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Comments on the European Commission's Horizon 2020 Proposals

EARTO is in general favourable towards the European Commission's proposals for the future Horizon 2020 (H2020) research and innovation programme.

The present document notes our principal areas of agreement, requests for further clarification, and issues of concern.

A major current concern are some of the Commission's simplification proposals, especially with regard to the funding regime.

This document will be updated from time to time as the inter-institutional discussion about H2020 progresses.

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Innovation Focus

We welcome H2020's focus on innovation. While public funding for basic/fundamental research is essential – and we fully support increased funding for the European Research Council – Europe needs to focus more than in the past on mission-oriented technological research and on ensuring the practical deployment of technologies for innovation, i.e. new and improved products, processes and services to help solve societal problems and exploit economic opportunities. This innovation imperative is all the greater in the current climate of economic and financial crisis, of budgetary austerity, of adverse demographic change in Europe, and is amplified further by a context of globalisation and consequently increased competition in world markets.

Budget

The roughly €80bn proposed for H2020 are insufficient. While the total may represent an overall increase on FP7 of around 46%, the real increase is close to zero. The FP7 budget was programmed from the outset to rise year-on-year and will have reached approximately €10bn per annum by 2013, FP7's final year. Thus we shall need €70bn already in constant prices just to maintain the level of funding. However, H2020 proposes to integrate elements of the previous CIP programme and provide funding for the EIT, while simultaneously embracing innovation activities more extensively than previous programmes. Major demonstration and pilot facilities, for example, typically require substantial co-funding. Thus the proposed €80bn represents no significant increase at all. We welcome Parliament's recommendation that €100bn should be allocated to H2020.

General Structure

The three-pillar structure proposed for H2020 is welcome. It provides for a balance of spending on more speculative, long-term science (and scientific talent for tomorrow) and on more short- to medium-term innovation targeting societal challenges and industrial leadership.

Excellent Science

The scientific excellence pillar takes almost one-third of the budget, within which expenditure on the European Research Council (ERC) is approximately doubled. Any further increase for the ERC should be resisted, and we should prefer a re-balancing of the ERC budget in favour of Future and Emerging Technologies (FET). Moreover, we propose that at least part of the FET budget be targeted at supporting the Industrial Leadership and Societal Challenge objectives, so as to increase focus and critical mass. Support for research infrastructures, in particular the continuation of ESFRI and measures to facilitate EU-wide access to such infrastructures, is welcome. We should like to see this support extended to smaller research and industry-relevant infrastructures.

Industrial Leadership and Societal Challenges

The important place given in H2020 to Industrial Leadership and Societal Challenges is appropriate. It is the core of H2020's orientation as an innovation programme and it is in these areas that it can make a significant contribution to the achievement of the Union's EU 2020 policy goals. One could argue that more should be spent on Industrial Leadership and less on Societal Challenges, but more important are the potentially major synergies between the two: many of the activities launched under Societal Challenges can be expected simultaneously to bolster Industrial Leadership, and vice-versa. This has implications for the management structures for implementing H2020, which in general should be mission-oriented.

It is appropriate that the agenda for Industrial Leadership should be business-oriented and that for Societal Challenges policy-driven. During the forthcoming inter-institutional negotiations it will be of great importance to guard against an inflation of themes in both pillars. It is essential that H2020 focusses effort by setting priorities and building critical mass. The Joint Programming exercise in priority setting (the ERAC GPC formation) provides a negative lesson of how focus can be diluted when it is allowed that all initially proposed themes must somehow be accommodated. This relates to an important issue of governance, which is discussed further below.

The strong focus on Enabling Technologies within Industrial Leadership is very welcome. Europe's strengths in these fields have been demonstrated in the recent report of the High Level Expert Group on Key Enabling Technologies. The challenge now is to pursue an agenda weighted towards innovation and deployment. Achievement of this will be an acid test of H2020's success as an innovation programme.

The Challenge "Inclusive, Innovative and Secure Societies" appears to be little more than a collection of existing themes that do not fit anywhere else; it should be rethought in the interests of coherence and focus. We see security issues as a key priority.

The proposals for debt and equity instruments appear justified, although details are lacking. Consideration should be given to how they might be specifically employed to co-fund innovation activities under the Industrial Leadership and Societal Challenge priorities, including the creation of spin-off companies out of universities and RTOs.

