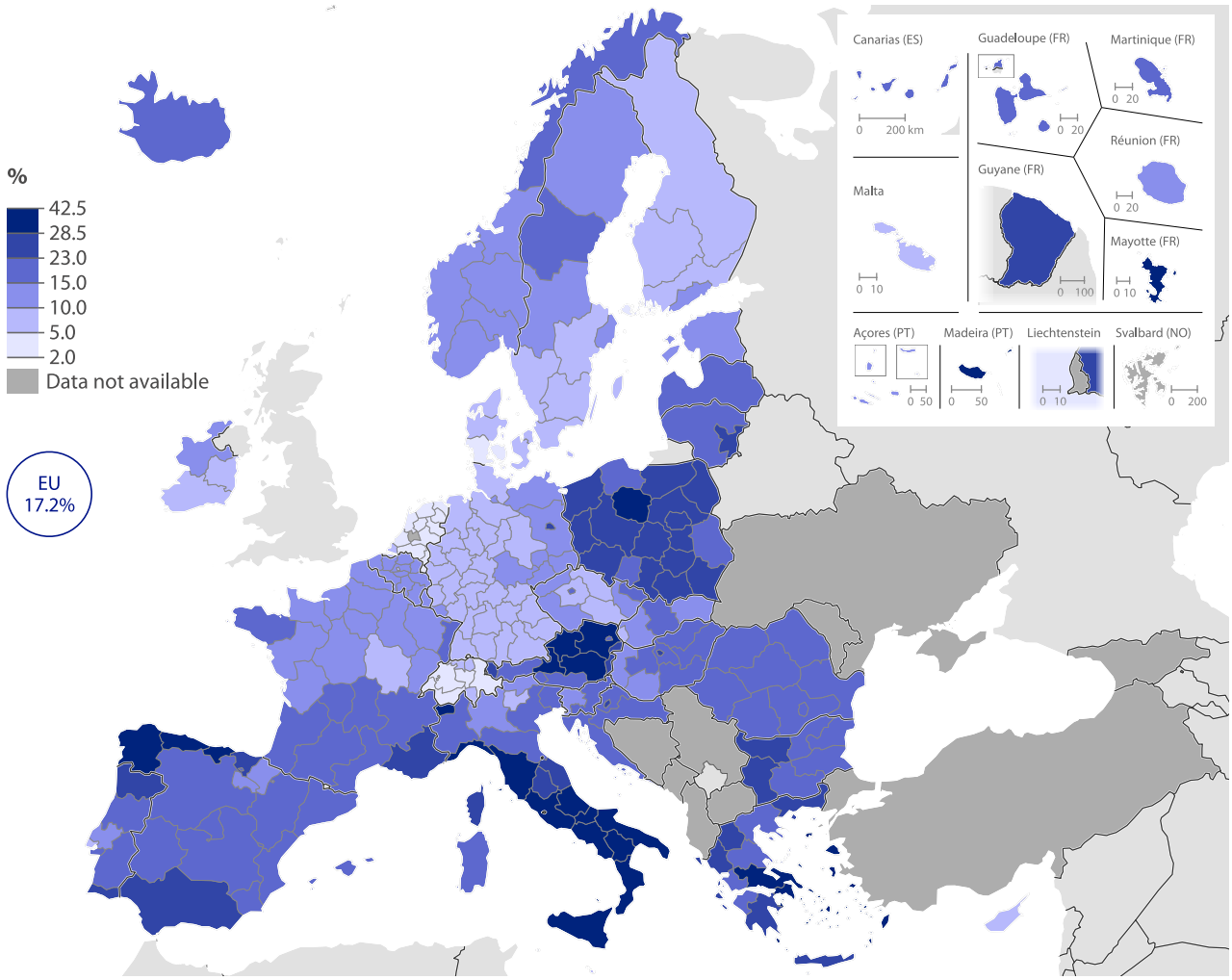
Young farm managers were particularly scarce in southern EU countries. There were 25 regions where they accounted for fewer than 7.0% of all farm managers, concentrated in the southern EU countries of Greece (8 regions), Portugal (6 regions), Italy (4 regions) and Spain (3 regions); Cyprus also recorded a very low share. Outside southern Europe, low shares of young farm managers were observed in the Romanian capital region of Bucureşti-Ilfov and in the French outermost regions of Mayotte and Martinique.

