EUROPEAN ASSOCIATION OF RESEARCH AND TECHNOLOGY ORGANISATIONS

EARTO Position on the Next Generation of European Union Research and Innovation Programmes

incorporating comments relating to the European Commission's Innovation Union proposals and the interim evaluations of FP7, the CIP, the Structural Funds and the ICT programme

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EARTO

This paper expresses the views of Europe's Research and Technology Organisations (RTOs) organised in EARTO, their European trade association.

RTOs are mission-oriented organisations which help governments address the major social and economic issues of the day, including promoting economic competitiveness by supporting innovation in businesses, large and small, in all sectors of the economy.

The core activity of RTOs is research and technological development, including related laboratory and infrastructure services. It is "research for innovation", targeted at helping partners and customers in the public and private sectors to find effective solutions to real-world challenges and opportunities. As part of this innovation mission, many RTOs have developed significant complementary activities and expertise in technology and market foresight, standards and certification, technology information and consultancy, specialist technical training, intellectual property management, and many engage directly in technology exploitation through licensing and spin-off company creation.

RTOs are major international research players. In Europe, they account for about one-third of Framework Programme funding and are well represented among the top 50 FP7 beneficiaries[1].

Further information on RTOs and their distinctive role in research and innovation eco-systems may be found in:

- Technopolis Group, *Impacts of European RTOs: A Study of Social and Economic Impacts of Research and Technology Organisations*, Brighton, October 2010

The following recommendations and comments build on earlier EARTO positions concerning European research and innovation policy, notably:

- EARTO Position on the Revision of the Financial Regulation, December 2010
- EARTO Position on the Simplification of the Framework Programme, April 2010
- Addressing the Grand Challenges: The Contribution of Research and Technology Organisations, EARTO, May 2010
- Proposal for a European Strategic Technological and Applied Research Council (ESTARC), EARTO, November 2009

[1] *Interim Evaluation of the Seventh Framework Programme: Report of the Expert Group*, European Commission, 2010, Appendix 1

EARTO's Principal Recommendations

1. Much of what is proposed in the Commission's Innovation Union Communication will require concerted action by the Member States. However, many past efforts at coordinating national R&D activity have failed to achieve their ambitions. **The Member States must commit substantially – politically and financially – to real coordinated action** if the proposals to tackle societal "Grand Challenges" and to accomplish the European Research Area are to succeed.

2. The design of the next Framework Programme (FP) should reflect the new focus on innovation and tackling Grand Challenges. Equally important, however, is to **preserve and re-inforce the FP's central place in the European R&D system, in terms of budget as well as of key instruments** such as collaborative research and smaller projects. Moreover, since the present **Research for SMEs and Research for SME Associations programmes continue to meet high demand which few existing national or regional programmes can satisfy,** considerable caution is required regarding the proposal that *"further use should be made of partnerships with Member State agencies"*.

3. **RTOs can play a substantial role in tackling Grand Challenges and can be a cornerstone of the European Research Area.** They can offer exceptional **value for innovation-policy money** in the current difficult budgetary environment. But the Commission and the Member States need to recognise **RTOs' distinctive ability to link the parties in innovation value chains** and must specifically leverage their strengths much more than in the past. **RTO networks can anchor the research component in Joint Programming and European Innovation Partnerships**. Facilitating **Strategic Research Alliances between RTOs** would significantly advance ERA objectives.

4. The Innovation Union proposals are an opportunity to re-order and simplify existing European programmes, initiatives and procedures. EARTO favours integration of much of the **Competitiveness and Innovation Programme** (CIP) with the Framework Programme, in particular CIP support for technology demonstration and pilot actions. Cooperation with the Structural Funds (SF) should be intensified, with **greater SF support to bolster capacities for producing, diffusing and absorbing technology and innovation.**

5. The **governance and management of the Innovation Union** merit further consideration. We would welcome the establishment of a high-level **European Innovation Council** to provide independent advice and guidance as well as the extended use of more **autonomous, mission-driven agencies** for the management of significant parts of the Union's research and innovation policies.

