NEMZETI KUTATÁSI, FEJLESZTÉSI
ÉS INNOVÁCIÓS HIVATAL

Horizon 2020
Future & Emerging Technologies

3-4 December 2015

NATIONAL RESEARCH,
DEVELOPMENT AND INNOVATION
OFFICE

MOMENTUM OF INNOVATION

Excellent Science pillar in H2020

- European Research Council (13B€)
- Marie Skłodowska-Curie actions (6,1B€)
- Future and Emerging Technologies
- Research infrastructures programme (2,4B€)

(*) including the FET contribution to the 'Juncker package' of 11

FET: 2,7 B€*

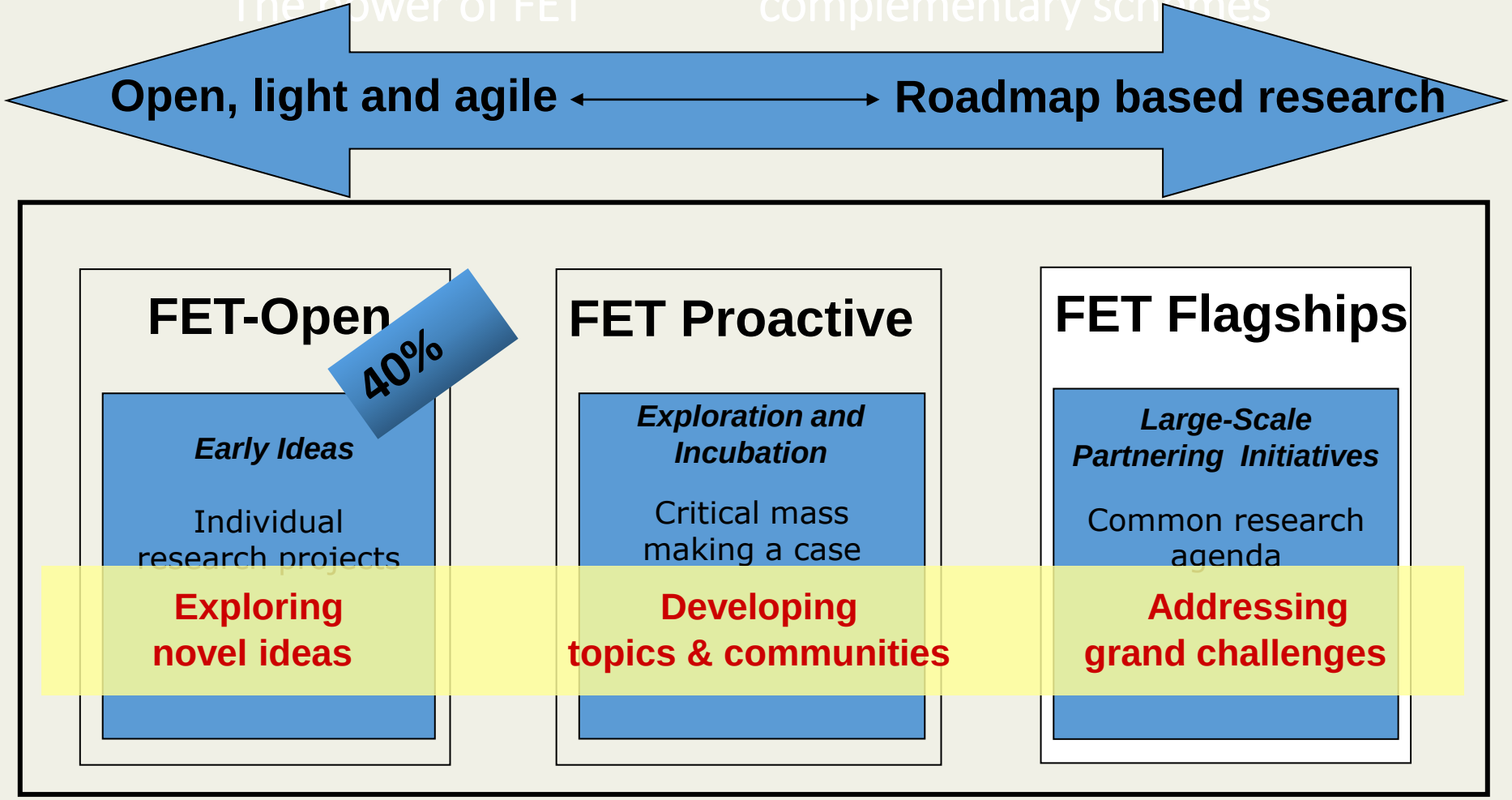
*"**Future and emerging technologies** shall support collaborative research in order to extend Europe's capacity for advanced and paradigm-changing innovation."*

HORIZON 2020 - THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION (2014-2020)

Pathfinding Europe's technological future(s)

