European Commission

IN BRIEF

THE EU RESEARCH & INNOVATION PROGRAMME

HORIZON EUROPE

2021 – 2027

A PRACTICAL GUIDE FOR CHINA

Research and Innovation

Horizon Europe - The EU Framework Programme for Research & Innovation
A Practical Guide For China - 2021-2027

European Commission
Directorate-General for Research and Innovation
Directorate Directorate F – Global Approach and International Cooperation in research and innovation
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HORIZON EUROPE

THE EU FRAMEWORK PROGRAMME FOR RESEARCH & INNOVATION

A PRACTICAL GUIDE FOR CHINA

2021 - 2027

Edited by:
Science and Technology Section
Delegation of the European Union to China

2021 Directorate-General for Research and Innovation

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PREFACE

PREFACE

Dear Reader,

Research and innovation are at the forefront of the priorities both in Europe and in China in order to achieve their respective political objectives to ensure a sustainable and inclusive future of their peoples and of the planet. Therefore, research and innovation form an essential part of the overall EU-China relations.

The new European Programme for research and innovation, Horizon Europe, aims at contributing to fulfil the priorities of the European Commission. They define headline ambitions and vision for a Europe that strives for more: 1) a European Green Deal, 2) an economy that works for people, 3) a Europe fit for the digital age, 4) promoting the European way of life, 5) a stronger Europe in the world, and 6) a new push for European democracy.

Horizon Europe intends to boost Europe's scientific global leadership, excellent science and breakthrough innovation, whilst addressing the societal challenges that matter the most to all, such as fight against cancer, adaptation to climate change, greener cities, healthy food and soil, protection of oceans, seas and waters. It seeks to extend international cooperation in order to team up the best talents of Europe and beyond, and form new partnerships between research, innovation and industry to bring effective solutions.

As Commissioner Gabriel said on 2 February 2021: "With a budget of €95.5 billion and a set of modern instruments, Horizon Europe becomes the most powerful

research and innovation programme in the world. It has been co-created with European citizens to meet their expectations and needs. Thanks to this, it is estimated Horizon Europe will return up to €11 in gross domestic product gains for every euro invested and that up to 100,000 jobs in research and innovation will be created before the end of 2027'. The programme will develop solutions for a healthier life, the progress of the digital transformation and the fight against climate change."

Under the previous Framework Programme (2014-2020), Horizon 2020, numerous scientific collaborations have taken place between Europe and China to tackle global challenges like health, environment and climate change, food security and safety, clean transportation, etc. Collaboration in research for vaccines, treatments and diagnostic tools to fight the COVID-19 virus in 2020 is a landmark example.

Bringing together two major world leaders in research and innovation, EU-China collaboration is indispensable to meet the objectives of the Paris Agreement on climate change, and contribute to the United Nations Sustainable Development Goals.

Guiding principles of openness and mutual benefit, as concluded at the Fourth Innovation Cooperation Dialogue in April 2019 underpin this collaboration.

This is the reason why the EU and China are developing a Joint Roadmap for Future Science, Technology and Innovation (STI) Cooperation. It sets rolling joint priorities to be implemented through dedicated co-funded calls for proposals (called "flagship initiatives") and framework conditions to be fulfilled by both sides. The purpose of the framework conditions is to create a level playing field for EU-China STI cooperation based on reciprocity and

transparency in order to contribute to a thriving global innovation ecosystem.

China is one of the EU's key international partners in research and innovation. I therefore encourage Chinese researchers and innovators to engage with Horizon Europe and become partners in European research and mobility projects.

In this brochure, you will find practical guidance on questions regarding your eventual participation in Horizon Europe: WHAT exactly is Horizon Europe? HOW to apply? WHAT to consider? WHERE to find information? HOW to find European partners?

I hope this booklet will not only provide answers to pertinent questions of newly interested researchers and innovators, but also encourage the ones experienced with Horizon 2020 and its predecessors to explore the simpler, novel and manifold opportunities provided by this new EU Framework Programme for Research and Innovation - "Horizon Europe".

Innovation is at the core of the European project. Let us pool our talents to build a green, digital and healthy future for everyone.

Make best use of Europe's excellence in research and innovation!

Nicolas CHAPUIS
Ambassador
Delegation of the European Union to China

RESEARCH AND INNOVATION IN EUROPE

1. RESEARCH AND INNOVATION IN EUROPE

Jointly with China, the EU remains in the leading position in terms of the share of scientific output worldwide, while the US' share has continued to shrink. With 7% of the world population, the EU is responsible for 20% of global R&D expenditure and 21% of scientific publications worldwide. However, with the United Kingdom leaving the EU, the EU's share declined from 30% in 2000 to 21% in 2018 (Figure 1).

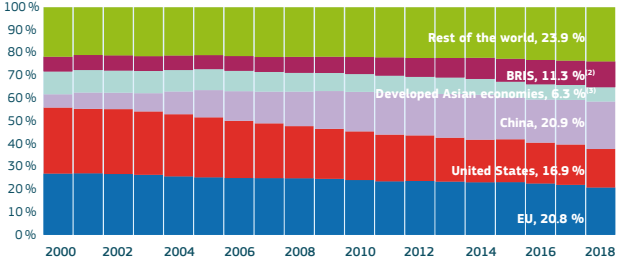


Figure 1 World share of scientific publications[1], 2000 and 2018

The United States maintains its global leadership in terms of highly cited scientific publications, although it has seen a dramatic decline in its share. Europe remains in second place, while China continues its sharp rise. At 22.7%, the EU has also maintained its high global share in 3 In terms of quality, the number of times a publication is

1 Science, research and innovation performance of the EU 2020. Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit. Notes: (1) Data produced by Science-Metrix based on Scopus database. Fractional counting method used. (a) BRIS includes Brazil, Russian Federation, India and South Africa. (b) Developed Asia economies includes Japan and South Korea. (4) Figures correspond to the latest year, 2018.

cited by other publications is seen as a useful proxy for the impact of that publication. The number of citations publications receive leans very heavily towards the most important or interesting findings. The top 1% of highly cited papers receive around 25% of all citations while a significant proportion of papers are not cited at all. International co-publications also tend to be more highly cited terms of the top 10% highly cited publications (Figure 2). However, the respective output from the Chinese science system has grown exponentially – from 2.9% in 2000 to 18.9% in 2016 – and is coming closer to the output from the EU and US systems. In the latter, the share of the top 10% highly cited publications fell dramatically from 41.8% in 2000 to 25.7% in 2016, significantly closing the gap between the United States and the EU. Moreover, the average quality of China's publications is improving.

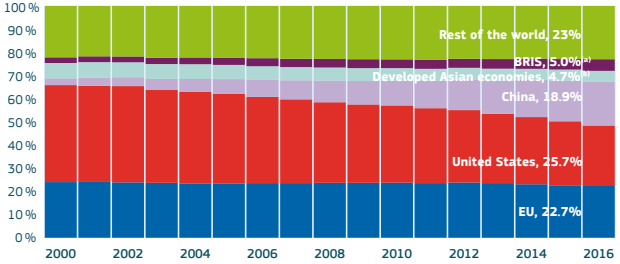


Figure 2 World share of top 10% highly cited scientific publications[2], 2000 (citation window: 2000-2002) and 2016 (citation window: 2016-2018)

2 Science, research and innovation performance of the EU 2020. Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit. Note: (1) Data produced by Science-Metrix based on Scopus database. Scientific publications within the 10% most-cited scientific publications worldwide as % of total scientific publications of the country; fractional counting method. (a) BRIS includes Brazil, Russian Federation, India and South Africa. (b) Developed Asia economies includes Japan and South Korea. (4) Figures correspond to the latest year, 2018.

With 21.2% in 2000 and 20.9% in 2016, the EU is maintaining its world share of the top 1% highly cited scientific publications at an almost constant rate. Once again, as with the other indicators, China's increase in this category is exponential, rising from 1.9% in 2000 to 17.5% in 2016. On the other hand, while still the leading country, the US's share is in decline, falling from 48.8% in 2000 to 31.3% in 2016. During this period, there was no significant change in the share of BRIS countries and developed Asian economies (Figure 3).

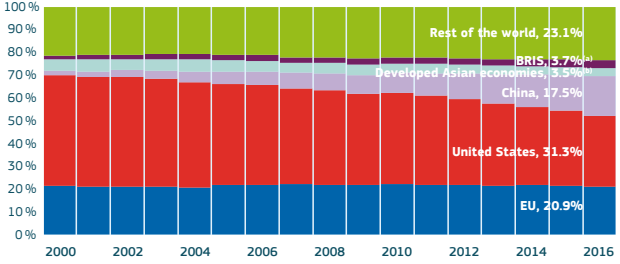


Figure 3 World share of top 1% highly cited scientific publications[3], 2000 (citation window: 2000-2002) and 2016 (citation window: 2016-2018)

Overall, the United States still slightly outperforms the EU in terms of the number of top 500 universities per million population. However, all EU countries classed as 'innovation leaders' and 'strong innovators' outperform the United States on this indicator

3 Science, research and innovation performance of the EU 2020. Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit. Note: (1) Data produced by Science-Metrix based on Scopus database. Scientific publications within the 1% most-cited scientific publications worldwide as % of total scientific publications of the country; fractional counting method. (a) BRIS includes Brazil, Russian Federation, India and South Africa. (b) Developed Asia economies includes Japan and South Korea. (4) Figures correspond to the latest year, 2018.

when using the Shanghai Ranking[4]. The EU also outperforms South Korea, Japan and China[5] in terms of top institutions per million population (Figure 4).

