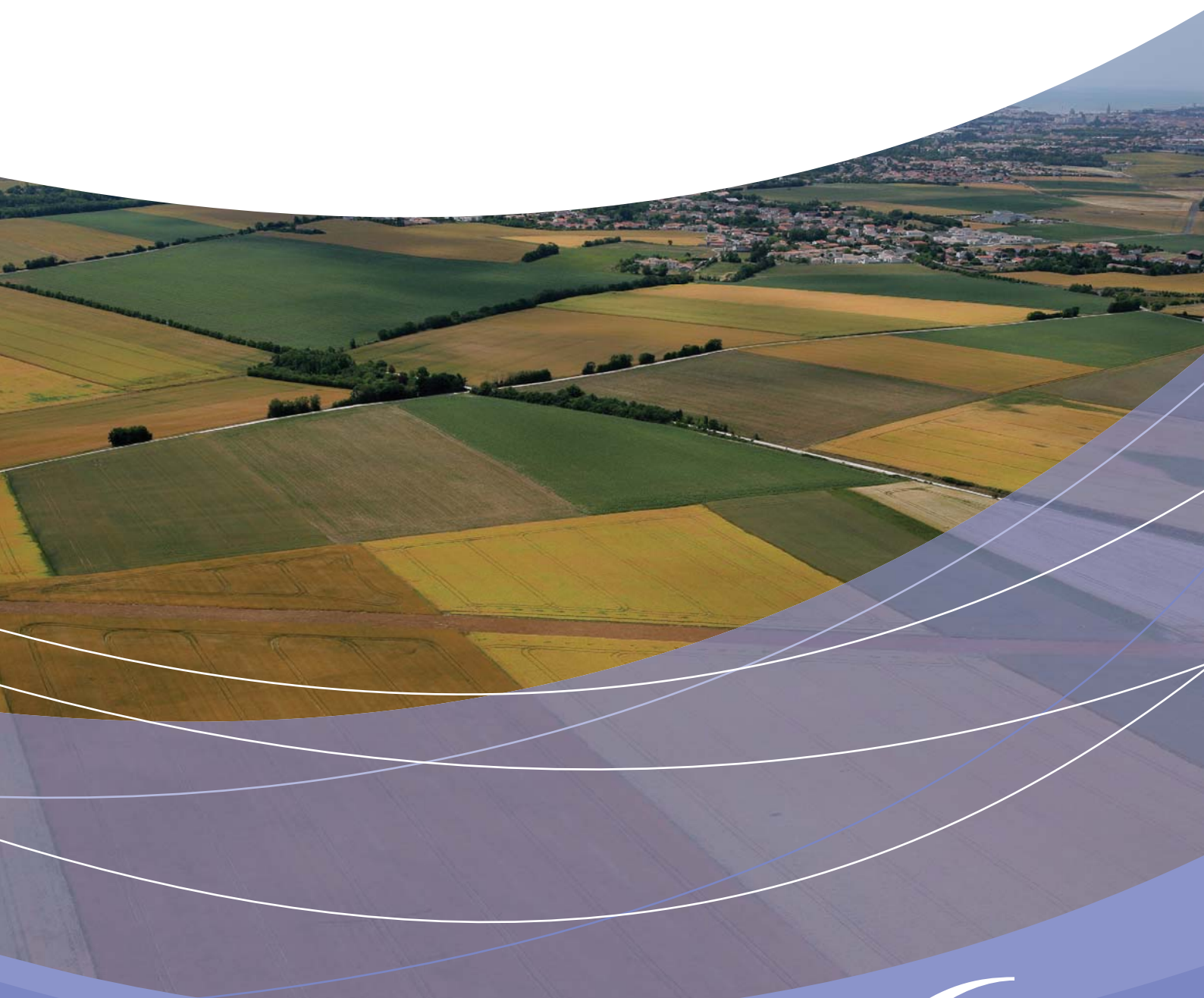


Eurostat regional yearbook 2008



Eurostat regional yearbook 2008

*Europe Direct is a service to help you find answers
to your questions about the European Union*

Freephone number (*):

00 800 6 7 8 9 10 11

(* Certain mobile telephone operators do not allow access
to 00 800 numbers or these calls may be billed.

More information on the European Union is available on the Internet (<http://europa.eu>).

Luxembourg: Office for Official Publications of the European Communities, 2008

ISBN 978-92-79-08212-2

ISSN 1830-9674

DOI 10.2785/11820

Cat. No. KS-HA-08-001-EN-N

(Cat. No. printed publication KS-HA-08-001-EN-C)

Theme: General and regional statistics

Collection: Statistical books

© European Communities, 2008

© Copyright for the following photos: cover and the Introduction, Population, Urban statistics
Household accounts, Structural business statistics, Labour market, Sectoral productivity and Tourism
chapters: © Phovoir.com; the chapters Gross domestic product, Labour costs, Transport and Science,
technology and innovation: © the Digital Photo Library of the Regional Policy DG of the European
Commission; the chapter Health: © Fitolito38 and the chapter Agriculture: © Jean-Jacques Patricola.

For reproduction or use of these photos, permission must be sought directly from the copyright holder.



Preface

Dear reader,

I am pleased to present the 2008 edition of the Eurostat regional yearbook, which gives an overview of the most recent developments in the regions of the European Union, with its current 27 Member States, as well as in the candidate countries and EFTA countries.

We have again selected themes that we think will show you the most interesting facets of development in the economic, social and demographic fields in Europe's regions. We are also pleased to include a contribution from our colleagues at the Commission's Directorate-General for Regional Policy for the second year running. This time the chapter is about 'Sectoral productivity' and it examines how productivity in different business sectors differs between the EU's regions.

Regional policy programmes initiated last year under the EU's new cohesion policy are now well under way and we hope that this publication will give some flavour of the progress being made in regional cohesion throughout the EU. We have also included some of the most recent results from the Urban Audit exercise, a data collection that compiles a great deal of statistical information on Europe's cities.

We are progressively developing the range of regional indicators available and will hopefully be able to include these in our choice of topics in future editions, as data availability and quality allow.

I wish you a stimulating read.



