Horizon 2020 Condensed

The basics
Horizon 2020 is the EU’s main funding programme for research and innovation, running from 1 January 2014 until 31 December 2020. This factsheet provides a general introduction for researchers who might be interested in applying for funding.

What is Horizon 2020 and who should apply?
Horizon 2020 is a funding programme for all types of actors involved in research and innovation – academia, research, industry and other stakeholder organisations.

Horizon 2020 contains a number of different funding sub-programmes and mechanisms, and is structured around three pillars. There are opportunities for individual researchers and groups of researchers to apply for funding in each of these pillars. The choice of pillar and the underlying sub-programme depends on the type of funding you are looking for, on the size of the planned project, whether it is basic or applied research, or whether someone is interested in moving to another country for example.

A short word of caution before you continue reading – Horizon 2020 represents EU funding for research and innovation on a larger scale. The EU does not provide funding for occasional travel for research meetings, or smaller stand-alone conferences or workshops. EU funding has also become more and more competitive over recent years, so before investing a lot of work into proposal planning and submission we would recommend that you discuss the opportunities with your local research support officers. This will help you determine whether and where your project idea might fit in Horizon 2020. You can also speak to your UKRO European Advisor on how your funding needs would be best met.

Implications for research funding of the UK Exit from the EU
UKRO has produced a Brexit factsheet with the most important information about the current UK situation in EU Programmes, including Horizon 2020. Researchers planning to apply to upcoming calls should consult this factsheet, together with the dedicated Q&A document on UK participation in EU funding for research, innovation and higher education, produced by the UK Government. The aim of these resources is to provide answers to the most common questions, both with a UK and international audience in mind.

New Focus Areas in 2018-2020 Work Programme
Four new Focus Areas – highly integrated activities (calls for proposals, etc.) that cut across the various parts of Horizon 2020 and reflect the main political priorities of the EU – were introduced in the last Work Programme with the aim of rationalising the research and innovation funding landscape:

• **Building a low-carbon, climate resilient future**;
• **Connecting economic and environmental gains - the Circular Economy**;
• **Digitising and transforming European industry and services**; and
• **Boosting the effectiveness of the Security Union**.

The combined budget for activities funded under these Focus Areas is over €7 billion and each call for proposals contributing to one of these Areas can be easily identified in the Work Programme by the relevant prefix (e.g. SU-TDS-03-2018 where the ‘SU’ stands for the Security Union Focus Area.
Enhanced European Innovation Council (EIC) Pilot 2019-2020

The European Innovation Council is a new initiative under the 2018-2020 Work Programme of Horizon 2020, which supports innovators developing breakthrough innovations with the potential to create new markets and boost jobs, growth and prosperity in Europe. It comprises a number of innovation-focused instruments, which had existed separately in the past in the various parts of Horizon 2020: SME Instrument, Fast Track to Innovation (FTI), Prizes and FET Open.

In early 2019, the European Commission launched an Enhanced EIC Pilot, which builds on some of these instruments and which will be the bridge between the original EIC Pilot under Horizon 2020 and Horizon Europe – the next EU framework programme for research and innovation.

The Enhanced pilot includes two new schemes, which aim to accelerate the introduction of breakthrough innovation to the market: EIC Pathfinder and EIC Accelerator. Researchers and innovators interested in applying to these new schemes will find more information in UKRO’s dedicated factsheet on the EIC.

Horizon 2020 structure

The programmes within Horizon 2020 are grouped under three Pillars. In addition, there are some areas, such as Social Sciences and Humanities, which cut across the pillars.

