



Horizon 2020 at the crossroads



Petra Hazenberg

Partner
Lead Client Service Partner
European Institutions
Deloitte Luxembourg

Luc Chalsège

Senior Director Consulting,
Public Sector Policy Service
Line Leader
Deloitte Belgium

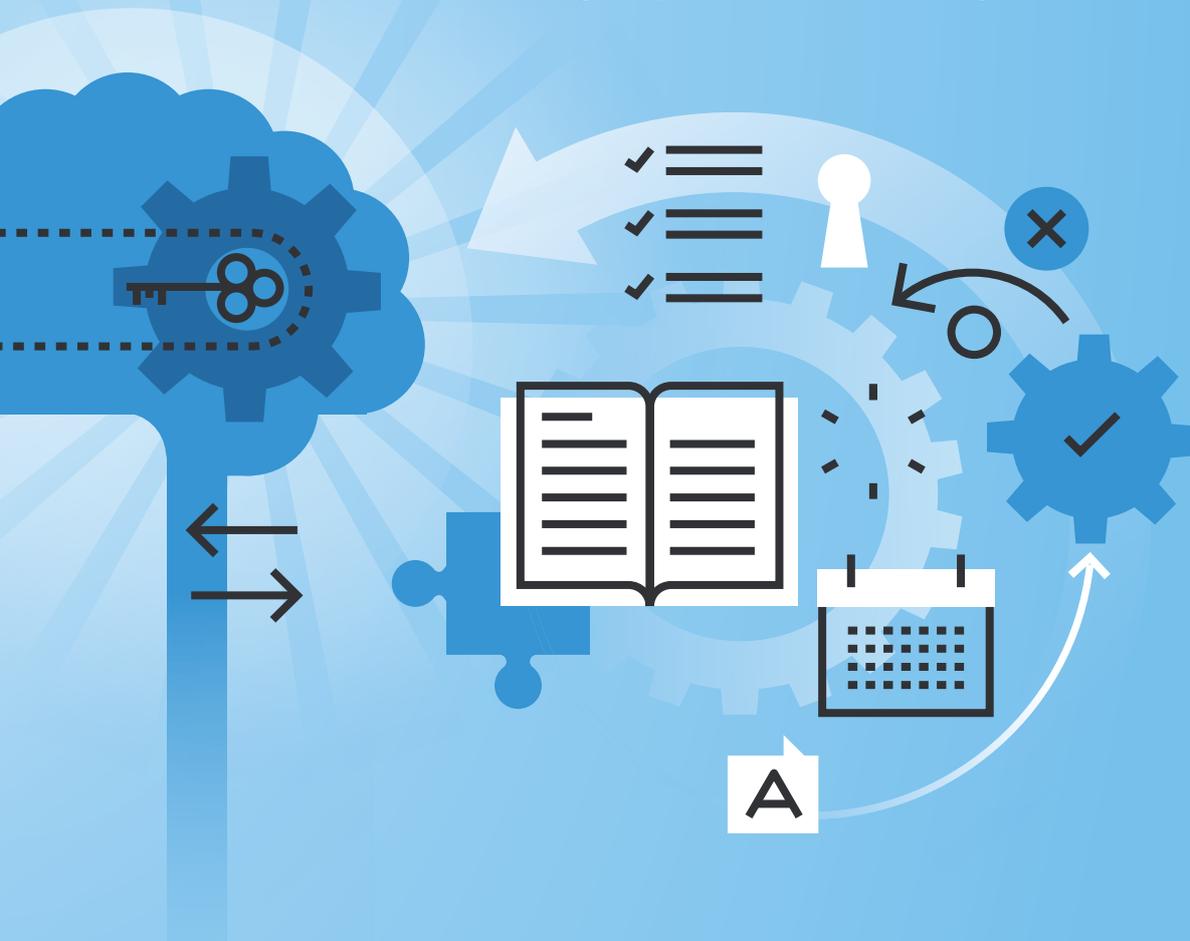
Dr. Carlo Duprel

Director
Deloitte Digital, Strategy
Regulatory & Corporate
Finance
Deloitte Luxembourg