Hervé Carré
Director-General, Eurostat



Acknowledgements

The editors of the *Eurostat regional yearbook 2008* would like to thank all those who were involved in its preparation. We thank in particular the following chapter authors for making publication of this year's edition possible.

- **Population:** Gregor Kyi (Unit F.1 at Eurostat: Demographic and migration statistics)
- **Urban statistics:** Teodóra Brandmüller (Unit D.2 at Eurostat: Regional indicators and geographical information)
- **Gross domestic product:** Andreas Krüger (Unit C.2 at Eurostat: National accounts — production)
- **Household accounts:** Andreas Krüger (Unit C.2 at Eurostat: National accounts — production)
- **Structural business statistics:** Ulf Johansson (Unit G.1 at Eurostat: Structural business statistics)
- **Labour market:** Pedro Ferreira (Unit D.2 at Eurostat: Regional indicators and geographical information)
- **Sectoral productivity:** Zuzana Gáková (Unit C.3 at the Directorate-General for Regional Policy: Economic and Quantitative Analysis, Additionality)
- **Labour costs:** Simone Casali (Unit F.2 at Eurostat: Labour market statistics)
- **Transport:** Anna Bialas-Motyl and Anastassia Vakalopoulou (Unit G.5 at Eurostat: Transport statistics)
- **Tourism:** Ulrich Spörel (Unit F.6 at Eurostat: Information society and tourism statistics)
- **Science, technology and innovation:** Bernard Felix and Tomas Meri (Unit F4 at Eurostat: Education, science and culture statistics)
- **Health:** Tomasz Urbanski (Unit F.5 at Eurostat: Health and food safety statistics)
- **Agriculture:** Garry Mahon (Unit E.2 at Eurostat: Agricultural and fisheries statistics)

This publication was edited and coordinated by Åsa Önnarfors (Unit D.2 at Eurostat: Regional indicators and geographical information) with the help of Pavel Bořkovec (Unit B.6 at Eurostat: Dissemination). Baudouin Quennery (Unit D.2) produced all the statistical maps.

We are also very grateful to:

- the **Directorate-General for Translation of the European Commission**, and in particular the German, English and French translation units;
- the **Office for Official Publications of the European Communities**, and in particular Peter Johansson in Unit B.1, Cross-media publishing, and the proofreaders in Unit B.2, Editorial services.



Contents

INTRODUCTION	9
Regional statistics give more detailed information	10
The NUTS classification	10
Coverage	11
More regional information	11
1 POPULATION	13
Revealing the regional pattern of demography	14
The drivers behind population change	14
Demographic ageing: the situation today... ..	17
... and its impact in the future	21
<i>Methodological notes</i>	22
2 URBAN STATISTICS	25
Introduction	26
What makes the Urban Audit unique?	26
Wide choice of indicators	26
Large geographical coverage	26
More than a decade-long time series	26
Attractiveness of cities	28
Conclusion	35
3 GROSS DOMESTIC PRODUCT	37
What is regional gross domestic product?	38
Regional GDP in 2005	38
Three-year average GDP over the period 2003–05	40
Major regional differences even within countries	40
Dynamic catch-up process in the new Member States	42
Different trends within the countries	45
Convergence makes progress	45
Conclusion	48
<i>Methodological notes</i>	48
<i>Purchasing power parities and international volume comparisons</i>	48
<i>Dispersion of regional per-inhabitant GDP</i>	49
4 HOUSEHOLD ACCOUNTS	51
Introduction: Measuring wealth	52
Private household income	52
Results for 2005	52
Primary income	52
Disposable income	53
Dynamic development on the edge of the Union	58
Conclusion	58
<i>Methodological notes</i>	61



5 STRUCTURAL BUSINESS STATISTICS	63
Introduction	64
Regional specialisation and business concentration	64
Focus on chemicals manufacturing	71
Conclusion	74
<i>Methodological notes</i>	78
6 LABOUR MARKET	81
Regional labour market cohesion	82
Employment	82
Unemployment	85
Long-term unemployment	85
Disparities in regional labour markets	89
Conclusion	92
<i>Methodological notes</i>	93
<i>Definitions</i>	93
7 SECTORAL PRODUCTIVITY	95
Introduction	96
The top sectors	96
Productivity at regional level	97
How has sectoral productivity developed in recent years?	100
Productivity grows when GVA increases... ..	100
... or when employment decreases	101
Manufacturing vs knowledge economy	105
Conclusion	107
<i>Methodological notes</i>	109
8 LABOUR COSTS	111
Introduction	112
Hourly labour costs	112
Hours actually worked	112
Structure of labour costs	115
Conclusion	117
<i>Methodological notes</i>	118
<i>Definitions</i>	118
<i>Labour costs</i>	118
<i>Hours worked</i>	118
<i>Full-time equivalents</i>	119
<i>Employers' actual social contributions (excluding apprentices)</i>	119
9 TRANSPORT	121
Introduction	122
Transport infrastructure	122
Road safety	127
Air transport	128
Conclusion	130
<i>Methodological notes</i>	135



10 TOURISM	137
Introduction	138
Accommodation capacity	138
Visitor arrivals	139
Overnight stays	141
Tourism intensity	143
Trends in tourism 2000–06	143
Inbound tourism	146
Camping tourism	146
Future prospects	146
<i>Methodological notes</i>	149
11 SCIENCE, TECHNOLOGY AND INNOVATION	151
Introduction	152
Human resources in science and technology	152
High-technology industries and knowledge-intensive services	152
Patents	154
High regional concentration of high-tech patenting	157
Conclusion	157
<i>Methodological notes</i>	159
12 HEALTH	161
Introduction	162
Causes of death	162
Colorectal cancer	162
Transport accidents	165
Healthcare staff	165
Conclusion	169
<i>Methodological notes</i>	170
13 AGRICULTURE	173
Introduction	174
Animal-rearing in Europe's regions	174
Pigs	174
Sheep	174
Cattle	180
Milk production	180
Conclusion	180
<i>Methodological notes</i>	182
ANNEX	183
EUROPEAN UNION: NUTS 2 regions	183
CANDIDATE COUNTRIES: Statistical regions at level 2	186
EFTA COUNTRIES: Statistical regions at level 2	187



Introduction





Regional statistics give more detailed information

Eurostat, the statistical office of the European Communities, collects data on a range of different statistical topics, mainly from the 27 Member States of the European Union, but also from the three candidate countries (Croatia, the former Yugoslav Republic of Macedonia, and Turkey) and from the four EFTA countries (Iceland, Liechtenstein, Norway and Switzerland). The statistical data are often only collected at national level, but very many statistical fields also have statistics at regional level, which gives us a more complete picture.