***Female farm managers accounted for fewer than a fifth of all EU farm managers in 2023***

The United Nations has declared 2026 as the International Year of the Woman Farmer. The year is designed to highlight the essential role women play across the farm to fork chain, seeking to raise awareness and promote actions that will close gender gaps and improve women's livelihoods.

Compared with their male counterparts, female farm managers are generally underrepresented in the EU's agricultural sector. In 2023, fewer than a fifth (17.2%) of all EU farm managers of holdings above the Regulation physical thresholds were female. Where women do manage farms, they are more likely to operate relatively small holdings, although generational renewal may gradually increase women's participation in larger and more commercially oriented farming systems.

**Map 13.4: Female farm managers**
(% of utilised agricultural area under female management, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. Luxembourg, Iceland, Norway and Switzerland: 2020. Several regions in Greece, Croatia, Hungary, the Netherlands and Finland (too many to document): 2020. EU and Slovenia: provisional.

*Source:* Eurostat (online data code: ef_m_farmang)

Women accounted for fewer than half of all farm managers across all NUTS level 2 regions. In 2023, the highest regional shares were clustered in northern Spain, southern Italy and much of Austria, with relatively high shares also observed in Poland and certain regions of Greece. By contrast, the lowest shares of female farm managers were concentrated in the Netherlands in particular, alongside Denmark, Czechia, Germany, Ireland and the Nordic countries; low shares were also recorded in Cyprus and Malta. These differences may reflect a range of structural factors, including variations in farm size, inheritance practices, labour market structures and the prevalence of family farming, all of which can influence the likelihood of women having farm management roles.

The distribution of female farm managers was broadly balanced around the EU average: in 2023, there were 134 out of 241 regions (55.6% of all regions for which data are available) with a share of female farm managers that was below the EU average. At the lower end of the distribution, the Dutch region of Friesland recorded the lowest share (2.7%; with around 6 000 female farm managers), while the highest share was observed in the northern Austrian region of Oberösterreich (42.5%; with 211 600 female farm managers).

In 2023, there were 25 NUTS level 2 regions where the share of female farm managers was at least 28.5% (as shown by the darkest shade in Map 13.4). Relatively high shares of female farm managers were concentrated in Italy (11 regions, including Molise which recorded the highest share in Italy), Greece (4 regions, including Voreio Aigaio), Austria (4 regions, including Oberösterreich) and Spain (3 regions, including Principado de Asturias).

At the lower end of the distribution, there were 12 regions in the EU where the share of female farm managers was below 5.0% in 2023. This group included 10 out of the 12 regions from the Netherlands; the exceptions being Zeeland (where the share was 5.0%; 2020 data) and Utrecht (no information available). The other 2 regions with relatively low shares were Åland in Finland (3.6%) and Syddanmark in Denmark (4.9%).

## Focus on precision farming

In general terms, precision farming can be defined as information- and technology-based management approaches that use data, digital tools and decision-support systems to optimise agricultural production at the level of individual fields or at sub-field level. It aims to improve the efficiency, productivity and environmental sustainability of farming by tailoring inputs – such as water, fertilisers and plant protection products – to the specific conditions and needs of crops and soils.

As with the remainder of this chapter, the information presented below excludes very small farms/holdings that fall below the Regulation physical thresholds. As a result, the reported uptake may be somewhat overstated, as the data do not capture management practices and agricultural techniques in very small farms/holdings, where these technologies are generally less likely to be used.

