

# Sharing Best Practices on Reporting R&D Statistics

An expert workshop to assess needs for improved methodologies and international cooperation

Convened by:

**The Portuguese Ministry of Science, Technology and Higher Education, through the Office of S&T Statistics (GPEARI) and the Portuguese Institute of Statutory Auditors (Ordem dos Revisores Oficiais de Contas)**

In collaboration with:

Italian National Statistical Institute – ISTAT and CNR - ISSIRFA, Italy  
Statistics Sweden

Direction de l'Évaluation, de la Prospective et de la Performance, DEPP, Ministère de l'Enseignement Supérieur et de la Recherche, France

Forschung und Entwicklung, German Federal Statistical Office, and Wissenschaftsstatistik GmbH, Germany  
Institute for Prospective Technological Studies (IPTS) – Joint Research Centre

**Lisbon, 4-5 May, 2009; Hotel Sana Malhoa, Lisbon, Portugal**

## Background Note

How far can we improve R&D statistics across Europe, so that better information is conveyed to decision- and policy-makers for the design of policies to foster public and private R&D expenditure in Europe?

This is an old question, but one that is increasingly calling for the attention of governments and the private sector, deserving new actions and a continuous effort from national statistical offices. Although much attention has been given in recent years to improve R&D statistics towards relatively sophisticated indicators to account for a broad range of innovation concepts, policy-making still relies, and is expected to rely in the near future, in a small number of simple and effective indicators, including necessarily public and private expenditure in R&D and related human resources statistics (namely in terms of the number of researchers and total personnel involved in R&D). The challenge is that the continuous evolution of the research enterprise, together with the dynamics of the socio-economic fabric, keeps introducing new features, loose boundaries and increased complexities to properly measure those indicators to account for the full spectrum of R&D activities.

The continuous efforts from the Working Party of National Experts on Science and Technology Indicators (NESTI) at the OECD and the Eurostat, including the most recent revision of the Frascati Manual (OECD, 2002), provide the necessary background information and overall guidelines, but the practice of accounting for R&D resources is still quite diverse across Europe and relies in past practices and on specific competencies and skills at the national statistical offices and related services in each country.

Examples of complex structures and entities where simple R&D statistics are particularly lagging behind the actual representation of research resources (namely financial and human resources) include research hospitals (OECD, 2001) and knowledge intensive services, KIS (OECD, 2000; IoIR, 2003; OECD, 2006):

- Regarding hospitals and health related services, although some changes have been set in motion in a few countries and regions, it appears that in most situations the interaction between research centres and University hospitals is not clear and depends largely on goodwill rather than defined structures. This is significant in a world where translational research is a growing and vital component of biomedical science and requires to be properly accounted for, if we want R&D statistics to correctly represent the overall research effort. In particular, the interaction between the bench scientist and the clinic, between the physician-scientist and his/her patient, is essential and requires an adequate accounting system towards a correct identification of R&D practices and resources.

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- Knowledge intensive services include activities (i.e., KISA; see, for example, OECD, 2006) that are provided either internally or externally to firms in the manufacturing and service sectors and that contribute to innovation processes. KISAs are both sources and carriers of knowledge that influence and improve the performance of individual organisations, value chains and industry clusters across all sectors of the economy. They consider a main area of increased complexity for proper accounting of R&D resources and one that has considerably increased in the recent years. It covers a wide range of research activities, from software and other information technologies (IT) related services to specialised research activities in the financial, assurance and consulting sectors, as well as in the energy, telecom and transportation sectors (i.e., network industries) and in the healthcare, leisure and tourism, which increasingly involve researchers from different fields of knowledge in the public and private sectors.

The workshop will bring together a small number of experts on R&D statistics to share experiences and discuss methodologies to face the challenges identified above and foster new opportunities for international cooperation across different national statistical offices and related services in each country. The theoretical framework will be obviously still provided by the Frascati Manual (OECD, 2002), but the issue of improving the R&D statistics will be addressed on, at least, three different levels:

- whether the Frascati Manual's definitions and methodologies should be (if not yet changed/improved) implemented with some flexibility because of the peculiarities of specific sectors;
- whether the data collection procedures (which are traditionally country-specific) should be improved (even in a perspective of increasing methodological harmonisation across Europe);
- whether the relationship between data providers and statistical agencies should be improved to take into account the data providers' points of view or, at least, to reduce to statistical burden on respondents by designing more user-friendly questionnaires and focusing on relevant questions.

The discussion on reporting procedures will be conducted to share experiences and to guide new developments in accounting for R&D expenditures in two main different sectors, namely university hospitals and in knowledge intensive services. It is clear that the above issues should be addressed jointly, aiming at improving both the definitions and the data collection procedures, but without forgetting the improvement of the reporting practices. In this respect, the workshop will bring together statisticians, analysts and people actually performing R&D in public and private institutions.

