División
Programas de la UE

Centro para el Desarrollo Tecnológico Industrial

OPORTUNIDADES DEL NUEVO PROGRAMA DE TRABAJO 2018: LIDERAZGO INDUSTRIAL

DR. MARINA MARTÍNEZ-GARCIA
SOST-CDTI, OFICINA DE CDTI EN BRUSELAS

Dentro de H2020 nos centramos en…

1. Excellent Science

- European Research Council
- Future and Emerging Technologies
- Marie Curie Actions
- Research Infrastructures

2. Industrial Leadership

Leadership in Enabling & Industrial Technologies

- information and communication technologies
- nanotechnologies
- advanced materials
- biotechnology
- advanced manufacturing and processing
- space

- Access to Risk Finance
- Innovation in SME

3. Societal Challenges

7 Challenges

- Health, Demographic Change and Wellbeing
- 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
- Europe in a changing world: Inclusive, Innovative and Reflective Societies
- Secure Societies – Protecting Freedom and Security of Europe and its Citizens

- Joint Research Centre (JRC)
- Widening Participation
- Science with & for Society
- European Institute of Innovation and Technology (EIT)
- Joint Programming P2P
- Joint Technology Initiatives (JTIs) P2B

❑ **Spreading excellence**

❑ **Science for & with Society**

De las prioridades Junker… las relevantes para los Retos Sociales

EUROPEAN COMMISSION

Towards the Juncker Commission

European Commission > About the European Commission > Towards the Juncker Commission > 10 Priorities

Section contents

- Jobs, Growth, Investment
- Digital Single Market
- Energy Union
- Internal Market
- Economic & Monetary Union
- Free Trade
- Justice & Fundamental Rights
- Migration
- A Global Actor
- Democratic Change
- More on my priorities

10 Priorities

A New Boost for Jobs, Growth and Investment

My first priority as Commission President will be to strengthen Europe's competitiveness and to stimulate investment for the purpose of job creation. I intend to present, within the first three months of my mandate and in the context of the Europe 2020 review, an ambitious Jobs, Growth and Investment Package worth €300 billion.

A Connected Digital Single Market

I believe that we must make much better use of the great opportunities offered by digital technologies, which know no borders. To do so, we will need to have the courage to break down national silos in telecoms regulation, in copyright and data protection legislation, in the management of radio waves and in the application of competition law.

A Resilient Energy Union with a Forward-Looking Climate Change Policy

Current geopolitical events have forcefully reminded us that Europe relies too heavily on fuel and gas imports. I therefore want to reform and reorganise Europe's energy policy into a new European Energy Union. We need to pool our resources, combine our infrastructures and unite our negotiating power vis-à-vis third countries. We need to diversify our energy sources, and reduce the high energy dependency of several of our Member States.

A Deeper and Fairer Internal Market with a Strengthened Industrial Base

Y de las Focus Areas 2018-2020…

- Personalising health and care
- Sustainable food security
- Blue growth: unlocking the potential of seas and oceans
- Smart cities and communities
- Competitive low-carbon energy
- Energy Efficiency
- Mobility for growth
- Waste: a resource to recycle, reuse and recover raw materials
- Water innovation: boosting its value for Europe
- Overcoming the crisis:
- Disaster-resilience
- Digital security

12 focus areas
in WP 14-15

- Industry 2020 in the Circular Economy
- Internet of Things
- Smart and Sustainable Cities
- Sustainable Food Security – Resilient and resource-efficient value chains
- Energy Efficiency
- Digital Security
- Blue Growth - Demonstrating an ocean of opportunities
- Competitive Low-carbon Energy
- Automated Road Transport – The New Frontier