Eulalia Baulenas Serra

Deloitte Alumni and
PhD Candidate

Horizon 2020 is currently the biggest EU Research and Innovation funding program. The ultimate goal of the program is to speed up the number of “breakthroughs, discoveries, and world-firsts by taking great ideas from the lab to the market.”¹ In Luxembourg, this program has enabled sound projects: from green transportation and logistics products to projects addressing societal challenges on the areas of health and care for the elderly. In 2017, the interim impact assessment of the program will be released, and with it the performance of the indicators evaluating this EU tool. Additionally, the interim assessment will provide an updated evaluation of the value delivered by projects funded under the predecessor framework FP7. Henceforth and with this interim assessment, H2020 will either make it or break it: either the next framework program will be reinforced and its budget potentially strengthened, or the 12 key areas covered under H2020 might split into smaller programs. ➤



The 6-W on Horizon 2020

Horizon 2020 is set up as a program to fund research and innovation projects covering the period 2014-2020 with a budget of €78.6 billion. This budget implies a more than 50 percent increase relative to its predecessors, the 7th Framework Program for Research and Technological Development (FP7), the Competitiveness and Innovation Program (CIP) and the European Institute of Innovation and Technology (EIT). The current H2020 program specifically addresses three key focus areas of interest for the European Union: societal challenges, industrial leadership, and excellence in science. Accordingly, these areas each received a budget of €24.4 billion, €17 billion, and €29.7 billion respectively. Within H2020 also, the EIT received €2.7 billion and Euratom €1.6 billion, among other smaller contributions to stand-alone projects²

Horizon 2020 is set up as a program to fund research and innovation projects covering the period 2014-2020 with a budget of €78.6 billion.

The main goal of this funding is to contribute to the implementation of the Innovation Union and ensure that Europe remains competitive within the world economy. Funds are released in bi-annual work programs (hereafter WPs), which open an average of 50-60 different calls. Through the constant monitoring of the usage and functioning of the H2020 funds, the biannual WPs allow for the reinforcement of the areas that were under-performing on previous calls. For instance, the current WP was released at the end of July 2016 with the intention to improve competitiveness through a greater focus on open science.³

Altogether, with the way the requirements to access H2020 grants are set, the EU revalidates the practice to request the bids to be proposed from multinational teams.

Hence, it maintains the conviction that modern innovation clusters do not work on a single geographical basis, but should be community-driven⁴: increasing the ranking of the EU in the world as a top-notch technology-driven economy depends more than ever on the capacity of enhanced knowledge sharing across member states. Therefore, the funds under H2020 generally require participants to propose multidisciplinary teams established in different eligible countries. Cases are numerous. For instance, grants to develop Smart City projects require the joint efforts of three cities plus three additional so-called follower cities, all from different countries. The last call was granted to Barcelona, Cologne, and Stockholm—the “Lighthouse” cities—under which these cities are implementing 12 smart city solutions in energy, infrastructure, and transport. These cities are the godparents of three additional cities from other countries, which will aim at replicating the projects with the potential support of structural funds and the gained expertise of the Lighthouse cities.⁵

Although H2020 also invites third countries to request funding, the majority of the calls have been granted to EU-based communities. Since the opening of the first calls, Luxembourg ranks 23rd in terms of budget share and accounts for 0,38 percent of the total number of applicants across the EU-28.⁶ However, when the received EU funding is split by researcher, the ranking for 2015 takes Luxembourg to the 6th place. Numbers are sound:

- There were 141 participants from Luxembourg receiving €43.19 million:
 - The University of Luxembourg is the main receiver with €16.28 million and 27 participants
 - Luxembourg-based SMEs received €9.20 million
 - 4 ERC Principal investigators are funded with €4.94 million
 - 17 Marie Skłodowska-Curie Actions (MSCA) funded fellows with €3.83 million

- Luxembourg strengthened its international links with collaborations with Germany (in 167 calls), United Kingdom (149), Italy (140), Spain (139), and France (138)

