Public stakeholder consultation – Interim evaluation of Horizon 2020

Comments from Ecsite

Comments and recommendations regarding Horizon 2020

The comments that follow address the funding scheme and the topics of Horizon 2020 (H2020) and of a future framework programme. We believe it is important to look at both since financial mechanisms induce certain responses. Ecsite opted for a succinct writing style, but obviously remains open to further clarifications with the European Commission.

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1. Funding scheme

Success rates in Horizon 2020 (H2020) were of 10,7 %, according to Science Business (1 December 2016), compared to 19-21% in FP7. Considering the amount of resources required to develop and write a proposal, this low success rate has very negative effects on excellent partners that do not want to invest on developing proposals anymore. Additionally, it is not a sustainable use of resources to devote time to 90% of rejected proposals. The European Commission (EC) should raise that rate of success and reduce the often useless efforts put in by many stakeholders in developing proposals.

1.1 Balance proposal efforts with success rates – 2-steps process
To find a better equilibrium between the resources put in the development of a proposal and the chances of success, a 2-step process should be implemented for most H2020 Calls.

1.2 Increase the number of proposals financed
When many proposals are highly rated (14 or 14.5), clearly all these proposals are good. The evaluation process has its limits (like all evaluation processes): it is not and cannot be refined enough to identify the one good proposal among these. In these cases, there is no apparent reason for the EC to finance only one proposal. We recommend all proposals rated above 14 to be financed.

1.3 Repeat topics
When a specific Call for proposals receives a large number of proposals (122 proposals were submitted under SEAC-2014-1), it clearly expresses a need on that topic. The EC should listen to that expression and reiterate the Topic Call the following year. Surveys and assessments of a Programme are relevant and informative, but so are bottom-up expressions.

1.4 Improve the selection process and provide learning opportunities
The Evaluation Summary Report (ESR) sent to the partners does not in most cases provide information useful to improve a further proposal. Comments are often too vague to give a concrete learning opportunity to the writers, or are sometimes erroneous: a recent ESR stated too much Personnel costs were allocated to a partner while as the project unfolds, it is clearly the contrary.

1.5 Reduce consortium sizes
The EC is currently encouraging large consortiums on calls where the amount of funding is scarce compared with the requirements. This leads to Consortiums where beneficiaries each have small amounts of money and tasks; this can bring reduced levels of engagement in the project, proportionate to the resources received. Large consortiums do not necessarily give rise to large impacts, nor do small consortiums necessarily have small impacts; for example, networks have a larger impact capacity than other types of partners.

1.6 Promote depth and width impact
Funding mechanisms should encourage different types of impact, qualitative and quantitative. Innovation actions should not be measured solely by numbers, just as wide impact actions do not need to be cutting-edge to be relevant. Depth impact should be encouraged as much as width impact, quality and long-term impact should be searched for as much as quantity.

1.7 Shorten delays to final closing of projects
While the delay between proposal submission and Grant signature is now good, the delay between the closing date of the project and the final payment is still too long and should be shortened.

1.8 Improve audits
The EC should monitor meaningful results instead of focusing on finances. The level of details required by the EC reporting system should be reduced to allow beneficiaries to devote their time to the actual research and coordination/support actions. Audits commissioned by the EC on EU projects should compare outcomes with expenditures; a financial threshold should be set by the EC under which auditors cannot request explanations. Trust in partners should be a working principle of the EC.

2. Topics

2.1 Innovation must include citizens

Science engagement is essential to innovation: it constitutes a powerful mechanism to align research and societal needs and to increase the uptake by society of solutions emerging from public and industry research. Science engagement helps the development of products and services that will find a market.

Citizens wish to be co-producers involved in the co-development of products and services – they are not satisfied in being only consumers or users. They want to have their say in policy and product development. **Citizens should be involved in the full research process**: agenda setting, innovation hubs, products and services development through an RRI process.

Science is now being developed in many kinds of settings: the EC should recognize and encourage of the use of **FabLabs and the DIY movement**. Positive stories where citizens take hold of their life for example should be encouraged. [1]

2.2 Entrepreneurship

Entrepreneurship with out-of-school programmes for young people and makers should be encouraged; organisations whose mission is to connect people with science are well positioned to construct the environment that will foster creative thinking and entrepreneurship.

2.3 Institutional change and Capacity-building

Public service institutions ought to be working wisely with public money: that includes identifying the experts, the leaders and the multipliers, and not be afraid of developing **capacity-building** with the forerunners ready to become institutional role-models. It is good use of public spending to first invest in organisations ready to embrace a process such as RRI, before reaching for hard-to-convince ones.