***In 2023, almost a third of all farms in Picardie (northern France) used robotics for plant protection***

Within the context of the EU's farm structure survey, the use of robotics for plant protection refers to the deployment of automated or semi-automated machines that carry out plant protection tasks, for example, the application of crop protection products (such as herbicides, fungicides or insecticides) with minimal human intervention.

In 2023, 1.8% of all agricultural holdings in the EU above the Regulation physical thresholds used robotics to apply plant protection products. The distribution of shares across NUTS level 2 regions was asymmetric and slightly skewed in a positive direction: more than half (53.3%) of all regions for which data are available had shares below the EU average, while a smaller number exhibited substantially higher shares, resulting in a pronounced right tail to the distribution.

Map 13.5 shows that there were a number of clusters which displayed a particularly high uptake of robotics for applying plant protection products in 2023, with double-digit shares recorded in:

- all regions of Denmark and Finland
- all regions in the northern half of France.

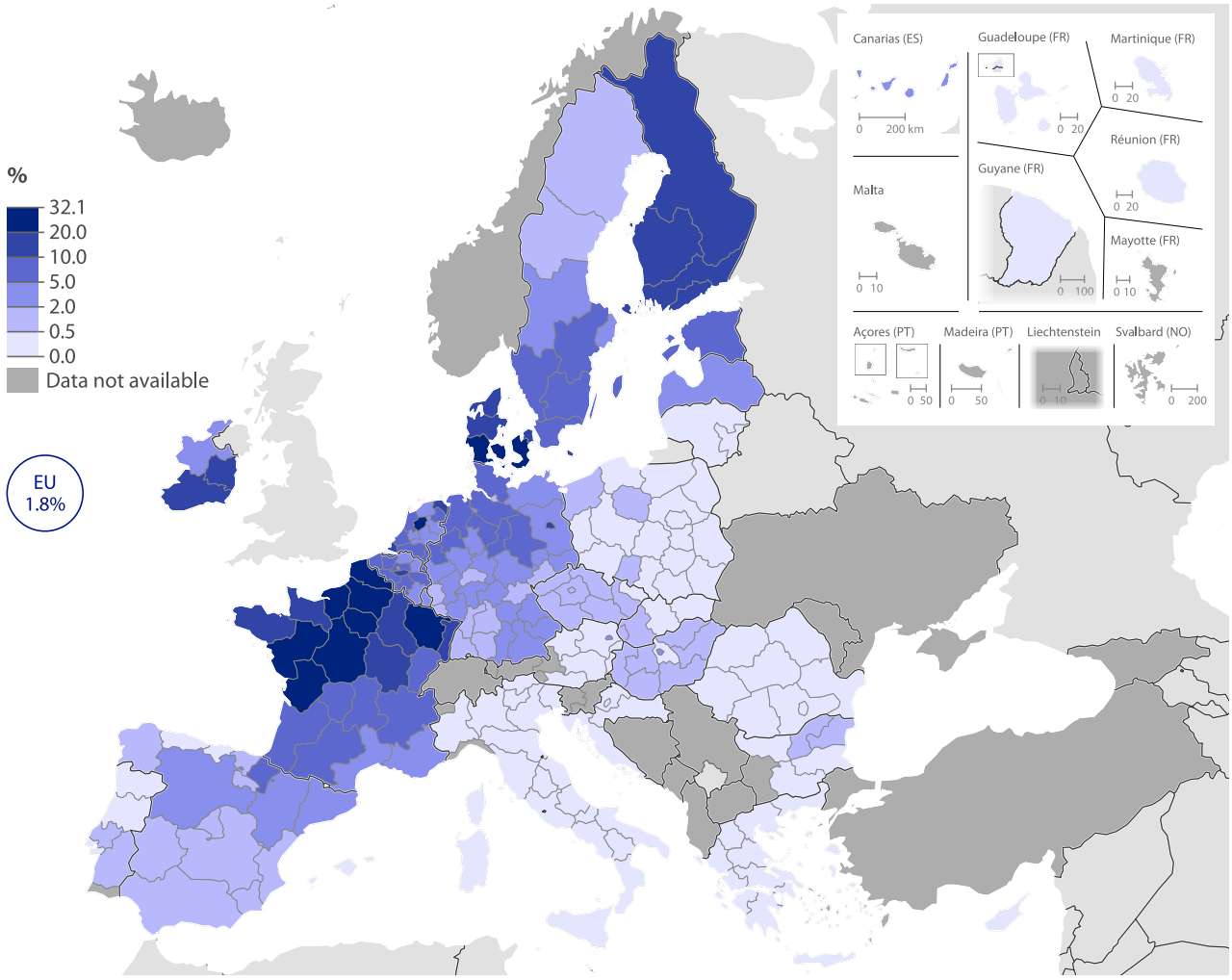
The highest regional share was observed in the northern French region of Picardie, where 32.1% of agricultural holdings reported the use of robotics for plant protection applications. The next highest shares were also recorded in northern France: Ile-de-France (29.8%) and Centre — Val de Loire (29.2%).

