



SCIENCE, MEDIA and DEMOCRACY
Citizen-centred Approaches to Science

BACKGROUND PAPER

1. INTRODUCTION

The third edition of the European Intersectoral Summit on Research and Innovation will be held on the 25-26 September 2014 at the European Parliament in Brussels. Organised by Atomium Culture together with the European Commission, Parliament and the Italian Presidency of the Council of Ministers of the EU, the 2014 edition will assess the relationship between science, media and democracy.

In 2010, the EU launched Europe 2020: a growth strategy for the EU for the coming decade. Europe 2020 placed research and innovation at the centre the European growth strategy dedicating one of the seven flagship initiatives to innovation, the Innovation Union, as well as outlining a clear focus for the Digital Agenda for Europe and the research programme Horizon 2020.

Four years on and with both the Parliament and Commission set to change in 2014, it is timely to assess how Europe has progressed in relation to the objectives set and what are the key challenges and opportunities for the coming five years.

The topic of the third edition of the EISRI Summit is *Science, Media and Democracy*. It will focus on the importance of citizen-centred approaches to science and innovation in the European Union and is designed to create a unique opportunity for intersectoral and interdisciplinary discussion between leading stakeholders to:

- Create a debate at the level of heads of state and leading thinkers on the role of knowledge in the digital age reflecting the challenges and opportunities of the new media environment;
- Showcase global best practices and assess the most efficient ways how different stakeholders can contribute to this endeavour;

- Support intersectoral dialogue with the public at large on these themes and engage the public through the participation and cooperation of the European newspapers engaged in the Permanent Platform of Atomium Culture;
- Present concrete solutions and recommendations on the discussed problems and challenges having in mind both short – term and long – term perspectives.

The conference will bring together leaders and key representatives of research institutions, businesses, media, NGOs, policy makers and professional science communicators to discuss and reflect science and society issues and support the development of a competitive system of innovation in Europe.

EISRI III will present high-level speakers including former heads of state and key representatives of the European institutions and national governments as well as leaders from leading research institutions, businesses and media.

The dedicated workshops will be designed to reflect the key issues in this area and to promote “out of the box” thinking and participatory processes.

2. CONTEXT

Europe 2020 was developed so as to prepare the ground for building a sustainable and prosperous future for Europe with high levels of employment, productivity and social cohesion.

Europe 2020 operates within seven flagship initiatives in order to achieve five targets: employment, research and development, climate change and energy sustainability, fighting poverty and social exclusion. Research and innovation have an important role to play in reaching all the targets whether through direct interaction (impact on innovation and growth, development of new technologies, etc.) or indirect input (research and data to support better policies).

The Italian Presidency of the Council of Ministers of EU has put “growth and jobs” as the focus of their “Fresh Start” programme underlining that “research and innovation are the pillars of sustainable growth. Therefore, the performance of Europe’s public and private research systems is a key driver for the competitiveness of European industry and for creating new jobs and technology-based entrepreneurship”¹.

The Italian Presidency will ensure that the mid-term review of Europe 2020 Strategy will be addressed in all relevant Council formations focusing on aspects within its sphere of responsibility. Additionally, the Presidency intends to support the achievement of the Europe 2020 targets by promoting investment in human capital, R&D and innovation, and creating conditions fostering the long – term securing of financing for the real economy in key areas such as Small and Medium Enterprises (SMEs) and infrastructures with the increased involvement of the European Investment Bank with national investment promotion banks².

In the process of modernizing of the economy, internet and digital communication are stressed as powerful tools. Challenges like: Single Market for electronic communications and on – line services boosting digital infrastructure and using the public administration as an instrument to provide innovative digital services, promoting long-term projects such as cloud computing and open data and investing in digital skills are especially emphasised in the Programme of the Italian Presidency as means towards the achievement of modernisation goals.

Moreover, the Programme of the Presidency presents the conviction that open and productive research infrastructures will significantly advance Europe’s capacity to generate new ideas and create jobs. This is why the Presidency will devote the COMPET/Research Informal Ministerial meeting to infrastructures.

