FFG
Promoting Innovation.

David Kolman

EUROPEAN R&I FUNDING IN IoT & DATA SCIENCE

07.11.2018

EU R&I FRAMEWORK PROGRAM HORIZON 2020: CHARACTERISTICS & EXPERIENCE

Comprehesive approach to research an innovation: Support to full innovation cycle

Mix of bottom-up and top-down funding

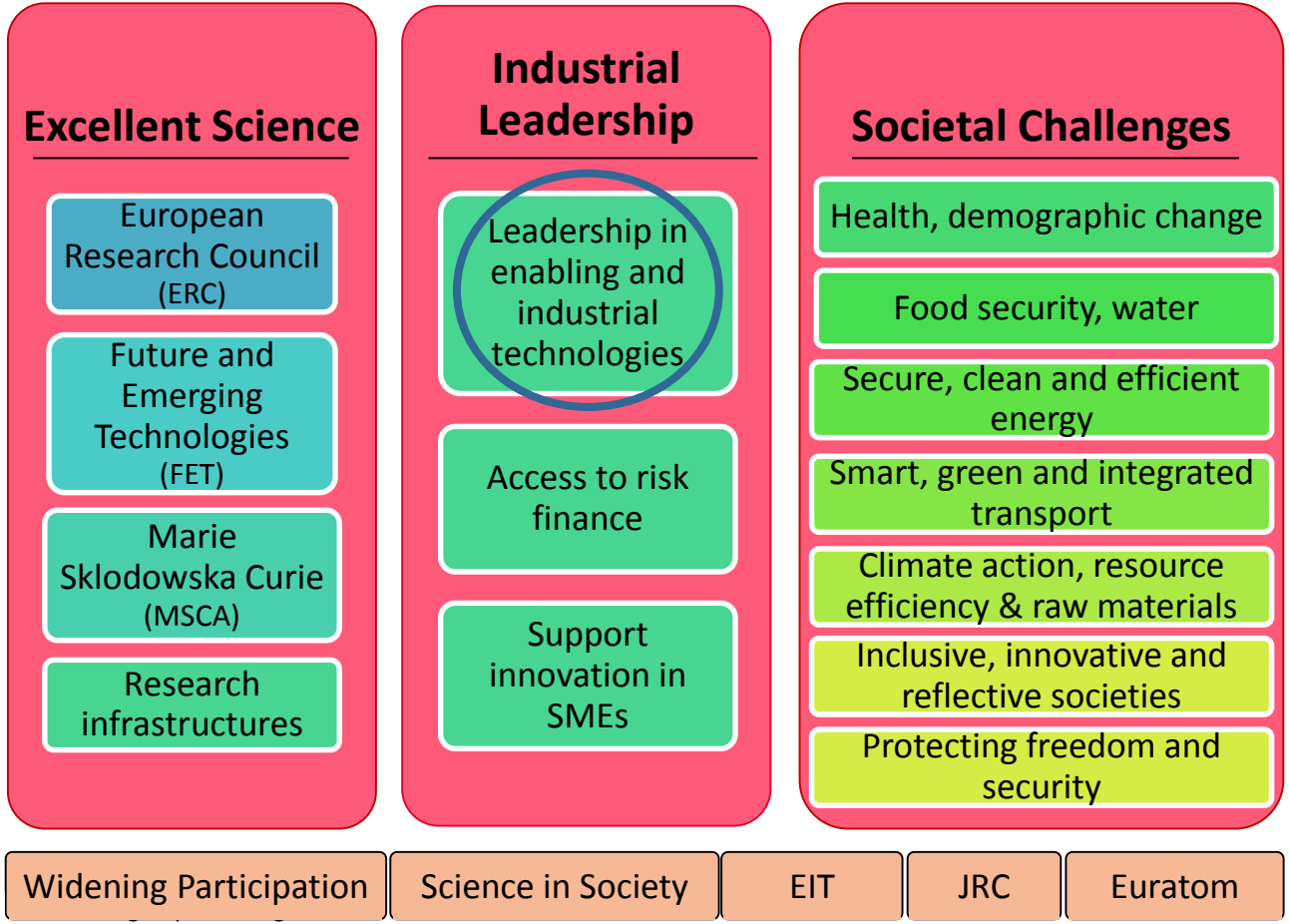
Attractive funding rates & Easy administation

