

# Redis News

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## FOREWORD

### **Knowledge: An Industry with New Challenges for R&D Statisticians**

To statisticians, the raw material is knowledge, much so for those engaged in the field of R&D statistics. They are mainly concerned with the emergence of what could be seen as a fairly new industry - at least for statisticians - the knowledge industry. Knowledge appears more and more as a factor of productivity which has to be carefully studied and measured.

The way knowledge is created and used to devise applications, the way it is protected, shared or sold, transmitted inside or outside an enterprise, a sector or a region, are issues which are now of increasing importance.

Efforts have been made to broaden the methodological framework and the existing information systems to encompass these new issues. International manuals on innovation, patents, work on globalisation, harmonised surveys on innovation, appropriation, increasing concern about intangible investment are all signs of this new field.

Eurostat with all its partners, is an active player in this new game. It has adopted its infrastructure,

prepared the legal framework to face the new challenges and it is now starting to benefit from its investments: new harmonised data are now available, new publications are in preparation. The adaptation of the current statistical system to meet this new perspective of reality is however far from being completed. Much still remains to be done: more in-depth analysis of the output of R&D, of the way it is stored across institutional sectors, national or regional borders, of the profile of its actors to mention but a few.

These new issues will contribute to ensuring that statistics keeps being a fascinating field.

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OFICINA ESTADÍSTICA DE LAS COMUNIDADES EUROPEAS  
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## Editorial

### The New-look *REDIS News*

Starting with this edition, *REDIS News* takes on a new look. This brings it into conformity with the other Eurostat newsletters. It also gives us more space to report on the activities of the REDIS project.

For the sake of continuity, and to make it easy for those interested in the various sub-projects to be able to monitor their progress, we have left the reporting format unchanged. In general, we review the activities of the last six months and give information on the plans for the near future. While this is done as briefly as possible, names and contact numbers of persons involved are given for those needing more detailed information.

The FOCUS in this edition is on Human Resources in Science and Technology (HRST). The only section which has been left out is that on meetings. The major meetings of the last six months were those of the EEA Working Party on R&D and Innovation Statistics in March 1994 in Luxembourg and the April 1994 meeting of NESTI in Canberra, Australia. The main meeting in the next half of the year is the EEA Working Party which comes up on 22-23 September 1994.

We hope that REDIS News continues to be of use to you. If you will like to continue receiving it, please take note of the section on readership list on page 10.

Finally, we will welcome any comments and suggestions.

### Abbreviations and Acronyms used

<b>CIS</b>	Community Innovation Survey
<b>COFOG</b>	Classification of Functions of Government
<b>DG</b>	General Directorate (of the European Commission)
<b>DOSES</b>	Development of Statistical Expert Systems
<b>DOSIS</b>	Development of Statistical Information Systems
<b>ECE</b>	United Nations Economic Commission for Europe
<b>EEA</b>	European Economic Area
<b>EU</b>	European Union
<b>FTE</b>	Full Time Equivalent
<b>HC</b>	Head count
<b>HRST</b>	Human Resources in Science & Technology
<b>IPC</b>	International Patent Classification
<b>NACE</b>	General Industrial Classification of Economic Activities within the EC
<b>NESTI</b>	National Experts on Science and Technology Indicators
<b>NUTS</b>	Nomenclature of Territorial Units for Statistics
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>REDIS</b>	R&D and Innovation Statistics
<b>TACIS</b>	Technical Assistance for the Commonwealth of Independent States
<b>UNSTAT</b>	United Nations Statistical Office

*REDIS News* is one of a series of three newsletters prepared by Unit D3 of Eurostat. The others are *Research in Official Statistics* (on DOSES and DOSIS) and *The Panelists* (on Enterprise Panels Statistics).

Please note that the opinions expressed are those of the authors alone. Neither the European Commission nor any person acting on its behalf is responsible for the use which might be made of the information contained in this newsletter.

# R&D STATISTICS IN EUROSTAT

## **Achievements and Results in the First Half of 1994**

### **Community Innovation Survey (CIS)**

#### ***The results are coming***

The aim of CIS is to collect information on the innovation process of the industrial enterprises in the European Union.

Eurostat has now received the individual innovation data from Belgium, Germany, Greece, Luxembourg, The Netherlands, Portugal, Spain and UK. The remaining Member States will transmit the data during the summer period.

The current work involves data quality control to construct a sound and coherent confidential micro-level database. Based on this database estimation for missing data will be performed before data will be aggregated and made available to the general public.

In addition, analysis of non-response has been started in some EU Member States to check if there is a significant difference in the structure of responding and non-responding enterprises to certain questions of the CIS questionnaire.

Despite the difficulties in the quality control check and missing weighting factors, some very preliminary descriptive analyses have been performed:

- ① The percentage of innovators in the Member States is higher than the percentage of R&D performers;
- ② The two most important barriers to innovation seem to be "*pay off period too long*" and "*innovation cost too high*";
- ③ The two most important sources of information seem to be clients and customers and internal sources of the enterprises.

The European Commission plans to publish the first descriptive analysis by the end of this year and to organize an innovation conference to present methodology issues and findings.

For further information please contact

Per Nymand-Andersen or Marco Doudeyns (+352-4301.34017).

### **Human Resources in Science and Technology (HRST)**

#### ***Revised manual and new data***

The second draft of the "Manual on the Measurement of Human Resources on Science and Technology (HRST-Manual)" jointly developed by the OECD secretariat and Eurostat is now available. It was presented for discussion to the Group of National Experts on Science and Technology Indicators (NESTI - Group) in Canberra, Australia, 18-20 April 1994. After some minor redrafting, the final version of the HRST-Manual is expected to be ready in October 1994.

Eurostat has collected time series from 1985 to 1991 on total R&D personnel and Scientists and Engineers in the different sectors of the economy. All data will be available in a breakdown by EU region.

For more information please contact  
Daniela Schackis (Tel.: +352-40 30 22).

### **Regional R&D and Innovation indicators**

#### ***Second draft of the manual and new data***

The second draft of the manual on the regional dimension of R&D and Innovation statistics was prepared and discussed during the last EEA Working Party in March. It includes basic definitions and describes basic methodological problems and relevant indicators. In the long term, this document should become the reference manual for regional R&D and Innovation indicators.

Eurostat has for the first time collected data on R&D expenditures in the different sectors of the economy broken down by region. Data are available for nine countries (and their regions). The principal reference period is 1985 to 1991.

Eurostat also has common projects with the European Patent Office. The first is for a breakdown of European patents by regions, while the second is to develop a link between the two classifications involved: IPC and NACE.

For more information please contact  
Aline Bouzergan (Tel.: +352-40 30 22) or  
Werner Grünwald (Tel.: +352-4301.33280).

## Government R&D appropriations

### ***New methodological problems***

For a very long time, Government R&D appropriation data used to be the main product of Eurostat in the field of R&D statistics. Today, it remains one of the most important. Collected now for more than two decades it was generally assumed that the data from the Member States were fairly comparable. Recent investigations during the last two Working Party meetings have revealed that some methodological differences still exist which might influence the comparability of the data. One major problem relate to the different methods used to collect the data at national level. Another is the different factors used in splitting the data between R&D and non-R&D for example in universities. Additional actions seem necessary to cope with these new difficulties.

For more information please contact  
Werner Grünewald (Tel.: +352-4301.33280).

## Other Reports

### ***COFOG:***

#### **There is stagnation**

The UNSTAT proposition to update functional classifications by taking into account new social concerns such as natural environment, social relationships, and considering R&D activities as distinct from others, was rejected during the OECD-ECE meeting on national accounts held in Geneva the 27-29th April. This means that no concrete progress has been made on this project. Member States and other units of Eurostat should be more actively involved in future if a revision is desired.

For more information please contact  
Aline Bouzergan (Tel.: +352-40 30 22).

### ***Internal EC indicators:***

#### **The initial stage is passed**

In order to develop a statistical information system on all RTD&I activities funded by the European Commission, a contact group has been set up with members representing all DGs concerned by this project. An inventory of currently available information recorded in different data bases of the community was done and a list of desirable indicators based on a methodological framework will be developed.

For more information please contact  
Aline Bouzergan (Tel.: +352-40 30 22).

### ***Cooperation with Russia:***

#### **An extension**

The objective of the co-operation with the Centre for Science Research and Statistics (CSRS) of the Russian Federation under the TACIS programme of the European Commission is to support the

establishment of a system of R&D and innovation statistics in the Russian Federation meeting requirements of the market economy and compatible with the international standards. An overall plan of operations for 1995-1997 is under preparation.

For more information please contact  
Aline Bouzergan (Tel.: +352-40 30 22).

## ***REDIS Database and Publications***

### ***We are growing.....***

The growing interest in statistical information especially on R&D and Innovation from Eurostat is clearly reflected in the growing size of our database(s) and in new publications to which our data is an important input.

Our R&D database has been extended by data on regional R&D expenditures. Currently R&D expenditure data for the regions of nine countries (all EU Member States but Luxembourg, the Netherlands and United Kingdom) are available for at least one year between 1985 and 1991 broken down by sector (Business Enterprise, Higher Education, Government sector). It is worth noting that not all countries could provide us with data for all three sectors.

For more information please contact  
Piera Calcinaghi (Tel.: +352-4301.33713).

