Funding Landscapes

Research Office, Rectorate September 19th, 2022 improve.muni.cz





Contents

National Programmes

Basic research

- GA ČR (Czech Science Foundation)
- Departmental Programmes (Ministries)
 - INTER-EXCELLENCE II (Ministry of Education Youth and Sports)
 - Mobility (Ministry of Education Youth and Sports)

Applied research

- TA ČR (Technology Agency of the Czech Republic)
 - National Programmes
 - ERA-NET Cofunds/Partnerships
- Departmental Programmes (Ministries)
 - AZV (Czech Health Research Council)
 - NAKI (Ministry of Culture)
 - Security Program (Ministry of Interior)
- Operational Programme TAK, JAK

MU Internal Programmes

- GAMU
- Specific university research

International Programmes

Basic research

Horizon Europe

Applied research

- Horizon Europe
 - Pillars
 - Missions
 - Partnerships
 - European Innovation Council



MUNI

MU in numbers

MU in numbers

09/2022

1st institution in the Czech Republic in numbers of H2020 and HE projects (9/2022)

121 participations in H2020 projects (9/2022)

19 participations in HE projects (9/2022)

8 ERC grants (up to 9/2022)

9 individual H2020 and HE MSCA projects (9/2022)

13 H2020 and HE projects coordinated by MU (9/2022)

9,5 billion CZK

Total budget MU (Total non-investment cost for 2022)

2,7 bilion CZKR&D budget (2022)

256 ongoing GA ČR projects (9/2022)

1,85 billion CZK budget for ongoing GA ČR projects

92 ongoing TA ČR projects (9/2022)

352 mil CZK budget for ongoing TA ČR projects

4 718 MU employees (9/2022)

589 researchers (9/2022)

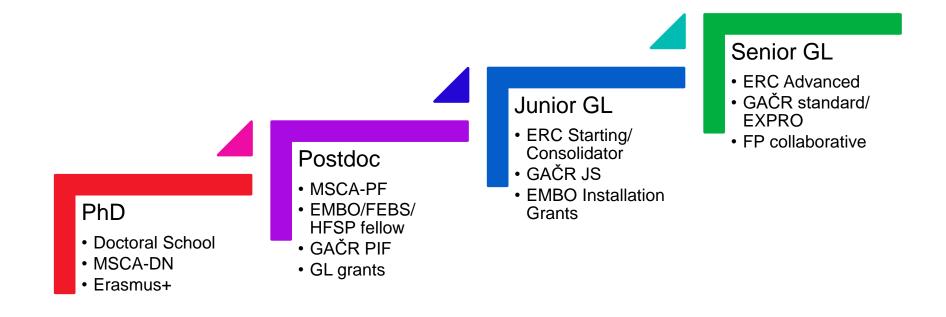
1 841 academic workers(9/2022)



MUNI

Basic research

Scientific Career and Funding





GA ČR - national/international schemes

National schemes

- Standard projects
- JUNIOR STAR
- EXPRO
- POSTDOC INDIVIDUAL FELLOWSHIP
 Incoming
- POSTDOC INDIVIDUAL FELLOWSHIP
 Outgoing

International schemes

- International projects
- Lead Agency grants



Standard projects

Provider: GA ČR

Aim

- Standard projects for support of basic research
- Advanced scientific projects with the potential to achieve international significance results

Priority areas

All scientific fields

Eligibility

 Applicants at any stage of career, without any age limitation

Call ID	Standard projects
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings
Duration	2-3 years
Funding	Not specified
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



JUNIOR STAR

Provider: GA ČR

– Aim

 Aims at scientists at the beginning of their career to establish an independent group

Priority areas

All scientific fields

Eligibility

Limited up to 8 years after Ph.D

Call ID	JUNIOR STAR
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings
Duration	5 years
Funding	25 mil. CZK/project
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



EXPRO

Provider: GA ČR

Aim

 To create the conditions for the development of excellent research, set standards for excellent science, help overcome barriers that reduce the success of ERC project proposals, and enable the acquisition of the necessary knowledge and experience to be successful in highly prestigious European grants

Priority areas

All scientific fields

Call ID	EXPRO
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings
Duration	5 years
Funding	50 mil. CZK/project
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



POSTDOC INDIVIDUAL FELLOWHIP (PIF) Incoming

Provider: GA ČR

Aim

 To motivate outstanding scientists with long-term international experience in their early careers to undertake their own, high-quality scientific project at an institution in the Czech republic

Priority areas

All scientific fields

Eligibility

Limited up to 4 years after Ph.D

Call ID	PIF Incoming
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings
Duration	3 years
Funding	Not specified
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



POSTDOC INDIVIDUAL FELLOWHIP (PIF) Outgoing

Provider: GA ČR

Aim

 Is to make it possible for Czech scientists in their early careers to pursue their own scientific aim involving a long-term fellowship abroad, followed by the completion of the project at a Czech institution

Priority areas

All scientific fields

Eligibility

Limited up to 4 years after Ph.D

Call ID	PIF (Outgoing)
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings,
Duration	3 years
Funding	Not specified
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



International (bilateral) projects

Provider: GA ČR

Aim

 Aims at supporting international cooperation in basic research (projects are evaluated by both agencies)

Priority areas

All scientific fields

Countries involved

- Brazil, Taiwan, South Korea

Call ID	International projects
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings,
Duration	2-3 years
Funding	Not specified
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



Lead Agency (LA) grant projects

Provider: GA ČR

Aim

- Aims at supporting international cooperation in basic research (projects are evaluated only by one agency while the second accepts the results of their evaluation process)
- Bilateral/trilateral cooperation

Priority areas

All scientific fields

Countries involved

 Austria, Germany, Luxembourg, Poland, Slovenia, Switzerland, US

Call ID	LA grants
Applicants	research organizations, other specified by Call
Expected results*	J _{imp} , J _{sc} , J _{ost} , Monograph, chapter in monograph, article in proceedings,
Duration	2-3 years
Funding	Not specified
Funding rate	100 %
Call allocation	TBA

^{*}Definition of types of results



INTER-EXCELENCE II (2021-2029)

Provider: Ministry of Education Youth and Sports

Aim

International cooperation

Priority areas

All scientific fields, basic and applied research

– INTER-ACTION

- International cooperation in research projects based on intergovernmental or interdepartmental agreements
- Countries involved (opened calls in 2021/22) Bavaria, Slovakia, USA

– INTER-COST

 Synergic effect of national research support and support from the international COST programme (participation in international COST project required)

Call 2022 (announced in autumn)

Call ID	INTER-EXCELLENCE II
Applicants	research organizations, companies
Expected results*	J _{imp} , J _{sc} , book, chapter in book, patent, utility model, industrial design, software, prototype, functioning sample, pilot plant, verified technology, variety, breed, other results
Duration	3-5 years
Funding	Not specified
Funding rate	100 % for project

^{*}Definition of types of results



MOBILITY

Provider: Ministry of Education Youth and Sports

Aim

- Support bilateral international cooperation in basic research
- Setting up a joint international research team
- Project support consists of funding travel and accommodation costs for researchers travelling abroad