Excellence-driven

International consortia of private and public players

Effective support system for Austrian applicants

H2020 STRUCTURE



FUNDING IN THE FIELD OF IoT & DATA SCIENCE (1)

Selected topics with submission deadline on March 28th, 2019:

1. Security & resilience for collaborative manufacturing environments: ICT-08-2019
2. Robotics core technology: ICT-10-2019-2020
3. Emergence of data markets & data economy: ICT-13-2018-2019
4. Cloud computing: ICT-15-2018-2019
5. Next generation internet: ICT-24-2018-2019
6. Empowering, inclusive Next generation internet: ICT-30-2019-2020

ICT-08-2019 SECURITY AND RESILIENCE FOR COLLABORATIVE MANUFACTURING ENVIRONMENTS

- Project Type: Research & Innovation Action
- Budget: 11M€; 4-6 M€ per project

Summary Topic content:

- Development of tools & services guaranteeing data security for digital collaboration between manufacturing plants & external value chains
- Practical usability in real environments; threat detection and countering, evolution, real-time response; semi-/full-autonomous solutions; little to no local supervision needed
- TRL 5-7 with min. one use case

Summary Expected impact:

- Take-up of practical solutions by industry
- Significant increase in cyber-security in daily operations of manufacturing facilities & other actors in the value chain

ICT-10-2019-2020 ROBOTICS CORE TECHNOLOGY

- Project Type: Research & Innovation Action
- Budget: 42 M€; 5-10 M€ per project

Summary Topic content:

Develop open non-proprietary modules & toolkits of one of the following technologies

→ **AI & cognition**; make systems cognitive; enabling interaction, learning, categorising, decision making, knowledge deriving

→ **Cognitive Mechatronics**; improve control, motion, interaction, adaption & learning; safer systems

→ **Socially cooperative human-robot interaction**; collaboration is a critical capability in many working environments

→ **Model-based design & configuration tools**; easy-to-use configuration, embedding and sharing of knowledge between tools, standardisation across interfaces to connect systems and modules

… For applications in healthcare, infrastructure inspection & maintenance, agri-food or agile production

Summary Expected Impact:

- Improve technical capabilities in each core tech.
- Greater range of applications in priority areas demonstrated at TRL 3 or higher
- Lower technical barriers in priority areas

ICT-13-2018-2019 SUPPORTING THE EMERGENCE OF DATA MARKETS AND THE DATA ECONOMY

- Project Type: Innovation Action
- Budget: 48 M€; 4-6 M€ per project

Summary Topic content:

- Set-up & operate platforms for secure & controlled sharing of „closed data“
- Adress technical, legal, commercial aspects
- Build on existing computing platforms
- Sub-topics:
  - → **Personal data platforms**
  - → **Industrial data platforms**
- Link to & bring in industrial data providers (not necessarily as project partner)

Summary Expected Impact:

- Improved personal data protection & easier GDPR compliance for private sector
- Trust & privacy-aware transparency
- Value-creation from personal/proprietary data
- Improvement in key indicators given in the call

ICT-15-2018-2019 CLOUD COMPUTING (RIA)

- Project Type: Research & Innovation Action
- Budget: 30 M€; 3-5 M€ per project

Summary Topic content:

- Develop competitive cloud solutions based on adv. cloud platforms/services
- SW & data apps; security, data protection, performance, resilience & energy-efficiency; link to NGI & IoT
- Address least one of the following points:

→ **i) new modelling techniques and mechanisms** for heterogeneous clouds & hybrid cloud models; privacy, security, identity essential

→ **ii) Edge computing technologies** integrating limited memory, storage & computation nodes; allowing intelligent decisions where to compute (edge/cloud)

→ **iii)** Strategies for efficient, coordinated, robust, secure, service agnostic **management of resources** (combining cloud, IoT, Big Data & fog computing)

Summary Expected Impact:

- Contribution to ecosystem responding to future digitisation needs of industry & public sector;
- Opportunities for European providers (esp. SME) to develop & offer cloud-based services
- Support development & deployment of next gen. cloud applications for private & public sector

ICT-24-2018-2019 NEXT GENERATION INTERNET - AN OPEN INTERNET INITIATIVE

- Project Type: Innovation Action
- Budget: 21 M€; 7 M€ per project

Summary Topic content:

- Provide support to 3rd party projects from academa, hi-tech startups and SMEs to advance research in selected areas
- Multiple 3rd parties will be funded in parallel contributing to the same research area
- Research areas; one to be selected:

→ **i-b) Strengthening internet trustworthiness** with electronic identities

→ **ii-b) Service and data portability**

→ **iii-b) Open Internet architecture renovation**

Summary Expected Impact:

- Shape a more human-centric Internet
- Integrate R&I communities: develop common visions and enhanced science-industry collaborations in each of the research areas
- Generate new business opportunities

ICT-30-2019-2020 AN EMPOWERING, INCLUSIVE NEXT GENERATION INTERNET

Project Types:

a. Innovation Action: Digital Learning Incubator
Budget: 7 M€ (1 project to be financed)

b. Coordination & Support Action: Digital Learning
Budget: 1 M€ (1 project to be financed)

Summary Topic Content:

- Set up an Incubator bringing together all relevant stakeholders to achieve fast-paced breakthroughs in the area of personalised and inclusive learning
- Launch open calls for promising small scale projects on a topic set out in a roadmap
- *Stimulate collaboration between all EU-funded FP7 and H2020 projects on digital learning, ensure their integration within the Next Generation Initiative*

Summary Expected Impact:

- Increase in the uptake of technology for personalised and inclusive learning for all
- Increase in the number of learning solutions for children with special educational needs
- Increase in the number of relevant start-ups and SMEs

FUNDING IN THE FIELD OF IoT & DATA SCIENCE (2)

Selected topics with submission deadline on April 2nd, 2019:

1. Digital Manufacturing Platforms for Connected Smart Factories: DT-ICT-07-2018-2019
2. Big Data Solutions for energy: DT-ICT-11-2019

DT-ICT-07-2018-2019 DIGITAL MANUFACTURING PLATFORMS FOR CONNECTED SMART FACTORIES

Project Types:

a. Innovation Action

Budget: 45 M€; 16 M€ per project

b. *Coordination & Support Action*

Budget: 2 M€ (1 project to be financed)

Summary Topic content:

- Proposals need to address four key activities: 1. Platform building; 2. Large-scale piloting; 3. Ecosystem building; 4. Standardisation.
- Target at least one of the 'grand challenges':

→ **The human factor:** human competences in synergy with technological progress

→ **Sustainable Value Networks:** manufacturing in a circular economy

www.effra.eu/factories-future-roadmap

- Projects should build on existing digital manufacturing platforms, integrate different technologies, incl. link to physical environment
- At least one Innovation Action will be supported for each 'grand challenge'

Summary Expected Impact:

- Significant increase in the options for SMEs and mid-caps to integrate different technologies, unlock the value of their data
- Deploy complementary applications and become a more responsive link in changing supply and value networks.
- Increased coop. between industry & academia