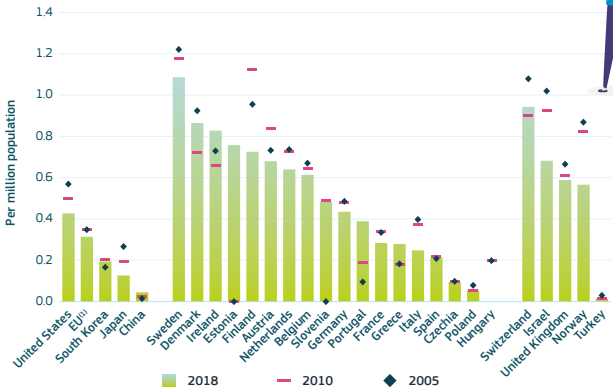


Figure 4 Number of top 500 universities in the Shanghai Ranking per million population[6], 2005, 2010 and 2018

According to the Leiden Ranking[7], some of the best-performing countries in terms of the number of top 500 universities per million population (Sweden, Belgium, Finland and Switzerland)

4 Also called Academic Ranking of World Universities (ARWU), the Shanghai Ranking, is based on six indicators mainly related to an institution's scientific output (number of Nobel Prizes and Fields Medals, highly cited researchers, papers published).

5 In the ARWU, this includes Hong Kong, Macao and Taiwan

6 Number of top 500 universities in the Shanghai Ranking per million population, 2005, 2010 and 2018. Science, research and innovation performance of the EU 2020. Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit based on Shanghai ranking (http://www.shanghairanking.com/). Note: (1) EU was estimated by DG Research and Innovation based on the data available for the Member States.

7 The Leiden Ranking 2019 is based on a set of bibliometric indicators that provide statistics at the level of universities on scientific impact, collaboration, open access publishing, and gender diversity (for further details see https://www.leidenrank-ing.com/information/indicators, accessed: 30 October 2019.

have seen their position drop since 2011. Yet, countries such as Ireland, Austria, Denmark and Norway have experienced a strong improvement in their performance compared to 2011 (Figure 5).

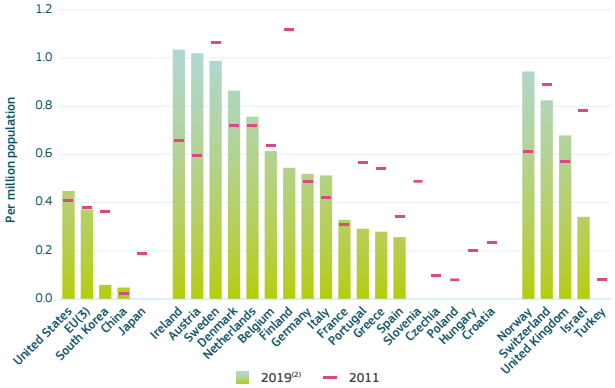


Figure 5 Number of top 500 universities in the Leiden Ranking per million population[8], 2011 and 2019

Science is key in addressing societal challenges, and the EU is a leader in high-quality scientific publications in the food/bio-economy and climate/environment sectors (with 27% share of highly cited scientific publications on food and bio-economy). The European Member States dominate the analysis targeting the UN SDGs. The share of scientific publications remains the highest for the societal challenge "health, demographic change

8 Science, research and innovation performance of the EU 2020Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit based on Leiden ranking (http://www.leidenranking.com/) Notes: (1) All publications included. Fractional counting used. Universities ranked by proportion of top 10% publications. (2) Population refers to 2018 for all countries except US, JP, CN, and KR in respect of which population refers to 2017. (3) EU was estimated by DG Research and Innovation based on the data available for the Member States.

and well-being" field. Scientific publications on 'food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bio economy' have the second highest share for all countries except China, for which both 'secure, clean and efficient energy' and 'climate action, environment, resource efficiency and raw materials' rank second (Figure 6).

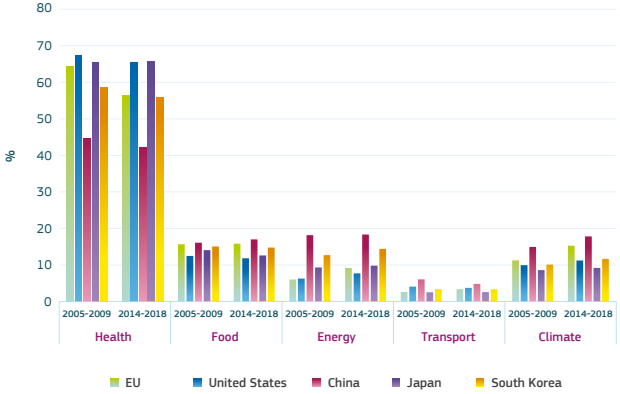


Figure 6 Share of scientific publications by societal challenge[9], 2005-2009 and 2014-2018

9 Science, research and innovation performance of the EU 2020. Source: DG Research and Innovation, Chief Economist - R&I Strategy & Foresight Unit. Note: (1) Data produced by Science-Metrix based on Scopus database. This presents the overall % of publications by area. The specialisation indices below are just dividing the% of EU by the % of other countries.

HORIZON EUROPE

2. HORIZON EUROPE

Horizon Europe, the EU's new Framework Programme for research and innovation succeeding Horizon 2020, will run from 2021 to 2027 with a total budget of €95.5 billion (current prices – adjusted for inflation). The programme will provide support for a green, healthy, digital and inclusive Europe.

Research and innovation provide new knowledge and ground-breaking solutions to overcome our societal, ecological and economic challenges. Horizon Europe helps researchers and top class innovators to develop and deploy their ideas. It supports excellent science by teaming up the best talent and equipping them with world-class infrastructures. Moreover, it supports breakthrough innovations and helps create new services and markets.

KEEPING THE EU AT THE FOREFRONT OF GLOBAL RESEARCH AND INNOVATION

Horizon Europe will:

Maximise its impact and deliver on the EU's strategic priorities, such as the recovery, green and digital transitions, and tackles global challenges to improve the quality of our daily lives;

Strengthen excellent EU science and technology by increasing investment in highly skilled people and cutting-edge research;

Foster the EU's industrial competiveness and its innovation performance, notably supporting market-creating innovation via the European Innovation Council and the European Institute of Innovation and Technology;

Enhance access to excellence for researchers across Europe to foster participation and collaboration, as well as promoting gender balance.

NOVELTIES TO ADVANCE PROGRESS

Support breakthrough innovation > European Innovation Council: One-stop shop to bring the most promising ideas from lab to real world application and support the most innovative European SMEs, including start-ups, to scale up their ideas.

Deliver targeted solutions to societal challenges together with citizens > EU missions: Ambitious, bold goals to tackle issues that affect our daily lives, ranging from fighting cancer to adapting to climate change, living in greener cities, ensuring soil health for food, nature, people and climate, and protecting our waters and ocean.

Rationalise the funding landscape > streamlined approach to European Partnerships: Streamlined number of partnerships while encouraging wide participation of partners from public and private sectors.

Strengthen international cooperation > extended association possibilities: Extended openness to association for non-EU countries (third countries) with good capacity in science, technology and innovation.

Reinforce openness > Open Science policy: Mandatory open access to publications, open access to research data ensured. Use of European Open Science Cloud as appropriate. The European Commission has launched in March 2021 its own open access-publishing platform for the Horizon 2020 and Horizon Europe beneficiaries at Open Research Europe (https://open-research-europe.ec.europa.eu/)

Encourage participation and decrease the R&I gap in Europe > widening participation and spreading excellence: A wide spectrum of measures to support lower research and innovation performing countries, to build up excellence centres, to improve their capacity and facilitate collaborative links.

Increase the R&I impact > synergies with other EU programmes and policies: A set of practical solutions to implement Horizon Europe and relevant R&I-related programmes and policies in synergy to promote faster dissemination at national and regional level, and uptake of research and innovation results. These programmes are for example InvestEU, Erasmus+, EU Cohesion Policy, Digital Europe, European Structural and Investment Funds, Connecting Europe Facility, and the Recovery and Resilience Facility.

Reduce administrative burden > simpler rules: To increase legal certainty and reduce administrative burden for beneficiaries and programme administrators.

