

DELTAMONITOR 12

FEBRUARI 2004: INNOVATIE EN R&D



| Aantal octrooien in "triadic" patent families ¹ (1998) | | | | R&D-uitgaven (2002 of het laatste beschikbare jaar) als percentage van het Bruto Binnenlands Product | |
|--|------------|----------------------|-----------|---|-------------|
| absoluut aantal | | per miljoen inwoners | | | |
| Totaal OECD ² | 40353 | Totaal OECD | 36 | Totaal OECD | 2,33 |
| Verenigde Staten | 14401 | Verenigde Staten | 52 | Verenigde Staten | 2,82 |
| Japan | 10230 | Japan | 81 | Japan | 3,09 |
| Europese Unie | 13507 | Europese Unie | 36 | Europese Unie | 1,93 |
| Duitsland | 5736 | Zwitserland | 119 | Zweden | 4,27 |
| Frankrijk | 2044 | Zweden | 107 | Finland | 3,40 |
| Verenigd Koninkrijk | 1851 | Duitsland | 97 | IJsland | 3,04 |
| Zweden | 951 | Finland | 75 | Zwitserland | 2,63 |
| Zwitserland | 848 | Nederland | 50 | Duitsland | 2,50 |
| Nederland | 782 | Luxemburg | 44 | Frankrijk | 2,20 |
| Italië | 713 | Denemarken | 41 | Denemarken | 2,19 |
| Finland | 386 | IJsland | 40 | België | 1,96 |
| België | 380 | België | 37 | Oostenrijk | 1,94 |
| Oostenrijk | 260 | Frankrijk | 34 | Nederland | 1,94 |
| Denemarken | 220 | Verenigd Koninkrijk | 33 | Verenigd Koninkrijk | 1,90 |
| Noorwegen | 117 | Oostenrijk | 32 | Noorwegen | 1,62 |
| Spanje | 105 | Noorwegen | 26 | Tsjechië | 1,30 |
| Ierland | 43 | Italië | 12 | Italië | 1,17 |
| Hongarije | 24 | Ierland | 12 | Ierland | 1,15 |
| Luxemburg | 19 | Spanje | 3 | Spanje | 0,96 |
| Griekenland | 11 | Hongarije | 2 | Hongarije | 0,95 |
| IJsland | 11 | Griekenland | 1 | Portugal | 0,78 |
| Polen | 10 | Tsjechië | 1 | Griekenland | 0,67 |
| Tsjechië | 10 | Slowakije | 1 | Polen | 0,67 |
| Portugal | 6 | Portugal | 1 | Slowakije | 0,65 |
| Slowakije | 5 | Polen | 0 | Turkije | 0,64 |
| Turkije | 4 | Turkije | 0 | Luxemburg | - |

Geraadpleegde bron:

OECD Science, Technology and Industry Scoreboard, Edition 2003, OECD, 2003

¹ Octrooien geregistreerd bij European Patent Office (EPO), US Patent and Trademark Office (USPTO) en Japanese Patent Office (JPO)

² Organisation for Economic Co-operation and Development, alle hier genoemde landen en Canada, Mexico, Australië, Korea en Nieuw Zeeland zijn hierbij aangesloten, dd 2003

ARTIKEL VAN DE MAAND FEBRUARI 2004



INNOVATION AND R&D

Uit: Science and Technology Statistical Compendium, OECD, 2004

In the OECD area, investment in knowledge – the sum of investment in R&D, software and higher education – amounted to about 4.8% of GDP in 2000. In the United States, this figure reached almost 7% of GDP, well above the share for Japan (4.7%) or the European Union (4.0%). At the OECD level, R&D accounted for almost one-half of total investment in knowledge.

In 2001, OECD countries allocated about USD 638 billion (current purchasing power parity) to R&D, or 2.3% of GDP. The United States accounted for approximately 43% of the OECD total, the European Union for 29% and Japan for 16%. R&D expenditure in the OECD area rose annually by 4.5% in real terms over 1995-2001. During that period, R&D expenditure rose faster in the United States (5.0% a year) than in the European Union (3.8%) and Japan (2.9%). In 2001, the R&D intensity of the European Union reached 1.9% of GDP, its highest level since 1990, but still well below the Lisbon target of 3% in 2010. In 2001, Sweden, Finland, Iceland and Japan were the only OECD countries in which the R&D to GDP ratio exceeded 3%. In 2002, the R&D intensity of the United States remained stable at 2.7% of GDP.

Most of the rise in R&D expenditure is due to higher business investment. The business sector is the major source of financing of domestic R&D accounting for almost two-thirds of funding in OECD countries in 2001. R&D expenditure by the higher education sector increased in the first half of the 1990s and then stabilised. R&D by the government sector has declined in recent years, partly owing to the reduction in defence R&D and the transfer of some public agencies to the private sector.

Government R&D budgets have grown substantially in most OECD countries, by 5% or more annually during 1995-2003 in more than one-third of these countries. Defence-related R&D usually accounts for a small share of such budgets (less than 10%), the exceptions being France, the United Kingdom and Spain (between 25 and 40%) and the United States (more than 50%).

R&D expenditure in the major non-OECD economies is currently more than one-fifth that of the OECD area. In 2002, Israel allocated 4.7% of GDP to R&D (excluding R&D for defence), a higher ratio than the leading OECD country, Sweden. R&D expenditure in China grew rapidly over the past decade and in 2002 reached USD 72 billion. This is behind the United States (USD 277 billion) and Japan (USD 104 billion in 2001), but ahead of Germany (USD 55 billion) which has the third highest level in the OECD area. India spent about USD 20 billion on R&D in 2000-2001, which puts it among the top ten countries worldwide. When compared with OECD countries, Brazil, the Russian Federation and Chinese Taipei rank below the G7 and Korea in terms of R&D expenditure, but ahead of all others.

The importance of industry-science relations is growing as measured by the increasing share of business-funded R&D in the higher education and government sectors, but also by the number of “science linkages”, as measured by scientific article citations in patents.

Certain new technologies account for a growing part of R&D spending. Nanotechnology, for example, is among the most rapidly growing targets of R&D funding, but it still accounts for only a small share of total R&D. Between 1997 and 2000, government R&D funding for nanotechnology trebled to USD 293 million in the United States, and doubled to USD 210 million in the European Union and to USD 190 million in Japan.