

Consultation

“Integration of Slovenian innovation environment”

Slovenian Academy of Science and Arts

Council for Development, President: prof. dr. Igor Emri

Working group on the integration of innovation system and the White book of Slovenian technological potential

Members: dr. Špela Stres, MBA, LL.M (head of group), prof. dr. Mitjan Kalin, prof. dr. Mitja Slavinec, Drago Babič

Event on 13 January 2020 at 09:30-10:30 hours

Roundtable: “Weaving the Innovation System Together”

Summary/ Key Notes

INTRODUCTION

Slovenian Academy of Science and Arts is an independent voice in the Slovenian landscape, striving to better the country's innovation environment. Within the Slovenian Academy of Science and Art, a Council for development and its working group focus on "Integration of the Slovenian innovation environment and the White Paper on the technological potential of Slovenia".

This group was tasked with organizing a Consultation on integrating the Slovene innovation environment titled "Weaving the innovation system together".

The Consultation's goal was how to improve interactions within and the efficiency of the innovation system in Slovenia via planning, accurate assessment of the state of play, insight to best practices on the role and the importance of various stakeholders in the innovation environment.

Participating EU representatives, a US representative and a UK representative mirrored an outside view of the interactions within and the efficiency of the innovation system:

- DG RTD, EIC taskforce, EASME, DG GROW are the EC point of view;
- Cambridge University from UK and ARPA-e from the USA are examples from the outside of the EU.

I. Cheryl Martin, Former Acting Director of the U.S. Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E) and a member of the Managing Board at the World Economic Forum where she was responsible for a range of industry and innovation initiatives

1. ARPA-E has a mandate to advance transformational energy technologies for impact in the world. How did you work to successfully bring together all of the necessary parties, from scientists to companies, to address this mandate?

Key words: Integrated approach

ARPA-E works to define new approaches to solve critical energy problems with a mantra 'if it works, will it matter'. The Agency will identify a critical energy problem and select a portfolio of approximately a dozen solutions to advance transformational energy technologies for impact in the world.

The Agency then starts weaving and integrating the innovation system together around possible solutions by:

- bringing together technical and marketing resources to sit with each team and set the goals starting with the ultimate objective of the project and working backwards from there;
- setting milestones for technical and market-based progress appropriate to the early or late stage of the ideas;
- interacting with the groups quarterly to see how they're doing on their milestones.

Once a year, the Agency brought all dozen projects together with the full ecosystem the Agency has already envisioned (regulators, investors, large companies etc.). Getting to know each other enables all parties to embrace the journey from impossible concepts to plausible impact potential as inventions are tested. Peoples are able to work closely together, bringing the success to somebody's initiative and change the view of participants about what's possible.

A very integrative approach between the financing agency and the awardees can indeed be established. An environment in which an agency grows and develops ideas while challenging and testing the ideas of the awardees all the time beyond a static relationship.

2. What would you say the keywords of your effort were?

Key words: Integrated active management, dynamic, milestone driven and highly collaborative.

II. Keith Sequeira, Head of the Governance and Coordination Unit of the European Innovation Council (EIC) taskforce in the Research and Innovation Directorate General (DG RTD), European Commission

1. The EIC is a new umbrella within the Horizon Europe Framework Programme, within Pillar 3, Innovative Europe. The mandate of the EIC is to provide funding, advice and networking opportunities for those at the cutting edge of innovation. How did you work to successfully manage the transition from previously fragmented instruments (e.g. SME instrument, FET Open, FET Proactive, Fast Track to Innovation) to a seamless funnel of instruments covering increasing TRLs?

Key words: Fundamental 3-step change in managing funding of the innovations different from traditional R&D grants

In the last couple of years, EIC has been supporting in Horizon 2020 universities, large corporates but they were missing out SMEs, start-ups, disruptive innovators, which are so important for the transition in the economy.

First we looked up to all our instruments and brought together all relevant instruments. We found out that we have instruments for advanced research, future emerging technologies scheme, instruments for SMEs, fast track to innovations, prizes, but they were all separate.

First step was to put all the instruments together in a single program, kind of a virtual program in a pilot phase.

The second step was quite big organizational change. All parts of the commission managing different instruments (managing research or innovation programs, having expertise on venture capital investments) were put together working in a single task force cutting through commission structure. They will be soon together in a single agency covering EIC and SMEs program.

Third step was fundamental change how they run the programs. Passive traditional administrative approach has to be transformed into proactive approach. The way how to support innovators has to change. We have to bring in equity financing besides grants to work with innovators on the critical phase of scale up. The challenge is how to make transition from technology lab to the viable business case.