At the other end of the distribution, there were 84 regions across the EU where fewer than 0.5% of all agricultural holdings used robotics for plant protection products in 2023. They were principally concentrated in southern and eastern regions of the EU, including:

- all regions of Croatia, Lithuania and Romania
- all regions of Greece and Italy (among those for which data are available)
- all but 1 region in Austria (among those for which data are available)
- 14 of the 17 regions in Poland.

Within this group of 84 regions, there were 18 where no or virtually no use of robotics for plant protection products was recorded; most of these were located in Greece or Italy.

**Map 13.5:** Use of robotics for plant protection products
(% of all agricultural holdings, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. The use of robotics for plant protection products is typically understood as autonomous or robotic machinery that assists with tasks related to crop protection, such as applying pesticides or other plant protection treatments. EU: provisional.

*Source:* Eurostat (online data code: ef_mp_digicr)

***Provincia Autonoma di Bolzano/Bozen (northern Italy) recorded the highest share of farms making use of variable rate techniques in 2023, at 42.5%***

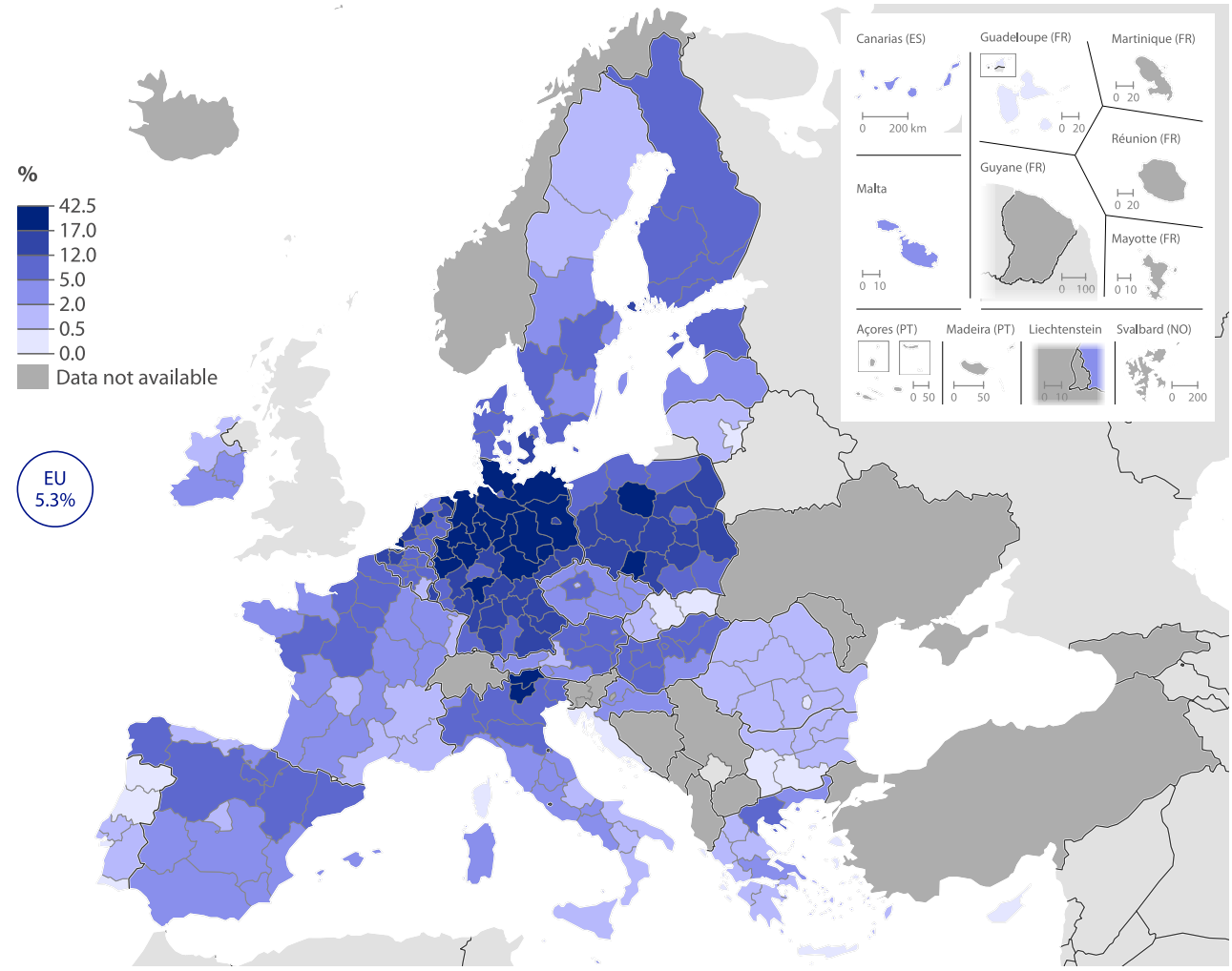
Within the context of the EU's farm structure survey, variable rate techniques refer to precision farming methods that adjust the application of agricultural inputs within a field according to local conditions. These techniques enable spatially differentiated application rates based on observed variability and may be applied to inputs including fertilisers, plant protection products, seeds or water.

