

HORIZON **2020**

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

DS-07-2017: *addressing cyber threats*

DS-08-2017: *privacy*

Paris – 18/11/16

Agenda

09H00 – 9H30	Accueil autour d'un café
9H30 – 10H00	Rappel sur Horizon 2020 et présentation des sujets DS-07-2017 et DS-08-2017 Frédéric Laurent (MENESR)
10H00 – 10H20	Point sur le Partenariat Public-Privé pour la cyber sécurité Géraud Canet, CEA
10H20 – 10H50	1) Plateforme open source de génération d'exercices pour l'entrainement et la formation des opérateurs de sécurité <i>(en lien avec DS-07-IA)</i> 2) Outils collaboratifs de gestion des menaces et d'incidents sur les environnements informatiques hétérogènes <i>(en lien avec DS-07-RIA)</i> Adrien Bécue, Airbus DS Cybersecurity
10H50– 11H10	Enjeux de la cyber sécurité dans l'industrie et protection de l'usine du futur <i>(en lien avec DS-07)</i> Frédéric Planchon, FPC Ingénierie
11H10– 11H20	Pause
11H20 – 11H40	Evolution de l'identité régalienne et l'arrivée de l'identité numérique <i>(en lien avec DS-08)</i> Xavier Larduinat, Gemalto
11H40 – 12H00	eIDAS et l'identité numérique <i>(en lien avec DS-08)</i> Julien Stern, Universign
12H00 – 13H00	Séance des présentations des compétences et des idées de projet Animation par Claire Ferté , Business France

Sommaire



1. Horizon 2020
2. Le programme LEIT/ICT
3. Les autres activités TIC d'Horizon 2020
4. Les PCN TIC et Sécurité

Horizon 2020 (en bref)

Horizon 2020: architecture



PCN - Horizon2020

PCN - Horizon2020

77,2 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 sûres, propres, efficaces
- Transports intell., verts, intégrés
- Climat, environnement, mat. 1^{ères}
- Sociétés inclusives et novatrices
- **Sociétés sûres**

Primauté industrielle

- TIC**
- NMBP
- Espace
- Innovation dans les PME (Eurostars)
- Accès au financement à risque

*Recherche
fondamentale*

Excellence scientifique

- Recherche exploratoire** (ERC)
- Technologies futures et émergentes (FET)
- Infrastructures de recherche
- Marie Curie