plattformindustrie40.at

DT-ICT-11-2019 BIG DATA SOLUTIONS FOR ENERGY

- Project Type: Innovation Action
- Budget: 30 M€; 10 M€ per project

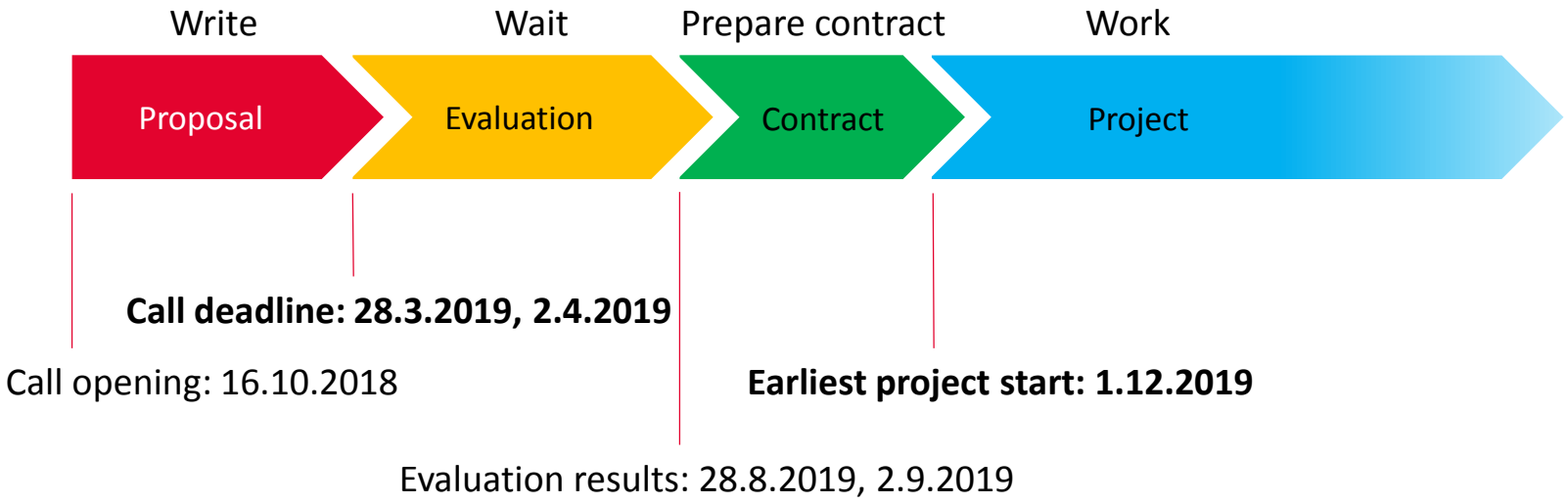
Summary Topic content:

- Large-scale pilot test-beds for big data application in the energy sector.
- Develop/pilot and deploy a reference architecture for large-scale multi-party data exchange, management & governance and real-time processing
- Projects shall collaborate with EU-funded projects through the BRIDGE initiative www.h2020-bridge.eu

Summary Expected Impact:

- Effective integration of relevant digital technologies in the energy sector
- Enhancing energy asset management, increasing consumer participation, creating new data-driven business models
- Increasing the use of renewable energy and energy efficiency based on optimised energy asset management
- New data-driven paradigms for energy management systems
- Improving availability of big data and big data management & analysis facilities for real-life scale research, simulation and testing

TIMELINE OF THE CALLS



EVALUATION CRITERIA

Excellence (5)

- Clarity of objectives
- Soundness of the concept and credibility
- Progress beyond the state of the art

Impact (5)

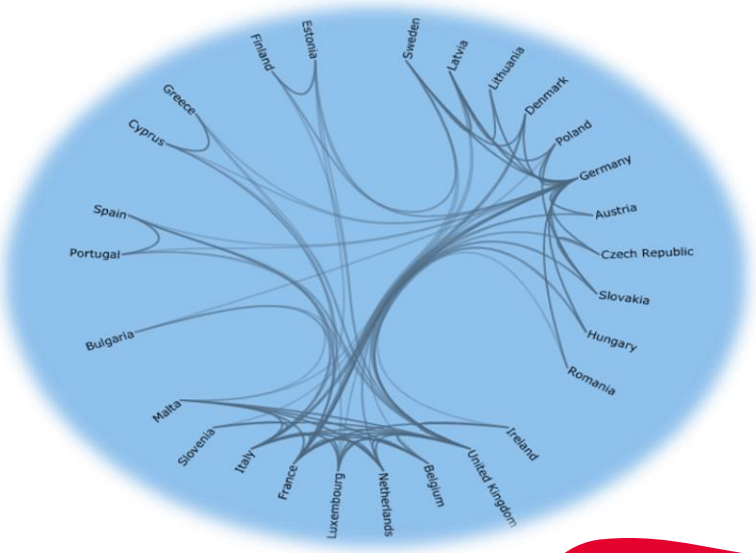
- Impact listed in the work program
- Enhancing innovation capacity
- Strengthening the competitiveness
- Dissemination & Exploitation tools

Implementation (5)

- Quality of work plan
- Appropriateness of the management and allocation of tasks
- Complementarity of participants, all necessary expertise

IMPORTANT REFERENCES

- Source of all wisdom: H2020 Participant Portal: from calls for proposals and work programs to proposal submission and management, http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020
- H2020 ICT team in FFG, www.ffg.at/ausschreibungen/horizon2020_ict
- Possible past relevant webinars of FFG, www.ffg.at/europa/akademie/webinare/aufzeichnungen
- FFG contact for Digital Hubs & Platforms, Dr. Angelo Nuzzo, angelo.nuzzo@ffg.at



Thank you for your attention, david.kolman@ffg.at