

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

COST Action TD1105

**WGs & MC Meeting at SOFIA (BG), 16-18 December 2015**

***New Sensing Technologies for Indoor Air Quality Monitoring: Trends and Challenges***

Action Start date: 01/07/2012 - Action End date: 30/04/2016 - Year 4: 1 July 2015 - 30 April 2016

## H2020 Opportunities of Funding in the Air Quality Monitoring and Related Topics

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 **cost**  
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

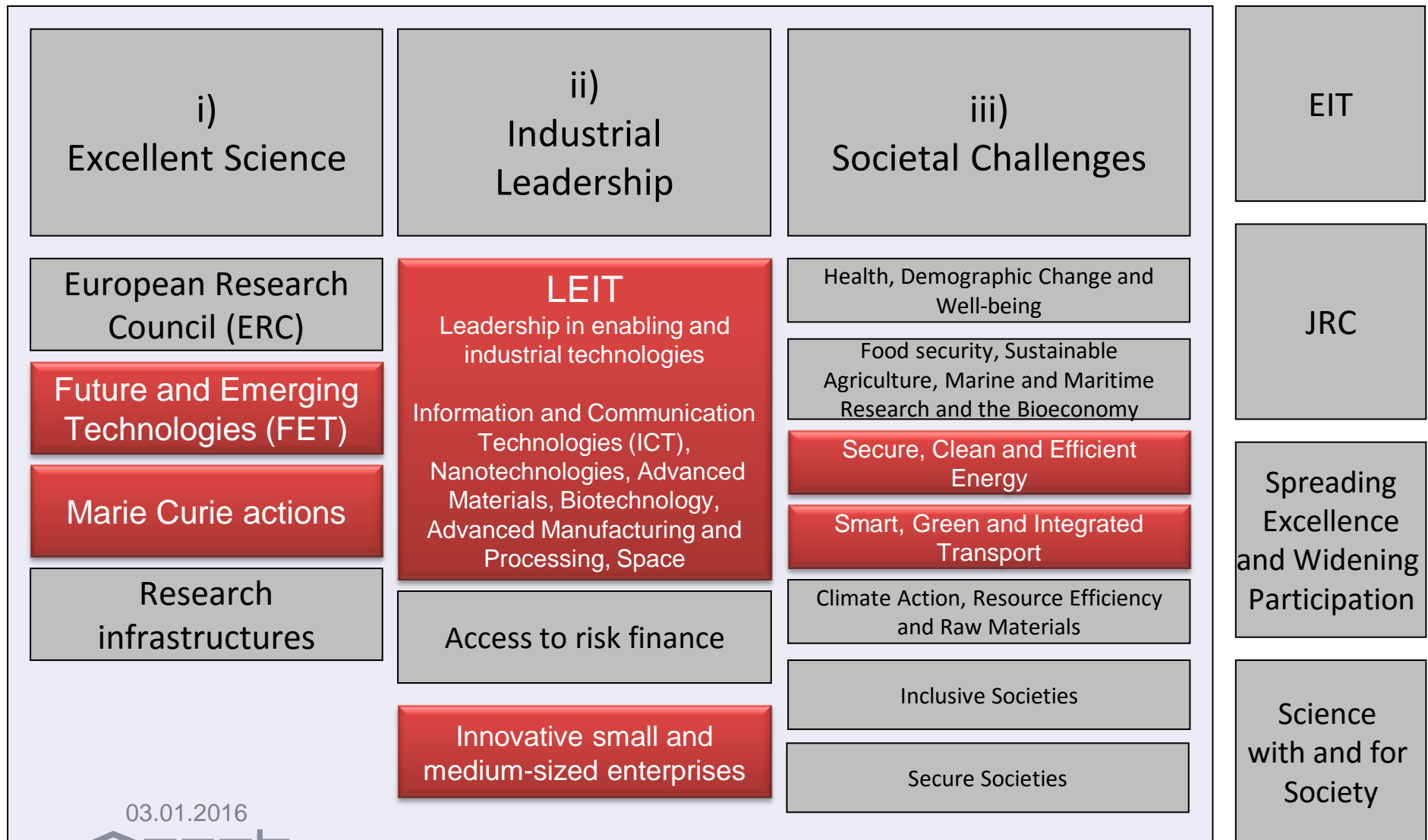




# Overview of presentation

- HORIZON2020 funding opportunities
  - Thematic areas
  - FET
  - Marie Curie ITNs
  - Fast track to innovation scheme
  - SME instrument in HORIZON2020


# Overview of HORIZON2020



03.01.2016



EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY



# H2020 ICT 2016-2017 Sensor Systems Opportunities


Deadline:  
12th April  
2016

- ICT Key Enabling Technologies – Photonics

## ICT-29-2016: Photonics KET 2016

iii. Pervasive high-specificity and high-sensitivity sensing for a safer environment: Breakthrough advances in cost-effective, compact, high-performance (both in specificity and sensitivity) photonic devices (including sources) for pervasive (i.e. large area coverage) near- and mid-infrared sensing applications (spectral range of 2 to 12  $\mu\text{m}$ ) for a safer environment, **such as monitoring of water or air quality** at large scale. Specificity and sensitivity levels should at least respect regulatory requirements. Actions should include validation of the device and proof of its suitability for the targeted application. Research on application related computation, communication and sensor system/network level aspects should be excluded, while development necessary for validation can be included. Hybrid solutions where the core photonic technology is complemented with other technologies are allowed.


Between EUR  
2 and 4 million



# 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


Deadline:  
14th March  
2017

**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

Deadline:  
14th March  
2017

**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

Deadline:  
19th January  
2017

- **EEB-07-2017: Integration of energy harvesting 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 energy harvesting 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

Deadline:  
11th May  
2016

- **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 4 million  
EUR

# H2020 MSCA ETN opportunities

Deadline:  
12th January  
2016

- **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.




# 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 Identification 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**:
  - 15 March 2016            17:00:00
  - 01 June 2016             17:00:00
  - 25 October 2016         17:00:00
- More information: <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fast-track-innovation-pilot-2015-2016>

# 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 - SMEInst-10-2016-2017

- **SME-1 SME instrument phase 1**
- **2016:**
  - 03 February 2016 17:00:00
  - 14 April 2016 17:00:00
  - 15 June 2016 17:00:00
  - 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 – Timeline for submission

- **SME-1 SME instrument phase 2**
- **2016:**
  - 24 February 2016 17:00:00
  - 03 May 2016 17:00:00
  - 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 – 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>