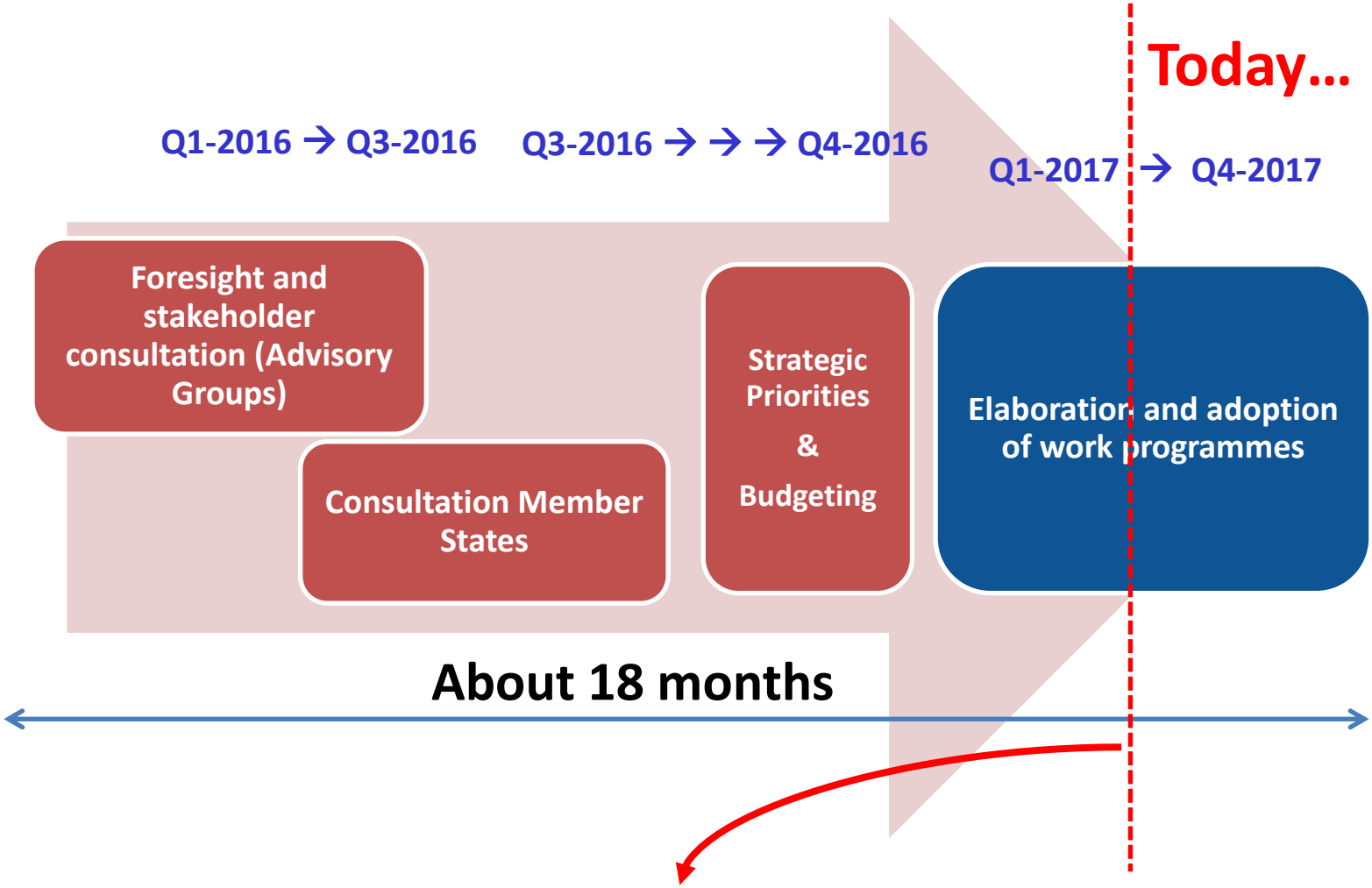
9 focus areas
in WP 16-17

4 focus areas
in WP 18-20

- ✓ Building a **low-carbon, climate resilient** future
- ✓ Connecting economic and environmental gains – the **Circular Economy**
- **Digitising** and transforming **European industry** and services
- ✓ Boosting the effectiveness of the **Security Union**

División
Programas de la UE

Timming…



Borradores de programas de trabajo consolidados e inicio consulta inter-servicios de la EC (primera semana Jul-2017, approx).

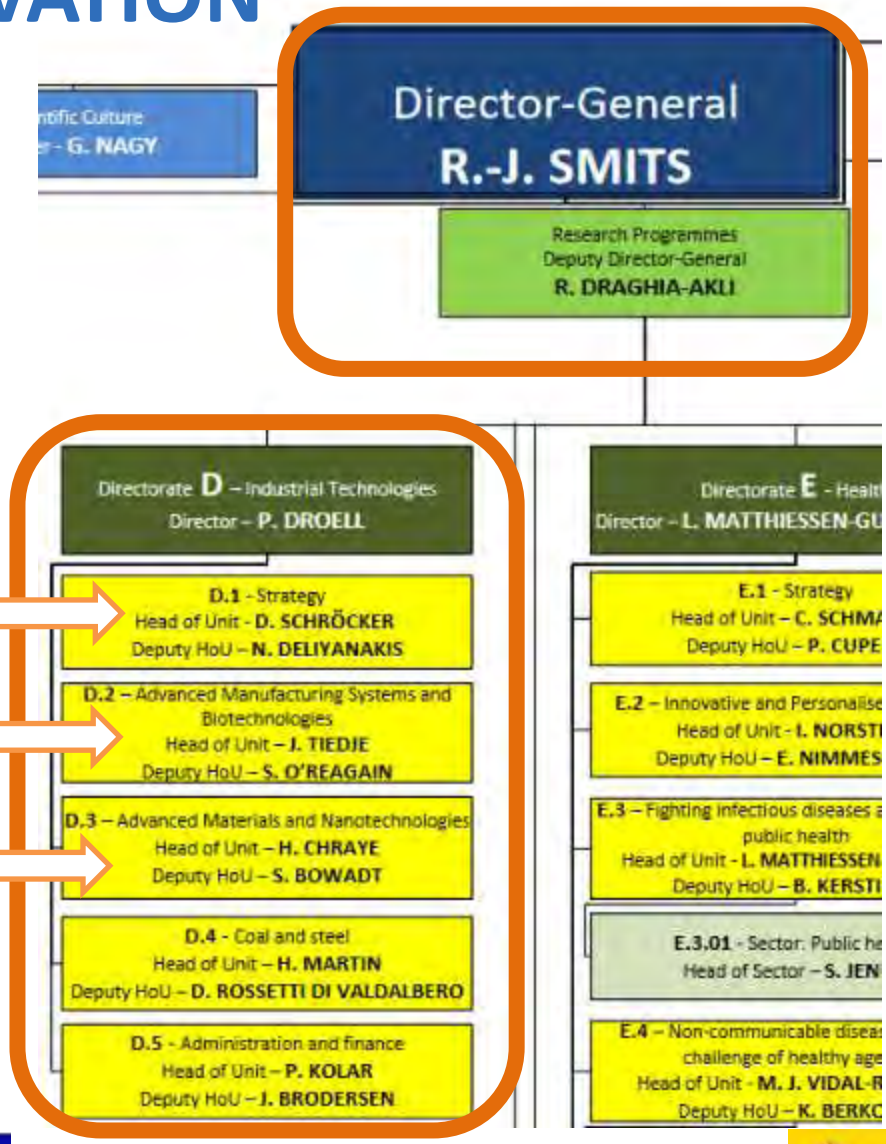
Oportunidades en el ámbito de “NMBP”...

