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CSIC response to the European Commission public consultation on EU funds in the area of research & innovation

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The Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC) is the Spanish major public research institution and ranks among Europe's main research organisations, performing a key role in scientific and technological policies in Spain and worldwide. The values of the CSIC include the promotion of measures to achieve excellence, scientific and technical equality between women and men, research integrity, open access as means of open science... This illustrates the strong leadership of the CSIC and the commitment in pursuing a new era of dynamism for European research as a motor for social development.

CSIC facts and figures: In 2015, third in terms of participation and sixth in terms of funding concerning the Top-50 REC organisationsⁱ. In respect of the Spanish participation and funding the CSIC is ranked firstⁱⁱ. Under H2020, the CSIC participates in 387 projects and is funded with more than 164 M€. As from FP1 to H2020 the CSIC total participation and funding has reached, respectively, 3211 actions and more than 650M€.

CSIC vision for Research and Innovation in the next MFF

'A stronger Union needs to be equipped with appropriate financial means to continue to deliver its policies. The Union has changed fundamentally in recent years, as have the challenges it faces. Our Union needs a budget that can help us achieve our ambitions. The Multiannual Financial Framework for the period after 2020 must reflect this'

Commission 2018 work programme

Over the past decade the EU is facing an upward trend in the number of financial and social crises. The European institutions and the Member States are forced to make choices, must be ready to set new priorities and initiatives and must remove obstacles to achieve the desired targets. This is particularly relevant in the case of the migration and refugee crises, the fight against terrorism, or the establishment of the European Fund for Strategic Investments (EFSI) set up to overcome the aftermath of the financial crisis; all of them considered, says a lot about EU early warning and surge capacity.



The bad news is, however, that Horizon 2020 has been one of the primary casualties with - first-time in its lifespan- 2016 budget brought down, only partially recovered in 2017 budget. This public consultation is an excellent opportunity to propose the ring-fencing and the increase of budget for Research and Innovation Framework Programmes, as well as setting out the overarching principles for guiding the future of science and innovation in the Union.

Therefore, the purpose of the **CSIC** ideas and proposals expressed below is to contribute to an essential formulation: *the crucial role that research and innovation play in the European economic growth and society wellbeing*, not only for the H2020 last-three-year period but also looking forward to the next MFF and the subsequent Framework Programme.

European Added Value of the Research and Innovation Framework Programmes

Almost since its foundation the R & I Framework Programmes European Added Value (EAV) is well documentedⁱⁱⁱ. Taking account of our experience, the assessment of added value should be made at three different stages: a) during the preparation of proposals, b) considering the results at short and medium-term, and c) the impact of participation at long term.

What it wouldn't have achieved at national or regional levels:

a) Preparation of proposals

- Except for limited and specific cases, the obligation to establish European and international consortia integrated by a number of members in line with the project objectives has built a *solid critical mass of research capacities and pooled infrastructures and material resources*. Even in the case of non-funded proposals the synergies and interchanges created among the consortia members have persisted during some time and have contributed to joint participation in subsequent calls or in other programmes from other EU/non-EU financial sources.

Along the years, there is a clear evolution in the CSIC participation in EU R & I programmes and actions: at the beginning many researchers has begun to participate through COST actions and from there to call for proposals under Framework Programmes. Another positive progression concerns to the participation in MSCA ITN to collaborative projects as well as the involvement in Research Infrastructures activities to contribute to the establishment and operating of European Research Infrastructure Consortia (ERIC)



- This critical mass, composed of highly qualified scientists, technicians and managers, is the most valuable advantage both for the European Union and for the national states comprising it. The **higher competition** triggered among researchers and institutions to secure funds for their respective joint proposals **have produced a jump forward in terms of excellence and leverage effects not only saving time and monies but by improving the skills needed to interact in international and increasingly multicultural settings.**
- Moreover, the sharing of knowledge during the often-long period of proposals preparation has contributed **to reduce industrial and research risks by refining concepts and ideas.** In addition, the contingency plans included in the proposals, independently of their potential success, have opened up new avenues to solve uncertainties which ultimately diminish the risk estimate. This is the case of consortia that, because of the declining success rates due to oversubscription and the high TRLs (High Technology Readiness Levels) and the long timespans required for the proposals drafting, have decided to explore other options such the LIFE or INTERREG Programmes.

a) FP7 and H2020 short and medium-term results

- The Commission estimate is that Europe will create **3.7 million jobs and nearly €800 billion in additional annual GDP** should the EU would be able to reach the EU target of investing a total of 3% of GDP in R&I by 2020^{iv} (1% from public funding and 2% from business investment)
- This assertion is backed up by the factual experience of many participants and beneficiaries. Indeed, the R&I developed in FP7 and in the four first years of H2020 **have increased both the economies of scale and of scope.** The steady consortia interrelationship above-mentioned has supported collaboration in a more open and flexible way inside and outside projects. At the end of these projects (normally, short to medium-term scenarios) the outputs have resulted in inputs for new advances in research and innovation processes which, at the end of the day, have facilitated the transition to better public-private partnership.