Besides, the topic of the European Research Area and its importance for maintaining the European research systems on the leading position of the advancement of knowledge will be also addressed by the Presidency. Another intention is to place social innovation and a new model of social entrepreneurship at the centre of efforts to support inclusive and sustainable growth, advanced by the Social Business Initiative of the European Commission³.

¹ Programme of Italian Presidency.

² Elaborated on the basis of the Italian Presidency Programme.

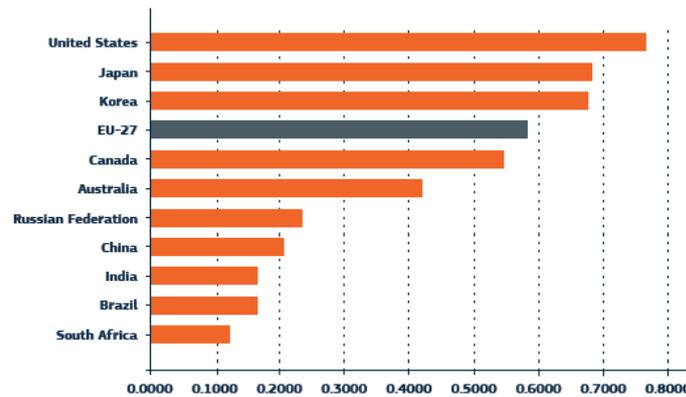
³ Elaborated on the basis of the Italian Presidency Programme.

3. FACTS

Although the European Union has at its disposal the significant budget for research, there is still a considerable gap between the EU, The United States and Japan. Additionally in the 2011 statistics, South Korea took over the European Union as well in innovation performance.

Chart 1.

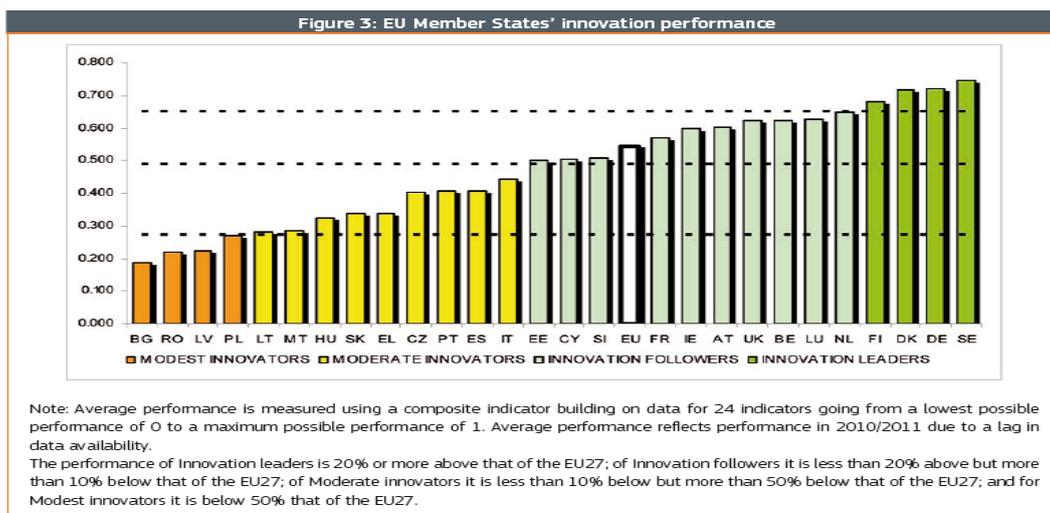
EU-27 PERFORMANCE IN INNOVATION COMPARED TO MAIN COMPETITORS - Innovation Union Scoreboard 2011



Today, 70% or more of knowledge creation takes place outside the EU⁴.

We should take into account that the level of innovation performance varies from country to country within the EU, but there are studies, which clearly indicate that the GDP growth level is closely related to the level of R&D investment, although this is not only single factor and sometimes success is possible via slightly different paths. .