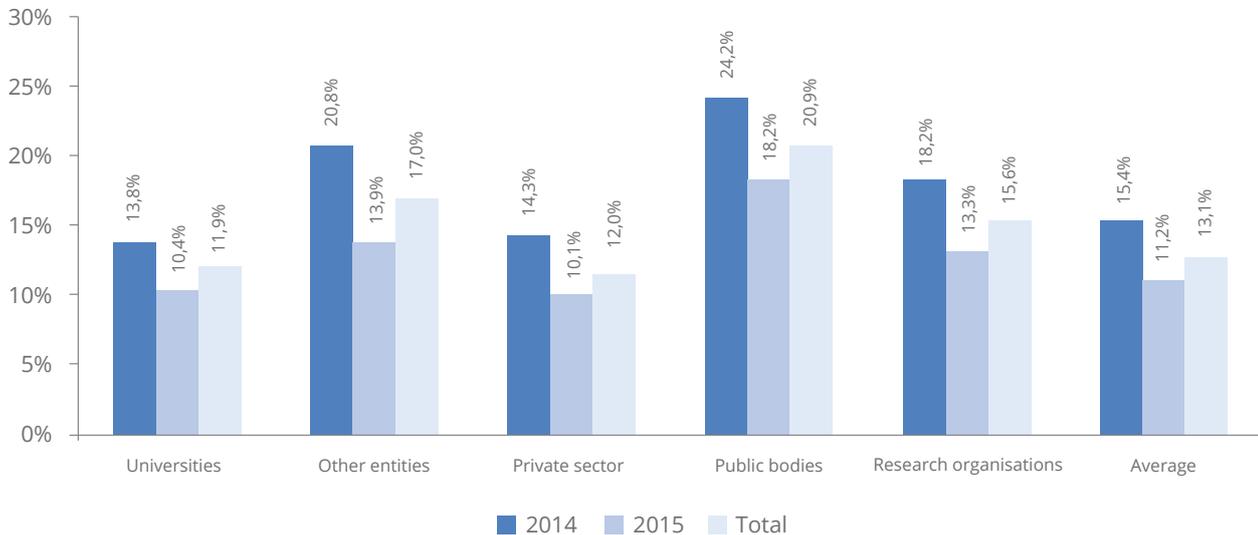
Preparation for the funding programs Annual monitoring

There are different ways the European Commission prepares the WPs and overall funding strategy: annual monitoring of the ongoing program and impact assessment on the degree to which goals are being reached.

The annual monitoring consists of evaluating the procurement process: the type of stakeholders who apply, success rates across the EU member states, and third countries that are eligible for grants. This monitoring serves to reinforce and improve the procurement system. For instance, due to the consultations on H2020 applicants, the commission decided to simplify the application process on the current WPs relative to previous calls. Up to now, the first and second monitoring reports of H2020 have been published.⁷ Although the reports present little information on the impact of the funds, they give valuable information that can be used to understand the priorities of the EU in terms of which projects are more likely to be funded relative to others. In the communication of the commission accompanying the release of the 2016 monitoring report, the Commissioner for Research, Science, and Innovation Carlos Moedas commented, “We are receiving ever more applications of ever better quality. Supporting these projects is not a cost; it is an investment in our economy and society. I can only regret that we are not able to fund even more of the top quality applications.”⁸

Although the commission seems to underline the increased quality of proposals, the number of rejections continues to be high and success rates have decreased from 2014 to 2015, as observed in the graph below and split by stakeholder group⁹:

Success rates per type of organisation application



Corda, calls in 2014 and 2015, Signed Grants cut-off date by 1/09/2016 (excluding grants to named beneficiaries)

It is quite common that on one hand, potential applicants get lost in the intricate process of applying for these funds¹⁰ and on the other hand they do not have sufficient time to spend on setting up or finding a consortium and drafting a high-quality proposal. A recent interview to Michael Browne delivered good insights on successful bids.¹¹ Mr. Browne is the head of European Research and Innovation at University College London, which was recently ranked as the top university in Europe under the first year of Horizon 2020. He has overseen the award and delivery of more than 1,000 EU-funded projects, totaling circa €500 million. In the interview, he covers the key factors that, in his understanding, made their services to applicants so successful: bid for projects that are developing innovative products from a business that has at least an advanced Technology readiness level (TRL),¹² with a strong and multidisciplinary consortium that covers the entire product chain.¹³ Additionally, he sees them applying for a research area that is receiving a higher percentage of funding.