DIRECTORATE-GENERAL for RESEARCH and INNOVATION

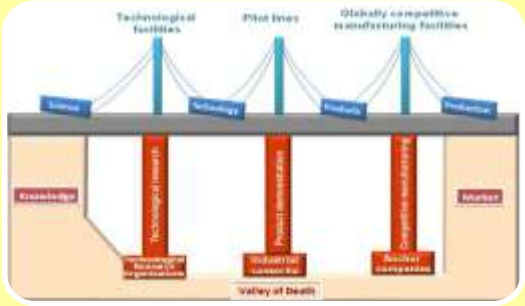
Sinergias fondos, Plan de negocio…

BP

NM



Horizonte 2020



Excellent Science

Industrial Leadership

Societal Challenges

Nanotechnology

Biotechnology

Advanced Materials

Advanced Manufacturing & Processing

División Programas de la UE

Ministerio de Economía y Competitividad

COTI Centro para el Desarrollo Tecnológico Industrial

Liderazgo Industrial en H2020

17.900 M€

Leading in Enabling and Industrial Technologies (LEIT)

13.800 M€

- Tecnologías de la Información y la Comunicación
- Nanotecnologías
- Materiales Avanzados
- Fabricación y Procesos
- Biotecnología
- Espacio

3.800 M€

500 M€

Acceso a financiación de riesgo

Innovación en las PYME

Contexto político

Four of the President's priorities:

- **To boost jobs, growth and investment**;
- To realise a connected digital single market;
- To implement a resilient Energy Union with a forward looking climate change policy;
- To make Europe a stronger global actor

Priorities of Commissioner Moedas:

Open innovation

Open science

Open to the world

Contexto político

- **Sustainable jobs and growth:**
  Boost jobs, growth and investmentDeeper and fairer internal market with a strengthened industrial base
- **Re-industrialisation of EU:**
  towards a strong industrial base
- **Digital Single Market:**
  Factories of the Future, '4th industrial revolution'
- **EU Energy Union:**
  Energy-efficient Buildings, Materials for Energy, etc.
- **Circular economy:** boosting growth and renewing industrial capacities in a world of finite resources ➲ focus area in 2016-2017 on 'Industry 2020 in the Circular Economy'

Criterios de Evaluación

FASE 1

- 10 pags
- Consorcio
- Umbral Flotante

Excellence	(4/5)
Impact	(4/5)
TOTAL	(8/10)

FASE 2
o
Una Fase

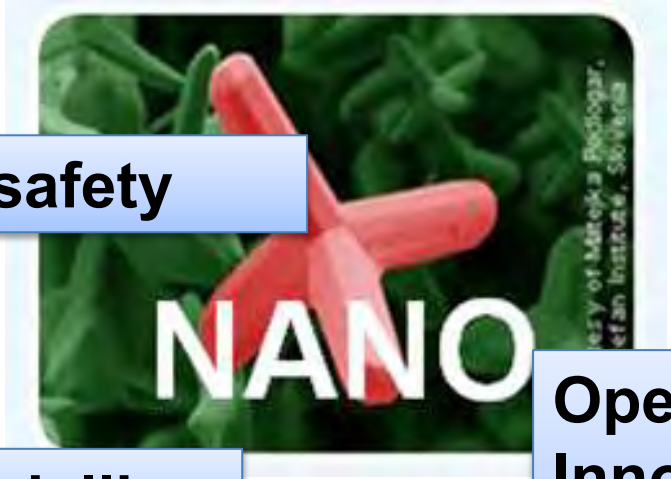
Excellence	(4/5)
Impact	(4/5)
Implementation	(3/5)
TOTAL*	(12/15)

EX-AEQUO

1. Cobertura temática
2. Puntuación Impact
3. Puntuación Excellence
4. Presupuesto PYMES
5. Equilibrio de género

*** Peso nota Impacto x1.5 en IA!!!**

WP NMBP 2018-20



Nanosafety

Modelling

Open Innovation Hubs

Circular Economy

Characterisation

BIOTEC

Cultural Heritage

NM4Energy

MedTech

- IAs from "laboratory tested" (TRL 4-5) to "industrially proven" (TRL 7)
- 20% en servicios para SMEs

Liderados por especialistas en nano-materiales…

Barcelona (ES) 2 June 2017 - Future Industry Congress
Brussels (BE) 3 July 2017: Research & Innovation - Shaping our Future
Brussels (BE) 3 & 4 October 2017 - Industrial Innovation Info Days 2017
Tallinn (EST) 24 & 25 October 2017 - ManuFuture 2017

RIA (TRL 3→5) environmentally friendly and sustainable solutions for managing the waste of plastics mixtures based on the use of communities of microorganisms with a set of complementary enzymes.

La mayoría demostración!

SPIRE
Sustainable Process Industry through Resource and Energy Efficiency

- ❑ Process Industry Conference, 19-Sep, BRU
- ❑ cPPPs Infoday, 04-Oct, BRU

IA de demostración en/para museos pequeños/medianos!

Estrategia en los próximos meses…

- Eventos de las cPPPs FoF, Spire…
- Alianza con usuario final significativo en Innovation Actions…

Oportunidades en el ámbito de “ICT”…

Technology readiness levels (TRL)