This aim of this publication, the *Eurostat regional yearbook 2008*, is to give you detailed information on life in the European regions today. Looking at the regions of Europe under the magnifying glass allows the authors of the 13 different chapters to make an in-depth analysis of a large variety of statistical domains. We very much hope you will enjoy reading it!

The first chapter is about population statistics (demography), because population data form the basis for all other statistics. Many other statistical indicators are divided by the population figures, thus resulting in data with the unit expressed in terms of 'per inhabitant'. Therefore, we start the first chapter by presenting some basic facts about how the population is spread over the regions in Europe, providing birth and death rates, migration patterns and age distribution.

The second chapter, on urban statistics, is based on the Urban Audit data collection and it presents data on a range of different topics from all European capitals and from many other large European cities. As a large proportion of EU citizens live in these cities, it should be a topic that is interesting and directly relevant for many people.

The other chapters can be divided into four different themes.

The first concerns economic or financial indicators: gross domestic product (GDP), household accounts and structural business statistics. Economic cohesion is one of the main goals in EU policy and, one might say, the engine for all other policies. In particular the chapter on GDP gives a very good idea of the situation in the European Union today.

Labour market indicators form the second group of themes in this publication, containing a basic chapter on the labour market, and also introduc-

ing two totally new subjects for the *Eurostat regional yearbook*; sectoral productivity, written by a subject specialist from the Directorate-General for Regional Policy, and labour costs, where the regional differences in labour costs per hour are analysed.

The theme for the third group of chapters is more general and concerns the everyday life of most European citizens. Transport and tourism both focus on the mobility of people, while science, technology and innovation is often seen as one of the main cornerstones in the new Lisbon strategy for growth and jobs.

Well-being in general is the theme for the last two chapters; statistics on health are a welcome reappearance this year, focusing on the main causes of death and on the density of healthcare staff in the European regions; the chapter on agriculture this year concerns animal-rearing, mainly regarding pigs, sheep and cows.

The NUTS classification

All statistics at regional level within the EU are based on the nomenclature of territorial units for statistics (NUTS). The NUTS classification has been used for regional statistics for many decades, and has always formed the basis for regional funding policy. It was only in 2003, though, that NUTS acquired a legal basis, when the NUTS regulation was adopted by the Parliament and the Council ⁽¹⁾.

Whenever new Member States join the EU, the NUTS regulation is of course amended to include the regional classification in those countries. This was the case in 2004, when the EU took in 10 new Member States, and in 2007 when it expanded to include Bulgaria and Romania.

The NUTS regulation provides for a review to be conducted every three years whereby the regional classification can be changed and adapted to new administrative boundaries or economic circumstances. In 2006, this exercise took place for the first time, and the results of these changes to the NUTS classification have now been valid since 1 January 2008. Most territorial changes are at NUTS level 3, affecting 11 countries, while four countries had changes made at NUTS level 2 and only one country at NUTS level 1.

The main changes in this latest revision of the NUTS classification are the following: Denmark introduced new NUTS 2 regions and revised the existing NUTS 3 regions following a substantial

⁽¹⁾ More information on the NUTS classification can be found on the Internet (http://ec.europa.eu/eurostat/ramon/nuts/splash_regions.html).



administrative regional reform. In one German region, Sachsen-Anhalt, three different NUTS 2 regions were merged into just one NUTS 2 region. Slovenia introduced two new NUTS 2 regions where it had only one previously. In the United Kingdom, more specifically in north-eastern Scotland, a boundary shift at both NUTS 2 and 3 levels had the effect of creating new regions. Sweden introduced NUTS 1 regions for the first time due to the size of the country. For more detailed information on the most recent NUTS changes, please consult the Eurostat website.

Since these NUTS changes were introduced only on 1 January 2008 and the statistical data for all the chapters had already been extracted by the beginning of this year, you will find that regional data, especially for Denmark and Slovenia, are missing or have been replaced with national values on many of the statistical maps. The regional data availability for these two countries will have hopefully improved for next year's publication.

As a rule regional data by NUTS 2 regions are displayed and analysed in the *Eurostat regional yearbook 2008*, but there is one exception. Regarding labour costs, Eurostat only collects data at NUTS level 1 and therefore in that chapter the data are based on NUTS 1 regions instead.

Please note that some of the Member States have a relatively small population and they are therefore not divided into more than one NUTS 2 region. Thus, for these countries the NUTS 2 value is exactly the same as the national value. Following the latest revision of the NUTS classification this now applies to six Member States (Estonia, Cyprus, Latvia, Lithuania, Luxembourg and Malta), one candidate country (the former Yugoslav Republic of Macedonia), and two EFTA countries (Iceland and Liechtenstein): in all these cases the whole country consists of one single NUTS 2 region.

A folding map accompanies this publication on the inside of the cover and it shows all the regions at NUTS level 2 in the 27 Member States of the European Union (EU-27) and the corresponding statistical regions at level 2 in the candidate and EFTA countries. In the annex you will find the

full list of codes and names of these regions. This will help you to locate a specific region geographically on the map.

Coverage

The *Eurostat regional yearbook 2008* mainly contains statistics from the 27 Member States of the European Union, but when available also from the three candidate countries: Croatia, the former Yugoslav Republic of Macedonia, and Turkey; and from the four EFTA countries: Iceland, Liechtenstein, Norway and Switzerland.

Regions in the candidate countries and the EFTA countries are called statistical regions and they follow the same rules as the NUTS regions in the European Union, except that there is no legal base. Data from the candidate and EFTA countries are not yet available in the Eurostat database for some policy areas, but the data availability situation is constantly improving, and we hope to have even better coverage in the near future.

