

# Information and Communication Technologies Horizon 2020

## Information & Communication Technologies

Edina Németh – ICT, FET

Horizon 2020 Programme Committee Member (PC)

National Contact Point (NCP)

Central European cooperation for Industry 4.0 workshop

20 September 2017

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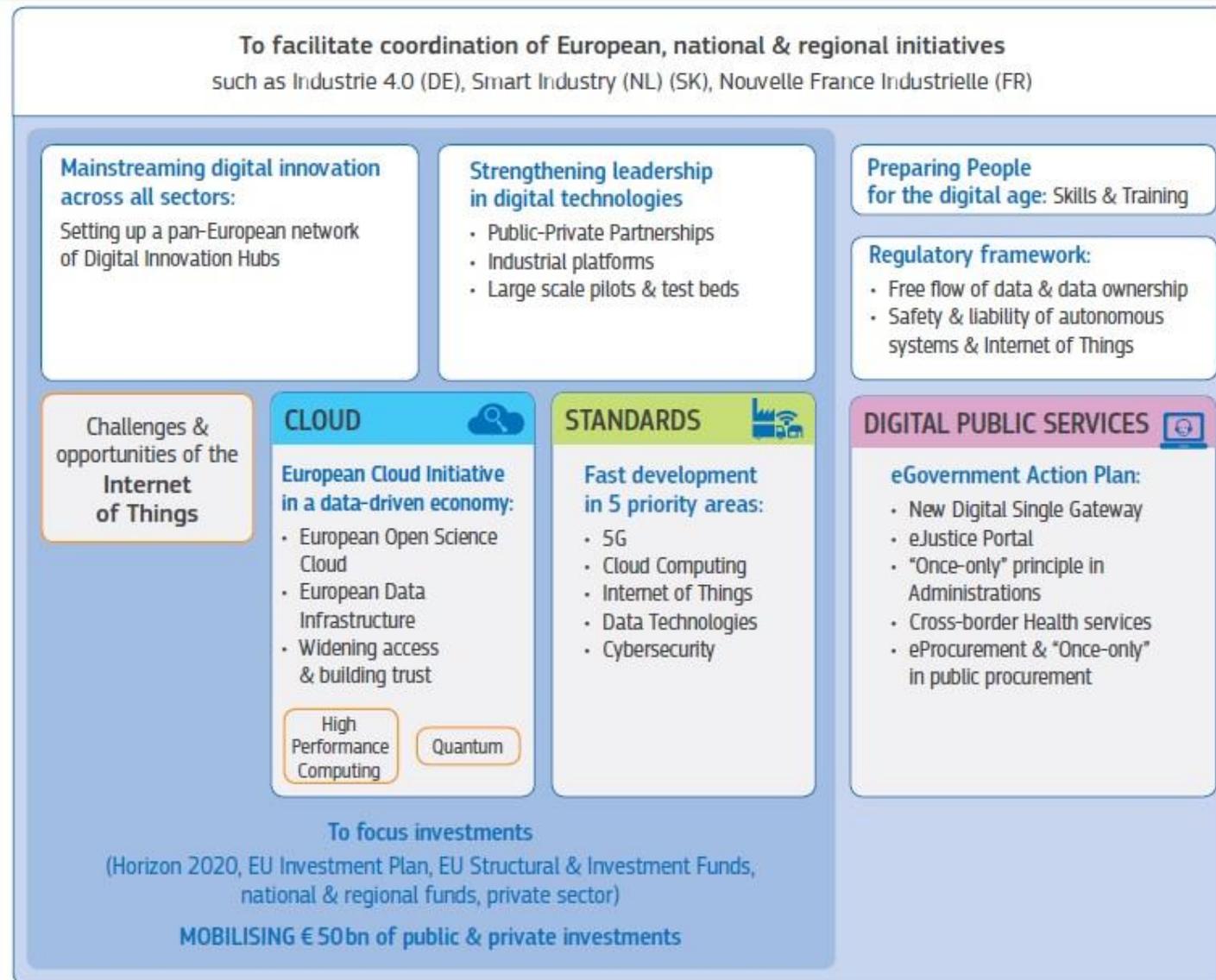
# Content

