Atelier préparatoire
ICT Proposer's Day

| Horaire	Programme
09H00 – 09H30	Accueil autour d'un café
09H30 – 11H30	**Présentation générale des TIC dans H2020 :** **- les Appels à propositions 2015** **- appels transversaux : instruments PME et Eurostar** **- préparer l'« *ICT Proposers' Day 2014* »** Frédéric Laurent, représentant français au comité de gestion du TIC Claire Ferté, PCN TIC Questions/Réponses
11H30 – 12H30	**Le montage de projets : les points clés.** Questions/Réponses
12h30 – 14h00	**Repas**
14H00 – 17H00	**Ateliers de coaching personnalisés**
	Savoir se présenter efficacement pour trouver des partenaires **Comment pitcher ?** / Apprendre à se positionner efficacement vis-à-vis des appels H2020 **Vos technologies pour quels appels ?**

UBIFRANCE & HORIZON 2020

UBIFRANCE
Un réseau intégré de 80 implantations dans 70 pays
150 personnes dédiées au numérique et aux services
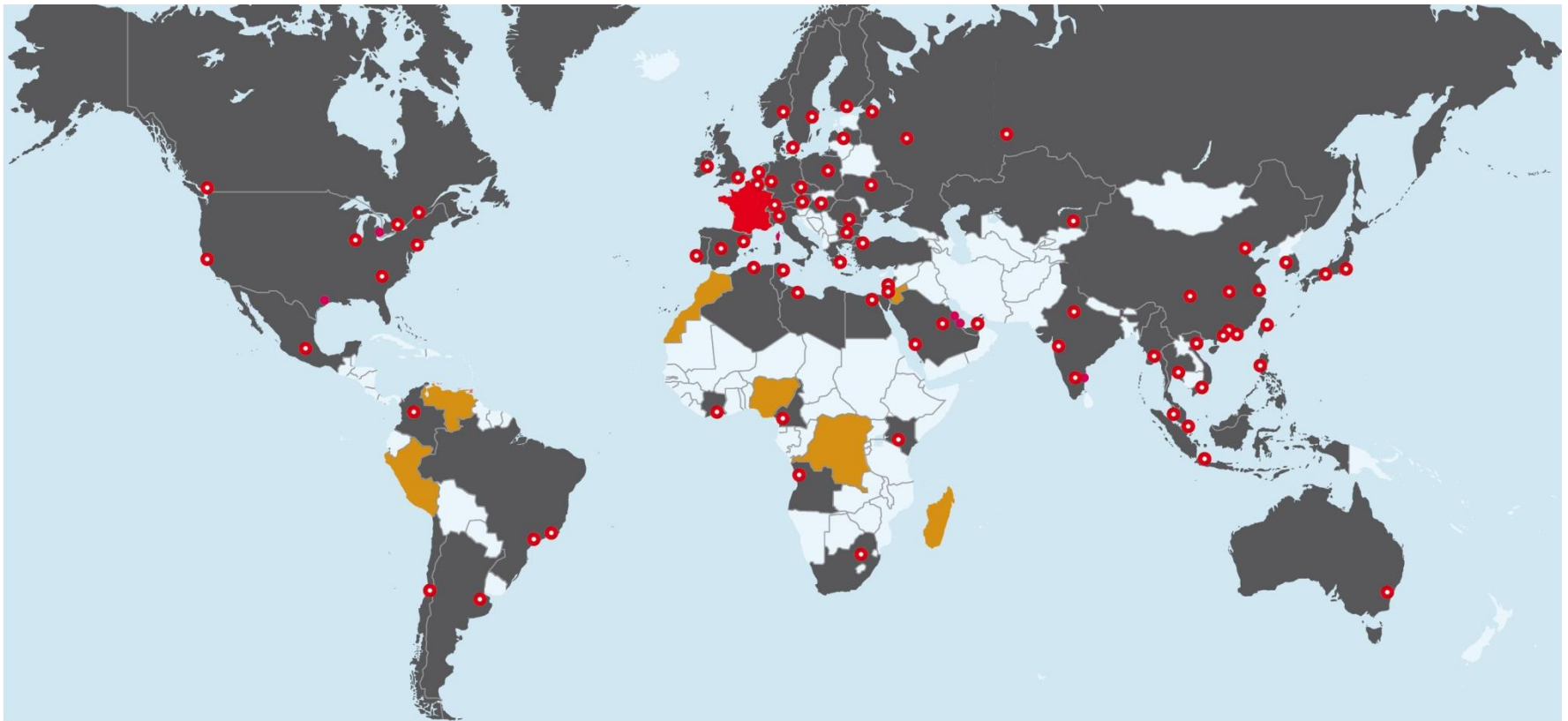
Pays où UBIFRANCE est implantée (bureaux et antennes)

Pays où UBIFRANCE est représentée par un partenaire agréé

UBIFRANCE & les entreprises TIC :

Des solutions personnalisées et opérationnelles pour réussir le développement international des entreprises

Individuel

Info et conseil : étude de marché, veille marchés, prestations réglementaires, juridiques et fiscales

Contacts : test sur l'offre, mission de prospection, suivi de contacts…

Communication : communiqués de presse, conférence de presse, vitrine France

Ressources humaines à l'international : **le Volontariat International en entreprise (VIE)**

Collectif

Pavillon France : 20 pavillons en 2013

 MOBILE WORLD CONGRESS   CARTES …

Rencontre d'affaire :
e-santé, Télécoms, Confiance num …

Vendre à :

SAMSUNG   TomTom   Walmart Save money. Live better.

Tech Tours :

Rencontre Internatl de la French Tech- Paris

UBIFRANCE & les pôles de compétitivité:

- Convention avec la DGCIS pour l'internationalisation des membres des pôles de compétitivité

- **Objectif:** promouvoir les projets collaboratifs et établir des partenariats technologiques et industriels

- Organisation de missions partenariales internationales conçues sur mesure avec les pôles pour répondre aux attentes de leurs membres

- **26 missions** prévues en 2014 dont 3 missions dans le domaine des TIC.

UBIFRANCE & les pôles de compétitivité:

■ Bilan TIC 2013:

» 3 Missions Partenariales réalisées

» 30 participants

» 235 rdv individuels organisés

■ 2 missions dans le domaine des TIC d'ici fin 2014:

» **Optique photonique** - JAPON - Osaka, Hamamatsu, Tokyo
13 au 17 octobre 2013 (A l'occasion du salon INTEROPTO 2014)

» **Ville intelligente** - RUSSIE - Moscou - 1er au 5 décembre 2014 (A l'occasion du Forum Urbain)

Votre contact: Virginie.leytes@ubifrance.fr

Mission Partenariale Internationale

VILLE INTELLIGENTE
A l'occasion du Forum Urbain
Russie – Moscou
Du 1er au 5 décembre 2014

Profitez du dynamisme de la Russie pour rencontrer de nouveaux partenaires technologiques et industriels.

MOSCOW URBAN FORUM

UBIFRANCE – PCN TIC

◥ UBIFRANCE coordonne le Point de Contact National TIC pour le programme H2020

◥ Le PCN qu'est ce que c'est?

» Un consortium composé de **6 membres**

» qui vient en soutien des porteurs de projets TIC

» en les **informant**, les **conseillant** et les **accompagnant** dans le montage de leur projet

Votre contact: claire.ferte@ubifrance.fr

Sommaire

❑ Rappel: objectifs de la journée et informations diverses
❑ Rappel H2020 (rapide)
❑ Contexte H2020/TIC
  ▪ Rappel du contexte national
❑ Le programme LEIT/TIC
❑ Les TIC dans les autres parties de H2020
❑ Le soutien du PCN: lauréats
❑ Présentation Eurostar et Inst. PME
❑ Comment participer aux appels

❑ <u>Ateliers</u>
  ▪ 1/.Savoir se présenter efficacement et trouver des partenaires
  ▪ 2/. Vos technologies pour quels appels

RAPPEL HORIZON 2020

Horizon 2020: architecture

79,4 Md€$_{courant}$ pour 2014-20
...à comparer à ~58 Md€$_{courant}$ sur 2007-13

RDI

Défis sociétaux
- Santé, bien-être, vieillissement
- Sécurité aliment., bioéconomie
- Energies sures, propres, efficaces
- Transports intell., verts, intégrés
- Climat, environnement, mat. 1ères
- Sociétés inclusives et novatrices
- Sociétés sûres

Primauté industrielle

TIC

Technologies clés génériques:
microélectronique, photonique, nanotechnologies, matériaux avancés, systèmes de production, biotechnologies

Espace

Innovation dans les PME

Accès au financement à risque

Recherche fondamentale

Excellence scientifique
Recherche exploratoire (ERC)
Technologies futures et émergentes (FET)
Infrastructures de recherche
Marie Curie

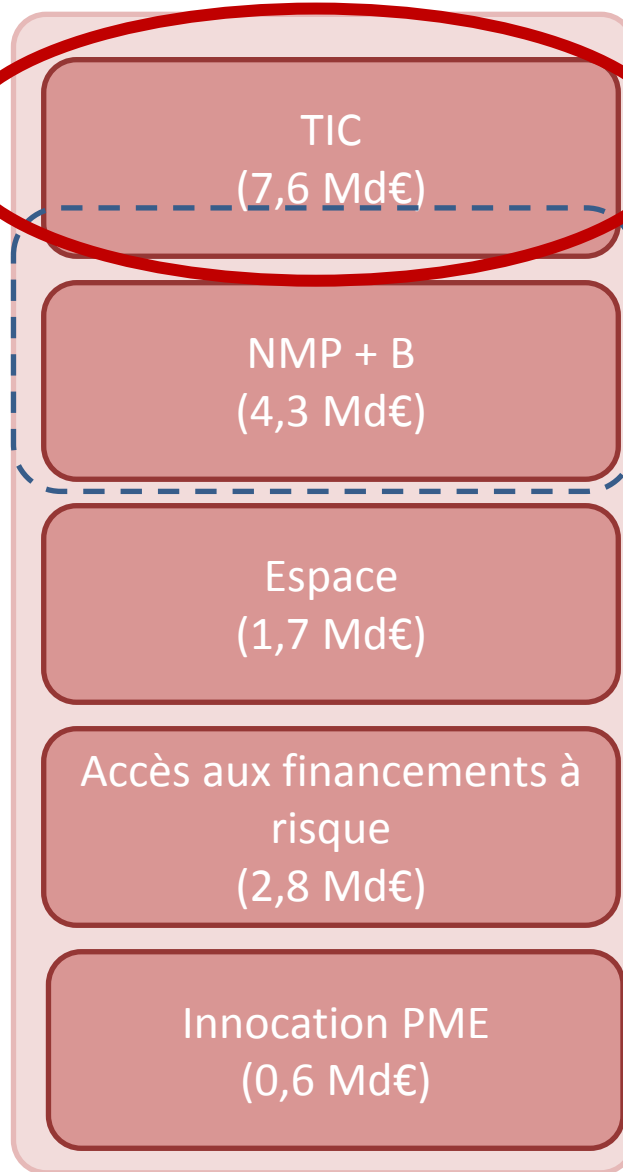*+Elargissement, Science et Société*

Euratom
Fission
Fusion

Institut EU
Innovation & Technologie
EIT / KIC

HORIZON **2020**
LE PROGRAMME DE RECHERCHE ET
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H2020: le pilier Primauté industrielle

17 Md€

TIC
(7,6 Md€)

NMP + B
(4,3 Md€)

Espace
(1,7 Md€)

Accès aux financements à
risque
(2,8 Md€)

Innocation PME
(0,6 Md€)

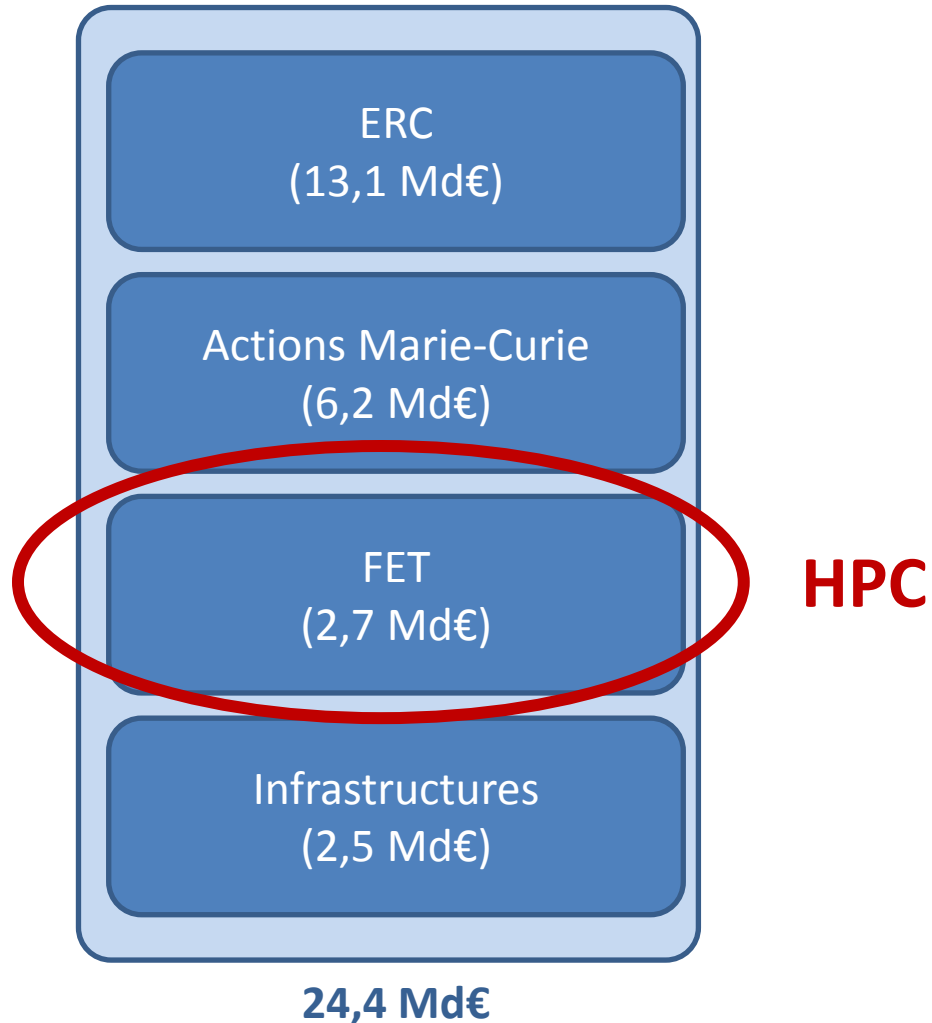KET:
Photonique
Micro/nanoélectronique
Nanotechnologies
Matériaux avancées
Procédés de fabrication avancés
Biotechnologies

HORIZON 2020
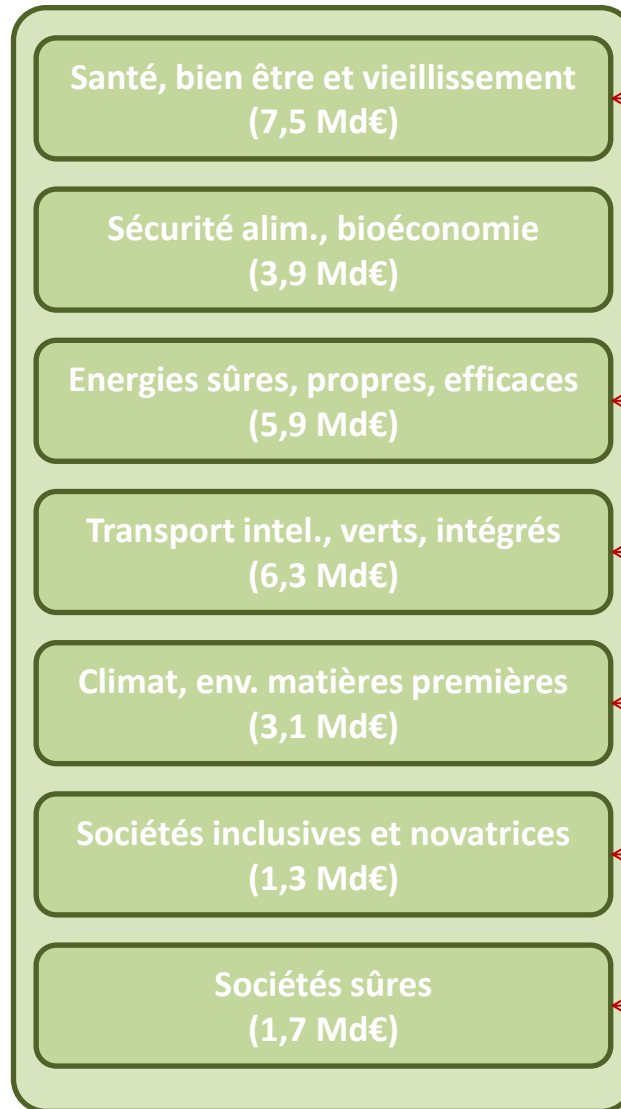LE PROGRAMME DE RECHERCHE ET
D'INNOVATION DE L'UNION EUROPÉENNE

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RÉPUBLIQUE FRANÇAISE

H2020: Le pilier Excellence

24,4 Md€

H2020: le pilier Défis sociétaux

29,7Md€

Santé, bien être et vieillissement
(7,5 Md€)

Sécurité alim., bioéconomie
(3,9 Md€)

Energies sûres, propres, efficaces
(5,9 Md€)

Transport intel., verts, intégrés
(6,3 Md€)

Climat, env. matières premières
(3,1 Md€)

Sociétés inclusives et novatrices
(1,3 Md€)

Sociétés sûres
(1,7 Md€)

DG CNECT partout sauf SC2

Règles de participation

- ❑ Toute entité légale peut participer
- ❑ 3 entités légales de 3 Etats-membres ou Etats associés différents
- ❑ Exception notamment pour les mono-bénéficiaires (ERC et PME)
- ❑ Entités légales financées établies dans les Etats-membres ou Etats associés (pour les Etats tiers : participation essentielle pour la mise en œuvre du projet ou prévue au titre d'un accord de coopération scientifique et technologique ou expressément prévu dans le programme de travail)
- ❑ 3 Critères d'évaluation des propositions:

  Excellence S&T – Impact – Mise en œuvre

  Pour ERC, un seul le critère: Excellence
- ❑ 2 types de projets collaboratifs:
  - ▪ Projet Recherche & Innovation
  - ▪ Projet Innovation

Critères d'évaluation

Projet R&I
(note totale sur 15)

Excellence S&T (sur 5)	Impact (sur 5)	Management (sur 5)

Projet I
(note totale sur 17,5)

Impact (sur 5, **poids de 1,5**)	Excellence S&T (sur 5)	Management (sur 5)