SMEs

The Commission's proposal foresees a 15% target for SMEs in the Industrial Leadership and Societal Challenge pillars, which is appropriate. How the "dedicated SME instrument", which in principle we welcome, will operate in practice requires clarification. It is indicated that it will apply in all areas of Societal Challenges and in all areas of Industrial Leadership, and that it will be funded from the budget lines for these actions, possibly absorbing a substantial sum of money. It would seem, too, that it would permit SMEs to have recourse to external research providers.

There is, however, a lack of clarity as to how the new instrument is to be implemented.

- In different places in the *Horizon 2020* documents, the Commission speaks of a "policy-driven" mode (= research procurement?) and a "bottom-up" mode (fully untargeted?). Which is correct? Are both correct? When and how will the different modes apply?
- Will the instrument be managed centrally as a single programme, or will each operating unit in the Commission manage its own variant of the programme? How will consistency of operation then be assured?

The prime focus of H2020's SME targeting should be that relatively small percentage of SMEs (7% according to recent British research) with the ambition to grow and create employment. The new programme should also be the opportunity to rethink the Commission's SME definition, which is excessively restrictive and focussed on quantitative criteria. We should prefer a more entrepreneurial definition ("Mittelstand") and scope to include companies up to, say, 1,000 employees.

Public-Private Partnerships (PPPs) and Public-Public Partnerships (P2Ps)

The Commission speaks of "leveraging" additional research, development and innovation funding and appears to want to do this, inter alia, through PPPs and P2Ps, including ERA-NET-type projects, Art. 185 and Art. 187 initiatives. In principle we welcome this approach, which will favour increased critical mass, but subject to certain conditions:

- Union funds should only be deployed when the other participants have given solid commitments on participation and funding
- Funding mechanisms must be structured in such a way that all participants in selected projects can be funded (i.e. even when "national" allocations have been exhausted – cf. the negative examples of ARTEMIS and ENIAC today)
- Funding instruments and participation rules should be modelled on H2020 instruments and rules, with deviations allowed only in exceptional, justified cases.

European Institute of Innovation and Technology (EIT)

We welcome the inclusion of the EIT in H2020, which will allow for its activities to be better co-ordinated with Framework Programme objectives. Indeed, in the interests of building critical mass, we should like to see the EIT focussing on activities in line with the priorities of Industrial Leadership and Societal Challenges, and we propose that the amounts payable to the EIT in the second budget tranche, which will come from the Industrial Leadership and Societal Challenges budget lines, should be subject to a requirement to undertake activities that support and reinforce those already being undertaken and/or foreseen in the respective priority.

Synergy with Structural Funds

The potential for H2020 and the Structural Funds to be operated in a mutually reinforcing manner is great. In general, we propose that the Structural Funds should remain focused on capacity-building – including infrastructures and, in our view, pilot and demonstration facilities – while H2020 targets research projects and programmes. Achieving greater synergies between the two will mean, in particular, alignment of the respective rules for participation and funding models as well as willingness by the Member States in receipt of Structural Funds to propose Operational Programmes that are aligned with H2020 objectives.

Governance to Ensure Innovation Impact

H2020 must stay clearly focused on achieving real innovation impact. Decisions will thus be necessary about the targets and priorities to address within each Societal Challenge and within Industrial Leadership. The process of selection should be transparent and participative. The approach could be to establish an “Innovation Council” for each grand challenge (perhaps that is what is meant by the “dedicated implementation structure” for KETs mentioned, but not explained, in the Commission’s H2020 proposals) comprised of 20-30 high-level individuals representing the main interested and affected constituencies (politics, research, business, civil society, etc.). The Council’s job would be to elaborate a draft action plan, which would require subsequent political endorsement (and regular updating in line with progress made and with changed or new priorities). This kind of approach does not preclude bottom-up calls for proposals, but it does imply calls that are more targeted than previously – and targeted according to policy objectives.

More generally, a rethink of European governance structures for research and innovation appears necessary: European Technology Platforms, Public Private Partnerships, European Innovation Partnerships ... have potentially overlapping functions, which can confuse and may contradict.

Simplification and the Proposed Funding Model

If there is one respect in which we are highly critical of the H2020 proposals, it is in the matter of simplification and, more specifically, the proposed funding model. The Commission’s desire for simplification has been taken to an extreme that disconnects from reality¹. The proposed research funding rate - 100% of eligible direct costs plus a further amount of 20% of eligible direct costs as a fixed-rate contribution to indirect costs - is unrealistic and is unacceptable for Research and Technology Organisations (RTOs), because it does not take realistic account of their costs. The great majority of RTOs have a ratio of direct to indirect costs of around 50:50. Compared with the 75% funding rate for non-profit organisations in FP7, for which most RTOs qualify, the proposed 100%/20% funding model for H2020 implies an average reimbursement of around 60% and hence a reduction in funding of some 20%.