Countries involved

 opened calls in 2022 with: Austria, France, Germany

Next call in 2023

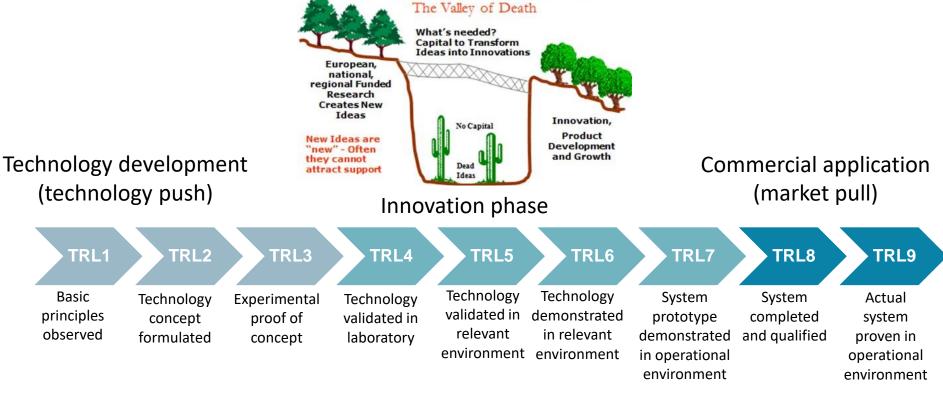
Call ID	MOBILITY
Applicants	only research organizations
Duration	Max. 2 years
Funding (previous Call)	CZK 200 ths./ year (Germany) CZK 100 ths./ year (Austria) CZK 78 ths./ year (France)
Funding rate	100 % for project



MUNI

Applied research

TRL – Technology Readiness Levels



- TRL 1-3 from idea, through formulation of concept and technology, to verification of concept
- TRL 4-7 from "ugly" prototype to fully functional product tested in working environment
- TRL 8-9 successful market deployment and full commercial use of product/service
- Definition of TRL is commonly used in call guidelines of various grant schemes to define expected outcomes

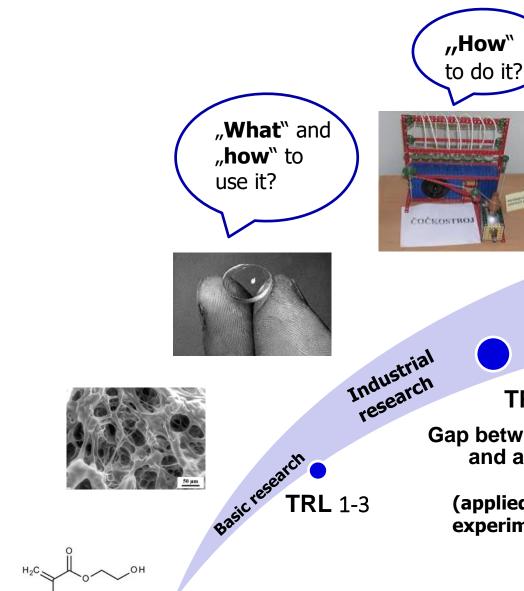


TRL – Technology Readiness Levels

Adapted for Social sciences, and humanities and Arts

TRL1 TRL2 TRL3 TRL4 TRL5 TRL6 TRL7 TRL8 TRL9

- TRL 1 basic principles observed. Identification of and observation of basic properties.
- TRL 2 concept formulated. Outcomes of the theoretical research are specified. Theorizing of potential practical applications.
- TRL 3 experimental proof of concept. Analytical research or experiments towards potential application(s). Initial testing of proposed solutions. Identification of potential stakeholders.
- **TRL 4** *concept validated in R&D environment*. Proof of concept that is based upon the integration of applications and components to demonstrate viability. Concept is validated through pilot testing in to substantiate proposed solution(s). Identification of relevant stakeholders.
- **TRL 5** solutions validated in simulated relevant environment. Refined integration of components to confirm validity. Proposed solution(s) are validated by relevant stakeholders.
- **TRL 6** solutions demonstrated in simulated relevant environment. Demonstration of a near-end state solutions and testing in a relevant environment in co-operation with relevant stakeholders to gain initial feedback. Parts of relevant documentation have been drafted.
- TRL 7 solutions prototypical demonstration in operational environment. Refinement of solutions and, if needed, retesting in relevant environment with relevant stakeholders. Drafts of relevant documentation are available.
- TRL 8 solutions complete and qualified. Proposed solutions as well as a plan for their application/adaptation are refined through testing, complete and qualified. Relevant documentation is almost completed.
- TRL 9 actual solutions proven through testing and implementation in operational real-world environment. Relevant documentation
 is completed and available for stakeholders. A sustainable set of support measures for the application of the solutions has been
 worked out.







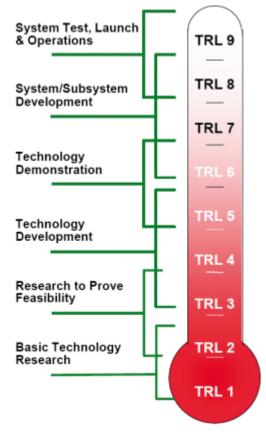
Experimental development



TRL 3-6

Gap between discovery and application

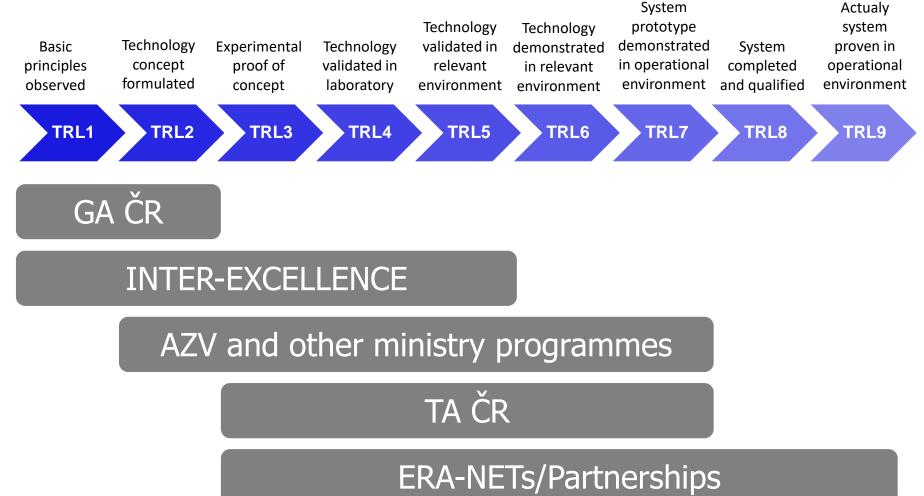
(applied research = industrial research + experimental development)



Source: https://cs.wikipedia.org/



TRL – Czech funders





MUNI

TA ČR

(Technology Agency of the Czech Republic)

I. TA ČR – national programmes

Current programme structure

ÉTA

THÉTA

ZÉTA

DELTA

- **-** TREND
- Transport 2020+
- Environment for Life

New programme structure (since 2022/2023)

SIGMA (approved)

- TREND
- Transport 2030 (approved)
- Environment for Life



II. TA ČR ERA – NET Cofunds/Partnerships

- CHIST-ERA
- ERA-MIN
- M-ERA.NET
- QuantERA
- Water4all
- Biodiversa+

- <u>Driving Urban Transition</u>
- Clean Energy Transition
- Chemical risk assessment partnership



SIGMA (2022-2029)

Provider: TA ČR

– Aim

 To support applied research and innovation leading to the emergence of new results applicable in practice.