According to a CSIC survey (2014) addressed to CSIC principal investigators the participation under FP7 have resulted in 33 patents and software licences. It is estimated that this number will probably grow in the coming years, at the end of FP7 projects.

- **ERC Proof of Concept** and **FET-Open** grants are perfect examples of new opportunities to maximise the value of research and to exploit the innovation potential of previously funded projects. Likewise, **Research Infrastructures** encompassed in



FPs have shown the advantages for Member States when pooling financial, human and other resources in a common objective. Not to mention the higher productivity of researchers in terms of publications (see below box). The **Marie Skłodowska Curie Actions** have stimulated the mobility of researchers around the world in a way impossible to reach by one single country. The **Open Access policy** implemented under FP7 and H2020 -even though significant progress is still needed- has allowed wider availability and dissemination of knowledge.

It is well-known that international collaboration increases scientific productivity. In turn, scientific co-publication is an indicator showing the quality of scientific research^v. The data for Spain: number of international scientific co-publications/million population in 2016, 701 versus 494 EU average. Moreover, the Spanish Average Relative Impact factor (ARIF) of scientific publications is above EU average (1.18/1.14 in 2013).

In what concerns to CSIC publications during FP7 term, Digital CSIC^{vi} has released around 1,123 scientific and communication papers coming from CSIC participation. Since under FP7 20% of funded projects were subjected to European Commission Open Science policy, we could say that the total number of publications with CSIC participation would be around 5,000, taking into account that roughly 40% of FP7 projects have not yet finalised.

^{vii}Number of Spanish organisations participating in MSC Actions (2007-2014): 1689
Number of Spanish researchers funded in MSC Actions (2007-2014): 4296
Number of CSIC researchers funded in MSC Actions (2007-2014): 267
Number of fellowships: 3114 - **CSIC fellowships: 113**
Exchanged staff (IRSES): 11821 - **CSIC IRSES: 27**
EU budget awarded to Spanish organisations (2007-2014): € 387.7 million
EU budget awarded to CSIC (2007-2014): 52.6M€

b) Long-term impacts of FP7/Horizon 2020 EAV

- **Better coordination of national research policies and decrease of fragmentation and duplications in national research spending and mobility of researchers are, at all levels, positive impacts** of the implementation of R&I Framework Programmes, being as they are contributors to the **European Research Area** progress. This is, for instance, the main goal of **Public to Public Partnerships (P2Ps)** scheme under H2020: to support coordinated national programmes reaching economies of scales by adding resources to a shared endeavour.
- Another major case is the funding support for industry provided by the EU Framework Programmes over the last 30 years. The public-private partnerships involve



entire areas of knowledge and critical mass from research centres and universities of excellence as well as R&I departments in the biggest European industries. The importance of this collaboration is shown in H2020 FP: around 25% of the FP is allocated to these large-scale initiatives.

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- However, at long-term ***the most important reason to preserve a well-funded EU Research and Innovation Framework Programme is that the global-scale challenges we are currently trying to afford cannot be anymore addressed at merely national level:*** health, demographic changes, societal wellbeing, secure, clean an efficient energy, climate change, food security,... not to speak about social or financial crisis that could undermine European democratic values, the strengthening of which remains a major concern for social sciences and humanities research.
- We are aware that impact assessment is the prime tool to distribute scarce resources, but ***a short-term restricted conception of impact while designing the future R&I Framework Programme can be detrimental to the whole research and innovation ecosystem if based on immediate economic or financial effects.*** Thinking only in what can increase economic outputs will set aside the creation of disruptive and breakthrough knowledge that, in the end, will broaden European competitiveness and society wellbeing in the long-term, as well as the value that excellence in research and innovation can create for future generations.
- In its **White Paper for the Future of Europe**^{viii} the European Commission wonders ***“what future we want for ourselves, for our children and for our Union”*** and it is not surprising the recognition the paper gives to Horizon 2020 -the world’s biggest multinational research programme- thanks to which: ***“...Europe is at the cutting edge of innovation”***.
- Europe must not forget that ***excellent research performed in academia represents the ultimate state-of-the-art and is the basis and the crucial instrument for transferring high quality knowledge.*** By doing so during years, scientists have guaranteed a bona fide multiplying effect that has already resulted in the mutual benefit of citizens and businesses throughout the EU.
- One of the scenarios included in the **White Paper** (scenario 4) suggests **doing less more efficiently**. In other words, ***to centre the limited funds on a coherent number of areas.*** We very much appreciate that this public consultation has included **research and innovation** among the potential priorities for funding future policies and programmes. But we also must strongly advice that for the Unión ***the value of research and innovation is beyond a one-off decision about having or not a budget heading during the next years. The research, innovation and science portfolio is about far more than just awarding research funding. Europe needs a new research and innovation covenant and the time for action is now***