Taux de co-financement
(projets collaboratifs)
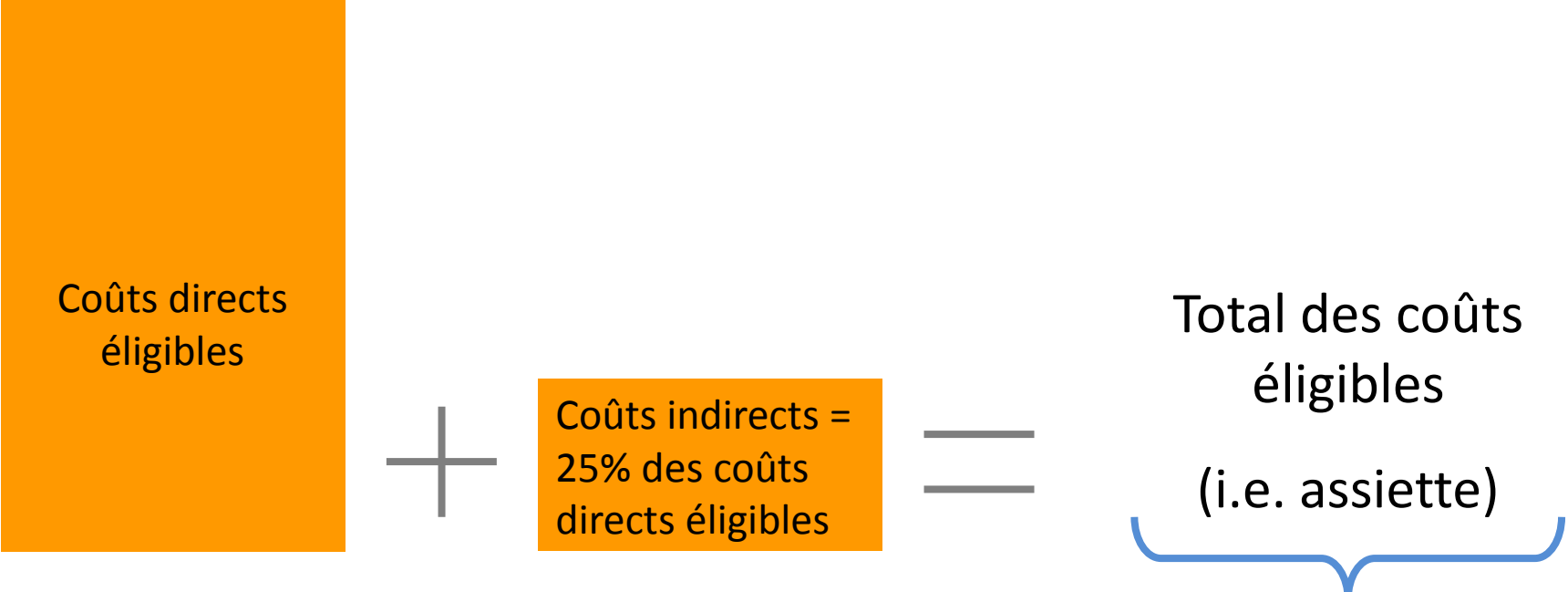
❏ Deux types de projets collaboratifs principaux

- Projets « Recherche & Innovation »: 100% des coûts éligibles
- Projets « Innovation »: 70% des coûts éligibles

Taux de financement des <u>coûts directs</u> éligibles		
Thème fléché	« Non-profit » organisations	Entreprises
Recherche & Innovation	**100%**	**100%**
Innovation	**100%**	**70%**

**Forfait de 25% des coûts directs éligibles
pour l'assiette des coûts indirects**

Taux de co-financement (projets collaboratifs)

Coûts directs éligibles

+

Coûts indirects = 25% des coûts directs éligibles

=

Total des coûts éligibles

(i.e. assiette)

Calcul de la subvention UE:

- 100% du total des coûts éligibles pour les projets de recherche et d'innovation : 100% de (100+25)

- 70% du total des coûts éligibles pour les projets d'innovation (100% pour les organisations à but non lucratif): 70% de (100+25)

Simplification

- ❑ ***Time-to-grant*** **réduit**
  - ▪ 5 mois entre le dépôt et la fin de l'évaluation
  - ▪ 3 mois de négociation avant signature
- ❑ Audits possibles pendant seulement 2 ans après le paiement final (vs. 5 ans après la fin du projet dans le 7ème PCRDT)
- ❑ Fin de l'obligation de placer le pré-financement sur un compte rémunéré et de reverser les éventuels intérêts générés
- ❑ Vérification de la capacité financière, seulement si la subvention de l'UE dépasse 500k€ et uniquement du coordinateur
  - ▪ Capacité financière peut être assurée par un tiers
- ❑ Possibilité de cumuler des financements UE sur un même projet (mais éléments de coûts différents)
- ❑ Accès simplifié à l'information pour le participant
- ❑ Echanges exclusivement électroniques, nouveau portail du participant (incluant Cordis à terme), nouvelle structure de la convention de subvention (options), texte explicatif de la convention de subvention, guides plus adaptés aux acteurs ciblés…

LE PROGRAMME LEIT/TIC

Europe et TIC: la problématique française (1)

❑ Quelques chiffres de contexte

- Contribution FR au budget UE: 16,5% (en 2013)
- Budget moyen du programme TIC (2007-2013): 1,2 Md€/an
- Budget 2013 du programme TIC: 1,6 Md€

- **La communauté S&T TIC a bénéficié en moyenne à 121 M€/an sur 2007-2013**

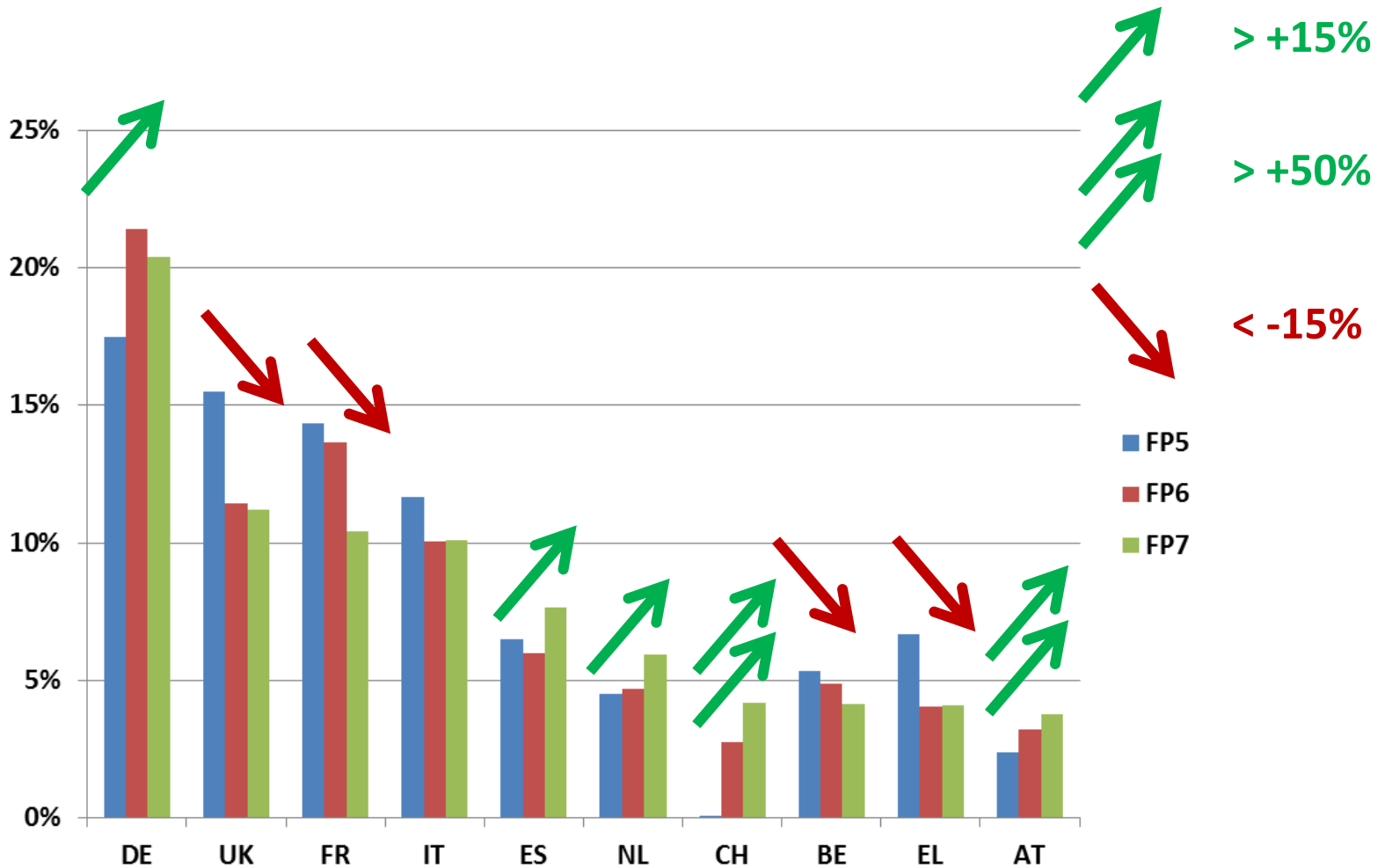- …et donc la communauté S&T TIC a perdu en moyenne 72 M€/an

- **La communauté S&T TIC FR a perdu 108 M€ sur la seule année 2013**

Europe et TIC: la problématique française (2)
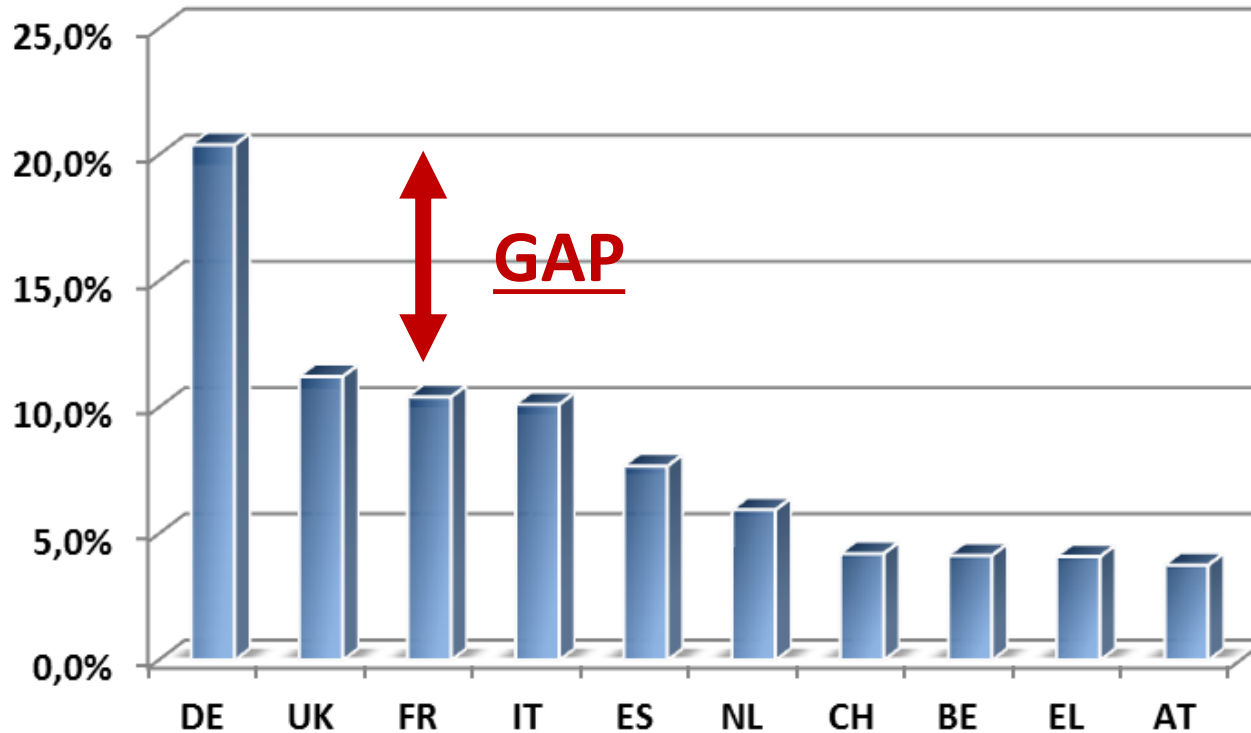
Retour FR de 10,4% vs. 20,4% pour DE

FR: un recul très prononcé sur 15 ans (-27%)

> +15%

> +50%

< -15%

Legend: FP5, FP6, FP7

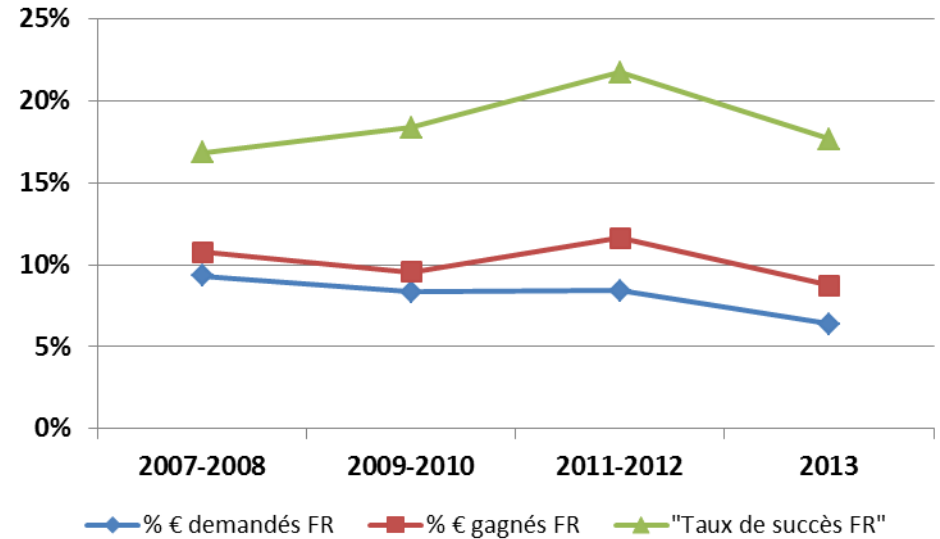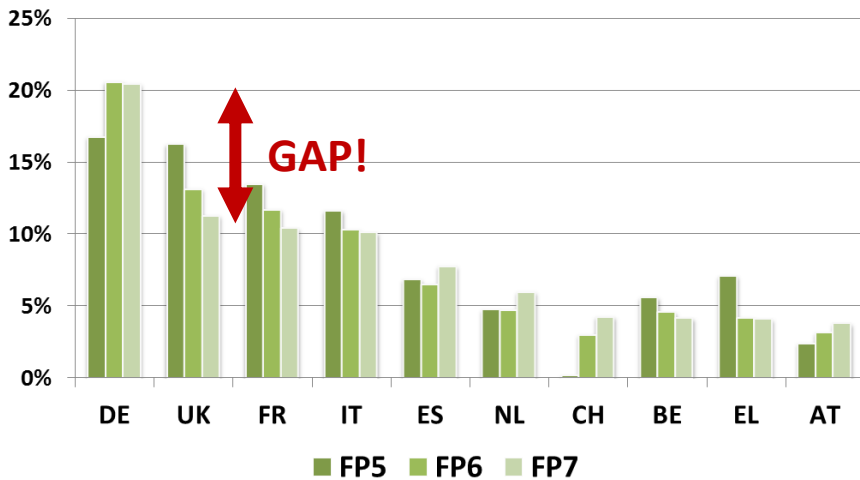**Top 10 pays**
- FP5: 85%
- FP6 et FP7: 82%

Europe et TIC: la problématique française (4)

FR FP7: 122 M€/an ; 10,4%

Une baisse particulièrement marquée (de 13,5% à 10,4%)
Une raison principale: la forte baisse de la participation

Europe et TIC: la problématique française (5)

❑ Une performance très contrastée…

- FET: 10,9%
- Technos cœur TIC: 11,2%
- TIC pour les défis: 6,3%

❑ …mais qui se dégrade globalement

- WP 2007-2008: 10,6%
- WP 2009-2010: 9,3%
- WP 2011-2012: 9,6%
- WP 2013: <u>8,8%</u>

❑ …liée à la baisse de participation

- FET: 8,8%
- Technos cœur: 9,2%
- TIC pour les défis: 5,3%

❑ …en (très) forte baisse!

- 8,9%
- 8,2%
- 8%
- <u>6,2%</u>

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Europe et TIC: la problématique française (6)
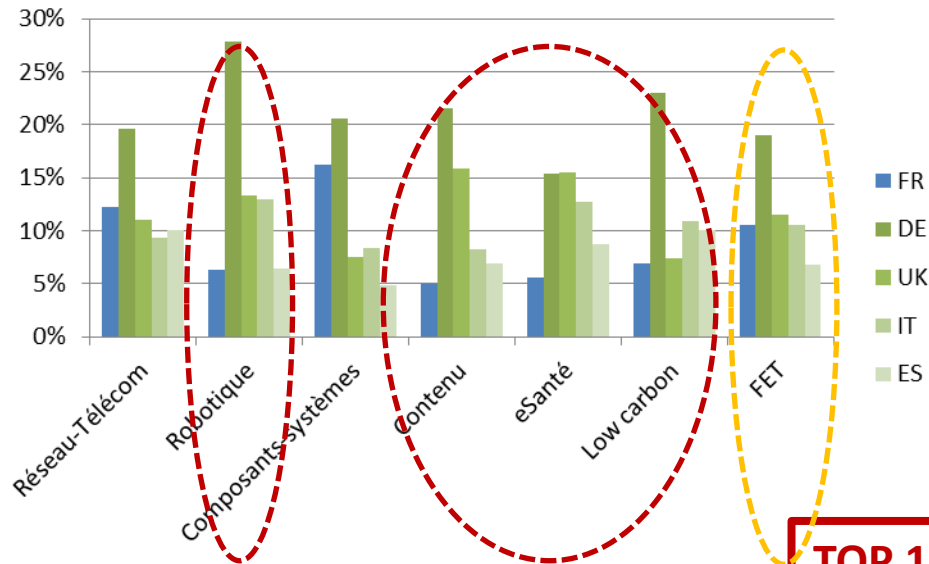
TOP 10 FR = 55,6% € gagnés
TOP 20 = 64,4%
TOP 50 = 74,6%
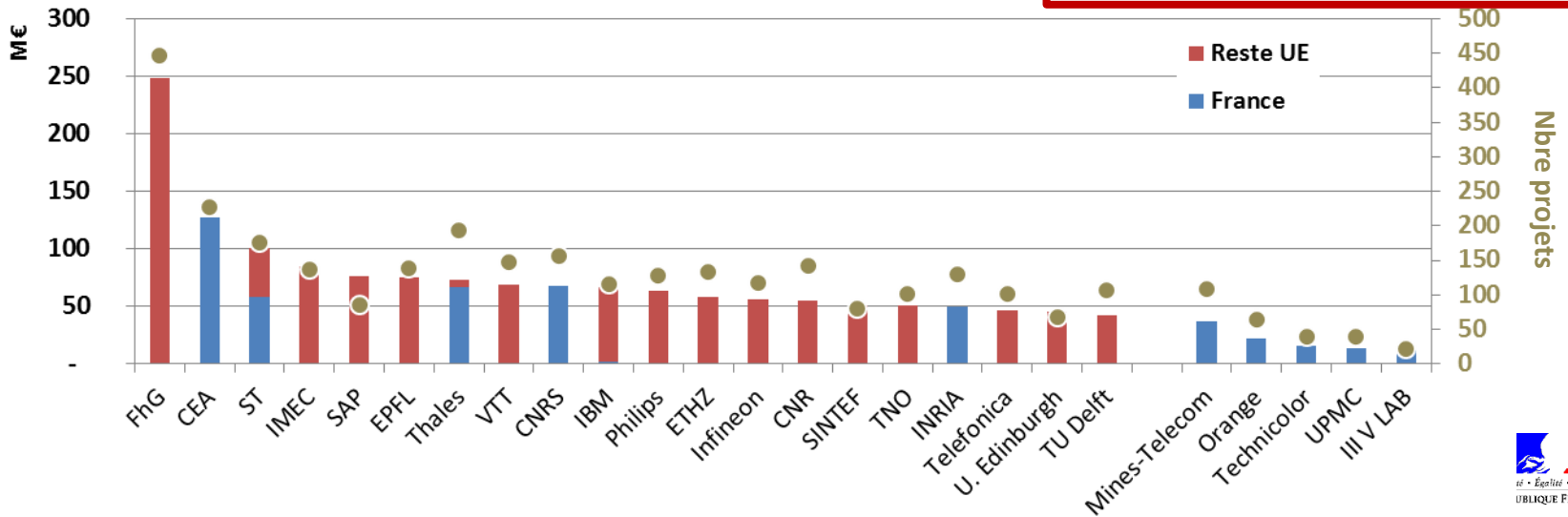
Europe et TIC: la problématique française (7)