Impact assessments

The second tool the EU Institutions utilizes for evaluating the functioning of funding on research and innovation is impact assessment.

The impact assessment covers all of the cycles of the policy-making process, including ex-ante, interim, and ex-post evaluations that feed the preparation for the distribution of funds within the framework programs. These evaluations contain both qualitative and quantitative indicators established around the key objectives of the funding framework and they are meant to measure to what extent the funds are actually contributing to improve and strengthen the EU economy and benefit the society overall. Additionally, the commission states that these sets of indicators help to increase accountability and transparency, and ensure that the money spent by the EU Institutions gives maximum returns.

These impact assessments follow the Guidelines on evaluation and Fitness Checks recently issued by the European Commission and are applicable to all officials and managers in the evaluation function of the DGs. These guidelines apply to all types of evaluations of EU policies and interventions governed by legal instruments (e.g., Fitness Checks, final, ex-post, and interim evaluations), including the Financial Regulation and its Implementing Rules¹⁴.



Although H2020 also invites third countries to request funding, the majority of the calls have been granted to EU-based communities.



Following these guidelines, the EC is preparing the interim impact assessment for H2020, which is expected to be published by the end of 2017.¹⁵ The indicators are tailored to the key goals of H2020. In terms of quantitative indicators, the impact assessment surveils the performance per each interest area (e.g., “excellence in science”) which helps assess the impact of the funds with all the well-known limitations of such a quantitative assessment of research output. The main indicators are¹⁶:

- Number of publications in peer-reviewed high-impact journals
- Number of patent applications and patents awarded
- Number of prototypes and testing activities
- Number of joint public-private publications

On the other hand, and in terms of qualitative indicators, the commission undertakes consultations to both the public and advisory groups set up around key research areas.¹⁷ Generally, public consultations aim at targeting grant participants. The commission sets up an online survey containing questions on the participant’s opinion regarding the contributions of the funds to core societal and EU objectives.¹⁸ For the advisory groups, the commission prepares a set of open-ended questions. The answer to these questions from the advisory groups is generally published afterward in form of a positioning paper.

Finally, other EU Institutions are performing similar activities to evaluate the functioning of the grants. On this regard, the conclusions of a recent impact assessment produced by the European Parliament on H2020 seem to point out similar conclusions to the monitoring reports from the commission. “It is too early to assess Horizon 2020’s performance with reference to employment creation and dealing with the economic crisis. What can be concluded with certainty is that there is a very high demand for funds, leading to 100 percent absorption of resources.” However, the report also concludes on a positive note that there are “promising signs for Horizon 2020’s contribution to the achievement of the EU2020 strategy, for example that the share of SME participation is in line with ex-ante expectations (20 percent), which represents an approximate 4 percent increase on FP7.”¹⁹

Overall, the way the commission performs these impact assessments seem to be validated by experts, as both the European Parliament and the Court of Auditors have released reports praising the system for including internal and external checks and balances and off-setting the potential for conflicts of interest.²⁰ However, there are some critical voices. The UK Parliament reports on certain criticism raised by the fact that only the indicators of the commission are used, but there was no room for additional and external indexes.²¹