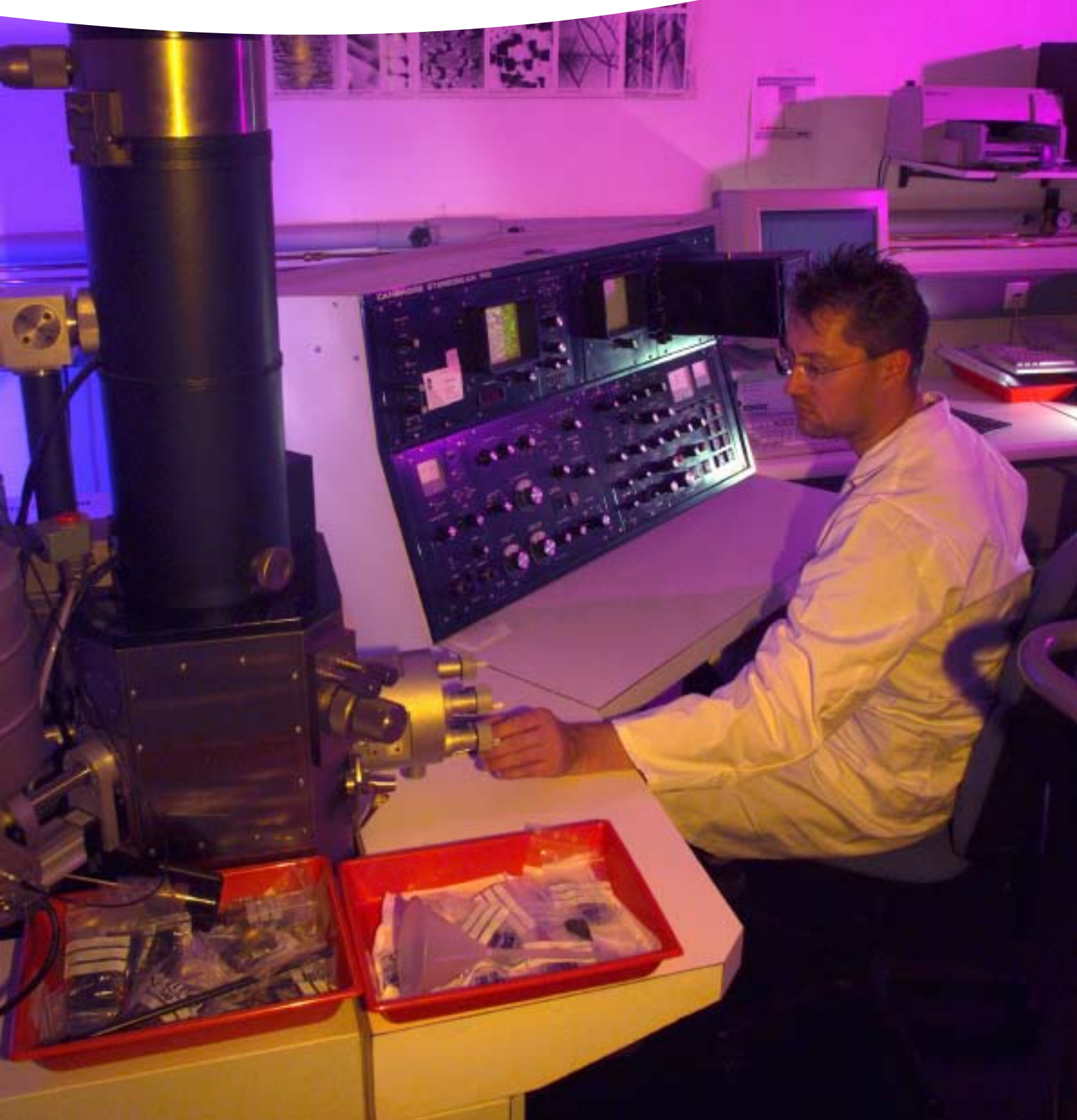
More regional information

Under the theme 'General and regional statistics' on the Eurostat website you will find tables with statistics on both 'Regions' and the 'Urban Audit' with more detailed time series (some of them going back as far as 1970) and with more detailed statistics than contained in this yearbook. You will also find a number of indicators at NUTS level 3 (such as area, demography, gross domestic product and labour market data). This is important since some of the countries covered are not divided into NUTS 2 regions, as mentioned above.

For more detailed information on the contents of the regional and urban databases please consult the Eurostat publication *European regional and urban statistics — Reference guide — 2008 edition*, which you can download free of charge from the Eurostat website. The specific data used for producing the maps and other illustrations in this publication can also be found as Excel tables on the Eurostat website.

Science, technology and innovation

11



Introduction

In March 2005, the European Council decided to relaunch the Lisbon strategy with the initiative on growth and jobs. Knowledge and innovation for growth became one of three main areas for action in the new Lisbon partnership for growth and jobs. Science, technology and innovation were put at the heart of EU policies, EU funding and business.

To follow Europe's performance on science, technology and innovation, a number of indicators can be used from the domains of research and development (R & D), innovation, human resources in science and technology, high-tech industries and knowledge-based services and patenting. In recent years, much progress has been made, with more and more up-to-date data produced in the various domains concerned. This chapter gives examples of the available regional indicators for science, technology and innovation, focusing on highly qualified personnel and patents. These indicators are of interest in that highly qualified human resources are the foundation of all research and innovation and patents are proof of converting hard-earned knowledge into innovative output.

More regional indicators for science, technology and innovation are available on the Eurostat webpage under 'science and technology' (see link in the Methodological notes).

Human resources in science and technology

There can be no research or development without human resources. For science and technology to develop further in the EU, the stock of highly qualified persons needs to grow rather than diminish. This group can be measured in different ways, one way being from the angle of education and occupation by using the set definition of 'human resources in science and technology' (HRST). HRST are persons who have completed tertiary education and/or are employed in a science and technology occupation for which tertiary education is normally required. The core group of HRST (HRSTC) are persons that fulfil both criteria, meaning that they have both completed tertiary education and are employed in a science and technology occupation.

Map 11.1 shows that persons who have completed tertiary education and are employed in a science and technology occupation (HRSTC) are concen-

trated in urban regions, and especially in capital regions. Companies might have their headquarters based in capitals, and, as government institutions, higher education institutes and other knowledge-intensive workplaces are also often located in capital regions, this results in a natural concentration of highly qualified persons. Persons that have recently graduated from higher education are aware of this and are therefore attracted to these regions, since they offer good opportunities for finding qualified jobs. In addition, this makes these and nearby regions good places for new companies to open up businesses, given the pool of highly qualified human resources on their doorstep.