Obstacles to prevent R & I Framework Programmes from achieving their objectives

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➤ The complexity of governing partnerships instruments

After Lisbon Strategy in 2000, one of the most significant goals of framework programmes has been to *decrease the fragmentation and to avoid duplication of efforts in the European R & I landscape*. With this target in mind, different *partnerships instruments* have been used to point out the EU policy priorities, especially after the worldwide economic and financial crisis. Their financial weight under H2020 is shown in the fact that partnerships are envisaged to reach 25% of the whole FP budget.

While recognising the potential European added value of these linking tools (as above-mentioned), the truth is that - as identified in monitoring and evaluation reports^{ix} - *most of them show an evident lack of openness, transparency, and coherence* within the complex EU and Member States R&I landscape.

The governance and implementation model used both under FP7 and H2020 have certain weaknesses, in particular with regard to the *assigning of roles and commitments to the different parties acting in the partnership*. Clearly, some partnership suffers from lack of political and high-level commitment and support. Some others, *act on isolation with very limited interactions with other initiatives in neighbouring thematic areas*^x. And this could hamper a sustainable and long term stability of the running and future partnership instruments.

In our view what EU *needs now is: a) strategic and operational governance reorientation for the current partnership instruments;* and b) for the design of the future ones' -being one of their main goals to develop critical mass around relevant thematic areas and avoid fragmentation- *it is essential the prior verification of their competence to produce genuine European added value beyond that that can be achieved, for instance, through traditional collaborative projects.*

➤ Structural, Cohesion and Investment Funds and the R&I Framework Programme

The so-called Lamy Report^{xi} recommends *“rationalise the EU funding landscape and achieve synergy with structural funds”*. In our view, it is of the utmost importance to search for the sound synergies among instruments and actions. The difficulty of combining different instruments is clearly demonstrated in H2020 first years. Therefore, we agree with the recommendation made by the Lamy report to *“cut the number of R&I funding*

schemes and instruments, make those remaining reinforce each other and make synergy with other programmes work”. We should add to that statement the need to strongly align rules among schemes, programmes and actions funded by the EU budget.

In that context, both H2020 and the future FP could complement the nurturing of new entrepreneurs through the **European Innovation Council**, but *the authentic funding must be boosted by the European Structural and Investment Funds with the help of the European Investment Bank and the actions developed by the Member States to enhance their capacity building.* They are the crucial sources of finance to create more innovative European economies.

➤ Science and innovation performance

The **European Innovation Scoreboard** report for 2017^{xii} quoted that “...*While we are making good progress in education and research as well as in broadband infrastructure and ICT training, venture capital investments and the number of SMEs introducing innovations are declining strongly...*”

In the consultation we are now responding, the Commission has identified up to thirteen possible obstacles preventing the current R & I policy from achieving its objectives. Maybe *one of the most crucial impediments is, precisely, the “disengagement” between science and innovation.* We are aware that fundamental and applied science must contribute to create new scenarios for enabling high-quality innovations, but *Europe cannot afford a situation where the conception, establishment and implementation of the actions look for having positive changes in only two-three years term.*

Science and innovation is a long-term bet; thus, it needs long-term ground rules. Tackling with our present framework, *the only sustainable solution is to bet for excellence in science and innovation in the medium and long term.* Performance should not be governed by economic impacts in a way that this should be the sole factor that finally moves scientists, technicians and engineers to elaborate projects. *The R & I implementation strategy should be holistic and reward those proposals going the extra mile* in terms of fostering the advancement of knowledge based on excellence in performance of science and innovation, because not always societal impact can be measured in terms of economic impact or over a short time.

➤ Simplification or how to rationalise the management of complexity

In the online survey^{xiii} that was part of a major feedback exercise conducted after the first 20 months of H2020 implementation, the Commission received a wide range of ideas for future FP simplification: further improvements to the IT systems, documentation and helpdesk; more and better defined 2-stage calls; and shorter proposals, simpler timesheets and easier project reporting. Two years after that survey, we very much appreciate the



improvements made by the Commission services in many aspects of H2020 implementation: a single and comprehensive Portal for participants or the paperless system.

