

Interim evaluation of Horizon 2020

SUMMARY

As required by the regulation, the interim evaluation of Horizon 2020 – the European Union (EU) framework programme (FP) for research and innovation – began in October 2016 with a public consultation to gather feedback from stakeholders three years in. The Commission performed its own mid-term evaluation and asked experts to evaluate the programme's specific instruments. In parallel, the European Parliament, the Council of the EU and the advisory committees conducted their own, separate evaluations of the programme.

The Commission adopted its conclusions on the interim evaluation of Horizon 2020 in January 2018, confirming that the programme was relevant and presented clear EU added value. Implementation was considered to be efficient and the first results suggested that the programme was also effective in reaching its objectives. The integration of research and innovation and the Horizon 2020 pillar structure provided for greater internal coherence compared with previous framework programmes.

All the evaluations highlighted four key issues to be addressed by the next FP. First, the programme budget needs to match better the funding required to bring the success rate back to acceptable levels. Second, the unbalanced distribution of FP funding across the EU raises concerns regarding the impact of the use of the excellence criterion and calls for changes to enable the various EU funds to generate more synergistic effects so as to maintain EU competitiveness and promote EU cohesion in research and innovation. Third, the evaluations highlight the will to improve the shared, multi-level governance between the EU, Member States and regions and to promote the co-design and co-construction of the FP with the public and civil society. Finally, there is widespread agreement that the EU research and innovation funding landscape has become too complex and should be streamlined, questioning the EU added value of each of the instruments and partnerships.



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Horizon 2020, the eighth EU framework programme for research and innovation, was adopted in December 2013 for the 2014 to 2020 period. In line with the requirements set out in the Horizon 2020 [Regulation](#), the interim evaluation of the programme, to be completed by December 2017, had to assess the achievement of the objectives, the efficiency and use of resources, and the Union added value of the programme. It also had to include an evaluation of all the partnerships and a review of the European Institute of Innovation and Technology.¹ The Commission adopted the [roadmap](#) for the interim evaluation of the programme in May 2016. The other EU institutions and advisory committees performed their own assessment of the programme in parallel. All these analyses are designed to provide input for the preparation of the next framework programme, referred to as FP9.

Commission interim evaluation

Stakeholders' interim evaluation of Horizon 2020

The public [consultation](#) for the Horizon 2020 interim evaluation was conducted between October 2016 and January 2017. The Commission received almost 3 500 responses (49 % from private individuals) and over 300 position papers from a wide range of stakeholders.² The [main conclusions](#) of the consultation were presented in April 2017 and the full [report](#) was published shortly afterwards.

The consultation concluded that Horizon 2020 was relevant and it revealed a high level of satisfaction with the programme. The lack of funding for the programme leading to oversubscription and low success rates was seen as the main problem. Participants also requested better feedback on the evaluation of their proposals. The stakeholders considered that the FP should continue to be excellence-based but should do more to address citizens' needs by ensuring greater civil society participation in the definition of research priorities. It should also do more to support market-creating innovation.

The simplification of the funding procedures was acknowledged but the stakeholders stressed that the funding landscape – with a large mix of instruments and funding actions – remains complex and needs to be rationalised. The main EU added value of the FP was seen by the stakeholders in the opportunities offered for transnational cooperation; collaborative projects were therefore considered the most relevant feature of the FP.

Commission interim evaluation of the overall programme

The Commission document package on the interim evaluation of Horizon 2020, published in May 2017, includes an [executive summary](#), a [short report](#) and an [in-depth report](#).³ The Commission concludes that the rationale behind the programme, its objectives (closing the innovation gap with key competitors worldwide and maintaining industrial leadership), and the societal challenges identified, such as climate change, food security and secured societies, are still highly relevant. Nevertheless the EU still spends too little on research and the external innovation gap still exists. Strategic challenges are also not always clearly translated into specific calls. Horizon 2020 is implemented efficiently with a reduction in time-to-grant, but the success rate of 11.6 % with a large share of excellent proposals not supported means that the programme is underfunded.⁴ The Commission points out that the focus on excellence leads to high concentration of funding. Moreover international participation from third countries in Horizon 2020 has decreased compared with FP7, despite the full openness of the programme.