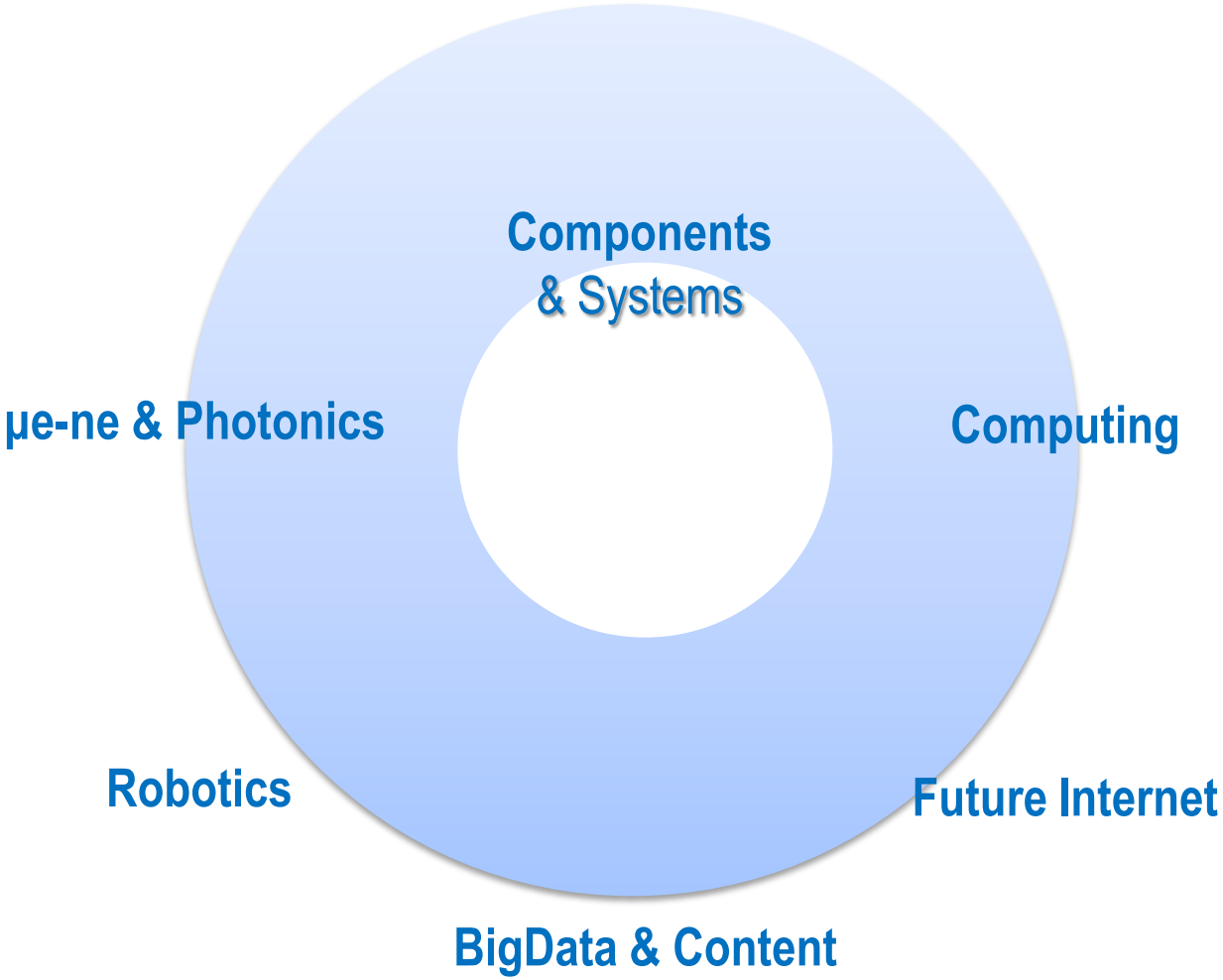
Technology readiness level (TRL)	1	2	3	4	5	6	7	8	9
Activity	Discovery & Research		Innovation					Commercialisation	
TRL description	Basic principles observed and reported	Concept or application formulated	Experimental proof of concept	Concept or process validated in laboratory	System or component validated in relevant environment	System model or demonstrator in relevant environment	System prototyping demonstrator in an operational environment	Actual system completed and qualified test & demo operational environment	Actual system mission-proven in successful mission operations

Research → **> Knowledge impact**

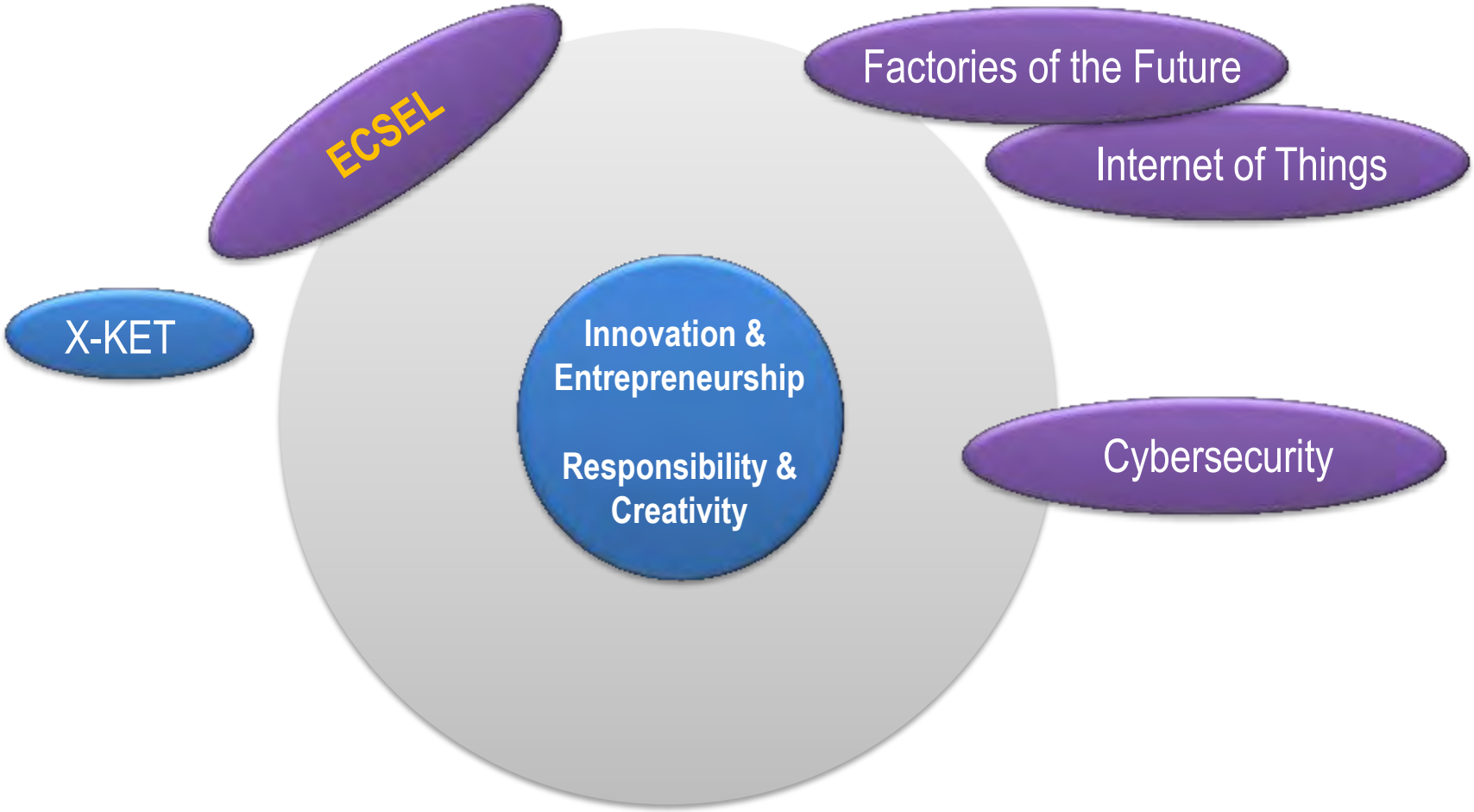
Research & Innov. Act. → **> Technological impact**