Excellent Science
- European Research Council (ERC)
- Future and Emerging Technologies (FET)
- Marie Skłodowska-Curie Actions (MSCA)
- Research Infrastructures

Industrial Leadership
- Leadership in Enabling and Industrial Technologies (LEIT) - ICT, KETs, Space
- Access to Risk Finance
- Innovation in SMEs

Societal Challenges
- Health and Wellbeing
- Food security
- Energy
- Transport
- Climate action
- Societies
- Security

Widening Participation, Science with and for Society, European Innovation Council

- European Institute of Innovation and Technology (EIT)
- EURATOM
- Joint Research Centre (JRC)

UKRO has published a number of dedicated factsheets, which aim to provide an overview on the different elements of the programme.
Under Excellent Science, four different schemes are available, largely for bottom-up funding for individual researchers or teams:

- The European Research Council (ERC) provides funding for excellent researchers at different stages of their career.
- Future Emerging Technologies (FET) is a funding mechanism for collaborative ‘high risk’ research under three different streams, FET Open, FET Proactive and the FET Flagships.
- The Marie Skłodowska-Curie Actions (MSCA) fund mobility, training and career development in academia, industry and other non-academic sectors through individual mobility grants and projects.
- Research Infrastructures includes funding for e-infrastructures and access to infrastructures for researchers.

Under this pillar, funding is available for the so-called Key Enabling Technologies (KETs), including ICT; Nanotechnologies, Advanced Materials, Biotechnology, Advanced Manufacturing and Processing and for research and innovation in the area of Space. In addition, there are two more industry-oriented schemes available. Overall, this is probably the most industry and innovation-focused part of Horizon 2020 with many opportunities for applied research, especially under the KETs.

Under pillar two, there is also funding for the so-called ‘contractual Public-Private Partnerships’ (PPPs). Under these, there will be a range of topics with strong industry and market relevance focus.

Seven societal challenges have been identified under pillar 3:

1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture, marine and maritime research and the bio-economy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, resources and raw materials
6. Inclusive, innovative and reflective societies
7. Secure societies

Funding under this pillar is predominantly for collaborative projects, following a more top-down approach with normally two-year work programmes of defined, challenge-based topics. In principle, a minimum of three legal entities from three EU Member States or Associated Countries must participate in these projects.

Given that the overall aim of this pillar is to tackle Societal Challenges, most projects will require a broader approach in terms of disciplines and might require the inclusion of different stakeholders. If you are a researcher from the Social Sciences and Humanities (SSH) area, you will find that it is worth looking beyond Challenge 6, as all other challenges will also identify areas where input from SSH is relevant.
European Institute of Innovation and Technology

The European Institute of Innovation and Technology (EIT) aims at integrating the so-called ‘knowledge triangle’ of higher education, research and innovation. The EIT does this by funding Innovation Communities (formerly known as Knowledge and Innovation Communities, or KICs), which are large long-term projects bringing together organisations from all parts of the knowledge triangle. KICs focus on a major societal challenge, with a view to turning them into entrepreneurial opportunities in terms of products and services.

Joint Research Centre

The Joint Research Centre (JRC) is the European Commission’s in-house scientific service, receiving support from Horizon 2020. Like many other parts of the Commission, the JRC can launch calls for proposals and calls for tenders, which provide additional opportunities for researchers to receive funding for works and services (e.g. studies on a particular subject), which are required by the Commission. These are, however, very different in character than the typical calls for collaborative projects launched under Horizon 2020 calls.

Other aspects

The Social Sciences and Humanities (SSH) are mainstreamed across all of Horizon 2020. In addition, there are measures under Widening Participation with the aim of building more excellence in less developed EU regions. Under the Science with and for Society, projects are to look into issues such as gender equality in research, researcher career development, science education and the dissemination of scientific results. Horizon 2020 also includes EURATOM, which funds activities in the fields of fusion energy research and nuclear fission and radiation protection. The Joint Research Centre (JRC) is the Commission’s own research centre with institutes across Europe. These normally do not provide funding but produce studies in different fields on behalf of the Commission.

Funding, eligibility and project details

Funding rates for Horizon 2020 have been harmonised when compared to its predecessor programme – FP7. All beneficiaries are now entitled to a reimbursement of 100% of their direct costs related to a Research and Innovation Action, with a single flat rate for indirect costs of 25%. For the so-called Innovation Actions (close-to-market activities, usually with a stronger industry focus), the general reimbursement rate is 70% (100% for non-for-profit entities).

What is funded?