ENHANCING IMPACT

Horizon Europe aims to boost growth, trade and investment and to create a significant social and environmental impact.

Up to €11 of GDP gains over 25 years can be potentially generated by each euro invested at EU level in R&I

Over 35% of Horizon Europe spending will contribute to climate objectives

To create 300.000 jobs by 2040, of which 40% will be highly skilled jobs

BUDGET STRUCTURE FIT FOR ITS AMBITIONS

Horizon Europe will have a budget of around €95.5 billion for 2021-2027 (current prices). This includes €5.4 billion (current prices) from NextGenerationEU[10] to boost EU recovery and make the EU more resilient for the future, as well as an additional reinforcement of €4.5 billion (current prices). Horizon Europe will be implemented also through the European Defence Fund and complemented by the EURATOM Research and Training Programme.

2.1. International cooperation in Horizon Europe

2.1.1. International participation in Horizon 2020

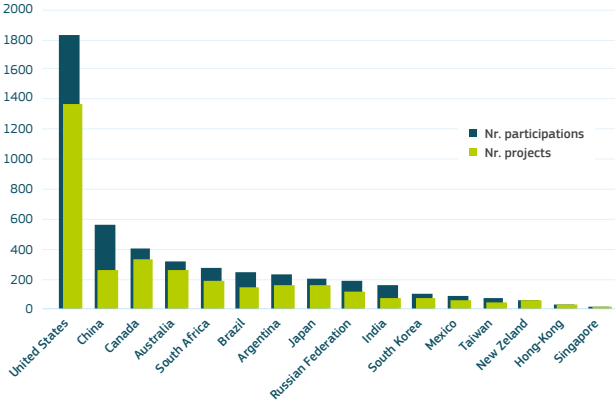
One of the key features of Horizon 2020 was its international dimension with the objective of being 'open to the world' to create

10 https://ec.europa.eu/info/strategy/recovery-plan-europe_en#nextgenerationeu

opportunities for research cooperation between Europe and other research areas worldwide. This approach was underpinned by the European Commission strategy for international cooperation 'Enhancing and focusing EU international cooperation in research and innovation: A strategic approach' of 2012[11].

As a result, international cooperation in Horizon 2020 has been very active and many countries around the world took advantage of the 'open to the world' dimension of the programme, in particular China, as shown in the chart below:

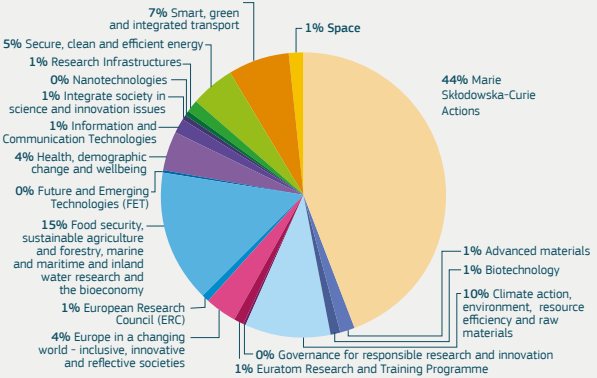
NR. OF ORGANISATIONS AND PROJECTS IN H2020



11 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1580995450437&uri=CELEX:52012DC0497

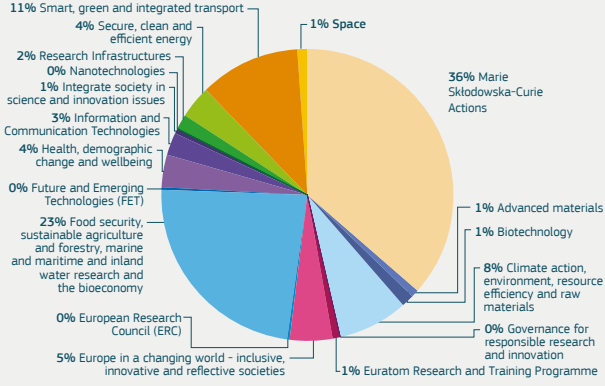
H2020 PROJECTS (268) WITH CN PARTICIPATIONS (590)

(Figures refer to 31 December 2020)



CN PARTICIPATIONS (590) IN H2020 PROJECTS (268)

(Figures refer to 31 December 2020)



2.1.2. A new international strategy for Horizon Europe

As many of the EU's international partner countries are investing more and more in research and innovation, such as China, cooperation with them will be vital if research and innovation is to reach its full potential. An updated international cooperation strategy considers these new developments to contribute to achieving wider EU policy objectives, in particular to address societal challenges that most countries outside the EU also have to face.

Therefore, in May 2021, the European Commission set out its new strategy for international cooperation as a Communication '**on the global approach to research and innovation: Europe's strategy for international cooperation in a changing world**'[12].

The EU considers that reciprocal openness, the free exchange of ideas and the co-creation of solutions are essential to the pursuit and advancement of fundamental knowledge and are key components of a vibrant innovation ecosystem.

This new strategy:

- Reaffirms the EU commitment to lead by example to preserve openness in international research and innovation cooperation, while promoting a level playing field and reciprocity underpinned by fundamental values;

- Strengthens the EU's leading role in supporting multilateral research and innovation partnerships to deliver new solutions to green, digital, health and innovation challenges.

12 https://ec.europa.eu/info/files/communication-global-approach-research-and-innovation_en

The EU should continue to offer researchers and innovators a democratic, inclusive and supportive environment, devoid of political interference, defending academic freedom and the opportunity for curiosity-driven research, under the respect and protection of the EU Charter of Fundamental Rights.

It should ensure that technology is developed for the benefit of individuals and societies, free from authoritarianism and respecting high ethical standards and human rights. Moreover, the EU should lead by example in offering a rules based innovation ecosystem, protecting intellectual property rights enforced by an independent judicial system.

The EU should work towards a common understanding and implementation of the following issues with its international partners: Academic freedom, Research ethics and integrity, Gender equality, diversity and inclusiveness, Open data and open science, Standards, and Evidence-informed policymaking.

The Commission intends to negotiate, on behalf of the EU and in line with its industrial strategy priorities, targeted roadmaps for research and innovation cooperation with non-EU countries with a strong research and innovation base. These roadmaps, which will be non-binding instruments, should clearly set out the framework conditions, which both sides are expected to meet, and identify milestones and implementation timelines. The EU should condition any future continuation and expansion of bilateral

cooperation on concrete progress, monitored on the ground, towards objectives set out in the roadmaps. Discussions on an EU-China Joint Roadmap for Future Science, Technology and Innovation Cooperation are already ongoing.

As regard innovation, the EU should establish win-win international innovation partnerships, consisting of networks of incubators and accelerators, with countries and regions that offer reciprocal openness to entrepreneurship and investment. They should foster, among other things, the creation of soft landing zones and start-up collaborations between the EU and non-EU countries. Complementing the Marie Skłodowska-Curie actions, these partnerships will also promote the mobility of innovators in both directions.

2.1.3. International participation – A key element of Horizon Europe

In line with the new strategy for international cooperation in research and innovation (see above), Horizon Europe is open to the participation of researchers from across the world, including China.

As more research and innovation is performed in international partner countries, it is crucial that Europe be able to collaborate with the best researchers and research centres worldwide.

- The EU research and innovation programme will remain open to the world. This means that participants from all over the world, regardless of their place of establishment or residence, will be able to participate in most of the Horizon Europe programme.

- However, Article 22(5) of the Horizon Europe Regulation provides that the work programme may limit participation

in actions under the Horizon Europe programme when there is a justified need to safeguard the EU's strategic assets[13], interests[14], autonomy[15] or security[16]. In these exceptional and justified circumstances, the EU should therefore limit programme participation to legal entities established only in Member States, or to legal entities established in specified associated or other non-EU countries.

- The COVID-19 pandemic taught the world an important lesson that should equally be applied to climate change, the biodiversity crisis and other global challenges. As a global leader committed to becoming the first climate-neutral bloc in the world by 2050, the EU will continue to lead international efforts and jointly address environmental challenges with its international partners, notably the major world economies and greenhouse gas emitters.

- China, as a research and innovation powerhouse, is a partner for the EU in tackling global challenges. At the same time, China's position as an economic competitor and a systemic rival to the EU calls for a rebalancing of research and innovation cooperation. The EU has launched discussions with China on a joint roadmap to establish agreed framework conditions and guiding principles for cooperation to reach a level playing field and reciprocity, while respecting fundamental values, high ethical and science integrity standards. On this basis, it will also identify the research fields in which cooperation could be mutually beneficial, such as climate science and biodiversity protection, circular economy, health, food, agriculture,

13 For example, sensitive infrastructure owned by the EU such as the Galileo or Copernicus satellite.

14 Covering the offensive and defensive interests identified by the EU in the various components of its external policy, the promotion of fundamental values, reciprocity or the protection of intellectual property rights.