Innovation Act → **> Market impact**

ICT-2016-17- Areas Tecnológicas



ICT- 2006-17 Iniciativas adicionales



ECSEL Joint Undertaking

Electronic Components and Systems for European Leadership

Unión de:

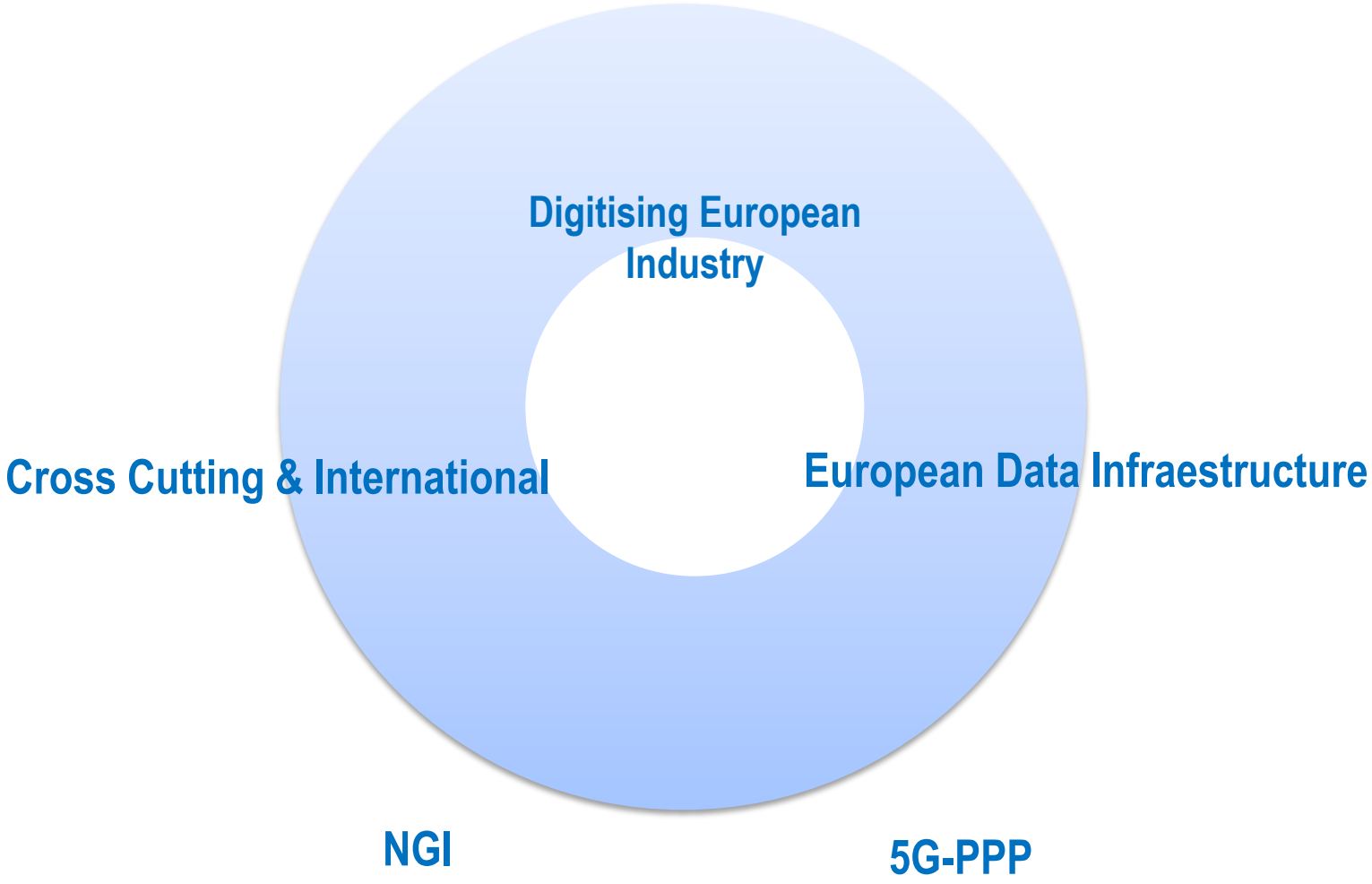
- ARTEMIS: Sistemas Empotrados
- ENIAC: Micro-Nanoelectrónica
- EPoSS: Sistemas Inteligentes