Euratom

- Fission
- Fusion

+ *Elargissement, Science et Société*

Institut européen
Innovation & Technologie
EIT / KIC

77,2 Md€ DONT ~1,8 Md€ POUR LA SÉCURITÉ



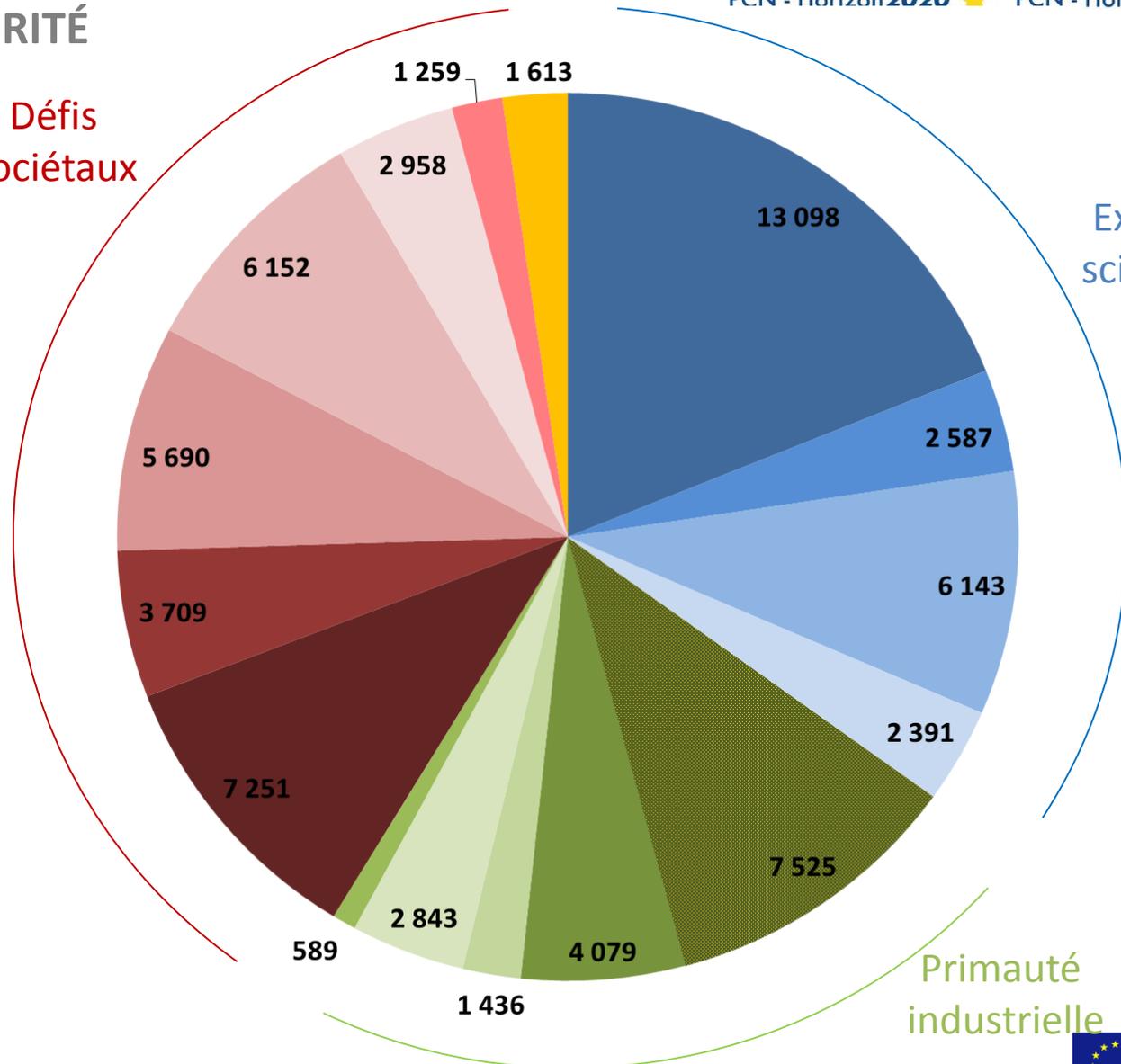
PCN - Horizon 2020



PCN - Horizon 2020

- ERC
- FET
- MSCA
- RI
- TIC
- NMPB
- Espace
- RF
- PME
- Santé
- Food
- Energie
- Transport
- Climat
- Sociétés innov.
- Sécurité

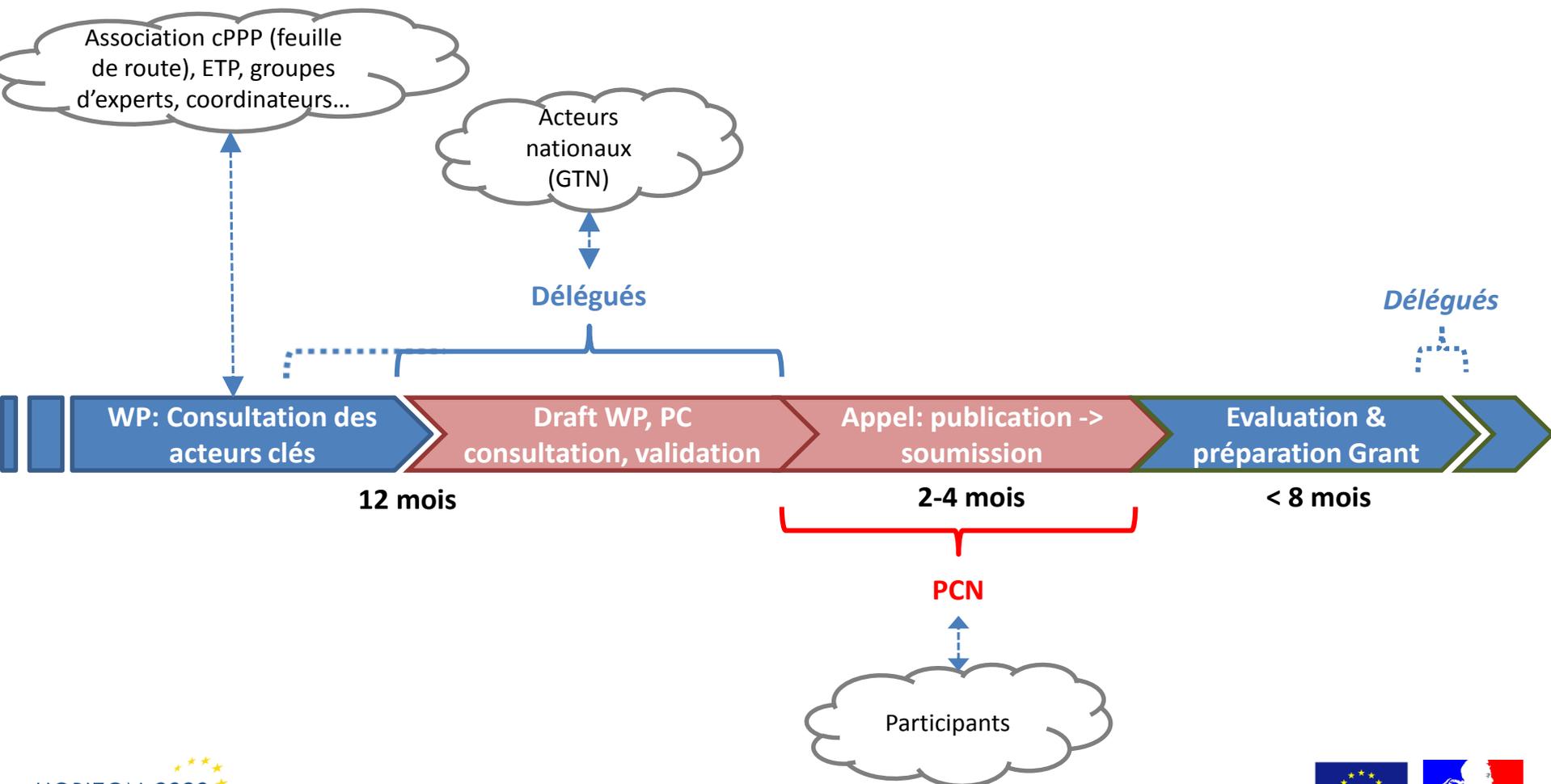
Défis
Sociétaux



Excellence
scientifique

Primauté
industrielle

Le processus des appels



Comment lire une ligne d'appel



ICT-21-2016: Support technology transfer to the creative industries **Sujet - Année de l'appel**

Specific Challenge: 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. Moreover, they operate on fragmented and localised target markets and have to bear high market costs which affect their international competitiveness. In this context, ICT tools and technological innovation are fundamental for the creative industries and their competitiveness. They widen creative possibilities and improve efficiency in all sectors.

The goal is to increase the competitiveness of the European creative industries by stimulating ICT innovation in SMEs, by effectively building up and expanding a vibrant EU technological ecosystem for the creative industries' needs and by fostering exchanges between the creative industries SMEs and providers of innovative ICT solutions.

Scope: Innovation Actions

Actions should support creative industries SMEs in leveraging emerging ICT technologies for the development of innovative products, tools, applications and services with high commercial potential. Proposals should ensure that creative industries SMEs are participants in the consortium and take on a driving role in the action, i.e. leading the innovation activities and liaising with end-users, ensuring that the work responds to a clear market demand. The draft business plan provided should demonstrate that the solutions are cost-effective, market-ready and targeted at existing markets with a potential for cross-border extension.

Proposals should make clear if the action would lead to impacts at European or international level and explain how the achievement of those impacts would be measured.

The Commission considers that proposals requesting a contribution from the EU between EUR 0.5 and 1 million for a period between 12 and 18 months would allow this specific challenge to be addressed appropriately. This does not preclude the submission and selection of proposals with a different budget or duration.

Expected Impact:

- For the project portfolio resulting from the Call: 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.

Type of Action: Innovation action

Le défi à relever

Le périmètre de l'action

Indication sur le budget

Les impacts attendus

Le type d'action financée



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

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

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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.

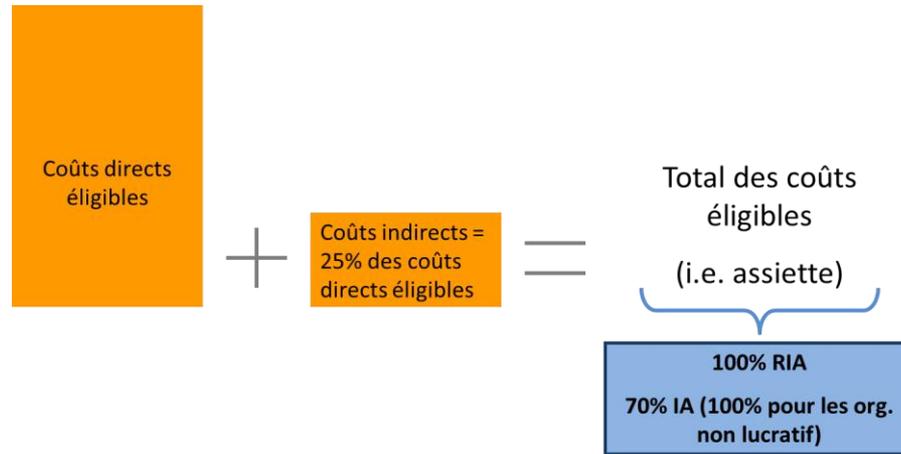
Types of action:

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

Horizon 2020: les règles de base

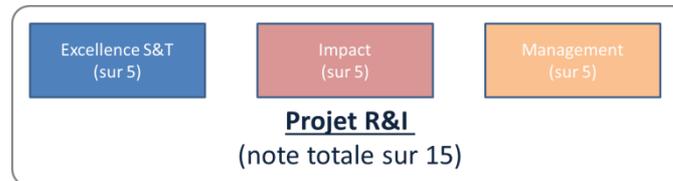
0. Des projets collaboratifs européens (min. 3 partenaires de 3 pays)

1. Taux



A comparer aux taux nationaux !

2. Critères



3. Quelques autres « instruments » :

- PCP and PPI
- SME instrument, bourses (ERC, MSCA)
- *Fast Track to innovation (FTI)*

4. « time-to-grant » garanti!

Horizon 2020: un programme devenu majeur au niveau national



Programmes (pérennes) de financement non-récurrent des équipes nationales de RDI en 2014 et 2015 (en M€/an)



Positionnement de la France (1)

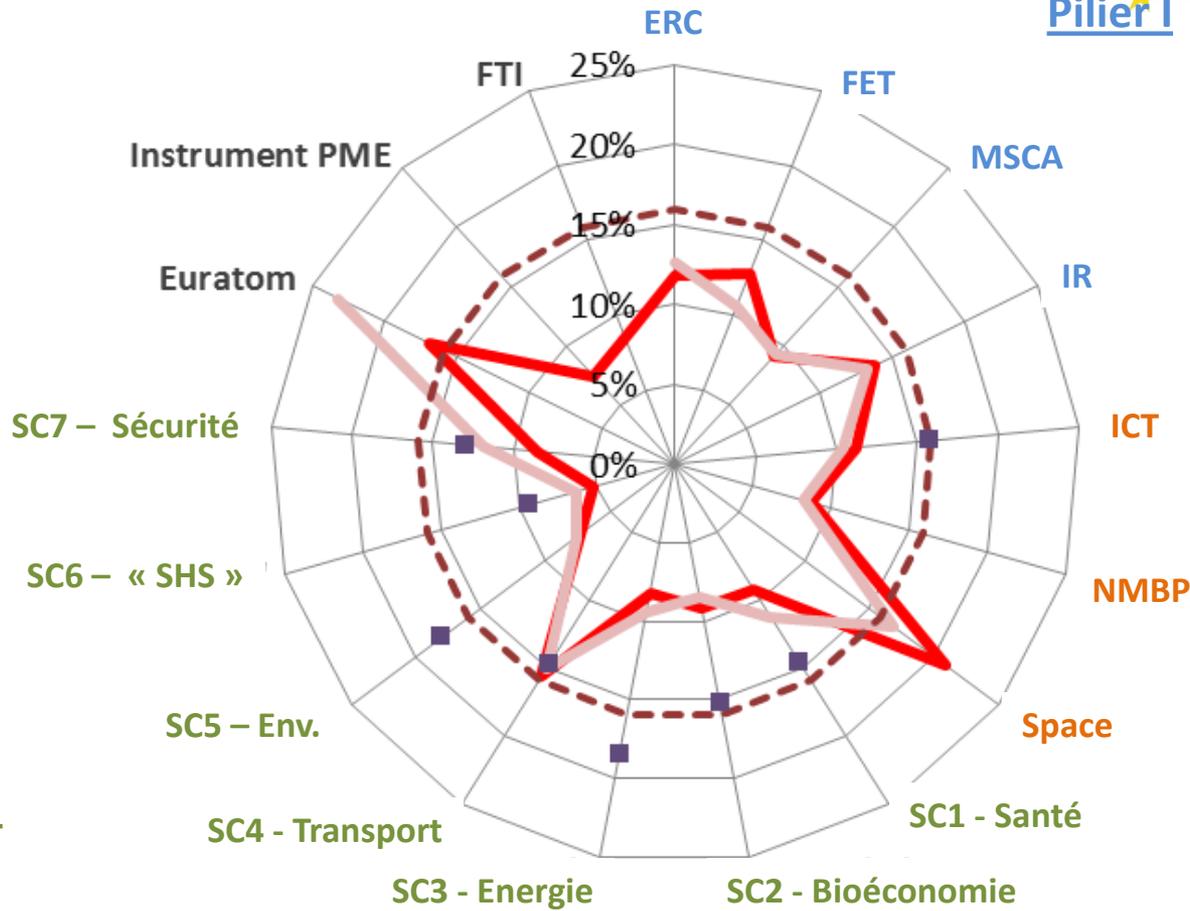
Chiffres donnés à titre de comparaison

	Etat	% Horizon 2020	Contr. budget UE (2014-16)	Taux de retour
1	DE	16,1%	21,4%	77%
2	UK	15,2%	12,2%	127%
3	FR	10,7%	15,9%	69%
4	ES	9,1%	8,0%	117%
5	IT	8,4%	11,7%	74%
6	NL	7,8%	5,6%	142%
7	BE	4,3%	3,9%	114%
8	SE	3,5%	3,2%	111%
9	AT	2,8%	2,2%	130%
10	DK	2,5%	1,3%	199%

% GERD UE28 (2014)	% ETP pers. R&D UE28 (2014)	% ETP cherch. UE28 (2014)	% demandes brevet OEB UE28 (2013)	Intensité RDI (2014)
29,5%	21,8%	20,1%	39,3%	2,9%
13,5%	14,1%	15,6%	9,4%	1,7%
16,9%	15,3%	15,3%	15,8%	2,3%
4,5%	7,3%	7,0%	2,6%	1,2%
7,3%	8,9%	6,8%	7,3%	1,3%
4,6%	4,5%	4,3%	5,9%	2,0%
3,5%	2,5%	2,7%	2,7%	2,5%
4,8%	3,0%	3,8%	5,0%	3,2%
3,5%	2,4%	2,3%	3,3%	3,0%
2,8%	2,1%	2,3%	2,8%	3,1%

Sources: eCorda (après retraitement MENESR) et Eurostat

Positionnement de la France (2)



— H2020
 — FP7
 - - - Benchmark €
 ■ % Publi à fort impact UE27 (2012)

Eléments statistiques sur les appels « cybersécurité » (1)

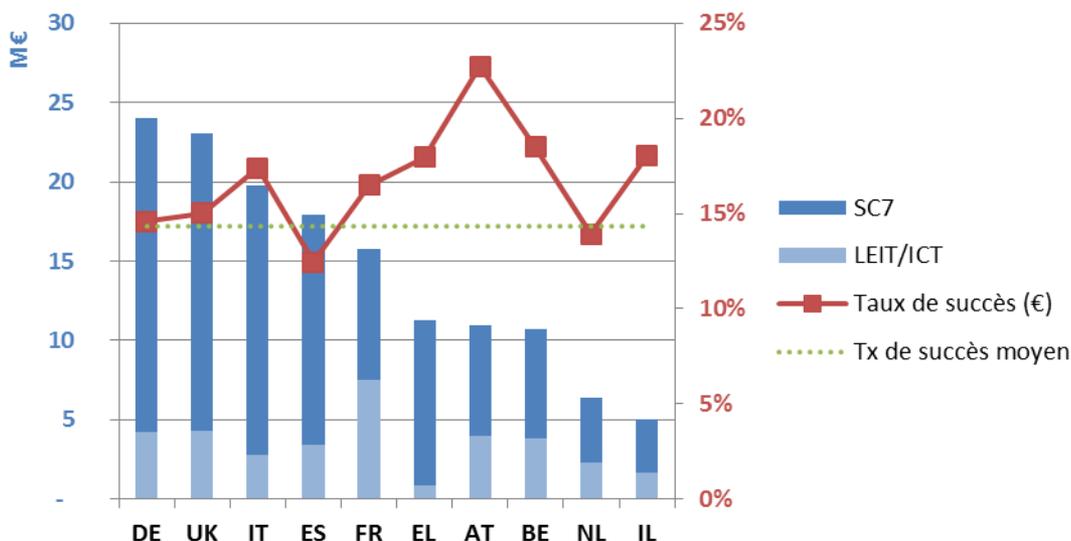
15 à 20 projets soutenus par an

60 M€/an sur les questions cyber depuis 2014

Un taux de succès global de 14,3%

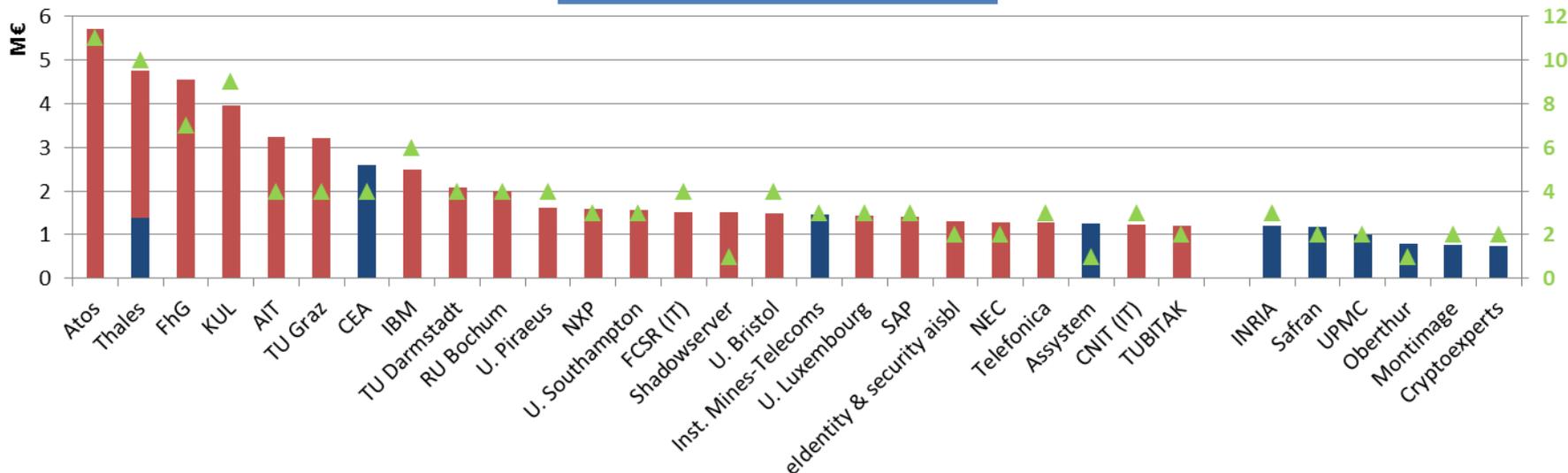
Une résultat FR très contrasté:

- 19,4% sur LEIT/ICT (assurance models, certification, security-by-design, crypto.)
- 6,2% sur SC7 (privacy, access control, assurance models, cybersec. Management, trust eservices) => tendance confirmée en 2016

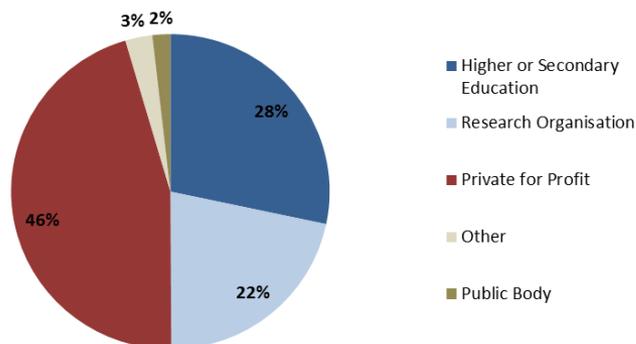


Eléments statistiques sur les appels « cybersécurité » (2)

Grands bénéficiaires



Typologie des bénéficiaires



DS-07-2017: Addressing Advanced Cyber Security Threats and Threat Actors

- **Situational Awareness (RIA);**
 - Detect and quickly and effectively respond to sophisticated cyber-attacks;
 - Interdisciplinary research to counter threat actors and their methods;
 - Assess and address the impact to fundamental rights, data protection and privacy in particular;
- **Simulation Environments, Training (IA);**
 - Prepare those tasked with defending high-risk organisations;
 - Realistic environments; Tools for producing both benign and malicious system events;
 - May also address crisis management and decision making processes in relation to obligations stemming from applicable legal frameworks

Taille projets : 2-3 M€ (RIA) ; 4-5 M€ (IA)

18 M€



Deadline: 24/08/17

DS-08-2017: Privacy, Data Protection, Digital Identities (IA)

- Privacy-enhancing Technologies (PET)
- General Data Protection Regulation in practice
- Secure digital identities
- Support for Fundamental Rights in Digital Society.
- Increased Trust and Confidence in the Digital Single Market
- Increase in the use of privacy-by-design principles in ICT systems and services

Taille projets : 2-3 M€

Call - DS – 2017 - Planning

Two separate opening dates - deadlines for submission

Topic(s)	DS-06-2017	DS-07-2017 DS-08-2017
Opening	08 Dec 2016	01 Mar 2017
Deadline	25 Apr 2017	24 Aug 2017

Topic	Instr.	Funding (M)
DS-06-2017	RIA	18.50
DS-07-2017	RIA	10.0
	IA	8.0
DS-08-2017	IA	17.5

PCN TIC et PCN Sécurité

L'équipe du PCN TIC



Prénom - NOM	Rôle	Etablissement
 Claire FERTÉ	Coordinatrice du PCN	Business France
 Frédéric LAURENT	Représentant au Comité de Programme	Ministère de l'Education nationale, de l'Enseignement supérieur et de la Recherche
 Rémi ARQUEVAUX	Représentant au Comité de Programme	Ministère de l'économie, de l'industrie et du numérique
 Pierre SIMAY	PCN	Institut Mines-Telecom
 Jonathan BARTOLI	PCN	PROSTIVALOR
 Farzam RANJBARAN	PCN suppléant	Université de Limoges
 Isabelle de SUTTER	PCN	Systematic Paris Région

L'équipe du PCN Sécurité



PCN - Horizon2020 PCN - Horizon2020

Prénom - NOM	Rôle	Etablissement
 Armand NACHEF	Coordinateur du PCN	CEA - Commissariat à l'Energie Atomique et aux Energies Alternatives
 Frédéric LAURENT	Représentant au Comité de Programme	Ministère de l'Education nationale, de l'Enseignement supérieur et de la Recherche
 François MURGADELLA	Représentant au Comité de Programme	SGDSN - Secrétariat Général de la Défense et de la sécurité Nationale
 Dominique SERAFIN	PCN	CEA - Commissariat à l'Energie Atomique et aux Energies Alternatives
 Isabelle de SUTTER	PCN	Systematic Site Nano Innov
 Sébastien GIRAUD	PCN	Cluster SAFE
 Jean-Michel DUMAZ	PCN	Cluster SAFE
 Philippe MOGUEROU	PCN	Université de Rouen / CPU

Notre rôle

Informer



Journées
d'information

Mise en ligne
d'information

Lettre du PCN

Orienter



Adéquation idée de
projet

Opportunités de
financement

Conseiller



Relecture d'abstract

Discussion autour
d'idées de projets

Relecture
Instrument PME