At the moment we are building up a new database with the results of the CIS, the Community Innovation Survey. This database will consist of micro-data, i.e. we will store the data for individual enterprises. Of course this data base will be confidential which means that the access to the data base is restricted to very few members of Eurostat. In some months time a derived database with results at industry level will be publicly available.

For more information please contact  
Per Nymand-Andersen or Marco Doudeyns (+352-4301.34017).

We have new data which are now used more and more in new publications. Currently, DG XII is preparing a detailed science and technology indicators' report at the request of its Commissioner. A team of external contractors and Eurostat is participating in the preparation of the report. Eurostat is providing the report with technical and methodological support and extractions from its own data bases and some other information from mainly OECD sources. The report will appear in October and it will contain about 300 pages of text and a statistical annex of

100-150 pages for which Eurostat will have responsibility.

The European Parliament has requested Eurostat to make a publication on R&D to be presented to the new Parliament. It will be a small publication giving some highlights of the main trends in R&D including many graphs together with some analytical text.

For more information please contact  
Mikael Åkerblom (Tel.: +352-4301.34902).

## **Plans for the 2nd Half of 1994**

### **Consolidation at high level**

The diverse field of R&D and innovation statistics as well as the different needs make it necessary to set priorities in Eurostat's work on R&D and innovation statistics. In the second half of 1994 high priorities will be given to the following activities without necessarily neglecting the other activities:

- construction of the CIS data base which means amongst other things, to solve specific methodological problems like estimations of missing values or extrapolations;
- preparation for collection of mainly stock data on Human Resources in Science and Technology which already exist in the EEA Member States;
- finalization of the next draft of the manual on the regional dimension of R&D and innovation statistics including the annexes;
- inventory of the similarities and the dissimilarities of the different methods and concepts used in the Member States to collect data on Government R&D appropriations;
- selection of appropriate indicators to describe R&D and innovation programmes funded by the European Commission;
- analyses of the (future) needs in the Member States (and the European Commission) in the field of R&D and innovation statistics according to Article 6 of the Council Decision on a multiannual programme on R&D and innovation statistics.

For more information please contact  
Werner Grünewald (Tel.: +352-4301.33280).

## **Organization**

### **Welcome to the new arrivals**

The past few months saw important changes being made to the REDIS team. Mr. Mikael Åkerblom, a

Finnish official with a high international reputation in the field of R&D and innovation, has been attached to Eurostat. In addition, to strengthen the team for the purpose of meeting the needs for statistical information for the publication of DG XII, two new colleagues, Ms. Ruth Magono and Ms. Carine Muzzarelli, were hired temporarily through the financial support from DG XII. We also received a subsidy from DG XIII for the analysis of the CIS database which made it possible to hire Mr. Marco Doudeyns. And finally, Mr. Edward Ojo who has worked on R&D statistics in Eurostat for a number of years has now taken up a more horizontal task in the unit.

All these changes made it necessary to give an up-to-date picture of the current structure of the REDIS staff of Eurostat.

Under the guidance of Mr. Photis Nanopoulos, the director (Directorate for Business and Energy Statistics, Research and Development, and Statistical Methods), and Mr. Daniel Defays the head of unit (for Research and Development and Statistical Methods), the REDIS Project is managed by Mr. Werner Grünewald who is responsible for most of the ongoing projects. Mr. Mikael Åkerblom works at the same level and is currently responsible for Eurostat's support to DG XII's publication, the publication for the European Parliament, and will have a closer look at R&D and innovation surveys. He is supported by Ms. Ruth Magono in statistical/methodological aspects and by Ms. Carine Muzzarelli as far as data processing and secretarial work is concerned.

Ms. Piera Calcinaghi, as in the past, has the responsibility for all data bases and the preparation of the annual publication on R&D statistics. The other members of the staff are assigned to specific projects: Ms. Aline Bouzergan deals with daily problems of the projects on "Internal Indicators", the cooperation with Russia, the analysis of the user needs in the Member States and gives some support to regional aspects of R&D and innovation statistics, Mr. Marco Doudeyns and Mr. Per Nymand-Andersen are both fully involved in the CIS, and Ms. Daniela Schackis deals with the project on HRST including R&D personnel. Mr. Edward Ojo still supports REDIS in horizontal affairs such as the preparation and editing of the REDIS News. And last, but not least, all secretarial work continue to be managed by Ms. Anne-Françoise Van Schingen.

## Focus.....

### .....On HRST: R&D Personnel in the EU 1989 Large Discrepancies Between And Inside Member States

This Focus of the REDIS News presents an analysis of the data from 1989 on R&D personnel, which was collected and disseminated by Eurostat for the first time in 1993. In contrast to the brief comparison of the data on R&D personnel at national level published in the last REDIS News (Vol. 2, No. 2, January 1994) this time the report concentrates more on the analysis of the data for the regions of the EU Member States. The whole dataset for the year 1989 together with the methodological notes can be obtained from the Eurostat publication "Research and Development - Annual Statistics 1993". Time series for the period 1985 to 1991 of the data on R&D personnel as well as on Scientists and Engineers in the Business Enterprise sector in the EU Member States broken down by region will be contained in this year's publication "Research and Development - Annual Statistics 1994", which will be available from October 1994.