Investigación Aplicada y Orientada a Mercado

Cofinanciación UE y EEMM:
http://www.ecsel-ju.eu/web/calls/general-info.php

JTI ECSEL
1.200 M€

ICT-WP2018-20 Areas Tecnológicas



ICT-WP2018-20

1. Digitising European Industry

Components & Systems

µe-ne & Photonics

Robotics

Local Manufacturing

ICT-WP2018-20

1. Digitising European Industry

AEROBI: AErial RObotic system for in-depth Bridge Inspection by contact

RockEU2: Robotics Coordination Action for Europe Two

SAFety and secURity by design for interconnected mixed-critical cyber-physical systems

Smart Phone for Disease Detection from Exhaled Breath

DIMENSION: Directly Modulated Lasers on Silicon

Self-amplified photonic biosensing platform for microRNA-based early diagnosis of diseases

Compact High pErformance QUantum cascadE laseR Sensors

ICT-WP2018-20

2. European data infraestructure

HPC

Cloud

Big Data

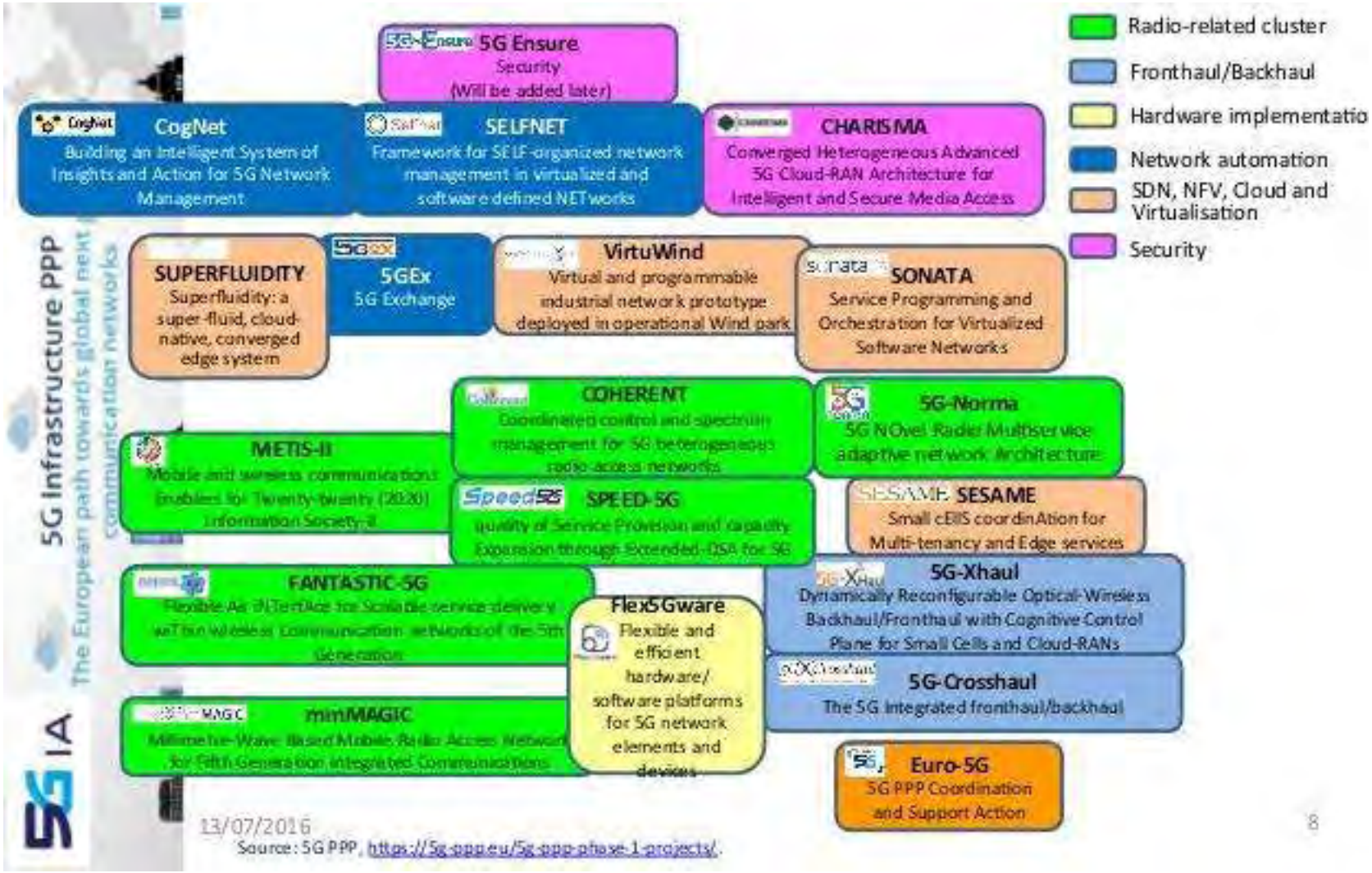
ICT-WP2018-20

3. 5G-PPP

- 5G End To End Demonstrator
- 5G For connected & ***automated driving***
- 5G Validation trials (@ ***vertical industries***)
- 5G Long Term Evolution
- Interntational cooperation (p.e., with USA, Taiwan, China,…)

ICT-WP2018-20

3. 5G-PPP



ICT-WP2018-20

4. Next generation internet

NGI

Interactive Technologies

Artificial Intelligence

IoT

Future Hyperconnected Sociality

Next Generation Media

Multilingual, Inclusive NGI

ICT-WP2018-20

5. Cross cutting ~~& International~~

PROTEUS: Scalable online machine learning for predictive analytics and real-time interactive visualization

