



Programme Committee  
Brussels, 9 March 2017

# **FET Flagships**

## **Draft Elements for Work Programme**

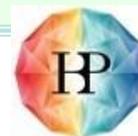
Flagships Unit  
DG Connect  
European Commission

# Flagships

## Main Elements for discussion

- Continuation of the Graphene and the Human Brain Project Flagships
- ERANET Cofund for FET Flagships
- Preparatory Actions for new Flagships

- Graphene Flagship:
  - Narrowing down on areas with most innovation potential
  - Involvement of industry and technology transfer
- Human Brain Project:
  - Focus research roadmap on impactful results in neuroscience, future brain medicine and computing / robotics
  - Delivering federated Service Research Infrastructure for big neuroscience, validated by stakeholders
  - Collaboration at national, European and international levels



# FET Flagships – ERANET CoFund

- Aim to support Flagships by fostering coordination between national and regional research programmes
- Joint Transnational Call for projects
- Partnering projects key dimension of FET Flagships
- Mobilising resources at regional, national and EU level for realising the research goals of the FET Flagships



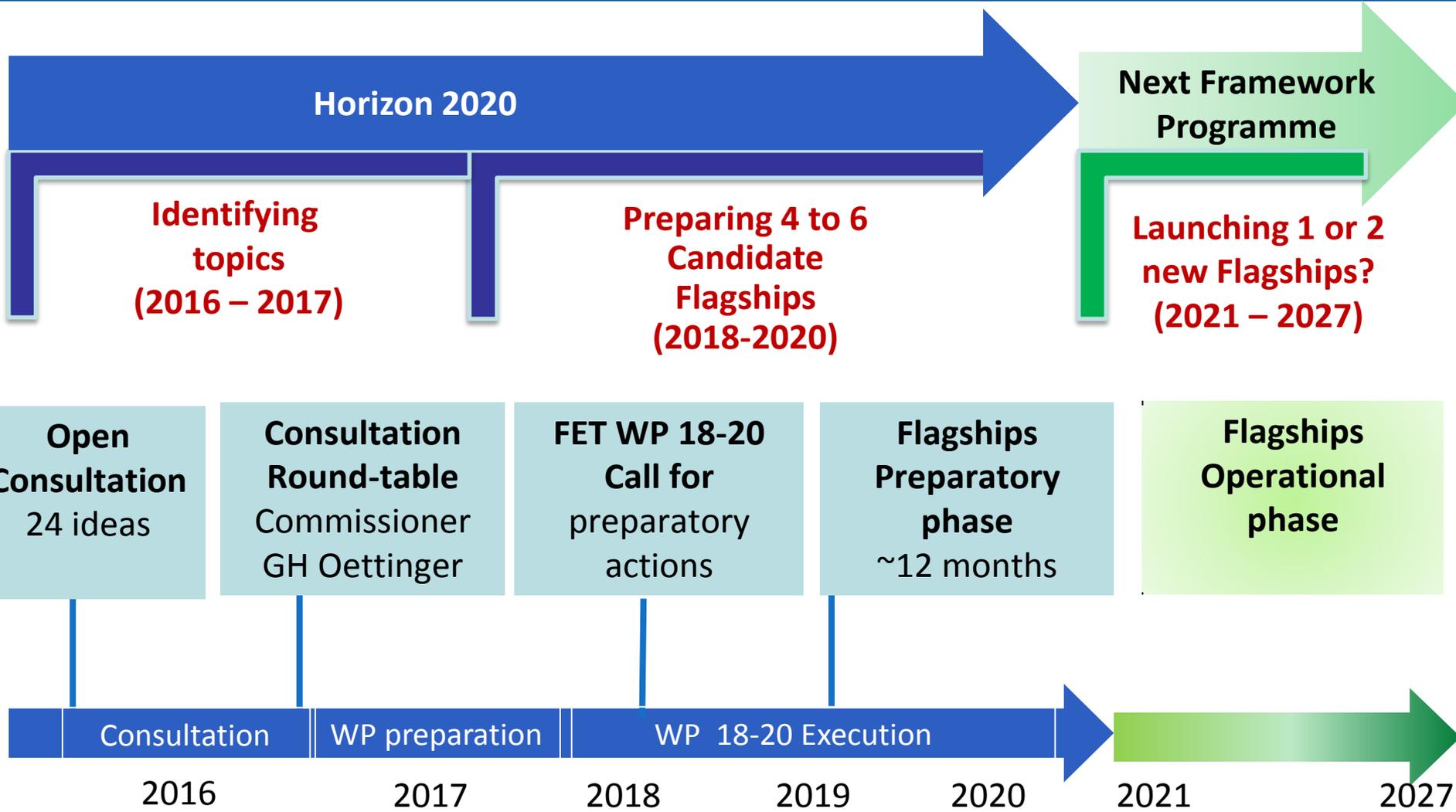
## ERANET COFUND

[www.flagera.eu](http://www.flagera.eu)

- ➔ 39 funding agencies from 26 countries
- ➔ FLAG-ERA II running since 1/12/2016



# Timeline for new FET-Flagships



# Areas and topics

## ICT and Connected Society

- Advanced materials and nanoscale engineering
- Interfaces, robotics and artificial intelligence
- ICT for social sciences and humanities

## Health and Life Sciences

- Disruptive ICT to revolutionise healthcare
- Understanding life by exploring the genome and the cell

## Energy, Environment and Climate Change

- Earth, climate change and natural resources
- Radically new energy production systems

*Up to 6 preparatory actions (1 or 2 per area) aiming at developing a strategic research roadmap based on a shared and consolidated vision, with support from industry as well as governance structure, and approach to education and responsible research and innovation*



# Moving to the H2020 WP 2018-2020: Call Areas (DRAFT)

- ICT and Connected Society
- Health & Life Science
- Energy, Environment and Climate Change

- *Call open to all*
- *Proposals to cover one or more topic per area or parts of them*



# DRAFT: ICT and Connected Society

- **Advanced Materials and Nanoscale Engineering:** Novel nano-engineered materials and systems with properties enabling the design and manufacturing of radically new ICT components and devices creating disruptive technologies and market opportunities, for example in data processing, smart interfaces or nano-bio devices.
