

## **High-level round-table on preparing future FET-Flagships**

**Hosted by Commissioner Günther H. Oettinger**

**Brussels - 15 December 2016 from 10:00 to 12:00**

### **Background**

Future and Emerging Technologies (FET<sup>1</sup>) Flagships<sup>2</sup> are science-driven, large-scale, multidisciplinary research initiatives built around an ambitious unifying vision. They tackle grand S&T challenges requiring cooperation among a range of disciplines, communities and programmes, including both academia and industry. Their overarching nature and magnitude implies that they can only be realised through a federated and sustained effort (in the order of 10 years duration). Today, two FET-flagships,<sup>3</sup> the Human Brain Project and the Graphene Flagship, are being implemented. A FET-Flagship on Quantum Technology<sup>4</sup> is under preparation for the next FET Horizon 2020 Work Programme as well as a large scale initiative on Next Generation Internet for the next LEIT-ICT Horizon 2020 Work Programme.

With the view to identifying **additional candidate FET-Flagship topics** for the next Framework Programme, the European Commission carried out between February and May 2016 an [on-line consultation on future FET Flagships](#), which resulted in [24 bottom-up contributions](#).

The conditions that any research initiative has to meet to become a FET-Flagship can be found in Annex 1.

As a next step, Commissioner Günther H. Oettinger will host on 15 December 2016, a high-level round-table with representatives from Member States administrations and from the scientific and industrial communities to further explore candidate topics for future FET Flagships and to ensure that top level priorities and needs are taken into consideration.

### **Objective of the Round-table**

**The aim of this Round-table will be to obtain the views of the main stakeholders (Member States, representatives of the scientific community and industry) on the candidate topics to enable the selection of four to six most promising FET Flagship preparatory actions.<sup>5</sup> From these preparatory actions, one or two new FET Flagships could be launched in the next Framework Programme.**

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<sup>1</sup> <http://ec.europa.eu/digital-agenda/FET>

<sup>2</sup> EC's Staff Work Document from September 2014:  
[http://ec.europa.eu/information\\_society/newsroom/cf/dae/document.cfm?doc\\_id=6812](http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=6812)

<sup>3</sup> The Human Brain Project Flagship: <https://www.humanbrainproject.eu/> and the Graphene Flagship : <http://graphene-flagship.eu/>

<sup>4</sup> As announced in the Communication [European Cloud Initiative – Building a competitive data and knowledge economy in Europe](#)"

<sup>5</sup> Preparatory actions for candidate FET-Flagships will include activities to help candidate Flagships form and develop their consortia, governance and S&T roadmap, and attract large public support and industry endorsement and participation, so that they are ready to become Flagships.

## Participants to the Round-table

The Round-table will be by invitation only and will gather:

- 28 representatives from the Member States (MS) (one per MS, at Director General level)<sup>6</sup>
- 20 to 30 representatives from large scientific and industrial communities: heads of main research organisations (CNR, CNRS, CSIC, Fraunhofer, Max Planck, Academia Europea, EARTO, EUA, EURASC, LERU, Euroscience, Eurotech, Science Europe); representatives of industry associations (Business Europe, ERT), presidents of Public Private Partnerships (ECSEL, Photonics, Robotics, HPC, 5G, FoF, Big Data), the chairman of the FET Advisory Group and a representative from OECD.

## Preparing for the Round-table

The Round-table participants are invited to each provide, by 15 November 2016, a 'position paper', highlighting the main challenges to be addressed and their views on the candidate topics for future Flagships. The starting point to prepare the position papers is the 24 [contributions](#) received as a result of the web-based public consultation on FET Flagships (Annex 2).<sup>7</sup> The participants are asked to consider these ideas, combination of them or new ones and provide their inputs and view **mainly in the form of grand S&T challenges that candidate Flagships should address**. They could target for example S&T advances that are directly relevant to the ICT sector or for addressing major societal challenges such as earth-sciences and climate change, sustainable growth or S&T advances in health or in the life sciences, with a particular focus on the role of ICT in addressing these challenges.

The position papers will be shared in confidence with all participants and an overview document, highlighting the thematic priorities where there is a converging support emerging from several participants will be prepared and serve as a basis for the discussion at the Round-table.