A different approach will be used in the workshop to deal with emerging issues associated with human resources statistics in R&D, since the Frascati Manual does not provide specific recommendations on it. The workshop will attempt to discuss as far as we can go "beyond" Frascati, namely to move from an "institutional" approach to a data collection model targeting key research skills and competencies. The experience of Portugal in this area will be presented and proposals for international actions benchmark exercises will be discussed.

## References:

- OECD (2000), "A New Economy? The Changing Role of Innovation and Information Technology in Growth", OECD, Paris.
- OECD (2001), "Measuring Expenditure on Health-related R&D", OECD, Paris.
- OECD (2002), "Frascati Manual – Proposed Standard Practice for Surveys on Research and Experimental Development", OECD, Paris.
- IoIR (2003), "Knowing How, Knowing Whom - A Study of the Links between the Knowledge Intensive Services Sector and The Science Base", Institute of Innovation Research, University of Manchester/UMIST.
- OECD (2006); "Innovation and Knowledge-Intensive Service Activities", OECD; Paris.

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## Monday, May 4

10.00	Registration
10.30	<b>Welcome Remarks.</b> Self-introductions by all participants. Introducing the rationale and the objectives of the workshop: Manuel Heitor, Secretary of State for Science, Technology and Higher Education, Government of Portugal Maria João Valente Rosa, GPEARI-Statistics, Portugal
11.00	<b>Challenges and opportunities for R&amp;D statistics: What do we need to improve?</b> Chairpersons: Folke Carlsson, Director of Department of Research and Development at Statistics Sweden, and Giorgio Sirilli, CNR-ISSIRFA, Italy and OECD/NESTI Speakers: Giulio Perani, Italian National Statistical Institute - ISTAT, Italy Denis Despreaux, Deputy Director of DEPP, Ministère de l'Enseignement Supérieur et de la Recherche, France Frank Schueller, Head of Division, Forschung und Entwicklung, German Federal Statistical Office Helena Fredin, Head of Investments, R&D and IT unit, Economic Statistics Department, Statistics Sweden Discussion
13.00	Lunch
14.00	<b>Measuring R&amp;D Expenditure in Research Hospitals and other Health Related Services</b> Chairperson: Denis Despreaux, Deputy Director of DEPP, Ministère de l'Enseig. Supérieur et de la Recherche, France Speaker: Laurence Esterle, Director of Research – INSERM, CNRS, France Discussion
15.30	Tea/Coffee
16.00	<b>Measuring R&amp;D Expenditure in Research Hospitals and other Health Related Services (cont.)</b> Chairperson: Denis Despreaux, Deputy Director of DEPP, Ministère de l'Enseig. Supérieur et de la Recherche, France Speaker: Ole Wiig, NIFU STEP, Norway Discussion
17.30	Closure of 1 <sup>st</sup> day
20.00	Dinner

## Tuesday, May 5

09.00	<b>Measuring R&amp;D Expenditure in Knowledge Intensive Services (KIS)</b> Chairpersons: Christoph Grenzmann, Director of Wissenschaftsstatistik GmbH, Germany and OECD/NESTI; and Ole Wiig, NIFU STEP, Norway Brief presentations (10 minutes): Francisco Antunes, Financial Administrator of Novabase, Portugal Anders Krantz, Director of Global Incentives Services, PricewaterhouseCoopers José Azevedo Rodrigues, Portuguese Institute of Statutory Auditors, Portugal Giulio Perani, Italian National Statistical Institute - ISTAT, Italy Discussion
10.30	Tea/Coffee
11.00	<b>Measuring R&amp;D expenditure and Human Resources in the private sector</b> Chairperson: Giulio Perani, Italian National Statistical Institute - ISTAT, Italy Brief presentations (10 minutes): Alexandre Paredes and Filomena Oliveira, GPEARI-Statistics, Portugal Denis Despreaux, Deputy Director of DEPP, Ministère de l'Enseignement Supérieur et de la Recherche, France Pietro Moncada Paterno Castello, IPTS-JRC Discussion
12.30	Lunch

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(cont.)

14.00	<b>Concluding discussion</b> Chairperson: Jean-Pierre Contzen, Special Advisor, Ministry of Science, Technology and Higher Education, Portugal Speakers: Giorgio Sirilli, CNR-ISSIRFA, Italy and OECD/NESTI Christoph Grenzmann, Director of Wissenschaftsstatistik GmbH, Germany, and OECD/NESTI Discussion
15.30	Closure