The fact that Horizon 2020 is on track to deliver on its objectives means that it is effective even if the progress on spreading excellence and widening participation is slow and the

programme is not able to identify and support new innovators. The three pillars of Horizon 2020 provide a more coherent structure for the FP but the larger number of instruments makes the landscape for EU research and innovation funding difficult to navigate. Synergies with other EU funds, such as the structural and investment funds, are hampered by differing intervention logics and the complexity of the various funding and other rules, such as [state aid rules](#). Moreover joint programming is not having a substantial influence on the alignment of national strategies and policies. Finally, the Commission considers that Horizon 2020 increases the EU's attractiveness and has higher EU added value than intervention at national and regional level and that pan-European competition guarantees the EU added value of single beneficiary instruments. Nevertheless, the Commission recognises that there is a need for greater outreach to civil society.

Commission evaluations of specific instruments

In complement to the overall evaluation of the programme, the Commission conducted specific evaluations of some of the instruments used for the implementation of Horizon 2020: the [public-public partnerships](#) (P2P) known as Article 185 partnerships; two types of [public-private partnerships](#) (PPP) – joint undertakings and contractual PPPs; and the European Institute of Innovation and Technology.

Article 185 partnerships

The Commission organised a specific [public consultation](#) on [Article 185 partnerships](#) and requested external experts to evaluate the partnerships individually.⁵ In an additional [meta-evaluation](#), experts conducted a cross-cutting analysis of whether these long-term and high-scale partnerships had succeeded in their ambition to achieve the scientific, managerial and financial integration of the national research programmes. The experts concluded that there was no consistency in the selection process of these P2Ps and that their integration within the EU and national policy landscape was rather unclear. They noted that the scope of the partnerships was limited to the research community and that there were significant barriers to participation for less research and innovation intensive countries. Finally, the legal and administrative framework for Article 185 partnerships was a major inhibiting factor and should be simplified and rationalised. The experts made 10 recommendations including: a stronger focus of the partnerships on policy cooperation; a coherent selection process; the definition of an exit strategy; the re-orientation of the partnerships towards outcomes and impacts; and a more coherent set-up for partnership initiatives.

Based on this analysis, the Commission [evaluation](#) notes that Article 185 partnerships offer a long-term and stable perspective for research and innovation programme coordination and cooperation across Europe and, in that sense, are relevant to the implementation of the [European research area](#), promoting the alignment of national policies and transnational cooperation. The Commission also considers that the governance structures of the partnerships are efficient. Nevertheless, the Commission questions the sustainability of these partnerships in their current form, sketching out the potential evolution of the instrument to provide more flexibility and simplification. Also, the Commission points out the positioning of these partnerships within the complex EU and national research and innovation funding landscape, in a context of a multiplication of partnerships instruments. Finally, it concludes that there is a mismatch between the policy objectives of Article 185 partnerships and the activities carried out by the programmes in practice.

Joint undertakings

In a similar way, the Commission's overall [evaluation](#) of the [joint undertakings](#) (JU) is based on expert reports for the final evaluation of the six JUs funded under FP7 and for the interim evaluation of the seven JUs currently funded under Horizon 2020.⁶ The JUs are designed to provide a framework to implement joint public-private research and innovation activities so as to enhance competitiveness and tackle major societal challenges. The EU's financial contribution to the JUs represents around 10 % of the Horizon 2020 budget.⁷

The Commission concludes that the JUs are lean and efficient structures that have benefited from the simplified and more uniform application of rules under Horizon 2020. They have been effectively managed to engage major, strategic industry partners in the industrial sectors that are highly economically relevant for Europe and that require long-term concerted research and innovation efforts. The JUs are considered to be on track to deliver on their objectives. More open than under FP7, the JUs have managed to overcome the fragmentation in their sectors and leveraged the expected contribution from the private sector. Nevertheless, experts called for the inclusion of a wider range of stakeholders in the JUs. There is also a call for the JU activities to be further aligned with policies at EU, national and regional level. The experts proposed to revisit and redefine the set of key performance indicators (KPI) used to measure the JUs' impact. Finally, the participation of EU-13 Member States in the JUs should be further improved as well as the participation rates of small and medium-sized enterprises (SMEs).