NATIONAL RESEARCH, DEVELOPMENT AND INNOVATION OFFICE

MOMENTUM OF INNOVATION

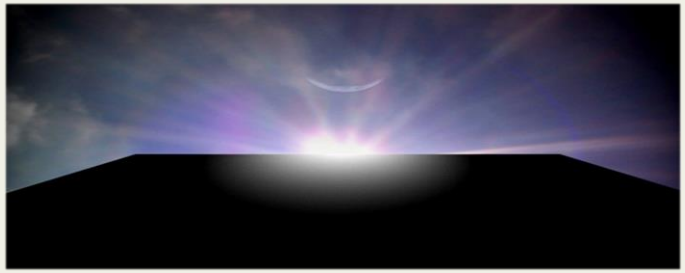

Open, light and agile
Roadmap based research
FET-Open
40%
Early Ideas
Individual research projects
FET Proactive
Exploration and Incubation
Critical mass making a case
FET Flagships
Large-Scale Partnering Initiatives
Common research agenda
Exploring novel ideas
Developing topics & communities
Addressing grand challenges

FET activities, WP 2016-17

- **FET Open*** supports the early-stages of the science and technology research and innovation around new ideas towards radically new future technologies. It also funds coordination and support activities for such high-risk forward looking research to prosper in Europe.
- **FET Proactive** addresses promising directions for research on future technologies in order to build up a European critical mass of knowledge and excellence around them.
- **FET Flagships** are science-driven, large-scale, multidisciplinary research initiatives oriented towards a unifying goal, aiming at transformational impacts with substantial benefits for European competitiveness and for society.

FET OPEN

Future and Emerging Technologies (FET) / 2016-2017



FET Open (202 m€)

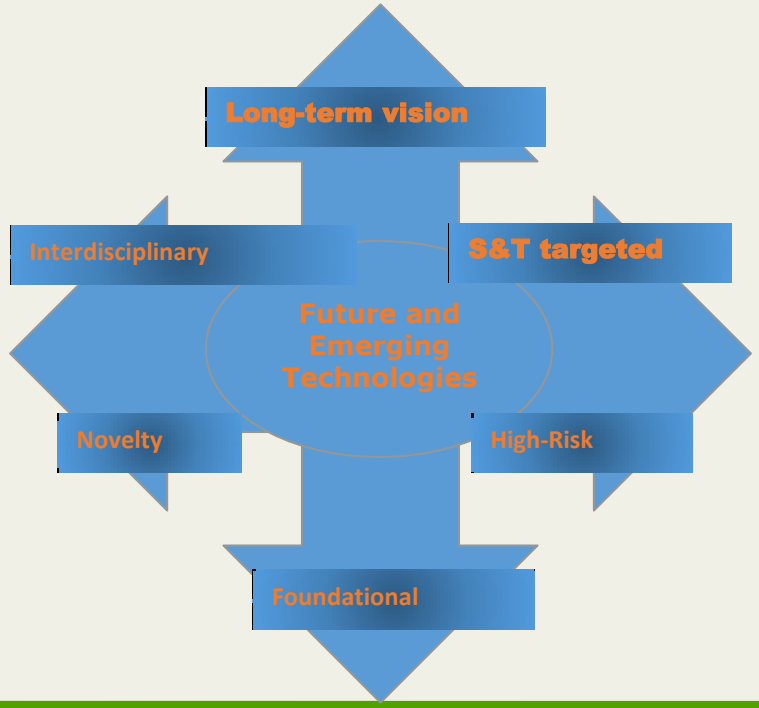
- **All technologies, no topical scope**
- **RIA, CSA, Innovation Launchpad**
- **6 gatekeepers:**
  - Long term vision
  - Breakthrough S&T
  - Novelty
  - Foundational
  - High risk
  - Interdisciplinary

- Light, fast scheme
- Several cut-off dates per year
- one-step submission
- ~15 page proposals
- One stage evaluation
- RIA projects: up to 4 M EUR
- CSA projects: up to 0.5 M EUR
- Launchpad: up to 0.1 M EUR

FET-Open Research and Innovation Actions

- Scope:
- […] Proposals are sought for **collaborative research with all of the following characteristics** ('FET gatekeepers'):

  - **Long-term vision**
  - **Breakthrough scientific and technological target**
  - **Novelty**
  - **Foundational**
  - **High-risk**
  - **Interdisciplinary**



FETOPEN-01-2016-2017: FET-Open research and innovation actions

- **Long-term vision**: the research proposed must address a new and radical long-term vision of a science- and technology-enabled future that is far beyond the state of the art and not currently foreseen by technology roadmaps.
- **Breakthrough scientific and technological target**: research must target a scientifically ambitious and technologically concrete breakthrough, argued to be a crucial step towards achieving the long-term vision. The plausibility of the proposed breakthrough(s) to be attained within the life-time of the project must be argued in the proposal.
- **Novelty**: the research proposed for achieving the breakthrough must be based on cutting-edge knowledge, new ideas and concepts, rather than in the mere application or incremental refinement of existing ones.

FETOPEN-01-2016-2017: FET-Open research and innovation actions

- **Foundational**: the breakthroughs that are envisaged must be foundational. If achieved, they would establish an essential basis for a new kind of technology and its future uses, not currently anticipated.
- **High-risk**: the inherently high risk of the research proposed will be reflected in a flexible but effective methodology for exploring alternative directions and options, supported by open and agile research and innovation practices.
- **Interdisciplinary**: collaborations are expected to go beyond 'waterfall' configurations in multi-disciplinary science- and technology research. Instead they should seek new solutions through genuine exchanges, mutual learning, cross-fertilisation and synergistic advances among distant disciplines in order to open unexplored areas of investigation and new directions for joint research.