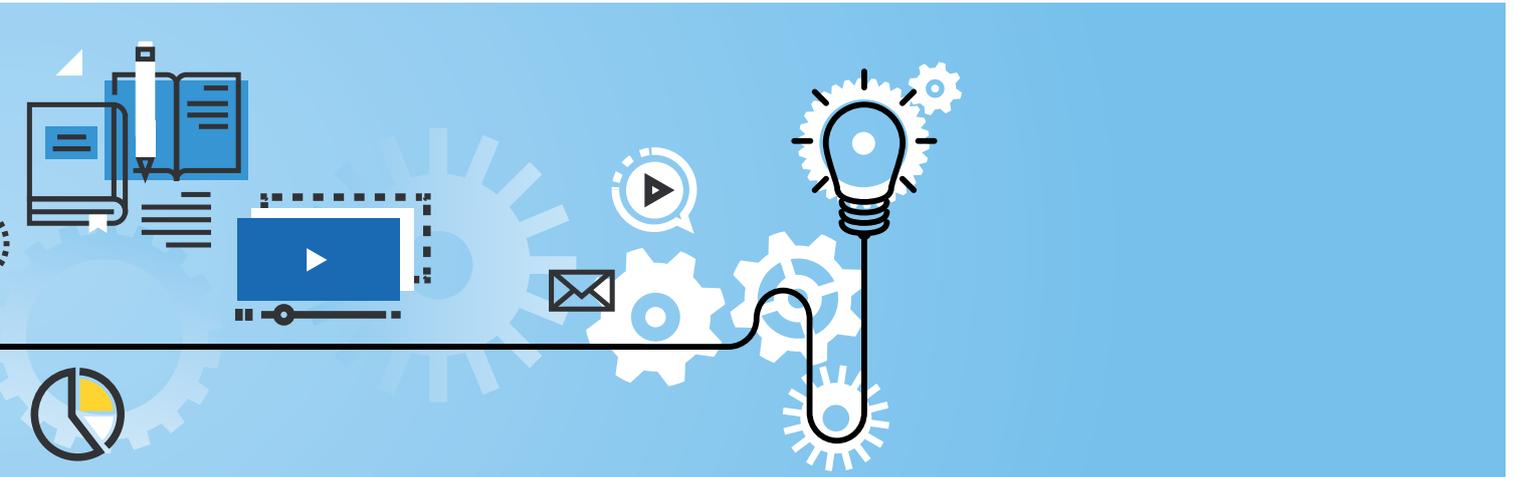
Policymaking in research and innovation: what can we expect next and how can we contribute?

According to theories of policy-making, all policies carry the heritage of the antecessor ; this implies that the next WPs will only vary up to a certain extent relative to the current framework.

On key areas of interest, we expect the funding for the next WPs under H2020 to address the same main areas that are currently receiving more attention. This drives us to industrial technologies, health, and transport. For the next program replacing H2020, nonetheless and most likely, the areas that we consider should receive greater focus are ICT and the environment, as both topics seem to be performing below Asia and America, according to studies performed by DG for Research and Innovation.

On stakeholders who are applying for this research, innovative fast-growing startups are on the hype. SMEs are allocated in direct funding of €1.45 billion for 2017 without including the potential for SMEs to participate in the H2020-funded Public-Private-Partnerships (PPPs). On top of that, three out of the four key indicators are most likely to be achieved by the private sector or require their involvement: patent activities, prototypes, and testing activities, and a number of publications under PPPs. The commission has met the 20 percent budget allocation target for SMEs, and this will more than likely be maintained for the next WPs under H2020. However, we strongly believe in the benefits for the economy that could be carried by increasing this target in the next program that replaces H2020.

Finally, on the quality of the bids, the proposals containing data management plans and open data structures should expect an increased likelihood to be selected, moreover because such plans are associated with higher maturity of the business or public entity applying for the funds. ●