But the concentration of highly qualified persons depends on more than whether it is a capital region or not. In densely populated areas, like the Benelux countries (Belgium, the Netherlands and Luxembourg), the concentration is also often high. Other regions with a high concentration of HRSTC are regions in countries with traditionally large shares of tertiary graduates, such as the Nordic countries. A look at Map 11.1 shows that all regions in Denmark, Norway, Sweden and Finland have shares of over 15 %. In this cluster, the two regions with the highest shares of HRSTC among the labour force are found in Oslo og Akershus (Norway), with 33.3 %, and Stockholm (Sweden), with 28.2 %. The third-largest share is found in the Province of Brabant Wallon (Belgium), with 27.8 %, in the Benelux area, which is another cluster presenting high regional shares of HRSTC.

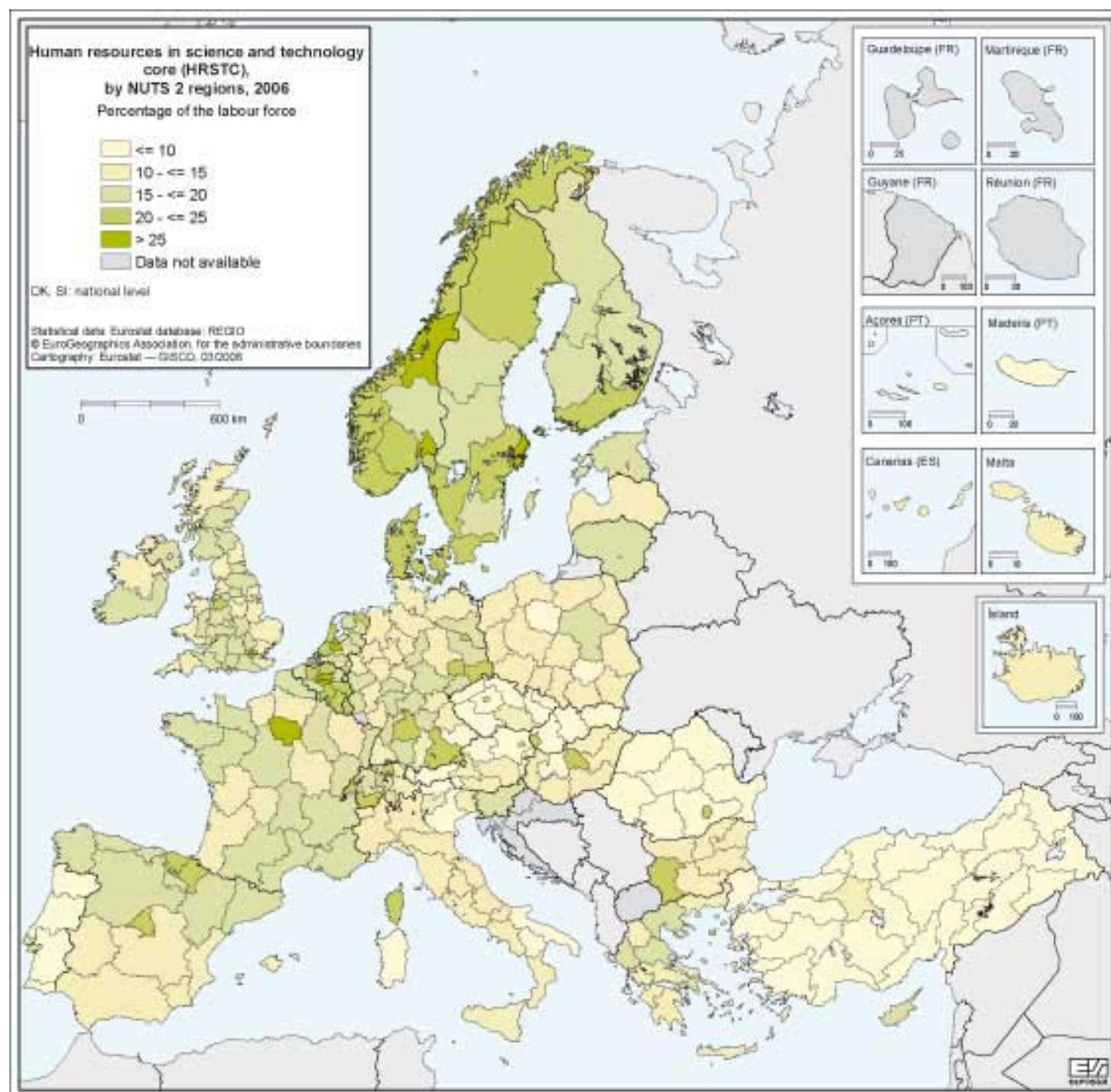
A divide between the westerly and northerly regions of Europe and the southerly and eastern regions of Europe is apparent, where the latter regions generally display low shares of HRSTC. The 18 regions with the lowest shares of HRSTC among the labour force are all Turkish regions. The lowest share is found in Van (Turkey), with 3.9 %. However, some exceptions exist, one of them being Bucureşti — Ilfov (Romania), which is ranked among the top 10 regions, with a share of 24.7 %. Other exceptions are the recently joined Member States of Cyprus, Estonia, Lithuania and Slovenia. These four countries are classified as single NUTS 2 regions, but they still post shares of above 15 %.

High-technology industries and knowledge-intensive services

Based on R & D intensity, sectors of economic activity can be subdivided into more specific



Map 11.1: Human resources in science and technology core (HRSTC), by NUTS 2 regions, 2006
Percentage of the labour force



sub-sectors for the purposes of analysing employment in science and technology. Two sub-sectors of great importance for science and technology are high-tech knowledge-intensive services and high-tech manufacturing. In this section, these two sub-sectors are referred to as 'high-tech sectors'. It should be noted that three quarters of the high-tech sectors in 2006 were persons occupied in high-tech knowledge-intensive services while a quarter were occupied in high-tech manufacturing. High-tech knowledge-intensive services include the sub-sectors of post and telecommunications, computer and related activities, and research and development. High-tech manufacturing includes, for example, manufacture of computers, televisions and medical instruments.