15 As set out in the Trade Policy Review on open strategic autonomy.

16 Encompassing the protection of the EU against external or internal threats, covering, for instance, protection and resilience of critical infrastructure against systemic risks and hybrid threats.

aquaculture, ocean observation and smart urbanisation. Reaching a level playing field and reciprocity will be conditional to further expand cooperation with China.

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2.2. Structure of Horizon Europe

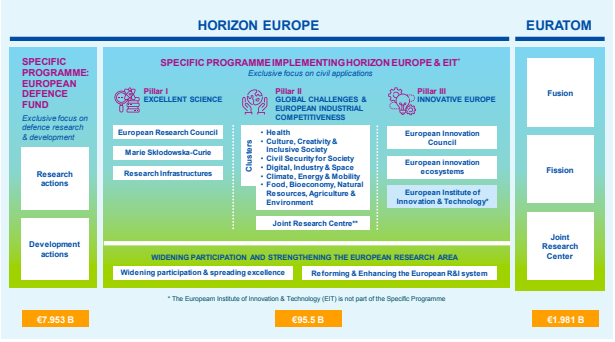
Horizon Europe is the EU's key funding programme for research and innovation with a budget of €95.5 billion for exclusive focus on civil applications. It tackles climate change, helps to achieve the UN's Sustainable Development Goals and boosts the EU's competitiveness and growth.

The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges. It supports creating and better dispersing of excellent knowledge and technologies.

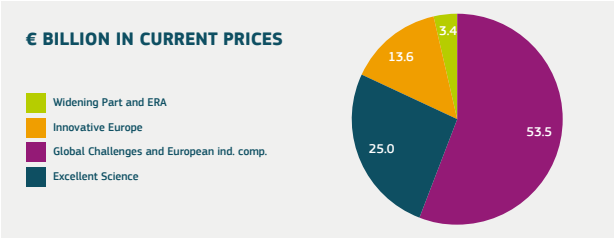
It creates jobs, fully engages the EU's talent pool, boosts economic growth, promotes industrial competitiveness and optimises investment impact within a strengthened European Research Area.

Horizon Europe for exclusive focus on civil applications is built upon three main Pillars:

- **Excellent Science,**
- **Global Challenges and European Industrial Competitiveness, and**
- **Innovative Europe.**



Financial ressources are ‘pre-allocated” at the beginning of the programme, facilitating the predictability of the EU research investments in the different priorities of Horizon Europe:



2.2.1. Excellent science

The Excellent Science pillar aims to increase the EU's global scientific competitiveness. It supports frontier research projects defined and driven by top researchers themselves through the **European Research Council**, funds fellowships for experienced researchers, doctoral training networks, exchanges for researchers and entices more young people to a career in research, through **Marie Skłodowska-Curie Actions**, and invests in world-class research infrastructures.

Total funding €25.0 billion: reinforcing and extending the excellence of the Union's science base

2.2.1.1. European Research Council (ERC)

The ERC's mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-initiated frontier research across all fields of research based on scientific excellence. The aim is to recognise the best ideas, and retain and confer status and visibility to the best brains in Europe, while also attracting talent from abroad.

Funding for projects evaluated on the sole criterion of scientific excellence in any field of research, carried out by a single national or multinational research team led by a 'principal investigator'. Excellent young, early-career researchers, already independent researchers and senior research leaders are eligible to apply. Researchers can be of any nationality and their projects can be in any field of research.

Under Horizon Europe, the ERC will continue to play a major role in fostering scientific excellence, building on its success in Horizon 2020, and will remain open to non-EU researchers.

It is important for Chinese applicants to note that Principal Investigators (PIs) do not have to be based full-time in Europe, but need to spend a minimum 50% of their total working time in Europe.

Funding €16.0 billion: frontier research by the best researchers and their teams

2.2.1.2. Marie Skłodowska-Curie Actions (MSCAs)

Training and career development, including international mobility, help produce leading researchers. Support is offered to young and experienced researchers to reinforce their career and skills through training, or periods of placement in another country or in the private sector. This gives them new knowledge and experience to allow them to reach their full potential.

Marie Skłodowska-Curie Actions (MSCAs) provide funding for international research fellowships in the public or private sector for research training and staff exchanges, and promote inter-disciplinary, inter-sectorial and international mobility as well as knowledge sharing.

By attracting non-European researchers, this programme enhances international research cooperation, and facilitates the mobility and exchange of researchers between EU and non-EU universities, research institutions, and private companies. Early-stage researchers or experienced researchers (of any nationality), technical staff, national/regional research mobility programmes are eligible to apply.

Funding €6.6 billion: equipping researchers with new knowledge and skills through mobility and training

2.2.1.3. World-class infrastructure

Research equipment can be so complex and costly that no single research team – or even country – can afford to buy, construct, or operate it alone.

Examples include the high-powered lasers that serve a diverse research community spanning medicine, materials sciences and biochemistry; specialised high-tech airplanes; or a monitoring station at the bottom of the sea, used for observing climate change. These can cost billions of euro, and need the skills of the world's top experts.

EU funding helps pool resources for such large-scale projects, and provides European and non-European researchers with access to the very latest, state-of-the-art infrastructure – making new and exciting research possible.

Funding €2.4 billion: integrated and inter-connected world-class research infrastructures

2.2.2. Global Challenges and European Industrial Competitiveness

The Global Challenges and European Industrial Competiveness pillar supports research relating to societal challenges and reinforces technological and industrial capacities through **clusters.** It sets **EU-missions** with ambitious goals tackling some of our biggest problems.

It also includes activities pursued by the **Joint Research Centre** that supports EU and national policymakers with independent scientific evidence and technical support.

Total funding €53.5 billion: boost key technologies and solutions underpinning EU policies and sustainable development goals (6 clusters and JRC non-nuclear direct actions).

Global Challenges and European Industrial Competitiveness

CLUSTER 1	Health	**€8.246 billion** (including €1.35 billion from NGEU)
CLUSTER 2	Culture, Creativity & Inclusive Societies	**€2.280 billion**
CLUSTER 3	Civil Security for Society	**€1.596 billion**
CLUSTER 4	Digital, Industruy and Space	**€15.349 billion** i(ncluding €1.35 billion from NGEU)
CLUSTER 5	Climate, Energy & Mobility	**€15.123 billion** (including €1.35 billion from NGEU)
CLUSTER 6	Food, Bio-economy, Natural Resources, Agriculture & Environment	**€8.952 billion**
	JRC (non-nuclear direct actions)	**€1.970 billion**

Clusters are including a budget for Partnerships and Missions
NGEU is Next Generation EU programme – Recovery Fund

2.2.2.1. Clusters and Missions

A mission is a portfolio of actions across disciplines intended to achieve a bold, inspirational, and measurable goal within a set timeframe, with impact for society and policymaking as well as relevance for a significant part of the European population and wide range of European citizens.

Horizon Europe defines mission characteristics and elements of governance, and five missions' areas: (1) Adaptation to climate

change, including societal transformation, (2) Cancer, (3) Healthy oceans, seas, coastal & inland waters, (4) Climate-neutral & smart cities, and (5) Soil health & food.

Specific missions will be programmed within the Global Challenges and European Industrial Competitiveness pillar, but may also benefit from actions carried out within other parts of the Programme as well as complementary actions carried out under other Union programmes.

Funding: Relating EU's research and innovation better to society and citizens' needs with strong visibility and impact

2.2.2.2. Joint Research Centre (non-nuclear direct actions)

The Joint Research Centre (JRC) is the European Commission's science and knowledge service. It employs scientists to carry out research in order to provide independent scientific advice and support to EU policy. The JRC focuses its research on EU policy priorities.

The aim of this area of Horizon Europe is to generate high-quality scientific evidence for good public policies. The JRC will provide EU policies with independent scientific evidence and technical support throughout the policy cycle.

Funding €1.97 billion: non-nuclear direct actions

2.2.3. Innovative Europe

The Innovative Europe pillar aims to make Europe a front-runner in market-creating innovation via the **European Innovation Council**. It also helps to develop the overall European innovation landscape, by developing **European Innovation Ecosystems** and through the **European Institute of Innovation and Technology** (EIT) which fosters the integration of the knowledge triangle of education, research and innovation.

Total funding €13.6 billion: stimulating market-creating breakthroughs and ecosystems conducive to innovation

2.2.3.1. European Innovation Council (EIC) and European Innovation Ecosystems

The European Innovation Council (EIC) promotes breakthrough innovation with scale-up potential at the global level. It focuses mainly on breakthrough, deep-tech and disruptive innovation, targeting especially market-creating innovation.

Through instruments such as Pathfinder, Transition, and Accelerator funding as well as additional activities such as prizes and fellowships, and business added-value services, EIC supports innovations with breakthrough and market creating potential, in connection with regional and national innovation actors.