#### Introduction

The number of R&D personnel is an important indicator of how much emphasis the private and public organisations of a country or region lay on research and development. R&D personnel is a measure of the input into R&D in contrast to indicators like patents or bibliometrics which denote

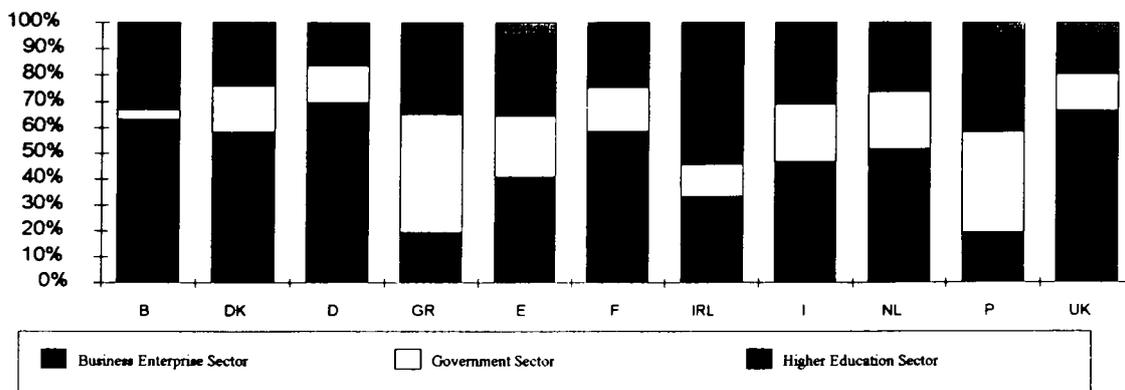
the output of the R&D activities. Input and output indicators together describe the R&D performance of a country, a region or an institution, thus serving as an important source of information for example, to policy makers.

R&D personnel comprises all persons employed directly on R&D plus those supplying direct services such as managers, administrative staff and office staff.

Data on R&D personnel is available to different extent in the EU Member States: for Luxembourg no data exists; for The Netherlands and United Kingdom data is only available at the national level. For the remaining nine EU Member States figures are shown at NUTS level 1 for Belgium and Germany (territory before 3rd October 1990), at NUTS level 1 and 2 for Greece, Spain, France, Italy and Portugal and at NUTS level 3 for Denmark and Ireland.

The comparison of the data on R&D personnel in the EU Member States on a national level shows that there is a dividing line between the northern and the southern parts of the EU (see also REDIS News Vol. 2, No. 2, January 1994) firstly, concerning the distribution of the R&D personnel across the sectors and secondly, regarding the R&D personnel as percentage of the labour force in the according country.

Graph 1: Percentage of Total R&D Personnel (FTE) per Sector in the EC 1989



## R&D Personnel by Sector

As illustrated in Graph 1, in the north of the EU (Belgium, Denmark, Germany, France, The Netherlands, United Kingdom) and in Spain the majority of R&D personnel works in the Business Enterprise sector. On the contrary, in Greece a great percentage of R&D personnel is employed by the Government and in Portugal the Higher Education together with the Government sector is the major employer. According to the 1989 data, Ireland forms an exception since there, the Higher Education sector is the most important employer for R&D personnel. The percentages are calculated in full-time equivalents (FTE) meaning in person-years.