However, all the attempts to attract the best participants could fail if R & I Framework Programmes implementation does not include a substantial rationalisation of the rules for participation and dissemination. *A single set of rules for the whole Framework Programme implementation was one of the Commission's compromises.* However, currently *there are one general model grant agreement and eight different versions with specific derogations or modifications over the general one* which clearly does not make it easier to “navigate” among these different administrative requests, to say the least. It is no wonder the need to elaborate an **Annotated Model Grant Agreement consisting of, for the moment, 750 pages.**

As already said above, *the alignment of rules between all EU funds related to research and innovation*, independently of the EU budget heading, is a must that cannot be delayed for much longer. We believe that the Commission should facilitate a simple and more rationalised toolkit of funding regulations: fewer rules and more clarity; in other words, an increased convergence of rules.

There is also an *increasing legal uncertainty concerning the compulsory application of accounting rules coming from international accountancy standards that, in many cases, cannot be applied by public bodies' accountancy systems or even by SMEs and industry.* Therefore, the Commission services should open the debate on the most appropriate approach to ex-ante and ex-post control by *searching for the right balance between trust and audit control, reducing the more and more administrative burdens, and accepting the usual accounting practices of the beneficiaries when based and applied through national regulations.*

Concerning **the reimbursement of costs based on concrete objectives, results or outcomes**, we share the position taken by a clear majority of European stakeholders. In principle, **the lump-sum reimbursement system** would eliminate the need for cost reporting, timesheets and routine financial audits. Hence, it seems a great idea to really simplify the management of actions. Nevertheless, a **compulsory shift to lump-sum payments would require a careful overhaul.** Since there are increasing doubts as to how this model will be really unfolded, H2020 implementation in its final years is a good opportunity to launch different pilot exercises which will show the actual advantages and disadvantages of the proposed reimbursement system.

Finally, we consider that according to EU Financial Regulations *all forms of reimbursement under R & I Framework Programmes should be established and applied taking account of the specificities of the instrument chosen.*

Final remarks



There is no denying that *science of excellence is the main source of innovation of excellence* which, in turn, *contributes to create new knowledge and capacity building for the future generations*. European Science is one of the most valuable assets that the Union possesses and must be protected at all costs.

Europe is now more than ever placed at a crossroad for unearthing new pathways to solve the hindrances undermining European competitiveness. *If research and innovation are to be part of the solution, an adequate joined-up thinking is needed*. For this aim to be achieved, European institutions, Member States, stakeholders and the European society should establish a permanent mechanism for fruitful dialogue.

With all this in mind, *the CSIC reaffirms its commitment to play an active role in fostering excellence in science and innovation* and its willingness to work closely with both the Commission services and the rest of European research institutions to accomplish these objectives.

ⁱ Horizon 2020 Annual Monitoring Report 2015)

http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf

ⁱⁱ Participación española en Horizonte 2020 (2014-2016) CDTI.

http://eshorizonte2020.cdti.es/recursos/doc/Programas/Cooperacion_internacional/HORIZONTE%202020/12233_23523520171651.pdf

ⁱⁱⁱ Assessment of the Union Added Value and the economic impact of the EU Framework Programmes (FP7, Horizon 2020). European Commission. Directorate General for Research and Innovation. Directorate A Policy Development and Coordination. Unit A.5 (2017).

- European Added Value of Community Research Activities. Expert Analysis in support of the Ex Post Evaluation of FP6. Report by Michael Stampfer. WWTF – Vienna Science and Technology Fund. October 2008

- The European Added Value of Framework Programmes: Evidence from the UK. Alessandro Muscio. <https://www.researchgate.net/publication/5165170>

- Horizon Magazine - EU Research Framework Programmes, 1984 – 2014. Published on Horizon 2020 (<https://ec.europa.eu/programmes/horizon2020>)

^{iv} http://europa.eu/rapid/press-release_MEMO-11-520_en.htm (19 July 2011)

^v European Innovation Scoreboard 2017. Annex B Performance per indicator

^{vi} the CSIC institutional research repository which describes, organises, distributes and preserves information to create knowledge on non-discriminatory terms to any person or undertaking wishing to use it (<https://digital.csic.es/>)

^{vii} FP7-PEOPLE Marie Curie Actions Country fact sheet: Spain. 31 October 2016

^{viii} WHITE PAPER ON THE FUTURE OF EUROPE Reflections and scenarios for the EU27 by 2025. European Commission

COM(2017)2025 of 1 March 2017

^{ix} Increased coherence and openness of European Union research and innovation partnerships. Final report. Technopolis. June 2017

^x 2ND ANNUAL REPORT ON PUBLIC-PUBLIC PARTNERSHIPS (2016) <https://www.era-learn.eu/publications/other-publications/2nd-annual-report-on-p2p-partnerships-2016>

^{xi} LAB – FAB – APP. Investing in the European future we want. Report of the independent High Level Group on maximising the impact of EU Research & Innovation Programmes. July 2017

^{xii} European Innovation Scoreboard 2017

^{xiii} Report on the H2020 Simplification Survey 24.09.2015 – 23.10.2015