Contractual public-private partnerships

Launched in 2009, the [contractual PPPs](#) (cPPPs) use a soft approach whereby associations representing the private sector in a field define a strategic roadmap that is taken into account by the Commission when defining Horizon 2020 work programmes. In this bottom-up approach, the calls in the work programme end up being better aligned with industry priorities, hence enhancing private actors' participation in the programme. The Commission appointed a group of independent experts to conduct the individual evaluation of nine of the ten cPPPs for the first years of Horizon 2020.⁸

In their [report](#), the experts recognised that the cPPPs have essentially achieved their targets of increasing the competitiveness impact of EU research and innovation funding and are more actively engaged with industry. On the basis of their analysis, they adopted six transversal recommendations: the process of translating priorities from the industry-led roadmap into calls should be more participatory; the governance of the cPPPs should be revised to improve transparency; the links between the cPPPs and the other instruments implementing the FP, especially the other PPPs, should be strengthened; the KPI framework for all cPPPs should be redesigned; the Member States should be represented in the cPPPs to increase their EU added-value; and the cPPPs should be empowered by the mission-driven approach included in the next FP. As for the JUs, the expert also noted that the participation of SMEs and the EU-13 countries should be fostered.

European institute of Innovation and Technology

Created in 2008, the [European Institute of Innovation and Technology](#) (EIT) integrates six thematic knowledge and innovation communities, another type of PPP linking research, innovation and higher education institutions (the knowledge triangle). In their [report](#) the experts state that the overarching logic of the EIT remains valid but that the EIT model would benefit from a clearer, common understanding of the knowledge triangle. The key

performance indicators used by the EIT did not measure performance adequately; but they were replaced in 2017. The six knowledge and innovation communities have managed in their own way to establish stable networks of diverse partners. Nevertheless, their internal processes for distributing support to projects was not seen as sufficiently transparent by the partners. The programmes in education have been successful in providing students with entrepreneurial skills. The efficiency of the communities could be improved by moving to multi-annual funding arrangements. Finally, the experts noted that there is limited brand awareness of the EIT and how it operates. They also had concerns regarding the relevance of the objective of the knowledge and innovation communities to become financially sustainable in the future.

Based on this analysis, the experts recommended streamlining the goals that the EIT was expected to achieve; revising the communication strategy to increase awareness of the EIT and the knowledge and innovation communities; improving the transparency of the processes via which projects are selected; using examples of good practice and results for policy dialogue and interaction; and capitalising on the EIT's position as a pan-European response to innovation challenges, linking innovation players at European, national and regional levels.

In the executive summary of its [assessment](#) of the EIT, the Commission concludes that, after a rather difficult start-up phase, the instrument is beginning to deliver concrete results.⁹ The EIT remains relevant and fits in well with the European innovation system but knowledge and awareness of the EIT and the knowledge and innovation communities are still insufficient. The communities' activities are leading towards visible results even if their impact is limited to their ecosystems and networks and their integration into local innovation ecosystems still needs to be improved. The EIT is efficient but the Commission considers that it is still too early to draw conclusions on the knowledge and innovation communities' capacity to achieve financial sustainability.

Other evaluations

Additional [expert evaluations](#) of Horizon 2020 cover other instruments such as the Marie Skłodowska Curie Actions for mobility and the SME instrument; specific types of action such as innovation actions; or specific parts of the programme such as thematic social challenges on agriculture or the 'Science with and for society' specific objective.