To sum up, we put together all instruments and simplify them, made big organizational change to manage funding as we can't manage innovations same as the traditional R&D grants. The traditional way of financing (R&D grants) might be good for research or industry, but is not the right approach for innovation.

2. What would you say the three most important elements of this successful transition to an integrative approach have been? What do you mean by innovation support and programme managers? What is the role of the EEN in this?

Key words: Linking funding with expertise and services

Substantial funding was linked with expertise, partnerships, business acceleration services, coaching, mentoring, overseas trade fairs, corporate and investors days, procurement days – all community of services around the innovators instead of only funding.

EIC introduced a new role into the management of the innovation projects as financed by the EIC - the program manager.

Proactive management for dynamic fields instead of static grants required recruitment of program managers, in-house experts to push the transition of the research to the real applications.

Changing the perception of innovators – they don't see EIC as a support for the innovators community. EIC is perceived as support for universities and big companies.

3. In Slovenia often we seek solutions via formulating new entities. I understand that the construction of the EIC as an important new part of pillar three is not going to give birth to a new agency?

Key words: EIC and SME Agency as next generation of EASME agency to be in line and tuned with innovators

An EIC and SME executive agency will be created as from 1 April as the successor of the current EASME agency, with the EIC as its main programme, together with other SME relevant programmes. Even though EIC was formed as a crucial tool to enhance innovation activities in Europe, there is no need to create a new administrative entity for that. The elements there already are, need to be even better connected and this will happen within this joint agency. Program managers will be employed to actively manage and assist with business and innovation support as a bundled service.

The new agency will be the next generation of EASME agency – putting things together in a more integrative way. It will be an integrated agency with a new culture to be in line and tuned with innovators. To avoid duplication of activities/ services, the new agency will collaborate with others, such as with EIT and EEN which has presence on the ground, meeting SMEs. In the future, the new Agency will collaborate much more with national/ regional agencies to implement integrative approach rather than working in the isolation.

III. Kirsi Haavisto, Head of Unit Valorisation Policies & IPR in Directorate General for Research and Innovation (DG RTD), European Commission

1. Another segment of the effort of the EC to propel the mid-TRL technologies is connected to The Valorisation Policies unit. Your mandate is to create policies to embed the creation of value from research. What is in your view the essential vehicle to create more »higher TRL technologies« for the benefit of economy and society?

Key words: Good academia and industry collaboration; funding integrated with expertise and services to obtain higher level TRLs are some of the essential vehicles

I would like to emphasize that by improving academia and industry collaboration we could further increase innovation and obtain higher level TRLs. Small scale support programs for piloting, testing and PoC, as an integrated part of funding, would also create/ increase the trust between two parties – academia and industry which are core partners in all innovation ecosystems.

It's not only about funding research but also providing services which will further facilitate collaboration, IP management and the mindset change for increased sharing of knowledge and results.

2. Kirsi, so in practice, what do you think is the keyword to increase the collaboration between the academia and the industry?

Key words: Linking research funding with testing and expert services; professionalization of the KT experts is driving high level of business and innovation services

-Panel logic – you don't only fund the research but you also create possibilities for testing, piloting and PoC as an integrated part of the research funding;

-Introduce high level of business and innovation services;

-Innovation and IP management requires specific skills and professionals;

-To improve valorization would also require to focus on professionalization of the experts that work in the technology and knowledge transfer.

IV. Tony Raven, Chief Executive of Cambridge Enterprise at University of Cambridge, United Kingdom

1. MIT, Stanford, Oxford, Cambridge University are some of the best Universities in the world. All of them are also renowned for their entrepreneurial environment, although they are very different from one another. How did you start creating the environment and what are the most crucial elements in the vibrant environment in Cambridge today?

Key words: The access to capital for start-ups was the most crucial element

Cambridge University started from nothing with creating start-ups from the university and the eco system developed over time. The most important was the access to capital that enabled start-ups to grow. Making access to the finance to entrepreneurs makes the difference.

2. What would in your view the key elements of this effort to push the research out of the PROs be?

Key words: Good academic, curiosity driven research, funding supported by strong local professional teams (TTOs)

The key elements are: good academic research - curiosity driven research rather than application driven research - and small amounts of PoC funding to get the ideas through to seed and scale-up funding.

If you don't have eco system around you like Stanford has, you need your local people in your own institutions and TTOs, strong professional teams to stand along the researchers.