Proposal composition (RIA)

Part A: Administrative part of the proposal

Part B: Narrative part of the proposal (core proposal)

- Cover page (1 page A4)
- Section 1: **S&T Excellence**
- Section 2: **Impact**
- Section 3: **Implementation**
- Section 4: **Members of the consortium** (Additional information)
- Section 5: **Ethics and Security** (Additional information)

Pages limit: Sections 1, 2 and 3 together are strictly limited to 15 pages

A4 and Sections 4-5 are not covered by the limit of pages

FET-Open is extremely competitive

- Is FET-Open really the right scheme for you?
- Check out LEIT and Societal Challenges workprogammes
- FET is not ERC: collaboration, science and technology are all essential ingredients.
- It is not because something has not been done before that it is sufficiently novel for FET
- FET is not the long-term end of an established industry's road-map
- A long-term vision is essential, but also a plausible idea on how to get there.
- Writing a good proposal is probably as hard as writing a good scientific publication.

FETOPEN-02-2016 FET-Open Coordination and Support Actions FETOPEN-03-2017

Scope

- FET Futures – looking for new topics and strategies [2017]
- FET Communication – visibility and outreach [2016]
- FET Exchange – networking in future and emerging R&I areas [2016 and 2017]
- FET Conference – 2018 [2016]
- FET Innovation Greenhouse – services for facilitating earliest stages of innovation from FET research [2016]

- New topic in WP2016-17

  •This topic aims at funding further innovation related work (i.e. activities which were not scheduled to be funded by the original project) to verify and substantiate the innovation potential of ideas arising from FET funded projects and to support the next steps in turning them into a genuine social or economic innovation.

- Coordination and Support Action
- single step submission, '1+7' pages

- Inspired by the successful ERC Proof-of-Concept (PoC) scheme

FETOPEN-03-2016-2017 FET-Open Innovation Launchpad

- Scope
  - Short and focused actions (18 months indicative)
  - Early innovation from an ongoing or recently finished FET project
    - Ongoing or maximum 1 year from end-date of originating project to call deadline
    - FP7 and H2020, any FET-funded project
    - The link with the originating project is to be substantiated in the proposal
  - No additional S&T research
  - No actions that are/were foreseen in originating project
  - No direct link needed with originating consortium
  - Single participant possibility
  - Assurance on necessary rights and agreement to be stated
  - No prescribed actions but 'fitness for purpose'
  - Complementary to ODI and SME schemes

FETOPEN-03-2016-2017

FET-Open Innovation Launchpad

- 100K funding, 18 months indicative duration
- single step submission, '1+7' pages

Opening: 01 Mar 2016			
FETOPEN-04-2016-2017 (CSA)	1.20M Euro	1.80M Euro	29 Sep 2016 27 Sep 2017

- 'eligible' originating projects for innovation launchpad:
  - for the 2016 call: ~90 FP7+ ~60 H2020
  - for the 2017 call: ~50 FP7 & ~100 H2020
  - ~100 overlap between both calls
  - figures do not include HPC projects and the 2 flagships

Deadlines

- **FETOPEN-01-2016-2017 (RIA)**
  11 May 2016 / 17 Jan 2017 / 27 Sep 2017
- **FETOPEN-02-2016 (CSA)**
  11 May 2016
- **FETOPEN-03-2017 (CSA)**
  17 Jan 2017
- **FETOPEN-04-2016-2017 (CSA)**
  29 Sep 2016 / 27 Sep 2017

FET PRO-ACTIVE

Call - FET Proactive – Boosting emerging technologies

FET Proactive addresses promising directions for research on future technologies in order to build up a European critical mass of knowledge and excellence around them.

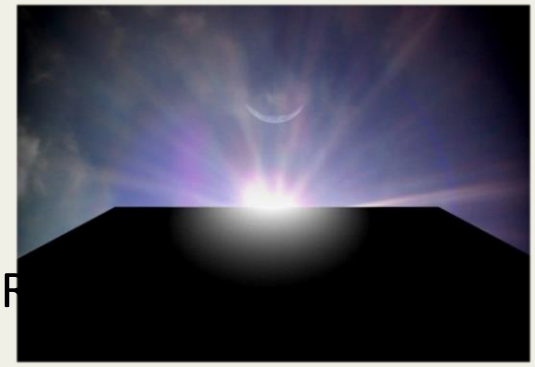
	FET-Proactive – boosting emerging technologies	**95M**
FETPROACT-01-2016	Emerging themes and communities	80M
FETPROACT-02-2017	FET ERANET Cofund	5M
FETPROACT-03-2016	FET ERANET Cofund on quantum technologies	10M

Future and Emerging Technologies (FET) / 2016-2017

FET Proactive (95 m€)

- **Area 1: Future technologies for societal change** (20 M EUR)
  - Being human in a technological world
  - New science for a globalised world
- **Area 2: Biotech for better life** (30 M EUR)
  - Intra- and inter-cell bio-technologies
  - Bio-electronic medicines and therapies
  - Cognitive neuro-technologies
- **Area 3: Disruptive information technologies** (30 M EUR
  - New computing paradigms and their technologies
  - Quantum engineering
  - Hybrid opto-electro-mechanical devices at the nano-scale
- **Area 4: New technologies for energy and functional materials** (20 M EUR)
  - Ecosystem engineering
  - Complex bottom-up construction

