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Applied Research Funding Landscapes

Research Office, Rectorate
November 10th, 2020
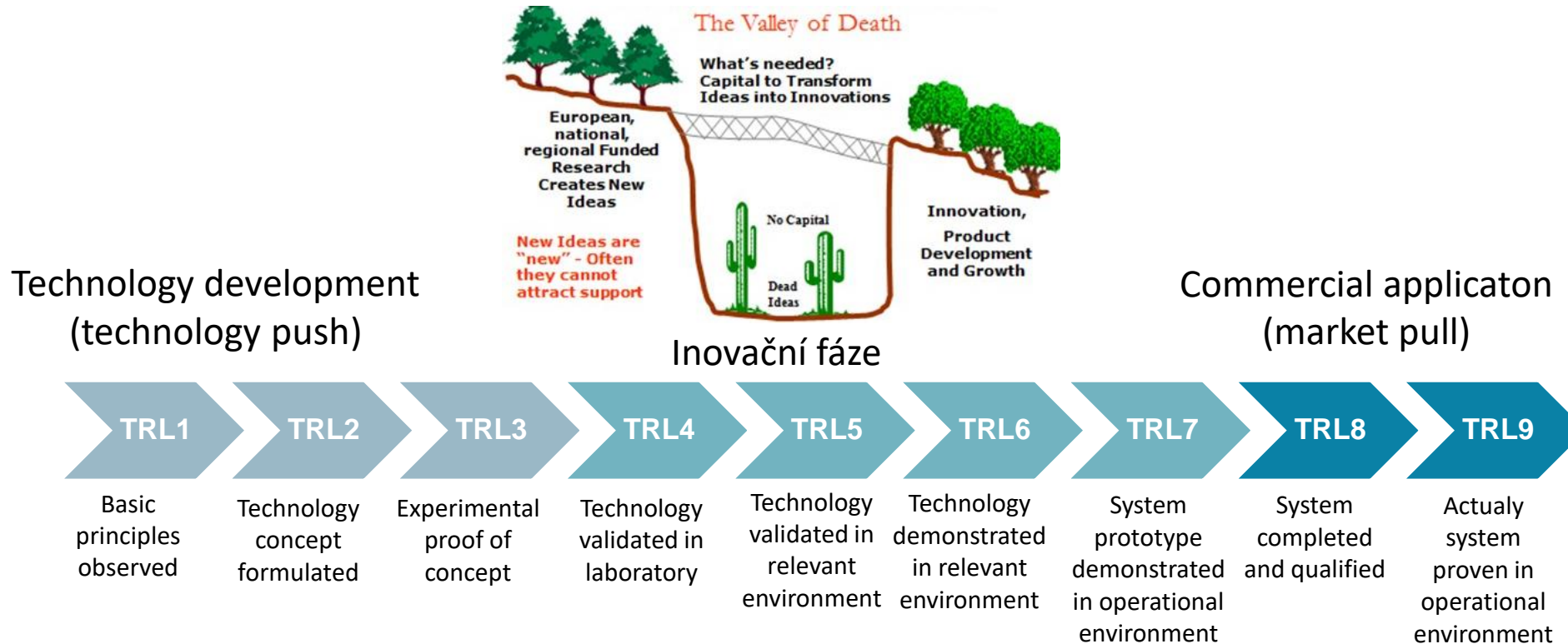
Contents

National Programmes

- TA ČR (Technology Agency of the Czech Republic)
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  - NAKI (Ministry of Culture)
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- Operational Program Technologies and Application for Competitiveness
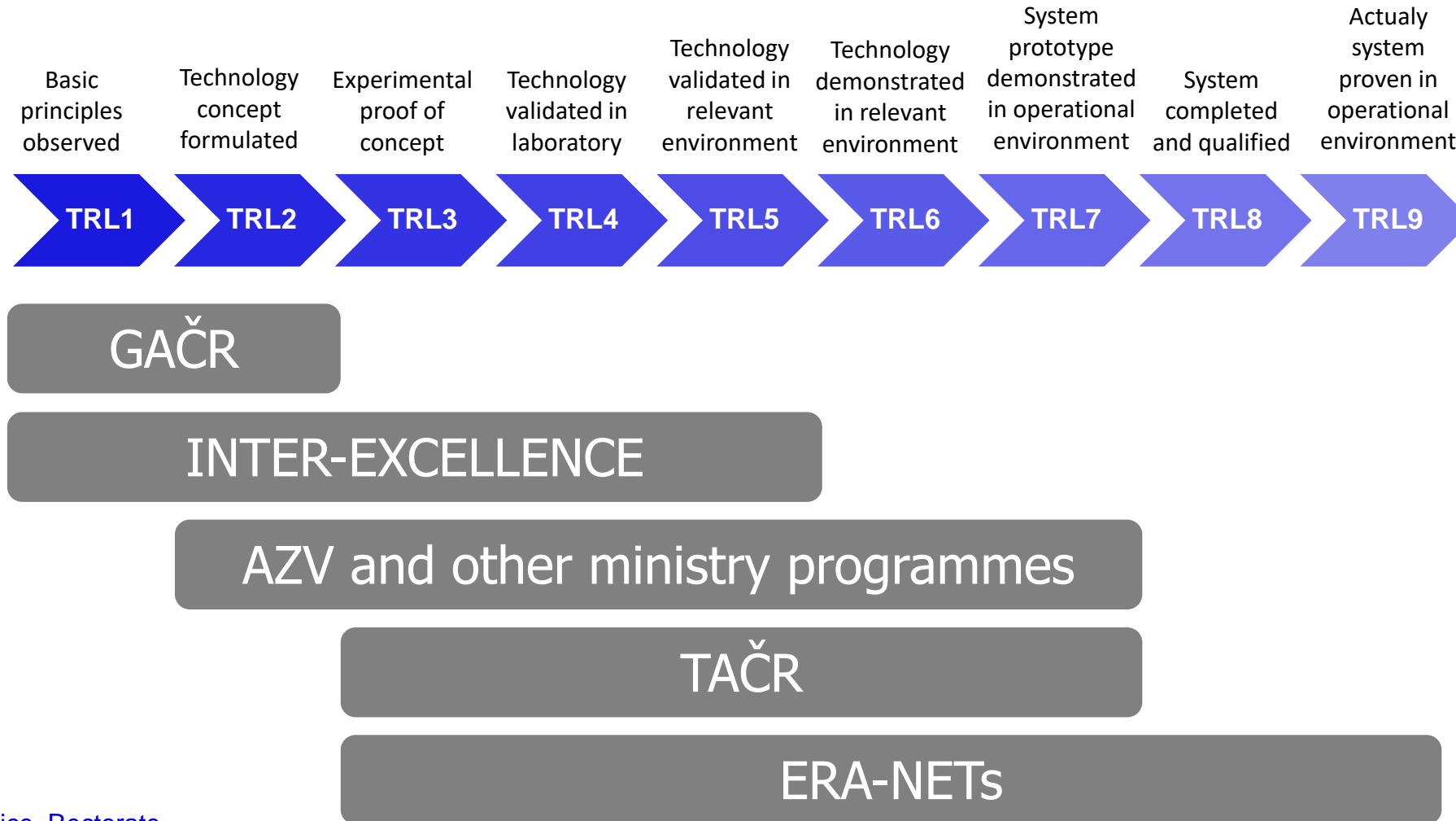
International Programmes