– Priority areas



- 1st goal Pre-application research ZÉTA
- 2nd goal Early-carrier researchers
- 3rd goal Innovation in social sciences, ETA humanities and art
- 4th goal International cooperation
- 5th goal Cross-cutting support

First call 26/10/2022 for 3rd goal

Call ID	SIGMA
Applicants	companies, research organizations; state entities, regional and local authorities
Expected results*	all kind of research results by Methodology 2017+ specified by each call
Duration	6months - 7years
Funding	-
Funding rate	Up to 100 % (1st goal up to 100 %, 2nd goal up to 85 %, 3rd goal up to 80 %, 4th goal 75-80 %, 5th goal up to 100 %)

^{*}Definition of types of results

TREND (2019-2026)

Provider: TA ČR, Ministry of Industry and Trade

– Aim

 To support applied research projects which results have high potential for implementation in new products

Subprogrammes

- Technology leadership (subprogramme I)
- "Newcomers" (subprogramme II) -Support for companies that in the last 5 years did not receive more than 1mil.CZK from state or public budgets

Call 2022 (announced in October)

Call ID	TREND (subprogramme I)
Deadline	23. 11. 2022
Topic	5G technologies
Applicants	companies, (research organizations only as partners)
Expected results*	patent, technically realized results (prototype/functioning sample, verified technology, software, results with legal protection – utility model/industrial design)
Duration	max. 31 months
Funding	max. 15mil. CZK/project
Intensity rate	70%
Call allocation	300 mil. CZK

^{*}Definition of types of results

Transport 2030 (2023-2030)

Provider: TA ČR, Ministry of Transport

Aim

 To develop the transport sector in a way that reflects social needs, accelerates the technological and knowledge development of the Czech Republic

Priority areas

- Sustainable transport
- Safe and resilient transport and transport infrastructure
- Accessible and interoperable transport
- Automation, digitization, navigation and satellite systems

Next call in 2023

Call ID	Transport 2030
Applicants	companies, research organizations; state entities, regional and local authorities
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, results reflected in directives and non-legislative regulations, methodologies, specialized public database, other results
Duration	12-48 months
Funding	max. 50 mil. CZK
Funding rate	80 %

^{*}Definition of types of results

Source: www.tacr.cz

Environment for Life (2020-2026)

Provider: TA ČR, Ministry of the Environment

– Aim

 To bring new solutions in the field of environment, stabilize and expand the knowledge base, which will significantly contribute to ensuring a healthy and quality environment in the Czechia (climate, air protection, circular economy, protection of natural resources, biodiversity, environmentally friendly society)

Subprogrammes

- Operational research in public interest (subp. I)
- Eco-innovations, technologies and procedures for environmental protection (subp. II)
- Long-term environmental and climate perspectives (subp. III)

Next call in 2023

Call ID	Environment for Life
Applicants	companies, research organizations
Expected results*	patent, technically realized results (prototype/functioning sample, verified technology, software, results with legal protection – utility model/industrial design)
Duration	30 months in average
Funding	N/A
Funding rate	85% in average - 100% (subp. I and III), 90% (subp. II)
Call allocation	N/A

*Definition of types of results

DELTA 2 (2020-2025)

Provider: TA ČR (international scheme)

– Aim

 Increase the number of specific results and enhance the competitiveness through bilateral/multilateral cooperation with a foreign partner in applied research

Priority areas

Specified separately by each of the foreign organization

— Countries involved (previous call)

Brazil, Jiangsu, Korea, Quebec, Taiwan,
 Zhejiang, Nigeria, Israel, USA

Next Call in May 2023

Call ID	DELTA 2
Applicants	companies (research organizations only as partners)
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, specialized public database, other results
Duration	12 - 36 months
Funding	not limited
Funding rate	74 %
Call allocation	approx. 300mil. CZK

^{*}Definition of types of results



CHIST-ERA

Provider: TA ČR (ERA-NET Cofunds)

Aimed at

 Information and Communication Technologies

Priority areas

 Open & Re-usable Research Data & Software

Countries involved

Belgium, Brazil, France, Lithuania,
 Luxembourg, Poland, Slovakia,
 Switzerland, Turkey, United Kingdom

Call 2022 open!

Call ID	CHIST-ERA
Deadline	14. 12. 2022
Topic	Open Research Data
TRL	3-9
Applicants	research organizations, companies
Expected results*	patent, functioning sample, pilot plant, verified technology, software, results reflected in non-legislative directives and regulations, industrial and utility design, certified methodologies, medical procedure, conservation procedure, other results
Duration	max. 24 months
Funding	Not specified/project
Funding rate	85%
Call allocation	EUR 500ths

^{*}Definition of types of results

ERA-MIN

Provider: TA ČR (ERA-NET Cofunds)

Aimed at

 Raw materials for sustainable development and the circular economy

Priority areas

- Supply of raw materials from exploration and mining
- Strengthening the Circular Economy
- Processing, Production and ICT
- Environmental assessment, climate and policy development for sustainability
- Social sustainability in health, safety and public perception

Countries involved (confirmed)

- Belgium, Bulgaria, Canada, Estonia, Finland, Germany, Poland, Portugal, Romania, Slovakia, Slovenia, South Africa, Spain, Sweden, Turkey

Call 2023 (announced in December 2022)

Call ID	ERA-MIN
Deadline	30. 3. 2023
Applicants	research organizations, companies
TRL	3-9 (previous Call)
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, results reflected in non-legislative directives and regulations, certified methodologies, conservation procedure, medical procedure, other results
Duration	12-26 months (previous Call)
Funding	EUR 1mil./project (previous Call)
Funding rate	85% (previous Call)
Call allocation	EUR 1mil. (previous Call)

^{*}Definition of types of results

M-ERA.NET

Provider: TA ČR (ERA-NET Cofunds)

Aimed at

- Materials for energy
- Innovative surfaces, coatings and interfaces
- High performance composites
- Functional materials
- New strategies for advanced material-based technologies for health applications (research on regenerative medicine not supported by TA ČR)
- Materials for electronics

Countries involved

 Austria, Belgium, Bulgaria, Brazil, Canada (Québec), Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Israel, Latvia, Lithuania, Luxembourg, Poland, Romania, Slovakia, Slovenia, South Africa, South Korea, Spain, Taiwan, Turkey

Call 2022 (under evaluation)

Call ID	M-ERA.NET
Deadline	15. 06. 2022
Applicants	research organizations, companies
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, results reflected in non-legislative directives and regulations, medical procedure, conservation procedure, other results
Duration	36 months
Funding	max. EUR 350ths./project
Funding rate	85 %
Call allocation	EUR 1mil. (for Czech part)

^{*}Definition of types of results

Water4AII

Provider: TA ČR (Partnerships)

Aimed at

- Resilience, adaptation and mitigation to hydroclimatic extreme events
- Tools for water management in the context of hydroclimatic extreme events
- Improved water governance in the context hydroclimatic extreme events and international contexts

Countries involved

 Austria, Belgium, Brazil, Denmark, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom

Call 2022 open!