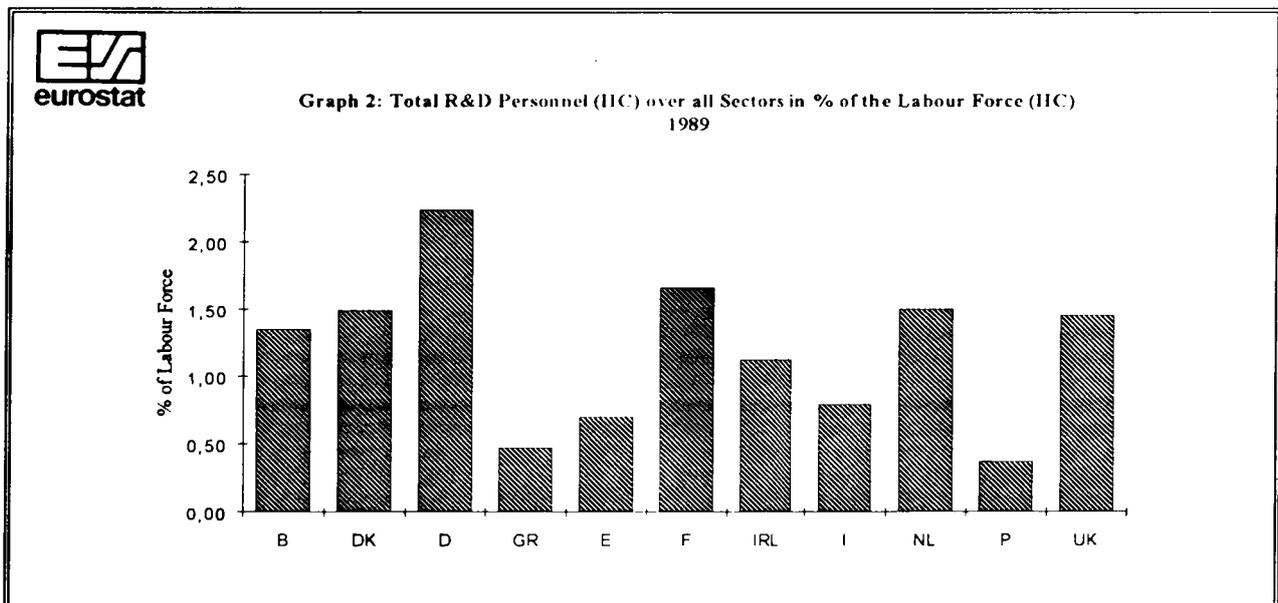
Italy is positioned between these two groups which disguises profound differences within the regions of Italy. The two regions North-West and Lombardia (the areas around Turin and Milan) together employ 65% of the total Business Sector R&D personnel in Italy. In contrast, the regions situated south of Rome (Campania, South, Sizilia, Sardegna) take up only 6%. The region Lazio around Rome employs about 9% of the R&D personnel of the Business Enterprise sector and about 45% of the R&D personnel of the Government sector, which makes the region Lazio the main employer of R&D personnel in the center of Italy. To summarise, one can say that the south of Italy resembles the other southern EU Member

States, whereas the north is more similar to the northern part of the EU.

In all EU Member States the main concentration of R&D personnel in the Government sector is to be found in the capital area. The only example of a more equal distribution throughout the country is Germany. Otherwise each capital region has between 45% (the Rome region) and 86% (the Lisbon area) of the total R&D personnel per country in the Government sector. At the regional level there is, thus, a large variation in the magnitude of the R&D personnel in the Government sector. This is probably due to the existence/non-existence and composition of administrative centres in each region.

## R&D Personnel as Percentage of the Labour Force

A direct comparison of regions with respect to the absolute number of R&D personnel does not make a lot of sense, since the number of R&D personnel differs among others, according to the size of the region. The following comparisons are therefore based on the indicator "R&D personnel as percentage of the labour force", which requires data on R&D personnel in head-counts. Dividing the R&D personnel figure of a region by the labour force (i.e. employed plus unemployed persons) neutralises the effect of the size of the region.



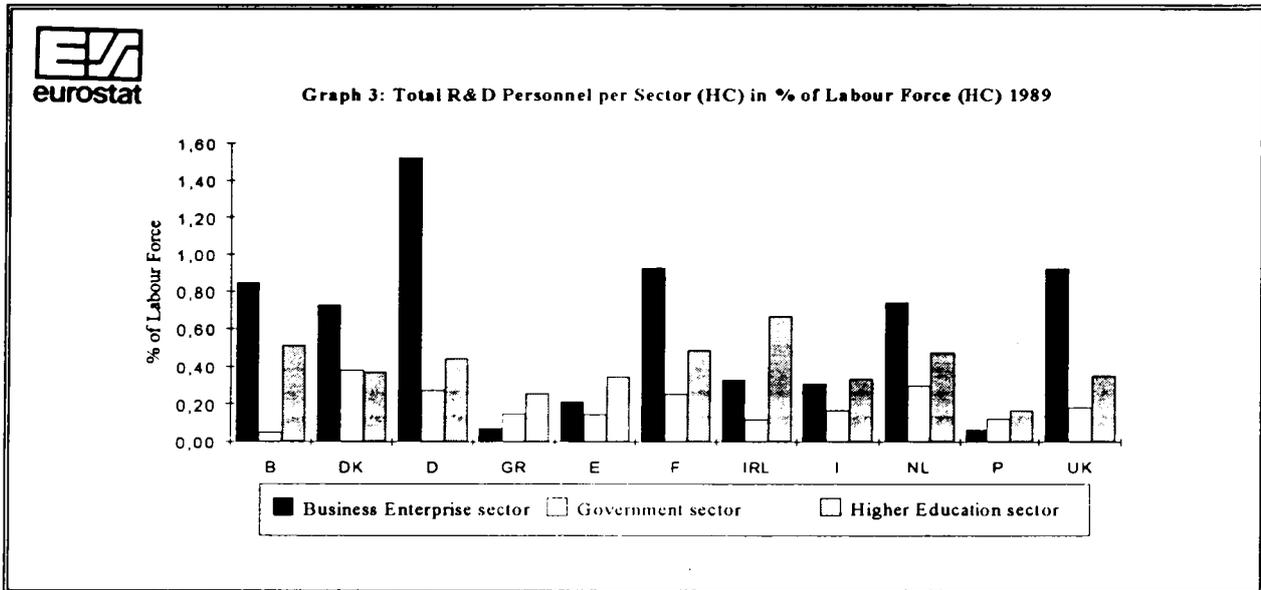
Graph 2 shows once again, a dividing line between the north and the south of the EU, this time in terms of R&D personnel as a percentage of the labour force in all sectors of the economy. The southern EU Member States and to a certain extent Ireland have a lower percentage of total R&D personnel in the labour force than the other Member States. The countries can be grouped into two bands: the lower band ranges from 0,37% (Portugal) to 0,79% (Italy), while the upper band reaches from 1,35% (Belgium) to 1,66% (France). One exceptions is Ireland which