Projects: 4- 10 M EUR
Up to 5 years



FETPROACT-01-2016

FET-Proactive –emerging themes and communities

- Expected Impacts
  - Maturing themes and structuring communities through jointly exploring options
  - Emergence of a broader innovation eco-system for a new technology

- Larger projects: 4-10MEuro, up to 5 years (compare FET-Open: up to 4MEuro) addressing a single theme
- Optional use of cascade funding (e.g., for prize)
- Single deadline, single step submission

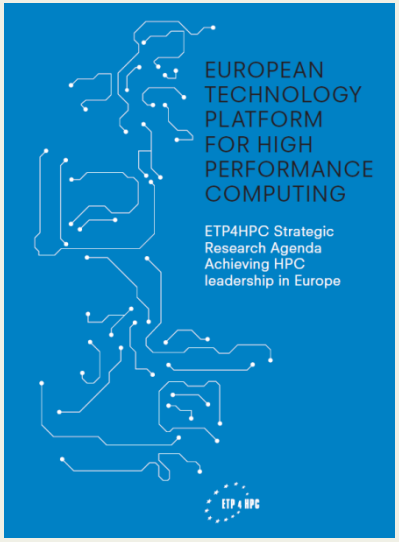
Future and Emerging Technologies (FET) / 2016-2017

FET Proactive High Performance Computing (85 m€)

- **Co-design of HPC systems and applications**
  (41 M EUR - Projects 10-20 M EUR)
- **Transition to Exascale Computing**
  (40 M EUR - Projects: 2-4 M EUR)
- **Exascale HPC ecosystem development**
  (4 M EUR - Projects: 1-2 M EUR)

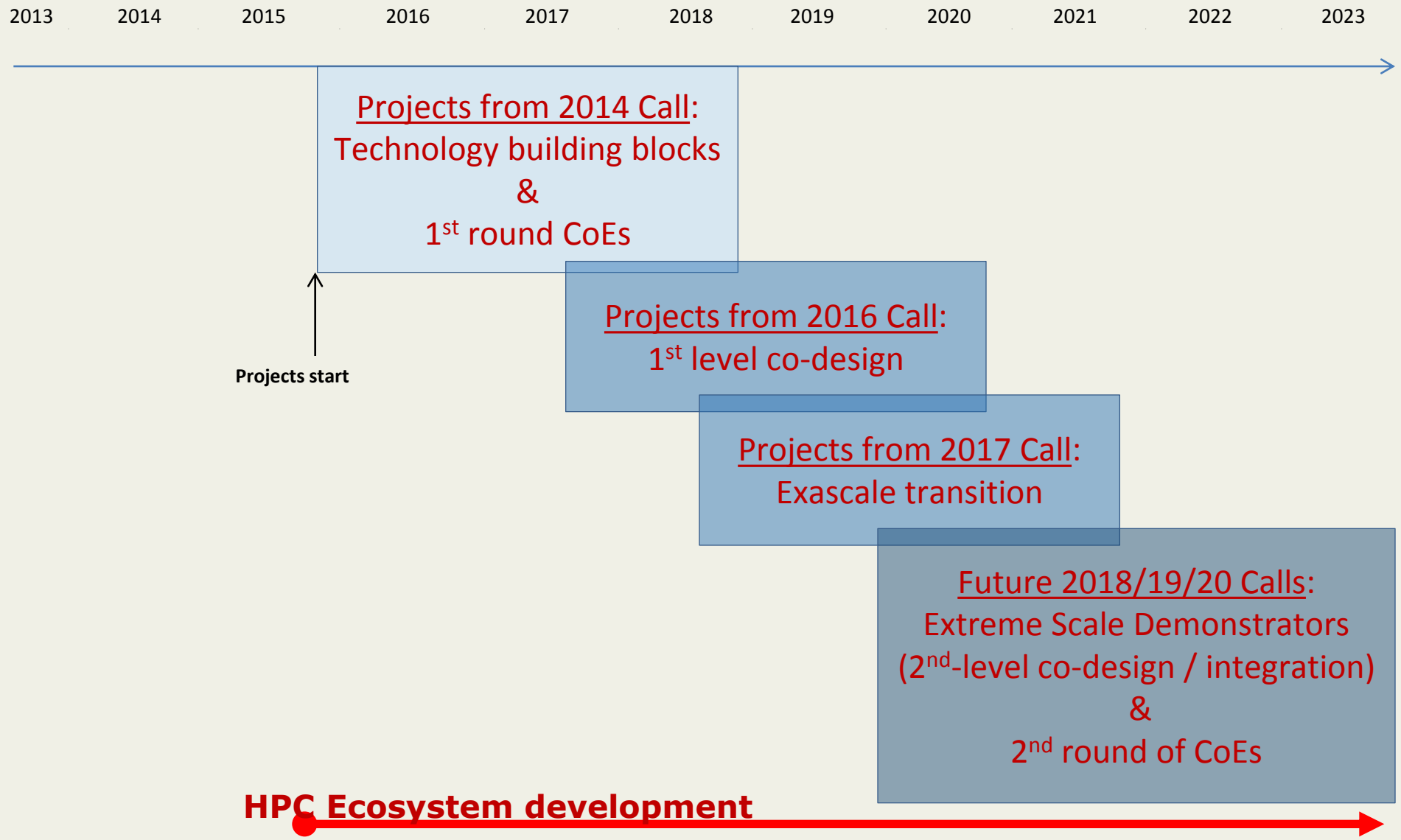
Call - FET-Proactive - High-Performance Computing