❑ Quelques chiffres sur les bénéficiaires français

- 587 bénéficiaires uniques
- …mais les 10 premiers représentent 56% du total
- 99 ont bénéficié de plus de 1 M€
  - Dont 27 grands groupes, 7 ETI et <u>17 PME industrielles</u>
- Quelques bénéficiaires:

❑ Quelques bénéficiaires sur les autres programmes du 7ème PCRDT:

Evolutions majeure par rapport au 7ème PCRDT: un recentrage sur les technologies + nouveaux instruments

ICT for socio-economic challenges

Basic ICT technologies & infrastructures

1. Pervasive and Trusted Network and Service Infrastructure
2. Cognitive Systems and Robotics
3. Alternative Paths to Components and Systems
4. Technologies for Digital Content and Languages

5. ICT for Health, Ageing well, Inclusion & Gov.

6. ICT for a Low-Carbon Economy

7. ICT for Enterprise& Manufact.

8. ICT for Creativity and Learning

Future & Emerging Technologies (FET)

International cooperation, Cooperation in an enlarged Europe, Pre-commercial Procurement

- STREP – IP vs. R&I – I
- Echelle TRL
- Instrument PME

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Industrial Leadership - ICT
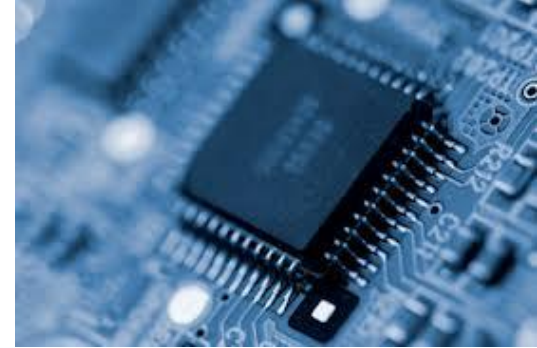
- **A new generation of components and systems:**
  - engineering of advanced embedded and resource efficient components and systems

- **Next generation computing:**
  - advanced and secure computing systems and technologies, including cloud computing

- **Future Internet:**
  - software, hardware, infrastructures, technologies and services

- **Content technologies and information management:**
  - ICT for digital content, cultural and creative industries

    - **Advanced interfaces and robots:**
      - robotics and smart spaces

    - **Micro- and nanoelectronics and photonics:**
      - key enabling technologies

European Commission

Programme TIC

Composants et systèmes

Calcul avancé

Internet du futur

Contenu et tech. Inform.

Robotique

KET
μ-elect. et photonique

FoF

Activités horizontales
IoT
SHS
Cyber
Coopération internationale

Actions innovation
Accès au finance
Politique d'innovation
Instrument PME: *Open innovative instrument scheme*

A balanced approach

For growth and jobs and for adressing societal challenges Europe needs:

1.   to maintain expertise in key technology value chains

2.   to move quicker from research excellence to the market

This requires…

1. Strong industrial roadmaps:	2. Disruptive innovation:
• long term commitment • continuity and stability • new actors to exploit and leverage new technologies	• flexibility and openess • dynamic eco-systems • new actors to initiate and drive change

Les *roadmaps* TIC: continuité et consolidation

FP7	H2020
ARTEMIS JTI	**Electronic Components & Systems JTI**
ENIAC JTI	
Smart Systems R&D (EPoSS)	

Factory of the Future PPP

Future Internet PPP & SME Accelerator	**Expansion of use cases**
Networking R&D	**5G PPP**
Photonics R&D	**Photonics PPP**
Robotics R&D	**Robotics PPP**

Advanced Computing

Content Technologies and Information Management

- ❑ **> 2000 membres (dont 284 FR)**
- ❑ **Académiques + Industrie**
- ❑ **7 WG**
  - ▪ WG1: *Information & Communication*
  - ▪ WG2: *Industrial Manufacturing & Quality*
  - ▪ WG3: *Life Science & Health*
  - ▪ WG4: *Emerging Lighting, Electronics & Displays*
  - ▪ WG5: *Security, Metrology and Sensors*
  - ▪ WG6: *Design & Manufacturing of Components & Systems*
  - ▪ WG7: *Photonics Research, Education & Training*

1	to	10
10	to	30
30	to	50
50	to	70
70	to	90
90	and more	
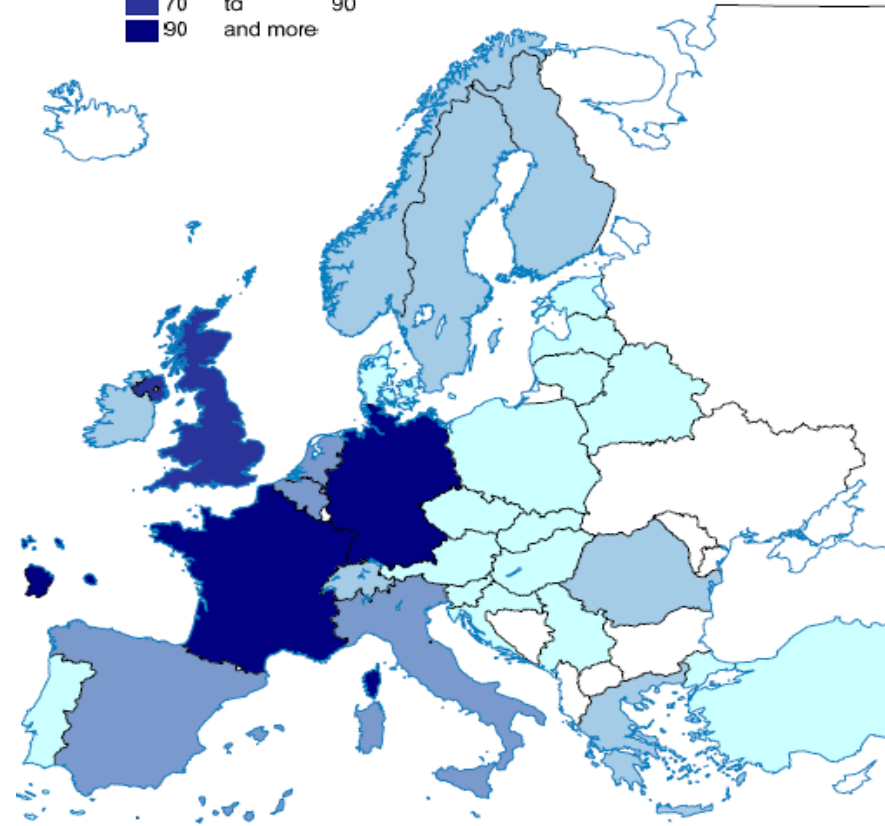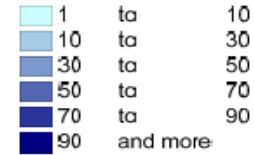
Processus PPP Photonics
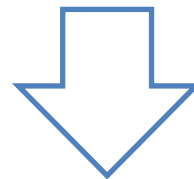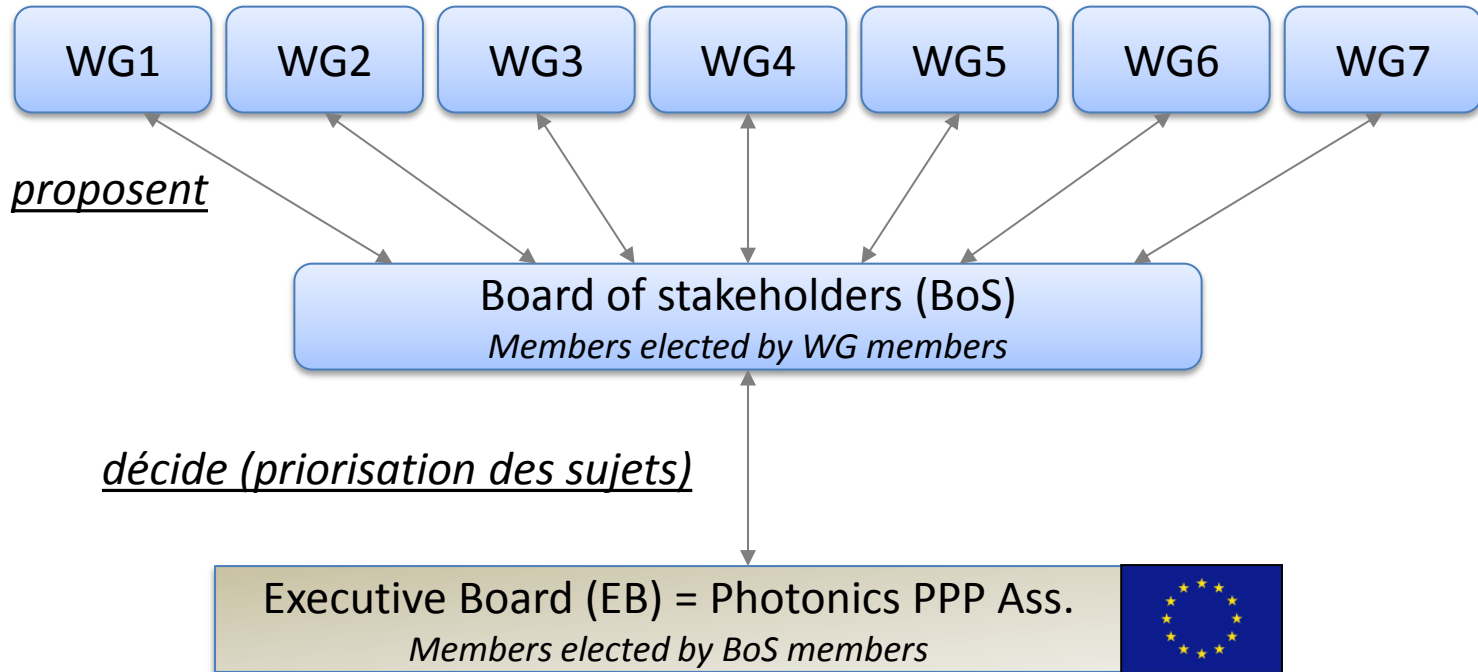
PPP 5G

H2020 5G Infrastructure PPP
PPP Pre-structuring Model – System Perspective
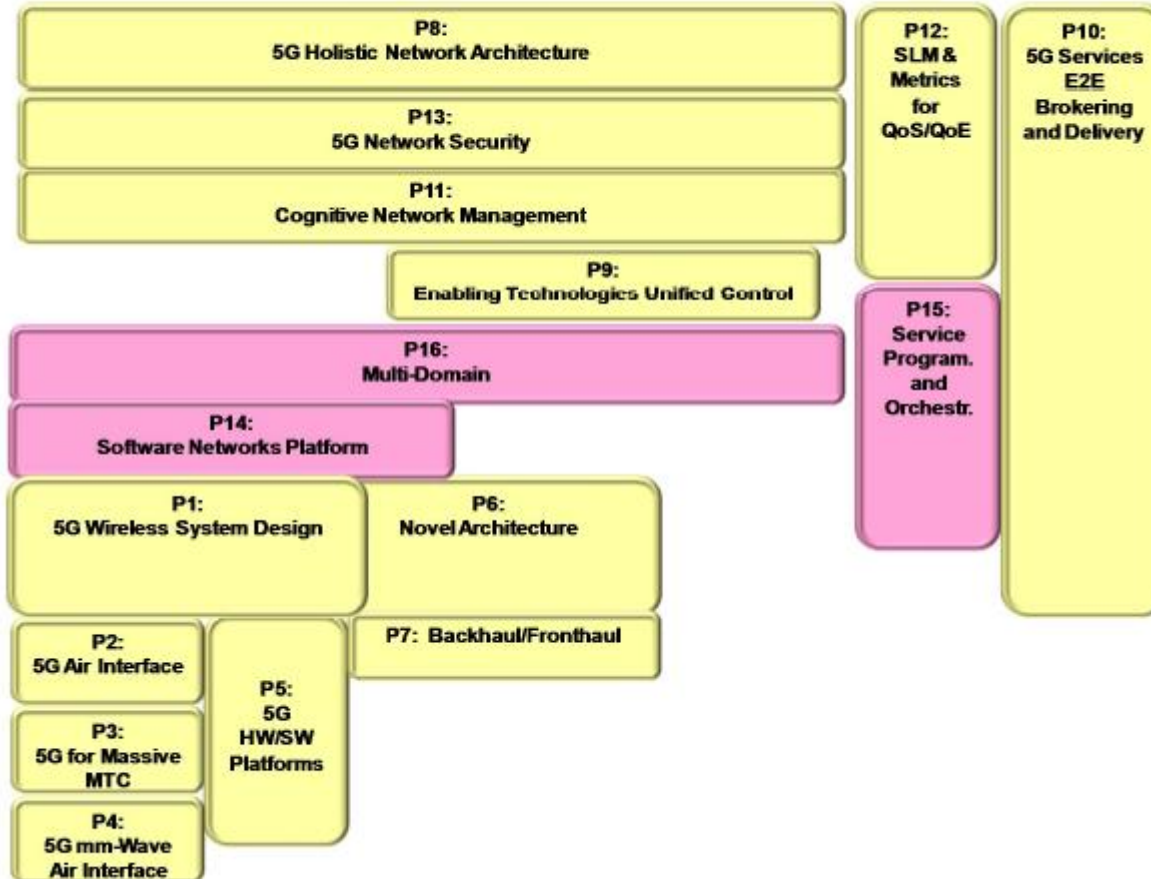
Draft working document of the 5G-Infrastructure-Association - Public - for consultation - feedback via 5g-ppp.eu please

Participer à la gouvernance du programme: une action à plusieurs niveaux!

CAF

Stakeholders (Coord., entreprises, organismes..)

Unités DG CNECT: Rédaction des objectifs (draft)
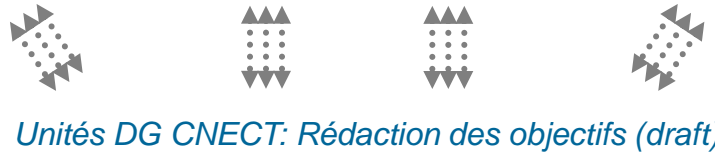
~ 3-4 mois

Consolidation DG CNECT

Etats membres

Draft WP

x2

~ 3-4 mois

GTN TIC
'FR Stakeholders'

WP (2014)

Document Microsoft Word

Components and systems / 2014-2015
(overall budget 142 M€)

- Covers **systemic integration from smart components to cyber-physical systems**

- **Complementary to the JTI Electronic Components and Systems (ECSEL)**

- **Organised in three related topics:**
    - Smart cyber-physical systems (56 M€)
        - Next generation embedded and connected systems
    - Smart system integration (48 M€)
        - Integration of heterogeneous micro- and nanotechnologies into smart systems
    - Advanced Thin, Organic and Large Area Electronics (38 M€)

- R&I in this area will also contribute to the implementation of the **SRA on Energy Efficient Buildings**

European Commission
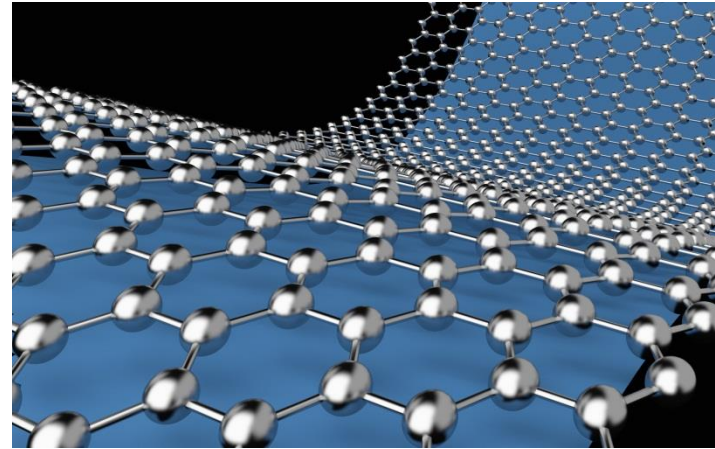
Components and systems (142 M€)

❑ **ICT 1 -2014: Smart Cyber-Physical Systems (56 M€)**

Actions : R & I (37 M€), Innov (17 M€) , CSA (2 M€)

❑ **ICT 2 -2014 : Smart System Integration (48 M€)**

Actions : R & I (35 M€), Innov (9 M€) , CSA (1 M€) , PCP (3 M€)

❑ **ICT 3 -2014: Advanced Thin, Organic and Large Area Electronics (38 M€)**

Actions : R & I (17 M€), Innov (15.5 M€) , CSA (2.5 M€) , PCP(3 M€)

Advanced Computing /
2014-2015 (overall budget 55 M€)

- Reinforce and expand Europe's industrial and technology strengths in **low-power ICT**

- Focus is on **integration of advanced components on all levels in computing systems**

- Complementary to and coordinated with work in the Future Internet area (on Cloud Computing) and in Excellence Science pillar under Research Infrastructures and FET (on High Performance Computing)

- **Organised in one topic:**
  - Customised and low power computing

European Commission

Advanced Computing (55 M€)

❑ **ICT 4 – 2015: Customised and low power computing (55 M€)**

Actions : R & I (36 M€), Innov (16 M€) , CSA (3 M€)

Future Internet / 2014-2015 (overall budget 392,5 M€)

- Focused on **network and computing infrastructures** to accelerate innovation and address the most critical technical and use aspects of the Internet

- **Organised in ten topics:**
  - Smart networks and novel Internet **architectures** (24 M€)
  - Smart **optical** and **wireless network** technologies (30 M€)
  - Advanced **5G** Network Infrastructure for the Future Internet (125 M€)
    → **5G PPP**
  - Advanced **cloud** infrastructures and services (73 M€)
  - Boosting public sector productivity and innovation through cloud computing services (21 M€)
  - Tools and methods for **Software Development** (25 M€)
  - **FIRE+ (Future Internet Research & Experimentation)** (31,5M€)
  - More Experimentation for the Future Internet (17 M€)
  - **Collective Awareness Platforms** for sustainability and social innovation (36 M€)
  - **Web Entrepreneurship** (10 M€)

Future Internet (392.5 M€) -1

- ❑ **ICT 5 - 2014: Smart Networks and novel Internet Architectures (24 M€)**
  Actions : R & I (24 M€)

- ❑ **ICT 6 - 2014: Smart optical and wireless network technologies (30 M€)**
  Actions : R & I (29 M€), CSA (1 M€)

- ❑ **ICT 7 - 2014: Advanced cloud Infrastructures and Services (73 M€)**
  Actions : R & I (66 M€), Innov (5 M€) , CSA (2 M€)

- ❑ **ICT 8 - 2015: Boosting public sector productivity and innovation through cloud computing services (21 M€)**
  Actions : PCP (9 M€), PPI(12 M€)

- ❑ **ICT 9 - 2014: Tools and methods for Software Development (25 M€)**
  Actions : R & I (25 M€)

Future Internet (392.5 M€) - 2

❑ **ICT 10 - 2015: Collective Awareness Platforms for Sustainability and Social Innovation (36 M€)**

   Actions : R & I (35 M€), CSA (1 M€)

❑ **ICT 11 -2014: FIRE+ (Future Internet Research & Experimentation) (31.5 M€)**

   Actions : R & I (25 M€), Innov (5 M€) , CSA (1.5 M€)

❑ **ICT 12- 2015: Integrating experiments and facilities in FIRE+ (17 M€)**

   Actions : R & I (12 M€), Innov (5 M€)

❑ **ICT 13 - 2014: Web Entrepreneurship (10 M€)**

   Actions : Innov (6 M€) , CSA (4 M€)

❑ **ICT 14 -2014 : Advanced 5G Network Infrastructure for the Future Internet (125 M€)**

   Actions : R & I (98 M€), Innov (25 M€) , CSA (2 M€)

Content technologies and information management / 2014-2015 (overall budget 255 M€)

- **Addresses:**
  - **Big Data** with focus on both innovative data products and services and solving research problems
  - **Machine translation** in order to overcome barriers to multilingual online communication
  - **Tools for creative, media and learning industries** in order to mobilise the innovation potential of SMEs active in the area
  - **Multimodal and natural computer interaction**

- **Organised in eight topics:**

  - Big data and Open Data innovation and take-up (50 M€)
  - Big data research (37 M€)
  - Cracking the language barrier (15 M€)
  - Support to the growth of ICT innovative creative industries SMEs (15 M€)
  - Technologies for creative industries, social media and convergence (4 M€)
  - Technologies for better human learning and teaching (50 M€)
  - Advanced digital gaming/gamification technologies (17 M€)
  - Multimodal and natural computer interaction (31 M€)

European Commission

Grands bénéficiaires – Challenge 4
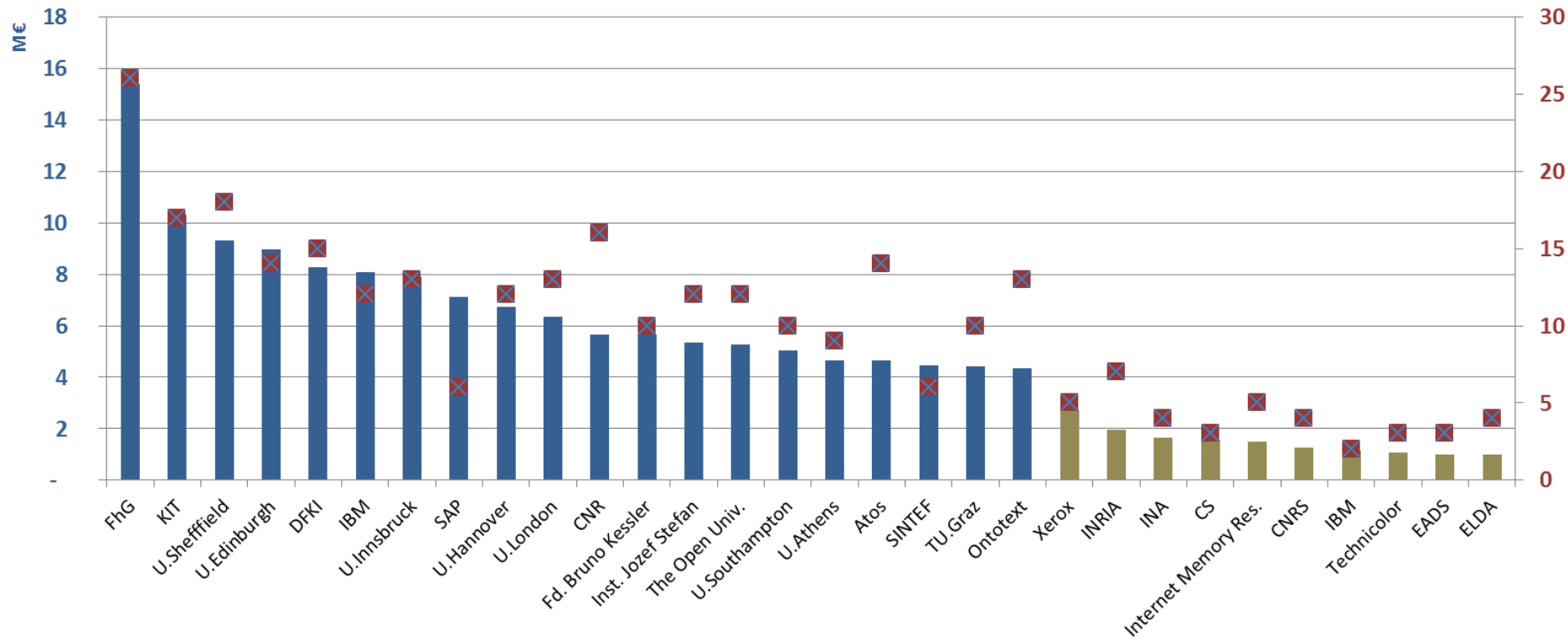
Content technologies and inf. mgmt (255 M€) -1

❑ **ICT 15 – 2014 : Big data Innovation and take-up (50 M€)**

    Actions : Innov (39 M€) , CSA (11 M€)

❑ **ICT 16 - 2015: Big data – research (37 M€)**

    Actions : R & I (36 M€), CSA (1 M€)

❑ **ICT 17 - 2014: Cracking the language barrier (15 M€)**

    Actions : R & I (4 M€), Innov (10 M€) , CSA (1 M€)

❑ **ICT 18 - 2014: Support the growth of ICT innovative Creative Industries SMEs (15 M€)**

    Actions :   Innov (14 M€) , CSA (1 M€)

Content technologies and inf. mgmt (255 M€) -2

❑ **ICT 19 - 2015: Technologies for creative industries, social media and convergence (40 M€)**

Actions : R & I (18 M€), Innov (20 M€) , CSA (2 M€)

❑ **ICT 20 - 2015: Technologies for better human learning and teaching (50M€)**

Actions : R & I (14 M€), Innov (27 M€) , PPI (9 M€)

❑ **ICT 21 -2014: Advanced digital gaming/gamification technologies (17 M€)**

Actions : R & I (9 M€), Innov (8 M€)

❑ **ICT 22 -2014: Multimodal and Natural computer interaction (31 M€)**

Actions : R & I (23.5 M€), Innov (7.5 M€)

Robotics / 2014-2015
(overall budget 154 M€)

- **Roadmap-based research driven by application needs
  → Robotics PPP**

- Effort to close the innovation gap to **allow large scale deployment of robots and foster market take-up**: use-cases, pre-commercial procurement, industry-academia cross-fertilisation

  - Includes two pre-commercial procurement actions (health-care sector, public safety and environmental monitoring)

- Additional activities: shared resources, performance evaluation & benchmarking, community building and robotic competitions

- **Organised in two annual calls**
  (of 74 M€ and 83M€ respectively)

European Commission
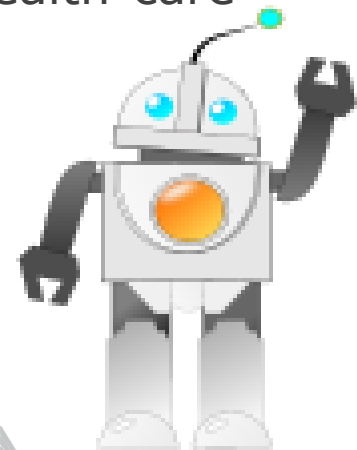
Robotics (154M€)

❑ **ICT 23 - 2014: Robotics (74 M€)**

   Actions : R & I (57 M€), Innov (12 M€) , PCP (5 M€)

❑ **ICT 24 - 2015 : Robotics (80 M€)**

   Actions : R & I (47 M€), Innov (24 M€) , CSA (4 M€) , PCP (5 M€)

Un focus beaucoup plus appliqué que par le passé!

Objectif: transfert vers l'industrie

Grands bénéficiaires – Challenge 2
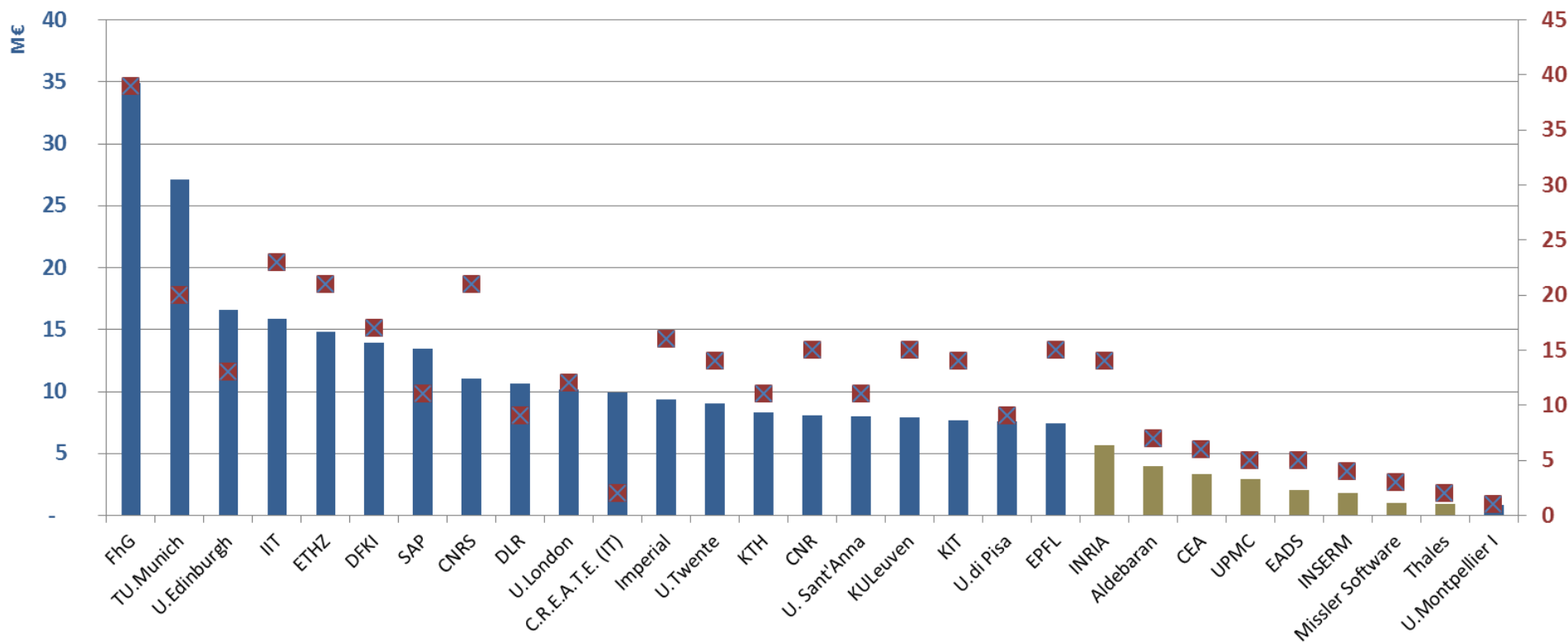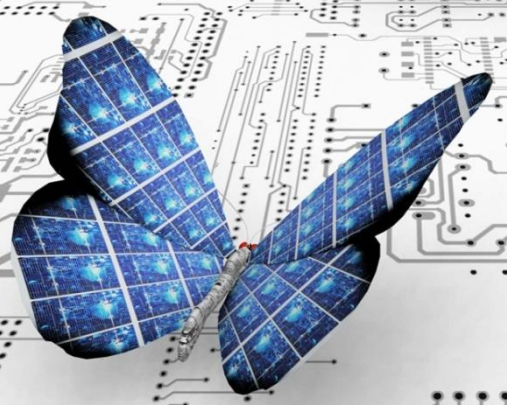
Micro- and nano-electronics and photonics
Key Enabling Technologies /
2014-2015   (overall budget 206 M€)

- Covers **generic technology developments on micro- and nano-electronics** focused on **advanced research** and lower Technology Readiness Levels (TRLs) (48 M€)
  - Complementary to the JTI Electronic Components and Systems

- **Addresses the full innovation and value chain in markets sectors where the European photonics** industry is particularly strong (optical communications, lighting, medical photonics, laser technologies, etc.) **(158 M€)**
  →Photonics PPP
  - Includes calls for ERANETs as well as public procurement actions (roll-out and deployment of optical networking technologies)

Micro- and nano-electronics and photonics (206 M€)

- **ICT 25 -2015 : Generic micro- and nano-electronic technologies (48 M€)**

  Actions : R & I (38 M€), Innov (7 M€) , CSA (3 M€)

- **ICT 26 - 2014 : Photonics KET (47M€)**

  Actions : R & I (28 M€), Innov (8 M€) , CSA (5 M€) , ERA-NET(6 M€)

- **ICT 27 - 2015 : Photonics KET (41 M€)**

  Actions : R & I (27 M€), PPI (5 M€) , CSA (3 M€) , ERA-NET (6 M€)

- **ICT 28 -2015 : Cross-cutting ICT KETs (52 M€)**

  Actions : Innov (53 M€) , CSA (1 M€)

- **ICT 29 -2014 : Development of novel materials and systems for OLED lighting (18 M€)**

  Actions : R & I (18 M€)

Factory of the Future / 2014-2015
(overall budget 102 M€)

- Focuses on **ICT components of innovative production systems in all sectors** (for more personalised, diversified and mass-produced product portfolio and for rapid adaptations to market changes)

- Organised in **three topics:**

  - Process optimisation of manufacturing assets (34 M€)
  - ICT-enabled modelling, simulation, analytics and forecasting technologies (32 M€)
  - ICT Innovation for Manufacturing SMEs (36 M€)
  - Part of **FoF PPP**

European Commission

Factory of the Future (102 M€)

❑ **3 sujets du WP FoF financés par LEIT/TIC** :

- **FoF 1: Process optimisation of manufacturing assets (34 M€)**
  Actions : R & I (32 M€), CSA (2 M€)

- **FoF 8: ICT-enabled modelling, simulation, analytics and forecasting technologies (32 M€)**

  Actions : R & I (32 M€)

- **FoF 9: ICT Innovation for Manufacturing SMEs (36 M€)**
  Actions : R &I (35 M€), CSA (1 M€)

ICT Cross-Cutting Activities / 2014-2015

- **Internet of Things and platforms for Connected Smart Objects (49 M€)**
  - Cutting across several LEIT-ICT areas (smart systems integration, smart networks, big data)
  - Bringing together different generic ICT technologies and their stakeholder constituencies

  - **Human-centric Digital Age (7 M€)**
    - Understanding technologies, networks and new digital and social media and how these are changing the way people behave, think, interact and socialise as persons, citizens, workers and consumers

- **Cyber-security, Trustworthy ICT (38 M€)**
  - Focuses on security-by-design for end to end security and a specific activity on cryptography
  - Complementary to Cyber-security in Societal Challenge 7

- **Trans-national co-operation among National Contact Points (4 M€)**
  - Mechanisms for effective cross border partnership searches, identifying, understanding and sharing good practices among ICT NCPs

European Commission

ICT Cross-Cutting Activities (98 M€)

❑ **ICT 30- 2015 : Internet of Things and platforms for Connected Smart Objects (49 M€)**

   Actions : R & I (50 M€), CSA (1 M€)

❑ **ICT 31 - 2014: Human-centric Digital Age (7M€)**

   Actions : R & I (6 M€), CSA (1 M€)

❑ **ICT 32 - 2014: Cyber-security, Trustworthy ICT (38M€)**

   Actions : R & I (37 M€), CSA (1 M€)

❑ **ICT 33 – 2015: Trans-national co-operation among National Contact Points (4M€)**

   Actions : CSA (4 M€)

ICT horizontal innovation actions / 2014-2015

- **Support for access to finance (15 M€)**
  - Pilot action for business angels to co-invest in ICT innovative companies
  - Implemented by EIF and closely coordinated with "Access to risk finance" part of H2020

- **Innovation and Entrepreneurship Support (11 M€)**
  - ICT business idea contests in universities and high schools
  - ICT entrepreneurship summer academy
  - ICT entrepreneurship labs
  - Campaign on entrepreneurship culture in innovative ICT sectors
  - Support for definition and implementation of inducement prizes
  - European networks of procurers
  - Pre-commercial procurement

- **Open Disruptive Innovation Scheme (90 M€)**
  - Support to a large set of **early stage high risk innovative SMEs in ICT**
  - Implementation through the **SME instrument**
    - -> Continuously open calls with several (3) cut-off dates/year
    - -> 5% of LEIT budget

European Commission

ICT Innovation actions (116 M€)

❑ **ICT 34 -2015: Support for access to finance (15 M€)**

  Actions : Financial Instr. (15 M€)

❑ **ICT 35 - 2014: Innovation and Entrepreneurship Support (7 M€)**

  Actions : Innov (4 M€), CSA (3 M€)

❑ **ICT 36 -2015 : Pre-Commercial Procurement open to all areas of public interest requiring new ICT solutions (4 M€)**

  Actions : PCP (4 M€)

❑ **ICT37 – 2014-2015: Open Disruptive Innovation Scheme (90 M€)**

  Actions : SME Instr. (90 M€)

Instrument PME

- ❑ Phase 1: idée/concept,
  - ▪ Input: Business plan I (10 p.)
  - ▪ Activités: faisabilité, analyse risques, IP, recherche partenaires, pilote…
  - ▪ Output: Business plan II
  - ▪ 50 k€, ~ 6 mois
- ❑ Phase 2: R&D, démonstration, *market replication*
  - ▪ Input: Business plan II et description des activités de la phase 2 (30 p.)
  - ▪ Activités: développement, prototypes, test, pilotes, miniaturisation, scale-up…
  - ▪ Output: investor ready Business plan III
  - ▪ 1-3 M€, 12-24 mois
- ❑ Phase 3: Commercialisation
  - ▪ Coaching sur l'accès aux financements, formation, IP management…

Concept & Etude de faisabilité (50 k€)

R&D Démonstration (1-3 M€)

Commercialisation (Coaching)
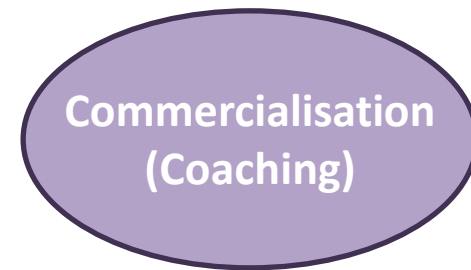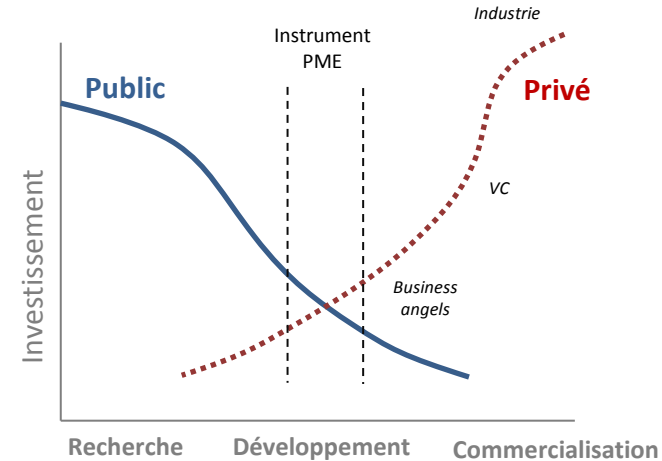
IDEE → **MARCHE**

10%   *30-50%*   *Taux de succès envisagé*

HORIZON 2020
LE PROGRAMME DE RECHERCHE ET D'INNOVATION DE L'UNION EUROPÉENNE

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RÉPUBLIQUE FRANÇAISE

Instrument PME

2014		2015	
Phase 1	**Phase 2**	**Phase 1**	**Phase 2**
18/06/2014	09/10/2014	18/03/2015	18/03/2015
24/09/2014	17/12/2014	17/06/2015	17/06/2015
17/12/2014		17/09/2015	17/09/2015
		16/12/2015	16/12/2015

Attention

Les premiers résultats montrent une divergence entre WP et réalité:

- ICT37 – 2014/2015: Open Disruptive Innovation Scheme (implemented through the SME instrument)
  *The challenge is to provide support to a large set **of early stage high risk innovative SMEs** in the ICT sector. Focus will be on SME proposing innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets.*
- En réalité: **4 entreprises FR sélectionnées âgées de plus de 4 ans**!

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International cooperation actions / 2014-2015
(overall budget 27 M€)

- **Coordinated calls**
  - **EU-Brazil (7 M€)**
    - Cloud computing, including security aspects
    - High performance computing
    - Experimental platforms
  - **EU-Japan (6 M€)**
    - Technologies combining big data, internet of things in the cloud
    - Optical communications
    - Acces networks for densely located users
    - Experimentation and development on federated Japan-EU testbeds

- **International partnership building and support to dialogues with high income countries (USA, Canada, East Asia and Oceania) (3 M€)**

- **International partnership building in low and middle income countries (11 M€)**

European Commission

International Cooperation actions (14 M€) + Coordinated calls (13 M€)

- ❑ **ICT38: International partnership building and support to dialogues with high income countries (3 M€)**

    Actions : CSA (3 M€)

- ❑ **ICT39: International partnership building in low and middle income countries (11 M€)**

    Actions : R & I (11 M€)

- ❑ **EU – Japan (EU funding :6 M€ (1.5 M€ per topic))**
    - ▪ EUJ 1 - 2014 : Technology combining big data, internet of things in the Cloud
    - ▪ EUJ 2 - 2014 : Optical Communications
    - ▪ EUJ 3 - 2014 : Access networks for densely located users
    - ▪ EUJ 4 - 2014 : Experimentation and development on federated Japan – EU testbeds

    Actions : R & I

- ❑ **EU –Brazil (EU funding :7 M€)**
    - ▪ EUB 1 - 2015 : Cloud Computing including security aspects (3.5 M€)
    - ▪ EUB 2 - 2015 : High Performance Computing (HPC) (2 M€)
    - ▪ EUB 3 - 2015 : Experimental platforms (1.5 M€)

    Actions : R & I (+ 1 CSA in EUB 1)

ECSEL: public public private partnership

The tri-partite JTI allows to align strategic programmes at EU and national levels

Parties are MS, private members and EU

The private members will likely be AENEAS, ARTEMISIA and EPoSS

ARTEMIS & ENIAC national funding
Total numbers from 2008 - 2011

National funding
1 - 999.999
1.000.000 - 9.999.999
10.000.000 - 49.999.999
>= 50.000.000

©2012, eutema Technology Management GmbH & Co KG
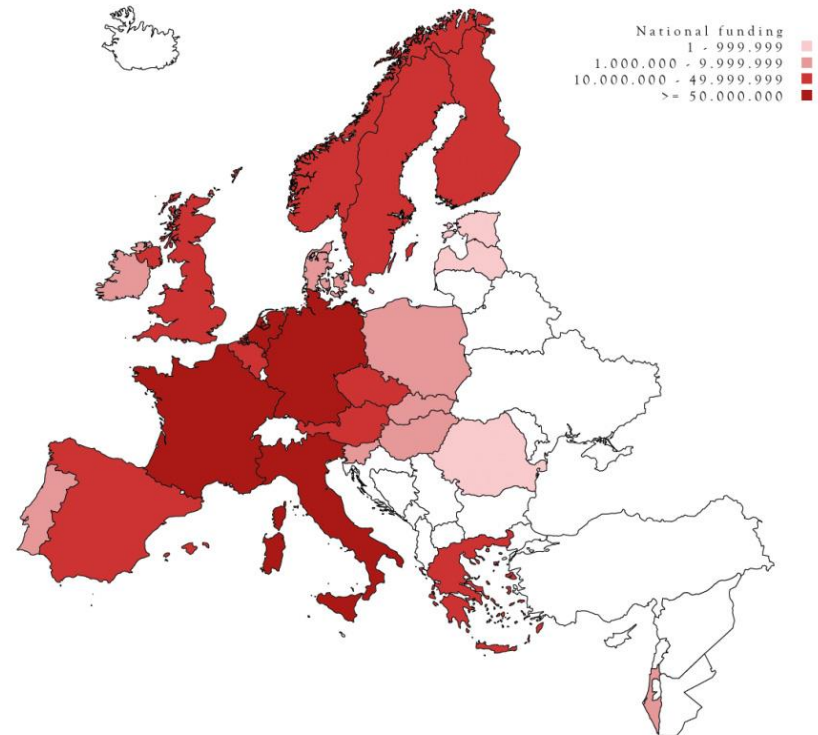
Extended scope and synergy of ECSEL

Micro- and nanoelectronics
design technologies, process and integration, equipment, materials and manufacturing for micro- and nanoelectronics

Smart systems
multi-disciplinary approaches for smart systems, supported by developments in holistic design and advanced manufacturing

Embedded and Cyber Physical Systems
processes, methods, tools and platforms, reference designs and architectures, for software and/or control-intensive embedded/cyber-physical systems,

Intensity of investment

Implementation in JTI

Capital-intensive R&D&I, Pilot lines, Demonstrators / Applications

Industrially-driven R&D

Pan-European Innovation: Take-up, Assessment, Infrastructure, Design services

Advanced R&D

Implementation in H2020
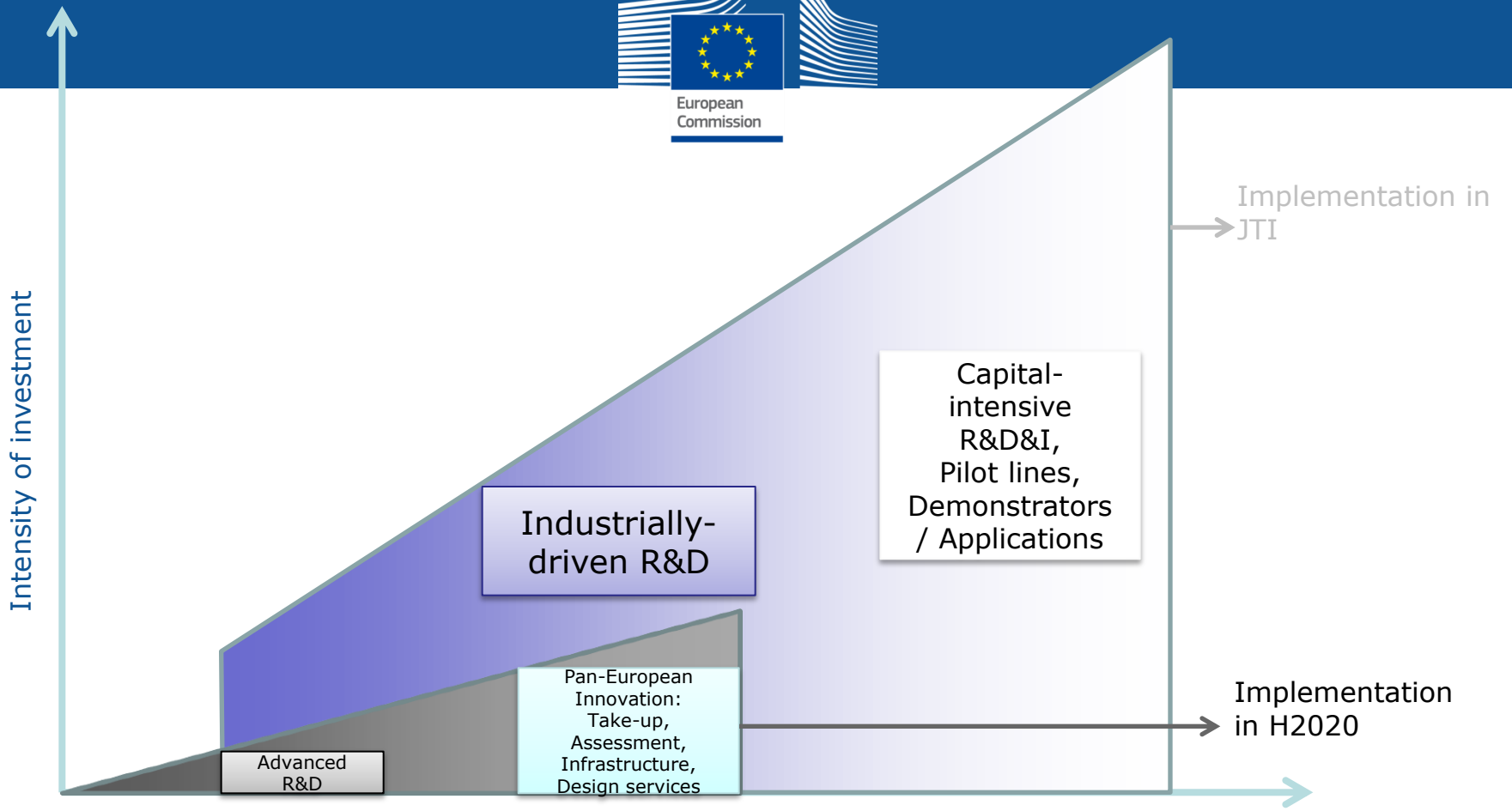
TRL

1	2	3	4	5	6	7	8	9
Basic Principles Observed	Technology Concept Formulated	Experimental Proof of Concept	Technology Validation in lab	Tech valid. in relevant environment	Demonstration in relevant environment	Demonstration in operational environment	System complete and qualified	Successful mission operations

Technological Research
Pillar 1

KET Pilot Line and demonstrator projects
Pillar 2

Manufacturing & KET Deployment Project
Pillar 3

Governance

Private Association(s)
- General Assembly
- Steering Board
- Working Groups

ETP ENIAC
ETP EPoSS
ETP ARTEMIS
Industry (incl. SME) & Research actors

Joint Undertaking

Governing Board
Strategic planning

Supporting Committee
Rules of operation, supervision

Public Authorities Board
Calls, evaluation and funding

Executive Director
Secretariat, operations and finances

Public Authorities
- JU Member States
- EC

Budget LEIT/TIC

Call planning overview

1571,5 M€ +250 M€ ECSEL

- **LEIT**

  - **H2020-ICT-2014 (ICT Call 1)**
    - Publication date: 11 December 2013
    - Deadline: **23 April 2014** (all topics except 5G Future Internet)
    - Deadline for 5G Future Internet: **25 November 2014**

    873,5 M€

  - **H2020-FoF-2014/2015 (Factory of the Future)**
    - Publication date: 11 December 2013
    - Deadlines: **13 March 2014** and **9 December 2014**

    102 M€

  - **H2020-EUJ-2014 (EU-Japan Call)**
    - Publication date: 7 January 2014
    - Deadline: **10 April 2014**

    6 M€

  - **H2020-ICT-2015 (ICT Call 2)**
    - Publication date: 15 October 2014
    - Deadline: **14 April 2015**

    561 M€

  - **H2020-EUB-2015 (EU-Brazil Call)**
    - Publication date: 15 October 2014
    - Deadline: **21 April 2015**

    7 M€

LES TIC DANS LE RESTE DE H2020

Europe 2020 priorities

Shared objectives and principles

Tackling Societal Challenges
− Health, demographic change and wellbeing
− Food security, sustainable agriculture and the bio-based economy
− Secure, clean and efficient energy
− Smart, green and integrated transport
− Climate action, resource efficiency and raw materials
− Inclusive, innovative and reflective societies
− Secure Societies

Creating Industrial Leadership and Competitive Frameworks
− Leadership in enabling and industrial technologies
  −**ICT**
  −Nanotech., Materials, Manuf. and Processing
  −Biotechnology
  −Space
− Access to risk finance
− Innovation in SMEs

EIT
JRC

Excellence in the Science Base
− Frontier research (ERC)
− Future and Emerging Technologies (FET)
− Skills and career development (Marie Curie)
− Research infrastructures

ICT ICT ICT ICT ICT ICT ICT ICT ICT

Simplified access

Common rules, toolkit of funding schemes

Dissemination & knowledge tranfer

HORIZON 2020

European Commission

H2020: …les TIC touchent aussi les défis

RTD F *(SANCO)*	RTD E AGRI	RTD K ENER C	RTD H MOVE C	RTD I CLIM/ENV ENTR F	RTD B, C	ENTR G
SC1 Health	**SC2** Food	**SC3** Energy	**SC4** Transport	**SC5** Climate	**SC6** Inclusive, Innovative	**SC7** Security
CNECT H1, H2	CNECT G3	CNECT H5	CNECT H5	CNECT H5	CNECT G2, G4 H2, H3	CNECT H4
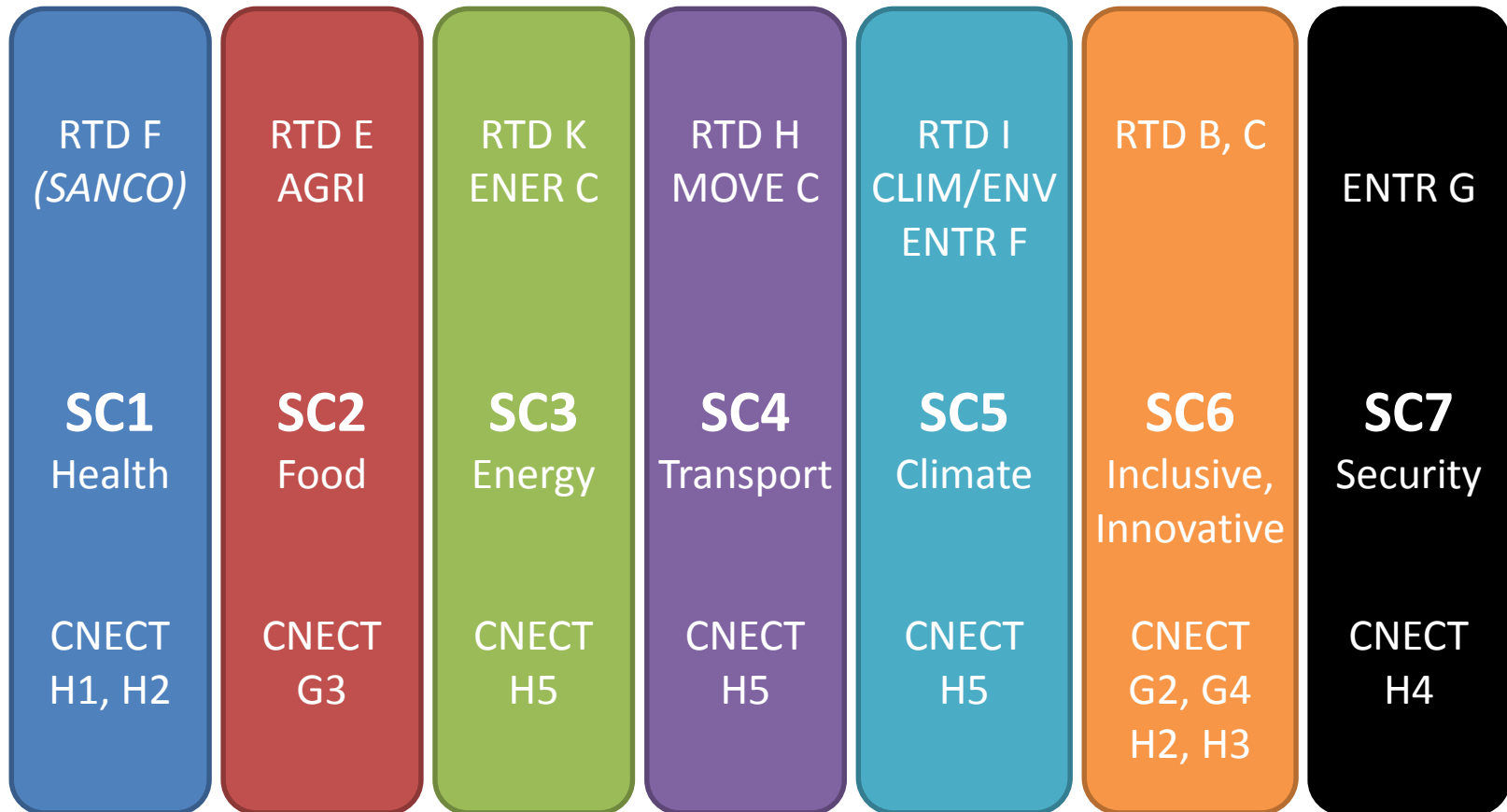
Health, demographic change and wellbeing / 2014-2015 (indicative basis)

- **Advancing active and healthy ageing with ICT**
  - **Service robotics** within assisted living environments
  - ICT solutions for **independent living with cognitive impairments**
  - ICT solutions enabling **early risk detection and intervention**
- **Integrated, sustainable, citizen-centred care**
  - ICT-based approaches for **integrated care** (beyond current state-of-art in tele-health and tele-care)
  - **Self-management of health and disease**
  - Public-procurement of innovative eHealth services
- **Improving health information and data exploitation**
  - Digital representation of **health data** to improve diagnosis and treatment
  - **eHealth interoperability**

Secure, clean and efficient energy / 2014-2015 (indicative basis)

- **Energy efficiency / buildings and consumers**
    - Public procurement of **green data centres**
    - New ICT-based solutions for **energy efficiency through citizens' behavioural change**

- **Competitive low-carbon energy / modernising the single European electricity grid**
    - Distribution grid and retail market
        - Next generation ICT infrastructure for **smart metering and smart grids**

- **Smart cities and communities**
    - Integration of **energy, transport and ICT** through **lighthouse projects** (large scale demonstration)

European Commission

Smart, green and integrated transport / 2014-2015 (indicative basis)

- **Road**
  - **Cooperative Intelligent Transport Systems**
    - Connecting people, vehicles, infrastructures and businesses
  - Safe and connected **automation in road transport**

- **Green vehicles**
  - **Electric vehicles'** enhanced performance and **integration into the transport system and the electricity grid**

- **Smart cities and communities**
  - Integration of **energy, transport and ICT** through **lighthouse projects** (large scale demonstration)

European Commission

Climate action, environment, resource efficiency and raw materials / 2014-2015 **(indicative basis)**

- **Waste management**
  - ICT solutions for waste traceability, waste material flow management

- **Water management**
  - Development and deployment of advanced ICT solutions for water resources management in agriculture and urban areas

European Commission

Europe in a changing world – inclusive, innovative and reflective societies / 2014-2015 (indicative basis)

- **Reflective societies – Cultural Heritage**
    - **Innovative ecosystems of digital cultural assets**
    - **Advanced 3D modelling for accessing and understanding European cultural assets**

- **New forms of innovation**
    - **Innovation in the public sector** by using emerging ICT technologies
    - ICT-enabled **open government**
        - Personalised public services
        - M-government
        - Open participation
        - Transparency
    - ICT for **learning and inclusion**

European Commission

Secure societies – protecting freedom and security of Europe and its citizens / 2014-2015 (indicative basis)

- **Digital security: cybersecurity, privacy and trust**
  - Protecting our society by providing sustained **trust in the usage of ICT** and in securing the ICT underlying our digital society
  - **Preventing cyber-attacks** on any component of the digital society
  - **Ensuring freedom and privacy in the digital society**, protecting the fundamental values of our society and democratic rights of our citizens in cyberspace
  - Protect the weak in our society from abuses over the internet and **giving the user control over his private data**
  - Demonstrating the viability and maturity of state-of-the-art security solutions in **large scale demonstrators**, involving end users

European Commission

Appel Digital security

❑ Objectif

  ▪ *To provide enhanced cybersecurity ranging from secure information sharing to new assurance models*

❑ 4 thèmes en 2015

  ▪ DS 3-2015 *The role of ICT in Critical Infrastructure Protection – 17,5 M€*

  ▪ DS 4-2015 *Information driven Cyber Security Management – 14,31 M€*

  ▪ DS 6-2015 *Trust eServices – 3-8 M€, TRL7, enveloppe: 17,4 M€*

  ▪ DS 7-2015 *Value-sensitive technological innovation in Cybersecurity – 1 M€*

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MINISTÈRE
DE L'ENSEIGNEMENT SUPÉRIEUR
ET DE LA RECHERCHE
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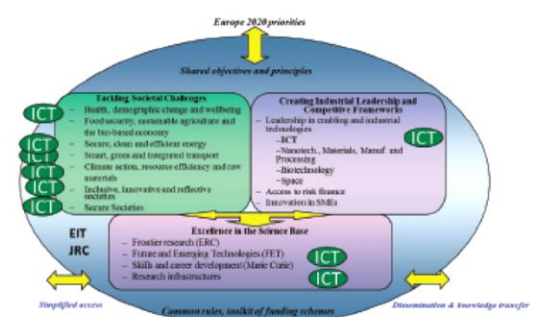
Guide to the presence of ICT in H2020

- **Comprehensive coverage of all three H2020 pillars**

- **Detailed list of calls and topics**

- **Detailed budget allocation and call deadlines not provided yet**

LE PROGRAMME FET

Le programme FET

Long-term vision
Interdisciplinary
FET
S&T targeted
Novelty
High-Risk
Foundational
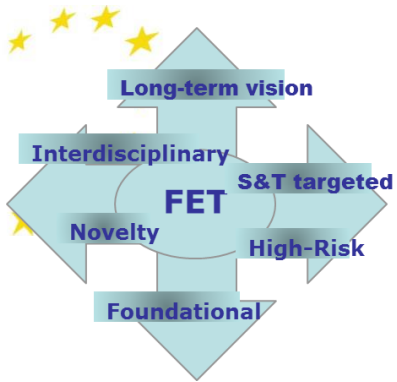
FET Open :
programme ouvert
(vraiment!)

Open, light and agile ⟷ Roadmap-based research
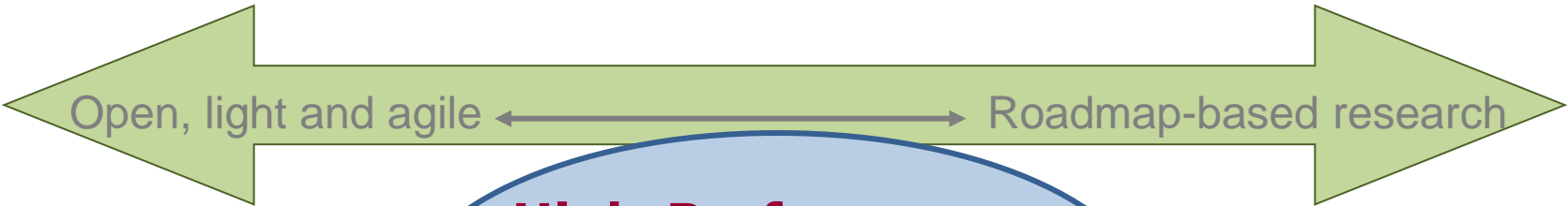
High-Performance Computing (HPC) Strategy

Individual research projects	Open research clusters	Common research agendas
Early Ideas **FET Open**	Incubation **FET Proactive**	Large-Scale Initiatives **FET Flagships**

HORIZ
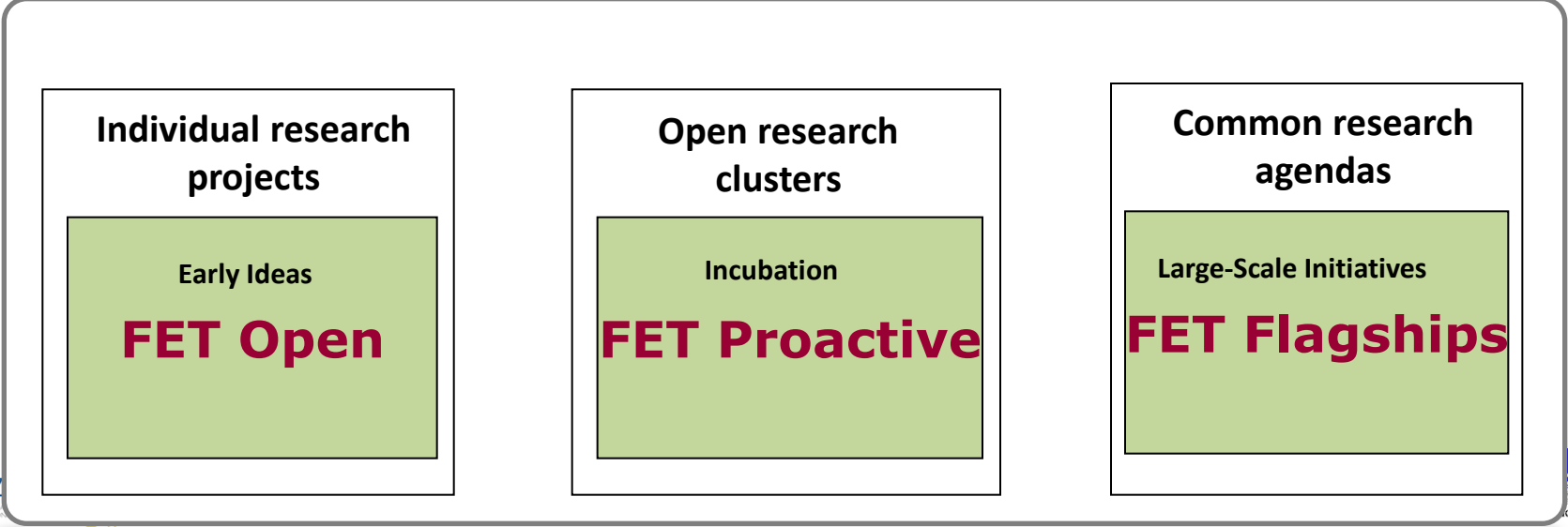
FET Proactives in WP2014-15

Three topics are selected for funding in WP2014-15:

- **Knowing, doing and being: cognition beyond problem solving**

- **Global Systems Science (GSS)**

- **Quantum simulation**

- **Towards exascale high-performance computing**

High Performance Computing

Key EU developments in 2012-2013

- *Communication from the EC: "High-Performance Computing: Europe's place in a global race" (2012)*
  - ➤ **Council Conclusions on High-Performance Computing (Competitiveness Council – 2013)**

- *Establishment of the European Technology Platform on High-Performance Computing (ETP4HPC - 2013)*
  - ➤ **ETP4HPC - Strategic Research Agenda**
  - ➤ **Public-Private Partnership with ETP4HPC***

EUROPEAN TECHNOLOGY PLATFORM FOR HIGH PERFORMANCE COMPUTING

ETP4HPC Strategic Research Agenda Achieving HPC leadership in Europe

www.etp4hpc.eu

*expected Dec-2013

- HPC is an important asset for the EU's innovation capacity of strategic importance to the EU's industrial and scientific capabilities as well as its citizens:

  - developing innovative industrial products and services,

  - increasing competitiveness,

  - addressing societal and scientific grand challenges more effectively.

- Europe has the technology, knowledge and human skills to develop capabilities covering the whole technological spectrum of the next HPC generation (exascale computing)

- Importance of developing state-of-the-art HPC technologies, systems, software, applications and services in Europe

- All relevant actors, public and private, need to work in partnership

- Invites the EC to elaborate its plans for HPC to support academic and industrial research and innovation under H2020

HPC in FET: Critical technologies

Addressing Societal Challenges

European Commission

Health, demographic change and well-being
(Personalised medicine, pharma/bio-medical simulations, Virtual Physiological Human, Human Brain Project)

Climate action, resource efficiency and raw materials
(Simulators for Climate & Earth Sciences, Gas&Oil)

Snapshot of Surface Current Velocity [cm/sec]
(Mar/05/46th model year)
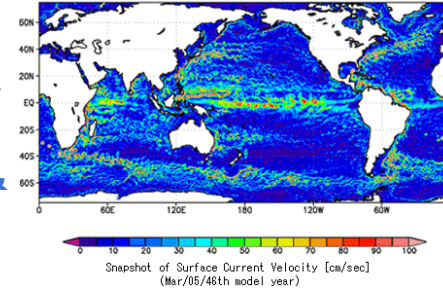
Smart, green and integrated transport Engineering
(performance, sustainability, energy efficiency)
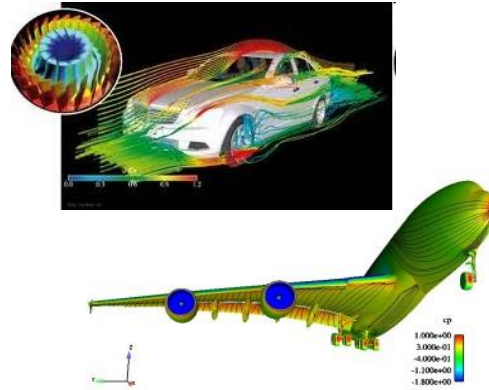
Secure, clean and efficient energy
(Fusion, nuclear plant simulations)

Food security, sustainable agriculture, marine research and the bio-economy
(simulation of sustainability factors (e.g. weather forecast, stock plagues and diseases control, etc))
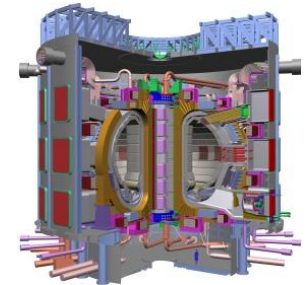
Inclusive, innovative and secure societies
(Smart Cities, multivariable decision/analytics support)
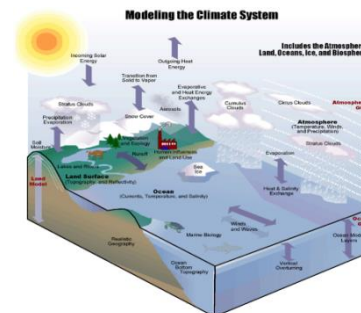
- HPC strategy combining three elements:

(a) Computer Science: towards **exascale** HPC; *A special FET initiative focussing on the next generations of exascale computing as a key horizontal enabler for advanced modelling, simulation and big-data applications* [HPC in FET]

(b) achieving excellence in HPC **applications**; *Centres of Excellence for scientific/industrial HPC applications in (new) domains that are most important for Europe* [e-infrastructures]

(c) providing **access** to the best supercomputing facilities and services for both industry and academia; *PRACE - world-class HPC infrastructure for the best research* [e-infrastructures]

- complemented with training, education and skills development in HPC

- **Energy**: Extrapolation of current power consumption (e.g. Top system Tianhe-2) would need ~1 GW for sustained exaflops: breakthroughs and advances in circuits, architecture and software are needed to achieve the ~20 MW exaflop computing

- **Memory and I/O**: Handling of memory, latency and locality at all levels, from processor, to network and storage

- **Programmability and algorithms**: Programmers face the challenge of handling <u>billions</u> of computing threads. Only very few applications using HPC really take advantage of current petaflop system.

- **Resilience:** Innovative ideas are needed to cope with a very unstable and complex environment of millions of cores with frequent fault rates

- **Co-design**: Technology development must be associated to users requirements to get the right systems to satisfy the needs of applications.

  ➢ engaging a European-wide effort to develop technology to build exascale systems within ~10 years

European Commission

FETHPC 1: HPC core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications - 2014

Specific challenge: _Addressing the exascale challenges to achieve, by 2020, the full range of technological capabilities for_ **exascale-class HPC systems** _which are balanced at all levels and validated with significant application drivers_

Scope :

- **a. Core technologies and architectures** _(e.g. processors, memory, interconnect and storage) and their optimal integration into HPC systems, platforms and prototypes_

- **b. Programming methodologies, environments languages and tools**_: new programming models for extreme parallelism and extreme data applications_

- **c. APIs and system software** _for future extreme scale systems_

- **d. New mathematical and algorithmic approaches** _(e.g. ultra-scalable algorithms for extreme scale systems with quantifiable performance for existing or visionary applications)_

Project size : _2 to 4M€, up to 8M€ for topic a)_

Budget & Deadline : _93,4M€ -> Deadline: 25/11/2014_

- with a minimum of 60% to be allocated to research under part a) of the scope

FETHPC 2: HPC Ecosystem Development - 2014

Specific challenge: To develop a sustainable European HPC Ecosystem

Scope:

- **Coordination of the HPC strategy** : coordination of the activities of stakeholders such as ETP4HPC, PRACE, application owners and users (including emerging HPC applications), the European exascale computing research community, the open source HPC community, etc.

- **Excellence in High Performance Computing Systems** : boost European research excellence on the key challenges towards the next generations of high-performance computing systems; cutting across all levels – hardware, architectures, programming, applications; ensure a durable integration of the relevant European research teams; self-sustainability of the research integration on the longer-term

Budget & Deadline: 4M€ -> Deadline: 25/11/2014

Flagship concept

A new paradigm to build strong European leadership in key S&T areas, to boost technological innovation and bring benefits to society

- Highly ambitious, visionary, science-driven, large-scale integrated research initiatives

- Leading European scientists and industrial players working together to implement a long-term strategic research and innovation roadmap

to deliver transformational impact in S&T and substantial benefits for European competitiveness and society

to reduce fragmentation and optimise complementarities between EU and national programmes

FET WP2014-15 479,2M€

Call FET Proactive - towards exascale High Performance Computing   97,4M€

- **FET HPC1: HPC Core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications**

  93,4M€   25/11/2014

- **FET HPC2: HPC Ecosystem Development**

  4M€   25/11/2014

Call FET-Flagships - tackling grand interdisciplinary science and technology challenges   179,6M€

- **FETFLAG1: Framework Partnership Agreement (FPA)**

  na   10/4/2014

- **FETFLAG2: Policy environment for FET Flagships**

  1,6M€   10/4/2014

- **Graphene & Human Brain Project FET Flagship Core Projects (under FPA)**

  2x89M€   Q2/2015

***Other** (study, experts, communication)*   *7,2M€*

SOUTIEN DU MENESR / PCN POUR LE ICT PROPOSERS' DAY 2014

En résumé

- ❑ <u>Objectif</u>
  - ▪ Promouvoir la participation de nouveaux participants à cet événement (relativement) clé pour le montage de propositions
- ❑ <u>Critères de (pré)-sélection</u>
  - ▪ Inscription et communication des informations dans les délais!
  - ▪ Nouvel acteur au PCRDT TIC (i.e. pas de subvention PCRDT) et hors grand-groupe
  - ▪ Acteur de R&D souhaitant participer à des projets collaboratifs (i.e. pas pour ceux visant uniquement l'instrument PME)
  - ▪ Priorité donnée aux acteurs intéressés au programme TIC
  - ▪ Ne pas voire déjà bénéficié de ce type de soutien précédemment

- ❑ Attention il faudra respecter les (petites) conditions imposées aux bénéficiaires!

PRÉSENTATION EUROSTARS ET INST. PME

Point de Contact National PME
Christian Dubarry, Bpifrance

Sommaire

Contexte Horizon 2020

1

70,2 B€   11 B€

O Micro- and nano-electronics; photonics

o Nanotechnologies

o Advanced materials

o Biotechnology

o Advanced manufacturing and processing

25,9 B€

Societal Challenges

- Health, demographic change and well-being
- Food security, sustainable agriculture, marine and maritime research, and the bio-economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies   *EIT*

Industrial Leadership

- Leadership in enabling and industrial technologies (LEITs)
- Access to risk finance
- Innovation in SMEs
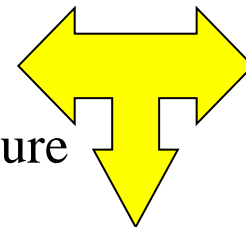
Excellent Science

- European Research Council (ERC)
- Future and Emerging Technologies (FET)
- Marie Sklodovska-Curie Actions
- Research infrastructure

25,9 B€

Contexte Horizon 2020

1. Modèle de coûts (sauf Eurostars):

Taux de subvention :
    Académiques: 100% quelle que soit l'activité
    Entreprises
        100%: R&D
        70%: « proche du marché » (= développement expérimental? »

Coûts indirects: taux forfaitaire de 25%

2. Evaluation (sauf Eurostars):

1. Excellence (3/5)
2. Impact (3/5)
3. Quality and efficiency of the implementation (3/5)
Total (10/15) et ranking

Contexte Horizon 2020

1

★ Horizon 2020: budgets estimés pour les PME

- 20% Societal Challenges + LEIT :   ~ 8000 M€

- R&D collaborative: au plus 13 % = 5200 M€

- Instrument PME: au moins 7 % = 2800 M€

- Eurostars II: 287 M€ EC + ~840 M€ MS = ~1140 M€

- 2 Enjeux
  - Développement PME par l'innovation
  - Retour financier vers la France: (10,5% ⬌ 17%)

    10% = 1000M€/an

1

Les PME dans Horizon 2020

| Horizon 2020 Collaborative Research Target: R&D topics | Eurostars Target: R&D intensive SME | Horizon 2020 SME instrument Target: Business innovation motivated SMEs |
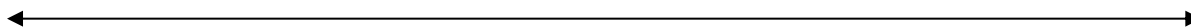
R&D driven projects ←→ **Market opportunity driven projects**

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Les projets collaboratifs

2

- Projets de R&D à frais partagés: formes de financement habituelles du PCRD

- Topics définis dans les LEIT et Societal Challenges - Workprogrammes bisannuels

- Participation PME > 15% dans le 7ème PCRD
  - Mais participation industrielle en baisse sur le long terme

%SME share on EU Contribution, 2007-2012

	HEALTH	KBBE	ICT	NMP	ENERGY	ENV	TPT	SSH	SPA	SEC	THEMES
%EU €	15,0%	14,7%	15,2%	22,7%	18,8%	12,1%	17,7%	5,1%	14,1%	21,7%	16,3%

- « Fast Track to innovation»: test en tant que mesure pilote (2015: 300 M€, leadership industriel, 3M€/projet, 5 partenaires)

Les projets collaboratifs

2
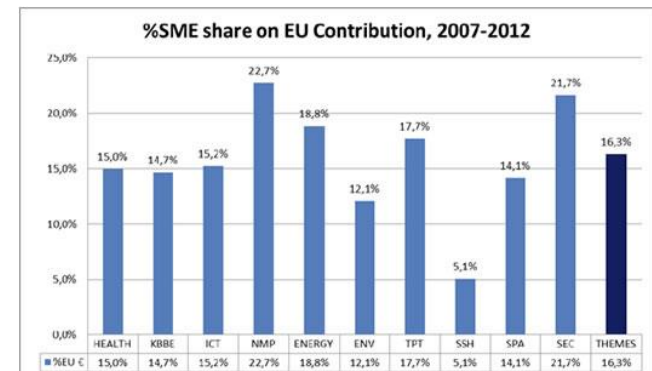
- Santé , Bioéconomie , Energie , Transports , Changement climatique et ressources , Sociétés inclusives , Sécurité
- Espace, TIC, NMP
- Topics définis dans les LEIT et Societal Challenges - Workprogrammes bisannuels

- Leader ou partenaire
  - Identifier des partenaires: réseau professionnel, réseaux d'appui, sites internet, selon domaine
  - Monter ou pas le projet

- workprogrammes
  - portail du participant , horizon2020.gouv.fr
  - Pcn thématiques

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Fast Track to Innovation

3

- Projets d'innovation industrielle tous domaines
- 100 M€ en 2015

- Innovation – proche du marché (TRL 6 minimum)

- Projets collaboratifs – au plus 5 partenaires:
  - Au moins 60% du budget à l'industrie ou
  - Au moins 2 industriels sur 3-4 partenaires, 3sur 5 partenaires

- Tous domaines des défis sociétaux et primauté industrielle: "bottom-up"

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Fast Track to Innovation

3

- Projets d'innovation industrielle
- 100 M€ en 2015

- Jusqu'à 3 M€

- Soumission-versement: 6 mois

- Dates 2015: FTIPilot-1-2015
  - 29/04/2015
  - 01/09/2015
  - 01/12/2015

4 Eurostars 2
Bilan d'Eurostars sur la période 2008-2013

- 10 sessions depuis 2008
- 3540 projets déposés
- 19% projets à participation française
- 35% des projets classés > seuil de qualité
- 42% des projets FR > seuil de qualité
- 22% des projets retenus pour financement
- 26% des projets FR retenus pour financement
- Budget global moyen entre 1 et 2 M€
- Nombre de partenaires moyen +/- 3

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Eurostars 2
Niveau des aides bpifrance

4

- R&D Performing Sme: 40%

- Autres entreprises (<2000): 30%

- Laboratoires publics: 40% des coûts complets, financement plafonné à 100K€

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Instrument PME

5

Concept & Feasibility Assessment

Demonstration Market Replication R&D

Commercialisation

SME window EU financial facilities
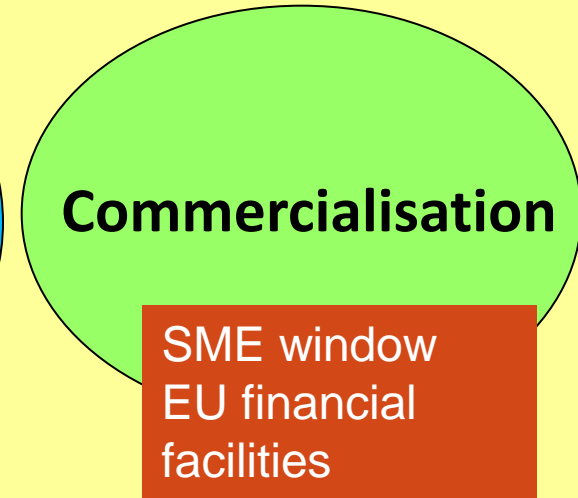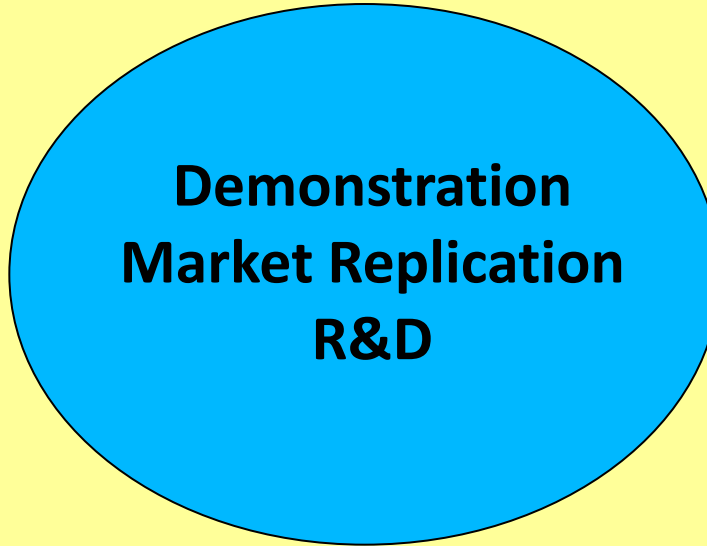
Idea to concept, risk assessment, technological & commercial feasibility

Demonstration, prototyping, testing , market replication, scaling up, miniaturisation, research

Quality label for successful projects, access to risk finance, indirect support

IDEA   continued support throughout the project   MARKET

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Instrument PME

5

Phase 1 : Evaluation du concept et de la faisabilité	Phase 2 : R&D, démonstration, réplication marchés	Phase 3: Commercialisation	Complémentaire à l'instrument PME
Faisabilité du concept	Development, prototypage, test	Label de qualité des projets réussis	Instrument financier UE - PME (prêts et capital risque)
Validation du concept	Pilotage des procédés, produits et services	Faciliter l'accès aux financements privés	
Propriété industrielle	Miniaturisation/design des produits		….
Recherche de partenaire		Différents soutiens : réseaux, formation, coaching, information, politique PI, partage de connaissance, dissemination	
Design study	Planification et production(segmentation de market, procédés)		
Développement d'un pilote	Market replication		
Business plan II	Business plan III		
		financement indirect	
Subvention – forfait : environ 50.000 €	Subvention aux dépenses présentées: 1 to 3 M€ de la CE		
Environ 6 mois	12 à 24 mois		

Idea/Concept = Business plan I

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Instrument PME - Topics

5

Programme	Référence	Domaine	Budget 2014	Budget 2015
Défis sociétaux				
Changement climatique et ressources	SC5-20-2014/2015	Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials	17M€	19M€
Bioéconomie	BG 12	Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth	3M€	5M€
Bioéconomie	SFS-8-2014/2015	Resource-efficient eco-innovative food production and processing	9 M€	17 M€
Santé	PHC-12-2014/2015	Clinical research for the validation of biomarkers and/or diagnostic medical devices	66,10 M€	45,10 M€
Sécurité	DRS-17-2014/2015	Protection of urban soft targets and urban critical infrastructures	7M€	7,4M€
Sécurité	INSO-10-2015	SME business model innovation	-	11M€
Sécurité	INSO-9-2015	Innovative mobile e-government applications by SMEs	-	4M€
Energie	SIE-1-2014/2015	Stimulating the innovation potential of SMEs for a low carbon and efficient energy system	33,95M€	37,26M€
Transports	IT-1-2014/2015	Small business innovation research for Transport	35,87M€	38,96M€
Primauté industrielle				
Espace	SME-SPACE-1-2014/2015	SME instrument	8,5 M€	8,75 M€
TIC	ICT-37-2014/2015:	Open Disruptive Innovation Scheme	45M€	45M€
NMP/BIO	BIOTEC 5 - 2014-2015:	SME boosting biotechnology-based industrial processes driving competitiveness and sustainability	3,8 M€	2,4 M€
NMP/BIO	NMP-25-2014/2015	Accelerating the uptake of nanotechnologies advanced materials or advanced manufacturing and processing technologies by SMEs	21,8 M€	23,8M€

Instrument PME

5

Evaluation : (1/3/14: documents publiés)

- Excellence: innovation, achieved results, commercial aspects, regulatory aspects, innovation management…

- Quality and efficiency of implementation : research&innovation, innovation management, team, organizational-financial and legal aspects, IPR, Budget and financing,

- Impact: exploring market opportunities, organizational-financial and legal aspects

Innovation significative, projet crédible (dont risques maîtrisés), impact important à l'international

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5 Instrument PME

Dates 2014 -2015

CONDITIONS FOR THIS COMMON CALL

Publication date: 11/12/2013

Opening[9]: 01/03/2014 for phase 1 and phase 2

Deadline(s)[10, 11]:

Topic identifier – Open call cut-off dates	Phase 1	Phase 2	Phase 1	Phase 2
	18/06/2014	09/10/2014	[18/03/2015	[18/03/2015
	24/09/2014	17/12/2014	17/06/2015	17/06/2015
	17/12/2014		17/09/2015	17/09/2015

Mentoring / coaching en cours de projet pour les PME bénéficiaires

- Mentoring: suivi PME par un référent public senior

- Coaching: N jours de coaching par un expert sélectionné au niveau européen sur besoins identifiés

6 Les Initiatives Technologiques Conjointes (ITC / JTI)

Prévues dans Horizon 2020:

Bio-based Industries; Clean Sky; Electronic Components and Systems; Fuel Cells ; Hydrogen ; Innovative Medicines

Le financement du risque

Dans Horizon 2020

- Prêts pour la commercialisation/industrialisation d'innovations délivrés au niveau national/régional (RSI)
    - Prêt pour l'innovation/FEI – Bpifrance
    - Innov&Plus - Banque Populaire

- Prêts BEI directs pour de grands investissements technologiques (RSFF, 70M€ en moyenne)

- Prêts démonstrateurs industriels 'Low Carbon Energy'

- Investissement dans des fonds de Capital Risque et/ou fonds de fonds

- http://europa.eu/youreurope/business/funding-grants/access-to-finance/

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Le financement du risque

Dans COSME

- Garanties pour des prêts bancaires
  - Exemple actuellement SIAGI/SOCAMA
  - Fonctionnement similaire ganatie Bpifrance

- Investissement dans des fonds de Capital Développement et/ou fonds de fonds

- http://europa.eu/youreurope/business/funding-grants/access-to-finance/

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8 Le Soutien à l'innovation via l'achat public

Extension de deux modèles expérimentés en 2011-2013:

PPI – Public Procurement of Innovations
Exemples: www.happi-project.eu

PCP: PreComercial Procurements

Sites ressources:
https://procurement-forum.eu/
https://www.innovation-procurement.org/

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Accompagnement/orientation

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Points de Contact Nationaux
http://horizon2020.gouv.fr

- **PCN PME H2020:**
pcn-pme@recherche.gouv.fr

- **Eurostars**
Demandes à adresser à : nathalie.oizel@bpifrance.fr

- **Risk Finance**
Marie-claude.taillandier@bpifrance.fr

- **Réseau Entreprise Europe**
http://www.pic2europe.fr/ (IDF Centre)

- **Soutien financier au montage**
Aide au partenariat Technologique
http://bpifrance.fr

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Point de Contact national PME

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Bpifrance

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MESR

MRP,

ASRC, aSrc

Pôles de Compétitivité,

aerospace valley

Instituts Carnot

Association INSTITUTS CARNOT

Mél: pcn-pme@recherche.gouv.fr
http://www.horizon2020.gouv.fr/pme
http://www.linkedin.com/groups?home=&gid=7410574&trk=anet_ug_hm

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ICT PROPOSERS' DAY

Fiche profil de l'évènement
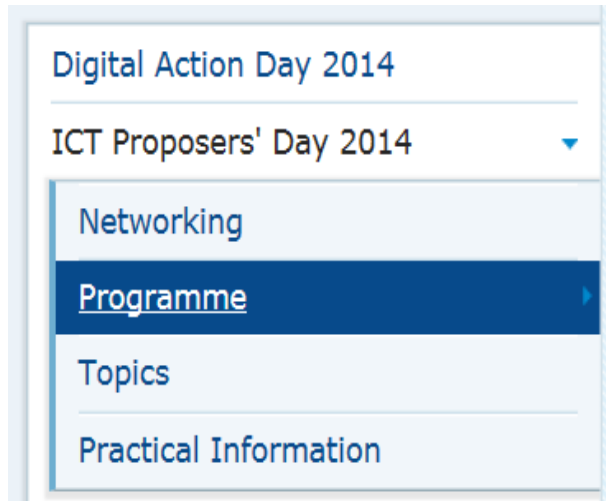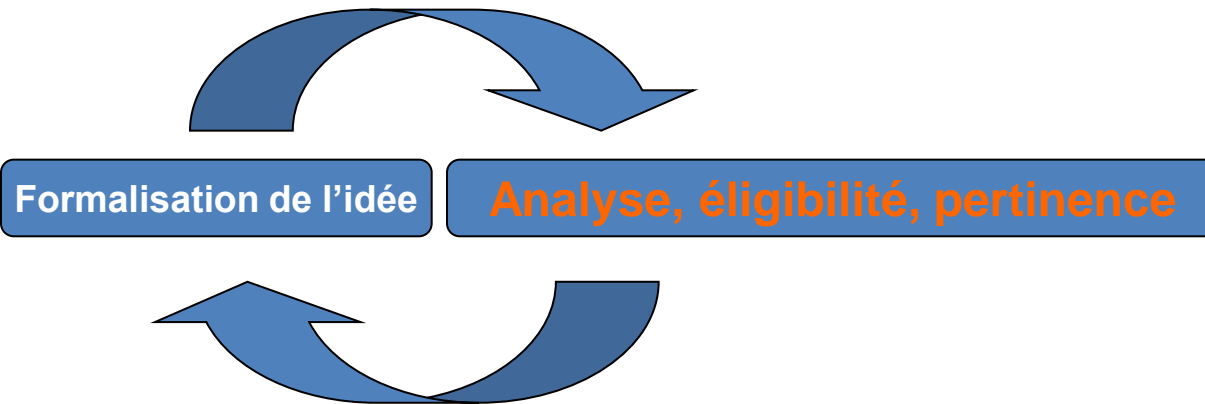
QUI   DG CONNECT – Pays de la Présidence

OU   **Florence**, Italie

QUAND   du **09 au 10 octobre 2014**

COMBIEN **1500** participants attendus

QUOI   **Information** & **réseautage**

POURQUOI Pour préparer les prochains appels à projets Technologies de l'information et de la communication (TIC) du programme Horizon 2020.

Que vous propose l'ICT proposers day?

En phase d'orientation

Formalisation de l'idée | Analyse, éligibilité, pertinence

Digital Action Day 2014
ICT Proposers' Day 2014
Networking
Programme
Topics
Practical Information

- Networking session
- Topic information stands
- *Pre-proposal check*
- Training sessions

En phase de recherche de partenaire

Partenaire ?

Stratégie de réponse

Coordonnateur ?

Digital Action Day 2014

ICT Proposers' Day 2014

Networking

Programme

Topics

Practical Information
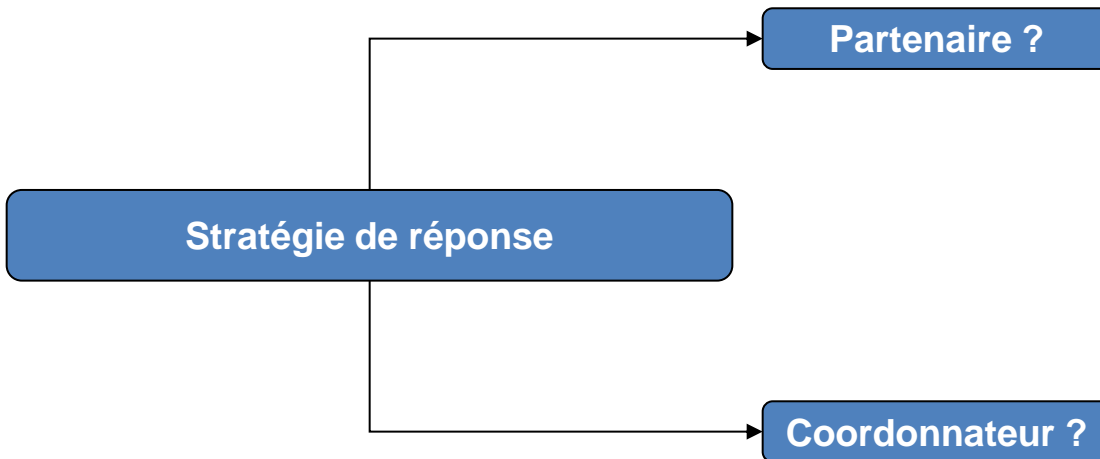
- Networking session
- *Brokerage event*
- Space for informal networking
- "Email Me" feature

Comment tirer profit de votre inscription?

- En rendant votre profil **complété** public pour :
  - Montrer que vous êtes un partenaire potentiel
  - Signaler que vous avez une idée de projet pour les appels à venir

- En interagissant sur le site de l'évènement:
  - Sur un topic qui vous intéresse, uploader une présentation pour participer à une session
  - Laisser des commentaires sur la session qui vous intéresse
  - Contacter les personnes inscrites à l'évènement

Vos rdv avec le réseau des PCN TIC

Dates	Evènements	Inscriptions gratuites
8 octobre	Formation : préparer une proposition compétitive pour Horizon2020	Sur le site internet d'Ideal-ist
8 octobre	Formation : Instrument P.M.E. (réservée aux P.M.E.)	Sur le site internet d'Ideal-ist
9 octobre	Atelier d'échanges : les évolutions dans le processus d'évaluation entre le 7ème P.C.R.D. et Horizon 2020	Pas d'inscription nécessaire
9-10 octobre	Evènement de réseautage : rendez-vous préprogrammés en collaboration avec le réseau EEN	Depuis votre profil participant de l'ICT 2014, rubrique "Event"
9-10 octobre	Conseil : Atelier de relecture de proposition	Depuis votre profil participant de l'ICT 2014, rubrique "Event"
9-10 octobre	Stand Ideal-ist	En accès libre

Le PCN TIC

Prénom - NOM	Rôle	Etablissement	Téléphone
Claire FERTÉ	Coordinatrice du PCN	UBIFRANCE - L'Agence française pour le développement international des entreprises	33 1 40 73 36 73
Frédéric LAURENT	Représentant au Comité de Programme	Ministère de l'Education nationale, de l'Enseignement supérieur et de la Recherche	33 1 55 55 88 81
Patrick SCHOULLER	Représentant au Comité de Programme	Ministère de l'économie, du redressement productif et du numérique	33 1 79 84 34 25
Michel LOYER	PCN	INRIA - Institut national de recherche en informatique et en automatique	33 1 39 63 53 39
Anne MEYER	PCN	Grenoble INP	33 4 76 57 49 93
Tibaire MUNSCH	Suppléante	Université de Limoges	
Isabelle de SUTTER	PCN	Systematic Paris Région	33 6 85 73 02 13

http://www.horizon2020.gouv.fr/cid73949/le-point-contact-national-tic.html

Votre accompagnement

"Nos Missions" :

Informer et sensibiliser sur les opportunités offertes par H2020 (AAP, règles de base).

Accompagner dans le montage de projets (éligibilité, pertinence) – animation atelier - formation.

Soutenir la recherche de partenaires européens (diffusion offres/demandes - réseau PCN -Ideal-ist).

"Outils" :

**Sessions thématiques
Site horizon2020.gouv.fr
Mailing list**

Rendez-vous personnalisés

Atelier « corporate »

**Faciliter la mise en relation :
Journée de mise en réseau
Brokerage event**

Les activités du PCN

Répondre aux questions posées (hotline)

Publier des notes/fiches d'information

Analyser des résultats

Participer à l'animation du groupe technique national TIC

Participer au réseau transnational des PCN

Entretenir un lien avec la Commission européenne

Site h2020.gouv.fr

Site du PCN TIC

http://www.horizon2020.gouv.fr/pid29761/tic.html

Europa

http://ec.europa.eu/digital-agenda/

Portail du participant

http://ec.europa.eu/research/participants/portal/desktop/en/home.html

Nos contacts

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ATELIER 2:
VOS TECHNOLOGIES
POUR QUELS APPELS?