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Introduction

The publication in October 2010 of the European Commission's *Innovation Union* proposals has launched the policy process to prepare the next generation of European research and innovation policies.

In a broader sense, the policy discussion has been going on for almost five years now, since at least the Hampton Court summit in October, 2005. That summit led to the Aho report – published in January, 2006 – which argued for a radical change in European policy, based on a four-part strategy focusing on **the creation of innovation friendly markets**, **strengthened R&D resources**, **increased structural mobility** and **fostering a culture which celebrates innovation**.

Since the publication of the Aho report, several Commission-appointed expert groups have picked up many of the same themes and re-iterated and expanded upon many of the same general conclusions[2], many of which have also fed into the EU2020 strategy[3].

There is thus now a broad consensus that Europe must focus more on innovation (not just research) and on strategic initiatives ("Grand Challenges"), embracing the whole innovation chain (from basic research to pilot applications and demonstrators, supported by smart regulation, open standards, public and private capital etc.), through coordinated action (regional, national and European), with full involvement of business (large and small), and founded on a forward-looking European budget ("investing in the future, not subsidising the past"). Many of these themes are prominent in the Commission's Innovation Union proposals.

Innovation Union: A Timely and Welcome Proposal

EARTO welcomes the Commission's Innovation Union proposals. We concur with the essentials of the underlying analysis – under-investment in knowledge production, unsatisfactory framework conditions, fragmentation and duplication

[2] Notably, amongst others, the "ERA rationales" expert group, the Rietschel FP6 evaluation report, and the Soete group report on Community research policy in the knowledge-based economy.
[3] *EUROPE 2020: A European strategy for smart, sustainable and inclusive growth*, European Commission, March 2010

of research effort – and agree, too, with the main lines of the proposed policy response. Innovation is essential if Europe is to remain competitive in an increasingly global world, and innovation can accelerate our exit from the financial and economic crisis.

European Innovation Partnerships

At the core of the Innovation Union proposals are European Innovation Partnerships (EIPs). Each Partnership is to be focussed on a well-defined Grand Challenge – often cited examples are climate change mitigation, scarcity of resources, demographic change, or sustainable energy and water supplies – of common European interest. Thus an EIP is best thought of as a management or governance framework intended to draw together all of the public and private resources required for achieving the objectives of the particular Grand Challenge: research, standards, public regulation, procurement, demonstrators, capital investment…

EARTO welcomes the strategic focus intended for the Partnerships and their **dual objective** of addressing societal challenges while enhancing Europe's competitiveness.

As EARTO has indicated in an earlier paper on *Addressing the Grand Challenges*[4], such an approach – all-encompassing and highly ambitious – will require strong and inspiring leadership in order to succeed: focussed priorities, clear targets, real commitment of resources, and deliverables-driven management are among the necessary ingredients.

The Essential Foundations of Joint Action: Political Commitment, Effective Implementation

The success of EIPs will depend critically on real commitment of resources and on effective implementation. The **Steering Board** which the Commission proposes to oversee each Partnership must not only be representative, as is foreseen, but must also, and above all, be vested with real authority and resources to provide hands-on management: if the Partnerships succumb to the all-too-frequent European preference for "satisficing" the largest possible number of players, they will fail.

The Innovation Union proposals suppose a substantial willingness of Member States to pool their resources in order to tackle together, in a coordinated way, specific societal challenges. *Joint Programming* has been introduced for this purpose, as a mechanism for pooling national public research funding. However, many previous European initiatives based on transnationally coordinated research activity have at best been mitigated successes: in 25 years of operation Eureka, for example, has still not put in place a reliable transnational research

[4] *Addressing the Grand Challenges: The Contribution of Research and Technology Organisations*, EARTO, May 2010

funding mechanism[5]. More recently, few ERA-NETs have achieved significant scale, and the two Joint Technology Initiatives with national co-funding – ARTEMIS and ENIAC – suffer from the same oft repeated asymmetries[6]: (i) national inability or unwillingness to synchronise research funding; (ii) difficulty of aligning national and European strategic objectives and evaluation/selection criteria, and (iii) insufficient resources committed, or released in practice, by some participating Member States, with the result that their national participants in positively evaluated projects cannot be funded.