Call ID	Water4All
Deadline	31. 10. 2022
Applicants	research organizations, companies
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, results reflected in non-legislative directives and regulations, medical procedure, conservation procedure, other results
Duration	max. 36 months
Funding	max. EUR 230ths./project
Funding rate	85 %
Call allocation	EUR 700ths. (for Czech part)

^{*}Definition of types of results

Biodiversa+

Provider: TA ČR (Partnerships)

Aimed at

 Improved transnational monitoring of biodiversity and ecosystem change for science and society

Priority areas

- Innovation and harmonization of methods and tools for collection and management of biodiversity monitoring data
- Addressing knowledge gaps on biodiversity status, dynamics, and trends to reverse biodiversity loss (not supported by TA ČR)
- Making use of available biodiversity monitoring data

Countries involved

 Austria, Belgium, Brazil, Bulgaria, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Ivory Coast, Latvia, Lithuania, Moldova, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Tunisia, Turkey

Call 2022 open!

Call ID	Biodiversa+
Deadline	9. 11. 2022
Applicants	research organizations, companies, organizational state units
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, summary research report, specialized public database, specialized map, other results
Duration	36 months
Funding	max. EUR 170ths/project
Funding rate	85 %
Call allocation	EUR 500ths (for Czech part)

^{*}Definition of types of results



Driving Urban Transitions (DUT)

Provider: TA ČR (Partnerships)

Aim

Sustainable future for cities

Priority areas

- Positive Energy Districts (PED)
- 15-Minute City (15mC)
- Circular Urban Economies (not supported by TA ČR)

Countries involved

 Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, The Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, Turkey, United-Kingdom

Call 2022 (announced in September 2022)

Call ID	Driving Urban Transitions
Deadline	November 2022
Applicants	research organizations, companies
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, specialized map, other results
Duration	TBA
Funding	max. EUR 250ths/project
Funding rate	85 %
Call allocation	EUR 800ths/PED (for Czech part) EUR 800ths/15mC (for Czech part)

^{*}Definition of types of results



Clean Energy Transition (CET)

Provider: TA ČR (Partnerships)

Aimed at

 To boost and accelerate the energy transition and to support the implementation of the European Strategic Energy Technology Plan (SET Plan)

Priority areas

- Optimized integrated European net-zero Emissions Energy System (TRI 1)
- Enhanced zero emission Power Technologies (TRI 2); (not supported by TA ČR)
- Enabling Climate neutrality with Storage Technologies, Hydrogen and Renewable Fuels and CCU/CCS (TRI 3)
- Efficient zero emission Heating and Cooling Solutions (TRI 4); (not supported by TA ČR)
- Integrated Regional Energy Systems (TRI 5)
- Integrated Industrial Energy Systems (TRI 6); (not supported by TA ČR)
- Integration in the Built Environment (TRI 7)

Countries involved

 Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Iceland, Ireland, Israel, Italy, Malta, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom

Call 2022 open!

Call ID	Clean Energy Transition
Deadline	23. 11. 2022
Applicants	research organizations, companies
Expected results*	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, specialized map, other results
Duration	36 months
Funding	max. EUR 175 ths./project (TRI 7.1) max. EUR 175 ths./project (TRI 7.2) not specified for TRI 1, 3, 5
Funding rate	85 %
Call allocation	EUR 2,45mil. (for Czech part)

^{*}Definition of types of results



MUNI

Departmental Programmes

(Ministries)

AZV (2020-2026)

Provider: Ministry of Health

— Aim

 To ensure an internationally comparable level of medical research and the use of its results to improve the health of the Czech population and to secure the current needs of the health service in the Czech Republic

Priority areas

- Incidence and development of diseases
- New diagnostic and therapeutic methods
- Epidemiology and prevention of the most serious diseases

Subprogrammes

- I. Further development of the existing platform of applied medical research in the Czech Republic
- II. Support the development of young researchers
- III. Covid-19

Next Call in May 2023

Call ID	AZV
Applicants	research organizations, companies
Expected results*	main results - J _{imp} , utility model, prototype, functioning sample, methodologies, patent, software, pilot plant, verified technology secondary results – J _{imp} (Review, Letter), J _{sc} , book, chapter in book
Duration	44 months
Funding	not limited (subp. I), max. 7 mil. CZK/project (subp. II)
Funding rate	up to 100 %
Call allocation	N/A

^{*}Definition of types of results



NAKI III (2023-2030)

Provider: Ministry of Culture

— Aim

 To focus on national and cultural identity and art

Priority areas

 National identity and Cultural heritage (history and archeology, linguistic, literary and cultural identity, art, cultural heritage and historical places)

Next Call in 2023

Call ID	NAKI III
Applicants	research organizations, companies (only as partners)
Expected results*	primary results: utility model, industrial design, prototype, functional sample, certified methods, patent, software, pilot plant, proven technology, exhibition secondary results: J _{imp} , book, chapter in book, workshop, conference and others
Duration	First call - 5 years Second call - 4 years Third call - 3 years
Funding rate	100% (For research org.)
Program allocation	3 mld. CZK

^{*}Definition of types of results

Source: www.mkcr.cz

IMPAKT 1 (2019-2025)

Provider: Ministry of Interior

— Aim

 To achieve a knowledge, technological and technical level that will enable the Czech Republic to acquire, maintain and develop specific skills necessary to ensure the security of the state and its citizens

Subprogrammes

- Joint research programs
- II. Human resources for security research
- III. Security research initiative (international cooperation)

Next call in autumn 2022?

Call ID	IMPAKT 1
Applicants	only research organizations
Expected results*	J _{imp} , patent, utility model, registered design, software, prototype, functioning sample, pilot plant, verified technology, conference, workshop etc.
Duration	4-6 years (subp. I); 3 years (subp. II); 2-4 years (subp. III)
Funding	mil. CZK/project (subp. I), 1,5-6 mil. CZK/project (subp. II)
Funding rate	100 % for project

^{*}Definition of types of results



SECTECH (2021-2026)

Provider: Ministry of Interior

– Aim

- To involve start-ups, small and mediumsized enterprises in the development and transfer of new security technologies that will enable the components of the Czech security system to acquire, maintain and develop specific capabilities to ensure the security of the state and its citizens
- Support only for experimental research projects

Next call in autumn 2022?