European Innovation Ecosystems (EIE) will act in complement and synergy with the European Innovation Council (EIC) and European Institute of Innovation and Technology (EIT) and innovative activities across Horizon Europe and other EU funding programmes to improve the overall ecosystem for innovation in Europe. The EU aims to create more connected and efficient innovation ecosystems to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional and local innovation actors.

Funding €10.6 billion (incl. up to €527 million for ecosystems (including NGEU –Recovery Fund parts dedicated to EIC): support to innovations with breakthrough and market creating potential, and connecting with regional and national innovation actors

2.2.3.2. European Institute of Innovation and Technology (EIT)

The European Institute of Innovation and Technology (EIT) is an independent EU body. It increases Europe's ability to innovate by nurturing entrepreneurial talent and supporting new ideas.

The EIT integrates higher education, research and innovation through the "Knowledge and Innovation Communities (KICs) to generate new approaches towards innovation, trigger sustainable growth and competitiveness and promote entrepreneurship. These innovative partnerships must have a long-term vision of at least seven years, and be run with business logic following a results-oriented approach with clear objectives and a focus on achieving economic and social impact to become global players.

Funding circa €3.0 billion: bringing key actors (research, education and business) together around a common goal for nurturing innovation

2.2.4. Additional areas

2.2.4.1. Widening Participation & Strengthening the European Research Area (ERA)

This part of the Horizon Europe programme is divided into two type of actions:

- **Widening Participation and Spreading Excellence:**
  Widening Participation and Spreading Excellence actions contribute to building research and innovation capacity for countries lagging behind, and strengthen their potential for successful participation in transnational research and innovation processes, promote networking and access to excellence. Several support mechanisms are foreseen, such as:

  - Teaming, Twinning, ERA Chairs
  - European Cooperation in Science and Technology (COST)
  - Boosting National Contact Points (NCPs) activities, pre-proposal checks and advice
  - Brain circulation
  - Excellence initiatives
  - Possibility for entities from widening countries to join already selected collaborative research and innovation actions
  - Recognition of participation
  - Matchmaking services

Funding €2.96 billion

- **Reforming and enhancing the EUR&I system**
  Policy reforms at national level will be mutually reinforced and complemented through the development of EU-level policy initiatives, research, networking, partnering, coordination, data

collection and monitoring and evaluation. Again, several support mechanisms are foreseen, such as:

- Strengthening the evidence base for R&I policy
- Foresight
- Support for policy makers to the ERA development
- Support to national R&I policy reform, including Policy Support Facility
- Attractive researcher careers and links with higher education
- Open science, citizen science and science communication
- Gender equality
- Ethics and integrity
- Support to international cooperation
- Scientific input to other policies
- Support to the Programme implementation
- Support for National Contact Points
- Support to dissemination & exploitation

Funding €0.44 billion

2.2.4.2. Nuclear research – EURATOM research and training programme (2021-2025)

The EURATOM Research and Training Programme (2021-2025) is a complementary funding programme to Horizon Europe for research and training activities to reduce nuclear safety and security risks, development of safe nuclear technologies and optimal radiation protection.

It uses the same instruments and rules for participation as Horizon Europe. In line with the EURATOM Treaty, the programme will run for 5 years, from 2021 to 2025, to be extended in 2025 by 2 years in order to be aligned with the EU's long-term budget 2021-2027. The budget is €1.38 billion to implement the new programme for the period 1 January 2021 to 31 December 2025.

The indirect actions of the EURATOM Programme focus on two areas:

- Nuclear fission, safety and radiation protection
- Fusion research aimed at developing magnetic confinement fusion as an energy source.

Under Horizon Europe, the EURATOM Programme will have an increased focus on non-power applications of radiation (medical, industrial, space), provide opening mobility opportunities for nuclear researchers through inclusion in Marie Skłodowska-Curie programme, be simplified with specific objectives from covering both direct actions (implemented by JRC) and indirect actions.

Funding €1.981 billion for years 2021-2027

WHO CAN APPLY FOR HORIZON EUROPE AND HOW?

3. WHO CAN APPLY FOR HORIZON EUROPE AND HOW?

3.1. Who can apply?

Any company, organisation or a non-governmental organisation can be a partner, regardless of where they are based, provided they are financially viable and qualified to perform the tasks specified in the project proposal.

Chinese entities, public or private, large or small, involved in research and innovation activities can apply.

However, there must be proof of the operational and financial viability to carry out project tasks within the proposal.

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3.2. Who can receive EU funding?

Entities are eligible for funding if they are established in a Member State or associated country. Entities established in a non-associated third country (e.g. China) should in principle bear the cost of their participation.

However, for low to middle-income countries and exceptionally for other non-associated third countries (e.g. China) they could be eligible for funding in an action if:

- The third country is identified in the work programme adopted by the Commission; or

- The Commission or funding body consider that its participation is essential for implementing the action (e.g. if they possess essential competence or facilities).

Also for Chinese applicants, funding opportunities do exist in most mobility schemes provided by Marie Skłodowska-Curie Actions (MSCAs) and the research grants provided by ERC.

A single funding rate per action shall apply for all activities it funds. The maximum rate shall be fixed in the work programme. The Programme may reimburse up to 100% of total eligible costs of an action, except for innovation actions[17] and except for programme co-fund actions[18].

Indirect eligible costs shall be determined by applying a flat rate of 25% of the total direct eligible costs[19].

3.3. How to apply?

Work programmes announce the specific research and innovation areas open to competition. They are accessible through the Participant Portal and indicate the timing of forthcoming Calls for Proposals. When published, each Call gives more precise

17 Up to 70% of the total eligible costs, except for non-profit legal entities where the Programme may reimburse up to 100% of the total eligible costs.

18 At least 30% of the total eligible costs, and in identified and duly justified cases up to 70%.

19 Excluding direct eligible costs for subcontracting, financial support to third parties and any unit costs or lump sums which include indirect costs.

information on the research and innovation areas and issues that applicants for funding should address in their proposals. It provides easy-to-follow guidance and all the tools needed to submit a proposal and manage projects throughout their lifecycle. It covers every type of research and innovation action.

After the deadline passes, each proposal is evaluated by a panel of independent experts in the areas covered by the Call. The expert panels score each proposal against a list of criteria (excellence; impact; quality and efficiency of the implementation) and only the best proposals can be funded. Only the 'excellence' criterion shall apply to proposals for ERC frontier research actions.

On that basis, the best proposals are selected for funding.

To apply, the following steps should be pursued:

- ***Step 1*** *- Find a suitable Call for Proposals*

  The Commission publishes all *Calls for Proposals* on the *Participant Portal of Horizon Europe website*[20]. If you apply for the first time and do not know yet the available programmes, it is useful to refer to the online manual. It will help you identify the most suitable programme(s) depending on your area and profile, also by using key words and filters if necessary.

- ***Step 2*** *- Find project partners (or apply as an individual researcher/team)*

20 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search

- Collaborative projects: Most collaborative projects must include at least three independent legal entities each established in a different Member State or associated country and with at least one of them established in a Member State. Various tools help you find potential partners. A full description pooling possible sources for finding partners is provided below in Chapter 4.
- Individual researcher or team: European Research Council (ERC) frontier research actions and training and mobility actions (Marie Skłodowska-Curie actions) may be implemented by one or more legal entities, one of which must be established in a Member State or Associated Country (in case of MSCA Doctoral Networks and Staff Exchanges the core consortium must include at least three entitries from Member State or Associated Country).

- ***Step 3*** - *Create an account on the Participant Portal and register your organisation*[21]

  To fill in the required forms and submit them electronically to the Commission, you first need to create an account on the Participant Portal. The Commission has an online register of the organisations participating in the EU research and innovation or education, audio-visual and cultural programmes. This allows consistent handling of the organisations' official data and avoids multiple requests for the same information.

- ***Step 4*** – *Prepare your project proposal, when appropriate with your partners*

  It is recommended to carefully use the online manual posted on the Funding and Tenders Portal.[22]

21 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/participant-register

22 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/manuals

- ***Step 5*** *- Submit your project proposal to the Commission*

  To submit your project proposal, you need to go to the section *Electronic Proposal Submission* on a specific Topic page that belongs to a call. You need to be logged in with your Participant Portal account to start filling in the forms and submit your proposal. The proposal is submitted by the project consortium coordinator who can be either European or Chinese.

- ***Step 6*** *- Evaluation by external independent experts*

  Once the call is closed, all proposals are evaluated by a panel of independent external experts in the field concerned. The panel checks all proposals against a list of criteria and ranks them, as indicated above.

Should you wish to act as an expert: Chinese professors and other distinguished specialists are strongly encouraged to register in the database of independent experts at this link, through which they can participate (and be paid for) in the evaluation of project proposals and monitoring of actions, submitted under Horizon Europe.

- ***Step 7*** – Signature of the Grant Agreement

  Applicants are informed about the outcome of the evaluation stage in a maximum period of five months from the final date for submission of complete proposals.