By contrast, joint initiatives based on binding contractual commitments, on "real pots" and on effective central management have succeeded in framing and implementing ambitious European programmes. Examples include, of course, the EU RTD Framework Programmes as well as transnational structures such as CERN, EMBL, or ESA.

The conclusion is clear: without a substantial change in the willingness of Member States to either allocate substantial new resources to European budgets for research and innovation, or to seriously commit own resources to coordinated joint European initiatives, the objective of joint responses to Grand Challenges will fail[7].

We wish to be absolutely clear: RTOs are fully prepared to play their part in European Innovation Partnerships, but if there is not commensurate political commitment of will and resources to support joint action, neither RTOs, nor many other key participants, will be able to take meaningful part.

European Innovation Partnerships and RTOs

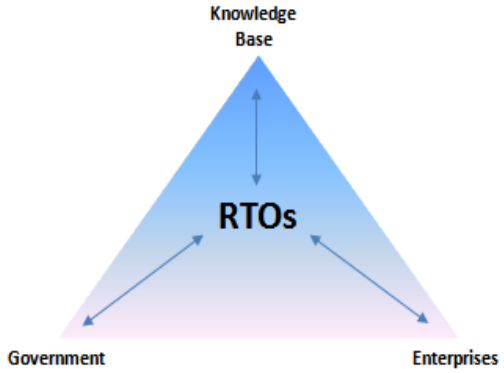
As noted, EIPs are to be understood as management or governance frameworks for bringing together all of the public and private resources and activities required for achieving the objectives of a particular Grand Challenge. Thus **EIPs are about "facilitating the innovation value chain"** relating to a particular Grand Challenge.

The essence of such an approach is to mobilise and integrate, at the right time and in the right place, the necessary resources – intellectual, material, legislative, etc. No doubt no one player can be the perfect "spider in the innovation web", but RTOs – with their links to the science base, their technological competence, their market knowledge, their connections to

[5] EUROSTARs does represent a significant step forward, with its central evaluation and selection procedures, tied to a commitment by the participating Member States to fund. But anecdotal evidence suggests that some Member States are still not systematically respecting the rules, and it can be doubted that EUROSTARs is scalable into a major European initiative targeting a subject or subjects of national strategic interest and/or requiring substantial commitment of national resources.
[6] The FP7 Interim Evaluation notes similar problems in the AAL Article 185 (ex-169) initiative.
[7] …and the past two years of discussion among Member States about the framework conditions for Joint Programming are not encouraging: they have produced a set of "voluntary" guidelines with few clear recommendations, let alone stipulations, as to how to fund research, handle intellectual property, etc.; instead, things are to be decided on a case by case basis, which suggests that Joint Programming will simply be a new EUREKA, with its flaws, for public research funding.

government and business, their problem-solving mind-set, their role in standards-setting … – are better equipped than any other actor category to play a central linking role in EIPs.

In the words of the recent Technopolis report on Impacts of European RTOs: *"Key elements of current European innovation policy discussions concern the need to link innovation with research to mobilise coalitions of major stakeholders and tackle the Grand Challenges … and to build scale and scope in European research and technological capabilities in order to win in global competition. This is the home territory of RTOs"*[8].



EARTO therefore repeats its earlier proposal[9] for **Strategic Research Alliances of RTOs to underpin the longer-term research programmes** required in Joint Programming and Innovation Partnerships, following the example of the *European Energy Research Alliance,* established within the SET-Plan[10].

A European Innovation Council to Inform Policy Making …

EARTO re-iterates its earlier proposal[11] for a European Innovation Council which would have the task of providing strategic, independent advice and guidance on the challenges and opportunities facing Europe as well as on the objectives, scope and instruments of European research and innovation policy more generally. Such a Council - comprising a limited number of eminent individuals from the worlds of business, research and public service – would complement political decision-making and accountability by providing neutral expert advice founded on practical experience. It would serve to **keep the innovation imperative high on the European agenda** and to continually guide and goad public and private actors at all levels into real, substantial, coordinated joint action.