Call ID	SECTECH
Applicants	companies and research organizations
Expected results*	patent, utility model, registered design, software, prototype, functioning sample, pilot plant, verified technology, research report (only secondary result)
Duration	24 months in average
Funding	max 40 mil. CZK
Funding rate	100 % for research organizations25-60% for companies70% for project

^{*}Definition of types of results



OPSEC (2023-2029)

Provider: Ministry of Interior

Aim

 To support R&D activities in the field of security of the state and its citizens in accordance with the characteristic needs of the security system and societal needs in the field of security

Subprogrammes

- Development of law enforcement capacity
- II. Crisis preparedness of security and rescue forces
- III. Resilient society

Next call in 2024

Call ID	OPSEC
Applicants	companies, research organizations
Expected results*	All applied research results specified by each call
Duration	Specified by the call
Funding	Specified by the call
Funding rate	Up to 100 %

^{*}Definition of types of results



In preparation for year 2023!

- Defense research program (Ministry of Defence)
- Agriculture research program (Ministry of Agriculture, previously
 Země program)

Both programs are prepared in cooperation with TA ČR.



MUNI

Operational Programmes

(European Structural and Investment Funds)

OP Technologies and Application for Competitiveness - OP TAK (2021 - 2027)

Provider: ESIF, Ministry of Industry and Trade

- Priorities and its specific aims (relevant to R&D):
 - Strengthening the performance of companies in the field of research, development and innovation and their digital transformation
 - Research and innovation capacities and the introduction of advanced technologies (R&D in companies with research organizations, R&D transfer into innovations, technology and knowledge transfer, implementation of modern technologies into companies, innovation vouchers, R&D infrastructure for companies, clusters and technology platforms)
 - Digitization for citizens, businesses and governments (digital innovations, company digitalization, acquire ICT and SW technologies, development of technologies such as block-chain, virtual reality, update of computer and data centers)
 - Smart specialization, industrial transformation and entrepreneurship (employee education, activities of centers of digital innovations, linking the business sector with high schools)
 - Business development and SME competitiveness
 - Development of digital infrastructure
 - Moving towards a low-carbon economy
 - More efficient use of resources



OP TAK (2021 – 2027)

Provider: ESIF, Ministry of Industry and Trade

Main contact at MU: Office for Development

Pros&Cons

- √ Higher success rates
- √ Higher funding
- ✓ Support of various types of cooperation of companies and research organizations (classic R&D projects similar to TA ČR TREND, proof-of-concept, innovation vouchers)
- Primarily aim at companies, we can be only partners or subcontractors
- Financing ex-post (after every project phase)
- Research organization do not have 100% funding rate
- Higher administration for project department at faculties (non-eligibility of some costs) in comparison to other national R&D programs (similar to OP JAK)
- 3-5 years of sustainability (reports)



Application

Provider: ESIF, Ministry of Industry and Trade

Aim

 Research and development of new products, materials, technologies and services leading to innovation of higher rate

Support for

 Already established companies to increase their innovation performance, increase investment in R&D activities and focus on increasing added value.

Similar to TA ČR TREND

Call open!

Call ID	IMPAKT 1
Deadline	30. 11. 2022
Applicants	Companies, research organizations only as partners
Expected results*	prototype/functioning sample, verified technology, software, utility model/industrial design
Duration	Not specified
Funding	2-125 mil. CZK/project (total for call 4 000 mil. CZK)
Funding rate	85% for research organizations

^{*}Definition of types of results



Proof of Concept

Provider: ESIF, Ministry of Industry and Trade

– Aim

 Development of technology and knowledge transfer between research organizations and enterprises that can transfer research results into practice

Support activities

- A. Verification of technical feasibility and commercial potential resulting in the feasibility study for further R&D
- B. Finalization of experimental development and preparation of its commercialization

Call open!

Call ID	IMPAKT 1
Deadline	30. 11. 2022
Applicants	Small and medium companies, research organizations provides only know-how, expertise or researchers
Expected results*	A. feasibility study B. commercialization plan
Duration	Not specified
Funding	A. 0,5-5 mil. CZK/project B. 0,5-20 mil. CZK/project
Funding rate	Only for companies

^{*}Definition of types of results



OP Jan Amos Komenský - OP JAK (2021 – 2027)

Provider: ESIF, Ministry of Education, Youth and Sports

Priorities and its specific aims (relevant to R&D):

Main contact at MU: Office for Development

R&D

- Development and strengthening of research and innovation capacities and the introduction of advanced technologies
- Development of skills for smart specialization, industrial transformation and entrepreneurship

Excellent and applicable R&D (adherence to Green Deal; interdisciplinarity)

Collaboration of research and application sector (joint research projects; application / demonstration labs; focus on applicability of research

Strengthening infrastructure (large research infrastructures – roadmap; EOSC; infrastructure for specific R&D projects; conditions for future researchers – PhD students)

Human resources and institutional environment in research organizations (internationalization, international mobility of researchers, work-life balance)

II. Education

Calls announced in 2023/2024

- ✓ MSCA Fellowships (2022)
- ✓ Excellent research (2022)
- ✓ Long-term inter-sector collaboration (2023)
- ✓ Apply Labs (2023)



MUNI

MU Internal projects

GAMU (MUNI Grant Agency)

Provider: MU

Research support programme	Call deadline	Duration	Allocation	Number of supported projects
Support for Preparation of International Grant Projects	continuously	individual	CZK 1 mil.	Not specified
Career Restart	15. 10. 2022	2 years	CZK 5 mil.	10
INTERDISCIPLINARY	15. 10. 2022	3 years	CZK 6 mil.	2
MASH	10. 12. 2022	5 years	CZK 25 mil.	1*
MASH Junior	10. 12. 2022	3 years (+ 2)	CZK 18 (+ 8) mil.	3*
MUNI Scientist	15. 10. 2022	award	CZK 2 mil.	Not specified

^{*}in a case MASH is not granted, higher number of MASH Junior projects can be supported

Grants for students	Next call	Duration		Number of supported projects
Outstanding diploma thesis	November 2022	1 year	CZK 1 mil.	Not specified



MUNI

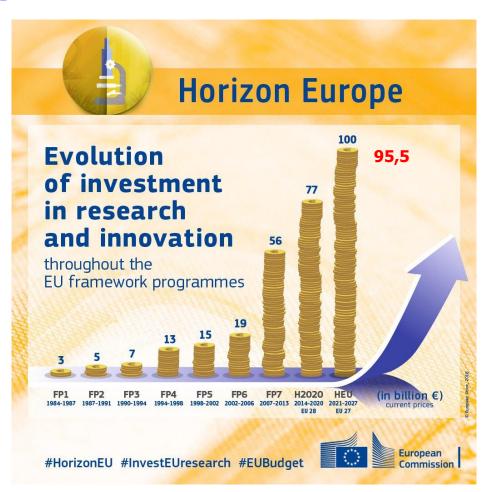
Horizon Europe

(European Union)