Position papers of up to 5 pages should be sent by **15<sup>th</sup> November 2016** to  
[CNECT-FLAGSHIP@ec.europa.eu](mailto:CNECT-FLAGSHIP@ec.europa.eu)

they should address for each of the grand S&T challenges proposed:

**What is the grand S&T challenge that a candidate FET-Flagship should address? Why a FET-Flagship is necessary to address this challenge? Why is it good for Europe? What would it take to do it? What could be the role of ICT in addressing this challenge?**

## Outcome of the Round-table

As mentioned above, the outcome of the Round-table will be used to select four to six most promising candidate topics for which FET Flagship preparatory actions will be called for in the Horizon 2020 Work Programme 2018-2020. From these preparatory actions, one or two new Flagships are expected to be launched in the next Framework Programme.

<sup>6</sup> Representatives from Associated Countries are invited to participate as 'observer'.

<sup>7</sup> The consultation was held from 10 February to 30 April 2016.

## ANNEX 1

### CONDITIONS FOR A POTENTIAL FET-FLAGSHIP

To qualify as a potential FET-Flagship, a research initiative should eventually:

- ✓ Address a grand scientific and technological challenge<sup>8</sup>;
- ✓ Have the potential to deliver key competitive advantage to the European industry (large innovation potential) and to offer substantial benefits to Europe's economy and society;
- ✓ Have a clear EU added value
- ✓ Share a unifying goal, and have an S&T roadmap to achieve it;
- ✓ Have sufficiently long term objectives;
- ✓ Be technology-oriented;
- ✓ Require large R&D investments over a long period of time at both European and national levels;
- ✓ Build on European scientific and technological excellence and capabilities (e.g. in terms of possible infrastructures); in particular the involved research communities should have reached a critical mass and be well structured to embark in an initiative of this scale
- ✓ Build on the capacity and engagement from the European industry.
- ✓ Be based on a large scale partnership involving both academia and industry;

In addition, **the support of Member States (MS) to any potential candidate FET-Flagships is essential** as these are co-funded research initiatives between the European Commission (EC) and the Member States (MS). FET-Flagships necessitate to:

- ✓ Establish a close link between related activities at European, national and regional level
- ✓ Ensure a mutual reinforcement from the EC and the MS of their research activities that would contribute to the Flagship.

In this context, the existence of national or transnational initiatives addressing (part of) the grand challenge is a good indicator of the possibility to eventually rally a wide support from Member States behind a proposed FET-Flagship.

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<sup>8</sup> By 'grand S&T challenge' we mean an S&T challenge which requires a large scale coordinated effort to be solved and which would bring a qualitative change to the state of the art in an area, as opposed to incremental scientific and technological progress. Such challenges are expected to require by nature multi-disciplinary collaborations.

## ANNEX 2

### PUBLIC CONSULTATION: 24 SUBMITTED FLAGSHIP IDEAS

- [Nanoarchitectronics](#)
- [Superconductors](#)
- [Robot Companions for Citizens ++](#)
- [Meaning: Universal Multisensorial Meaning Representation Stimulating Tailored Information Exchange](#)
- [ACE: Accessible Europe](#)
- [Proposal for "Digital Health" Flagship](#)
- [FET Flagship Initiative in Sensory Restoration](#)
- [The Future of Health Care: Deep Data, Smart Sensors, Virtual Patients and The Internet-of-Humans](#)
- [Biosensors for Point-of-Care Applications](#)
- [Hope \(Human Organ Printing Era\)](#)
- [The 4dnucleome Initiative in Europe](#)
- [A 4D Human Atlas: Charting Human Development and Ageing in Health and in Disease](#)
- [The Ultimate Earth Project as a FET Flagship](#)
- [A Flagship European Programme on Extreme Computing and Climate](#)
- [Venice Time Machine Flagship](#)
- [Computational Socio-Geonomics/Metaloger, the Peoples' Toolkit](#)
- [Universal Digital European Finance](#)
- [European Initiative for Regenerative Medicine](#)
- [Building a Synthetic Cell](#)
- [Direct Conversion of Solar Energy: Renewables and More Technologies](#)
- [Forecast of the Energy Price](#)
- [Climate Change Impacts Along the Agro-Food Chain: End-User Relevant Research for Food Security](#)
- [The New Capacity Building Programme Flagship Project](#)
- [Quantum Engineering for Silicon Technology<sup>9</sup>](#)

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<sup>9</sup> This one is being considered in the context of the Quantum Technology flagship already in preparation.