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

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TRL – Technology Readiness Levels

The Valley of Death

What's needed?
Capital to Transform
Ideas into Innovations

European, national, regional Funded Research Creates New Ideas

New Ideas are "new" - Often they cannot attract support

No Capital

Dead Ideas

Innovation, Product Development and Growth

Technology development
(technology push)

Inovační fáze

Commercial applicaton
(market pull)

TRL1	TRL2	TRL3	TRL4	TRL5	TRL6	TRL7	TRL8	TRL9
Basic principles observed	Technology concept formulated	Experimental proof of concept	Technology validated in laboratory	Technology validated in relevant environment	Technology demonstrated in relevant environment	System prototype demonstrated in operational environment	System completed and qualified	Actualy system proven in operational environment

- 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
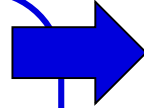
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TRL – Czech funders

Basic principles observed	Technology concept formulated	Experimental proof of concept	Technology validated in laboratory	Technology validated in relevant environment	Technology demonstrated in relevant environment	System prototype demonstrated in operational environment	System completed and qualified	Actualy system proven in operational environment
TRL1	TRL2	TRL3	TRL4	TRL5	TRL6	TRL7	TRL8	TRL9

GAČR

INTER-EXCELLENCE

AZV and other ministry programmes

TAČR

ERA-NETs

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TA ČR

(Technology Agency of the Czech Republic)

I. TA ČR – national programs

Current program structure

New program structure (since 2021/2022)

– ÉTA

– THÉTA

– ZÉTA

– National Competence Centres

SIGMA (in preparation)

– TREND

– Transport 2020+

– Environment for Life

– TREND

– Transport 2020+

– Environment for Life

– **Defense Research program** (in preparation)

For more information please contact Monika Dušková / Eliška Skalická

M U N I

II. TA ČR – international programs

– GAMA 2 (Seal of Excellence)

    – for companies (research organizations only as partners)
    – project proposals that were not funded in H2020 (SME Instrument)

– DELTA 2

    – for companies (research organizations only as partners)
    – joint projects with Alberta, Brazil, China (some provinces), Korea, Québec, Israel, Taiwan, Vietnam

– KAPPA

    – for research organizations and companies
    – joint projects with Norway, Iceland, Lichtenstein

M U N I

For more information please contact Zdenka Žampachová

III. TA ČR ERA – NET Cofunds

- BiodivRestore

- EnerDigit

- CHIST-ERA

- EuroNanoMed

- BiodivClim

- ERA-MIN

- M-ERA.NET

- AquaticPollutants

- ~~Positive Energy Districts~~

- ~~GENDER-NET Plus~~

- QuantERA (new Cofund Call in 2021)

- ENPED (new Cofund Call in 2021)

For more information please contact Zdenka Žampachová

M U N I

SIGMA (2022-2035)

Provider: TA ČR

— New complex tool of TA ČR for funding applied research

— Aim

   — To support applied research and innovation leading to the emergence of new results applicable in practice, to addressing the challenges and needs of society and the economy, and to addressing systemic measures in the research and innovation environment.

— Priority areas

   — Several minor aims (support for solution of actual problems and challenges, support humanities and social sciences, support for young researchers, gender equality etc.)

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Transport 2020+ (2020-2026)

Next call in 2021

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

Call ID	DOPRAVA 2020+
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, specialised public database, other results
Duration	12-48 months
Funding	max. 50 mil. CZK
Funding rate	80 %

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Environment for Life (2020-2026) Next call in 2021

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

- Priority areas
  - Climate
  - Air protection
  - Circular economy
  - Protection of natural resources
  - Biodiversity
  - Environmentally friendly society

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

M U N I

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

— ## Priority areas

  — Technology leadership (subp. I)

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

Next call in January 2021 (subp.II)

Call ID	TREND
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. 48 months
Funding	max. 15mil. CZK/project
Intensity rate	80%
Call allocation	180 mil. CZK

M U N I

DELTA 2 (2020-2025)

Provider: TA ČR (international scheme)

Next Call in June/July 2021

- ## Aim
  - Increase the number of specific results an enhance the competitvness through bilateral/multirateral cooperation with a foreign partner in applied research

- ## Priority areas
  - Specified separately by each of the foreign organization

- ## Countries involved
  - Alberta, Brazil, Israel, Jiangsu, Korea, Quebec,Taiwan, Vietnam, Zhejiang

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, specialised public database, other results
Duration	12 - 36 months
Funding	not limited
Funding rate	74 %
Call allocation	N/A

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BiodivRestore

Provider: TA ČR (ERA-NET Cofunds)

– Aimed at

  – Conservation and restoration of degraded ecosystems and their biodiversity, including a focus on aquatic systems

– Priority areas

  – Studying the biological and biophysical processes at stake for conservation/restoration, and their interactions
  – Assessing trade-offs and synergies between targets, benefits and policies for conservation and restoration
  – Knowledge for improving the effectiveness and upscaling of conservation and restoration actions

– Countries involved

  – Austria, Belgium, Brazil, Bulgaria, Germany, Denmark, Estonia, Finland, France, Ireland, Latvia, Lithuania, Morocco, Moldavia, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, South Africa, Spain, Sweden, Switzerland, Taiwan, Tunisia

Call 2020 (is opened)

Call ID	BiodivRestore
Announcement	05. 10. 2020
Deadline	07. 12. 2020
Applicants	research organizations, companies (partners: research org., companies, state entities, regional and local authorities)
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, specialized maps, specialized public database, research report, other results
Duration	36 months
Funding	max. 150 ths. EUR/project
Funding rate	85 %
Call allocation	300 ths. EUR (for Czech part)

EnerDigit

Provider: TA ČR (ERA-NET Cofunds)

– Aimed at
  - Digital transformation for Green energy transition

– Priority areas
  - Advance the green energy transition in all sectors of the energy system while ensuring security of supply
  - Shaping new transnational business and investment opportunities by sector coupling and development of new value chains in innovative and cost-effective energy solutions, thereby creating new employment opportunities and contributing to the development of an environmentally sustainable financial growth.
  - Ensuring social sustainability and coherence with digitalisation in other sectors in the progression of the green energy transition

– Countries involved
  - Austria, Denmark, Finland, Germany, India, Israel, Latvia, Morocco, Norway, Poland, Romania, North and Baltic region, Spain, Sweden, Switzerland, Turkey, Scotland

Call 2020 (in preparation)

Call ID	EnerDigit
Announcement	10. 11. 2020
Deadline	14. 01. 2021
Applicants	research organizations, companies (partners: research org., companies, state entities, regional and local authorities)
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, other results
Duration	N/A
Funding	max. 1 mil. EUR/project
Funding rate	80 %
Call allocation	1 mil. EUR (for Czech part)

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EuroNanoMed 3

Provider: TA ČR (ERA-NET Cofunds)

— ## Aimed at
  — Nanomedicine

— ## Priority areas
  — Diagnostics
  — Targeted delivery systems

— ## Countries involved (preliminary info)
  — Belgium, Bulgaria, Egypt, Estonia, France, Israel, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Spain, Taiwan, Turkey

Call 2021 (in preparation)

Call ID	EuroNanoMed 3
Announcement	16. 11. 2020
Deadline	21. 01. 2021
Applicants	research organizations, companies, clinical/public health sector
Expected results	patent, prototype, functioning sample, pilot plant, verified technology. software, industrial and utility design, methodologies, other results
Duration	N/A
Funding	max. 750 ths. EUR/project
Funding rate	85 %
Call allocation	750 ths. EUR (for Czech part)

M U N I

CHIST-ERA

Provider: TA ČR (ERA-NET Cofunds)

- Aimed at
  - Information and Communication Technologies

- Priority areas
  - Advanced Brain-Computer Interfaces for Novel Interactions
  - Towards Sustainable ICT

- Countries involved (in previous Call)
  - Austria, Belgium, Bulgaria, Canada, Estonia, Greece, Finland, France, Hungary, Ireland, Italy, Israel, Latvia, Lithuania, Luxembourg, Poland, Portuguese, Romania, Slovakia, Spain, Switzerland, Turkey, Sweden, United Kingdom

Call 2020 (in preparation)

Call ID	CHIST-ERA
Announcement	01. 12. 2020
Deadline	15. 02. 2021
Applicants	research organizations, companies
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, other results
Duration	24-36 months
Funding	N/A
Funding rate	N/A (70% in previous Call)
Call allocation	N/A

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ERA-MIN 3

Provider: TA ČR (ERA-NET Cofunds)

– Aimed at
  – Non-fuel and no-food raw materials

– Priority areas
  – Supply of raw materials from exploration and mining
  – Circular Design
  – Processing, Production and Remanufacturing
  – Recycling and Re-use of End-of-Life products
  – Cross-cutting topics (new business models, etc.)

– Countries involved (in previous Call)
  – Belgium, Bulgaria, Canada - Québec, Estonia, Chile, Germany, Finland, France, Ireland, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, South Africa, Spain, Sweden, Turkey

Call 2021 (in preparation)

Call ID	ERA-MIN 3
Announcement	15. 01. 2021
Deadline	01. 04. 2021
Applicants	research organizations, companies
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, other results
Duration	N/A
Funding	max. 1 mil. CZK/project
Funding rate	85 %
Call allocation	1 mil. CZK

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M-ERA.NET 2

Provider: TA ČR (ERA-NET Cofunds)

— Aimed at
  — Material research and innovations

— Countries involved
  — Austria, Belgium, Bulgaria, Brazil, Canada (Québec), France, Germany, Hungary, Israel, Latvia, Lithuania Luxembourg, Norway, Poland, Romania, Russia, South Africa, Spain, Switzerland, Taiwan, Turkey

Call 2020 (under evaluation)

Call ID	M-ERA.NET 2
Deadline	16. 06. 2020
Applicants	research organizations, companies
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, other results
Duration	36 months
Funding	max. 1 mil. EUR/project
Funding rate	85 %
Call allocation	1 mil. EUR (for Czech part)

M U N I

AquaticPollutants

Provider: TA ČR (ERA-NET Cofunds)

– Aimed at
  – Risks posed to human health and the environment by pollutants and pathogens present in water resources

– Countries involved
  – Germany, Belgium, Brazil, Cyprus, Denmark, Egypt, Estonia, Finland, France, Greece, Ireland, Israel, Italy, Moldova, Norway, Poland, Portugal, Romania, Scotland, South Africa, Spain, Sweden, Taiwan, Tunisia, Turkey

Call 2020 (under evaluation)

Call ID	AquaticPollutants
Deadline	18. 05. 2020
Applicants	research organizations, companies
Expected results	patent, prototype, functioning sample, pilot plant, verified technology, software, industrial and utility design, methodologies, other results
Duration	36 months
Funding	max. 500 ths. EUR/project
Funding rate	85 %
Call allocation	1 mil. EUR (for Czech part)

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Departmental Programs

(Ministries)

ZEMĚ (2017-2025)

Provider: Ministry of Agriculture

- Aim
  - To support activities in the field of agriculture, food, forestry and water management and protection of agriculture land

- Priority areas
  - Sustainable management of natural resources
  - Sustainable agriculture and forestry
  - Sustainable food production

- Subprograms
  - I. To support innovative agriculture and forestry through advanced methods and technologies
  - II. To support state policy in the agrarian sector (results for immediate needs)

Next Call in 2021

Call ID	ZEMĚ
Applicants	companies, research organizations (subp. I)/ only research organizations (subp. II)
Expected results	J_{imp}, patent, utility model, registered design, software, prototype, functioning sample, pilot plant, verified technology, (holding a workshop)
Duration	5 years (subp. I); 3 years (subp. II)
Funding	average 20mil. CZK/project (subp. I), average 12mil. CZK/project (subp. II)
Funding rate	85 – 100 % for project

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For more information please contact Monika Dušková / Eliška Skalická

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

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

Next Call in 2021

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

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For more information please contact Zdenka Žampachová

NAKI III (2023-2030)

Provider: Ministry of Culture

Next Call in January 2022

- Aim
  - To focus on national and cultural identity and art so its results give a social, innovation and economic benefits

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

Call ID	NAKI III
Aplicants	research organizations
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	N/A
Funding rate	100%
Call allocation	N/A

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For more information please contact Iveta Daňhelová

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

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

Next call 2021 (subp. II)

Call ID	IMPAKT 1
Applicants	only research organizations
Expected results	Jimp, 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

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For more information please contact Monika Dušková / Eliška Skalická

SECTECH (2021-2026)

First call in 2021

Provider: Ministry of Interior

– Aim

   – To involve start-ups, small and medium-sized 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 <u>state</u> and its citizens

– Support for only experimental research projects

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 organizations 25-60% for companies 70% for project

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For more information please contact Monika Dušková / Eliška Skalická

Operational Programs

(European Structural Funds)

OP Enterprise and Innovation for Competitiveness - OP PIK (2014 – 2020)

Provider: ESIF, Ministry of Industry and Trade

— primarily <u>for companies</u> (especially small and medium sized)

— one of the priority and its aim:

   — **Promotion of research and development for innovation - Increase intensity and effectiveness of <u>cooperation in research, development and innovation</u>**

Programs of direct cooperation with research organization:
APLICATIONS *(funding rate 70% for project - for research organisation 85%, funding max 50 mil. CZK)*
KNOWLEDGE TRANSFER PARTNERSHIP *(funding rate 70% for all participants, funding max 5 mil. CZK)*

Programs on "indirect" cooperation with research organization:
INNOVATION
INNOVATION VOUCHERS
PROOF OF CONCEPT

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For more information please contact Office for Development

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):

I. **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)

II. Business development and SME competitiveness

III. Moving towards a low-carbon economy

IV. More efficient use of resources

V. Development of digital infrastructure

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OP TAK (2021 – 2027)

Provider: ESIF, Ministry of Industry and Trade

— still in preparation, BUT based on previous period (OP PIK):

- ✓ High success rates
- ✓ Similar funding rates as in TA ČR Epsilon (TA ČR TREND)
- ✓ Support of various types of cooperation of companies and research organizations (R&D projects, vouchers, stages in companies etc.)
- ✓ High administration for Research office, but low for researchers
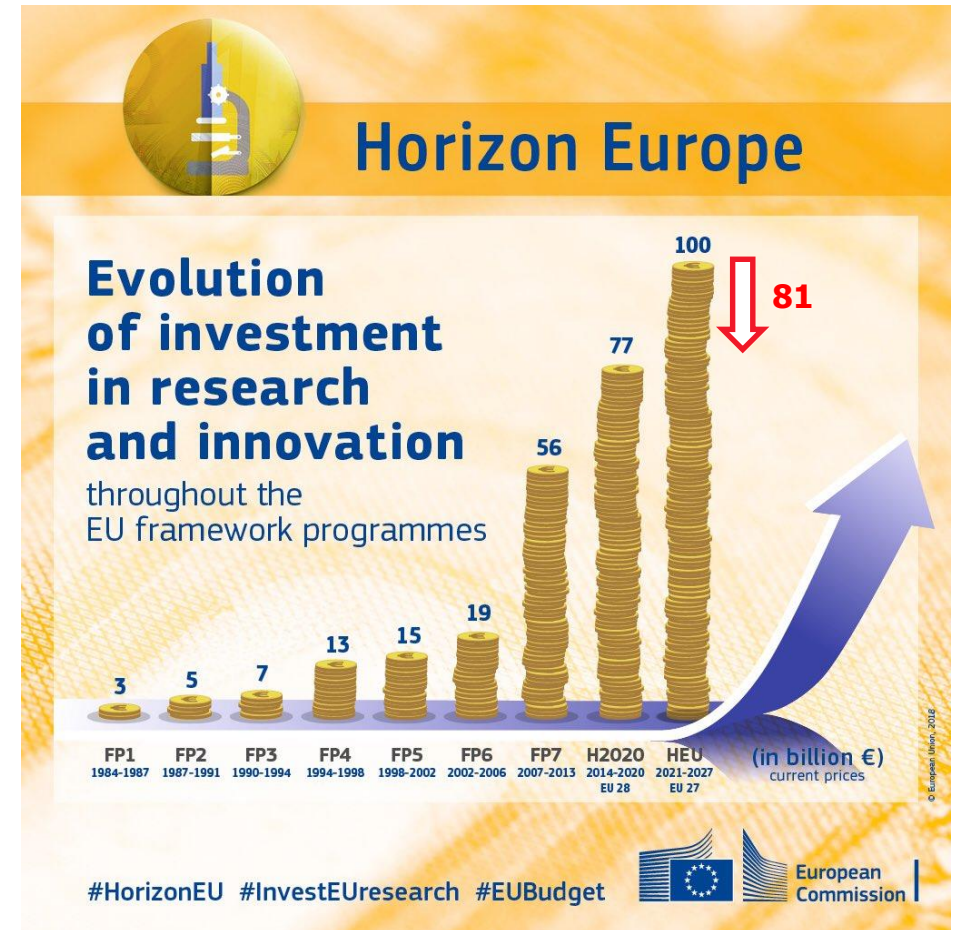
— First calls in 2022 at the earliest

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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)

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Horizon Europe

2021-2027 provider: European Union

Pillar 1
Excellent Science

- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2
Global Challenges and European Industrial Competitiveness

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

Joint Research Centre

Pillar 3
Innovative Europe

- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Widening Participation and Strengthening the European Research Area

- Widening participation and spreading excellence
- Reforming and Enhancing the European R&I system

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Horizon Europe

2021-2027 provider: European Union

– First calls expected Summer/Autumn 2021

– 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
  – 100% financing for all

– IA = innovation action
  – 100% financing for academia; 70% for industry

– Partnerships
  – Co-financed by H2020, separate calls (e.g. at TAČR, MEYS)

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Horizon Europe

2021-2027 provider: European Union

— Pillar 1: Excellent Science

  — MSCA Research & Innovation Staff Exchange (RISE): mobility funded with unit costs
  — ERC Proof of Concept (PoC): restricted to ERC holders to verify applicability of results

— Pillar 2: Global Challenges & Industrial Competitiveness

  — all (RIA, IA) topics address specific challenges with a mix of fundamental and **industrial/applied** (dominant) R&D and innovation

— Pillar 3: Innovative Industry

  — **European Innovation Council (EIC)**: new body inspired by ERC to support breakthrough, deep-tech innovation
  — European Institute of Innovation & Technology (EIT): core participants mostly in advanced regional clusters, but accessible to start-ups & entrepreneurs from CZ (mentoring, training)

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Horizon Europe

2021-2027 provider: European Union

– novelty: MISSIONS

  – Conquering **Cancer**: Mission Possible
  – A **Climate** 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 **Ocean and Waters**
  – 100 **Climate-Neutral Cities** by 2030 - by and for the citizens
  – Caring for **Soil** is Caring for Life

– coordinated research across pillars

– portfolio approach

– aiming to engage the public and accelerate strategic areas

– governed by Mission Boards (CZ rep. only in soil)

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Horizon Europe

2021-2027 provider: European Union

— ?simplification?: PARTNERSHIPS

- co-programmed: JPIs
- co-funded: ERA-NETs
- institutionalized: EIT KIC
- 44 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-health_en
- 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

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Preliminary list of candidates for European Partnerships in Pillar II, III and cross-pillar, and short description of what the partnership stands and aims for		Currently envisaged implementation mode(s)	Predecessors	Composition of partners	Relevance for clusters/ pillars
Health	**1. EU-Africa Global Health Partnership** Increase health security in sub-Saharan Africa and Europe, by accelerating the clinical development of effective, safe, accessible, suitable and affordable health technologies as well as health systems interventions for infectious diseases in partnership with Africa and international funders.	Article 185 or Article 187 or Co-programmed or co-funded	EDCTP2 (Art.185)	MS/AC and 3rd countries (i.e. sub-Saharan African countries) Foundations/industry on an ad-hoc basis	Cl.1
	2. Innovative Health Initiative A collaborative platform bringing the pharmaceuticals, diagnostics, medical devices, imaging and digital sectors together for precompetitive R&I in areas of unmet public health need, to accelerate the development and uptake of people-centred health care innovations.	Article 187 or Co-programmed	IMI2 (Art.187)	Industry, other organisations on an ad hoc basis	Cl.1
	3. European partnership for chemicals risk assessment Bring together the European risk assessment and regulatory agencies to implement a joint research agenda, to ensure their capacity to deal with persistent or emerging challenges. It will promote the uptake of new methods, tools, technologies and information in chemical hazard identification and risk assessment and as part of this, sustain the development and use of human biomonitoring capacities in Europe.	Co-funded	Human Bio-monitoring and a number of other actions	MS/AC, National agencies, tbd the role of the corresponding EU agencies	Cl.1, 4, 6
	4. Pre-clinical/clinical health research The partnerships aims for establishing and implementing a strategic research agenda and joint funding strategy between major European public funders in health research.	Co-funded	Around 10 previous and current ERA-NET actions	MS / AC / 3rd countries	Cl.1, 6
	5. Large-scale innovation and transformation of health systems in a digital and ageing society Improving health and care models in an ageing, data-driven and digital society, shifting to holistic health promotion and person-centred care approaches through health policy and health systems research.	Co-funded	AAL2 (Art.185), JPI 'More Years, Better Lives' and others	MS / AC Civil Society organisations	Cl.1
	6. Personalised Medicine To align national research strategies, promote excellence, reinforce the competitiveness of European players in Personalised Medicine and enhance the European collaboration with non-EU countries	Co-funded	ERA-PerMed and actions in support of ICPerMed	MS / AC	Cl.1
	7. Rare Diseases To improve the integration, the effectiveness, the production and the social impact of research on rare diseases through the development, demonstration and promotion of Europe/ world-wide production, sharing and exploitation of research and clinical data, materials, processes, knowledge and know-hows.	Co-funded	EJP Rare diseases (until 2023)	MS/AC /3rd countries, civil society organisations, EU research infrastructures	Cl.1

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8. High Performance Computing The EuroHPC Joint Undertaking has as its mission to establish an integrated world-class supercomputing & data infrastructure and support a highly competitive and innovative HPC and Big Data ecosystem.	Article 187 or Co-programmed	EuroHPC (Article 187)	Industry and MS/AC	Cl.4
9.Key Digital Technologies Maintain the European Electronics Components and Systems industry at the technological forefront and contribute to boosting the EU's competitiveness, including that of its industries by providing essential components and software as well as the related manufacturing infrastructure in Europe and national strategies.	Article 187 or Co-programmed	ECSEL (Article 187), part of Photonics cPPP	Industry and MS/AC (research funders)	Cl.1,2, 4,5
10. Smart Networks and Services Enabling the infrastructure basis in terms of key technologies and deployment for Next-Generation Internet services used by citizens and for "smart" services required by vertical sectors such as transport, energy, manufacturing, health and media.	Article 187 or Co-programmed	cPPP 5G	Industry and academia in the field of connectivity	Cl.1,4, 5
11. AI, data and robotics The partnership on AI will help structuring the European AI community, develop a strategic research agenda and federate efforts around a topic that holds great potential to benefit our society and economy	Co-programmed	cPPPs on Big Data and robotics	Industry, academia, end-users, and civil society	Cl.3
12. Photonics Europe Photonics is one of the key drivers for tomorrow´s digital markets and the development of the digital European society as a whole. Photons will replace electrons in many of our most important technologies and digital products.	Co-programmed	cPPP Photonics21	Industry	Cl.1,2, 4,5,6
13. Clean Steel - Low Carbon Steelmaking The partnership on clean steel will provide a EU critical mass to ensure and in particular to upscale breakthrough technology, facilitate joint vision development, agenda setting and synergies of EU different funds. It will also contribute to the evolution to a programming approach in R&I in the energy intensive industry.	Co-programmed	Fuel cell and Hydrogen (Article 187) cPPP Spire	Industry	Cl.4, 5
14. European Metrology Accelerating the global lead in metrology research that Europe currently holds, and creating sustainable metrology networks for highly competitive and emerging metrology areas, while incorporating a wide range of stakeholders.	Article 185 or co-funded	EMPIR (Article 185)	MS/AC (National Metrology Institutes)	Cl.1,2, 4,5,6
15. Made in Europe Towards a competitive discrete manufacturing industry with a world-leading reduction of the environmental footprint whilst guaranteeing the highest level of well-being for workers, consumers and society.	Co-programmed	cPPPs Factories of the Future, part of Robotics and Photonics	Industry	Cl.1,5, 6
16. Carbon Neutral and Circular Industry Transforming European process industries to make them carbon neutral by 2050, to turn them into circular industries together with material and recycling industries, and to enhance their technological leadership at global level and international competitiveness.	Co-programmed	cPPP SPIRE	Industry CSO/NGOs	Cl.4,5, 6
17. Global competitive space systems Perform fast and structured advances on selected innovative critical space systems R&I roadmaps such as for example reusability, in orbit demonstration, assembly and manufacturing, so as to acquire global industrial leadership	Co-programmed	n.a.	Industry MS/AC	Cl.4

Digital, Industry and Space (vertical label spanning rows)

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18. Transforming Europe's rail system Define, design and implement the full spectrum of rail research and innovation activities, from fundamental research to large-scale demos, to trigger a major transformation of the railway system as the backbone of an integrated and sustainable mobility in Europe, maximising socio-economic benefits	Article 187 or Co-programmed	Shift to Rail (Article 187)	Industry, Railway Operators and Infrastructure Managers	Cl.5
19. Integrated Air Traffic Management Enhance the performance of the Union's air traffic management system as technological pillar of the Single European Sky (SES) and more broadly of the air transport sector as a whole.	Article 187 or Co-programmed	SESAR (Article 187)	Industry, Eurocontrol	Cl.4, 5
20. Clean Aviation To accelerate and amplify the impact of the European aviation research and innovation on Energy Union, Mobility Package, renewed industrial policy strategy and EU GHG and air pollution emissions, including for the 2050 horizon and noise regulations, tackling energy and climate-change challenges, European industry competiveness, "first mover advantage" on international markets, as well as a sustainable mobility for society.	Article 187 or Co-programmed	Clean Sky 2 (Article 187)	Industry	Cl.4, 5
21. Clean Hydrogen Accelerating the market entry of nearly-zero GHG-emission hydrogen-based technologies across energy, transport & industrial end-users, covering the full value chain for competitive hydrogen and fuel cells technologies, ensuring pole position for Europe to realise the potential of hydrogen technologies at scale.	Article 187 or Co-programmed	Fuel Cell and Hydrogen (Article 187)	Industry	Cl.4, 5
22. Built environment and construction Generate the necessary technology and socio-economic breakthroughs for an improved built environment to support the achievement of EU 2050 decarbonisation goals and the transition to clean energy and circular economy, while improving quality of living, health and wellbeing for people, ensuring a high degree of mobility and creating competitive ecosystems for business.	Co-programmed	Energy-efficient Buildings cPPP	Industry	Cl.4, 5
23. Towards zero-emission road transport (2ZERO) Accelerating the transformation of the road transport system into zero-emission mobility through world-class European R&I and industrial system, with a competitive new generation of light weight, energy efficient and affordable vehicles and support measures to facilitate their rapid deployment	Co-programmed	European Green vehicle initiative (cPPP)	Industry	Cl.4, 5
24. Mobility and Safety for Automated Road Transport Long-term framework to the strategic planning of research and pre-deployment programmes for connected and automated driving on roads at EU and national levels in a systemic approach (vehicle, interactions, infrastructure, technical and non-technical enablers and societal impact)	Article 187 or Co-programmed	related: 5G, Big Data, ECSEL, S2R, SESAR, batteries, 2ZERO	Industry	Cl.4, 5
25. Batteries: Towards a competitive European industrial battery value chain Development of a world-class European R&I system on batteries, bringing together activities to develop a coherent strategic programme, in cooperation with industrial players and research community, making a substantial contribution to fulfilling the Paris Agreement, and enhance the competitiveness of current and emerging European industries along the battery value chain.	Co-programmed	n.a.	Industry	Cl.4, 5
26. Clean Energy Transition Respond to the call for decarbonisation in medium- and long-term in a holistic way, synthesizing all fragmented actions to allow for greater integration of relevant research & innovation areas and provide greater impact.	Co-funded	Around 10 existing ERA-NET Cofund actions	MS/AC (RFOs and RPOs)	Cl.5

(Left vertical label spanning rows: Climate, energy and mobility)

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	Partnership	Type	Existing initiatives	Partners	Cluster
Food, Bio-economy, Natural Resources, Agriculture and Environment	**27. Accelerating farming systems transition: agro-ecology living labs&research infrastructures** The partnership will enable to grasp short to long-term agroecological processes at landscape level and accelerate the transition towards sustainable climate and environment-friendly farming practices by boosting place-based innovation in a co-creative environment accelerating the adoption of innovation by farmers and other actors.	Co-funded	n.a.	MS/AC (RFOs/regional authorities)	Cl.1,5,6
	28. Animal health: Fighting infectious diseases The partnership aims to bring sustainable and innovative solutions to tackle infectious animal diseases, including those transmitted between animals and humans (zoonoses) and to contribute to the fight against anti-microbial resistance, implementing the One Health concept. It will support sustainable animal production, reduce trade barriers, and protect consumers.	Co-programmed, Co-funded	A small number of current ERA-NETs	Either MS/AC or Industry, and regulatory agencies	Cl.1,6
	29. Environmental Observations for a sustainable EU agriculture The objective of the initiative is to support the delivery of a sustainable CAP by improving agricultural practices and farm profitability and using the possibilities the current digital/data technics in the field. New services and applications will be developed for EU's farming sector enabling more efficient, environmentally friendly and profitable production systems.	Co-funded	EuroGEOSS	MS/AC (research funders, national/regional authorities)	Cl.4,6
	30. Rescuing biodiversity to safeguard life on Earth Halting biodiversity loss, maintaining and restoring natural capital is essential for the transition towards sustainability, climate neutrality and for respecting the planetary boundaries. The partnership aims to deploy solutions to stop the ongoing mass extinction of species caused by human activity by upscaling, aligning and integrating European R&I efforts and investment, guiding actions to protect, restore and sustainably manage ecosystems and natural capital.	Co-funded	ERA-NET Biodiversity, EKLIPSE, ESMERALDA	MS/AC (RFOs, national/regional authorities)	Cl.1,2,5,6
	31. A climate neutral, sustainable and productive Blue Economy The objective is to sustainably unlock, demonstrate and harvest the full potential of Europe's Oceans and Seas through a well-structured, sustained and simplified joint effort in this borderless domain with the aim to support the transition to a strong, climate neutral and sustainable blue economy by 2050.	Co-programmed or Co-funded	BONUS, MARTERA, JPI Oceans, BlueBio	MS/AC (research funders, national/regional authorities), EU Agencies	Cl.1,2,4,5,6
	32. Safe and Sustainable Food System for People, Planet & Climate Fixing our food system is central to the transition to a 'Sustainable Europe by 2030', and key to meeting the IPCC climate targets and operating within key planetary boundaries. This partnership will deploy FOOD 2030 and deliver the Food Safety System of the future, ensuring consumer trust, safety, quality and traceability; (and) Sustainable Food Systems, providing alternative proteins sources, dietary shifts, the halving of food waste, and exploit the potential of microbiomes for sustainable and healthy food systems.	Co-programmed or Co-funded	FACCE Surplus, ICT Agri2, Core-Organic, ERA GAS, SUSAN, ERA HDL, SusFood2	MS/AC (research funders, national/regional authorities), EU Agencies	Cl.6
	33. Circular bio-based Europe: Sustainable, inclusive and circular bio-based solutions Sustainable and climate-neutral solutions accelerating the transition to a healthy planet, where renewable products and nutrients will be produced from biomass and waste instead of non-renewable fossil and mineral resources. This creates awareness, capacities and appropriate structures extending beyond industry partners, mobilising producers of biological resources and end-users.	Art.187 or Co-programmed	BBI JU	MS/AC (research funders, national/regional authorities)	Cl.4,5,6
	34. Water4All: Water security for the planet Secure all water demands in terms of quality and quantity, protect both economic and natural systems, as well as people from water-related hazards. Support the transition to a healthy planet and to ensure a resilient Energy Union, EU climate neutral policy and respect of planetary boundaries.	Co-programmed or Co-funded	Water JPI	MS/AC (research funders, national/regional authorities)	Cl.1,2,4,5,6