European Framework Programmes

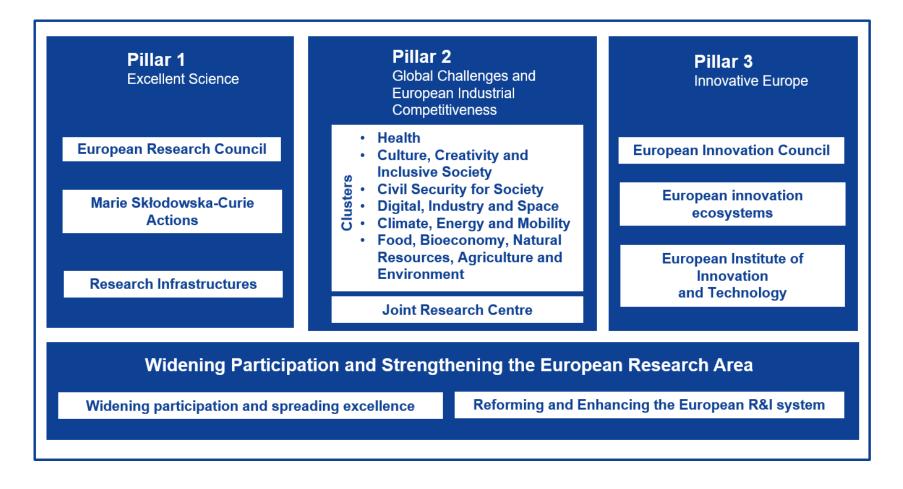
provider: European Union

- 7-year programming periods
- 2007-2013: 7th Framework Programme (FP7)
- 2014-2020: Horizon 2020 (H2020)
- 2021-2027: Horizon Europe (HE)
- large part to address the big challenges faced by
 Europe (and globally) through applied research
 - Green Deal
 - Twin Transition (Green / Digital)
 - Deep Tech
 - Widening Participation
 - UN Sustainable Development Goals (SDGs)



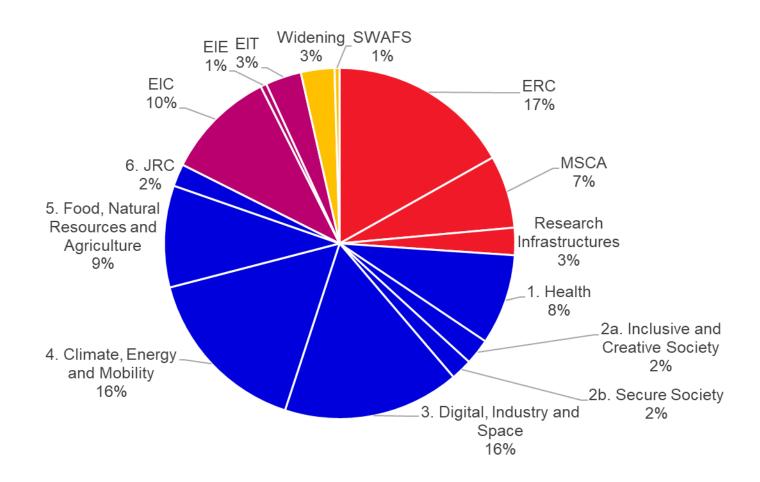


Horizon Europe: structure



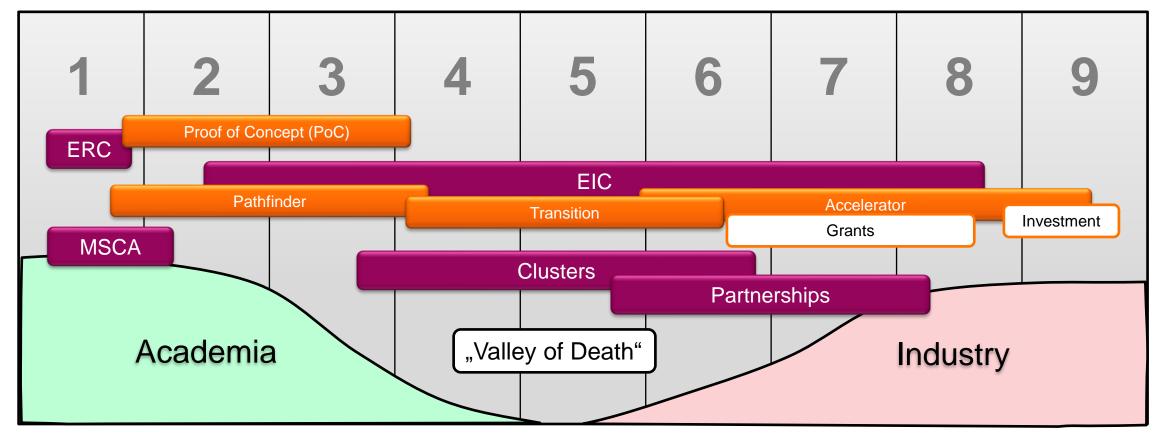


Horizon Europe: budget





Horizon Europe: TRLs





Horizon Europe: conditions

- Work Programmes (WPs) need to fit in a topic (Pillar 2)
- At least 3 partners from 3 different EU/associated countries (more demands resulting from WPs)
- RIA = research and innovation action; CSA = coordination and support action
 - 100% financing for all
- IA = innovation action
 - 100% financing for academia; 70% for industry
- Partnerships
 - Co-financed by Horizon, separate calls (e.g. at TAČR, MEYS)
- special actions in ERC, MSCA, EIC



Horizon Europe: Pillar 1

- European Research Council (<u>ERC</u>)
 - Supporting breakthrough research based on excellence only (of the PI and the project)
- Marie Skłodowska-Curie Actions (MSCA)
 - Mobility of researchers in various career stages
 - Individual and collaborative projects
- Research Infrastructures
 - Strategic support of large infrastructures and their networks
 - Clearly targeted calls need to have a significant role in the community to be able to participate



ERC Staring Grant

Horizon Europe – Pillar 1 – ERC

- next ddl: 25 Oct 2022
- 2-7 years after PhD (without career breaks)
- essential condition:
 - independence from PhD supervisor
- demonstration:
 - postdoc abroad
 - publications as first author without PhD supervisor
- target:
 - establishment of Pl's independent research team and agenda
 - departure on a new scientific question, though the PI needs to show expertise in the the methodology used

Applicants	Individual Principal Investigators	
Funding	Grants 1.5(+1) million EUR, 100% funding	
TRL	1-2 (not defined)	
Duration	5 years	
Purpose	Establishment of new independent research teams working on breakthrough topics	



ERC Consolidator Grant

Horizon Europe – Pillar 1 – ERC

- next ddl: 2 Feb 2023
- 8-12 years after PhD (without career breaks)
- expectations:
 - PI already has a team / research group
- demonstrated by:
 - PI's funding track record
 - publications as corresponding author
 - some preliminary results
- target:
 - consolidation of the team and its research directions
 - the research questions and/or methodology need to be novel and original (to the PI and to the world)

Applicants	Individual Principal Investigators
Funding	Grants 2(+1) million EUR, 100% funding
TRL	1-2 (not defined)
Duration	5 years
Purpose	Consolidation of independent research teams working on breakthrough topics