- Implements Strategic Research Agenda (SRA) of ETP4HPC in Public-Private Partnership
- See http://www.etp4hpc.eu/strategy/strategic-research-agenda
- Complements other building blocks of HPC strategy under LEIT and e-Infrastructures

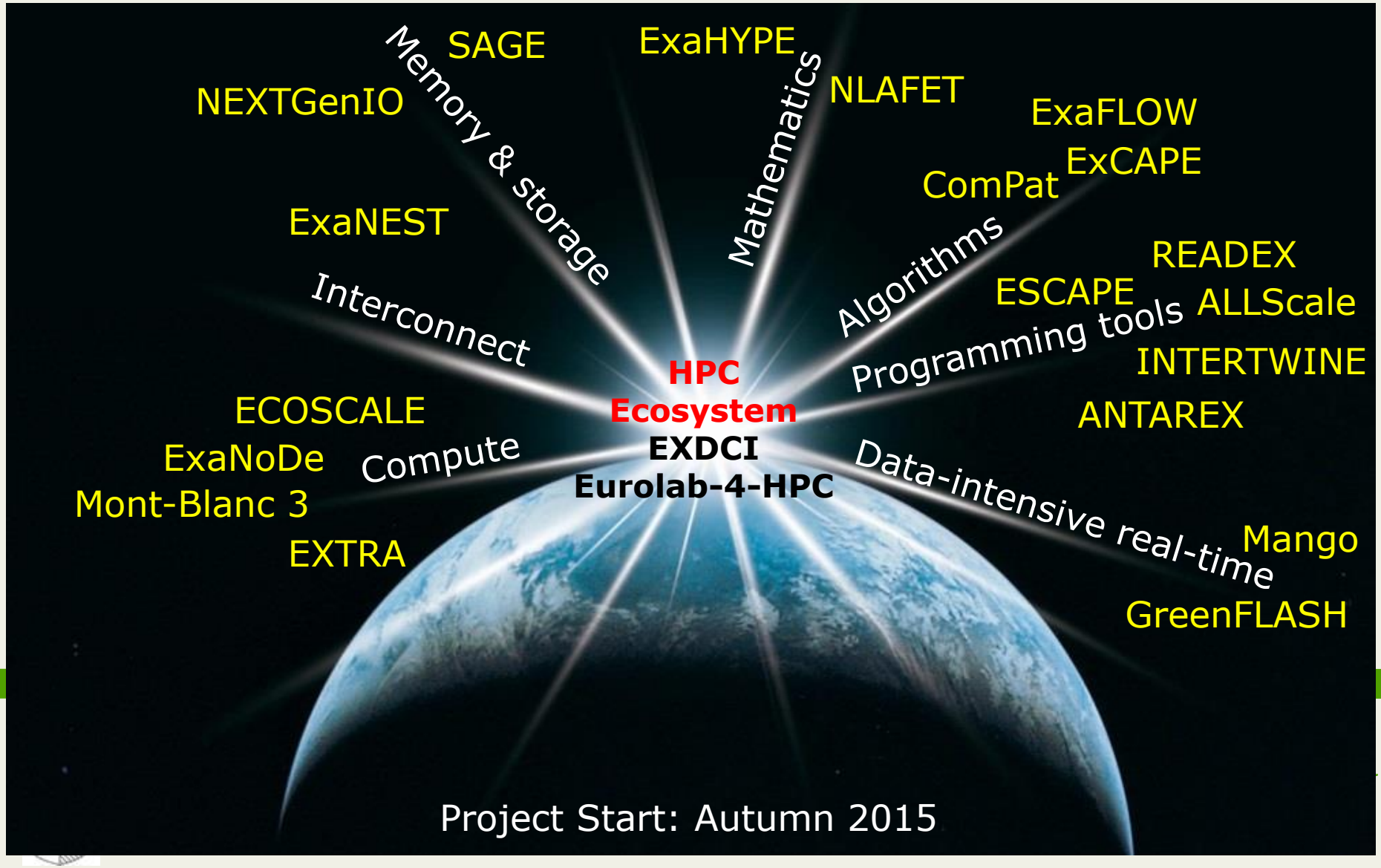


HPC PPP timeline in H2020 (indicative)