SYNCHRONICITY: Delivering an IoT enabled Digital Single Market for Europe and Beyond

Content4All: Personalised Content Creation for the Deaf Community in a Connected Digital Single Market

ICT-WP2018-20

5. Cross cutting ~~& International~~

STARS

Start-Up Europe

PcP

Fintech

Standardisation

Internat[illegible] Cooperation

FOCUS AREA

H2020-DT-2018-20

Digitising & transforming european industry & services

H2020- DT-2018-20

Instrumentos

Plataformas

- Desarrollo de tecnología
- Base para aplicaciones

Pilotos

- Innovación
- Desarrollo aplicaciones sobre plataformas
- Difusión a nivel europeo
- De gran dimensión

DIH

- Expansión
- Cluster de entidades en una región/tecnolog.
- CCs & SMEs
- “Marketplace”, mentoring, financing (Cascade funding)

H2020- DT-2018-20

Instrumentos

THE DIGITAL HUB

Offer services for digital transformation of companies

- Supporting experimentation and testing with new technologies
- Supporting fabrication of new products
- Showcasing technologies in pilot factories
- Fab-labs, etc..

Ej: Technical Univ. of Munich (DE)
UPM, AIMEN

Offers other relevant innovation services, such as:

- mentoring services
- access to finance for growth of companies
- advice on access to new markets
- access to competence centers

Ej: University of Parma (IT)
BrainsBusiness (DN)
Prodintec

H2020-DT-2018-20

Ejemplos de Hubs

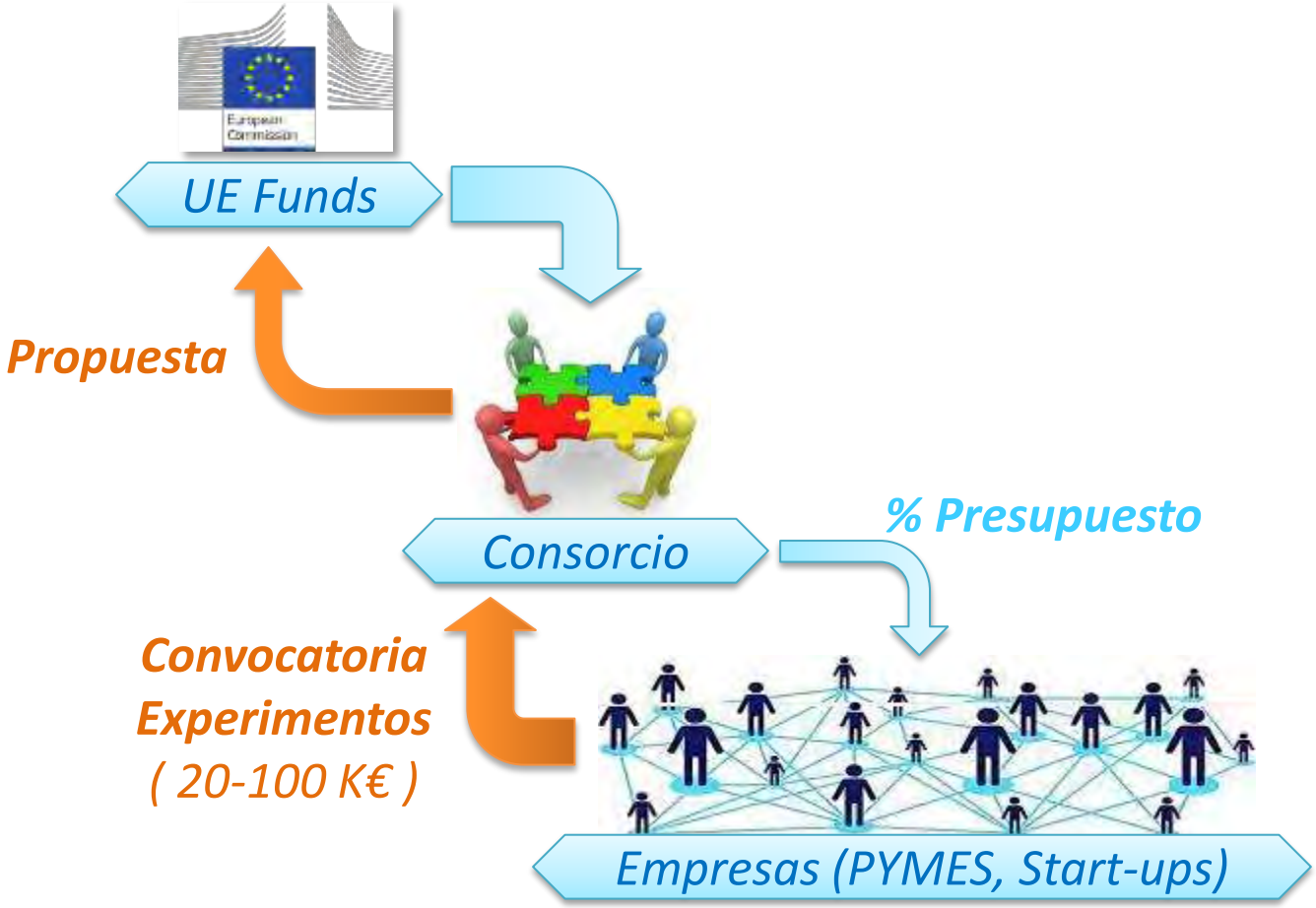
I4MS

EuroCPS
Cyber-Physical Systems

CloudFlow:
Computational Cloud Services and Workflows for Agile Engineering

European Network of competences and platforms for enabling SME from any sector building innovative CPS products to sustain demand for European manufacturing.

