

Foresight Research

Since 2001, ARC Fund has been developing its institutional capacity in the field of foresight as a new tool in science and innovation policy development. Over the years, ARC Fund has contributed to more than a dozen projects at EU level, applying foresight methods in fields like research infrastructure, food quality and safety, participation of citizens in identifying future research priorities, environment and new energy sources.

In 2010, ARC Fund was engaged in two foresight activities at EU level. The first is aimed at identifying new issues for scientific research, which would be used in the development of the EU Eighth Framework Program after 2014. ARC Fund is also responsible for the foresight component of an EU-China cooperative project in research in environmental studies entitled **SPRING**. This project will inform the strategic decisions of the European Commission on EU-China relationships in this area.

CIVISTI – Citizen visions on science, technology and innovation

In 2010, the Applied Research and Communications Fund worked with a diverse group of European Union Member States in the formulation of scientific and research policies to help take advantage of new and emerging research topics in science and technology in Europe. This project, titled **‘Citizen Visions on Science, Technology and Innovation’ (CIVISTI)** aimed at defining and communicating citizen visions of the future and transforming them into legislative policy priorities. At the heart of CIVISTI is the notion that science and research activities should have high societal relevance and that inputs from citizens can help place scientific and technological initiatives in a larger societal context. By mapping the innate hopes that European citizens have for science and technology and focusing these desires through panels of experts in science and technology policy, CIVISTI aimed to assist policy-makers in prioritizing scientific and research policies which improve the quality of life for their citizens

and democratic legitimacy of the EU. At the same time, they improve the competitiveness of European regions, countries and the continent itself within the global economy.

The CIVISTI project is aimed at identifying emerging and potential opportunities and challenges in European science and technology using a future oriented participatory process that combined citizen knowledge, experience and desires with the knowledge of research policy of experts and stakeholders. One of the main outcomes of CIVISTI was an improvement in democratic accountability by including citizens in the policy formulation process at the same time as they improve the effectiveness of science policy itself. CIVISTI accomplished this task by:

- Carrying out a first round of citizen consultations in order to look for the needs, visions and concerns of European citizens as to their expectations for science and technology in the future.

- Identifying and characterizing new and emerging issues for science and technology from the visions of the citizens through their examination by experts. This resulted in policy recommendations to achieve the citizen visions.
- Carrying out a second round of citizen consultations, in which citizen panels deliberated on the relevance of the expert recommendations to their desires and prioritized them.
- Subjecting the projects results and methodology to the scrutiny of an evaluation and advisory panel. This panel of highly qualified experts ensured the scientific quality of the projects results and communicated this information to the European Commission. This was done to ensure the validity and reliability of the projects conclusions so that the usefulness of the methods developed during the course of the project can confidently

be applied to citizen-centered foresight activities in the future.

From June 14th to 16th, 2010 ARC Fund hosted an expert and stakeholder workshop as part of the CIVISTI project. The experts and stakeholders present included natural and social scientists, policy-analysts, and researchers in public and private research institutes involved in research policy making and implementation. The workshop presented experts from all over Europe with future 'visions' that European citizens had (gathered earlier in the project) for improving the quality of life of Europeans through science, technology and innovation. There were 69 such visions, developed at an earlier stage in the project, which represented the desires of more than 150 citizens in seven European countries.

The experts and stakeholders at the workshop made recommendations for



Participants in the second consultation with citizens, 23 October 2010, Sofia, Bulgaria

the realization of these visions in the form of both research and innovation priorities and policies, as well as recommendations in non-scientific policy areas that may help to support such realization. This was done with a specific focus on the upcoming 8th Framework Program. On the first day of this two day process, over 100 recommendations were made, of which 30, chosen by the experts, were further elaborated on the second day. After the conclusion of the workshop, these 30 recommendations were quantitatively scored by the experts so that they could be presented to the citizens who originally developed the visions, in a prioritized way. A process called 'open space' was used in order to allow these experts to choose visions which were both intriguing and had the ability to become successful policy options. This approach was a test bed for determining a process that helped

translate citizen desires into effective research and policy options and was an innovation itself. The experts then gave constructive suggestions on how to best translate citizen views into science and research policy priorities.

Following this was the organization of a second round of citizen consultation meetings (CC2). The objective of the CC2 meetings in October, 2010 was to once again consult the citizen panels in order for them to validate and prioritize the 30 recommendations from the expert-stakeholder workshop. The result was a set of ranked S&T issues and recommendations, which citizens find most important for their future. Results from all national panels were aggregated and presented during a policy workshop in Brussels in January 2011.

Website: www.civisti.org

SPRING: Scoping China's Environmental Research Excellence and Major Infrastructure: Foresight, Potentials, and Roadmaps

SPRING aims to address the environmental implications of China's remarkable economic development and Europe's environmental challenges by the collaboration and knowledge sharing between European and Chinese researchers in order to develop strategies, a roadmap and a vision for ensuring the long-term viability of the Chinese and European economy by ensuring that environmental impacts of economic growth are minimized and/or reversed by shifting current production and consumption trends.

The main objective of SPRING is to create and provide a solid basis for future EU – China collaboration in the field of environment research. SPRING's goal is to identify common needs and opportunities,

analyze potential topics of research cooperation and initiatives, map competences and potentials of Chinese research and infrastructure, investigate strategic development plans and initiate roadmaps for future collaboration. SPRING also aims to analyze the hurdles, barriers and cornerstones that need to be addresses to enable better research engagement by EU researchers in China and vice versa. It will improve the visibility of research initiatives and strengths of Chinese regions to a wider audience in Europe.

In order to be able to identify the grounds for future collaboration between EU and China, one needs to analyze the state-of-the-art of environment foresight studies. Because of that, in the fall of 2010 ARC



The kick-off meeting of the SPRING consortium partners, held at Tsinghua University in Beijing, China on 27-29 March 2010

Fund worked out a template for screening relevant foresight exercises on environment carried out in China and Europe. This

work as well as scenario building activities, will be carried into 2011 and beyond.

RIFI: Research Infrastructures – Foresight and Impact

The RIFI initiative aimed at developing an integrated methodology for Research Infrastructure socio-economic impact assessment, that integrates foresight techniques to tackle long-term issues and “shape” the future impacts desired. The methodology is further tested and validated against a set of case studies on RI project proposals within the ESFRI and national roadmaps. For Bulgaria, the case studies addressed the Euro-Argo network of floats for ocean monitoring

and the Molecular Medicine Centre at the Medical University of Sofia. A Success Scenario Workshop was conducted to test the foresight approach and methods for anticipating and shaping long-term socio-economic impacts of RI on the host region. The coherent RIFI methodology of econometric, social and foresight methods will be further summarized in a handbook on RI impact assessment.

Website: www.rifi-project.eu



Participants at the International Foresight seminar on the future impacts of the Euro-Argo network on the Black Sea region, held in Sofia on 26-27 October 2010

Work with young researchers

ARC Fund continued to actively work with young people in science. In January, 2010, ARC Fund organized a one week training session for 50 bio-physicists – doctoral students, young researchers, and post-doctoral students from the Institute of Biophysics with the Bulgarian Academy of Sciences, and

the Biology and Physics faculties of St. Kliment Ohridski University of Sofia. The objective of the training was to introduce the participants to the research and innovation policy of the EU, and to build up capacity on innovation management; skills they would need as well in their research careers.