Science centres and museums have science engagement at the core of their activity, and not as a subsidiary activity. They have professional staff, methods and approaches. The majority of their activity is done by bringing together different kinds of stakeholders around an issue or topic. Many actors are involved in the RRI process, but only science centres and museums and similar types of science engagement organisations bring together citizens, researchers, policy-makers, and industry, as part of their regular way of working. They have proven their effectiveness in being RRI Hubs (RRI-Tools, SPARKS, etc.): an RRI capacity building programme targeting those organizations would benefit all stakeholders.
Here is a quote from the main expert (Paweł Szczęsny PHD) to a SPARKS[2] reverse science café organised by Copernicus Science Centre, Warsaw, Poland.

> *The meeting in this configuration as yesterday would not have happened if not for Copernicus. Neither conference organizer, nor the traditional panel of experts would risk gathering a young doctor, a child psychologist, the director of a corporation and technological partisans to discuss the problems of new technologies in medicine. In my opinion, the Centre has entered into a completely new role - a platform for fresh thinking in science and about science. It ceased to be for "science", and became a part of it.*

Science centres /museums and related science engagement organisations have demonstrated their willingness to stimulate an RRI process; yet this is a new role that needs to be supported.

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[1] See for example the Sparks exhibition "Beyond The Lab", http://sparksproject.eu/content/beyond-lab-diy-science-revolution and http://sparksproject.eu/
[2] Sparks EU project 665825

Match research excellence with science engagement excellence
Capacity-building begins by recognizing the capacities. Respect and value the expertise of science engagement professionals and rather than asking scientists to become competent in science engagement, encourage them to partner with science engagement professionals.

Researchers are not trained to do public science engagement activities; often their explanatory approach is ill-suited for contemporary audiences. They are not using to their full potential the competencies of science engagement professionals. Yet outreach and engagement of citizens with current research is very important. Outreach must be mandatory in research projects and must be led by organisations that have science engagement at the core of their activities, such as science centres and museums. Engagement activities have to be done with science engagement professionals – not necessarily "by", but "with" science engagement professionals.

2.4 Disseminate to make better use of EU public spending

Post-project dissemination grants
Dissemination of good EU project's results is not encouraged: by definition, results arrive at the end of a project when funds are not available anymore to disseminate. Dissemination grants are needed to deploy the results of EU funded science engagement projects that brought particularly good results. These grants should be of easy access. Financial mechanisms should also encourage networking events and activities where these practices and results are shared. Virtual sharing should be an add-on to these events, not the core of an action. Trends emerging from these events should be identified, documented, and further disseminated.

Science communicators do not have the appropriate access to best practices in science engagement emerging from EU-funded projects. Research done on science engagement and its impact is insufficient and its outcomes are not sufficiently spread. A **Repository of science public engagement** best practices and research outcomes that targets science engagement professionals is needed, managed by a relevant European non-profit association.

Operational grants to European science engagement networks
European network organisations dealing with science engagement are very powerful multipliers for the implementation of EU policies and priorities. Most of them are non-profit organisations that are currently not financially supported by the EU, which would be their natural governmental counterpart. We strongly believe the EC should reinforce capacity building and support science engagement networks and their integration to RRI by offering operational grants.

2.5 Embrace change - Contemporary Modes of engagement

> "When innovators like LEGO start fusing real bricks with digital magic, when citizens conduct their own R&D through online community projects, when doctors start printing live tissues for patients … Policymakers must follow suit." [3]

Indeed, policymakers must adapt to recent changes (technological, economic, etc.) that have modified the relation of the citizens to learning, to power, to experts, to elites. The public is not satisfied anymore with top-down explanations that try to "sell" science rather than discuss it. Virtual discussions are not the most efficient tool for complex issues, particularly at the European level where citizens do not share one mother tongue. An **RRI approach**, with contemporary relevant face-to-face modes of engagement should be fostered.

Combining **art, creativity and humanities with science and / or technologies** can be particularly powerful to increase the science capital of new publics, provide new questions and fresh angles on a topic, make publics conscious of the societal challenges and empower them.

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[3] Carlos Moedas, Commissioner for Research, Science and Innovation, 22 June 2015, http://europa.eu/rapid/press-release_SPEECH-15-5243_fr.htm

Adults' contact with science occurs late in the course of their lives. They have few opportunities for direct contact with science-in-the-making and are often unaware of the rights and mechanisms at their disposal to voice their concerns, views and opinions about science. Rather than being told about science, adults need to be encouraged to discuss ethical scientific issues, relate science outcomes to their daily lives and be empowered to make rational decisions.