3. Besides high-quality service from the TTOs, vibrant environment and entrepreneurial scientists, what else is there important to maximize the value of research financing? What can be done within the evaluation of the research proposals at the level of the allocation of the financing for the basic research, for example in terms of REF in the UK?

Key words: Decentralized eco system, research programs having a value to the society, dual funding scheme

You have to change people mindset about what's possible. Cambridge is considered as a safe place to do risky things. Whilst accepting failure is important so is a decentralized eco system rather than having a fully centralised program.

In the UK, the first attempt to change the academic culture was that research grant applications had to show what the value to the society might be if successful.

All grant evaluation committees though were full of academics just looking at the research. So the government used a dual funding scheme run by the Research Excellence Framework (REF).

Researchers are funded via grants for their research work and universities get money through a second stream, QR (Quality Related) funding, which is based on two main elements:

- quality of research done accordingly to the metrics and assessment of the significance of the papers that were published;
- 25% of the money is coming from case studies about demonstrating what the research you have done in the past has done to benefit the society today.

V. Giacomo Mattino', Head of Unit, Enterprise Europe Network and Internationalisation of SMEs Unit, the European Commission's Directorate General for Internal Market, Industry, Entrepreneurship and SME (DG GROW)

1. How do you view the role and the importance of various stakeholders in the innovation environment? What is in your view crucial to smoothly transform research results and inventions into economical and societal value?

Key words: EEN is a reflection and integrator of regional eco systems supporting the transformation of research results and inventions into economical and societal value.

Innovation eco system is a complex system of different actors from academia/ research and business.

Among the actors, EEN can be regarded as an integrator of regional eco systems, being composed of consortia that include universities, research and technology organizations, innovation and business development agencies, chambers, business associations and even local promotional banks that can play an active role in transforming research results and inventions into economical and societal value. EEN provides services and expertise much beyond the B2B matchmaking or basic information on EU legislation and programmes, helping SMEs to transform research results into business. EEN provides also special services focusing on innovation management and capacity building of SMEs.

2. Could you comment or recommend actions to be included into any national – hence also Slovenian - innovation system agenda, based on the EC experience?

Key words: Anchor and integrate EEN services and tools into as a part of the national/ regional innovation eco system

I would recommend to any national/ regional authority to critically review the national research and innovation eco system, reinforce what is working well, identify the deficit, go hand in hand with your international partners which is a success factor for the implementation of the smart specialization strategy. Anchor and integrate EEN services and tools into it as a part of the national/ regional innovation eco system.

3. In your experience, can and if yes, how do different policy makers collaborate on the EC level to create a good innovation support environment for all the clients, including companies, PROs, general society?

Key words: Integrate links between the partners responsible for regional services and funding with those who are responsible for trade

Collaboration of different policy makers on the EC requires a strong coordination. We have to integrate links between the partners responsible for regional services and funding with those who are responsible for trade because the global dimension is equally important. Even at EU level, internationalization of businesses taking advantage of the Single Market is clearly an important success factor.

VI. Daniel Gassman, Head of Sector Innovation in SMEs at Executive Agency for Small and Medium-Sized Enterprises (EASME), European Commission

1. Your sector is tasked with the creation and evaluation of the instruments of the innovation support. What do you believe in terms of innovation support is crucial for the development of a good ecosystem and the fluent transition of the technologies between different stages?

Key words: Sit the regional players around the table and include not only public but also private sector support; add services to grants

Most important is to put all the regional players around the table and interconnect them using the digital platform and include not only public but also private sector support for instance in areas like HR, access to the equity, IP, customer base. We have to add up grants schemes with the relevant services.

2. Can you tell us a bit more about the innovation support in terms of who is offering it and how is it quality assessed? Is it offered by the Agency itself?

Key words: Direct funding of couple of innovation services; regularly programs evaluation to get indirectly quality assessment of its services

Biggest volume of support is delivered at local levels. According to a recent ordered by the Commission, the SMEs expect innovation support to take place at the regional level. We also have some services that are delivered directly from the Agency which is funding a number of innovation services.

The Agency is monitoring projects stemming from highly competitive calls for proposals and evaluations done by external experts. The Commission is performing regularly programme assessments for measuring the impact of EU programmes on the ground.

Experimentation in innovation agencies is an interesting ongoing project in which we are testing if randomized control trials (coming from the pharma sector) to see if the Innovation Agencies could use this approach for measuring the quality of the provided innovation support and services.