  The European Commission then draws up a contract ("grant agreement") with each consortium. The grant agreement has to be signed with applicants within a maximum period of eight months from the final date for submission of complete proposals.

The grant agreement accurately defines (along the project proposal submitted) the research & innovation activities to be undertaken, the project duration, budget, rates and costs, the European Commission's contribution, all rights and obligations and more (e.g. intellectual property provisions). Once the grant agreement is signed the project can start.

More details are available in the **Horizon Europe Online Manual**

3.4. How to find a partner?

This is a question that comes most when we present the European Framework Programme in various event in China. If you look for a partner to build a collaborative research project you may consider the following links and networks. This list is by no means exhaustive. You are encouraged to look also into other opportunities offered for instance by the EU Member States and any other organisation involved in research and innovation activities.

The links listed below were the sources designed for Horizon 2020. Updates to follow.

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3.4.1. Partner search tools

- **Partner Search at the Funding and Tenders Portal:** https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/partner-search
- **Horizon2020 Projects:** http://horizon2020projects.com/all-partner-profiles/
- **National Contact Points:** main contacts who can provide guidance, practical information and assistance on all aspects of participation in Horizon Europe including searching for partners. There is an NCP for each subject area and also one for Marie Curie Fellowships: http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html
- **National Contact Point/China:** China-EU Science & Technology Cooperation Promotion Office (CECO): http://www.cstec.org.cn
- **Previously awarded bids:** all proposals funded under FP7 are available to view on line and have the PI listed. Many people have found emailing the PI from a relevant project to outline their own area of expertise and request collaboration, very successful https://cordis.europa.eu/projects/en
- **EURAXESS Links China:** free networking tool for European researchers in China and Chinese researchers interested in a research careers in Europe. EURAXESS Links China focuses on three types of activities: a) networking of researchers, b) information dissemination and c) helping international researchers to collaborate with colleagues in Europe or to return to rewarding careers in Europe. EURAXESS representatives in China can also disseminate individual requests for partner search in a specified area through EURAXESS services in Europe (present 40 countries, more than 200 contact points): https://euraxess.ec.europa.eu/worldwide/china

3.4.2. Databases for Partner Search

- ICT Idealist Partner Search: the service includes advice on creating your profile by your local National Contact Point and there is a quality control of all the published data.
- SEREN2: Security NCP network.
- ETNAplus: Transport NCP Network.
- Innovative Medicines Initiative Partner Search: the IMI supports collaborative research projects and builds networks of industrial and academic experts to boost pharmaceutical innovation and this site displays the partner searches which includes SMEs, large organizations and Universities.
- European Enterprise Network: this site publishes an extensive number of innovation and technology profiles from international companies and research organisations to help identify suitable partners for bilateral business, innovation and technology cooperation.

3.4.3. LinkedIn groups

- "HORIZON 2020" Framework Programme for Research & Innovation. [Official Group] (100 023 members)
- "H2020 ICT": Research and Innovation in ICT, Collaborative R&D Projects & Partner Search. (8 260 members)
- Horizon 2020 Information and Communication Technologies: Industrial Leadership. (6 872 members)
- Horizon 2020 - EU Projects Partner Search (1 667 members)

- Horizon 2020 ICT Partner Search (307 members)
- Partner Search Horizon 2020: Food security, sustainable agriculture, forestry and bio-economy. (301 members)
- Euraxess Links: Internationally Mobile Researchers (959 members) + China subgroup "Euraxess China"

3.4.4. Twitter

- Horizon2020 Partners: **@H2020Partners**

WHAT IS IN IT FOR CHINA?

4. WHAT IS IN IT FOR CHINA?

4.1. Themes of particular significance for China in the calls of 2021/2022

Chinese participation is welcomed in most calls for proposals of Horizon Europe. Through participation in Horizon Europe, China can gain great benefits from access to excellent knowledge, access to research data and access and connection to world-leading scientific networks and research teams.

Overall, the international cooperation strategy of Horizon Europe briefly introduced below offers China an active and balanced approach for cooperation under the guiding principles of openness, reciprocity, level playing field and mutual benefits.

4.2. Calls targeting China & topics with specific reference to China in 2021/2022

In the 2021/2022 work programmes, several topics are specifically flagged for targeted cooperation with China, and more specifically in the flagship initiatives where the participation of Chinese partners is strongly encouraged and will add value to the proposals:

- Flagship initiative on Food, Agriculture and Biotechnologies under Challenge 6 of the pillar II of Horizon Europe 'Food, Bio-economy, Natural Resources, Agriculture and Environment, and

- Flagship initiative on Climate Change and Biodiversity still under preparation and to be published as part of the 2022 calls for proposals.

4.3. EU-China Co-funding Mechanism for Research and Innovation

As indicated earlier, Chinese applicants for research and innovation projects will not be automatically funded (only under exceptional circumstances) except in most mobility schemes provided by Marie Skłodowska-Curie Actions (MSCAs) and the research grants provided by ERC.

In this context, the Co-funding Mechanism (CFM) was set up by the Chinese Government to support joint research and innovation projects between European and Chinese universities, research institutions and companies in the agreed flagship initiatives.

The present CFM is a follow up to the one set up under Horizon 2020 in June 2015. Minister Wang Zhigang, Chinese Minister for Science and Technology, confirmed it on the occasion of his meeting with Commissioner Mariya Gabriel, European Commissioner for Innovation, Research, Culture, Education and Youth, on 21 January 2021 held through videoconference.

Through the CFM, the Chinese Ministry of Science and Technology can provide funds for European and Chinese participants based in China involved in Horizon Europe research and innovation flagship initiatives.

4.4. EU-China Joint Roadmap for Research and Innovation Cooperation

The European Commission and China are preparing an EU-China Joint Roadmap for Future Science, Technology and Innovation Cooperation. Its aim is twofold:

- To define joint priority areas for research and innovation cooperation in the years to come, and

- To agree on how to tackle the framework conditions that the EU and China consider as essential to be resolved by each side to allow a genuine research and innovation collaboration. The European Commission and China agreed on a list of thirteen framework conditions to be settled:

  - Intellectual Property Rights
  - Pre-normative research, conformity assessment and Standardisation
  - Open science, Open access to scientific publications and research data, Research infrastructures
  - Research ethics and integrity
  - Access to Research and Innovation programmes
  - Mobility of researchers
  - Gender equality in research
  - Access to finance and venture capital
  - Access to Government Procurements
  - Movement of materials and equipment across borders
  - Fair and transparent regulatory frameworks
  - ICT & Cybersecurity measures
  - Innovation and SMEs

Mid-2021, discussions are ongoing on both the priority areas and the framework conditions.

The EU and Chinese sides are foreseeing that the Joint Roadmap for Future Science, Technology and Innovation Cooperation will be updated on a regular basis to take account of the latest development of their collaboration.

4.5. Chinese Eligibility/Non-eligibility for Funding in Horizon Europe

China is one of the EU's key international partners in research and innovation. It is now in a position to fully contribute to and benefit from Europe's research and innovation capacity under the same conditions and financial rules for participation as their peers from other emerging economies and industrialised countries.

This means that, same as in Horizon 2020, Chinese participants will need to cover their participation costs – in cash or in kind – in Horizon Europe projects with their own contributions. However, the Programme will continue to fund entities from industrialised and emerging economies, including China, only if they possess essential competence or facilities.

Also, EU funding opportunities do exist in some mobility schemes provided by Marie Skłodowska-Curie Actions (MSCAs) and the grants provided by ERC are open internationally regardless of the researchers' nationalities.

Chinese participants in selected Horizon Europe flagship initiatives' projects are encouraged to apply for fund under the CFM.

The table below summarises the eligibility/non eligibility for funding of Chinese applicants in Horizon Europe.