While we welcome the openness of the EC to a broad range of engagement methods, we believe the EC should limit the use of new terms that confuse its stakeholders. RRI was replaced by Open Science, adding to the already difficult task of carrying the underlying concepts. Now it appears that citizen science is envisioned as "*linked with outreach activities, science education or various forms of public engagement with science as a way to promote Responsible Research and Innovation*".[4] With such a broad definition, the terminology "citizen science" brings more confusion than clarity. We suggest **maintaining the terms RRI and public engagement**, the latter encompassing citizen science and other modes of engagement.

2.6 Science capital and Learning ecosystems

Science capital combines science-related social and cultural resources and the various influences that a young person's life experiences can have on their science identity and participation in science-related activities. The concept of science capital contains all the science-related knowledge, attitudes, experiences and resources that you acquire through life. It includes what science you know, how you think about science (your attitudes and dispositions), who you know (e.g. if your parents are very interested in science) and what sort of everyday engagement you have with science. Science capital encompasses the following dimensions:
1. Scientific literacy
2. Science-related attitudes, values and dispositions
3. Knowledge about the transferability of science (that science 'open doors' to many careers)
4. Science media consumption
5. Participation in out-of-school science learning contexts
6. Family science skills, knowledge and qualifications
7. Knowing people in science-related roles
8. Talking about science in everyday life [5]

The EC should promote the concept of science capital.

Because learning happens ubiquitously, **integration of the learning ecosystem** (formal, non-formal, informal) should be further pursued. The EC should **equally value each of the learning system components** and **recognize their specific assets.**

Young people require learning methods that integrate the wealth of available information from various sources, connect learning to their lives, acknowledge different learning strategies and learning modes, and that engage them. The EC should encourage interdisciplinary and innovative modes of science engagement with young people; promote experiences over dissertations, dialogues over explanations; promote peer-learning; focus on critical-thinking rather than on knowledge; and promote presentation of balanced and sometimes contradictory views reflecting the true endeavour of scientific research. **Young people should benefit from innovative learning approaches**, suitable to their fast-pace changing world. **RRI should be fostered at an early age in all learning environments**.

Research on learning environments and methods (in formal, informal, and non-formal settings) should be done in conjunction with the practitioners, and should be better disseminated notably via a public engagement repository (see 2.4).

We support the EC's actions to attract **girls and women** into science and technology careers from an early age onwards but would also suggest for a more inclusive **diversity agenda** to be developed.

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[4] Science with and for Society Scoping Paper 2018-2020
[5] Amy Seakins, Research Associate and Heather KING, Research Fellow, King's College London, London, United Kingdom, in SPOKES http://www.ecsite.eu/activities-and-services/news-and-publications/digital-spokes/issue-25#section=section-indepth&href=/feature/depth/science-capital

2.7 Democracy

Recent political decisions in many European countries have shaken some of the important grounds on which Europe was built: tolerance and rational decisions. The EC cannot ignore this world-wide movement and should recognize, even more strongly than now, that to preserve democracy, immigrants need to become science literate citizens, elderlies to be ICT skilled, young people to be scientifically competent to trust and participate in democracy, adults to keep developing their science capital. **Science engagement is a powerful democratic tool** that needs additional support.

Citizens look for trusted places to develop their scientific citizenship and to make sense of the immensely rapid changes; science centres and museums and other science engagement organisations are trusted places that can foster critical-thinking platforms with various stakeholders.

Additionally, in a world where citizens want to share responsibilities in decision-making, citizens' involvement in all the research process, - from agenda setting to product and service development, - is crucial if democracy is to stay alive.

2.8 Biodiversity, climate change, energy and RRI

European society needs for its citizens to change their behaviours if it is to tackle challenges such as biodiversity loss, climate change and energy consumption. Public science engagement in these three issues should be reinforced. In our view, the concept of RRI is so far one of the best approaches to tackle those urgent issues.

3. Conclusions

We believe the EC should review its funding mechanism and particularly increase the success rates of its Call for proposals.

In terms of topics, we believe:

1) RRI should be maintained and reinforced;
2) Capacity-building of RRI-ready organisations should be further developed;
3) EU-level science engagement networks should be supported;
4) Post-projects dissemination grants should be made easily accessible,;
5) Science capital and different modes, means and places of learning should be promoted, together with a further integration of learning ecosystems;
6) Young people deserve innovative approaches to science and technology learning;
7) Adults, including migrants and elderlies, should have more opportunities of engaging with science and technology;
8) Democratic values should be promoted through science engagement;
9) A diversity agenda should be elaborated that would include girls and women as well as minority groups;
10) RRI should be deployed to tackle climate change, energy consumption and biodiversity loss.