European Network on New Sensing Technologies for Air Pollution Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

Final Meeting at PRAGUE (CZ), 5-7 October 2016

New Sensing Technologies for Air Quality Monitoring

Action Start date: 01/07/2012 - Action End date: 15/11/2016 - EXTENSION: 15/11/2016

H2020 Funding opportunities in Air Quality Monitoring and related topics

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EuNetAir

European Network on New Sensing Technologies
for Air-Pollution Control and Environmental Sustainability

Overview of presentation

- HORIZON2020 funding opportunities
  - Current status
  - Thematic areas
  - FET
  - Marie Curie ITNs
  - SME instrument in HORIZON2020
  - Fast track to innovation scheme (final call)

Current status HORIZON2020

- Ongoing Biennial Work Programme 2016/2017
  - Updated work programmes have been published and most calls are open or will be opened shortly
- Final period 2018 – 2020 work programmes are under preparation
  - There will be a Biennial Work Programme for 2018-2019 including an 'outlook' on 2020 that will contain details of what the final year's Work Programme is going to look like.
  - The final year's Work Programme will represent the link Horizon 2020 and its successor programme.
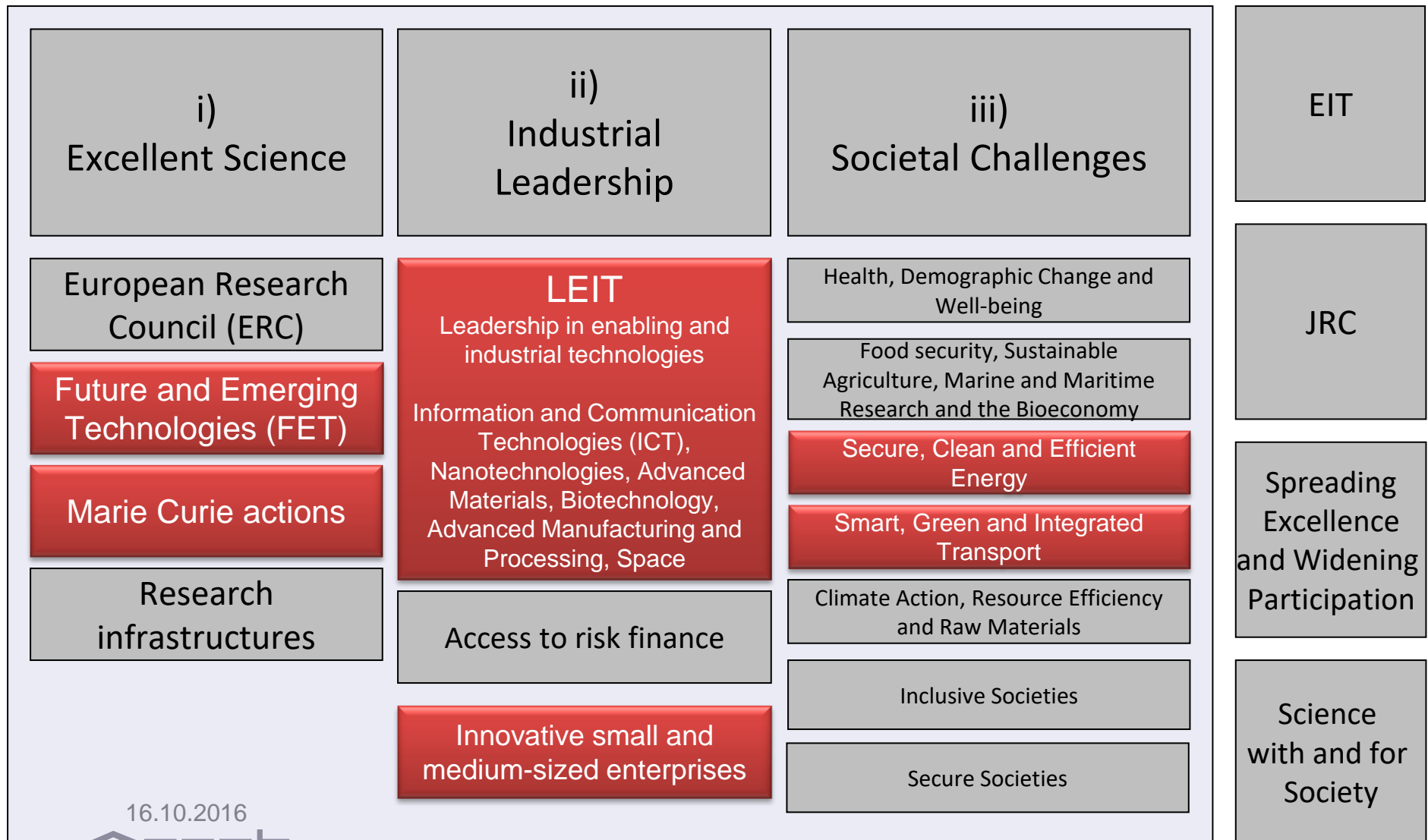
Timetable final period