Exascale Technologies & Applications



Retained proposals FETHPC - Exascale Technologies 2014 FET Call

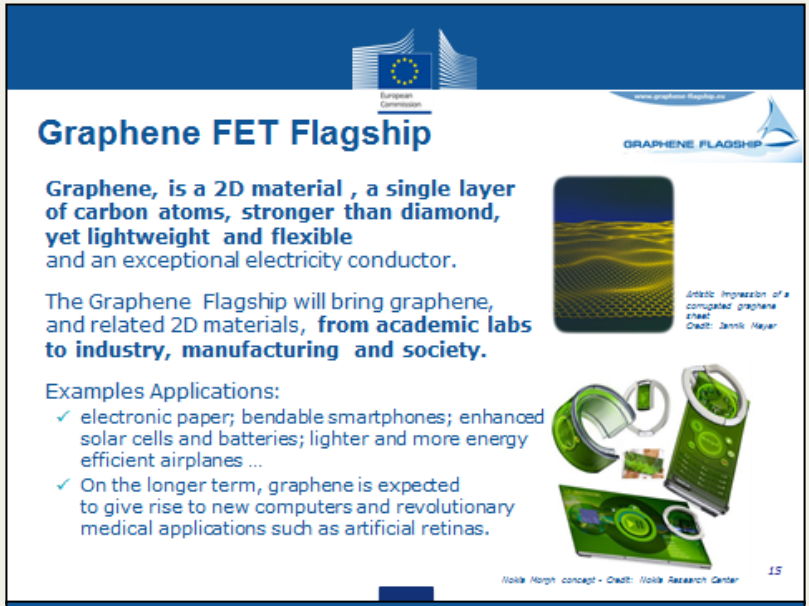


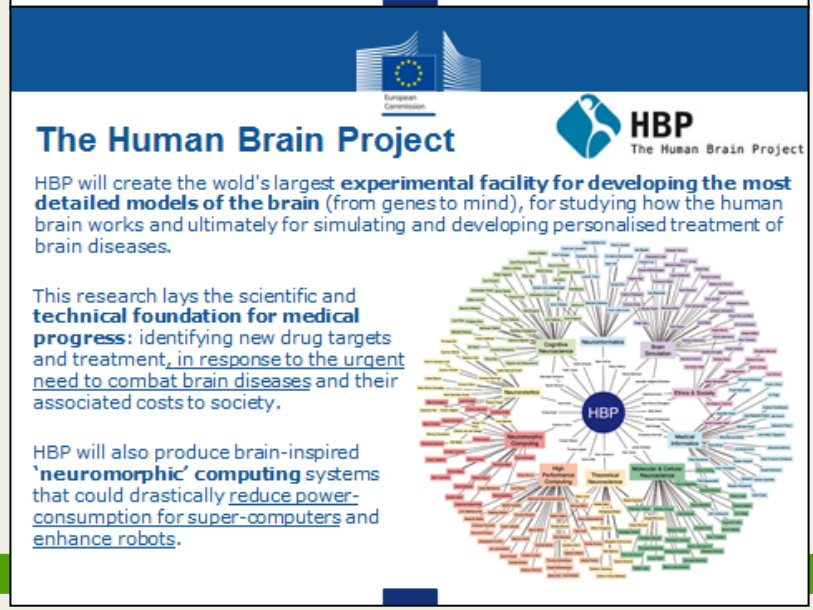
FET FLAGSHIPS

FET Flagships

FET Flagships address ambitious S&T challenges that require:

- *Setting up large-scale partnerships that bring together the leading researchers from a large number of research organisations (academia and industry);*
- *Commitment to a strong science investment over a long time period that cannot be carried out alone by the Commission or any single Member State*

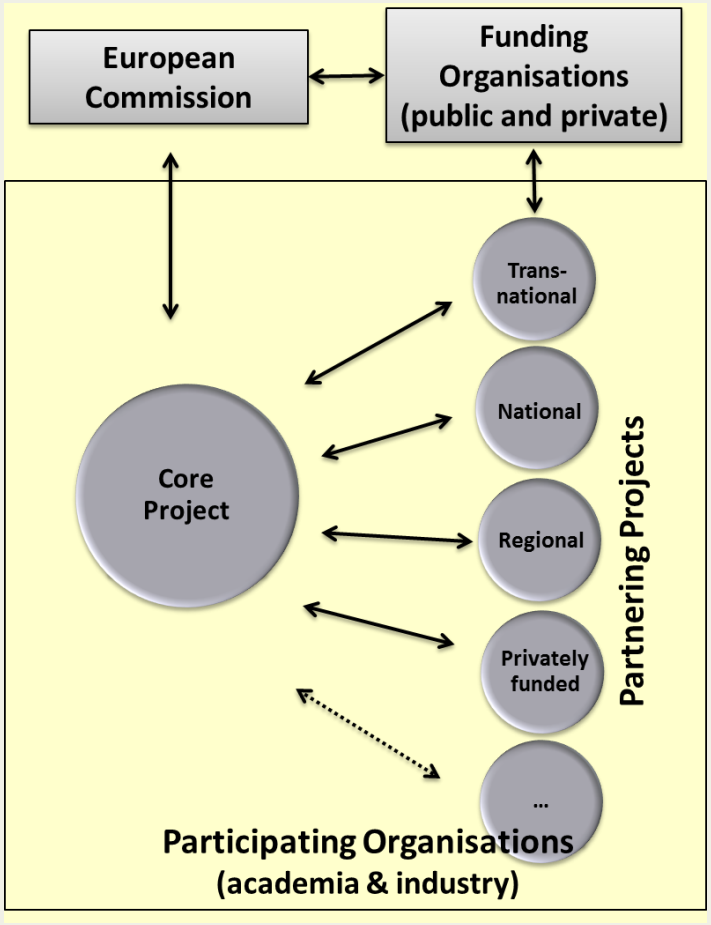




FET Flagship Partnering Projects

- The implementation model of the Flagships aims to link together and ensure coordination and synergy of all those research activities relevant for the Flagship that are funded by the Commission and the Member States.*