… and Autonomous Agencies to Manage European Programmes

EARTO would strongly favour a move towards **autonomous, mission-driven European agencies for managing large parts of European research and innovation policy**. Many of the current difficulties of "bureaucracy" in the

[8] Technopolis Group, *Impacts of European RTOs: A Study of Social and Economic Impacts of Research and Technology Organisations,* Brighton, October 2010, p.i
[9] *Proposal for a European Strategic Technological and Applied Research Council (ESTARC),* EARTO, 2009
[10] Such alliances, to be effective, need to be built at the level of corporate management so as to ensure the effective commitment of resources (as opposed to mobilising the research interest of individual researchers or research teams), and they need to be properly resourced, which sadly is not yet the case for the SET-Plan's European Energy Research Alliance.
[11] *Addressing the Grand Challenges: The Contribution of Research and Technology Organisations*, EARTO, 2010

administration of the Framework Programme stem from well-intentioned but un-coordinated and ultimately dysfunctional micro-management between and within EU institutions. A shift towards programme management by autonomous, mission-driven agencies could achieve greater efficiency and effectiveness whilst preserving political responsibility: Finland's Tekes may serve as an example. The present agencies managing the European Research Council, the Marie Curie programme, etc. should be re-engineered accordingly. Political over-sight could be adequately assured through supervisory boards with appropriate institutional representation. One could imagine the current European Research Council, which is focused on frontier (basic) research, being paralleled by a specific agency managing infrastructure programmes (ESFRI etc.) and another managing technological and applied research programmes, as EARTO has previously proposed[12].

The Innovation Union and the Next Framework Programme

The Innovation Union proposals indicate at several points that the next FP should be structured and managed so as to support the Innovation Union objectives. EARTO concurs. At the same time, we recall that the legal basis for the FP specifies two further, although not contradictory, objectives, namely **achieving a European Research Area** and **supporting economic competitiveness**[13].

An absolute priority must be the much-promised **"simplification" of the FP**[14]. The demands of EARTO[15] and other key stakeholders are clear. Chief among them are: (i) the uniform interpretation and application across all Commission services and EU institutions of the rules governing eligibility and funding and (ii) the use by beneficiaries of their usual management and accounting principles and practices. Proposals have been made; the EU institutions must now act. Unless there is substantial, real simplification, more and more beneficiaries will further reduce their participation in the FP, which in consequence will fail to achieve its objectives[16].

The Commission should also **bring order to the present confusing landscape of initiatives, instruments and procedures**. The new European Innovation Partnerships will join a broad array of Joint Programming Initiatives (JPIs), Public-Private Partnerships (PPPs), European Industrial Initiatives (EII), Joint Technology Initiatives (JTIs), European Technology Platforms (ETPs), the

[12] *Proposal for a European Strategic Technological and Applied Research Council (ESTARC)*, EARTO, November 2009.
[13] cf. Article 179.1, Treaty on the Functioning of the European Union
[14] The urgent need for action has most recently been confirmed by the FP7 Interim Evaluation Expert Group, which calls for a "quantum leap" in simplification.
[15] *EARTO Position on the Simplification of the Framework Programme*, April 2010 and *EARTO Position on the Revision of the Financial Regulation*, December 2010
[16] The FP7-ICT Interim Evaluation report has passed harsh, but in our view appropriate, judgement: "… *as regards simplification and the audit burdens placed upon participants the Commission has taken significant backwards steps that undermine the long-term viability of the Framework Programme. Lack of clear, understandable and, above all, coherently interpreted rules have resulted in a dysfunctional approach to the financial management of EU-funded research. Indeed, post-project auditing practices introduced in the wake of FP6 impose arbitrary and retroactive changes to costing rules resulting in unexpected financial penalties for participants. This negative lottery is reducing the willingness of key players to participate in the Programme and is making more global participation unattractive. It is not 'merely' a matter of imperfect implementation: it is an existential challenge to the Programme itself".*

European Institute of Innovation and Technology (EIT)[17]... There is a need to map these different initiatives onto a single landscape – and to consolidate them – so that each is clearly positioned and potential participants can orient themselves accordingly.