ELIGIBILITY/NON ELIGIBILITY FOR FUNDING OF CHINESE APPLICANTS IN HORIZON EUROPE

EXCELLENT SCIENCE

Programme Sections and Types of action		CN Eligibility for Funding
The European Research Council[23]	ERC Starting grants	Yes
	ERC Consolidator grants	Yes
	ERC Advanced grants	Yes

Programme Sections and Types of action		Eligibility for Funding from the EU for CN Organisations	Eligibility for Funding from the EU for CN Researchers
Marie-Skłodowska-Curie Actions	Doctoral networks	No, unless the contribution to the project is considered "essential" during the evaluation	Yes
	Postdoctoral fellowships		Yes
	Staff exchanges		Yes, but only if CN researchers are staff members at organisations located in EU/AC
	Cofund		Yes – depending on the eligibility criteria of the co-funded programme
	MSCA and citizens		

23 ERC website: http://erc.europa.eu/funding-schemes

ELIGIBILITY/NON ELIGIBILITY FOR FUNDING OF CHINESE APPLICANTS IN HORIZON EUROPE

Programme Sections and Types of action	CN Eligibility for Funding
European research infrastructures (including e-Infrastructures)	YES, for topics where exceptional funding is granted to third country participants who provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries to Horizon Europe
European research infrastructures (including e-Infrastructures)	YES, for topics where exceptional funding is granted to third country participants who provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries to Horizon Europe

GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS

Programme Sections and Types of action	CN Eligibility for Funding
Health	No, unless the contribution to the project is considered "essential" during the evaluation
Culture, Creativity and Inclusive Society	
Civil Security for Society	
Digital, Industry and Space	
Climate, Energy and Mobility	
Food, Bio economy, Natural Resources, Agriculture and Environment	

ELIGIBILITY/NON ELIGIBILITY FOR FUNDING OF CHINESE APPLICANTS IN HORIZON EUROPE

INNOVATIVE EUROPE

Programme Sections and Types of action	CN Eligibility for Funding
European Innovation Council	No
European Innovation Ecosystems	
European Institute of Innovation and Technology	

4.6. Act as an expert!

Distinguished Chinese researchers and innovators are strongly encouraged to register as prospective experts to the EU database. Registration is free of charge. The resulting database of experts will be used by the European Commission mainly to select and appoint peer reviewers of project proposals. Appointed experts will receive a daily honorarium and reimbursement of travel and accommodation costs for their occasional short-term assignments.

The desired areas of expertise comprise every research discipline included in the Horizon Europe calls as well as cross-cutting aspects.

Further information (on eligibility, remuneration, workload etc.) and registration details can be found on the related website.

FREQUENTLY ASKED QUESTIONS

5. FREQUENTLY ASKED QUESTIONS

QUESTION	ANSWER (NOT EXHAUSTIVE!)
RESEARCH TOPIC	
How may China be involved in Horizon Europe projects where there is not a specific mentioning for Chinese interaction in the Call text?	Most of the calls for proposals under Horizon Europe are open to Chinese participation, not only the ones where China is mentioned in the text of the Call. Of course minimum requirements (e.g. in terms of number of European partners when appropriate) must be respected.
Where can I find Calls for Proposals in my specific research topic?	All calls for proposals under Horizon Europe can be found in the Funding and Tenders Portal of the Horizon Europe. See: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/horizon Please feel free to also consult the work programmes of the specific sections under Horizon Europe.
Our research activity corresponds to ... We are wondering if we are eligible for applying with this topic.	You are welcome to consider applying to Horizon Europe, which is open to international participation. However, please also pay attention that ethics reviews are carried out for proposals raising ethical issues (e.g. use of/research on stem cells is carefully regulated in Europe). The ethics review shall verify the respect of ethical principles and legislation.

QUESTION	ANSWER (NOT EXHAUSTIVE!)
FUNDING	
Could you help us to clarify the status of Chinese partners regarding the EU project funding?	In terms of funding, China, as well as other emerging economies, are not automatically funded by Horizon Europe, except under exceptional circumstances. Chinese participants will therefore most of the time have to find their own resources (in-cash or in-kind) as contributions to their participations in Horizon Europe projects. For more details please consult the details of grant management – Horizon Europe Grants Manual - and the rules for participation which can be downloaded at the website of the Funding and Tenders Portal.
Should the partner from China clearly declare the resource of funding (their own)?	No, the partner from China does not need to declare the source of their own funding since Chinese entities under Horizon Europe is not "automatically" eligible for funding by Horizon Europe. Nevertheless, the potential Chinese applicants are expected to indicate their amount of budget to be dedicated to the proposed project.
Is there any plan from the Chinese side to match funding to certain subject areas within the Horizon Europe research agenda and who the Chinese partners should discuss this with?	Please refer to the section on CFM.

QUESTION	ANSWER (NOT EXHAUSTIVE!)
PARTNER SEARCH	
How can I find a suitable partner for my project?	There are several supporting tools to find a partner. Please refer to chapter 'partner search tool' on page 47. You may also contact the National Contact Point for China (China-EU Science & Technology Cooperation Promotion Office (CECO) under China Science and Technology Exchange Centre or EURAXESS Links China (china@euraxess.net) to ask for support.
SUBMISSION OF APPLICATION	
How can I submit an application?	You can submit your application online via the Funding and Tenders Portal at the Horizon Europe website. See: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/how-to-participate/1
Does our consortium need to submit some documents to verify our cooperation relations?	Details of the rules for submitting a proposal including the minimum number of participants in a consortium and the information requested can be downloaded at the website of Horizon Europe in the Funding and Tenders Portal where you will find the useful documents.
Shall the proposal be submitted by the Chinese or the foreign participant?	Your joint project proposal will be submitted online on behalf of the consortium by the consortium coordinator designated by the consortium members.
In the Call for Proposals we noticed its deadline within a period. We wonder if this means we can apply it in the period before the last date?	Your understanding is correct: the deadline is the last possible moment for submitting proposals. You are welcome to submit earlier than the deadline.

QUESTION	ANSWER (NOT EXHAUSTIVE!)
PROJECT COORDINATOR	
Which member of the Consortium is the Project Coordinator?	It is up to the Consortium to designate the Project Coordinator.
Can a Chinese institute be the coordinator (often called Principal Investigator in the Chinese system) of the project?	The consortium members can designate a Chinese participant as coordinator of the project. This would not change the rules for funding: the Chinese partner as project coordinator would not be automatically eligible for EU funding and could hence not recover from the European Commission any direct or indirect costs incurring for the contract or project management nor retain part of the grant for this purpose. We encourage Chinese research institutions willing to participate in Horizon Europe proposals to take contact with Chinese funding agencies for seeking support for their project.
ANY OTHER QUESTION	Please consult the Horizon Europe Helpdesk through the Research Enquiry Service: http://ec.europa.eu/research/participants/portal/desktop/en/support/research_enquiry_service.html or send your question to the Science and Technology Section of the EU Delegation to China at delegation-china-scitech@eeas.europa.eu

MORE INFORMATION

6. MORE INFORMATION

- Learn more about Horizon Europe:
  http://ec.europa.eu/horizon-europe
- Funding and Tenders Portal:
  https://ec.europa.eu/info/funding-tenders/opportunities/portal/
- Register as an expert:
  https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/work-as-an-expert
- Online help desk:
  https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/helpdesks
- China National Contact Point:
  http://www.cstec.org.cn
- Delegation of the European Union to China/Science and Technology Section:
  https://eeas.europa.eu/delegations/china_en

ANNEXES

7. ANNEXES

7.1. Horizon Europe: Overview of Programme Components

EXCELLENT SCIENCE
reinforcing and extending the excellence of the Union's science base

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ACTIVITIES		DESCRIPTION
EUROPEAN RESEARCH COUNCIL Frontier research by the best researchers and their teams	**ERC STARTING GRANTS**	Grants up to €1.5 million for 5 years. For promising early-career researchers of any nationality with 2 to 7 years' experience after PhD.
	ERC ADVANCED GRANTS	Grants up to €2.5 million for 5 years. For established research leaders with a recognised track record of research achievements.
	SYNERGY GRANTS	Grants up to €10 million for 6 years. To address ambitious research questions that can only be answered by the coordinated work of a small group of 2-4 principal Investigators.
	ERC CONSOLIDATOR GRANTS	Grants up to €2 million for 5 years For excellent researchers with 7 to 12 years' experience after PhD.
	ERC PROOF OF CONCEPT	Lump Sum Grant of €150.000. For existing ERC grant holders to bring their research ideas closer to market.
	ADDITIONAL OPPORTUNITIES	For researchers wishing to work or gain experience in an ERC grantee's team.

EXCELLENT SCIENCE
reinforcing and extending the excellence of the Union's science base

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ACTIVITIES		DESCRIPTION
MARIE-SKŁODOWSKA CURIE ACTIONS (MSCA) Equipping researches with new knowledge and skills through mobility and training	DOCTORAL NETWORKS	Multi-beneficiary Action to set up doctoral programmes to PHD students of any nationality, including Industrial Doctorates and Joint Doctorates.
	POSTDOCTORAL FELLOWSHIPS	Mono beneficiary action to support post-doctoral research and careers. Common panel for: • **European Postdoctoral Fellowships:** coming to Europe from any country in the world or moving within Europe; • **Global Postdoctoral Fellowships:** outside EU Member States and Horizon Europe AC.
	STAFF EXCHANGES	Implementation of a joint R&I project by seconding and/or hosting eligible staff members. Three dimensions of mobility (i3): inter-sectoral, international and interdisciplinary.
	COFUND	Mono-beneficiary action to co-fund new or existing national, regional, institutional schemes for doctoral training and postdoctoral fellowships.
	MSCA AND CITIZENS	Coordination and Support Action to bring research and researchers closer to the public at large, through the organisation of the European Researchers' Night.
RESEARCH INFRASTRUCTURES Integrated and inter-connected world-class research infrastructures		Supporting access to research infrastructures to researchers in Europe and beyond.

GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS
boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals
(6 clusters and JRC – non-nuclear direct actions)

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ ACTIVITIES	DESCRIPTION
CLUSTER 1 **HEALTH**	Improving and protecting the health and well-being of citizens of all ages by generating new knowledge, developing innovative solutions and integrating where relevant a gender perspective to prevent, diagnose, monitor, treat and cure diseases.
CLUSTER 2 **CULTURE, CREATIVITY & INCLUSIVE SOCIETIES**	Strengthening European democratic values, including rule of law and fundamental rights, safeguarding our cultural heritage, and promoting socio-economic transformations that contribute to inclusion and growth.
CLUSTER 3 **CIVIL SECURITY FOR SOCIETY**	This cluster responds to the challenges arising from persistent security threats, including cybercrime, as well as natural and manmade disasters.
CLUSTER 4 **DIGITAL, INDUSTRY & SPACE**	Build a competitive, digital, low-carbon and circular industry, ensure sustainable supply of raw materials, develop advanced materials and provide the basis for advances and innovation in global challenges to society.
CLUSTER 5 **CLIMATE, ENERGY & MOBILITY**	Fight climate change by better understanding its causes, evolution, risks, impacts and opportunities, and by making the energy and transport sectors more climate and environment-friendly, more efficient and competitive, smarter, safer and more resilient.
CLUSTER 6 **FOOD, BIO ECONOMY, NATURAL RESOURCES, AGRICULTURE & ENVIRONMENT**	Reducing environmental degradation, halting and reversing the decline of biodiversity on land, inland waters and sea and better managing natural resources through transformative changes of the economy and society in both urban and rural areas.
JRC (NON-NUCLEAR DIRECT ACTIONS)	Generate high-quality scientific evidence for good public policies.

INNOVATIVE EUROPE

stimulating market-creating breakthroughs and ecosystems conducive to innovation

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ACTIVITIES		DESCRIPTION
EUROPEAN INNOVATION COUNCIL Support to innovations with breakthrough, disruptive nature and market creating potential	**PATHFINDER**	R&I grants from early technology to proof of concept.
	TRANSITION	R&I grants from proof of concept to pre-commercial.
	ACCELERATOR	Grants & investment (via EIC Fund) for single SMEs & start-ups from pre-commercial to market & scale-up.
EUROPEAN INNOVATION ECOSYSTEMS		Creating more connected and efficient innovation ecosystems to support the scaling of companies, encourage innovation and stimulate cooperation among national, regional and local innovation actors.
EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)		Bringing key actors (research, education and business) together around a common goal for nurturing innovation.

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

optimising strengths & potential for a more innovative Europe

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ACTIVITIES		DESCRIPTION
WIDENING PARTICIPATION & SPREADING EXCELLENCE Building research and innovation capacity for countries lagging behind	TEAMING & TWINNING	Teaming: Support/create centres of excellences as role models to stimulate excellence, new investments and reforms of national research and innovation systems. Twinning: Develop excellence in chosen research and innovation domain, increase visibility of the research institutions and universities, and upskill its staff.
	ERA CHAIRS	Support universities or research organisations from eligible countries to attract and maintain high quality human resources and help excellent scientists and their teams to become game changers in their field.
	COST	Cross-border scientific network helping excellent researchers and innovators get access to the European and international networks.
	SUPPORT TO NCPS	To reduce disparities in research performance and participation success.
	BRAIN CIRCULATION AND EXCELLENCE INITIATIVES	Brain Circulation Grants aim to attract more R&I talents to host organisations in widening countries.
	"HOP ON"	The scheme helps to achieve the Inclusiveness ambition of the future ERA policy by involving research institutions from less research performing countries in the HE collaborative R&I projects.

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

optimising strengths & potential for a more innovative Europe

PROGRAMME COMPONENTS & TYPES OF ACTIONS/ACTIVITIES		DESCRIPTION
REFORMING & ENHANCING THE EUROPEAN R&I SYSTEM support efforts to reform the EU R&I system by implementing structural changes, improving access to excellence and deepening the European Research Area	SCIENTIFIC EVIDENCE & FORESIGHT	Supporting the future orientations of EU policy, to anticipate trends and developments and analyse their implications in coordination, engagement and cooperation with t national agencies, experts, stakeholders and citizens.
	OPEN SCIENCE	Accelerating the transition towards open science, by monitoring, analysing and supporting the development and uptake of open science policies and practices.
	POLICY SUPPORT FACILITY	Assisting Member States and countries associated to Horizon in developing and implementing those reforms.
	ATTRACTIVE RESEARCHER CAREERS	Strengthening research careers, to ensure research and innovation talents benefit from attractive careers, and a highly skilled workforce can circulate freely.
	CITIZEN SCIENCE, RESPONSIBLE RESEARCH & INNOVATION	
	GENDER EQUALITY	

7.2. Horizon Europe: Main types of actions

HORIZON EUROPE: MAIN TYPES OF ACTIONS

RESEARCH AND INNOVATION ACTIONS (RIA)

DESCRIPTION: Activities that aim primarily to establish new knowledge or to explore the feasibility of a new or improved technology, product, process, service or solution. This may include basic and applied research, technology development and integration, testing, demonstration and validation of a small-scale prototype in a laboratory or simulated environment.

Duration: usually 3 - 5 years.

Minimum conditions: 3 independent legal entities from 3 different EU Member States or Horizon Europe Associated Countries.

Occurrence: most common type of projects.

INNOVATION ACTIONS (IA)

DESCRIPTION: Activities that aim directly to produce plans and arrangements or designs for new, altered or improved products, processes or services. These activities may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

Duration: 2 - 3 years on average.

Minimum conditions: 3 independent legal entities from 3 different EU Member States or Horizon Europe Associated Countries.

Occurrence: most frequent in calls with prevalent industrial component.

HORIZON EUROPE: MAIN TYPES OF ACTIONS

COORDINATION AND SUPPORT ACTIONS (CSA)

DESCRIPTION:

Activities that contribute to the objectives of Horizon Europe. This excludes R&I activities, except those carried out under the 'Widening participation and spreading excellence' component of the programme (part of 'Widening participation and strengthening the European Research Area'). Also eligible are bottom-up coordination actions which promote cooperation between legal entities from Member States and Associated Countries to strengthen the European Research Area, and which receive no EU co-funding for research activities.

Duration: usually 1 - 2 years.

Minimum conditions: 1 legal entity established in an EU Member States or Horizon Europe Associated Countries.

Occurrence: to be found under "Global Challenges & European Industrial Competitiveness", but less frequent than RIA or IA.

TRAINING AND MOBILITY ACTIONS (TMA)

DESCRIPTION:

Activities that aim to improve the skills, knowledge and career prospects of researchers, based on mobility between countries and, if relevant, between sectors or disciplines.

Duration: 3 - 4 years on average.

Minimum conditions: 1 - 3 legal entity established in an EU Member States or Horizon Europe Associated Countries, depending on the Marie-Skłodowska Curie Action.

Occurrence: to be found under "Marie-Skłodowska Curie Actions".

HORIZON EUROPE: MAIN TYPES OF ACTIONS

PROGRAMME CO-FUND ACTIONS (COFUND)

DESCRIPTION:

A programme of activities established or implemented by legal entities managing or funding R&I programmes, other than EU funding bodies. Such a programme of activities may support networking and coordination, research; innovation; pilot actions; innovation and market deployment; training and mobility; awareness raising and communication; and dissemination and exploitation. It may also provide any relevant financial support, such as grants, prizes and procurement, as well as Horizon Europe blended finance13or a combination thereof. The actions may be implemented by the beneficiaries directly or by providing financial support to third parties.

INNOVATION AND MARKET DEPLOYMENT ACTIONS (IMDA)

DESCRIPTION:

Activities that embed an innovation action and other activities necessary to deploy an innovation on the market. This includes the scaling-up of companies and Horizon Europe blended finance.

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EU LAW AND RELATED DOCUMENTS

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: **http://eur-lex.europa.eu**

OPEN DATA FROM THE EU

The EU Open Data Portal (**http://data.europa.eu/euodp/en**) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

Horizon Europe, the EU's Framework Programme for research and innovation succeeding Horizon 2020, will run from 2021 to 2027 with a total budget of €95.5 billion (or about CNY735 billion).

It helps researchers and innovators to develop and deploy their ideas and to create new products and services. It supports mobility of researchers as well as excellent science by teaming up the best talent and equipping them with world-class infrastructures.

The programme is open to researchers and innovators from around the globe. Some specific topics of Horizon Europe target cooperation with China through flagship initiatives in selected areas, such as Food, Agriculture and Biotechnologies.

This brochure explains the contents of the Framework Programme Horizon Europe and intends to be a practical guide for Chinese researchers to better understand the options offered by Europe to be involved in its various funding instruments.

Practical information

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