lies (with 1,12%) between the two bands. Another exception is Germany, which shows (with 2,24%) the highest percentage of total R&D personnel in the labour force.

What share of the labour force is accounted for by R&D personnel in the different sectors of the economy can be seen in Graph 3 on the following page. In the Business Enterprise sector, most R&D personnel among the labour force can be found in Germany (1,52%) and France (0,93%), the least in

Portugal (0,06%) and Greece (0,07%). This is the same ranking of the countries as for the *R&D personnel as percentage of the labour force* across all sectors of the economy. The only difference in the order of the EU Member States for the Business Enterprise sector compared to the whole economy is that the United Kingdom (0,92%) and Belgium (0,85%) swap ranks with The Netherlands (0,74%) and Denmark (0,73%), which means:

- ① that the United Kingdom and Belgium have relatively more R&D personnel in the labour force of the Business Enterprise sector than The Netherlands and Denmark; and
- ② that in the UK and Belgium the percentage of R&D personnel in the Business Enterprise sector is higher than on average in the economy.



For the Government and the Higher Education sector the ranking of the countries according to their percentage of R&D personnel in the labour force is much more different to the ranking for all sectors than it is the Business Enterprise sector compared to the whole economy. In the Government sector Denmark (0,38%) and The Netherlands (0,3%) lead Germany (0,27%) and France (0,25%), whereas by far the least R&D personnel in the Government sector can be found in Belgium (0,05%). In the Higher Education sector the highest percentage of R&D personnel amongst the labour force is found in Ireland (0,67%) followed by Belgium (0,51%) and France (0,48), whereas the least percentages again belong to Portugal (0,17%) and Greece (0,25%).

It should be pointed out that

- ① in all EU Member States, except for Denmark the percentage of R&D personnel amongst the labour force is higher in the Higher Education sector than in the Government sector; and
- ② that only in the Government sector does Portugal not have the lowest percentage of R&D personnel in the labour force.

In what follows we will have a closer look at the regions of the EU and their percentage of R&D personnel in the labour force. As already stated at the beginning of this report the data supplied differs in the degree of regional breakdown.

**Table 1: 20 Leading EC-Regions in terms of Total R&D Personnel as Percentage of the Labour Force of all Sectors**

Rank	Region	%LF	Rank	Region	%LF
1	ILE DE FRANCE (F)	3,71	11	RHEINLAND-PFALZ (D)	1,86
2	BADEN-WÜRTTEMBERG (D)	3,16	12	NORDRHEIN-WESTFALEN (D)	1,80
3	BERLIN (D)	3,02	13	Rhône-Alpes (F)	1,78
4	HESSEN (D)	2,61	14	CENTRE-EST (F)	1,72
5	BAYERN (D)	2,57	15	FRANCE	1,66
6	HAMBURG (D)	2,51	16	Provence-Alpes-Côte D'Azur (F)	1,64
7	BREMEN (D)	2,45	17	NIEDERSACHSEN (D)	1,57
8	BR DEUTSCHLAND	2,24	18	MEDITERRANEE (F)	1,54
9	MADRID (E)	1,96	19	NEDERLAND	1,50
10	Midi-Pyrénées (F)	1,92	20	DANMARK	1,49

Table 1 shows the 20 regions/countries of the EU which have the highest percentage of total R&D personnel across all sectors of the economy taking into account the available regional detail:

Table 1 shows that the regions with the highest share of R&D personnel in the labour force over all sectors of the economy are Ile de France (3,71%), the region around Paris, and Baden-Württemberg (3,16%), the region around Stuttgart in the south-west of Germany. What cannot be seen from Table 1 but from the complete data set is that the regions with the lowest share of R&D personnel are mainly to be found in Greece, Spain and Portugal.

