

# HORIZON *2020*

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

Journée Créativités – Jeux  
ICT 18 + ICT 21



# Sommaire

## Introduction

- Rappel du contexte national de la participation au 7<sup>ème</sup> PCRDT
- Le programme Horizon 2020 (structure, budget, règles de participation)
- Le programme LEIT/TIC
- Les TIC dans les autres parties de H2020

## Les topiques ICT 18 *Support the growth of ICT innovative Creative Industries SMEs* & ICT 21 *Advanced digital gaming/gamification technologies*

## Le réseau PCN



# INTRODUCTION

F. LAURENT (MESR) & P. SCHOULLER (DGCIS)



# PCRDT: la problématique française

- La France est le 3<sup>ème</sup> bénéficiaire du 7<sup>ème</sup> PCRDT et ses résultats se dégradent (13% sur le 6<sup>ème</sup> PCRDT, 11,4% à présent)
- Pour **chaque €** abondé par la France au budget du PCRDT (via le budget de l'UE), **seul 0,7 €** bénéficie aux équipes françaises!
- En comparaison, pour chaque € abondé par la Suisse au budget du PCRDT, 3€ bénéficient aux équipes suisses
- En consolidé sur le PCRDT, la France perd ~ **600 M€/an** de crédits RDI au bénéfice de ses partenaires (mais aussi compétiteurs) européens!
- ...à comparer aux ressources annuelles de l'ANR, du FUI...

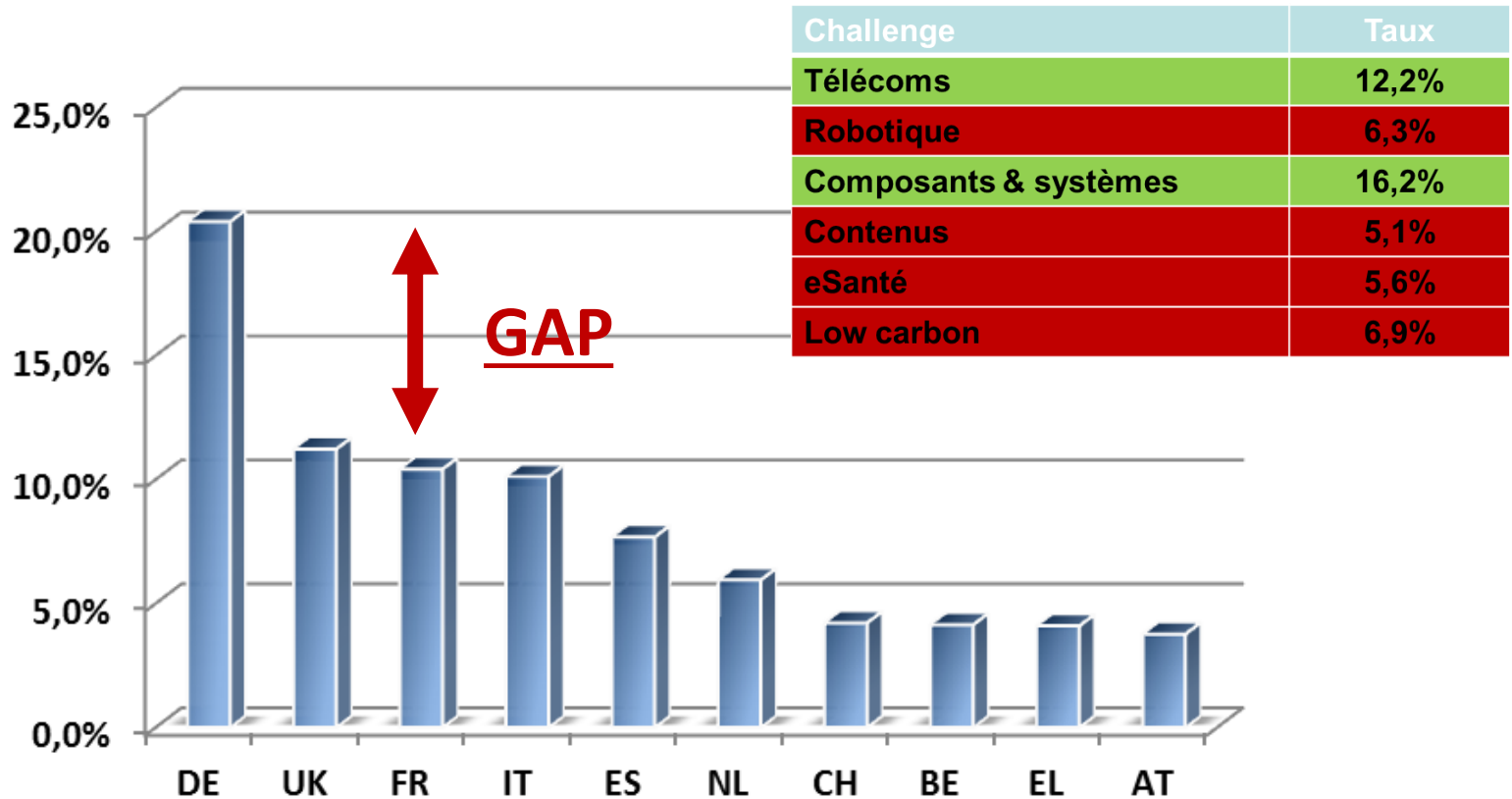
**Nécessité de  
remobiliser les équipes  
nationales!**



# Europe et TIC: la problématique française (1)

- ❑ 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: 8,8%
- ❑ ...avec participation faible
  - FET: 8,8%
  - Technos cœur: 9,2%
  - TIC pour les défis: 5,3%
- ❑ ...et en forte baisse!
  - 8,9%
  - 8,2%
  - 8%
  - 6,2%
- ❑ Sur la base d'un budget TIC 2013 de 1,5 G€, cela correspond à un déficit supérieur à 100 M€/an

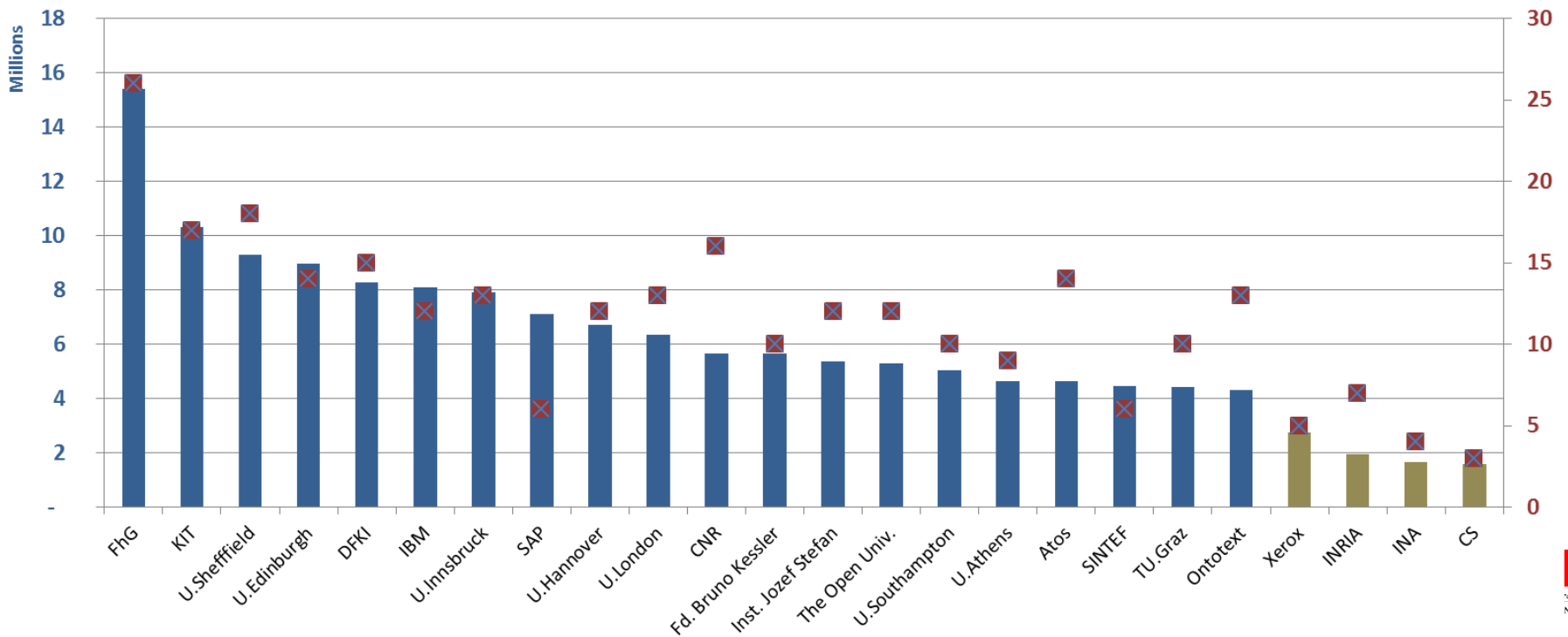
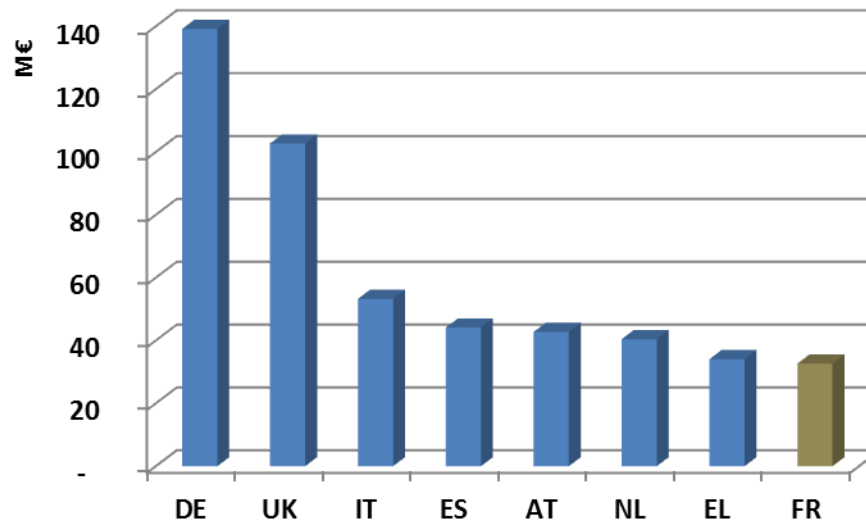
# Europe et TIC: la problématique française (2)



Retour FR de 10,4% vs. 20,4% pour DE  
Un succès très inégal des équipes FR

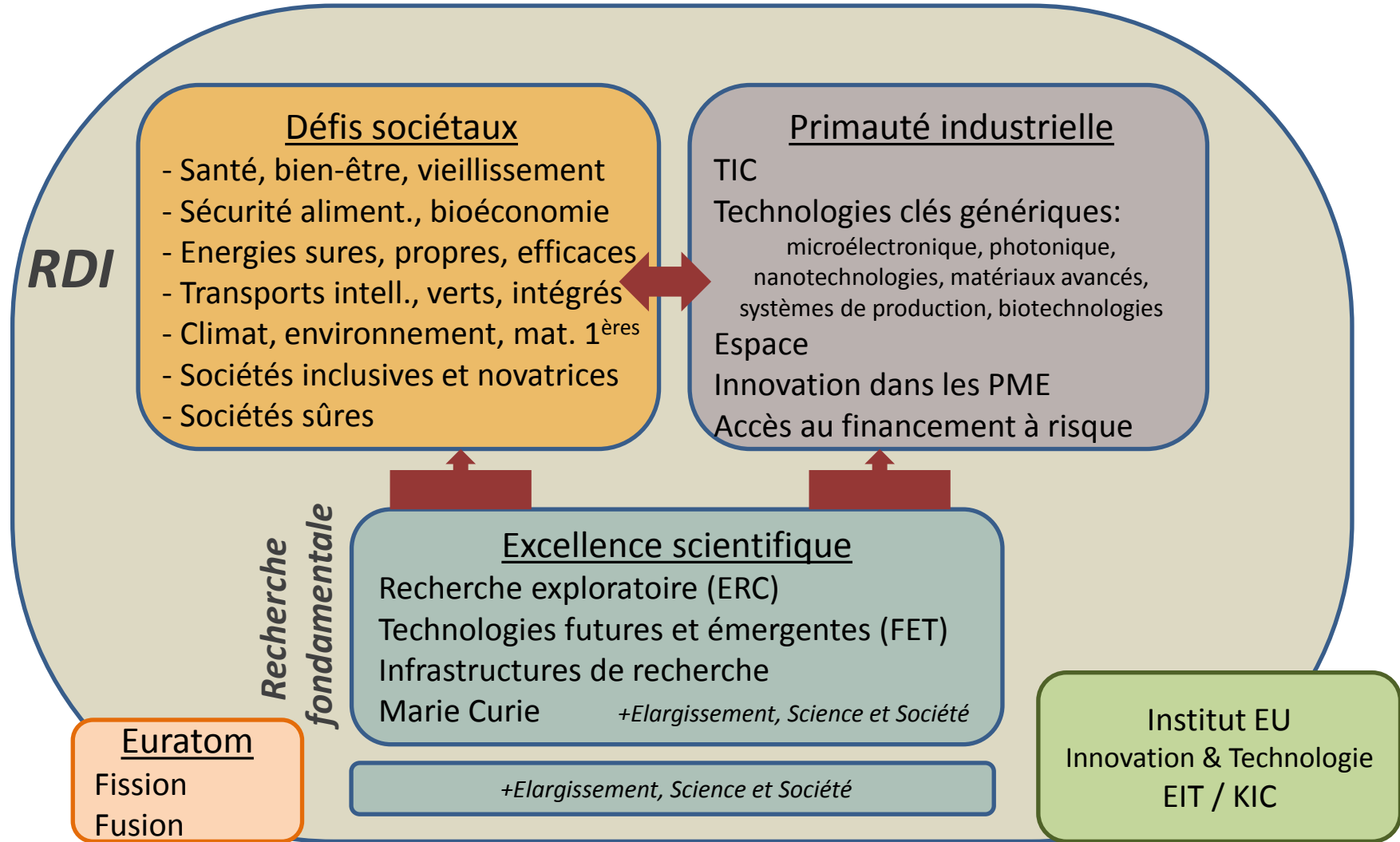


# Contenu: des performances FR très faibles





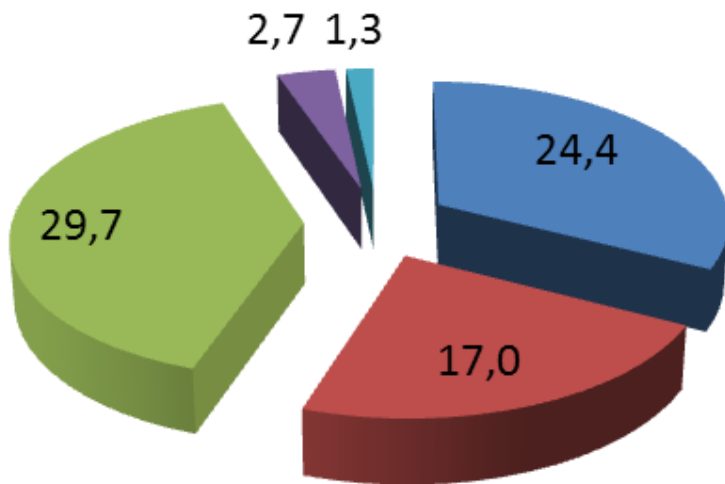
# Horizon 2020: architecture



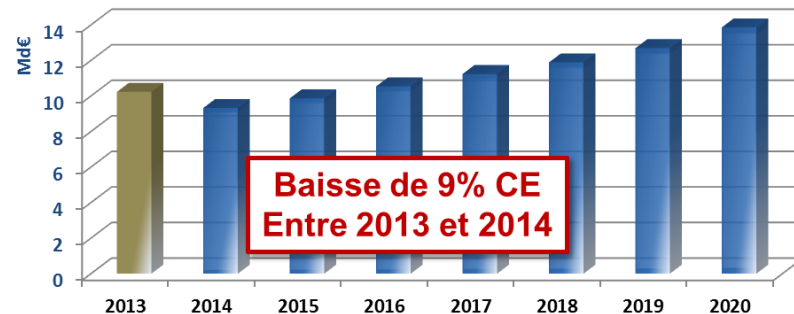




# H2020: Budget global



(en Md€<sub>courant</sub>)



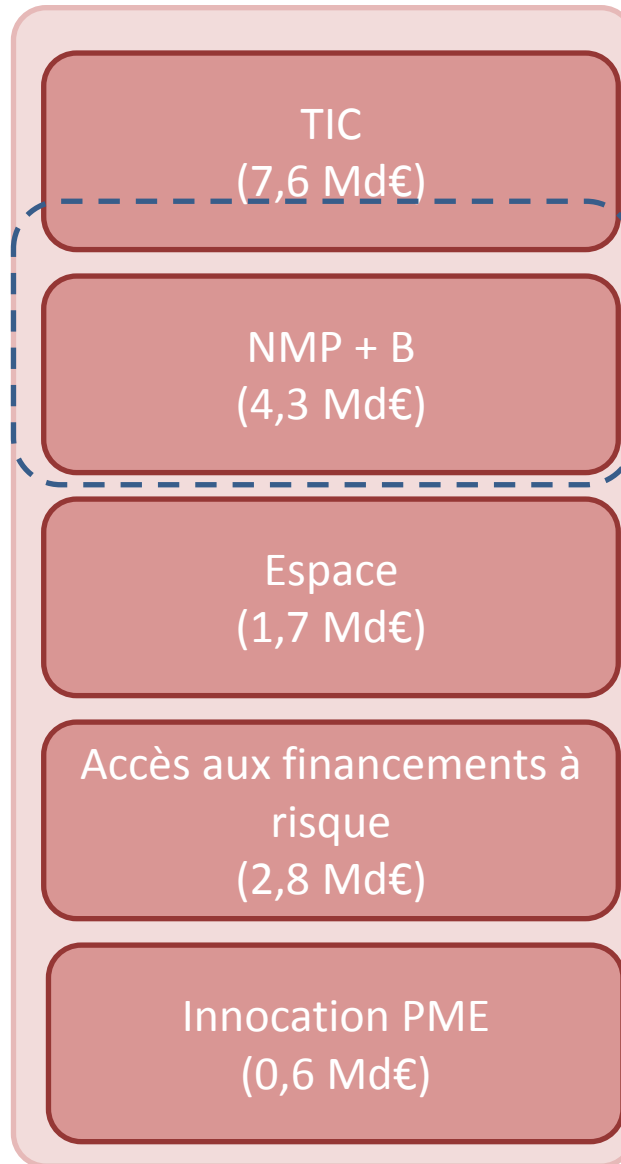
**Baisse de 9% CE  
Entre 2013 et 2014**

- Excellence scientifique
- Leadership industriel
- Défis sociétaux
- EIT
- Elarg+ScS

**79,4 Md€<sub>courant</sub> pour 2014-20**  
**...à comparer à ~58 Md€<sub>courant</sub> sur 2007-13**



# H2020: le pilier Primauté industrielle



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

# 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



# Taux de co-financement (projets collaboratifs)

## Autres actions:

- PCP
- PPI
- CSA
- *Prizes*

- ❑ Deux types de projets collaboratifs principaux
  - Projets « Recherche & Innovation »: 100% des coûts éligibles
  - Projets « Innovation »: 70% des coûts éligibles

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

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

# Taux de co-financement (projets collaboratifs)



Coûts directs éligibles

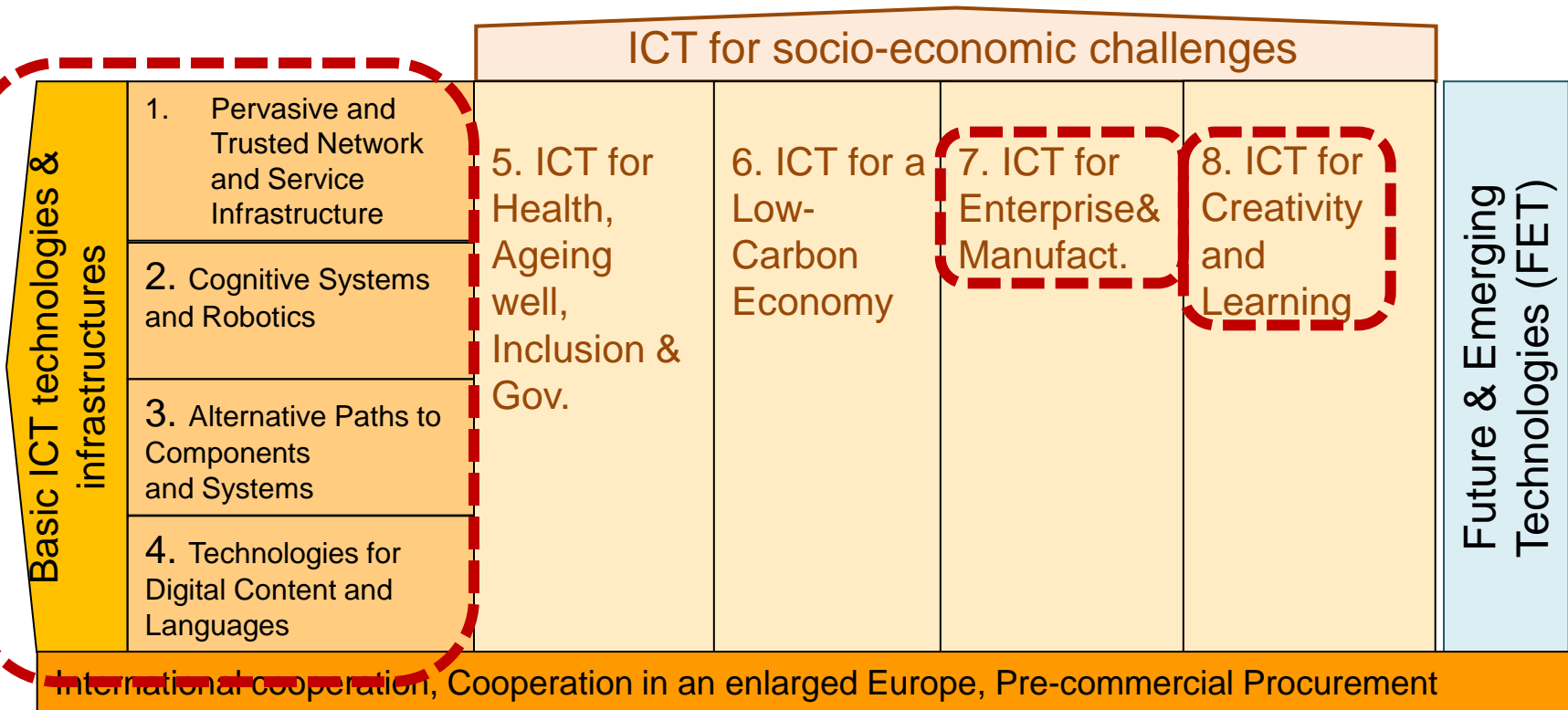
Coûts indirects =  
25% des coûts  
directs éligibles

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)

# TIC: Evolutions majeure par rapport au 7<sup>ème</sup> PCRDT: un recentrage sur les technologies



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



# 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*



# Les roadmaps TIC: continuité et consolidation

**FP7**

**H2020**

**ARTEMIS JTI**

**ENIAC JTI**

**Smart Systems R&D (EPoSS)**

**Electronic Components & Systems JTI**

**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**

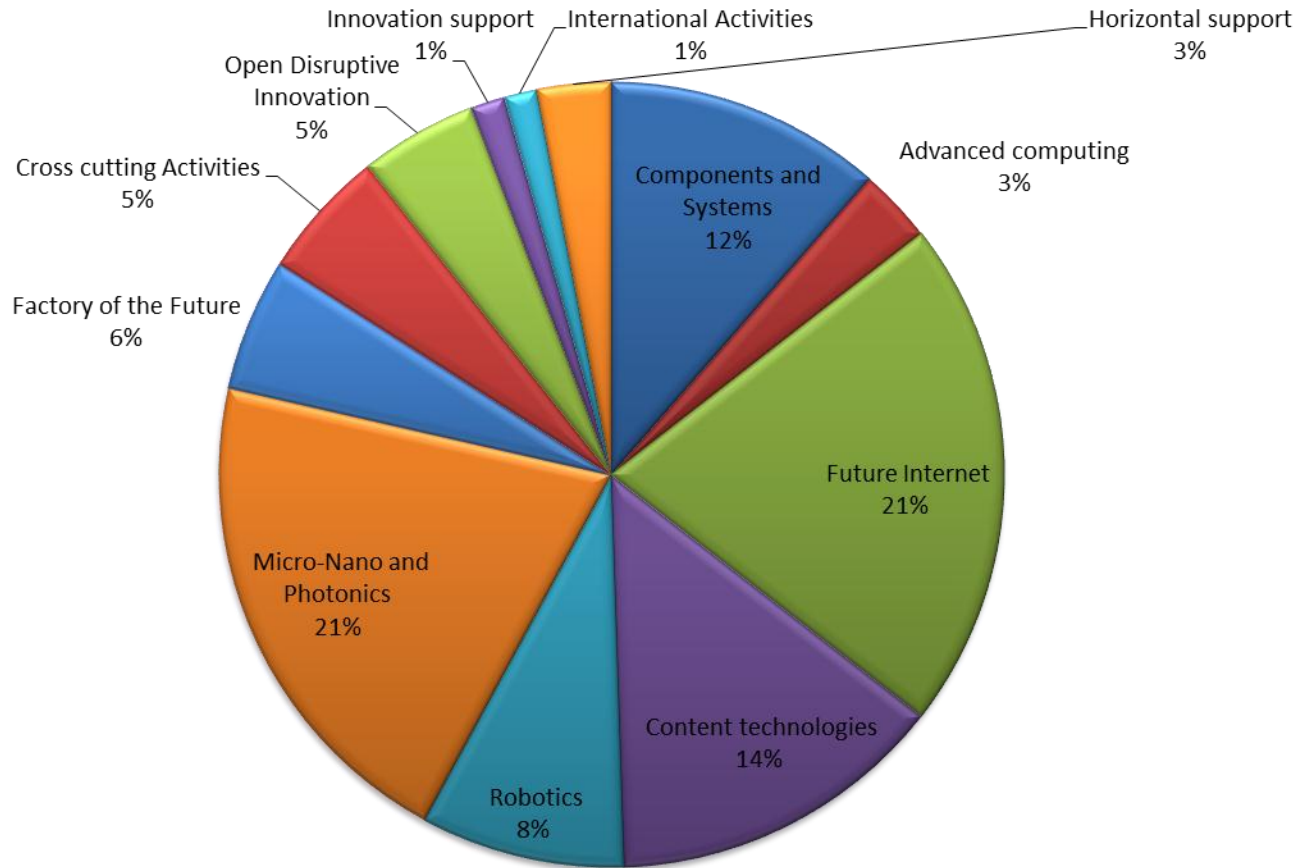
**Advanced Computing**

**Content Technologies and Information Management**



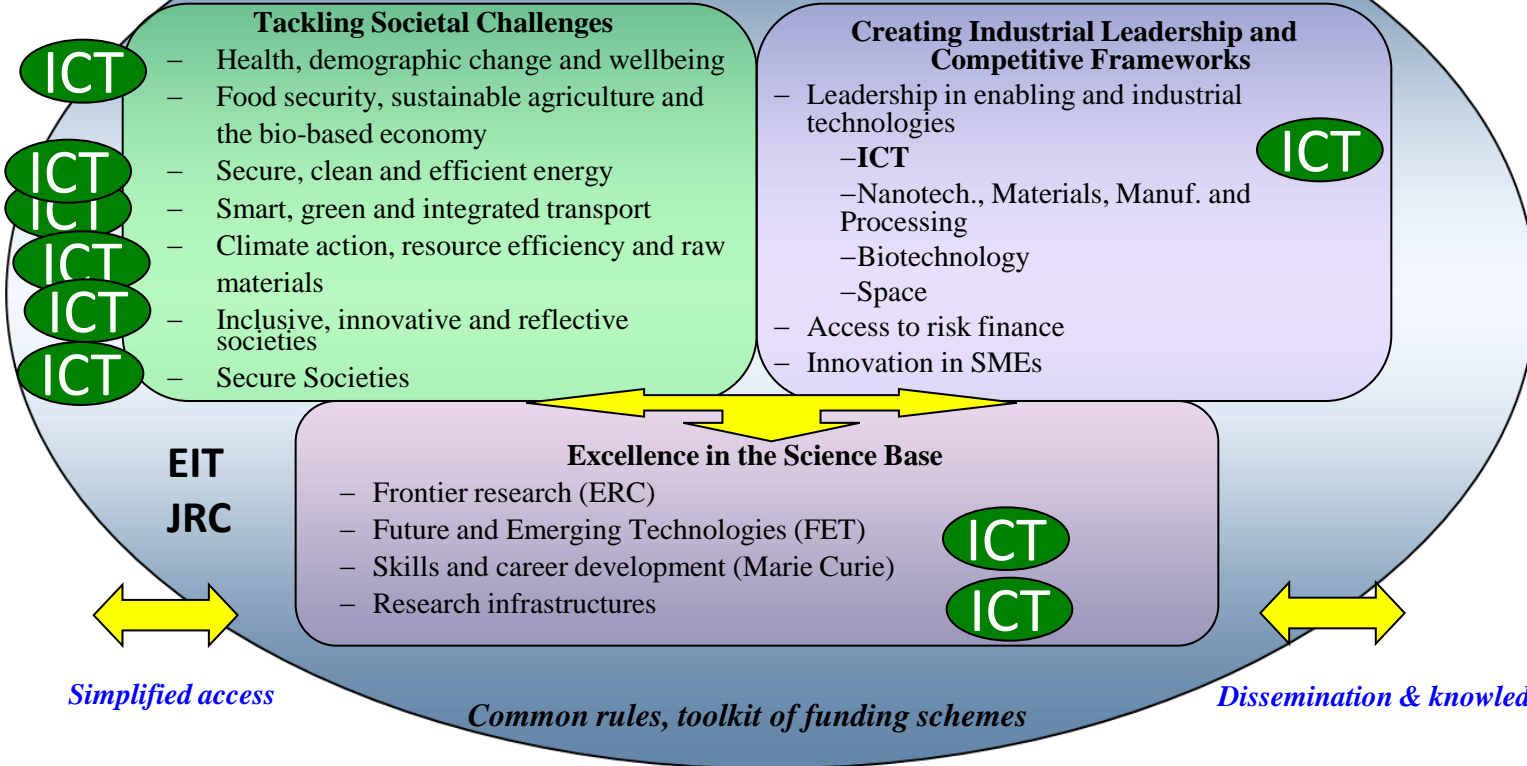


# Budget LEIT/TIC




*Europe 2020 priorities*

*Shared objectives and principles*



# Guide to the presence of ICT in H2020

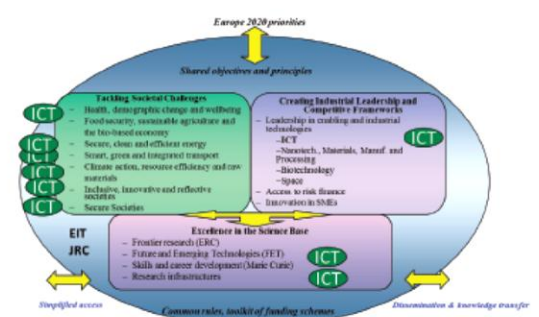
- Comprehensive coverage of all three H2020 pillars
- Detailed list of calls and topics
- Detailed budget allocation and call deadlines not provided yet

  
 European Commission

## A guide to ICT-related activities in WP2014-15

### ICT in H2020 – an Overview


As a generic technology, ICT is present in many of the H2020 areas. This guide is designed to help potential proposers find ICT-related topics across the different parts of H2020.



In work programme 2014-15, ICT-related topics are covered as follows:

- Advanced research to uncover radically new technological possibilities and ICT contributions to research and innovation are addressed in the 'Excellent science' part of the work programme, respectively under 'Future and Emerging Technologies' and 'European research infrastructures' ('Infrastructures').
- Research and innovation activities on generic technologies either driven by industrial roadmaps or through a bottom-up approach are addressed in the 'Leadership in enabling and industrial technologies' (LEIT) part of the work programme, under 'information and communication technologies'.
- Multi-disciplinary application-driven research and innovation leveraging ICT to tackle societal challenges are addressed in the different 'Societal challenges'.

The figures above and below provide synthetic overviews of the presence of ICT in Horizon 2020:

  
 Horizon 2020



# ICT 18 & ICT 21

## A. GAUTHIER (DGCNECT)

# ***CONNECT Unit G2***

***Creativity***

***Info Day***

**Albert GAUTHIER unit G2**

***Paris 16 December 2013***

# My presentation

- **Creativity Unit**
- **H2020**
- **Questions and Answers.**



# CONNECT-G2

## DIGITAL CULTURE & CREATIVE INDUSTRY



**The 'Creativity' unit covers a range of activities from funding leading-edge ICT research to innovation and policy support.**

The image features a central lens containing a small globe of Earth, positioned above a larger, curved horizon of the Earth. A bright light source behind the lens creates a lens flare effect with multiple rays of light extending across the scene. The background is a deep, dark blue, suggesting a space or futuristic theme. The text 'HORIZON 2020' is written in a clean, white, sans-serif font, centered horizontally and partially overlaid by the lens and the horizon line.

HORIZON 2020



# H2020

## Innovation actions

*Description:* Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

***Funding rate: 70% (except for non-profit legal entities, where a rate of 100% applies)***

# H2020

## Research and innovation actions

*Description:* Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.

Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.

***Funding rate: 100%***

# H2020

## Coordination and support actions

*Description:* Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.

***Funding rate: 100%***

**Call closing in 2014**

**ICT 18 A+B: ICT innovative Creative Industry  
SMEs**

**ICT 22 C: Multimodal Computer Interaction**

**ICT 21: Gamification**

**Reflective 7: 3D**

**HORIZON 2020**



**TWITTER:  
EMAIL:**

**@ICTCREATIVITYEU  
CNECT-CREATIVITY@EC.EUROPA.EU**



# H2020

- Research under H2020 will continue exploring the potential of ICT to support the Creative Industries
- Enhance user experiences with digital cultural resources, including keeping those resources useable at long-term (digital preservation).
- Innovation activities under H2020 aim at stimulating the up-take of research results in the creative industry.

# H2020 – 2014 -ICT18 a&b

## Rationale

- **SMEs represent 85% of all actors in the creative industry sector. They co-exist with global players and often face difficulties in adopting state of the art ICT technologies and accessing finance.**

## Objective

- **Stimulate the adoption and deployment of innovative ICT solutions by the creative industries SMEs.**

# H2020 – 2014 -ICT18 a

## Target:

Leveraging emerging ICT technologies for the development of innovative products, tools, applications and services in the creative industries.

Technologies examples: 3D, augmented reality, advanced user interfaces, visual computing, ...

Requirements: User-needs driven,  
Existing market demand, Cost-effective,  
Market-ready, Target international  
markets.



# H2020 – 2014 -ICT18 a

## Expected impact:

### a. Innovation Actions

- Tens of innovative solutions with high market potential ready to be deployed by European creative industries SMEs.
- Stronger collaboration between ICT innovative technologies providers and creative industries SMEs to improve the competitive position of the European creative industries.

Small projects: EUR 0.5 <-> 1 million;  
6 <-> 18 months

Budget: 14 M€





# H2020 – 2014 -ICT18 b

## Coordination and Support Actions.

### Target:

To stimulate the take up of advanced ICT in the European creative industries on a broad geographical coverage.

### Will provide:

- Investor readiness support
- Connect creative industries SMEs with
  - appropriate sources of funding
  - international business networks



# H2020 – 2014 -ICT18 b

## Expected impact:

### b. Coordination and support actions

- An established sustainable network of ICT-driven innovation multipliers active in the creative industries sectors with proven record of stimulating innovation.
- Tens of examples of fruitful business relations enabled by the network.

Budget: 1 M€



# H2020 – 2014 -ICT22 c

## Innovation actions on multimodal interfaces

### Target:

- more efficient and natural ways of interacting with computers
- improve users' experience.

### How:

- Create non-intrusive interaction with humans where real and virtual content are blended. The starting point should be one or multiple smart devices and sensors (scene analysis, voice recognition, human position, gestures and body language detection,...)

### Results:

- cost effective
- address clear market needs

Budget: 7,5 M€



# H2020 – 2014

Is this new or has it been called before?

- **NEW**

What do we NOT want?

Repeat history

Who are the leading players?

SMEs

Relevant ETP? NEM ([www.nem-initiative.org](http://www.nem-initiative.org))

# H2020 – 2014 –ICT 21

- Support R&I on digital games applied in non-leisure contexts for the emergence of a prospering market
- Requiring development of new methodologies and tools to produce, apply and use digital games and gamification techniques in non-leisure contexts, as well as building scientific evidence on their benefits - for governments, enterprises and individuals



# Research and Innovation Action 1/2

- **Multidisciplinary R&I on advanced digital gaming technologies and components applied to non-leisure contexts**  
game engines, emergent narrative, virtual characters, interaction systems and alternative human-machine interfaces, 3D, textures, models for simulations, game design, learner profiles, emotional models, etc.

# Research and Innovation Action 2/2

- Creation of a repository of core reusable, open components to enable publishers and game producers as well as user organisations and individual programmers to build specific games.
- Application scenarios: learning and skills acquisition in formal and informal education, in workplace learning and in policy making and collective social and public processes.

# Innovation Action

- Stimulate technology transfer and new non-leisure applications by SMEs traditionally working on digital games
- Through coordinating and incubating small scale experiments (embedded in project)
- Leading to new market developments for learning and skills acquisition; empowerment and social inclusion
- But also producing scientific evidence of effectiveness for specific target groups or problems



# Expected Impact

- Increase collaboration between traditional digital game industry players and a broader research community, intermediaries and users from a wide area of application contexts
- Increase the effectiveness of digital games for professionals and researchers, intermediaries and social actors dealing with people with disabilities or at risk of exclusion socially, physically or technologically disadvantaged groups those who consider themselves unsuited for education.

# Budget ICT 21

**A) Multidisciplinary research experimentations and collaboration**

**Research and Innovation 9 MEUR**

**B) Technology transfer and new non-leisure applications**

**Innovation actions 8 MEUR**

# H2020 - Reflective 7 a

- a) RESEARCH ON COST-EFFECTIVE TECHNOLOGIES FOR ADVANCED 3D MODELLING TO ENHANCE THE UNDERSTANDING OF CULTURAL HERITAGE – Research and Innovation actions.

## Target:

- New methods and tools for automated 3D modelling and analysis of physical cultural resources and assets beyond simple digital reconstruction. High-fidelity models of objects (surface; transparency; dimensions etc.)

## Potential areas:

- consolidation of imperfect data,
- spatio-temporal analysis,
- modelling/simulation of material degradation,
- joint reconstruction within and across collections,
- semantic-aware representation



# H2020 Reflective 7 b

**b) DEVISE STANDARD FORMATS FOR THE SEMANTIC-AWARE 3D MODELLING OF EUROPE'S CULTURAL HERITAGE FOR RESEARCHERS AND PRACTITIONERS – Coordination and Support actions.**

**Target:**

- **Extend or develop standard formats of 3D semantic-aware objects with a view to improve their archiving and reusability.**
- **The proposed formats should enable easy exchange and use of 3D models that have been acquired or generated by a wide range of devices or software.**

**Budget: 14 M€ (a+b) with a max of 2M€ for b.**

**a) Research and Innovation actions.**

**b) Coordination and Support actions.**

# CALENDAR

**ICT 18 A+B: ICT innovative Creative Industry SMEs**

**ICT 21: Gamification**

**ICT 22 C: Multimodal Computer Interaction**

Publication date: 11/12/2013

Deadline: 23/04/2014 at 17:00 Brussels time

**Reflective 7: 3D**

Publication date: 11/12/2013

Deadline: 30/09/2014 at 17:00 Brussels time



## **Creativity website:**

[http://cordis.europa.eu/fp7/ict/creativity/creativity\\_en.html](http://cordis.europa.eu/fp7/ict/creativity/creativity_en.html)

## **Digital Agenda for Europe:**

<https://ec.europa.eu/digital-agenda/en/creativity-media/cultural-heritage>

## **Connecting Europe Facility:**

<https://ec.europa.eu/digital-agenda/en/connecting-europe-facility>

## **Info Day (23 January 2014)**

[http://cordis.europa.eu/fp7/ict/creativity/call1-infoday\\_en.html](http://cordis.europa.eu/fp7/ict/creativity/call1-infoday_en.html)

**emails: CNECT-digicult@ec.europa.eu**

**CNECT-Creativity@ec.europa.eu**

**Twitter: @digicultEU & @ICTcreativityEU**







# LE RESEAU PCN

## C. FERTE (UBIFRANCE)

# Un dispositif national d'accompagnement national renforcé

- Représentants aux Comités de programme (RCP)
- Les Groupes Thématiques Nationaux (GTN)
- Les Points de Contact Nationaux (PCN)
  - Missions renforcées: informer et diffuser; aider, conseiller et former; susceptibles d'orienter vers d'autres sources de financement
  - Les RCP intégrés aux consortia PCN
  - Professionnalisés: rendre des comptes, une professionnalisation des acteurs, et bénéficiant d'une plus grande visibilité
- Un site dédié: [www.horizon2020.gouv.fr](http://www.horizon2020.gouv.fr)

(Aval)

(Aval)



**Et une articulation beaucoup plus étroite avec l'agenda stratégique national pour la recherche, le transfert et l'innovation**

# Composition du PCN TIC

- ❑ Claire Ferté (UBIFRANCE) - coordinateur
- ❑ Frédéric Laurent (MESR)
- ❑ Patrick Schouller (MRP)
- ❑ Michel Loyer (ALLISTENE – Inria)
- ❑ Anne Meyer (ALLISTENE – Grenoble INP)
- ❑ Isabelle de Sutter (Pôles de Compétitivité – Systematic)



MINISTÈRE  
DE L'ENSEIGNEMENT SUPÉRIEUR  
ET DE LA RECHERCHE





## LE SITE INTERNET FRANCAIS

<http://www.horizon2020.gouv.fr>

## LE SITE DE LA COMMISSION

[http://ec.europa.eu/research/horizon2020/index\\_en.cfm](http://ec.europa.eu/research/horizon2020/index_en.cfm)





# Journées d'information TIC

- 10 janvier: Cloud (+ autres topiques FI) en partenariats avec UK (UbiFrance, Paris)
- 13&14 janvier: Robotique (CE/DG CNECT, Luxembourg)
- 16 janvier: Photonique (CE/DG CNECT, Bruxelles)
- 20 janvier: FET (CE/DGCNECT, Bruxelles)