Les questions (plan de l'atelier)

Horizon 2020 est-il fait pour moi?

Quel programme/appel choisir?
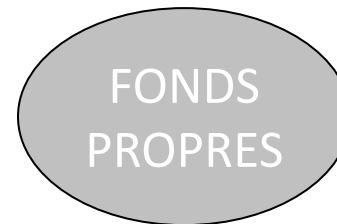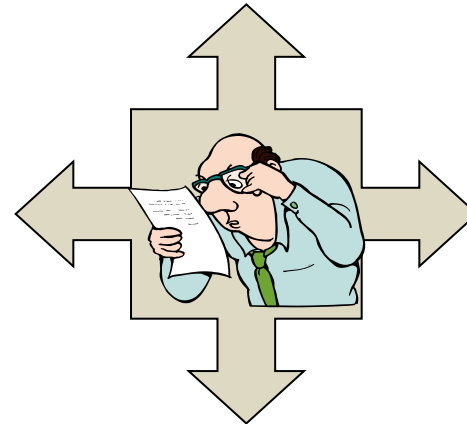
Quelle stratégie adopté pour monter son projet?

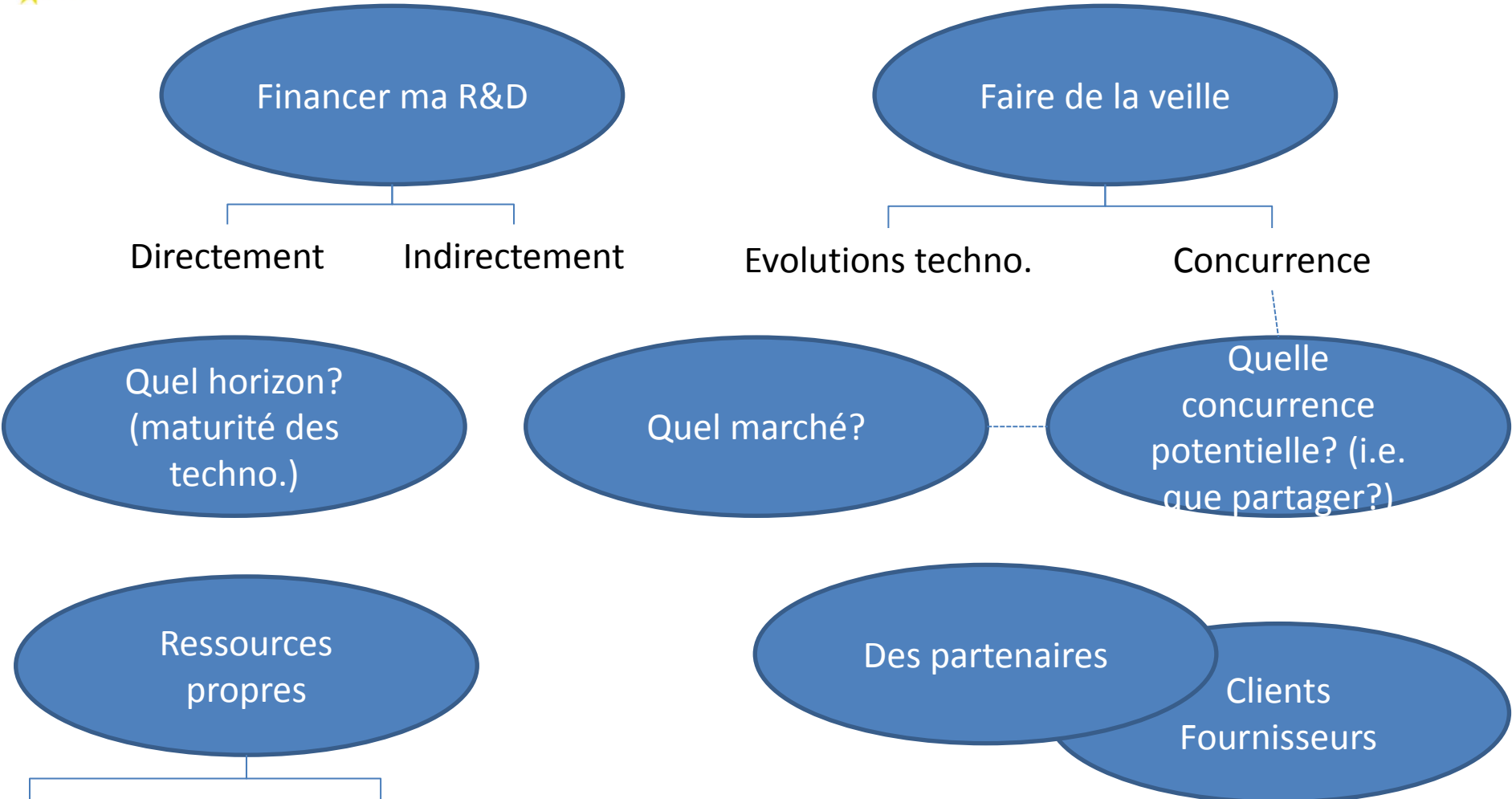# Quel programme choisir? (1)

Question 0:
- Quel est mon projet?

Question 1:
- Quel guichet approprié?

EUREKA

PROGRAMMES INTERNATIONAUX

FONDS PROPRES

HORIZON 2020
LE PROGRAMME DE RECHERCHE ET D'INNOVATION DE L'UNION EUROPÉENNE

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Quel programme choisir? (2)

Financer ma R&D

- Directement
- Indirectement

Faire de la veille

- Evolutions techno.
- Concurrence

Quel horizon? (maturité des techno.)

Quel marché?

Quelle concurrence potentielle? (i.e. que partager?)

Ressources propres

€   Personnel (B. Dev., juridique, R&D…)

Des partenaires

Clients Fournisseurs

Quel programme choisir? (3)

Projets INDIVIDUELS

- FEDER R&D innovation
- CIR
- Aide BPI innovation
- JEI
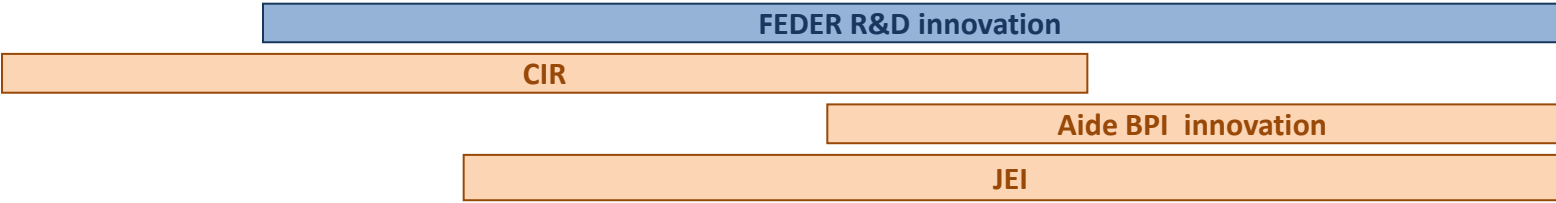
IDEE — RECHERCHE FONDAMENTALE — RECHERCHE TECHNOLOGIQUE — DVLPT EXPERIMENTAL — MARCHE

Horizon 2020

Projets COLLABORATIFS

- EUROSTARS
- ECSEL
- EUREKA FIL DE L EAU
- EUREKA CLUSTER
- PIA 2
- ANR
- FUI

HORIZON 2020
LE PROGRAMME DE RECHERCHE ET D'INNOVATION DE L'UNION EUROPÉENNE

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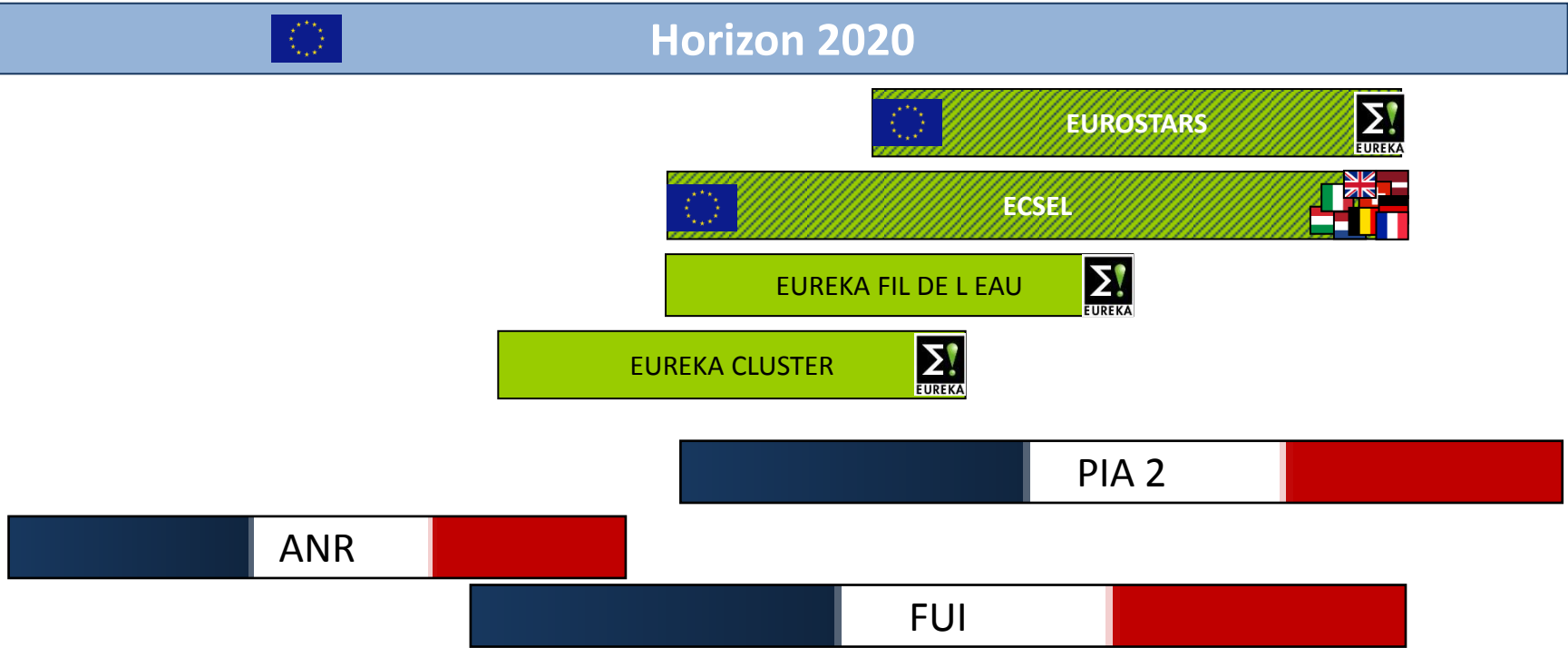
Quel programme choisir? (4)

❑ Dans quel(s) cas choisir Horizon 2020:

  ✓ Pas de besoin de trésorerie à CT (préfinancement pas avant 8 mois après de dépôt!...dans le meilleur des cas!!)

  ✓ Etre dans une position de pouvoir se projeter à 4-5 ans (pour rappel, un projet dure 3-4 ans)

  ✓ Etre en mesure d'investir des ressources (capital € et humain) en amont (appel = concours!)

  ✓ Etre en mesure de pouvoir communiquer/partager son idée (partenaires, experts évaluateurs, PO, web…)

  ✓ Etre prêt à collaborer (en européen)

  ✓ Capacité à négocier son accord de consortium ou avoir un portefeuille d'IPR large

Quel appel H2020 choisir pour une entreprise TIC?

❑ Quelques éléments de contexte sur le soutien UE à la RDI TIC:

- 1 programme LEIT/TIC, 7 défis sociétaux, 1 programme FET plus aval sur la partie HPC, ECSEL avec son financement tripartite (mais aussi Cleansky…), AAL, Eurostar…

- DG CNECT mais aussi ECSEL, AAL….et les autres DGs (RTD, ENTR,…) et les agences (EASME, REA…)

- Un programme de travail 2014 > 1000 pages pour Horizon 2020 « classique »!

- Des spécificités à chaque programme…

Quel appel H2020 choisir pour une entreprise TIC?

Deux approches pour les TIC

Développement d'une technologie « cœur » TIC

Application/adaptation d'une technologie TIC

LEIT/ICT (*techno push*)

Défis Sociétaux (*need driven*)

Quelle stratégie adopté pour monter son projet?

❑ Opportuniste

❑ <u>Fournisseur de technologie</u>
- ▪ Monter à bord d'un projet en tant que fournisseur de technologie et se faire payer des adaptations, une amélioration des performances… et travailler avec ses clients potentiels…

❑ <u>Faire financer une partie de sa R&D</u>
- ▪ Développer son réseau
- ▪ Etre force de proposition dans les associations/réseaux du domaine en question
- ▪ Rédiger un WP et trouver des projets dans lesquels l'insérer

❑ Monter son projet (le rêve)

Comment participer à H2020

❑ **<u>LIRE LE PROGRAMME DE TRAVAIL</u>**!

  ▪ Ne pas vouloir « forcer » un projet

❑ Anticiper et bâtir un réseau (via *infoday*, *ICT Proposers' days*)

❑ Tester son idée (pairs, partenaires, experts, CE, PCN/RCP…)

❑ Ne négliger aucun des 3 critères

❑ Soumission électronique

  ▪ Accès unique via le portail du participant

  ▪ On-line pour partie structurée (A)

  ▪ Chargement de la partie non structurée (B)

  ▪ Soumission <u>AVANT</u> 17:00

❑ <u>NOUVEAUTE</u>

  ▪ Négociations réduites => il faudra que la proposition soit cohérente dès la soumission

Proposals are invited against the following topics:

A new generation of components and systems

Electronics, microsystems and embedded systems underpin innovation and value creation across the economy. The objective is to reinforce Europe's stronghold positions in these areas, and to capture opportunities arising in new growth markets driven by advances in relevant technologies. This area addresses the broad range of systemic integration from smart integrated components to cyber-physical systems. It covers technology-driven R&D which is mostly application-independent, complemented by more application-driven R&I, where components and systems are demonstrated, instantiated, integrated and validated. Work is complementary to the activities addressed by the Electronic Components and Systems Joint Undertaking (ECSEL), notably focussed on large scale federating projects and integrated demonstrations and pilots. In that context topics under this area contribute also to the implementation of parts of the Strategic Research Agendas of Artemis-IA (www.artemis-ia.eu) and EPoSS (www.smart-systems-integration.org).

The first specific challenge addressed it to reinforce and expand Europe's leading industrial position in embedded systems and cyber-physical systems. The other two are driven by the vision that the heterogeneous integration of micro / nanotechnologies and materials into smart microsystems will deliver affordable high performance functionalities for a broad spectrum of use. Research and innovation in the various topics will also contribute to the implementation of the Strategic Research Agenda of the Public Private Partnership on Energy Efficient Buildings.

ICT 1 – 2014: Smart Cyber-Physical Systems

Specific Challenge: Cyber-Physical Systems (CPS) refer to next generation embedded ICT systems that are interconnected and collaborating including through the Internet of things, and providing citizens and businesses with a wide range of innovative applications and services. These are the ICT systems increasingly embedded in all types of artefacts making "smarter", more intelligent, more energy-efficient and more comfortable our transport systems, cars, factories, hospitals, offices, homes, cities and personal devices. Focus is on both reinforcing European industrial strengths as well as exploring new markets.

Often endowed with control, monitoring and data gathering functions, CPS need to comply with essential requirements like safety, privacy, security and near-zero power consumption as well as size, usability and adaptability constraints. To maximise impact and return on investment in this field, the following challenges must be addressed:

- De-verticalising technology solutions with CPS platforms that cut across the barriers between application sectors including mass consumer markets.
- Bringing together actors along the value chain from suppliers of components and customised computing systems to system integrators and end users.

- Creating new ICT Platforms for both vertical and core markets from automotive, health , smart buildings and energy to wireless communications and digital consumer products and services.

Scope: Activities should address the development of new paradigms, concepts, and platforms or toolboxes laying the foundation for future generations of CPS. Participants should include suppliers and users of CPS, tool providers, suppliers of sub-systems, system integrators, auditors/certification bodies of systems and related academia and research institutes (including Social Sciences and Humanities).

a. **Research & Innovation Actions** should cover one or both of the following themes:
- **Modelling and integration frameworks**: modelling techniques and comprehensive integrated tool chains for clearly defined use cases. Major aspects to be addressed include the holistic modelling of the system behavioural, computational, physical and/or human aspects of CPS; and the seamless interoperability between CPS tools. Solutions should ensure flexibility and tractability of systems.
- **Smart, cooperative and open CPS**: Methods for engineering Cyber-physical Systems that are able to respond in real-time to dynamic and complex situations while preserving control, system safety, privacy, reliability, energy efficiency and dependability features, and addressing security and privacy "by design" across all levels. This includes CPS that are aware of the physical environment, enabling effective and fast feedback loops between actuation and sensing, possibly with cognitive and learning capabilities; further CPS with cooperation and negotiation capabilities supporting distributed services, autonomous, reactive and targeted problem solving and/or improved man-machine interaction. Also covered are open and heterogeneous CPS and Systems of Systems to facilitate seamless connectivity, dynamic reconfiguration as well as handling of emergent properties. The developed methods should enable evolutionary, adaptive and iterative system life-cycles and guarantee Quality of Service at functional and extra-functional level.

Projects are expected to be driven by industrial requirements, to be well balanced between industry and academia, and to include a demonstration and validation phase with realistic use cases.

b. **Innovation Actions** will stimulate innovation and connect innovators across value chains in view of broader adoption of novel embedded and cyber-physical systems technologies and their enablers in industrial and societal applications. Proposals should cover one or both of the following themes.
- **Towards platforms and ecosystems**: Prepare reference architectures and platforms for open, smart and co-operative CPS applicable across sectors and application domains, including industrial consensus building, reference implementations, pre-normative activities, proof-of concept demonstration, user involvement and validation in key application domains. Proposals requesting a Small contribution are expected.

ICT 1 Smart Cyber-Physical Systems			56 000 000 €
a	Modelling and integration frameworks or smart cooperative and open CPS	100	37 000 000 €
b	Towards plattforms and ecosystems or towards a "smart everywhre" society	70	17 000 000 €
c	Support action cross sectorial platform building structuring of constituencies and roadmapping	100	2 000 000 €

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Expected impact:

- Reduction of development time for CPS by 30% as compared to the state-of-the-art in 2013 and significant reduction in maintenance costs.

- Stronger pan-European collaboration across value chains and technology levels from the components and hardware to higher systems level creating open innovation eco-systems and stimulating consensus building on open tools, platforms and standards.

- Development in Europe of a competitive offer for next generation core ICT platforms spanning from operating systems and middle ware to application development and deployment tools with built-in security. This should translate into a significant increase of Europe's market share in this area and in higher added value generated from embedded ICT.

- Uplifting Europe's innovation capacity and competitiveness across all economic sectors with the wider adoption of networked embedded ICT, notably in SMEs.

Types of action:

a. Research & Innovation Actions – A mix of proposals requesting *Small* and *Large contributions* is expected

b. Innovation Actions – A mix of proposals requesting *Small* and *Large contributions* is expected

Merci pour votre attention