VII. Nicolas Sabatier, Advisor to the Director of the European Innovation Council, in charge of Outreach (EIC), Directorate General for Research and Innovation (DG RTD), European Commission

Last speaker will reinforce the importance of the EIC way of thinking for the development of academia-industry relations, for the development of the funnel, for the maximization of the impact of the financing.

1. Nicolas, you have heard much has been said today about many important issues. What would you emphasize?

Key words: Bring together researchers, inventors, innovators and investors; Proactive management approach

EIC identifies different stakeholders – researchers, inventors, innovators and investors who are not necessarily the same people. We have to bring around the table all different actors – researchers and innovators. Researchers may be great inventors but they don't see the product and the market. Therefore, you have to bring together different actors to come to the disruption. EIC integrated quite important research program, former FED Pathfinder with the module Accelerator where they provide not only grants but also equity and bank guarantee for a continuous funding support.

EIC has to take risk – a grant means lost investment. “Research needs authorities to take risk”.

EIC has to have proactive management approach to become a partner in the research. EIC is built on the bottom to up approach (let actors to come in with ideas). Therefore, EIC has to provide very proactive management. EIC has to create a tool box of different support to provide to each initiative tailor made support.

It makes sense to create a new body (Agency) if you implement new management philosophy and bring different actors together.

VIII. Špela Stres, Head of the working group at SAZU, Head of the Center for Technology and Innovation Transfer, Jožef Stefan Institute - summary

We heard that at ARPA-e, they could establish an integrative approach between the financing agency and the awardees.

In the UK, we heard that besides the research quality assessment, the researchers also need to present case studies for evaluations, to show how their research was useful to the economy. This exercise has very much changed the culture of the research society in the UK for the better.

From the side of EIC, we heard the EC had introduced a new, active role in managing the innovation projects.

Secondly, innovation support for projects should also come from the innovation environment. As an example, the EEN network and Technology Transfer Offices were mentioned as operational networks.

Thirdly, to obtain higher-level TRLs, one needs more industry-academia collaboration. Smaller tickets are given to companies with a unique purpose to propel R&D collaboration through building trust.

So, to conclude, our guests speak about going past administrating financial instruments. It is essential to build a funnel of financing, from grants for PROs, through blended finance, to equity for companies and top it with highly professional innovation support, bundled with the financial instruments: more collaboration, more professionalism, more high-quality content services. The keyword was: More.

And on the other side, the policymakers and the agencies, they should communicate and collaborate. Creating a new body in the innovation system is not THE solution, but just a tool as any others. What matters is the policy, management philosophy, braking silos, etc. The EC has not created an additional agency to support the EIC. The keyword was "Less". "Less" is more sometimes.

We will work together with our guests to refine the message to provide a written summary to the participants.

Challenges from the guest speakers, questions from the audience:

Spela Stres challenged distinguished guests/ participants to comment what we have heard today:

Igor Emri, Full Professor of Mechanics, Faculty of Mechanical Engineering, University of Ljubljana, Head of the Department of Mechanics of Polymers and Composites, Full Member of SAZU and Member of the Presidency of SAZU:

What guest speakers have presented, it happened in their environment. Slovene environment for innovation is quite different. Therefore, we have to address this issue by ourselves. We can learn from them. But at the end, we have to find by ourselves the solution and our way.

Tomaž Boh, Director General of the Directorate for Science at the Ministry of Education, Science and Sport:

Different elements are important in the management of the innovation eco system in different environments. The challenges in Slovenia are quite similar. Therefore, it's very good to share best and bad practices from abroad and around us.

Question from the audience:

Urša Jerše, The Knowledge Transfer Office of the University of Ljubljana:

Question to Tony Raven: How is the role of TTO changing in the past years and what is the role of TTO regarding the eco system building?

Tony Raven, Chief Executive of Cambridge Enterprise at University of Cambridge, United Kingdom:

It's becoming an extremely important activity for the governments around the world, therefore much more focused, and investment has been put into it. A lot of TTOs started as licensing offices, protecting the IP. But now you actually need all the support for the researchers to take the right ideas forward – the money, the mentors. TTOs in Europe and in the States are taking much more active role in partnering with the researchers to help them achieve their ambitions.

You can't cut and paste from other places. What other places can do is stimulating you to think how to come with your local solutions.

Summarized key notes (based on the audio recording of the Consultation) prepared by:

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All summarized key notes of participants' contributions to the Consultation have been authorized, except the key notes of Mr. Nicolas Sabatier.