In 2023, 5.3% of all agricultural holdings in the EU above the Regulation physical thresholds used variable rate techniques for the application of agricultural inputs. The distribution of uptake across NUTS level 2 regions was evenly balanced, with a majority of regions recording values above the EU average (see Map 13.6).

A cluster of regions with relatively high uptake of variable rate techniques was observed in northern Germany. However, the highest regional share was recorded in the northern Italian region of Provincia Autonoma di Bolzano/Bozen (42.5% of agricultural holdings used variable rate techniques for the application of agricultural inputs in 2023). Hannover and Braunschweig in northern Germany followed with 35.1% and 34.9%, respectively, while several regions in the Netherlands and Poland also recorded relatively high shares.

At the other end of the distribution, there were 17 regions across the EU where the adoption of variable rate techniques remained very limited, used by fewer than 0.5% of holdings in 2023 (as shown by the lightest shade). These regions with low uptake were widely dispersed across EU countries, but tended to be located at the geographical periphery, with particularly low shares in Greece, Portugal and some of the EU's easternmost regions.

**Map 13.6:** Use of variable rate techniques
(% of all agricultural holdings, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. Variable rate techniques are technologies that allow automatic application of inputs (such as fertiliser, plant protection products, seed) at variable rates across different parts of a field based on data-driven decisions. EU: provisional.