- Partnering Projects are projects supported by national/regional funding agencies and/or by private funding. They are addressing areas relevant for the Flagships and contribute to their objectives.**



FLAG-ERA

FLAG-ERA will launch a Joint Transitional Call for Flagship Proof-of-Concept Projects:

- ICT for Social Sciences (ICTSS)
- High-Efficiency Sensor Networks (HESN)
- Digital Medicine for Cancer (DMC)
- Cooperative Robots (CR)

www.flagera.eu

ICT & FET

Further Information

Key events

30/11/2015	Information Day on Horizon 2020 Research e-Infrastructures Work Programme 2016-17
1/12/2015	Information and Networking Day on H2020 ICT-15 Big Data PPP Lighthouse Projects
1/12/2015	H2020 Info Day: Smart Cyber-Physical Systems, Digital Automation, Smart Anything Everywhere, ICT Innovation for Manufacturing SMEs Initiatives, and Photonics Laser-based Production
1/12/2015	Webinar on funding opportunities in Innovation Procurement for eHealth
1-2/12/2015	European Nanoelectronics Forum
3/12/2015	Infoday on Internet of Things Large Scale Pilot 5 on Connected and Autonomous vehicles
7/12/2015	Info day on RRI-SSH in ICT-related parts of H2020 WP16-17
11/12/2015	Information and Stakeholders' Day on Smart Wearables
14-15/01/2016	Information and Networking Days on Horizon 2020 Big Data topics
18/01/2016	Info and Networking Day on: H2020 ICT-22-2016 Technologies for Learning and Skills and H2020 ICT-24-2016 Gaming and gamification
20/01/2016	Brokerage event in the field of "Smart System Integration" - ICT-03
25/01/2016	Information day on FET-Open and FET-Proactive calls

Key events

ICT 2015 - 20-22 Oct 2015

Lisbon, Portugal

Információ – kapcsolatépítés – konzorciumalakítás - kiállítás

Bővebb információ: http://www.ec.europa.eu/digital-agenda/ICT2015

Networking: https://www.b2match.eu/ict2015

Kövesse a fejleményeket twitteren: https://twitter.com/ICT2015eu

NATIONAL CONTACT POINT

PARTNER SEARCH
&
PROPOSAL DEVELOPMENT

Ideal-ist

www.ideal-ist.eu

Your Worldwide ICT Support Network

Thu. 20/02/2014

- View Partner Searches
- Launch a New Partner Search
- Opportunity finder
- Find your Representative

Ideal-ist addresses ICT companies and research organizations worldwide wishing to find project partners for a participation in the Horizon 2020 program of the European Commission.
Ideal-ist offers a unique and quality-labelled Partner Search and other services helping to ease participation in Horizon 2020. Learn more About ideal-ist

