Brussels, October 2014

Open Letter from the Governing Board of Science Europe on the Value of Science

To whom it may concern

Dear Madam, dear Sir,

It is a matter of grave concern to us that at a time when leaders in Europe speak of investing in knowledge, science and innovation as means to spur growth and prosperity for our economies and societies, once again research budgets at national and EU level are facing the prospect of cuts or stagnation.

Spending on knowledge, science and innovation is an investment that always pays off. Research funding supports the knowledge base of a society, on which its capacity to innovate and to address current and future challenges depend. Science is one of the cornerstones of European culture and civilisation.

It is important that the funding levels do justice to the aspirations of Europe of being a world leader in a global and highly-competitive race for knowledge. The list of objectives that are expected to be met from knowledge production eco-systems has steadily increased. National and European policies require that the research system provides solutions to societies' big challenges, while at the same time providing the basis for innovation, economic growth and job creation. In addition, tax payers and governments expect science to have tangible impact. These and other expectations are fully justified and consistent with the ambition of being true knowledge-based economies and societies. This is an encouraging sign of the recognition of the value of science and the contribution it makes to society and economic welfare. That recognition, however, needs to translate into appropriate funding levels for science, and for basic science in particular.

The fulfilment of these expectations depends entirely on very long-term investment in basic science, free from any presumptions of short-term economic or societal impact. It is often forgotten that innovation is only the visible output, and that this would not be possible without invention and discovery much beforehand. To go from invention and discovery to innovation can take decades, but if funding for invention and discovery is cut, then the legs are cut from under the innovation of the future. Basic science is a natural complement of problem-oriented research and often provides the foundational stone on which applied science builds. We cannot, and should not, seek to disentangle the application of knowledge to the solution of societal problems from the fundamental understanding of nature and society on which such knowledge rests. Furthermore, fundamental research is essential as a basis for the training of scientific researchers, without whom progress will not be made.

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Cutting research funding, even for a single fiscal year, will have negative effects decades down the line and the damage caused will take years to repair.

It may be tempting for governments in times of austerity to cut funds from science and education, even if this undermines the long-term sustainability of national living standards. However, it is important that financial stability rules exclude R&D investments from public expenditure caps, and that fiscal consolidation is not enforced at the expense of these investments. Otherwise, European governments will fall behind global trends.

There is clear evidence that countries that increased public research spending in the past fared better in the next period of financial uncertainty. The revival of the European industrial sectors is entirely dependent on appropriately-funded national and European science systems.

The basic 'knowledge infrastructure' supported by public investment in research is clearly in demand: trained, highly-skilled human resources, functioning education systems, physical infrastructures and knowledge networks of people and institutions. This knowledge infrastructure provides countries with the absorptive capacity needed for economic exploitation of new knowledge and with the adaptability needed in the face of uncertainty.

Knowledge is not produced within isolated silos separated by national borders. International collaboration is an essential part of how science works. Therefore, cuts to the research budget in one country will have negative repercussions for scientists and institutions in other countries as well. This is especially true in the dense collaboration space of Europe; projects and programmes that involve scientists from various countries are disrupted or stopped when funding levels drop in one country. Large research infrastructures are key strategic investments that because of their size often require multinational funding efforts. If that funding is not stable because of reduced funding available for even one of the partners, the entire operation is at stake, impacting a myriad of projects and previous investments.

Globally, science spending has increased in recent decades. There is a real global science race taking place. National governments considering cutting their science budgets would essentially be opting to drop out of this race. This is clearly not an option for European societies that intend to sustain current standards of living. The economic and social justifications for research spending are clear. Countries and companies can either compete on price or compete on knowledge. Europe, if it wants to preserve its high standard of living, has no choice but to opt, with full commitment, for the second.

Europe has a leadership position and a historical advantage that should be safeguarded. European scientists remain world class, and highly-performing national science systems, offering the best conditions and infrastructure, is what keeps them in Europe.

We therefore urge national authorities in Europe, as well as the Institutions of the European Union, to safeguard Europe's future and to ensure the appropriate funding of their science systems.

Sincerely,

The Governing Board of Science Europe:

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