What is funded exactly depends on the project type. The most common project type is a Research and Innovation Action, which usually requires a minimum of three participants from three different EU Member States or countries associated to Horizon 2020. Research and Innovation Actions fund research activities including personnel costs, travel, consumables, management costs and dissemination.

There are other project types, such as the Co-ordination and Support Actions (CSAs), which do not fund research as such but fund, for example, the co-ordination of research policies across Member States in a particular field. They sometimes fund studies and also occasionally conferences and other networking activities. In addition, the Commission also includes prize competitions in many of the Horizon 2020 work programmes.

Funding is mainly based on the reimbursement of actual direct costs incurred for a project. For some types of projects, such as the MSCA, funding can be based on unit costs per researcher month defined by the Commission.

What is the project duration and how many partners do I need?

The duration of projects can vary immensely, a typical small or medium-scale Research and Innovation Action would usually last 2-4 years, and larger projects could run for 3-5 years. There are no formal limits on project duration imposed under Horizon 2020. The best way to approach project planning is to ensure that projects are underpinned by solid time planning with clear milestones and
objectives. Minimum or maximum budget levels for projects in the Horizon 2020 work programmes can give an indication of the appropriate project duration. There are some exceptions where the duration of a project or grant is specified or suggested.

How many partners should be involved and which countries should be included in a project mainly depends on what you judge is most appropriate for the work you are planning to undertake. Again, there are no fixed rules as such on the maximum, but there are usually minimum requirements in terms of the number of partners and sometimes also the types of organisations in the project. We would also recommend that you look at previously funded projects in your area of research to see some examples. Furthermore, additional information on building a successful consortium for Horizon 2020 projects is available in our dedicated factsheet.

**Work Programmes and Calls**

**Timings**

Horizon 2020 Work Programmes usually cover two years (2018-2020 work programme covers three years with a flexible final year) and there is often an update to each work programme in the second year to adjust some call topics and budgets. They are normally published, together with the majority of calls for the given year, in the autumn. In some cases, the European Commission publishes early drafts of work programmes (which include topic outlines but usually not on budget and funding) before the official publication. Some calls are launched at later dates during the 12 months that follow, but all will have the next year as call reference (so some of the calls launched in 2018 will be labelled “2019 calls”).

Information on all calls: open, closed or planned, are available on the European Commission’s Research and Innovation Funding & Tenders Portal. After a call is launched, researchers usually have between 3-6 months until the deadline to prepare their proposals.

Depending on the area of Horizon 2020, it is possible that several calls are launched within a Societal Challenge for example, or that there is just one call. There are also cross-cutting calls with topics from different Societal Challenge areas, but grouped under one overarching theme. Increasingly a number of calls may have a two-stage application process, in which case, two deadlines may be indicated.

**Work Programme structure and relevant EU policy**

There is one overarching Work Programme normally covering a two year period (in the past 2014/15, 2016/17), but the last Work Programme covers three years: 2018-2020. This contains individual work programmes for each part of Horizon 2020 as annexes. There are three official work programmes, the main one is the Horizon 2020 Work Programme with its annexes and general annexes (which explain the general funding conditions). Then, there is a separate Work Programme for the European Research Council (annual work programme) and another for EURATOM.

The Work Programme links back to major EU policies relevant to research and innovation, such as the ‘Europe 2020 strategy’ and the ‘Innovation Union’, or the goal of achieving the European Research Area. For more information, see our UKRO factsheets for information on the specific parts of Horizon 2020.
More information:


- European Commission Funding & Tenders Portal for:
  - Calls for proposals: ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home
  - Focus Area virtual calls:
    - Building a low-carbon, climate resilient future
    - Connecting economic and environmental gains - the Circular Economy
    - Digitising and transforming European industry and services
    - Boosting the effectiveness of the Security Union
  - Work programmes:

- To find examples of projects that are already funded: cordis.europa.eu/projects/

- UKRO Brexit factsheet: https://www.ukro.ac.uk/Documents/factsheet_brexit.pdf?pubdate=20190623

- Sign up to the UKRO Portal to stay up to date on Horizon 2020 general developments, calls, events and results: ukro.ac.uk

- For specific questions, contact your UKRO European Advisor