*Source:* Eurostat (online data code: ef_mp_digicr)

***In 2023, more than a fifth of all agricultural holdings used precision crop monitoring in 15 German regions and 6 French regions***

Within the context of the EU's farm structure survey, precision crop monitoring refers to using digital and sensor-based technologies to observe crop and field conditions continuously or periodically, often at sub-field level; the monitoring is used to support precise farm management decisions. The technologies may involve satellite imagery, drone surveys, GPS-based field mapping systems, on-farm sensors and smart scouting tools to record and analyse field observations. Farmers can make use of these technologies to help detect pests, diseases, or nutrient deficiencies; monitor crop growth variability; assess soil and moisture conditions; support decisions on irrigation, fertilisation and plant protection.

In 2023, a relatively small number of the EU's agricultural holdings (196 500) used precision monitoring of crops, equivalent to 3.2% of all agricultural holdings above the Regulation physical thresholds. Across NUTS level 2 regions, this share ranged from 0.0% – as recorded in the island regions of Ionia Nisia (Greece) and Cyprus – to a peak of 38.8% in the northern German region of Hannover.

A similar pattern to that observed for the use of variable rate techniques was evident, with some of the highest shares of agricultural holdings using precision crop monitoring clustered in northern Germany (15 regions); a band of 6 regions with relatively high shares was also observed across northern France. Aside from Hannover, the highest regional shares were recorded in the German regions of Braunschweig (37.8%), Sachsen-Anhalt (34.2%), Weser-Ems (33.7%), Münster (33.4%) and Düsseldorf (33.3%), as well as the French capital region of Ile-de-France (35.1%).

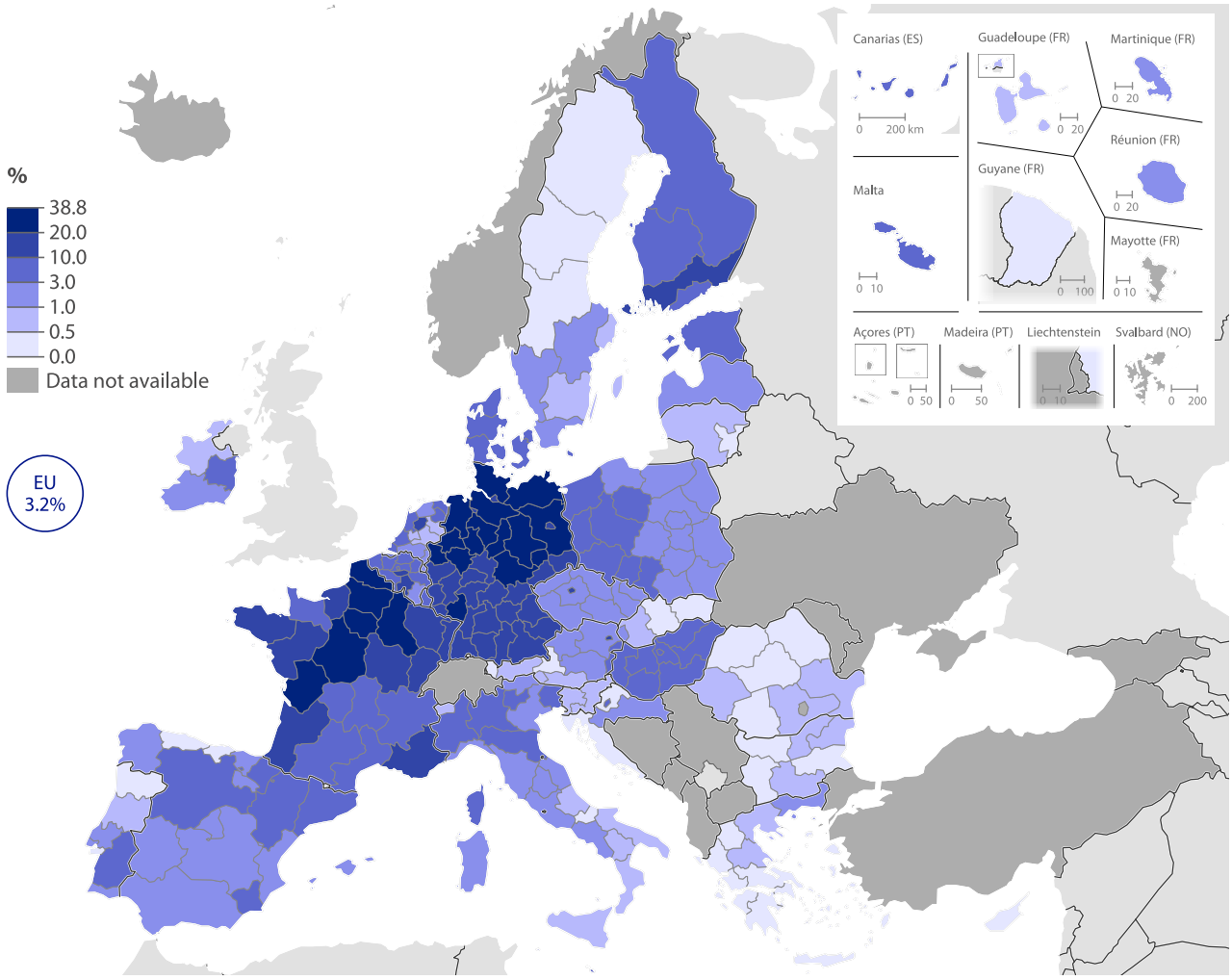
In 2023, there were 34 regions across the EU where fewer than 0.5% of all agricultural holdings used precision crop monitoring. The relatively low uptake in these regions may reflect a combination of factors, including smaller average farm sizes, lower levels of investment in digital technologies and limited access to the infrastructure or advisory services required to support the adoption of precision farming techniques.