- 1 European Commission, "Horizon 2020." Accessed November 2016. Retrieved from: <https://ec.europa.eu/programs/horizon2020/en/what-horizon-2020>
- 2 For a summary of research and innovations scope of activities eligible for funding, see Deloitte, "Horizon 2020." Grants & Incentives. Available at: https://www2.deloitte.com/content/dam/Deloitte/cy/Documents/finance/news/CY_Finance_Horizon2020April2013_Noexp.pdf
- 3 European Commission (25 July 2016), "Horizon 2020: Work Program update supports competitiveness through open science." Factsheet.
- 4 Granieri, M., & Renda, A. (2012). Innovation law and policy in the European Union: towards Horizon 2020. Springer Science & Business Media. Page 20.
- 5 For more information, see GrowSmarter, "Our vision." Accessed November 2016. Retrieved from: <http://www.grow-smarter.eu/home/>
- 6 European Commission (November, 2016), "Luxembourg." Country profile for H2020 participation. Available at: http://ec.europa.eu/research/horizon2020/pdf/country-profiles/lu_country_profile_and_featured_projects.pdf#zoom=125&pagemode=none
- 7 European Commission (2016), "Horizon 2020. Monitoring report 2014." Research and Innovation. Available at: https://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/first_h2020_annual_monitoring_report.pdf#view=fit&pagemode=none
- 8 European Commission (28 November 2016). "EU funding for research and innovation attracts ever more interest, report shows." News Alert. Available at: <http://ec.europa.eu/research/index.cfm?pg=newsalert&year=2016&na=na-281116>
- 9 European Commission (2016), "Horizon 2020. Monitoring report 2015." Research and Innovation. Available at: http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf
- 10 See the conclusions of all the stakeholders groups consulted during the consultations around H2020 in European Commission (2013), "The Grand Challenge" – see op. cite.
- 11 Bridgeman, Gary (March 2016), "What does it take to win €500 million?" Available at: <https://soundcloud.com/gary-bridgeman-203617484/the-winning-mindset-3-micheal-browne>
- 12 Meaning that they are either developing or already testing a given technology or system/subsystem or already launching the product.
- 13 This was also suggested by the FET Advisory group: "H2020 should support the whole chain, i.e. funding projects from the beginning (basic research) to market application across H2020." See FET Advisory Group - Answers to Questionnaire. Available to download at: <https://ec.europa.eu/programs/horizon2020/en/future-and-emerging-technologies-fet-work-program-2016-2017-preparation>
- 14 See European Commission (2015), "Guidelines on evaluation and Fitness Checks." Accessed November 2016. Available at: http://ec.europa.eu/smart-regulation/guidelines/ug_chap6_en.htm
- 15 European Commission (2016), "Evaluation and Fitness Check (FC) Roadmap." Available at: http://ec.europa.eu/smart-regulation/roadmaps/docs/2015_rtd_005_evaluation_ie_horizon_2020_en.pdf
- 16 See European Commission (September, 2015), "Horizon 2020 indicators. Assessing the results and impact of Horizon." Accessed November 2016. Retrieved from: <https://ec.europa.eu/programs/horizon2020/en/news/horizon-2020-indicators-assessing-results-and-impact-horizon>
- 17 European Commission, "What is a Work Program." Accessed November 2016. Retrieved from: <https://ec.europa.eu/programs/horizon2020/en/what-work-program>
- 18 See the current questionnaire for the H2020 interim impact assessment under the following link – accessed November 2016: https://ec.europa.eu/research/consultations/interim_h2020_2016/questionnaire.pdf
- 19 European Parliament (2016), "Assessment of Horizon 2020 Program." Available at: [http://www.europarl.europa.eu/RegData/etudes/STUD/2016/572678/IPOL_STU\(2016\)572678_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/572678/IPOL_STU(2016)572678_EN.pdf) – page 23
- 20 EPS/University of Exeter (2010), "Regulatory quality in the EU institutions: do they support decision making?" Special Report No.3.
- 21 UK Parliament (2010), "The Effectiveness of EU Research and Innovation Proposals." European Union Committee Contents. Available at: <http://www.publications.parliament.uk/pa/ld201213/ldselect/lddeucom/162/16207.htm>
- 22 See a replication of this theory in EU Cohesion Funds in Bachtler, J., & Mendez, C. (2007). Who governs EU cohesion policy? Deconstructing the reforms of the structural funds. JCMS: Journal of Common Market Studies, 45(3), 535-564.
- 23 European Commission (2013), "The Grand Challenge". Research and Innovation. Available at: <https://ec.europa.eu/programs/horizon2020/en/news/grand-challenge-design-and-societal-impact-horizon-2020>
- 24 Eurostat (2011), "Patent Statistics at Eurostat: Methods for Regionalisation, Sector Allocation and Name Harmonisation". Part 2. Sector Allocation. Available at: https://circabc.europa.eu/sd/a/5b474c9c3e8c4070-82a4-1d0e234b3d58/COMPENDIUM%20PART%20II_Patent%20-%20WP_Sector%20allocation.pdf
- 25 European Commission, "The SME Instrument". Accessed November 2016. Retrieved from: <https://ec.europa.eu/programs/horizon2020/en/h2020-section/sme-instrument>
- 26 See European Commission, "Open access". Accessed November 2016. Retrieved from: http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm