JIHOMORAVSKÉ INOVAČNÍ CENTRUM

Příprava 8. RP – Horizon 2020

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www.jic.cz

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Mendelova univerzita v Brně

Aktuální stav přípravy Horizon 2020

- www.ec.europa.eu/research/horizon2020

Navrhovaný rozpočet:

EU REGULATION (2014-2020)

I	**Excellent science,** *of which:*	**24598**
1.	The European Research Council	13268
2.	Future and Emerging Technologies	3100
3.	Marie Curie actions on skills, training and career development	5752
4.	European research infrastructures (including eInfrastructures)	2478
II	**Industrial leadership,** *of which:*	**17938**
1.	Leadership in enabling and industrial technologies*	13781 of which 436 for EIT
2.	Access to risk finance**	3538
3.	Innovation in SMEs	619
III	**Societal challenges,** *of which*	**31748**
1.	Health, demographic change and wellbeing;	8033 of which 254 for EIT
2.	Food security, sustainable agriculture, marine and maritime research and the bio- economy;	4152 of which 131 for EIT
3.	Secure, clean and efficient energy	5782 of which 183 for EIT
4.	Smart, green and integrated transport	6802 of which 215 for EIT
5.	Climate action, resource efficiency and raw materials	3160 of which 100 for EIT
6.	Inclusive, innovative and secure societies	3819 of which 121 for EIT
European Institute of Innovation and Technology (EIT)		1360 + 1440***
Non-nuclear direct actions of the Joint Research Centre		1962
	TOTAL EU REGULATION	***77606***

EURATOM REGULATION (2014-2018)

I.	**Indirect actions**	**1009**
II.	**Direct actions of the Joint Research Centre**	**656**
	TOTAL EURATOM REGULATION	***1665***
	TOTAL HORIZON 2020	**79271**

1) Excellent Science

Excellent Science

•**Objective:** to reinforce and extend the excellence of the Union's science base and to consolidate the European Research Area in order to make the Union's research and innovation system more competitive on a global scale.

European Research Council (ERC) attractive and flexible funding to enable talented and creative individual researchers and their teams to pursue the most promising avenues at the frontier of science, on the basis of Union-wide competition.		13 268
Future and emerging technologies (FET) support for collaboration across disciplines on radically new, high-risk ideas and accelerate development of the most promising emerging areas of science and technology		3 100
Marie Skłodowska Curie Actions (MSCA): excellent and innovative research training, attractive research careers and knowledge-exchange opportunities through cross-border and cross-sector mobility of researchers		5 752
Research infrastructures (RI): develop European research infrastructure for 2020 and beyond, foster their innovation potential and human capital, and complement this with the related Union policy and international cooperation.		2 478

€24 578m

Science driven principles

- Excellence-based (NB: not exclusive to this part of H2020!)
- Agile – seeking opportunities
- Agenda set by the scientific community
- Broadly “bottom-up”

2) Industrial leadership

Objective and rationale

- Acknowledge crucial role of **private sector** in bringing innovation to the market
- Aims to make Europe a **more attractive location for businesses** to invest in R&D and innovation
- Range of activities in which **businesses set the agenda**
- Strong focus on addressing **market failures**:
  - Insufficent strategic investment in key technologies underpinning innovation across a wide range of sectors
  - Insufficient access to risk capital to set up new businesses and allow them to grow
  - Potential contribution to growth of SMEs not fully exploited
- Lay basis for **competitive advantages** across a range of sectors

Leadership in enabling and industrial technologies

- Maintain and build global leadership in **enabling technologies and space**
- **Underpin innovation** across a range of sectors
- Activities are **technology-driven** and range from research all the way up to demonstration and piloting
- Both **agenda-driven** activities and more **open areas**
- **Integration in solutions for societal challenges** will be supported together with the societal challenges (e.g. through cross-cutting actions)

Leadership in enabling and industrial technologies

1. Information and Communication Technologies
2. Nanotechnologies
3. Advanced Materials
4. Biotechnology
5. Advanced Manufacturing and Processing
6. Space

3) Societal Challenges

Why a shift towards a challenge based approach?