This group of 34 regions was predominantly located in southern and eastern parts of the EU. Multiple regions with particularly low shares were recorded in:

- Greece (10 regions)
- Romania (4 regions)
- Bulgaria (3 regions)
- northern Spain, Croatia, Portugal and Slovakia (2 regions each).

Outside of southern and eastern EU countries, low uptake of precision crop monitoring was also observed for multiple regions in northern Sweden (3 regions) and Austria (2 regions).

**Map 13.7: Use of precision monitoring of crops**
(% of all agricultural holdings, by NUTS 2 regions, 2023)




Note: excluding very small farms/holdings. Precision crop monitoring uses technologies such as weather stations, digital mapping systems, soil scanning tools or yield monitoring sensors to collect detailed, often real-time data on crops and field conditions. EU and Slovenia: provisional.

*Source:* Eurostat (online data code: ef_mp_digicr)

# GETTING IN TOUCH WITH THE EU

### In person

All over the European Union there are hundreds of Europe Direct Information Centres. You can find the address of the centre nearest you online (european-union.europa.eu/contact-eu/meet-us_en)

### On the phone or by e-mail

Europe Direct is  a service that answers your questions about the European Union. You can contact this service

— by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),

— at the following standard number: +32 22999696,

— via the following form: european-union.europa.eu/contact-eu/write-us_en.

# FINDING INFORMATION ABOUT THE EU

### Online

Information about the European Union in all the official languages of the EU is available on the Europa website (european-union.europa.eu).

### EU publications

You can view or order EU publications at op.europa.eu/en/publications. Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre (european-union.europa.eu/contact-eu/meet-us_en).

### EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex (eur-lex.europa.eu).

### EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

# Eurostat regional yearbook

## 2026 edition

Print: KS-01-26-039-EN-C
PDF: KS-01-26-039-EN-N

Statistical information is an important tool for understanding and quantifying the impact of political decisions in a specific territory or region. The *Eurostat regional yearbook 2026* provides a detailed picture relating to a broad range of statistical topics across the regions of the EU, EFTA and candidate countries.

**For more information**
**https://ec.europa.eu/eurostat/**

**Follow us on social media**

- @EU_Eurostat
- EurostatStatistics
- @EU_Eurostat
- Eurostat

Publications Office of the European Union
Law | Data | Publications

Print: ISBN 978-92-68-40869-8
PDF: ISBN 978-92-68-40868-1