

Brussels backs nanotech

The EU has just launched its latest framework programme for R&D and it contains a host of opportunities for researchers and companies working in nanoscience and nanotechnology.

With a total budget of €50.5 billion over the period 2007–2013, the Seventh Framework Programme for Research and Technological Development¹ of the European Union must rank as one of the biggest pots of cash in the history of R&D. €50.5 billion would, for example, keep the CERN particle physics laboratory running for more than 50 years, or the European Space Agency in business for over 15 years. But compared with the annual budgets of NASA (about €13 billion for this year) and the US National Institutes of Health (€21 billion), it doesn't seem so much. Indeed, the framework budget accounts for only a few percent of the total spent on R&D by the member states.

The EU's €50.5 billion also appears to be a modest sum when you consider that it has to last seven years and be divided up among some 27 member states, and that the raison d'être of the framework programme is to ensure that European industry remains competitive in the face of competition from established rivals such as the US and Japan, as well as newcomers like China and India.

However, given all the upheaval in the EU over the past few years — the rejection of the constitution by several member states and the enlargement of the Union from 15 to 25 and then 27 countries — the commissioner for research, Janez Potočnik, and his predecessors are to be congratulated for moving R&D up the agenda and securing a budget increase of 63% (at current prices) on the previous framework. That said, between them European governments and companies still spend significantly less on R&D as a fraction of gross domestic product than the US and Japan — mostly because European

companies spend less on research than their rivals — and there is little sign that this gap is narrowing. A similar pattern is seen with absolute levels of spending on nanotechnology².

So how has the seventh framework (FP7) shaped up? The programme has four basic components: cooperation, ideas, people and capacities. Cooperation is by far the biggest (€32.4 billion) and will largely be driven by industry through collaborative research projects in ten themes that include health, energy, environment and transport. The two themes that will be most relevant to the nanotechnology community are nanosciences, nanotechnologies, materials and new production technologies (NMP for short), which will have a budget

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of €3.5 billion over the course of FP7, and information and communication technologies (ICT), with a budget of €9.1 billion. However, if FP6 is any guide, other themes, notably health, should also fund projects in nanotechnology.

The ideas component is the big new idea in FP7 — after years of discussion and delay a European Research Council (ERC) has been set up and given a budget of around €1 billion per year (€7.4 billion in total) with the aim of “supporting risk-taking and high-impact research, and promoting world-class scientific research in new, fast-emerging fields.” Researchers from both the public and private sectors are invited to submit proposals on subjects of their own choice, which will

be “evaluated on the sole criterion of excellence as judged by peer review”. This emphasis on basic scientific research is distinctly different from the industrial flavour of the majority of FP7. The ERC will offer two different types of grant: ERC Starting Grants for young researchers who are starting their own group, and ERC Advanced Grants for established researchers.

The people component (€4.7 billion) is a continuation of the Marie Curie fellowships and other activities (exchanges, conferences and so on) that have been a feature of previous frameworks. Nanoscientists have fared well under the Marie Curie scheme, securing some €149 million worth of funding during the last framework, and there is no reason why this should not continue. The final component of FP7 — capacities (€4.2 billion) — is also a continuation of previous activities to support, among other things, research infrastructures, small companies and research in the new member states. There is also €280 million available for “science and society” projects, some of which will almost certainly go on nano-related projects.

The first calls for proposals³ were issued on 22 December last year and over 40 of the calls are directly relevant to the nanotechnology community⁴. Potential applicants will be pleased to learn that the EU has tried to reduce the bureaucracy that has been a feature of previous framework programmes, although the deadlines for some of the calls are in early May, so there is no time to waste.

References

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4. cordis.europa.eu/nanotechnology/src/eu_funding.html