

# **Aiming at the Barcelona Target: Best Practices and National Performances. The EASAC Perspective<sup>1</sup>**

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## **1. Introduction**

The objective of this paper is to discuss the Barcelona 3% target and to analyze the situation in Finland and Sweden, the two countries in Europe which already appear to be operating at this level of R&D.

## **2. The Barcelona Declaration**

The European Union is committed to becoming an economically competitive player at the global level, and it is realized that to reach this position, it must be globally competitive in science and technology. These ambitions are enshrined in the declarations of the European Council at the March 2000 Summit in Lisbon and the March 2002 Summit in Barcelona, and are endorsed by the European Parliament. They signify direct recognition at the highest political level of the central role of science and technology in economic prosperity.

More specifically, the Lisbon Summit set 'a new strategic goal for the next decade: to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'.

The Barcelona Summit spelt out that in order to close the gap between the EU and its major competitors, there must be a significant boost of the overall R&D and innovative efforts in the Union, with a particular emphasis on frontier tech-

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<sup>1</sup> This article is based on the EASAC report 01, April 2004

nologies. The European Council therefore agrees that overall spending on R&D and innovation in the Union should be increased towards 3% of GDP by 2010. Two-thirds of this new investment should come from the private sector. The Summit also stressed the urgent need to strengthen arrangements for intellectual property. Tables 1, 2 and 3 summarize the situation for the previous years.

The challenging targets decided upon in Barcelona in 2002 are indeed worth achieving, but will it be possible to reach the goals considering the limited time allotted to reach them.

The 3% target challenges national governments and the European Union itself as the channels of public funds to S&T – even more, it challenges industry and commerce as the channels of private funds to S&T (To reach 3% GDP by 2010 from current levels implies an overall annual growth of 8% in real terms, with public R&D expenditure growing at 6%pa and private expenditure at 9%pa).

It will not be easy to reach these goals – many say impossible before 2010. It challenges the educational system and the research community to make good use of the funding it receives, and industry to work much more closely with academe. This does not mean that academic research has to be focused on narrow goals of immediate applicability, but it does mean a relentless pursuit of excellence and an awareness of factors that promote interaction between those who create new knowledge (basic as well as applied research) and (where different) those who put it to use.

**Table 1.** R&D Input in Some OECD Countries (% of GDP)

|                | 1990        | 1991        | 1992        | 1993        | 1994        | 1995        | 1996        | 1997        | 1998        | 1999        | 2000        | 2001        | 2002        |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Austria        | 1.42        | 1.5         | 1.48        | 1.49        | 1.56        | 1.55        | 1.60        | 1.71        | 1.79        | 1.85        | 1.86        | 1.92        | 1.93        |
| Canada         | 1.47        | 1.52        | 1.55        | 1.63        | 1.67        | 1.64        | 1.69        | 1.71        | 1.79        | 1.81        | 1.92        | 2.03        | 1.91        |
| Denmark        | 1.63        | 1.7         | 1.74        | 1.74        | 1.80        | 1.84        | 1.85        | 1.94        | 2.06        | 2.19        | 2.25        | 2.4         | 2.52        |
| France         | 2.41        | 2.41        | 2.42        | 2.40        | 2.34        | 2.31        | 2.30        | 2.22        | 2.17        | 2.18        | 2.18        | 2.23        | 2.2         |
| Germany        | 2.75        | 2.61        | 2.48        | 2.37        | 2.28        | 2.26        | 2.26        | 2.29        | 2.31        | 2.44        | 2.49        | 2.51        | 2.52        |
| Japan          | 2.85        | 2.82        | 2.76        | 2.68        | 2.63        | 2.77        | 2.77        | 2.83        | 2.94        | 2.94        | 2.99        | 3.07        | 3.12        |
| Norway         | -           | 1.65        | 1.70        | 1.73        | 1.72        | 1.71        | 1.65        | 1.64        | 1.64        | 1.65        | 1.63        | 1.6         | 1.67        |
| <b>Sweden</b>  | -           | <b>2.89</b> | <b>3.00</b> | <b>3.27</b> | <b>3.30</b> | <b>3.46</b> | <b>3.60</b> | <b>3.67</b> | <b>3.70</b> | <b>3.78</b> | <b>4.00</b> | <b>4.27</b> | <b>4.00</b> |
| UK             | 2.16        | 2.08        | 2.09        | 2.12        | 2.07        | 1.98        | 1.88        | 1.81        | 1.80        | 1.88        | 1.84        | 1.86        | 1.88        |
| USA            | 2.69        | 2.71        | 2.64        | 2.52        | 2.42        | 2.5         | 2.55        | 2.58        | 2.60        | 2.65        | 2.72        | 2.74        | 2.67        |
| OECD           | 2.32        | 2.24        | 2.20        | 2.15        | 2.10        | 2.11        | 2.13        | 2.15        | 2.17        | 2.2         | 2.24        | 2.28        | 2.26        |
| <b>Finland</b> | <b>1.91</b> | <b>2.04</b> | <b>2.18</b> | <b>2.16</b> | <b>2.29</b> | <b>2.28</b> | <b>2.54</b> | <b>2.71</b> | <b>2.88</b> | <b>3.23</b> | <b>3.40</b> | <b>3.41</b> | <b>3.46</b> |
| Israel         | -           | 2.5         | 2.57        | 2.68        | 2.68        | 2.74        | 2.92        | 3.16        | 3.35        | 3.83        | 4.72        | 5.04        | 4.72        |
| Iceland        | 1.17        | 1.18        | 1.27        | 1.36        | 1.45        | 1.57        | 1.70        | 1.88        | 2.07        | 2.39        | 2.75        | 3.06        | 3.09        |
| South Korea    | 90          | 1.92        | 2.03        | 2.22        | 2.44        | 2.5         | 2.60        | 2.69        | 2.55        | 2.47        | 2.65        | 2.92        | 2.91        |
| China          | 1.42        | 0.74        | 0.74        | 0.72        | 0.65        | 0.6         | 0.60        | 0.68        | 0.70        | 0.83        | 1.00        | 1.07        | 1.23        |
| Singapore      | 1.47        | -           | -           | -           | 1.10        | 1.16        | 1.40        | 1.53        | 1.82        | 1.9         | 1.88        | 2.1         | 2.15        |

**Source:** OECD, Main Science and Technology Indicators; National Statistics Authorities Finland; Tekes.