Some 66 % of the labour force in the EU in 2006 were employed in the total service sector, but only 3 % were employed in high-tech knowledge-intensive services. In addition, 18 % were employed in manufacturing, but only 1 % in high-tech manufacturing. Together, these high-tech sectors employed 4.4 % of the EU labour force.

At first glance, Map 11.2 shows similar patterns to Map 11.1, which indicates the share of the core group of human resources in science and technology (HRSTC) among the labour force, with high shares in capital regions and regions close to capitals. Berkshire, Buckinghamshire and Oxfordshire (United Kingdom), situated in close proximity to London, stand out with 11.5 % of its labour force in high-tech sectors. No other region has a share above 10 %, the next closest region being Stockholm (Sweden) with 9.3 %.

There are only four Member States, Denmark, Ireland, Malta and Finland, along with Iceland and Switzerland, where all regions have more than 4 % of the labour force working in high-tech sectors. Map 11.2 shows a further cluster of relatively high shares stretching from Cataluña in the north of Spain through the southern regions of France and the northern regions of Italy, up through Switzerland and the southern regions of Germany to the western regions of the Czech Republic and Hungary. The regions of the United Kingdom and the Benelux countries also show relatively high shares of employment in high-tech sectors.

Conversely, many of the regions in eastern and south-western Europe show low shares of people employed in high-tech sectors. Hatay (Turkey) displays the lowest share, with 0.4 % of employment in high-tech sectors.

Looking at high-tech knowledge-intensive services and high-tech manufacturing separately shows that there are many differences. Table 11.1 shows the 30 leading regions with the highest shares of employment in these two sectors, and there are only four regions that appear on both lists: Berkshire, Buckinghamshire and Oxfordshire (United Kingdom), Oberbayern (Germany), Etelä-Suomi (Finland) and Karlsruhe (Germany).

Berkshire, Buckinghamshire and Oxfordshire (United Kingdom) is the region with the highest share of employment in high-tech knowledge-intensive services, with 9.2 %. It is followed by six capital regions, of which Stockholm (Sweden) registered the highest share, with 8.3 %. In fact, of the 30 top regions nearly half are capital regions.

Looking at the regions with the highest shares of employment in the other sub-sector, high-tech manufacturing, only three capital regions appear on the list: Espace Mittelland (Switzerland), Etelä-Suomi (Finland) and Malta. The two regions with the highest shares of employment in high-tech manufacturing are Hungarian: Nyugat-Dunántúl and Közép-Dunántúl, with 4.8 % and 4.4 %, respectively. Central European regions are well represented, 22 of the 30 leading regions being Austrian, Czech, German, Hungarian, Slovak or Swiss.

Patents

Patents reflect a country's inventive activity and its capacity to translate knowledge into economic gain. For a certain time and within a certain geographical area, patents give protection to innovations.

They provide a useful indicator of innovative developments in all areas of technology, and they can denote the level of innovative activity in a particular market, region or country.

Patent data shown in the Eurostat reference database at regional level only provide information up to 2002. A full update with data up to 2005 will be available in the second half of 2008.

Patent data are related to international patent classification (IPC). The IPC codes given to each patent make it possible to aggregate them in different technological areas, such as biotechnology, high technology and ICT (information and communication technology). A concordance table links the IPC codes to NACE codes, thus showing patents by industrial sector.



Map 11.2: Employment in high-tech sectors, by NUTS 2 regions, 2006
 Percentage of total employment