Simultaneously, **unnecessary and dysfunctional variations in rules and funding models as between different initiatives should be removed**. We refer by way of example to the IMI Joint Technology Initiative, with its lop-sided IP-handling rules and its 20% cap on the reimbursement of overhead costs[18]. The baseline for all initiatives and instruments in receipt of FP funding should be that FP rules and funding models apply in all cases. Exceptions should be permitted only where compelling reasons exist.

Complaints about the plethora of FP instruments and initiatives have led to suggestions for a **moratorium on new instruments** or, alternatively, the introduction of a "one-in-one-out" rule[19]. This does not seem practical. A moratorium would produce an unhelpful rigidity, while "one-in-one-out" could have unintended consequences (e.g. abolish a small instrument to introduce a large one). The need to rationalise the present array of instruments and initiatives is clear and can be acted upon without a need for mechanistic constraints.

We use this opportunity to re-iterate an earlier EARTO proposal for a **specific instrument in FP8 to facilitate the pooling of disciplinary skills and the sharing of risk by transnational groups of RTOs**, including universities and industry where relevant, in longer-range strategic research programmes. This proposal to advance the rationalisation of the European Research Area, which corresponds closely to the "Joint Research Initiatives" proposed by the *Expert Group on the Future of Networks of Excellence*[20] as well as criticisms of European research policy voiced by the "ERA Rationales" Expert Group[21] has since received further endorsement through the Technopolis Group report on the *Impacts of European RTOs*[22].

Finally, when designing FP8, it must be remembered that the FP has come to occupy a substantial and important part of the European research landscape. It is sometimes said that it represents just +/-5% of public R&D spending in Europe. But a more disaggregated analysis shows that the **FP accounts for perhaps as much as 30% of competitive R&D project funding in Europe**. It thus has a powerful leverage effect on overall European R&D spending – and by virtue of its existence and growth over the past quarter of a century is now part of the

[17] The Innovation Union proposals triumphantly overstate their case when they remark that the EIT *"is a pioneer and a role model for stimulating innovation in Europe"*: at the time of writing, not one of the contracts to establish the first three EIT KICs had even been signed!
[18] cf. Joint Statement on the Innovative Medicines Initiative (IMI), July 2010
[19] cf. *Interim Evaluation of the Seventh Framework Programme: Report of the Expert Group*, European Commission, 2010,
[20] *Expert Group on the Future of Networks of Excellence*, September 2008.
[21] cf. the report of the "ERA Rationales" Expert Group: *Challenging Europe's Research: Rationales for the European Research Area (ERA)*, European Commission, 2008.
[22] Technopolis Group, *Impacts of European RTOs: A Study of Social and Economic Impacts of Research and Technology Organisations,* Brighton, October 2010

bedrock of European R&D. The design of FP8 must reflect and preserve this major achievement.

In this sense, as EARTO has argued earlier[23], there is a need to continue stand-alone, smaller-scale, problem-solving, **STREP-style projects** in support of economic competitiveness as well as **projects directed at developing next-generation, disruptive technologies**. EARTO has also proposed the creation of a **European SBIR scheme**[24].

Considerable caution is required where the Innovation Union proposals suggest with regard to SMEs that *"further use should be made of partnerships with Member State agencies, building in particular on the experience of the Eureka Eurostars initiative"*. The present **EU Research for SMEs and Research for SME Associations programmes continue to meet high demand which few existing national or regional programmes as presently structured can satisfy**. Therefore, any alternative to the present EU SME-specific programmes based on partnerships with Member States should only be contemplated when and if a comparable (and preferably higher) volume of resources can be securely mobilised, with equally effective and efficient programme management, objective evaluation procedures, and certainty of comprehensive project-partner funding in the case of positive evaluation. The opportunity should also be taken to revise the SME definition employed in the FP, away from size criteria based on employment or capital towards characteristics of entrepreneurialism (as in the notion of *Mittelstand*).