ERC Advanced Grant

Horizon Europe – Pillar 1 – ERC

- next ddl: 23 May 2023
- 12+ years after PhD
- expectations:
 - global leadership in the field
- demonstrated by:
 - 10-year scientific track-record
 - publications, grants, invited talks
- target:
 - departure on a new direction / topic
 - even for the most established researchers, the ERC project needs to go "beyond their comfort zone"

Applicants	Individual Principal Investigators
Funding	Grants 2.5(+1) million EUR, 100% funding
TRL	1-2 (not defined)
Duration	5 years
Purpose	Breakthrough research projects of senior investigators



ERC Synergy Grant

Horizon Europe – Pillar 1 – ERC

- next ddl: 8 Nov 2022
- teams of 2-4 PI's (any career stage); one may be from outside of Europe; all may be from one country / institution

Applicants

Funding

Duration

Purpose

TRL

- expectations:
 - research enabled by unique combination of expertise of the PIs
 - ambition needs to go beyond what the PIs would be able to achieve independently
- PI profile evaluated according to their career stage

— What else in ERC? ERC Proof of Concept: only for holders of other ERC



2-4 Individual Principal Investigators

1-2 (not defined)

6 years

Grants 10(+4) million EUR, 100% funding

Unique synergy between several PIs enabling

very ambitious breakthrough research

MSCA-DN

Horizon Europe – Pillar 1 – MSCA Doctoral Networks

– next ddl: 15 Nov 2022

Applicants	Min. 3 inst. from 3 countries
Funding	Unit costs; up to 360 personmonths (36 months per student = 10 students)
TRL	1-? (not defined)
Duration	4 years
Purpose	Hiring of PhD students from abroad and providing them with attractive training

- An international (interdisciplinary and inter-sectoral) consortium sets up a common researchtraining programme for doctoral students
- For international, inter-sectoral and interdisciplinary mobility leading to skills and knowledge development and knowledge transfer
- Open and fair recruitment of international PhD students; all beneficiaries must recruit at least one doctoral candidate
- Bottom-up research topics!
- Built on joint research and innovation activities



MSCA-SE

Horizon Europe – Pillar 1 – MSCA Staff Exchanges

Applicants	Min. 3 inst. from 3 countries
Funding	Unit costs; up to 360 months of secondments
TRL	1-? (not defined)
Duration	4 years
Purpose	International (beyond Europe) and intersectoral mobility supporting implementation of research project

- next ddl: 8 Mar 2023
- MOBILITY through secondments (1-12 months long)
- For international, inter-sectoral and interdisciplinary mobility of R&I staff leading to knowledge transfer between participating organisations
- Bottom-up research topics!
- Built on joint research and innovation activities

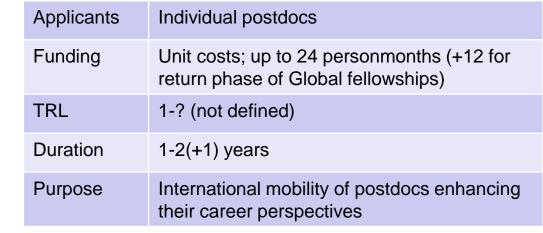


MSCA-PF

Horizon Europe – Pillar 1 – MSCA Postdoctoral Fellowship

- next ddl: ?? Sep 2023
- Funding all research domains
- For researchers holding a PhD, that have not resided/studied/worked in the country of their host
 organisation for more than 12 months in the 36 months immediately prior to the deadline (Mobility rule)
- Two types of fellowships
 - European Fellowships (EF): 12-24 months
 - Global Fellowships (GF): 24-36 months (12-24 outgoing & 12 months mandatory return phase in MS/AC). For MS/AC nationals and long-term residents.

What else in MSCA? MSCA-COFUND: requires significant co-financing





Horizon Europe: Pillar 2

- Thematic "Clusters":
 - Health
 - Culture, Creativity and Inclusive Society
 - Civil Security for Society
 - Digital, Industry and Space
 - Climate, Energy and Mobility
 - Food, Bioeconomy, Natural Resources, Agriculture and Environment
- Collaborative projects
- Top-down defined topics
- Open calls for <u>MUNI employees</u>; or on <u>F&T Portal</u>



Horizon Europe: missions

- novelty: MISSIONS
 - Conquering <u>Cancer</u>: Mission Possible
 - A <u>Climate</u> Resilient Europe Prepare Europe for climate disruptions and accelerate the transformation to a climate resilient and just Europe by 2030
 - Mission Starfish 2030: Restore our <u>Ocean and Waters</u>
 - 100 <u>Climate-Neutral Cities</u> by 2030 by and for the citizens
 - Caring for <u>Soil</u> is Caring for Life
- coordinated research across pillars (dedicated calls in Pillar II)
- portfolio approach
- aiming to engage the public and accelerate strategic areas
- governed by Mission Boards



Horizon Europe: partnerships

2021-2027 provider: European Union

- ?simplification?: PARTNERSHIPS

co-programmed: JPIsco-funded: ERA-NETsinstitutionalized: EIT KIC

49 proposed

- info on partnerships in all areas available at EC website:
 - Health: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-european-partnerships-horizon-european-partnerships-h
 - Digital, Industry and Space: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-digital-industry-and-space en
 - Climate, Energy and Mobility: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility_en
 - Food, Bioeconomy, Natural Resources, Agriculture, and Environment: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-food-security_en
 - across themes: https://ec.europa.eu/info/horizon-europe/european-partnerships-horizon-europe/candidates-across-themes_en



OVERVIEW OF 49 CANDIDATE EUROPEAN PARTNERSHIPS

PILLAR II - Global challenges & European industrial competitiveness

CLUSTER 1: Health	CLUSTER 4: Digital, Industry & Space	CLUSTER 5: Climate, Energy & Mobility	CLUSTER 6: Food, Bioeconomy, Agriculture,
Innovative Health Initiative	Key Digital Technologies	Clean Hydrogen	Circular Bio-based Europe
Global Health Partnership	Smart Networks & Services	Clean Aviation	Rescuing Biodiversity to Safeguard Life on Earth
Transforming Health Care Systems	High Performance Computing	Single European Sky ATM Research 3	Climate Neutral, Sustainable and Productive Blue Economy
Risk Assessment of Chemicals	European Metrology (Art. 185 of the TFEU)	Europe's Rail	Water4All "Water security for the planet"
ERA for Health	Artificial Intelligence, Data and Robotics	Cooperative, Connected and Automated Mobility (CCAM)	Animal Health and Welfare*
Rare Diseases*	Photonics	Batteries "Towards a competitive European industrial battery value chain"	Agroecology "Accelerating Farming Systems Transition"*
One Health / Antimicrobial Resistance*	Made in Europe	Zero-emission Waterborne Transport	Agriculture of Data*
Personalised Medicine*	Clean Steel - Low Carbon Steelmaking	Zero-emission Road Transport (2ZERO)	Safe and Sustainable Food Systems*
Pandemic Preparedness* Co-funded or co-programmed	Processes4Planet	People-centric Sustainable Built Environment (Built4People)	
institutionalised Partnerships (Art 185 or 187 of the TFEU)	Globally Competitive Space Systems**	Clean Energy Transition	
Co-Funded * Calls with opening dates in 2023-2* ** Calls with opening dates not before		Driving Urban Transitions to a Sustainable Future	