Open calls

View All

- H2020 – EU-JAPAN – 2014
  Close date: 10/04/2014
- H2020 – FoF – 2014/2015

Recently Published Partner Searches

- PS-AT-89331: K4FoF
- PS-SK-89303: [EuroLangNet 21+3] European network

In QA proccess

- PS-NO-89154: Inclusive-MT
- PS-NO-89152: Inclusive-MT

View All

ICT Events

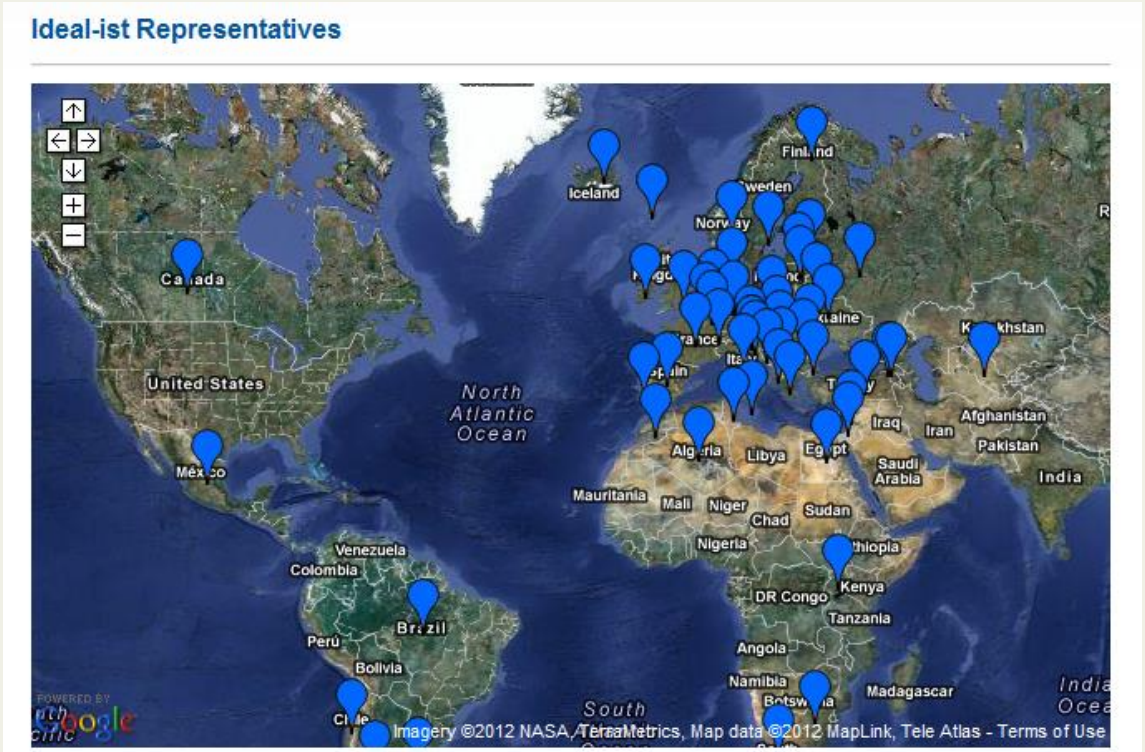
View All

- European Data Forum 2014
- Future Internet Assembly

THE network of national contact points for ICT in Horizon 2020

- Supports project proposers
- From project idea to successful proposal submission

Ideal-ist Network



*e*DIGIREGION

Realising The Digital Agenda Through Transnational Cooperation Between Regions

http://www.edigiregion.eu/

Overall aims

Through a planned process of inter and intra regional mentoring, and knowledge transfer, eDIGIREGION will initiate a series of **cross-border transnational collaborations** and **internationalisation activities** in the technology domains of the **Digital Agenda** to support open innovation and boost regional competitiveness, unlock new business opportunities for SMEs and mobilise financial support.

Partners and partner regions:

South East Ireland

WIT = University/Research Centre

SERA = Regional government

IBEC = Industry representative organisation

Kernel Capital = Venture Capital company

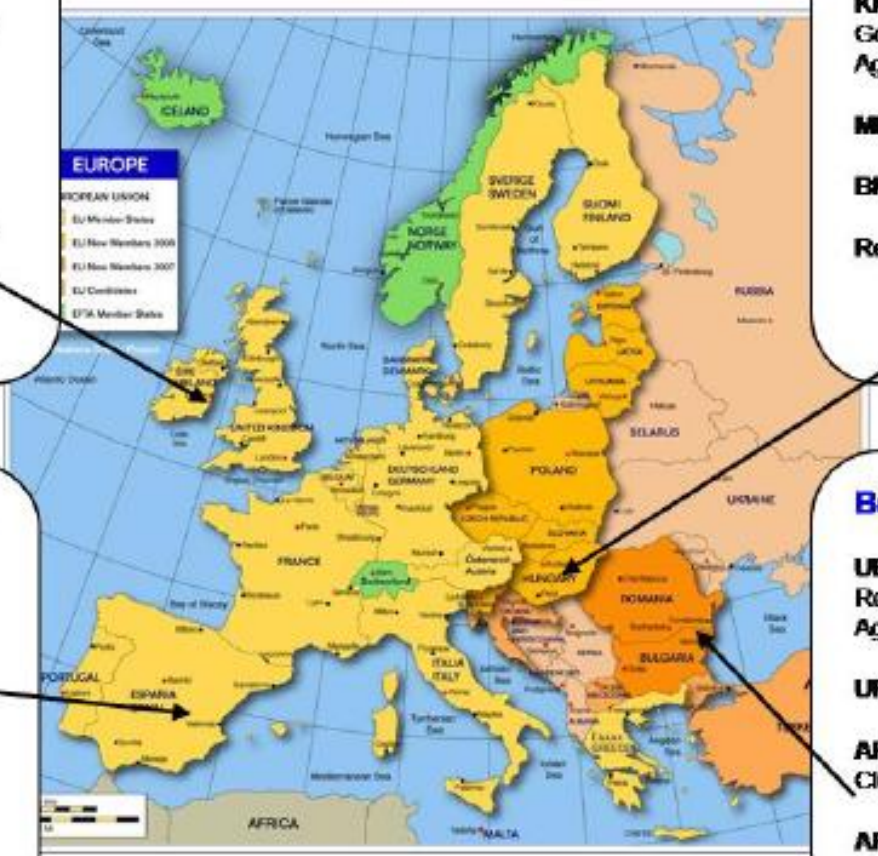
Central Hungary

KMRIU Khe = Regional Government Innovation Agency

MMO = ICT Industry Cluster

BME = University

Regens = SME



Castilla-La Mancha Spain

UCLM = University

JCLM = Regional Government

Desertic = ICT Industry Cluster

Bucharest-Ilfov

UEFISCDI = Government Research & Innovation Agency

UPB-CETTI = University

ARIES = ICT Industry Cluster

ARDBI = Regional government

Joint Action Plans in Central Hungary built on

Targeted Smart Specialisations

- ICT Technology Approach
  - Future Internet Vision
- ICTs as Enablers
  - ICT in Agriculture and the Food Industry
  - ICT in Manufacturing
  - ICT in other sectors – Potential International Outreach areas

Targeted Cross-Cutting Actuation Areas

- Suboptimal Educational Outcomes
- Chasm between R&D and Innovation
- Building the Ecosystem

Towards Interregional Joint Action Plans

Thank you for your attention!

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