Of the 20 regions of the EU which lead in terms of R&D personnel in the labour force 50% are German and 35% are French. The remaining three regions amongst the "Top 20" are Madrid, which ranks with 1,96% of R&D personnel in the labour force in position 9, The Netherlands and Denmark, which are occupying ranks 19 and 20 with 1,5% and 1,49% respectively. Amongst the "Top 10" regions there are seven German, two French and one Spanish.

Taking into account the territory of Germany before reunification, this result means that only two German regions are not among the "Top 10" as regards R&D personnel as a percentage of the labour force over all sectors. These two regions are Schleswig-Holstein (rank 27) in the north of Germany (the border region with Denmark) and the Saarland (rank 33) in the west (having borders with Luxembourg and France). However, even the Saarland has a higher rank than Italy, Spain, Greece and Portugal on average.

One difference between France and Germany in terms of R&D personnel in the labour force is that in France there is a clear concentration of R&D personnel in the region Ile de France around Paris, whereas in Germany there is a more equal distribution of R&D personnel across the regions. This is illustrated in Table 1 and even more in Table 2 where the ten leading regions of the EU in terms of R&D personnel as a percentage of the labour force are listed in a breakdown by the different sectors of the economy.



Table 2: 10 Leading EC-Regions in terms of Total R&D Personnel as Percentage of the Labour Force per Sector

Rank	Business Enterprise	%LF	Government Sector	%LF	Higher Education	%LF
1	BADEN-WÜRTTEMBERG (D)	2,32	LAZIO (I)	0,83	BERLIN (D)	0,93
2	ILE DE FRANCE (F)	2,28	BERLIN (D)	0,81	ILE DE FRANCE (F)	0,87
3	BAYERN (D)	2,00	MADRID (E)	0,72	HAMBURG (D)	0,79
4	HESSEN (D)	1,94	ILE DE FRANCE (F)	0,56	Languedoc-Roussillon (F)	0,67
5	BREMEN (D)	1,76	HAMBURG (D)	0,50	IRELAND	0,67
6	BR DEUTSCHLAND	1,52	Languedoc-Roussillon (F)	0,40	Alsace (F)	0,64
7	BRUXELLES-BRUSSEL (B)	1,45	Corse (F)	0,39	SAARLAND (D)	0,64
8	RHEINLAND-PFALZ (D)	1,45	DANMARK	0,38	Midi-Pyrénées (F)	0,59
9	BERLIN (D)	1,26	BADEN-WÜRTTEMBERG (D)	0,37	Rhône-Alpes (F)	0,57
10	HAMBURG (D)	1,17	MEDITERRANEE (F)	0,36	MADRID (E)	0,57

The region Ile de France is for every sector among the "Top 5" regions of the EU and only for the Higher Education sector can another French region other than Ile de France be found in the group of the "Top 5". This region is Languedoc-Roussillon which is situated at the Mediterranean Sea. On the contrary, in Germany for each sector there are at least two regions belonging to the five with the highest share of R&D personnel in the labour force. For the Business Enterprise sector it is Baden-Württemberg, Bayern, Hessen and Bremen, for the Government as well as for the Higher Education sector it is Berlin and

Some other interesting findings from Table 2 is:

- ① that Lazio, the region around Rome, is the one with most R&D personnel in its labour force of the Government sector in the EU; and
- ② that Ireland is the region in the EU with the fifth highest share of R&D personnel in the labour force of the Higher Education sector.

For more information on R&D Personnel and Human Resources in Science and Technology (HRST), please contact Daniela Schackis, Tel.: +(352) 40 30 22, Fax.: +(352) 40 01 44.

# REDIS News

## Readership List

To reduce waste and target the right information at the right persons and institutions, Eurostat is now carefully rationalising the circulation of its documents and newsletters. That includes the REDIS News. Mailing is now being done centrally and no longer from our unit as was the case in the past.