- **Interfaces, Robotics and Artificial Intelligence:** New approaches to human-machine interaction, robotics technologies including soft and flexible robotics, cognition and artificial intelligence giving rise to much smarter systems performing very sophisticated functions and opening radically new opportunities for industrial and societal applications.
- **ICT for Social Sciences and Humanities:** new ICT technologies and approaches for the understanding of large-scale complex socio-technical systems and their interaction and interdependencies or for collecting, preserving, studying and promoting Europe's unique cultural heritage and exploiting these to achieve major societal or economic benefits.

- **Disruptive ICT to Revolutionise Healthcare:** New technologies and approaches aiming at a paradigm shift to prevention and treatment of diseases. This includes in particular methods to use patients' genetic make-up to provide individualised prevention and treatment, nano-medicine approaches including novel uses of bio-sensors, organ-on-a-chip technologies, radically new technologies for drug development, precision medicine, regenerative medicine and biofabrication techniques to replace human cells, tissues and whole organs.
- **Understanding Life by Exploring the Genome and the Cell:** Novel technologies and approaches that enable a paradigm shift in studying and understanding the foundational building blocks of life, e.g., the functioning of the human cell and full genome/proteome/metabolome, opening up radically new opportunities in biology, advanced drug delivery and screening methods, and developing novel bio-nano-devices and technologies and advanced analytical and morphological technologies.

# DRAFT: Energy, Environment and Climate change

- **Earth, Climate Change and Natural Resources:** New technologies and ambitious approaches for high-precision modelling and simulation, including the necessary data integration, that enable an in-depth understanding of the earth and climate change, helping in the long run to manage natural resources in a sustainable way, ensure food security and sustainable farming, and protect natural ecosystems.
- **Radically new Energy Production systems:** Disruptive technologies aiming at a paradigm shift in renewable energy by exploring and exploiting radically new principles (e.g. artificial photosynthesis, etc.) that can substantially reduce Europe's dependence on fossil fuels and open new industrial opportunities for their exploitation.



**THANK YOU!**