PILLAR III - Innovative Europe

EIT (KNOWLEDGE & INNOVATION COMMUNITIES)	SUPPORT TO INNOVATION ECOSYSTEMS
InnoEnergy	Innovative SMEs
Climate	
Digital	A
Food	
Health	
Raw Materials	I
Manufacturing	44
Urban Mobility	**
Cultural and Creative	

CROSS-PILLARS II AND III

European Open Science Cloud (EOSC)

Complementing Horizon Europe, Euratom Research and Training Programme has 3 Partnerships

EUROfusion

Radioactive waste management

Radiation protection

Institutionalised Partnerships (Art 815 or 187 of the TFEU)

Institutionalised Partnerships / EIT KICs

Co-Programmed

Co-Funded



Partnerships – CZ involvement





European Innovation Council (EIC)

Horizon Europe – Pillar 3

- Pathfinder
- Transition
- Accelerator
- open & challenge calls
- grants (reimbursement of costs) & investments (equity, guarantee)
- EIC Programme Managers: proactive approach and portfolios



EIC Pathfinder

Horizon Europe – Pillar 3

– Gatekeepers:

_	Convincing long-term vision of a radically new technology that has the potential to have a
	transformative positive effect to our economy and society.

 Concrete, novel and ambitious science-towards-technology breakthrough, providing advancement towards the envisioned technology.

Applicants

Funding

Duration

Purpose

TRL

International consortium projects

1-3/4

2-4 years

Grants 3-4 million EUR, 100% funding

Proof of principle and validation of the

scientific basis of breakthrough technology

High-risk/high-gain research approach and methodology, with concrete and plausible objectives.

Expected outcome:

 Proof of principle that the main ideas of the envisioned future technology are feasible, thus validating its scientific and technological basis.

Possible top-up to develop commercialization (business) plans

3x 50,000 EUR fixed amount



EIC Transition

Horizon Europe – Pillar 3

– Pathways beyond fundamental research:

_	- focused collaborative project to further develop strategic and high impact technologies towards specific
	applications while improving also the market readiness;

- an individual SME (including start-ups, spin-offs) identifies a market opportunity to apply the results of a Pathfinder or ERC Proof of Concept project towards a specific market application;
- a team of innovative researchers within a research or technology organisation who want to turn selected project results into a viable product by looking for a suitable business model or creating a start-up or spin-off;
- or others models.

Expected outcomes:

- investment-ready innovation and a business plan
- Possible top-up to develop portfolio activities
 - 1x 50,000 EUR fixed amount





EIC Accelerator

Horizon Europe – Pillar 3

Supporting innovations:

- building on scientific discovery or technological breakthroughs ('deep tech')
- where significant funding is needed over a long timeframe before returns can be generated ('patient capital')

– Components:

- grant: reimbursement of costs of R&I project
- investment: equity or guarantee
- blended finance: combination of grant and investment
- Business Acceleration services

Applicants	Single entities: Start-ups, SMEs, individuals (starting up a company) and (exceptionally) small mid-caps
Funding	Grants up to 2.5 million EUR, 70% funding Investments 0.5 to 15 million EUR (optional)
TRL	5/6-8 (grants); investment scale-up
Duration	2-4 years
Purpose	Grant for technology development and validation; Investment for scaling-up and any other activities



Teaming

Horizon Europe – Widening

– next deadline: 12 Apr 2023

4	Ī	4 •
not a	research	2CtION
- HULA	ıcəcaicii	acuun

	supported	activities:
--	-----------------------------	-------------

- transfer of knowledge from advanced partner(s)
- human resources to build capacities for the Centre of Excellence (CoE), both scientific and administrative/managerial
- preparing R&I strategy for the CoE
- dissemination and exploitation
- max 10% of budget can be dedicated to research activities

Applicants	1 Centre of Excellence from Widening + min. 1 advanced partner
Funding	Up to 15 million EUR, 100% funding Need committment from national level for at least the same amount as asking from HE
TRL	Not defined; could be approx. 1-5
Duration	6 years
Purpose	Founding or significantly upgrading a Centre of Excellence.



Twinning

Horizon Europe – Widening

- next deadline: 28 Sep 2023
- not a research action
- supported activities:
 - knowledge exchange
 - mobility (fellowships)
 - organization of seminars, workshops, conferences
 - development of joint R&I strategies
 - actions to improve project / support offices at the Widening institution
 - dissemination and exploitation
 - max 30% of budget can be dedicated to research activities

Applicants	1 Widening partner + Min. 2 advanced partners
Funding	Up to 1.5 million EUR, 100% funding
TRL	Not defined; could be approx. 1-5
Duration	3 years
Purpose	Stimulating interactions to develop a particular research area at a Widening institution



ERA Chairs

Horizon Europe – Widening

- next deadline: 7 Mar 2024
- not a research action
- supported activities:
 - institutional development
 - start-up (wages, travel) for new research group(s)
 - organization of seminars, workshops, conferences
 - actions to improve project / support offices at the Widening institution
 - dissemination and exploitation
 - max 10% of budget can be dedicated to research costs (e.g. consumables)

Applicants	1 Widening institution
Funding	Up to 2.5 million EUR, 100% funding
TRL	Not defined; could be approx. 1-5
Duration	5 years
Purpose	Establishment of a new research group with support from a leading researcher



Excellence Hubs

Horizon Europe – Widening

- next deadline: 7 Mar 2024
- not a research action
- supported activities:
 - developing of joint R&I strategies and investment plans
 - stimulating interactions between academic, private, governmental and societal sectors
 - knowledge exchange (mobility, events)
 - dissemination and exploitation
 - joint pilot R&I projects

Applicants	2 regional innovation ecosystems from Widening countries, incl. at least one well established company from each country
Funding	Up to 5(6) million EUR, 100% funding
TRL	Not defined; could be approx. 1-5
Duration	4 years
Purpose	Developing a partnership of regional innovation ecosystems comprising full quadruple helix



Widening Participation – new schemes

Horizon Europe – Horizontal

- "Hop On: up to 1 mil. EUR to hop into a funded project which so far did not have any partner from Widening countries (deadlines 10 Nov 2022, 26 Oct 2023, 24 Oct 2024)
- European Excellence Initiative: up to 6 mil. EUR to improve collaboration in already existing alliances (deadline 13 Apr 2023)
- Pathways to Synergies: up to 1,2 mil. EUR to develop strategy to (1) exploit outcomes / infrastructures funded by ERDF in HE (OPJAK->HE) or (2) valorize of HE results with use of ERDF (HE->OPTAK) (deadline 28 Sep 2023)
- ERA Talents: up to 3 mil. EUR for experimental mobility projects with strong intersectoral dimension (deadline 15 Nov 2022)



Funding & Tenders Portal

Horizon Europe – information source

- Current calls available here:
 - https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topicsearch
- One portal for submission of proposals, administration and reporting of running projects, and also selection of evaluators (EXPERT AREA)



Thank you for your attention!

