

# – EU research and innovation policy deserves more credit than it gets

Interview with Stefan Kuhlmann and Jakob Edler

*Forskningspolitik* took the opportunity of the visit of Stefan Kuhlmann and Jakob Edler in Oslo on the occasion of the “Grand challenges research policy” conference to have a talk with them about the state of European research and innovation in general, and on the role of the idea of grand challenges as driver and indicator of change in research and innovation policy. Kuhlmann was the keynote speaker at the conference, and Edler gave a talk on the relationship between demand side innovation policy and policy to resolve grand challenges. Both are highly prominent researchers in Europe within the field of research and innovation policy studies and are often invited to provide expert advice on issues of European research and innovation policy, by the European Commission and by national authorities of large European countries. They are outgoing (Kuhlmann) and incoming (Edler) presidents of the European network Eu-SPRI Forum, an organization of 15 leading European universities and institutes within the field of research and innovation policy studies.

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*Forskningspolitik* asked Kuhlmann and Edler to provide some additional comments on the speeches they gave at the conference, where they addressed the grand challenges issue from somewhat different points of view.

**Stefan Kuhlmann:** From an analytical point of view, we may ask why there is, and has been for quite some time, such wide interest in science, technology and innovation (STI) policy circles in the use of the grand challenges notion. In my opinion it may be seen to reflect perceptions within the system about urgent and important issues at a historical intersection of two major trends. On the one hand, we face urgent issues

which share some similar qualities, *in casu* the challenges that are often listed in this context – health, environment, climate, transportation, security, you name it. A generalised concern seems to have emerged around these issues, both in developed and emerging economies, underpinning a growing perception of uncertainty, of welfare at risk.

The other trend has obviously much to do with the major economic crisis we are living through, in Europe as elsewhere. It has undermined the legitimacy of neo-liberal beliefs about unbounded market forces. While confidence in the market was almost unlimited 20–30 years ago, these beliefs have now radically shrunk, even within companies. The economic sector now wants other actors – governments, civil society organizations – to take some responsibility as well, to share the blame if

something goes wrong. I think that we can also see similar concerns driving the current wave of reports, discussions and regulations, particularly within the EU, on «responsible research and innovation» (see other article in this issue, p. 26).

It is within this context of generalised uncertainty and hope for new solutions that I see – switching to a more normative mode of speech – the need for new forms of governance, which was the topic of my speech at the conference. We need ideas of governance which allow us to think of new ways of coping with these concerns and hopes, this uncertainty and precariousness. These ideas need to take into account that what a grand challenge is, is an open-ended issue. They need to be constantly redefined and renegotiated, *en route*; there can be no grand design and no «one size fits all» for coping with these issues.

What we see, then, is that the grand challenge idea has become a shared idea by multiple, heterogeneous actors – it has become what is often, within science and technology studies, called a «boundary object», that is, an entity – object, information or term, as in this case – which is interpreted and talked about in different ways

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and meanings within different communities, retaining nevertheless sufficient identical content to allow communication between these communities and translation between the different uses. The grand challenges idea can, then, bring together many heterogeneous actors, governments, civil society, users etc., and open up spaces and create new constellations within which deliberation and collaboration between these actors may take place.

**Jakob Edler:** I agree – the grand challenge notion is indeed a term that means different things to different people. It is defined at different levels for different purposes. This is in fact fine, as the main unifying feature is that we are reminded that STI policy is about serving a societal purpose. The sole focus on competitiveness and economic growth especially has been a real problem for the acceptance and value of policy especially in the discussion about innovation policy. Grand challenge orientation means, at different levels and at dif-



Jakob Edler

ferent scales, that STI policy needs direction and normative decisions. It means that there are broader debates as to what we should fund and what not, and it means that more actors are involved in the actual definition and implementation of measures.

In my talk at the conference I highlighted public procurement as a point in case – there are many other radical shifts needed in policy making. All of a sudden the function to purchase goods and services most economically to serve the need of a public body can turn into a strategic in-

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strument to create markets for goods and services we want, societally. This has huge implications for practice and roles in those public procurement areas that are seen to be important for clearly defined grand challenges. Procurement has additional political benefits and thus procurers and decision makers need to be part of a broader definition of strategies and practices to procure. Strategic public procurement of innovation is a new ball game for all involved. Unfortunately, the political and public debate has not realised that this also necessitates a major shift in how we organise and conduct this strategic public procurement and STI policy more generally.