- **2016**
    - Stakeholder consultation / Advisory Groups (Q1-Q2)
    - Consultation with Member States (Q2-3)
    - Strategic Programming Document (Q3)
    - Start of drafting Work Programmes (Q4)

- **2017**
    - Consultation with Programme Committee configurations on Work Programme drafts (Q1-Q3)
    - Adoption of the Work Programme 2018-2020 (Q4)

Overview of HORIZON2020

i) Excellent Science	ii) Industrial Leadership	iii) Societal Challenges	
			EIT
European Research Council (ERC)	**LEIT** Leadership in enabling and industrial technologies Information and Communication Technologies (ICT), Nanotechnologies, Advanced Materials, Biotechnology, Advanced Manufacturing and Processing, Space	Health, Demographic Change and Well-being	JRC
Future and Emerging Technologies (FET)		Food security, Sustainable Agriculture, Marine and Maritime Research and the Bioeconomy	
Marie Curie actions		Secure, Clean and Efficient Energy	Spreading Excellence and Widening Participation
		Smart, Green and Integrated Transport	
Research infrastructures	Access to risk finance	Climate Action, Resource Efficiency and Raw Materials	
		Inclusive Societies	Science with and for Society
	Innovative small and medium-sized enterprises	Secure Societies	

16.10.2016

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5

H2020 ICT 2016-2017
Sensor Systems Opportunities

- **ICT Key Enabling Technologies – Photonics**)

- **ICT-30-2017:   Photonics KET 2017**

  ii. Application driven core photonic devices integrated in systems: 2. Sensing for process and product monitoring and analysis: The prototyping and testing of new process analytical instrumentation for on-line/in-line control, targeting the food and pharmaceutical industry, based on novel, compact and miniaturized photonics sensors.

H2020 ICT 2016-2017
Sensor Systems Opportunities

EUB-02-2017 (Brazil):   IoT Pilots (mainly deploying existing sensor tech.s!)

Pilots aim at validating IoT approaches to specific socio-economic challenges in real-life settings. Pilots' objectives include user acceptability, technology assessment and optimisation, business model validation, approaches to sustainability and replicability. They should be implemented through close cooperation between users and suppliers with the active involvement of relevant stakeholders on the demand side.

Given the considerable amount of work carried out on M2M/IoT and Cyber Physical Systems architectures (e.g. IoT-A), platforms (e.g. FIWARE, CRYSTAL, SOFIA) and standards (e.g. oneM2M) over the last few years, pilots are encouraged to exploit this previous work where applicable. The goal is to further demonstrate the generic applicability of these architectures, platforms and standards and to identify where standards are missing or should evolve, as well as relevant pre-normative activities.

The Commission considers that proposals requesting a contribution from the EU up to EUR 1.5 million would allow this specific challenge to be addressed appropriately by three distinct projects.

H2020 ICT 2016-2017
Sensor Systems Opportunities

EUB-02-2017 (Brazil):   IoT Pilots (mainly deploying existing sensor tech.s!)