European Parliament position

Implementation assessment

In May 2016, the Committee on Industry, Research and Energy of the European Parliament decided to undertake an implementation report on Horizon 2020. The [implementation assessment](#) published by the European Parliamentary Research Service in February 2017 is based on six briefing papers by external experts analysing each of the three pillars of Horizon 2020 from both a research and an economic perspective.¹⁰ The experts' opinion on the implementation of Horizon 2020 was positive but they thought that there was still room for improvement and that the oversubscription leading to low success rates was a major issue requiring efforts to establish clear research priorities.

The experts also noted the visible concentration of grants on a select number of grant holders, regions and Member States, stressing that the focus on excellence threatened the achievement of additional objectives such as reducing regional disparities or boosting gender equality. They pointed out the need to ensure the consistent use of the terms 'input', 'output', 'result' and 'impact' to improve the monitoring of the programme.

Finally, the experts noted the limited implementation of synergies with other EU programmes and stressed that participants were dissatisfied with the evaluation processes, especially with the absence of detailed evaluation assessment reports.

Parliament resolution on Horizon 2020 implementation

In June 2017, the European Parliament adopted a [resolution](#) on the assessment of Horizon 2020 and the preparation of FP9. The Parliament recognised that Horizon 2020 was a success and brought clear added value to the EU, especially on account of the programme's multidisciplinary and collaborative settings and the excellence and impact requirements. It called on the Commission to streamline and simplify the complex implementation of the programme. The Parliament stressed that Horizon 2020 must remain mainly grant-based, limiting loan-based funding, and geared towards funding fundamental and collaborative research in particular.

The Parliament was concerned by the oversubscription and stated that the alarmingly low success rate was a negative trend compared with FP7. It called for better and more transparent evaluation of the proposals, including improved feedback to the participants. Keeping 'excellence' as the main criterion, the Parliament called on the Commission to provide a broader definition of 'impact' and a more precise definition of 'output'. Recognising the problem of the participation gap in the programme, the Parliament noted the need to improve synergies with other EU funds, especially the structural and investment funds, and called on the Commission to revise the state aid rules. Finally, it underlined the need to strengthen international cooperation and to promote better integration of social sciences and humanities in the programme.

Council of the EU position

Expert report of the European Research Area Council

In July 2017, the European Research Area Council ([ERAC](#)), an advisory body to the Council on research and innovation policies, adopted its [opinion](#) on the interim evaluation of Horizon 2020 and the preparation of the next FP. ERAC considered that the FP, with its focus on excellence, cooperation and impact, generates outstanding EU added value by teaming up and driving collaborations of research and innovation ecosystems throughout Europe. It stressed that the achievement of the European research area (ERA) should be the top priority of the next FP, and required improved multi-level governance with the Member States and the associated countries and better alignment of EU and national priorities and activities.

The FP should deliver continued dialogue with the European citizens with a better focus on co-creation and co-construction of the programme with all stakeholders and society. In ERAC's view, the FP should incentivise the involvement of new participants, whatever their location, status and gender, providing they meet the excellence criterion. This implies establishing functional synergies with the structural funds and streamlining the rules, especially regarding state aid, and pursuing the reform of national systems with the help of the policy support facility.¹¹ ERAC considered that innovation demanded a good policy mix implemented with a reduced and streamlined set of instruments and initiatives focused mainly on collaborative projects supported with grants. Finally, ERAC stated that the FP must reinforce international cooperation and should feed into all EU sectoral policies.

Council conclusions

The Council of the EU adopted its [conclusions](#) on the interim evaluation of Horizon 2020 and the preparation of FP9 in December 2017. The Council acknowledged that well-funded and highly performing national research and innovation systems are necessary for research and innovation to be able to ensure long-term sustainable economic growth, industrial competitiveness and social inclusion, while also addressing the major societal challenges. It recognised the issue of the low success rate in Horizon 2020 and invited the Commission and the Member States to explore ways to reduce oversubscription. It reiterated the importance of joint efforts on the part of Member States and the Commission to develop and strengthen the ERA further.