Structural Funds

The Innovation Union proposals rightly argue for a reinforcement of research and innovation as priorities in the deployment of Structural Fund (SF) spending. **Greater policy coordination** is desirable and should be sought **through strengthened complementarities** between the SF and the FP: we see the particular role of the SF to be in developing capacities to produce, diffuse and absorb research and innovation, the role of the FP being to fund specific RTD programmes and projects.

Better use should be made of existing SF resources for R&D and innovation at regional level. **Regional and national strategies for the use of SF should be aligned with EU2020 and Innovation Union goals**.

There must be an **end to unattractive cost-reimbursement models** in the SF: the best research and innovation players will not participate in SF projects as long as eligibility conditions or cost-reimbursement models require them to work at a loss.

[23] *Proposal for a European Strategic Technological and Applied Research Council (ESTARC)*, EARTO, 2009
[24] The Innovation Union proposals address the idea of encouraging individual Member States to employ SBIR-like schemes within their public procurement activities.

The EU institutions should use the opportunity of the **current review of the Financial Regulation** to set **a single financial management framework for all Community funding programmes**.

The Competitiveness and Innovation Programme (CIP)

The CIP is an amalgam of Community innovation-related initiatives with historical antecedents outside of the mainstream of European research policy. This should now change. We propose that key parts of the current CIP be merged with the Framework Programme.

Valuable research- and innovation-related components of the present CIP are its: (i) innovation policy measures (PRO INNO Europe, Europe INNOVA); (ii) sub-programmes providing financial support for the pilot implementation of new technologies (the Information Communication Technologies Policy Support Programme (ICT-PSP), the Intelligent Energy Europe Programme (IEE), and the Eco-Innovation Programme) as well as (iii) the SME financing facility administered through the European Investment Fund.

We propose that the **financial support for pilot and demonstration activities** presently provided by the CIP in certain application areas (ICT, Energy, Eco-Innovation) should be **generalised across the whole of the future Framework Programme**, with a commensurate increase in funding. In other words, FP-funded projects with promising results requiring further development in order to prove or demonstrate their practical application should have access to a financial facility tailored to this specific purpose. Such a "joined-up" programme would have the further advantage of allowing the Commission to point more easily to "success stories" coming out of its research programmes.

Open Access

The Innovation Union Proposals state that: "*The Commission will promote open access to the results of publicly funded research. It will aim to make open access to publications the general principle for projects funded by the EU research Framework Programmes".*

The principle of open access is, in general, appropriate in a context of publicly funded research. However, the Framework Programme practically never fully funds research. Rather, it **co-funds**, being an incentive programme aimed at enabling/encouraging beneficiaries to perform research that they would not undertake otherwise because of risk and/or cost. To the extent that a beneficiary would intend to exploit itself the results of a co-funded FP project, it would often be inappropriate to impose open access publication. Thus, the Commission may wish to encourage open-access publication; it must not systematically impose it.

Model Consortium Agreements

We welcome the Innovation Union proposal that the Commission will produce Model Consortium Agreements for use in the future European research and innovation initiatives. We take this as recognition of the valuable work by several stakeholders, including EARTO, who produced the DESCA Model Consortium Agreement for FP7, and we look forward to working with the Commission to produce future such Consortium Agreements. Simultaneously, we propose that the Commission should advance the work of the Responsible Partnering consortium (EIRMA, EARTO, EUA, Proton Europe) in promoting productive collaboration patterns between research organisations and business. The principles of Responsible Partnering should be the foundation of the future Consortium Agreements.

Conclusion

The Commission has tabled a set of proposals that have the potential to re-energise research and innovation policy and practice in Europe. The debate is open. Ultimately, the EU Member States and the European Parliament must decide. Above all, the Member States must commit.

The financial resources to be allocated to future EU budgets will need to reflect these new objectives and priorities. Innovation with impact to solve Grand Challenges and bolster competitiveness is an investment that has to be made.

EARTO and its member RTOs will follow the forthcoming policy discussions actively and constructively, and they stand ready to play their full part in helping to achieve the European Research Area and the Innovation Union.