- Challenges Europe is facing require a critical scale and scope of effort not possible for individual countries.
- Concerns of citizens and society/EU policy objectives cannot be achieved without innovation.
- Addressing challenges requires full innovation cycle: research + innovation
- Compared to FP7 – emphasis on projects that solve specified challenges, NOT prescribing the specific topics, research fields, disciplines, technologies or sectors to be addressed.

How have they been selected?

- Selection of challenges stems directly from Europe 2020 strategy, taking into account:
  - Need to focus resources on limited number of major challenges
  - EU level nature of the challenge
  - State of the economy and society in Europe and worldwide.
  - Europe's performance and trends in the related domains.
  - Need for an approach coordinated at EU level.

Cross-cutting issues

- Focus on policy priorities without predetermining technologies or types of solutions to be developed.
- Bringing together resources and knowledge across fields, technologies and disciplines.
- Activities to cover cycle from research to market; focus on innovation-related activities (e.g. piloting, demonstration, demand side policies – public procurement, standards, etc).
- Social Sciences and Humanities - integral part of the activities to address all challenges.

Health, demographic change and wellbeing

- **Objective:** improve lifelong health and wellbeing
- **Specific activities:** understanding the determinants of health, health promotion and prevention; understanding disease and improving diagnosis; screening programmes and disease susceptibility; surveillance and preparedness; better vaccines; in-silico medicine; treating disease; transferring knowledge; use of health data; active ageing, independent and assisted living; self-management of health; integrated care; improving scientific tools to support policy making; optimising healthcare systems and reducing inequalities
- **Proposed funding** (for the period 2014-20; in constant 2011 prices): 8 033 million euro

Food security, sustainable agriculture, marine and maritime research & the bioeconomy

- **Objective:** secure sufficient supplies of safe and high quality food and other bio-based products
- **Specific activities:** sustainable agriculture and forestry; sustainable and competitive agri-food sector for a safe and healthy diet; unlocking the potential of aquatic living resources; sustainable and competitive bio-based industries
- **Proposed funding:** 4 152 million euro

Secure, clean and efficient energy

- **Objective:** transition to a reliable, sustainable and competitive energy system
- **Specific activities:** reducing energy consumption and carbon footprint by smart and sustainable use; low-cost, low-carbon electricity supply; alternative fuels and mobile energy sources; single, smart European electricity grid; new knowledge and technologies; robust decision making and public engagement; market uptake of energy innovation
- **Proposed funding:** 5 782 million euro (additional funding from Euratom; without ITER)

Smart, green and integrated transport

- **Objective:** achieve a transport system that is resource-efficient, environmentally-friendly, safe and seamless
- **Specific activities:** resource efficient transport that respects the environment; better mobility, less congestion, more safety and security; global leadership for the European transport industry; socio-economic research and forward looking activities for policy making
- **Proposed funding**: 6 802 million euro

Climate action, resource efficiency and raw materials

- **Objective:** achieve a resource efficient and climate change resilient economy and a sustainable supply of raw materials
- **Specific activities:** fighting and adapting to climate change; sustainably managing natural resources and ecosystems; ensuring the sustainable supply of non-energy and non-agricultural raw materials; enabling the transition towards a green economy through eco-innovation; developing comprehensive and sustained global environmental observation and information systems
- **Proposed funding:** 3 160 million euro

Inclusive, innovative and secure societies (1)

- **Objective:** foster inclusive, innovative and secure European societies
- **Specific activities – inclusive societies:** promote smart, sustainable and inclusive growth; build resilient and inclusive societies in Europe; strengthen Europe's role as a global actor; close the research and innovation divide in Europe.
- **Specific activities – innovative societies:** strengthen the evidence base and support for the Innovation Union and ERA; explore new forms of innovation, including social innovation and creativity; ensure societal engagement in research and innovation; promote coherent and effective cooperation with third countries.

Inclusive, innovative and secure societies (2)

- **Specific activities – secure societies:** fight crime and terrorism; strengthen security through border management; provide cyber security; increase Europe's resilience to crises and disasters; ensure privacy and freedom in the Internet and enhance the societal dimension of security.

- Proposed funding: **3 819 million euro**

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