**You seem optimistic about the prospects of developing frameworks for STI policymaking that may create common ground and**

**sustain change-orientation among a wide array of actors. Some of these issues are truly «wicked» issues and highly politicized. Is the role of politics in challenge-oriented STI policy adequately accounted for?**

**SK:** I take the presence of political conflict in these issues for granted; that assumption could perhaps be made more explicit. I see wicked problems as not only about conflicting interests, but also about conflicting knowledges. The idea of governance is a means to bring together heterogeneous actors in open spaces within which it may become possible, through deliberation and confrontation between different and conflicting knowledges, to break up silos and question inherited perspectives. In this way, apparently stable and unquestionable stakes may become de-legitimised and weakened. It is exactly because →



these problems are «wicked» and highly politicized that it is important to create spaces where heterogeneous knowledges can be mobilized and confronted. But there is also a need for pro-active change agency, for concertation; it is necessary to open up, but also to structure and direct. In that context I have come across the concept «creative corporatism», which draws on Scandinavian practices and which seems rather close to our notion of governance.

**You are both extensively involved in work to develop, and evaluate, European research and innovation policy. What are your views on the state of that policy?**

**JE:** This is an extremely broad question that it is impossible to answer in a short statement. I may provide a few buzz words that may serve as a few particular highlights. Overall, I think the STI policy at EU level deserves more credit than it gets, it has been a seedbed of experimentation. The European Research Council (ERC) is the most important policy innovation in the field for the last 40 years (since the first Framework Programme in 1982 in fact). We finally have excellence oriented competition across Europe, open to all talent - a simple, highly principled approach. The variable geometry offered in ERANETs and Joint Programming as well as the hybrid instruments like the Technology Platforms, have changed the way in which we organise cooperation and joint initiative across Europe, much more flexible and appropriate.

The problem with the European approaches is the hybris in language, think about the EIT, a valuable instrument, but initially hyped as the European MIT, or the Lisbon agenda, where innovation policy was supposed to make Europe the most competitive region in the world etc. But overall, in times of austerity across Europe, EU level STI policy has done pretty well. I am less impressed with the attempts in Europe to try to impose certain approaches on European countries. Take smart specialisation, to make all European countries apply a set of techniques in order to follow a given template to create priorities and strategies that, in my observation (I have not done any systematic analyses) is often ham-



pering more flexible, more tailored approaches in some countries.

As for national policies across Europe, well, I do hope that the general grand challenge rhetoric is soon better understood in its implications for the way we organise, define and deploy STI policy. And I do

hope that finally actors understand the real meaning of demand side policies, I am frustrated about the limitations this idea has seen, while without demand for and diffusion of innovation no challenge will be tackled.

**SK:** I fully agree with Jakob's overall assessment of European research and innovation policy, which I have followed closely for more than 20 years. It has been a seedbed for developing new policies, for creative experimentation, for quite a lot of learning and many achievements. Compared to national policies, EU policy is modern and learning-oriented. This needs to be emphasized, I think, in these days when

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everybody is bashing the European Commission for almost everything.

At the level of details, there is of course quite a lot to criticize. Over time, the European framework programmes for research have grown tremendously, not only in size, but also in the huge variety of instruments that are applied and in the range of targets and missions that have been added. As a consequence, they have become extremely complex.

This issue was extensively discussed by the high level expert group, of which I was a member, in its ex-post evaluation of the 7th Framework Programme. Due to the complexity of the Framework Programme, it is impossible to assess it from one point of view, so many different frames for assessing quality are needed. How to deal with that complexity is a cross-cutting concern in the recommendations of the high level

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group. We say that the EU programme should focus on a fewer critical challenges and opportunities in the global context. «Critical» and «grand» challenges are, of course, more or less the same. This has to some extent been taken into account in the new programme, Horizon 2020, but it is a true political challenge for the EU to agree on the selection and prioritization of some major challenges, particularly in these

days, when European integration seems to turn into disintegration. We also recommended that key components should be more effectively integrated, as the many parts of the programme are to a large extent living their own lives. Major coordination efforts to make these parts more productively interactive would be worth the effort, but also very difficult. Focussing on a few critical issues would also facilitate alignment of components from European and national budgets.

**One thing that seems to be new in Horizon 2020 is a much stronger emphasis on «impact» in assessments of H2020-applications?**

**JE:** The impact discussion is a tricky one. Often it means a simple post hoc justification of research by putting some engagement features into final reports. In my view, we should not impose the same impact on any research funded in H2020 outside ERC, we should leave room for research that is risky and might not lead to impact. Impact orientation often leads to conservatism, as we are so anxious that we prefer the incremental, relatively certain impact over the uncertain but more radical impact. The latter is what we need.