Chart 2⁵.



⁴ Source: *Europe's competitive technology profile in the globalized knowledge economy*. Innovation Union Competitiveness Papers; Issue 2013/3. DG for Research and Innovation; Authors: Johan Steirna and Gergana Rangelova, p. 6.

⁵ Source: Innovation Union Scoreboard 2013, p. 10.

The European Union has its objectives to fulfil in the field of innovation:

- To tackle unfavourable framework conditions, like poor availability of finance, costly patenting, market fragmentation, outdated regulations and procedures, slow standard-setting and the failure to use public procurement strategically;
- To avoid fragmentation of effort. National and regional research and innovation systems are still working along separate tracks with only a marginal European dimension;
- Using potential of European Union in areas as energy and water, health, public transport and education to bring new solutions to the market;
- Pursuing both research – driven innovation and innovation in business models, design, branding and services which are related to unique talents;
- Involving all actors and all regions in the innovation cycle, including major companies, SMEs in all sectors, including the public sector, the social economy and citizens themselves⁶.

These ambitious goals cannot be pursued just by policy making and activities of public administration and national and European level. It requires a joint effort from all sides involved in the innovation process. The III EISRI will raise a discussion how this process of collaboration can be facilitated.

According to James Stanley Metcalfe, Emeritus Professor at the University of Manchester, innovation system should be understood as an array of development and diffusion of new technologies that complies with the government's implication policies to influence the innovation process.

Christopher Freeman, English economist and the founder and first director of Science and Technology Policy Research at the University of Sussex, understood national innovation system as the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies.

Within the European Union the innovation system has particular challenges as on the one hand there is a common EU research area (ERA), the possibility of free movement of researchers and a number of policies and programmes coordinated by the European Commission to foster the transnational cooperation in the field of research and development. On the other hand there are 28 national systems with own legal regulations, priorities and challenges. The mobility of researchers remain at rather low level, affecting the positive outcome of the European innovation system. Thus, building coherent and strong European innovation system will be a priority for the coming years.

There are several factors which strengthen innovation systems: R&D infrastructure, skilled workforce, access to debt and capital, market and marketing, proper industry climate with assured floor for competition, favourable macroeconomic environment and finally linkages among the actors involved in the innovation process.

⁶ Source: *Europe 2020 Flagship Initiative Innovation Union*. SEC(2010) 1161; European Commission; Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Directorate-General for Research and Innovation 2011; p. 8-9.

According to *Horizon 2020 Work Programme 2014 – 2015 – Science with and for Society* the strength of the European science and technology system depends on its capacity to harness talent and ideas from wherever they exist. This can only be achieved if a fruitful and rich dialogue and active cooperation between science and society is developed to ensure a more responsible science and to enable the development of policies more relevant to citizens.

In the light of recent economic theory that underline that non-linear views of innovation, aspects like education, innovation acceptance and strong horizontal networks are equally as important as spending for the development of competitive “systems of innovation”, the third edition of the EISRI Summit want to focus on these aspects.⁷

In fact, evidence shows that in addition to investment in R&D one of the pivotal factors for this translating into innovation and growth is a health and dynamic innovation system.

The EISRI Summit will address how a stronger interdisciplinary and intersectoral collaboration by stakeholders, better use of new communication tools and digital science can support the development of stronger and more competitive networks, how improved measures for science-based policy making can promote better legislation, how media – traditional as well as new and social media - can encourage citizen participation.

“I am more convinced than ever that the only avenue to a better future is continued advancements in science that are wisely applied to society. Science-based innovation is tied to the problem, but it is central to the solution.”

Prof. Phillip Sharp, AAAS President, Nobel Laureate and Institute Professor at the Massachusetts Institute of Technology

⁷ Mazzucato, M. (2013) *The Entrepreneurial State*.