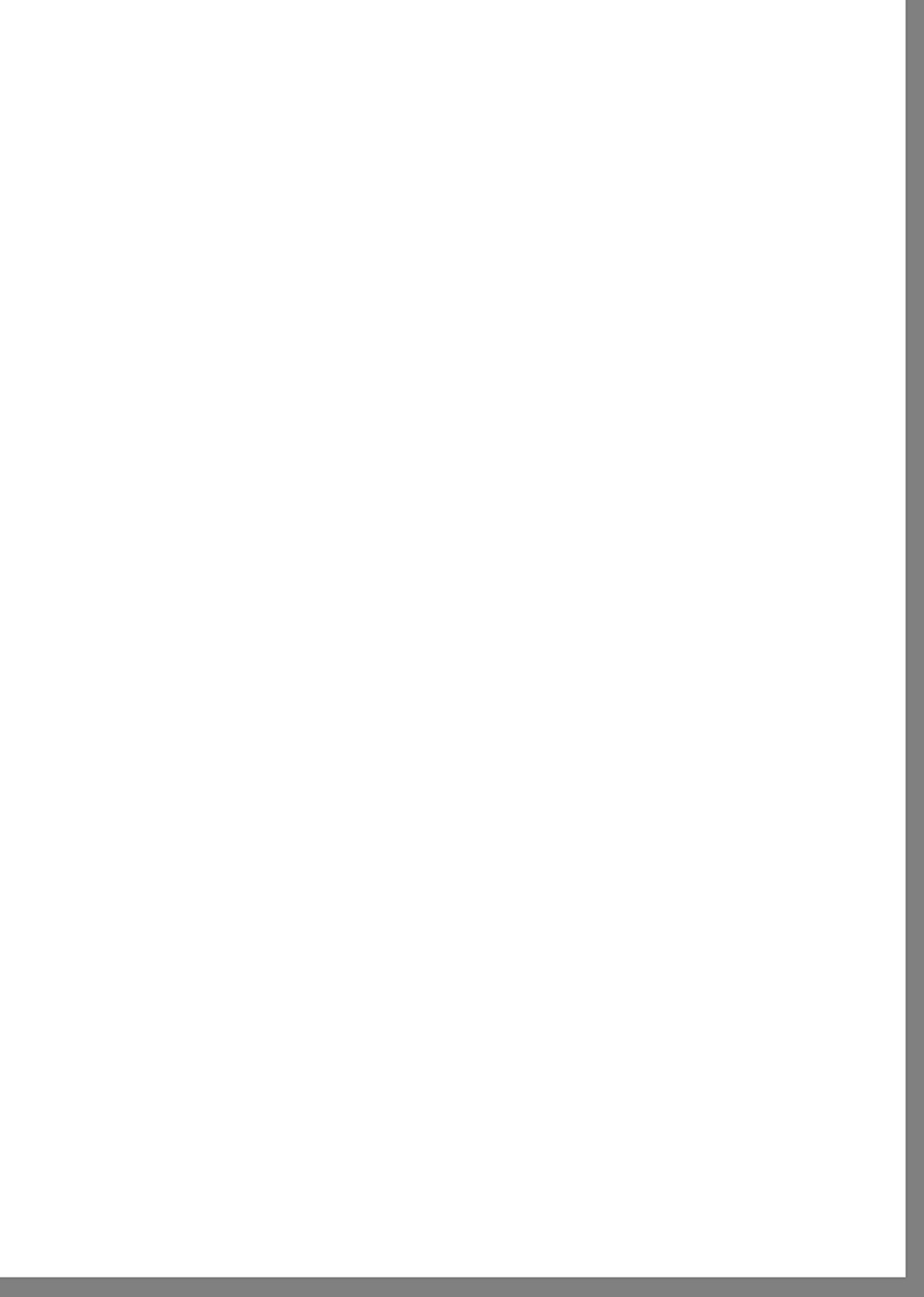
the newsletter. For this purpose, you will find below a form which we hope that you will complete and return to us as soon as possible. Please note that only those from whom completed forms are received will be included on the mailing list for future distribution of REDIS News.

This involves having to create a new database of persons and institutions wishing to receive

Surname:..... Other Names:.....	
Institution:.....	
<b>Type of institution: (Please mark the boxes <input checked="" type="checkbox"/> as applicable.)</b>	
<input type="checkbox"/> National Statistical Institute	<input type="checkbox"/> Research Ministry
<input type="checkbox"/> University	<input type="checkbox"/> Private Research Institute
<input type="checkbox"/> Others Please specify.....	<input type="checkbox"/> European Union Institutions
<input type="checkbox"/> Public Research Institute <input type="checkbox"/> Industry	
Address: .....	
City:..... Post Code:..... Country:.....	
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<b>Area of interest (Please mark the boxes <input checked="" type="checkbox"/> as applicable. Maximum 2 boxes)</b>	
<input type="checkbox"/> Innovation Statistics	<input type="checkbox"/> Human Resources in Science & Technology
<input type="checkbox"/> Regional R&D Statistics	<input type="checkbox"/> R&D publications and databases
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Date:.....	Signature:.....

Please complete and return the form to:

<b>REDIS News</b> Eurostat Room C5-98 Jean Monnet Building L-2920, LUXEMBOURG Phone +(352) 4301 34430 Telefax: +(352) 4301 34771
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