- Environmental monitoring

Environmental and carbon footprint –as well as energy and water consumption- can be drastically reduced by an optimised management both along and across value-chains. Sensors can be used to measure and monitor a series of distinct environmental variables. The data collected across different areas can in turn be used for data analytics and decision-making. A pilot combining a system approach to integrate a large number of sensors across a large set of variables will test the acceptability and scalability of the selected IoT platform and test how to optimise results and reduce costs, as well as validating standards and interoperability.

H2020 ICT 2016-2017
Sensor Systems Opportunities

EUB-02-2017 (Brazil): **IoT Pilots** (mainly deploying existing sensor tech.s!)

- **Utilities: energy management at home and in buildings**[[Proposers interested in this area are also encouraged to read Topics EE7 and EE12 dealing with energy efficiency and LCE 1, LCE 2 and LCE 5 dealing with the distribution grid and storage under the Energy Work Programme.]]

- A group of IoT use cases in the area of the residential smart grid that involve the use of a home energy management system (HEMS) that would exploit automation and self-learning capabilities to monitor and steer local energy consumption (electricity and carbon fuels) and generation. This includes the better steering of HVAC units according to thermostats, weather forecasts, dynamic electricity pricing, and availability of (locally) generated renewable energy.

H2020 NMBP 2016-2017 Sensor Systems Opportunities

- **EEB-07-2017: Integration of <u>energy harvesting</u> at building and district level**

- Scope: Proposals should aim at maximising the harvesting of renewable energy (for heating, cooling, electricity, domestic hot water, etc.) at building and district scale (e.g. exploiting large renewable energy source installations and heating and cooling networks).

- Buildings are connected with various entities like suppliers and distribution system operators through different networks (internet, smart meter linked to the grid, energy storage systems, electric vehicles, etc.). Therefore, proposals should take into account an appropriate integration of monitoring and control systems for the developed solutions, combining, where relevant, additional functionalities such as safety and security.

Between EUR 4 and 7 million

H2020 NMBP 2016-2017 Sensor Systems Opportunities

- **EEB-07-2017: Integration of <u>energy harvesting</u> at building and district level**

- Proposals should be flexible enough to cope with different designs and architectural concepts, with components being especially shaped and integrating different material combinations (such as glass, pre-casted elements, membranes).

- The modular dimension is important to allow a cost-effective and easy installation in a wide variety of buildings and processing practices.

- Proposals should enable a reduction of maintenance and operation costs, in particular when many sensors and actuators are cost-effectively distributed throughout the envelope.

- Applicability in different geographical areas is important.

- Clear evidence of technical and economic viability should be provided by validating and demonstrating the proposed adaptable envelope in real case retrofitting projects.

- **Activities are expected to focus on Technology Readiness Levels 5 to 7 and to be centred around TRL 6.**

- *A significant participation of SMEs with R&D capacities is encouraged.*

H2020 FET 2016-2017 opportunities

- **FETOPEN-01-2016-2017**

- The successful exploration of new foundations for radically new future technologies requires supporting a large set of early stage, high risk visionary science and technology projects to investigate new ideas.

- Here agile, risk-friendly and highly interdisciplinary research approaches are needed with collaborations that are open to all sciences and disciplines and that dissolve the traditional boundaries between them.

- The renewal of ideas is complemented by the renewal of actors taking these new ideas forward. Therefore, this topic encourages the driving role of new high-potential actors in research and innovation, such as excellent young, both female and male, researchers and high-tech SMEs that may become the scientific and industrial leaders of the future.

- TRL between 2 and 4

up to 3 million EUR

cost
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H2020 MSCA ETN opportunities

- **MSCA-2016-2017**

- **European Training Networks**

- ETN are consortia that develop research and training programmes for early-stage researchers. The ESRs are hired for periods from 3 to 36 months, ideally with the goal of completing their PhD thesis.

- At the time of recruitment, they cannot have lived or worked for more than 12 months in the country of their future host organisation.

- The EC contribution is calculated using the 'researcher unit costs' of €3110/month living allowance + €600/month mobility allowance + €500/month family allowance (if applicable) and the 'institutional unit costs' of €1800/month research and training costs + €1200/month management costs and overheads.