4. BREAKOUT SESSIONS

The breakout sessions of the summit will focus on a variety of different sub-topics that each deserves a more detailed analysis for the development of a stronger and more competitive knowledge economy and innovation system in Europe.

Science, Decision Making, and the Future of European Policy Making

After ten years of action at EU level to develop and promote the role of science in society, at least one thing is very clear: we can only find the right answers to the challenges we face by involving as many stakeholders as possible in the research and innovation process.

Máire Geoghegan – Quinn, Commissioner for Research, Innovation and Science.

Never before in human history has so much scientific knowledge been available and so easily accessible. We have the means to understand the challenges we face and to make effective policies. Nevertheless the record in delivering truly evidence-based policy is mixed, at best and is cause of considerable frustration to scientists.

Why science sometimes succeeds in shaping and influencing the policy agenda and why it fails is poorly understood. A better understanding of the policy process by scientists and of the scientific process by policymakers would surely help. Recognising the democratic drivers behind policymaking also calls for more public engagement in science and policy, now much more possible in the digital age. This session will hear from practitioners of science advice to policy who will highlight current best practices and identify the challenges still to be addressed.

Entrepreneurial Europe: Strengthening Innovation Systems for a more competitive European Research Area

There are two words that are closely related to innovation. There are entrepreneurship and economy. The connectivity between discovery and economy has never been more apparent than it is today.

Prof. Phillip Sharp, AAAS President, Nobel Laureate and Institute Professor at the Massachusetts Institute of Technology

Research and innovation play a pivotal role in the EU 2020 Strategy. The Italian Presidency of the Council of Ministers of EU has put “growth and jobs” as the focus of their “Fresh Start” programme underlining that “research and innovation are the pillars of sustainable growth. The performance of Europe’s public and private research systems is a key driver for the competitiveness of European industry and for creating new jobs and technology-based entrepreneurship”.

In the light of recent economic theory that underline that non-linear views of innovation, aspects like education, innovation acceptance and strong horizontal networks are equally as important as spending for the development of competitive “systems of innovation”, the third edition of the EISRI Summit want to focus on these aspects

This session will look at how Europe's innovation system compares globally, assess the strengths and weaknesses of the system as well as contribute to new thinking on what Europe can do concretely to promote stronger innovation networks. The session will hear from global experts on innovation, representatives from industry and the media to look at both formal and informal actions that Europe should focus on in the coming years to become more competitive and innovative.

Moreover, this session will try to find out how Europe can strengthen its innovation networks by presenting global best practices, understanding the perspective of industry and the need for new tools for empowering European innovation including the importance of innovation acceptance.

Digital Science: Transforming Science through ICT Tools, Networks and Media

Now digital technology and tools offer the chance for a new transformation: improving research and innovation and making them more relevant for citizens and society. We are moving towards open, digital science – a trend that is gradual but unstoppable. That trend, and the desire to embrace it, comes, not from politicians, but from the scientific and academic communities themselves. And I am determined to support it.

Neelie Kroes, Vice-President of the European Commission responsible for the Digital Agenda

The internet is the single most powerful force of change in the world of knowledge that we have seen in at least the past 600 years. How will this change the way we do science and how science relates to all other aspects of life? This session will build on the ongoing discussions on Digital Science for Europe and assess what the challenges and opportunities will be in the coming years.

In July 2014 the European Commission launched a public consultation on 'Science 2.0', in order to gauge the trend towards a more open, data-driven and people-focused way of doing research and innovation. "Researchers are using digital tools to get thousands of people participating in research, for example by asking them to report if they catch flu in order to monitor outbreaks and predict possible epidemics. Scientists are being more open too: sharing their findings online at an early stage, comparing and debating their work to make it better. Increasingly, scientific publications are available online for free. By some estimates, 90 percent of all available data in the world has been generated in the past two years, and scientific data output is growing at a rate of 30 percent per year."

As digital science is gaining momentum, this session will assess the challenges and opportunities of Science 2.0 as well as see how this new trend can improve interdisciplinary and intersectoral collaboration; it will present new projects that are aiming to create the necessary environment to allow the full potential of Science 2.0 to mature.