The Council noted that the non-complementary intervention logic and complexity of funding of the different EU programmes limited synergies, and asked the Commission to review EU legislation on state aid rules. For the Council, future EU programmes must be designed from the very beginning with synergies, coherence, compatibility and complementarity in mind. It also stressed that the EU's research and innovation funding landscape had become too complex and called on the Commission and the Member States to consider ways to rationalise the EU's research and innovation partnership landscape and to jointly establish a long-term strategic coordinating process for partnerships. Finally, the Council acknowledged that free movement of research data and knowledge was essential for the ERA. Measures to spread excellence in the EU and international cooperation should be strengthened.

The advisory committees' positions

European Economic and Social Committee

The European Economic and Social Committee (EESC) adopted its [opinion](#) on the mid-term review of Horizon 2020 in October 2016 and an [information report](#) on Horizon 2020 evaluation in January 2017. The EESC considered that Horizon 2020 was a successful innovation programme and welcomed the enlargement of the scope of the FP to include more support for innovation. It stressed the importance of collaborative research as it was seen as the main added value of Horizon 2020. It called for the number of instruments to be reduced, loan-based financing to be limited and procedures to be further simplified.

The EESC stressed that EU funding was not to replace national efforts and that ways should be found to achieve reasonable success rates. It urged the Commission to address the lack of awareness of the programme in some regions and to improve the evaluation process by including better feedback. Finally, the EESC stated that defining 'excellence' as the only parameter for funding research and innovation did not facilitate convergence between Member States. It suggested that the evaluation of proposals should take into account excellence at both EU and Member State levels.

European Committee of the Regions

The European Committee of the Regions (CoR) adopted its [opinion](#) on the local and regional dimension of Horizon 2020 and FP9 in July 2017. The CoR considered that research and innovation should be a top priority in the debate about the future of Europe and that the budget of the FP should be considerably increased without undermining the importance of cohesion policy. Given the low participation of the EU-13 countries, the CoR considered it was important to make the FP work across all the Union's cities and regions. It called for a new collective ambition, focusing on scientific excellence and the innovation capacity of Europe as a whole. This would entail improving the coordination

of policies at EU level and promoting the necessary reforms at national and regional level. It would also require increased support to spread excellence.

To improve synergies, the CoR proposed that the EU, Member States, regions and cities share five operational principles: coherence, with shared governance; compatibility, by pooling resources simply and effectively and addressing the issue of state aid; complementarity, by means of a clear distribution of roles; co-construction, through joint design and management; and a principle of ecosystems, recognising the role of local collective initiatives.

The CoR opposed transferring part of cohesion policy funding to measures under the FP and asked for the 'seal of excellence' to be transformed into a partnership facility.¹² It stressed that the EU added value of the FP was based primarily on its collective and collaborative dimension. Finally, it proposed a new approach and better definitions of 'excellence' and 'impact' and stressed that the relationship between science and society must be at the heart of the debate of future EU research and innovation.

Commission conclusions

In January 2018, the Commission adopted a [communication](#) concluding the interim evaluation of Horizon 2020. It summarised the key findings of the evaluation and listed eight lessons learnt for the next framework programme.

Key findings

The Commission points out that the common view is that the implementation of Horizon 2020 is largely a success. The programme is attractive and relevant and has managed to attract a large share of newcomers. One of the strengths of the programme is the unique opportunities for trans-sectorial, transnational and interdisciplinary collaboration and networking. For the Commission, the quality of the programme derives from maintaining excellence as the main selection criterion.

Regarding implementation, the Commission notes that the simplification of the processes has paid off, in that the time-to-grant has decreased significantly and the new funding models are appreciated. Furthermore, administrative expenditure is below the target of 5 % confirming the programme's good value for money. The Commission stresses that Horizon 2020 has shown clear EU added value thanks to economies of scale, scope and speed when compared to national or regional programmes. Finally, the partnership initiatives have shown that they are effective in leveraging additional funding from private and other public sources.