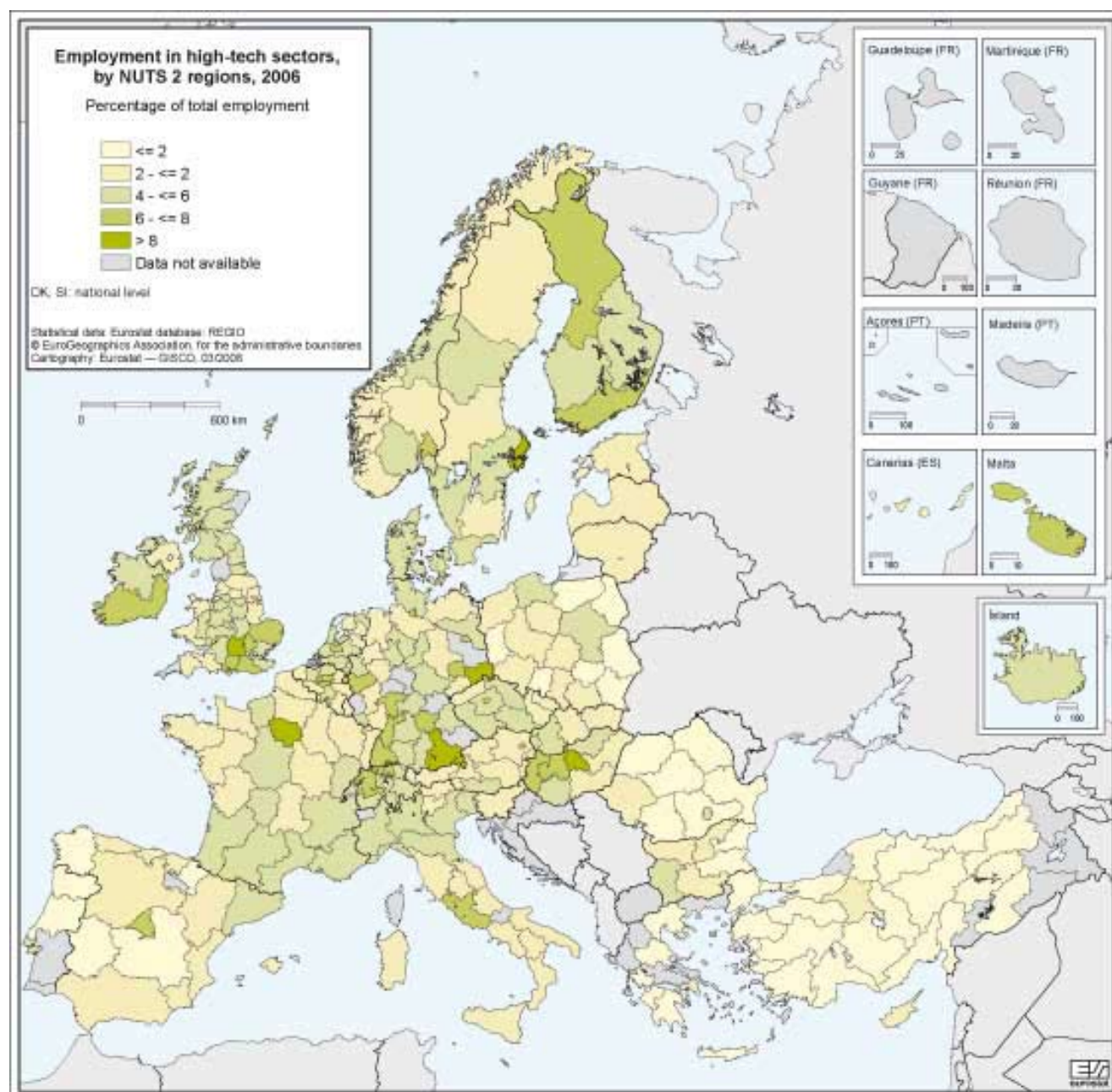


Table 11.1: 30 leading regions in employment in high-tech knowledge-intensive services and high-tech manufacturing, by NUTS 2 regions, 2006

High-tech knowledge-intensive services			High-tech manufacturing		
	% of total employment	Total number (1 000s)	Total number (1 000s)	% of total employment	
Berkshire, Bucks and Oxfordshire (UK)	9.2	106	21	4.8	Nyugat-Dunántúl (HU)
Stockholm (SE)	8.3	82	21	4.4	Közép-Dunántúl (HU)
Île de France (FR)	7.2	356	34	4.3	Mittelfranken (DE)
Oslo og Akershus (NO)	7.0	39	30	4.2	Dresden (DE)
Comunidad de Madrid (ES)	6.6	195	20	3.8	Oberpfalz (DE)
Közép-Magyarország (HU)	6.5	80	9	3.5	Pohjois-Suomi (FI)
Prov. Vlaams Brabant (BE)	6.5	30	31	3.3	Hampshire and Isle of Wight (UK)
Oberbayern (DE)	6.2	132	30	3.3	Espace Mittelland (CH)
Bedfordshire, Hertfordshire (UK)	6.2	50	5	3.1	Malta (MT)
East Anglia (UK)	5.9	64	33	3.1	Freiburg (DE)
Surrey, East and West Sussex (UK)	5.9	75	16	3.1	Border, Midlands and Western (UK)
Praha (CZ)	5.8	36	38	2.9	Karlsruhe (DE)
Utrecht (NL)	5.7	36	29	2.7	Thüringen (DE)
Prov. Brabant Wallon (BE)	5.6	8	9	2.6	Dél-Dunántúl (HU)
Lazio (IT)	5.6	119	22	2.6	Západné Slovensko (SK)
Berlin (DE)	5.6	82	38	2.5	Southern and Eastern (UK)
Etelä-Suomi (FI)	5.6	72	14	2.5	Jihozápad (CZ)
Outer London (UK)	5.5	120	10	2.5	Észak-Magyarország (HU)
Leipzig (DE)	5.2	24	17	2.4	Severovýchod (CZ)
Hamburg (DE)	5.1	42	6	2.4	Kärnten (AT)
Bratislavský kraj (SK)	5.1	16	30	2.3	Etelä-Suomi (FI)
Wien (AT)	5.0	38	49	2.3	Oberbayern (DE)
Köln (DE)	5.0	89	22	2.3	Schwaben (DE)
Inner London (UK)	4.9	64	26	2.3	Berkshire, Bucks and Oxfordshire (UK)
Flevoland (NL)	4.9	9	16	2.2	Zürich (CH)
Västsvrige (SE)	4.8	44	9	2.2	Zentralschweiz (CH)
Bucuresti - Ilfov (RO)	4.7	48	28	2.2	Schleswig-Holstein (DE)
Saarland (DE)	4.7	21	12	2.1	Ostschweiz (CH)
Karlsruhe (DE)	4.7	62	12	2.0	Střední Morava (CZ)
Sydsverige (SE)	4.7	29	16	2.0	Alsace (FR)

A closer look at high-tech patent applications per million inhabitants at national level shows that Finland ranked first, far ahead of Sweden and the Netherlands.

High regional concentration of high-tech patenting

At regional level, high-tech patenting appears to be highly concentrated in the EU-25 regions. Some 27 % of high-tech patent applications are covered by four regions: Oberbayern (Germany), Île-de-France (France), Noord-Brabant (Netherlands) and Etelä-Suomi (Finland). The concentration of high-tech patenting is linked to a number of specific regions spread over EU-25 countries. Only in Finland and in Germany are there several regions concerned that are geographically close. In the Netherlands, the difference between the most active high-tech patenting region and the least active is very high.

Some 50 % of high-tech patent applications are presented by inventors living in 14 regions. These regions are part of eight different Member States: five are German, two French, two British, one Dutch, one Finnish, one Italian, one Swedish and one Danish. This means that half of all high-tech patent applications are from inventors from 6 % of all regions involved in high-tech patenting. Inventors from 35 regions filed 75 % of all EU-25 high-tech patents. Thus, a large majority of 184 regions were only responsible for the remaining 25 % of high-tech patent applications.

Map 11.3 shows the geographical situation of EU-25 regions with comparable high-tech patenting activity per million inhabitants in 2002. The most dynamic regions in high-tech patenting are quite

scattered. Looking at the map, the Finnish regions are the most active in high-tech patenting per million inhabitants. In Germany, the most dynamic high-tech patenting regions are in the southern part of the country, whereas in France these dynamic regions are not close together at all, i.e. Île-de-France, Rhône-Alpes and Bretagne.