What Should 21st Century Science Education Look Like?

Education is the most powerful weapon which you can use to change the world.

Nelson Mandela

The strength of the European economy in the future will depend on our capacity to develop and attract talent. Rethinking our education system thus becomes a priority in order to ensure that young people are ready for the very different world they will be facing. How can transdisciplinary collaborations support the development of new models? How can media support an increased interest and the development of role models in science?

In April 2013 Atomium Culture together with the European Commission, *Der Standard*, *El País*, *Frankfurter Allgemeine Zeitung*, *Il Sole 24 Ore* and *The Irish Times* launched the Special Initiative for Citizen Engagement in Science in 5 European countries (Austria, Germany, Ireland, Italy, Spain). The edition on science education over 90% of respondents confirmed their belief that science education is fundamental in preparing our children for the future.

However, the majority felt that the current education system is inadequate for the task. This session will look at innovative ways to combine formal and informal learning to cater for the needs of the 21st Century.

It will bring together different stakeholders and key thinkers to present concrete and innovative approaches to the issue.

For more background on this debate please see the chapter on Science Education (page 34) in the Report on *The Role of the Media in Responsible Research and Innovation* and the Report on *HAVE YOUR SAY . . . ABOUT SCIENCE! Special Initiative on Citizen Engagement in Science* available on this website:

<http://www.eisri-summit.eu/wp-content/uploads/2014/05/report-eisri.pdf>

<http://atomiumculture.eu/Report-SpICES-HAVE-YOUR-SAY-ABOUT-SCIENCE.pdf>

Changing Paradigm: Developing Innovative and Sustainable Health Systems for the 21st Century

Healthy citizens are the greatest asset any country can have.

Winston Churchill

The current situation with changing demographics and cutting in public spending has precipitated the need to redefine the European healthcare system to suit the needs and challenges of the 21st century. The need to reform Europe's healthcare systems is something that has been discussed for a long time. New models, declarations and buzz words are continuously launched. Yet the discussion remains set within the existing systems and structures.

In the light of the changes that will be necessary for the coming decades the debates need to shift the paradigm. As Dr. Margaret Chan, Director General of the World Health Organisation states "All ministers are health ministers". In order to address behaviour modification across the value chain, different approaches and thinking are needed.

The current discussion at the EISRI Summit intends to pose the issue from a new perspective by bringing together leading thinkers from different backgrounds and interests to think about to create the necessary environment to be able to push through such an ambitious agenda. The roundtable will encourage "out of the box" thinking and rethinking on the current structures and interactions between the different stakeholders.

Reforming Europe's healthcare systems will change the rules of the game for all stakeholders in a multi-billion euro sector, averaging in Europe nearly 10% spending of GDP on health, and that affects every single European citizen. This change will need to see researchers and experts, industry, civil society organisations, policy makers join forces and start an open dialogue with the public and media to push forward the necessary paradigm shift.

5. OUTCOMES

The outcomes of the III EISRI Summit will be developed in order to support the on-going discussions held at a European level.

Additionally, Atomium Culture will coordinate the media engaged in the platform which together reach around ten million readers per day – in advance and in real time, to arrive at a joint and simultaneous coordination in Europe for the promotion of the main outcomes of the European Intersectoral Summit on Research and Innovation. These outcomes will take into account the different views of the main stakeholders on this issue giving an informed opinion and a proactive way to move forward.

The outcomes of the Summit will be divided into 3 core categories:

- Long-term Actions;
- Short-term Actions;
- Concrete Projects.

Long-term Actions refers to the development of a shared perspective on the direction that should be taken in order to respond to the challenges outlined by the summit. The expected time-line for these actions/recommendations should be within a 5-10 year period.

Short-term Actions refer to the setting up of actions to be developed within the next 5 years both at a national and European level.

Concrete Projects refer to those concrete actions that can be developed in the near future.