Lessons learned

Beyond the positive overall evaluation of the programme, the Commission defines eight aspects as lessons learned from the evaluation in order to improve the preparation and implementation of the future FP. These mean:

- investing more ambitiously in research and innovation programmes in order to address the current situation described as an underfunding of the programme leading to oversubscription and low success rates;
- continuing to simplify the implementation of the programme. The Commission will explore possibilities such as a real cost reimbursement system; acceptance of local accounting practices; lump-sum project funding; evolution in preparing and submitting proposals; and improved feedback to applicants;

- strengthening support for breakthrough, market-creating innovation with the creation of the European innovation council and more flexibility in the programme;
- generating greater impact and more outreach with increased citizen involvement with the co-design and co-creation of the programme and by introducing research and innovation missions;
- increasing synergies with other EU programmes and policies from the programme design stage by making co-funding schemes more flexible and improving the compatibility of rules between EU programmes;
- strengthening international cooperation in order to reverse the negative trend observed with Horizon 2020;
- reinforcing the openness of the programme, making all publications openly accessible and all data findable, accessible, interoperable and re-usable in line with the Open Science Agenda;
- rationalising the EU funding landscape by redefining instruments and funding schemes, leading to the potential phasing out or merger of some of the partnerships.

The Commission will consider these aspects for the preparation of the proposal for the next framework programme that it plans to adopt before summer 2018.

Outlook – key issues for FP9

The interim evaluation of Horizon 2020 concluded that the programme is relevant and efficient. The evolution of the nature of the FP to cover the entire innovation ecosystem was seen as positive. Nevertheless, some key issues will need to be addressed during the preparation of FP9 in order to improve its impact and implementation.

Most of the criticism from stakeholders and EU institutions has centred on the **mismatch between the funding available for the FP and the funding necessary to support excellent proposals**. The low success rate and oversubscription situation is not linked to a large proportion of bad quality proposals as almost 45 % of the proposals are evaluated as excellent and could be funded. The current situation is that Horizon 2020 funding is insufficient to provide support for a larger share of excellent proposals. While there may be some ways to address this issue via the implementation process, the solution lies mainly in the overall amount of funding that will be assigned to FP9 under the next multi-annual financial framework (MFF).

Beyond the budget, the **distribution of FP funding across the EU** has become a crucial issue. The focus on the excellence criterion in the FP has led to a concentration of funding in some regions and the EU research and innovation gap has not been closed. The balance between excellence and cohesion in research and innovation at EU level has to be addressed not only by the FP but also by other funds. The European structural and investment funds (ESIF), in particular, can play a key role. However, the **capacity of the various EU funds to work in synergy** is hampered by the fact that each of these funds has its own implementation rules and may operate under a different EU legal and financial framework regarding, for example, state aid rules. The FP is the main instrument at EU level when it comes to both maintaining EU competitiveness in research and innovation on a global scale and implementing the European research area policy. Better synergies between EU programmes under the next MFF – especially FP9 and ESIF – are expected to help achieve these two rival objectives in a more efficient and effective way.

The responsibility to achieve both excellence and cohesion objectives also requires **shared, multi-level governance of the FP** between the EU, Member States and regional

institutions. The need to clarify the role of each level in supporting the research and innovation ecosystem and to align research and innovation priorities and programmes across all levels has been underlined as a means of improving the coherence of the EU's research and innovation ecosystem. Already, under previous FPs, the private sector has been progressively more involved in defining priorities by the establishment of public-private partnerships. The extension of the idea of shared governance is now leading to a new approach based on **the co-design and co-construction of the FP that would include the public and civil society more prominently.**