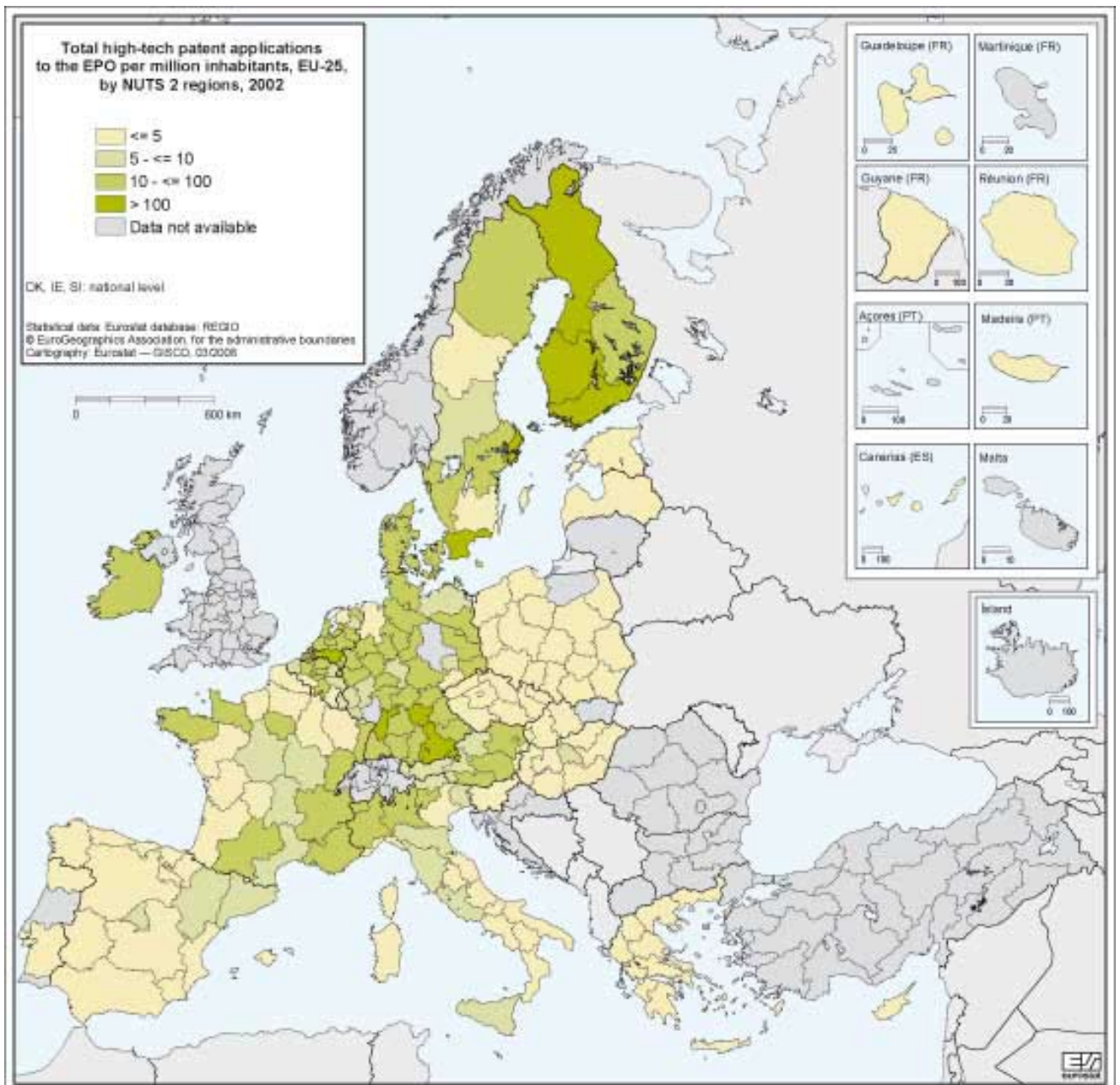
The data show that Noord-Brabant (Netherlands) was well in the lead, ranking first with 343 high-tech patent applications per million inhabitants. The figures per million inhabitants among the following regions then fell steadily from 209 in Oberbayern (Germany) to 62 in Wien (Austria), which brought up the rear of the list of the 15 leading regions. The Scandinavian regions are well represented: Finland had three regions among the first seven and Sweden two of the first eight.

Conclusion

Relevant and meaningful indicators for science, technology and innovation are paramount for keeping policy makers abreast of where European regions stand in their quest for more knowledge and growth and how their position is evolving. The statistics and indicators presented in this chapter highlight European regions' recent performance in human resources in science and technology, high-tech industries and knowledge-based services and patenting. The range of data and indicators produced is constantly evolving to give broad coverage of the regional dimension in all the areas mentioned.

Further work is being carried out to produce more regional data in various fields of activity, for example in the domain of high-tech industries and knowledge-based services.

Map 11.3: Total high-tech patent applications to the EPO per million inhabitants, EU-25, by NUTS 2 regions, 2002



Methodological notes

The data in the maps or tables in this chapter are extracted from the following domains: science and technology; human resources in science and technology; high-technology industries and knowledge-intensive services; and patent statistics.

The statistics on human resources in science and technology (HRST) are compiled annually, based on microdata extracted from the EU labour force survey. The basic methodology for these statistics is laid down in the *Canberra Manual*, which lists all the HRST concepts.

The data on high-technology industries and knowledge-intensive services are compiled annually, based on data collected from a number of official sources (EU labour force survey, structural business statistics, etc.). The high-technology or knowledge-intensive aggregates are generally defined in terms of R & D intensity, calculated as the ratio of R & D expenditure on the relevant economic activity to its value added.

Finally, the data on patent applications to the European Patent Office (EPO) are compiled on the basis of microdata received from the EPO. The patent data reported include the patent applications filed at the EPO during the reference year, classified by the inventor's region of residence and in accordance with the international patents classification of applications. Patent data are regionalised using procedures linking postcodes and/or place names to NUTS 2 regions.

Since 2004, the OECD interinstitutional patent statistics task force has been developing a worldwide raw database on patent statistics (Patstat). Patstat is a single raw database on patent statistics, held by the EPO and developed in cooperation with the World Intellectual Property Organisation (WIPO), the OECD and Eurostat. Patstat should meet the needs of all users from the various international organisations who draw on this raw database to produce their own statistics.

For further information on methodology, see the relevant Eurostat webpage (http://epp.eurostat.ec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=EU_science_technology_innovation&depth=2).