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Partnership candidates: Other Pillars	**35. Innovative SMEs** The initiative aims support to transnational market-oriented research projects initiated and driven by innovative SMEs. Innovative SMEs shall take the lead and exploit commercially the project results, thus improving their competitive position. Research organisations, universities, other SMEs, large companies and others actors of the innovation chain can also participate.	Art.185 or co-funded	Eurostars-2	MS/AC (SMEs)	Pillar III
	36. European Science Cloud (EOSC) The EOSC 2.0 partnership is aimed at facilitating the EOSC implementation activities in its second phase. After 2020 the EOSC will become more stakeholder-driven, with a permanent governance structure in place, and would benefit from a co-programmed financing mechanism.	Co-programmed or co-funded	n.a	MS/AC, Academia	Cross-Pillar
	37. EIT Climate-KIC EIT Climate-KIC is a network of universities, businesses and research organisations delivering solutions mitigate or adapt to climate change and accelerate the deployment of new solutions to market.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	38. EIT InnoEnergy It aims at building a sustainable, long-lasting operational framework among the knowledge triangle actors in the energy sector, with the goal of fostering the generation of new talents, the emergence and deployment of new innovative solutions and the creation and development of companies.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	39. EIT Digital EIT Digital's mission is to drive digital innovation and develop entrepreneurial talent in order to enhance both economic growth and quality of life across Europe.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4
	40. EIT Health EIT Health is a network of universities, businesses and research organisations delivering solutions to enable European citizens to live longer, healthier lives by promoting innovation.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.1
	41. EIT Food EIT Food is a network of universities, businesses and research organisations delivering solutions to develop a highly skilled food sector. EIT Food collaborates with consumers to provide products, services and new technologies, which deliver a healthier lifestyle for all European citizens.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5
	42. EIT Manufacturing EIT Manufacturing will be a network of universities, businesses and research organisations delivering solutions to transform today's industrial forms of production towards more knowledge intensive, sustainable, low-emission, trans-sectoral manufacturing and processing technologies, to realise innovative products, processes and services.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4
	43. EIT Raw materials EIT RawMaterials is a network of universities, businesses and research organisations delivering solutions to boost competitiveness, growth and attractiveness of the European raw materials sector via radical innovation, new educational approaches and guided entrepreneurship.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.4
	44. EIT Urban Mobility EIT Urban Mobility will be a network of universities, businesses and research organisations delivering solutions to develop a greener, more inclusive, safer and smarter urban transport system.	EIT-KIC	n.a	MS/AC, Industry, Academia	Pillar III Cl.5

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European Innovation Council (EIC)

Horizon Europe – Pillar 3

– Pathfinder

– Transition

– Accelerator

– open & challenge calls

– grants (reimbursement of costs) & investments (equity, guarantee)

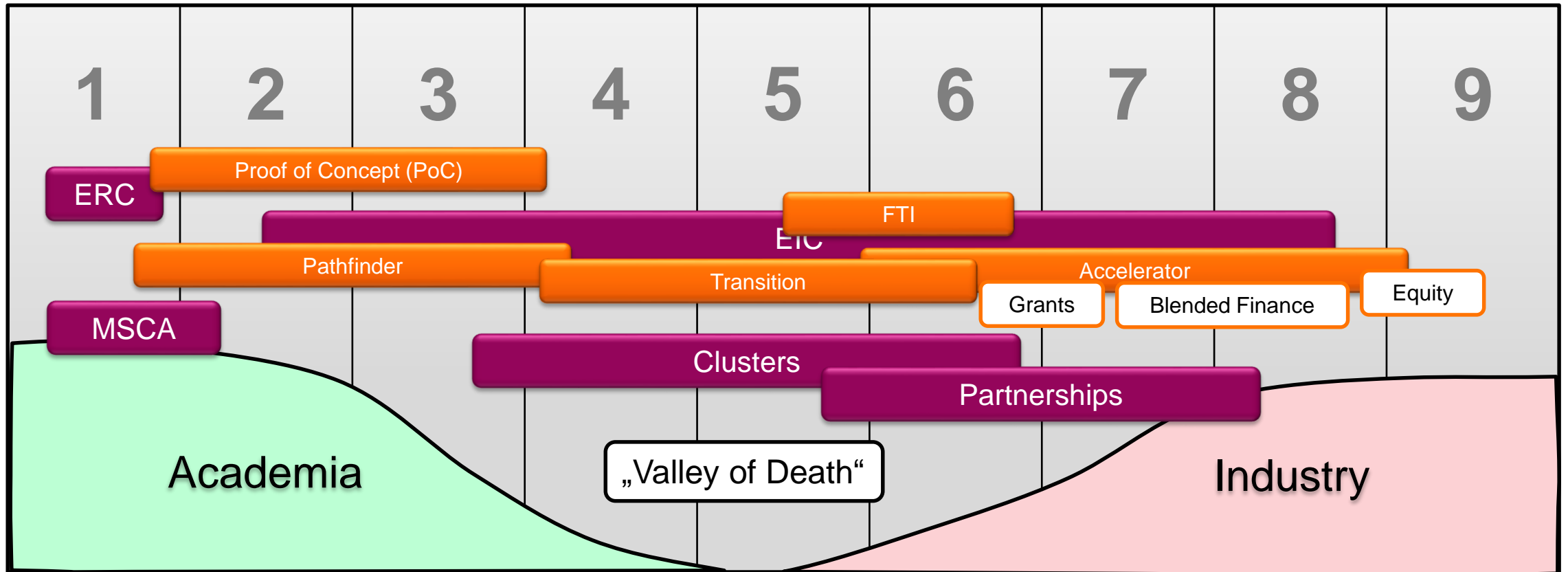– EIC Programme Managers: proactive approach and portfolios

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Funding & Tenders Portal

Horizon Europe – information source

— Current calls available here:

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

— One portal for submission of proposals, administration and reporting of running projects, and also selection of evaluators (EXPERT AREA)

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Technology Readiness Levels

across Horizon Europe

Thank you for your attention!

Research Office, Rectorate

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