In this context, there is broad agreement that the **EU's research and innovation funding landscape, with all its programmes, initiatives and instruments, has to be streamlined and simplified.** A particular focus has been placed on the evaluation of the partnerships (P2Ps and PPPs), with a view to improving the alignment of priorities and programmes across institutional levels and sectors. The **question of the EU added value** of each instrument – i.e. what the instrument brings at EU level that could not be achieved at national or regional level – is expected to be at the heart of the streamlining process. In this context, it was pointed out in the various Horizon 2020 evaluations that the main EU added value of the programme comes from the transnational, trans-sectoral and multidisciplinary dimension of collaborative instruments promoting cooperation.¹³ The EU added value of mono-beneficiary instruments originates mainly from the pan-European scope of the evaluation procedures. These aspects will have an impact on discussions not only for the simplification of the EU research and innovation funding landscape but also for the share of the budget for each instrument within the programme, to reach an appropriate balance between mono-beneficiary and collaborative schemes.

Finally, **the absence of a clear, shared definitions of key FP concepts such as 'excellence', 'impact' and 'output'** hampers the quality of the discussions on the objectives and implementation of the programme. While the negotiations on FP9 are expected to start with the Commission adopting its proposal in June 2018, a common understanding, based on shared definitions of these concepts, could help ease future debates on key framework programme issues.

Main references

European Commission, Horizon 2020 interim evaluation [website](#).

Reillon V., [Horizon 2020 budget and implementation](#), EPRS, European Parliament, November 2015.

Reillon V., [The European Institute of Innovation and Technology](#), EPRS, European Parliament, September 2016.

Reillon V., [Public-public partnerships in research](#), EPRS, European Parliament, October 2016.

Reillon V., [Public-private partnerships in research](#), EPRS, European Parliament, May 2017.

Endnotes

- ¹ Article 32 of the Horizon 2020 [Regulation](#).
- ² All the position papers submitted can be downloaded from the consultation [website](#).
- ³ The key findings from the Horizon 2020 interim evaluation were summarised in a [brochure](#). The in-depth report was also published in [brochure](#) format.
- ⁴ The time-to-grant was on average 192 days, 100 days faster than in FP7. The average success rate in FP7 was 18.5 %. The Commission evaluated that €1.7 billion had been wasted in the preparation of Horizon 2020 unsuccessful proposals.
- ⁵ The interim evaluation of the four Article 185 partnerships funded under Horizon 2020 and the final evaluations of two Article 185 partnerships funded under FP7 were conducted by external experts. These individual evaluations can be found on the Horizon 2020 evaluation [website](#).
- ⁶ The joint undertakings are the legal structures that implement the joint technology initiatives and are also used for additional PPPs in research. The 12 JUs individual evaluations - six final evaluations for JUs under FP7 and six interim evaluation of JUs under Horizon 2020 – can be found on the Horizon 2020 evaluation [website](#).
- ⁷ The EU contribution represents almost 40 % of the funding of JUs. The private sector is expected to provide a higher contribution covering more than 50 % of the JUs budget. The remaining financial contribution is provided by the Member States in two JUs (ECSEL and SESAR).
- ⁸ The first three cPPPs were established under FP7 and continued under Horizon 2020. Seven additional cPPPs were set up under Horizon 2020. The cPPP on cybersecurity was not included in the evaluation as it was only established in 2016 and had not yet started its activities.
- ⁹ The full [interim evaluation](#) of the EIT provides more details on the Commission evaluation.
- ¹⁰ The three pillars of Horizon 2020 are the 'Excellent Science' pillar, the 'Industrial Leadership' pillar and the 'Societal Challenges' pillar. For more information on the structure of Horizon 2020, see the EPRS in-depth [analysis](#) on Horizon 2020 budget and implementation.
- ¹¹ The [policy support facility](#) is an instrument managed by the Commission and funded by Horizon 2020 that provides Member States and associated countries with expertise in reforming their national research and innovation systems.
- ¹² The '[seal of excellence](#)' is a label awarded to Horizon 2020 projects that were evaluated as excellent but did not receive funding. The label can be used by candidates to search for alternative funding.
- ¹³ The issue of EU added value and the economic impact of the EU framework programme was assessed in a 2017 expert group [report](#) requested by the Commission.

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