A more detailed analysis among 21 EARTO members, including many of the leading RTOs in Europe and major participants in past and present EU Framework Programmes, concluded that:

- most RTOs would receive reimbursement in *Horizon 2020* in the range 50%-65%, compared with the 75% non-profit rate under FP7, the variation depending upon their

¹ Moreover, the funding model proposed by the Commission contradicts the conclusions of the Commission’s own impact assessment for Horizon 2020: “*However, the consultation of stakeholders and the institutions on further simplification, and the Horizon 2020 impact assessment, clearly indicate that the continuation of a funding model based on the reimbursement of actual costs is the favoured option. A systematic resort to output based funding, flat rates or lump sums appears premature at this stage as such a system has not been tested in previous programmes*” - COM(2011) 809 final, p. 101

relative proportion of indirect costs (the higher the proportion, the lower the effective rate of reimbursement), and

- as a consequence of the lower level of reimbursement, about half of the 21 RTOs would expect their participation in the coming programme to drop by about 20% compared with FP7, the other half foreseeing an even greater decline of up to 50%.

The European University Association, with a large membership of universities from across Europe, has similarly criticised the Commission's proposed funding model as being contrary to the drive towards modernising Europe's universities and ensuring the sustainability of university research².

EARTO has proposed a 75%/75% funding model with an option to declare real indirect costs. This would be both realistic and attractive, because:

- it is in line with FP7;
- it retains a flat rate option for indirect costs which many will find attractive, thus respecting the Commission's objective of "simplification", and
- it corresponds to economic reality by providing an option for real-cost reimbursement.

Research and Innovation Actions

Another problematic aspect of proposed simplification is the separation of "research actions" from "innovation actions", with different funding rates. While different funding rates may be justified, it appears that the Commission intends to publish separate calls for proposals for "research actions" and for "innovation actions". This could mean that successful research projects with high innovation potential have to wait in order to be able to apply for one of the next available innovation action slots: months could be lost. Surely it would make more sense to make the distinction between research and innovation, for funding purposes, at the level of work packages: this would have the twin advantages of encouraging projects with explicit innovation intentions while ensuring a smoother path down the innovation chain.

Project Coordinators

The current proposals will end the established and successful practice of reimbursing project management costs at 100%. Ambitious and effective research and innovation projects need firm management by experienced coordinators, who should be encouraged through the full reimbursement of their costs for this function. Just as for "research" and "innovation" activities (see previous paragraph), this could easily be achieved at the level of work packages.

Eligible Costs: H2020 and the Financial Regulation

The draft H2020 Rules for Participation provide no definitions of eligible costs, but refer instead to the dispositions of the future Financial Regulation, which is still in negotiation. It

² "However, EUA is strongly critical of the HORIZON 2020 proposal for a single flat rate for cost reimbursement of indirect costs at 20%. On the basis of its extensive work with its university membership, EUA would argue that funding schemes, and particularly major schemes such as Horizon 2020, need to take full account of the long-term financial sustainability of university-based research. The European Commission's proposal foresees that while direct costs could be reimbursed at a rate of 100%, indirect costs could not be covered at a higher rate than 20% of the direct eligible costs, with no possibility to claim those costs on the basis of real costs. This is a clear step backwards in comparison to the current FP7 programme, and sends a negative signal to universities and public authorities across Europe as to the importance of developing full costing methodologies and of moving towards funding on a full cost basis." – EUA news article, 2nd December 2011

is therefore essential that discussion of the H2020 Rules for Participation and discussion of the future Financial Regulation take place in parallel, so that the modalities of both are aligned.

IPR

The proposed rules on IPR strongly resemble those for FP7 and are broadly acceptable. There has been discussion of an “in-Europe-first” policy for H2020 co-funded projects, which we view critically. A too rigid approach will impair international cooperation. Our general preference, in line with the US Bayh-Dole practice, would be to preclude exclusive licences to non-European entities. The Commission has also given some prominence to the principle of “open access”, at times with wordings that seemed to suggest that all H2020 co-funded research results, possibly including research data, should be subject to open-access publication. It must be ensured that the legitimate proprietary interests of project participants, who are those with the strongest motivation to ensure implementation, are respected. In general, open access should only apply to information already in the public domain.