ICT- WP2018-20:
"Cascade Funding"



H2020-DT-2018-20

Áreas temáticas en las que desarrollar Platforms & Pilots

Connected Smart Factories

Agriculture

Service platforms for rural economies

Smart and energy-efficient homes

Smart living at home

The smart hospital of the future

Supporting cross-cutting pilots

H2020-SU-2018-20

Cybersecurity PPP

- Assurance of **resilience** in evolving ICT systems.
- Dynamic countering of **cyber-attacks**
- **Advanced technologies** for cybersecurity and digital privacy.
- **Quatum technologies** for cybersecurity.

Estrategia en los próximos meses…

- EU CyberWeek, 12-14 Sep, Tallin
- ICT Proposer's Day, 09-10 Nov, Budapest
- Grupos de trabajo de las cPPPs Cyber, 5G, Data Value,…
- Eventos de la KIC EIT-ICT

Ejemplo-1: Topic de ICT

DT-ICT-07-2018-2019: Digital Manufacturing Platforms for Connected Smart Factories

Specific Challenge:

Digital manufacturing platforms play an increasing role in dealing with competitive pressures and incorporating new technologies, applications and services. Advances are needed in digital manufacturing platforms that merge machine, human and organizational aspects within supply and value networks. The challenge is to fully exploit **new concepts and technologies that allow manufacturing companies (esp. mid-caps and SMEs)** to become a more responsive link in changing supply and value networks.

Scope:

a) Innovation Action - Develop and establish platforms for the connected smart factory of the future including their supply chains, driven by EU actors and safeguarding European interest in an area of key importance for the European economy.

Proposals need to address at least two industrial sectors with several different use cases, especially in their piloting activities. Proposals are expected to target at least one of the following 'grand challenges', based on the EFFRA key priorities for the FoF 18-19-20 Work Programme:

Ejemplo-1: Topic de ICT

DT-ICT-07-2018-2019: Digital Manufacturing Platforms for Connected Smart Factories

- Agile Value Networks: lot-size one (2018 call)
- Excellence in manufacturing: zero-defect processes and products (2018 call)
- The human factor: human competences in synergy with technological progress (2019 call)
- Sustainable Value Networks: manufacturing in a circular economy (2019 call)
- Agile Value Networks and Excellence in manufacturing are targeted in the 2018 call. The human factor and Sustainable Value networks are targeted in the 2019 call.

Reference implementations are preferably developed in open-source, with (as far as possible) one permissive open-source licence to be selected for all open-source components. Where applicable, APIs and SDKs are made available to third party developers to develop complementary applications.

b) Coordination and Support Activities are needed to cross-fertilise the Industrial Platform communities, allowing for easier take-up of digital technologies from ongoing and past research projects to real-world use cases, and supporting the transfer of skills and know-how between academy and industry in both directions.

Ejemplo-1: Topic de ICT

DT-ICT-07-2018-2019: Digital Manufacturing Platforms for Connected Smart Factories

The Commission considers that proposals requesting a contribution from the EU **up to EUR 16 million for Innovation Actions and up to 2 M€ for ONE CSA** would allow the areas to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. At least one innovation action is supported for each 'grand challenge'.

Expected Impact:

- Significant increase in the options for SMEs and mid-caps to integrate different technologies, unlock the value of their data, deploy complementary applications, and to become a more responsive link in changing supply and value networks.
- Strengthened competitive position of European platform providers.
- Increased cooperation between industrial and academic communities; increased synergy and collaboration between projects.

Type of Action: Innovation action, Coordination and support action

Para finalizar...

Volviendo… Claves para la participación

- **Anticipación**
- Planear una **estrategia** de centro a corto-medio-largo plazo
- **Networking** a nivel nacional-europeo-internacional

Qué herramientas tenemos?

Herramientas de soporte a diferentes niveles:

- Ámbito **UdC** → **OTRI de la Universidad**, CICA,… pero también…
- Ámbito **Nacional** → Representantes & NCPs (**CDTI**)… pero también plataformas & asociaciones nacionales
- Ámbito **Regional** → Agentes regionales relacionados con I+D, empresa e innovación**; Clústers (masa crítica) & asociaciones**; redes de apoyo a la participación (compartición y optimización de recursos y conocimientos en favor del participante).
- Ámbito **Europeo** → Organismos Europeos (EC, Agencias,…); Entidades nacionales con sede en BRU; **Oficinas & "Antenas" de actores regionales en BRU; Plataformas tecnológicas** & Asociaciones sectoriales Europeas.

Volviendo… Claves para la participación

❑ Anticipación

La participación en una call comienza meses antes de abrir y debe incluir un análisis interno de topics, identificación de posibles partners, análisis de debilidades y fortalezas,…

Volviendo… Claves para la participación

- Planear una **estrategia** de centro a corto-medio-largo plazo:
  - ✓ Necesidad de revisión de los objetivos, selección prioridades → **No se puede ir a todo "en masa"!!!**
  - ✓ "Audit" interno "honesto" de capacidades "reales" → Qué **productos/servicios** podemos ofrecer? Qué nos hace atractivos/**competitivos** (de verdad) ? Para Quién?
  - ✓ Reforzar la colaboración **empresas, universidad, Centros tecnológicos, administración,…**

Volviendo… Claves para la participación

- **Networking** a nivel nacional-europeo-internacional
  - ✓ **Colaboración con empresas** es la mejor vía para incorporarse a H2020
  - ✓ Mantener **relaciones continuas con los stakeholders a nivel EU & Internacional** → Aprovechar reuniones de proyectos, eventos, etc… mejorar la visibilidad y hacer que vuestros mensajes lleguen a los actores relevantes
  - ✓ Hábito y periodicidad en mantener los contactos con asociaciones & plataformas Europeas, con la Comisión, EU-Parliament,…

Muchas gracias…

Martínez-Garcia
H2020 Programme at SOST-CDTI office
marina.cdti@sost.be