In the UK, we have to submit impact cases alongside excellent publications when we are assessed in the Research Evaluation Framework (REF), as universities and entities within universities. The impact needs to be evidenced, through citations in strategy documents, through testimonials by stakeholders etc. This is valuable, it makes one more conscious. However, it also means that one is now much more resistant in engaging with stake-

holders in cases where we assume we will not have impact as defined by the REF criteria. So we focus on high impact and forget the rest? Is this good? We have to be careful what we wish for.

**Many claim that the turn towards «challenge-oriented» STI policy indicates a fundamental reorientation of overall STI policy.**

**JE:** Challenge-oriented science policy is →





mission-oriented policy, and we have had mission orientation as long as we have had science policy. «Science for policy» has always been part of the rationale for doing science. The most obvious example is all those mission-oriented public labs that are located under the remit of all kinds of different ministries (defence labs, transportation institutes, health institutes etc.) and are supposed to do research that helps policy making, both in reacting to crises and in thinking about future policies. We also had specific missions like the moon landing or Nixon's war against cancer. These were large scale efforts to tackle one specific politically clearly defined challenge by bundling and focusing publicly funded research activities. What we see now is a qualitative change, so I hope at least, towards a more radical and broader shift of science, technology and in particular innovation policy as well as research practice that is much more in line with a broader set of challenges, whereby those challenges are in flux, evolve differently in different settings and countries and needs.

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**Until some ten years ago STI policy research, was virtually all about innovation policy and innovation systems. This is perhaps one aspect of established STI policy which is now challenged by the new challenge- or mission-orientation? What is, according to you, at stake in this reframing process?**

**SK:** Fundamentally, the concept of innovation system, in its many guises, is useful for capturing the institutional context for policy developments, also for grand challenges, which are all embedded in different systems. The problem with the innovations system notion is that its use has become rather mechanistic; it lost its dynamic, evolutionary perspective during the process of its adoption by governments, the OECD and others. Policymakers now talk about innovations systems as something quite rigid, and the notion has to some degree become spoiled. We need to regain the dynamism of systems thinking, as I think we see in, for example, theories that are being developed to understand systems change, e.g., transitions theory and multilevel perspectives, which develop their core ideas

around the notion of regimes, emphasizing that each regime has its own dynamic. But what is missing is, however, the governance perspective, understood as *de facto* ways of creating legitimate decisions within particular contexts.

**JE:** We have seen in recent years that the terms «innovation» and «innovation policy» have become increasingly pervasive. Innovation now appears to be the key not only to growth, but to coping with societal challenges and transforming socio-technical systems. As my colleague Helga Nowotny and I have argued, in a paper titled «The pervasiveness of innovation and why we need to re-think innovation policy to rescue it»<sup>1</sup>, this increasing pervasiveness of «innovation» in societal, political and academic discourse and policy practice creates tensions which need to be addressed for us to be able to understand and design policies to support innovation which take into account connections between underlying innovation models (the «how») and the normative claim of innovation policy (the «what for»). We should think of innovation policy as having basically two functions: (1) sustaining an innovation ecosys-

<sup>1</sup> Published in: Austrian Council for Research and Technology Development (Ed., 2015): *Designing the Future. Economic, Societal and Political Dimensions of Innovation*, EChomedia Buchverlag: Vienna




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tem by supporting capabilities and connectivity, entailing proper regulatory framework conditions both for the development of (fundamental) science and innovation, and (2) giving direction for the generation and diffusion of knowledge and innovation by taking into consideration the supply and the demand side. This does not call for what some have called a «holistic» innovation policy, but is an argument for a differentiated policy, with different entry points of responsibility for related but distinct purposes. Quite different policy approaches and quite different

organisational set ups are needed, with some basic level of coordination, but not a full integration.

In talking about the directionality function of innovation policy, we need to distinguish between two different modes: one is the directionality of technology and the other the directionality of the challenges that are to be met. Technology directionality means the need to prioritise decisions on specific research and/or technological areas over others on the basis of the anticipated understanding of their potential for having economic or societal im-

pact. In the perspective of challenge directionality, the challenge is the goal and technologies provide the means, but such a relationship must be framed in a systemic context. In order to tackle a given challenge, the starting point is the insight for some kind of systemic change. This necessitates the articulation of the challenge and how it can be translated into innovation demands and in support requirements. The initial focus shifts entirely to the demand side, as already the very nature of the demand articulation matters a great deal. 

## This is Eu-SPRI Forum:

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