- The maximum EU contribution is limited to 540 researcher months or 15 fellows.

- The average ITN consortium size is 9 partners with 1 or 2 ESRs per partner.

- Industrial participation is considered crucial.

- The overall success rate of ETNs in the 2014 and 2015 call was 9.4% and 6.3%, respectively.

cost
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The specific SME instrument

- Only a single for-profit SME or a consortium of for-profit SMEs can apply for funding under the SME instrument

- The SME Instrument offers the following:

  - Business innovation grants for feasibility assessment purposes (optional **Phase I**): EUR 50,000 (lump sum) per project (70% of total cost of the project);

  - Business innovation grants for innovation development & demonstration purposes (possible **Phase II**): an amount in the indicative range of EUR 500,000 and 2,5 million (70% of total cost of the project as a general rule);

  - free of-charge business coaching (optional in phases I and II), in order to support and enhance the firm's innovation capacity and help align the project to strategic business needs;

  - Access to a wide range of innovation support services and facilitated access to risk finance (mostly in optional **Phase III**), to facilitate the commercial exploitation of the innovation.

SME instrument – Timeline for submission

- **SME-1 SME instrument phase 1**

- **2016:**
  - 07 September 2016   17:00:00
    09 November 2016   17:00:00
- **2017:**
  - 15 February 2017   17:00:00
    03 May 2017   17:00:00
    06 September 2017   17:00:00
    08 November 2017   17:00:00

SME instrument – Timeline for submission - **SMEInst-10-2016-2017**

- **SME-1 SME instrument phase 2**

- **2016:**
  - 13 October 2016   17:00:00

- **2017:**
  - 18 January 2017   17:00:00
    06 April 2017   17:00:00
    01 June 2017   17:00:00
    18 October 2017   17:00:00

SME instrument – useful links

- Call:
https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-smeinst-2016-2017.html#c,topics=callIdentifier/t/H2020-SMEInst-2016-2017/1/1/1&callStatus/t/Forthcoming/1/1/0&callStatus/t/Open/1/1/0&callStatus/t/Closed/1/1/0&+identifier/desc
- The SME Instrument in the Horizon 2020 Work Programme
- Visit the SME instrument call topic page on the participant portal
- Read our Frequently Asked Questions – document on participation
- More on EU support for Research & Innovation-driven SMEs
- Information about implementation (EASME)

- From: http://ec.europa.eu/programmes/horizon2020/en/h2020-section/sme-instrument

Fast track to innovation scheme

- The FTI pilot supports projects undertaking innovation from the demonstration stage through to market uptake, including stages such as piloting, test-beds, systems validation in real world/working conditions, validation of business models, pre-normative research, and standard-setting.

- It targets relatively mature new technologies, concepts, processes and business models that need a last development step to reach the market and achieve wider deployment.

- **Min. TRL 6**

- Bottom-up approach: Proposals must relate to any field under the specific objective "Leadership in enabling and industrial technologies" and/or to any of the specific objectives under the priority "Societal challenges"

Fast track to innovation – specific requirements

- Budget range: max. 3 Mio €

- At least three and maximum five legal entities can participate in a project.

- At least one of the following conditions must be met
  - at least 60% of the overall budget of the proposal must be allocated to consortium partner(s) from industry
    or
  - the minimum number of industry participants must be 2 in a consortium of 3 or 4 partners, and 3 in a consortium of 5 partners.

- A proposal shall include a business plan

- "first-time industry applicants" sought - meaning a legal entity that is a private, for-profit organisation that has obtained a PIC (Participant Indentification Code) for the first time, meaning that such legal entity is for the first time registered in the Beneficiary Register during the preparation of the proposal.

Fast track to innovation – timeline and more information

- The Fast Track to Innovation scheme will be open for applications as of January 6, 2015.

- Proposals can be submitted at any time as of that date, yet will be ranked following **three cut-off dates in 2016**:

  - Final call: 25 October 2016   17:00:00

- More information: http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fast-track-innovation-pilot-2015-2016

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