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FROM SCIENTIFIC EXCELLENCE TO INNOVATIVE BUSINESS: IS EUROPE ON TRACK TO MAKE THE NANOTECHNOLOGY TRANSITION?

For Europe to secure its position in tomorrow's global knowledge-based economy it has to demonstrate excellence in key technologies such as nanotechnology. These emerging key technologies potentially have large social and economic benefits. In the nanotech industry, however, the move from the academic to the commercial stage has not yet been made. Will Europe be able to successfully make this transition? Indications are that it will. Partially because of the wide availability in the 1990s of European public (including substantial European Commission) funding, Europe is currently leading the way in terms of scientific performance and performing well in terms of patenting. But will we be able to keep up this performance? Research Commissioner Philippe Busquin strongly believes that it should. Nanotechnology has been declared a priority under the 6th Framework Programme for Research (FP6), and is being allocated substantial budgetary means (Indicative budget FP6: 1 300 million Euro). The European Commission is also continuing its key support for European wide nanotechnology research networks. Some 49 of which were identified in 2000.

1. THE EU'S COMMITMENT TO NANOTECH RESEARCH FROM THE OUTSET

Throughout the second half of the 1990s, the European public sector made substantial investments in nanotechnology research. And when one considers that EU investment accounts for a mere 5% of overall civil R&D expenditure in Europe, the European Commission's 18% share in 1997 and still 16% in 2000 reflects a strong commitment to realising the potential of nanotechnologies. Nevertheless, while total public European funding for nanotechnology in 1997 exceeded that in the US, the reverse was true in 2000. Thus, much work still needs to be done.

Table 1 Estimated governmental support for nanoscience and nanotechnology

(in millions of Euros)

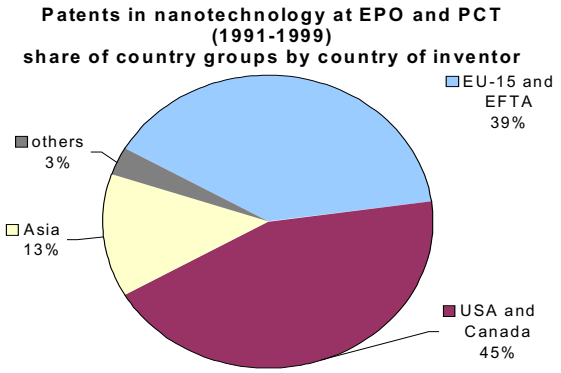
Country	*1997*	*1998*	*1999*	*2000*
Belgium	0.9	1	1.1	1.2
Denmark	3	1.9	2	2
Germany	47	49	58	63
Greece	0.2	0.2	0.3	0.4
Spain	0.3	0.3	0.4	0.4
France	10	12	18	19
Ireland	0.4	0.4	0.5	3.5
Italy	1.7	2.6	4.4	6.3
Netherlands	4.3	4.7	6.2	6.9
Austria	1.9	2	2.2	2.5
Portugal	0.2	0.2	0.3	0.4
Finland	2.5	4.1	3.7	4.6
Sweden	2.2	3.4	5.6	5.8
United Kingdom	32	32	35	39
European Commission	23	26	27	29
EU-15 total	129.6	139.8	164.7	184
US	116	190	255	270
Japan	106	135.3	156.5	175

Source Third European Report on S&T Indicators, 2003

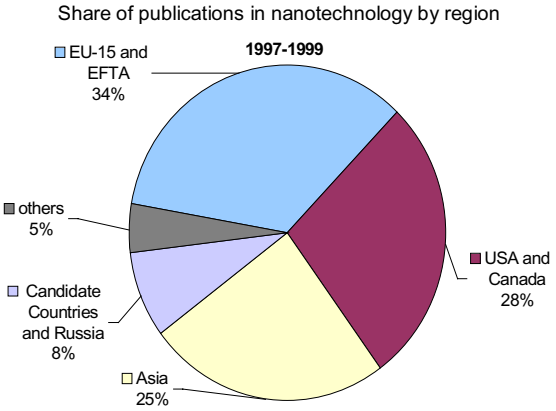
Note Data is estimated by calculating all nanotechnological research projects and programmes as well as institutional support in the distinct countries. Due to incomplete data and differences in the definition of nanotechnology, the difference in actual numbers could range from 10% more or 10% less than the given numbers.

2. EU: STRONG NANOTECH PATENTING AND SCIENTIFIC PERFORMANCE

Europe's nanotech industry is performing well in terms of patenting. The EU-15 and EFTA accounted for 39% of patents in 1999, compared to 45% for the US and Canada. They also outperform the US in terms of scientific publications, accounting for 34% of publications, compared to 28% for the US and Canada.



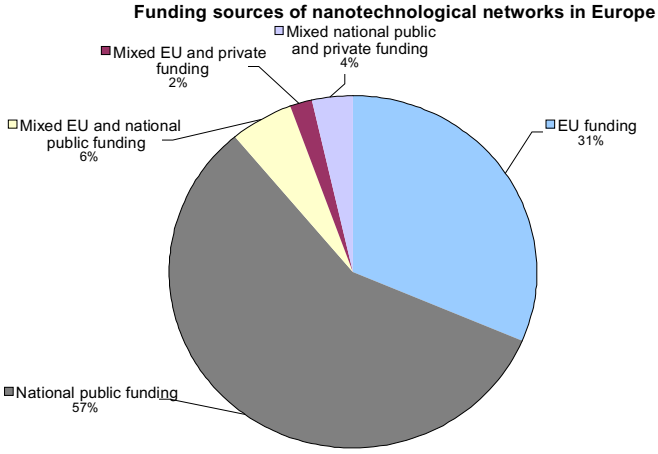
Source Third European Report on S&T Indicators, 2003



Source Third European Report on S&T Indicators, 2003

3. EC CONTINUES HEAVY SUPPORT FOR NANOTECH RESEARCH

The European Commission actively supports the activities of European wide networks in the field of nanotechnology research. In 2000, the European Commission identified no less than 49 nanotech networks. EU funding is critical to their continued existence and viability and makes up a healthy 31% of their overall financing streams.



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