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Panel: Challenges of funding science and technology

Ground-breaking innovations that change the world sparkle mostly from fundamental investigator-driven research. No one could have imagined the world-wide-web before Tim Berners-Lee created it, and no one asked Suji Nakamura to invent energy-saving light emitting diodes (LEDs) to replace the Edison light bulb and to read digital information, to name just two examples. This is why adequate funding of basic research, in all scientific domains, must be safe-guarded.

But the knowledge society is based on applicable research findings, and blue sky research alone is a slow driver of innovation. Moreover, mankind is menaced by grand challenges, like the impact of climate change, aging of the population, poverty-driven migration, emerging infectious diseases and lack of sustainable clean energy sources. Science can help to solve these problems, but research in these areas can be accomplished only through global collaboration which is financed together. Thus, national policy makers and funding organisations should allocate resources for international research programmes, the private sector should be part of these efforts, and the civil society has to acknowledge the importance of research for the development of society.

Wise science policy fosters creativity of individual researchers, but also ensures return of public R&D investment to society by broad definition of priorities. In this way it balances the bottom-up and the top-down approaches.

I would like to present a real-life example of a top-down instrument, which has been successful in Finland. Science policy is driven by the Council for Research and Innovation, which reports to the Parliament and is chaired by the Prime Minister. The members include high-profile scientists, heads of the public funding agencies of research and innovation, university presidents, CEOs of research-intensive industry and Ministers of six relevant Ministries.

The impact of the Council was evident when Finland recovered in the early 90s from its worst economic crisis in 100 years. The recession resulted in a wave of bankruptcies, rapid increase of unemployment to close to 20%, and wobbling of the banks. Investment into education, research and development turned the country into a knowledge-based economy well before the Lisbon agenda, and put it to the top ranks of competitiveness in record time.

The current financial down-turn is hitting Finland as any other country. The rest of the resource-based industry is fleeing abroad, especially in paper and pulp industry. Under these circumstances the status of the Council has been even strengthened. Research and innovation will have to be embedded into each new governmental programme, and the implementation is monitored by the Council.

With the advent of the global challenges, we indeed need a new pact between research, policies, funders and society. This pact should be characterised by freedom of thought, evidence-based policies, courage to take risks, shared responsibility, mutual trust and global partnerships.

Such a pact is elaborated in the first document published by European Research Area Board, the independent advisory body for the Commissioner of Research of the European Union. There report is entitled “Preparing Europe for a New Renaissance – A Strategic View of the European Research Area”, and describes the optimal characteristics of a dynamic and successful European research and innovation area. One of the recommendations of the Strategic View, a Chief Scientific Advisor for the EU, has already been taken up by Mr. Barroso. The work of the Board will continue by breaking the vision down into actions.