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**COMMISSION STAFF WORKING DOCUMENT**  
**EXECUTIVE SUMMARY OF THE INTERIM EVALUATION**  
**of**  
**HORIZON 2020**

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## EXECUTIVE SUMMARY

This Staff Working Document represents the interim evaluation of Horizon 2020, the EU Framework Programme for Research and Innovation 2014-2020. Horizon 2020 was designed to drive economic growth and create jobs by coupling research and innovation (R&I), with an emphasis on excellent science, industrial leadership and tackling societal challenges. The general objective is to contribute to the EU's overarching jobs and growth strategy by: helping to build a society and an economy based on knowledge and innovation across the Union; by leveraging additional research, development and innovation funding; and by contributing to attaining R&I targets, including the target of 3% of GDP for R&I across the Union by 2020.

This evaluation assesses Horizon 2020's current progress towards its objectives. The findings will contribute to the last Work Programme for 2018 – 2020, will provide the evidence-base for the report of the High Level Expert Group on maximizing the impact of EU Research and Innovation programmes and will inform the design of future Framework Programmes. An interim evaluation, when the first projects have only started three years ago, has obvious limitations. Science and innovation are long term and risky endeavours creating impact that can only very partially be captured after such a short period. A monitoring system with indicators to systematically track impact (in particular for societal challenges) is found to be wanting.

Nevertheless, the interim evaluation finds that the Programme's original rationale for intervention and its objectives and challenges identified at the programme launch are still highly **relevant** also in light of new political priorities. The EU still spends too little on R&I (the 3% R&D expenditure target has not been met but Horizon 2020 only represents a small proportion of the total public R&D spending in the EU) and the innovation gap with key competitors still exists, even though performance is improving. Horizon 2020 supports cutting edge research and technological developments and has allowed for fast reactions to important developments like the Ebola outbreak and the migration surge. But the right balance still has to be found between being too prescriptive or not prescriptive enough to be able to swiftly capture disruptive technologies and business innovations. The relevance of the programme is shown by the sustained interest in its highly competitive calls: more than 30,000 proposals were submitted per year (compared to 20,000 for FP7), a third of which from newcomers. Still, more can be done to bring R&I closer to the public and further improve relevance and impact. The translation and linking of the high-level objectives into work programmes, calls, and projects could be made more systematic, transparent and participatory.

The externalisation of the most resource-intensive parts of the programme to Executive Agencies increased **efficiency** compared to FP7. It helped keep the administrative expenditure below the target of 5% of the budget. Simplification measures have greatly improved operations, notably on the time-to-grant (on average 192 days, 100 days faster than in FP7). More specific feedback to applicants would further improve the evaluation procedure. The attractiveness of the Programme led to very low success rates (11.6% compared to 18.5% in FP7), leaving some parts strongly underfunded. An additional EUR 62.4 billion would have been needed to fund all the high-quality proposals evaluated. Horizon 2020's focus on excellence leads to a high concentration of funding (both in terms of participants and geographical representation). Horizon 2020 is open to the world and has a broad international outreach, in particular through a number of multilateral initiatives; however the number of participations from third countries in Horizon 2020 projects has decreased compared to FP7.

Looking at **effectiveness**, early evidence at this very early stage of implementation indicates that progress is being made towards delivering on all Horizon 2020 objectives. Horizon 2020 is producing world-class excellence in science through for example the creation of multi-disciplinary international networks, training and mobility of researchers and the creation of research infrastructures. Support to innovation and industrial leadership has been effective with some early results on company growth, additional funding leveraged and innovations brought to the market. Horizon 2020 is already generating outputs that contribute to tackling societal challenges. However, the programme falls behind the expenditure target for sustainable development and climate change; still, this expenditure represents a considerable increase compared to FP7. Horizon 2020 is making progress, albeit slowly, in spreading excellence and widening participation and is making slight progress compared to FP7 in generating science with and for society.

Even though Horizon 2020 only represents a small proportion of total public R&D spending in the EU, new macroeconomic models estimate significant socio-economic impact from Horizon 2020 (in the order of over EUR 400 billion gained by 2030).

However, a number of factors may impede full effectiveness in terms of market uptake: technological and regulatory obstacles, lack of standards and access to finance, as well as lack of customer acceptance of new solutions. Also, while supporting established innovators, the programme has not yet been able to reach out to young, fast-growing companies. As currently designed, it is not able to identify and support new innovators that are developing breakthrough solutions at the intersection of different sectors and technologies, or that are capable of creating new markets and have the potential to scale up rapidly.

Horizon 2020, with its three pillars, has a more **coherent** structure than FP7; the use of focus areas to promote interdisciplinary solutions to multiple societal challenges is particularly supported by stakeholders. However, a large number of instruments make the landscape for EU R&I support difficult to navigate and may lead to less coherent interventions. A stronger focus on higher Technology Readiness Levels in some parts of the Programme creates concerns of diverting resources away from preparing future breakthrough innovations, albeit longer-termed ones. Despite initiatives being taken to reinforce synergies with other EU funds, notably the European Structural and Investment Funds, further coherence is hampered by the different intervention logics and complexity of the different funding and other rules such as State Aid rules. The Public-to-Public Partnerships supported by Horizon 2020 co-funding are building lasting collaborations but appear not to have been influential on Member States' policies and strategies.

Horizon 2020 produces demonstrable benefits compared to national and regional-level support to R&I in terms of scale, speed and scope, notably through the creation of cross-border, multidisciplinary networks; pooling of resources and creating critical mass to tackle global challenges. It thus increases the EU's attractiveness as a place to carry out research. Stakeholders find that Horizon 2020 has higher **added value** than other national and/or regional programmes. The programme's additionality (i.e. not displacing or replacing national funding) is very strong (83% of projects would not have gone ahead without Horizon 2020 funding). The strong and direct pan-European competition guarantees the EU added value of single beneficiary programme parts, like the SME Instrument and the European Research Council. The latter is now a beacon of scientific excellence across the world.