- ICT in H2020 - context
- ICT Work Programme – what is new?
  - Partnerships
  - Digital Innovation Hubs
  - Platforms and Pilots
- National Contact Points
- ICT Proposers' Day 2017 – Budapest, Hungary

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# Policy Context

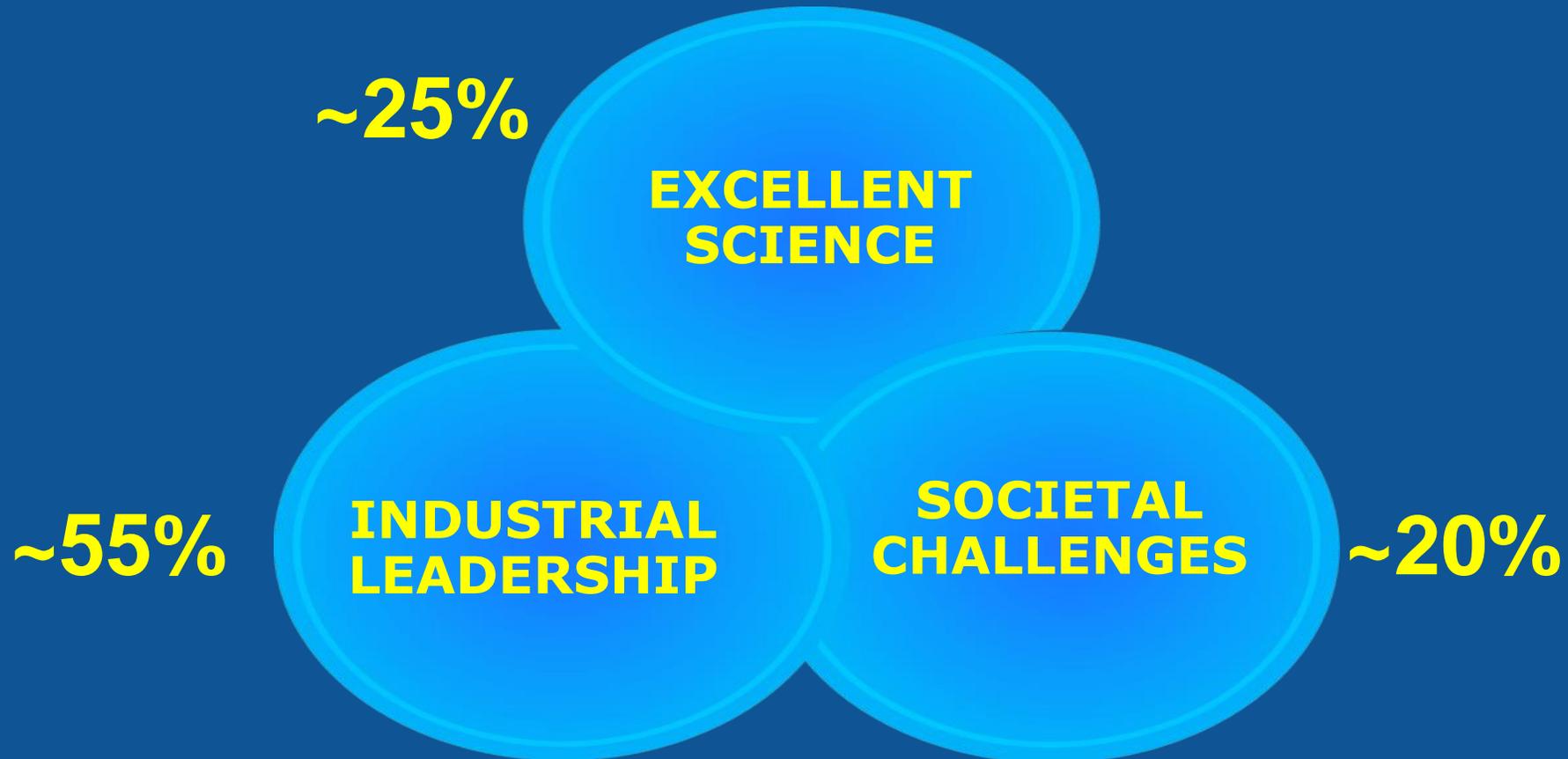


# Digitising European Industry

Com (2016) 180



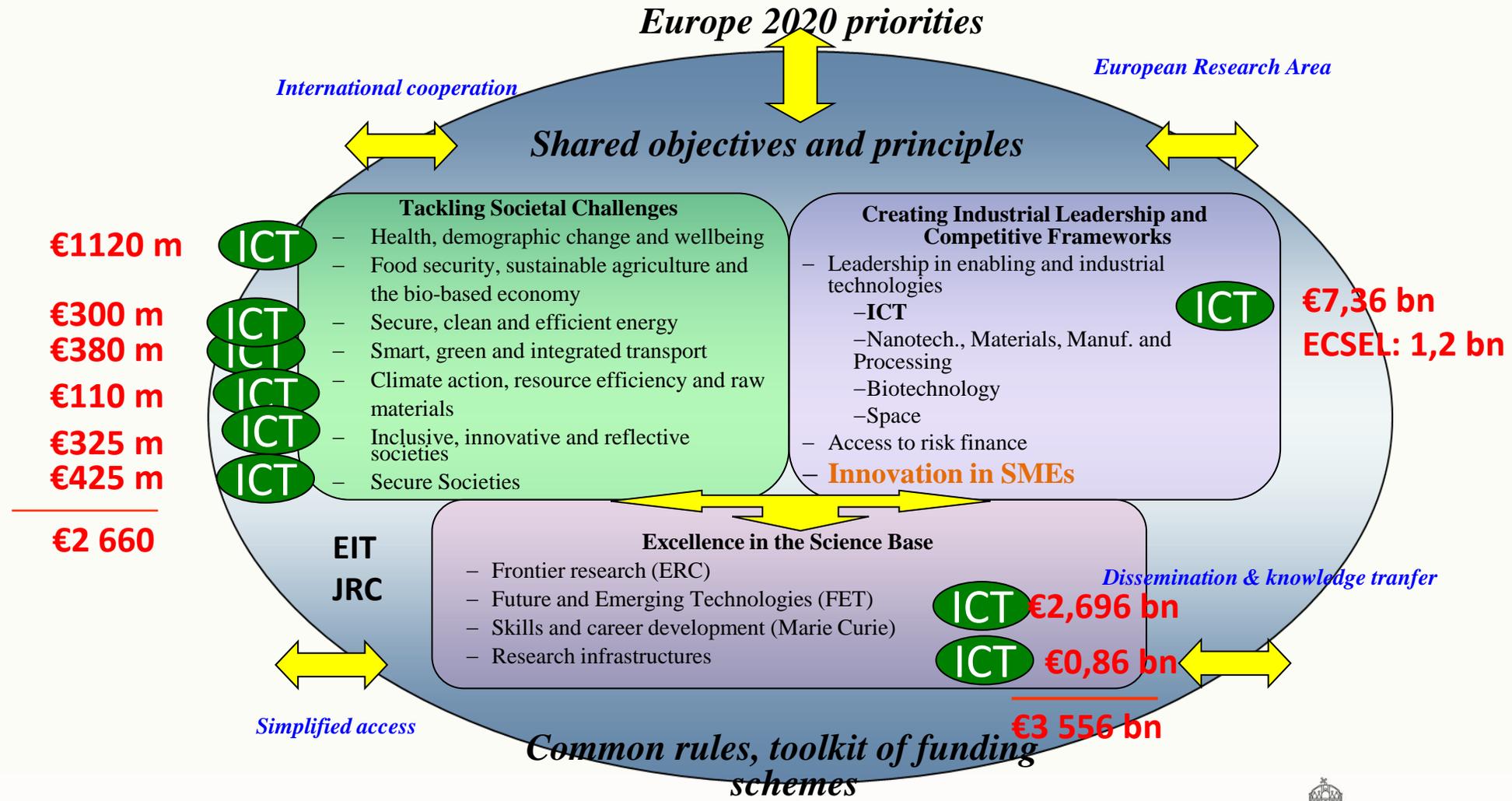
# ICT in 3 Pillars of H2020



# Simplification?



# ICT in H2020 (€ 13 576)



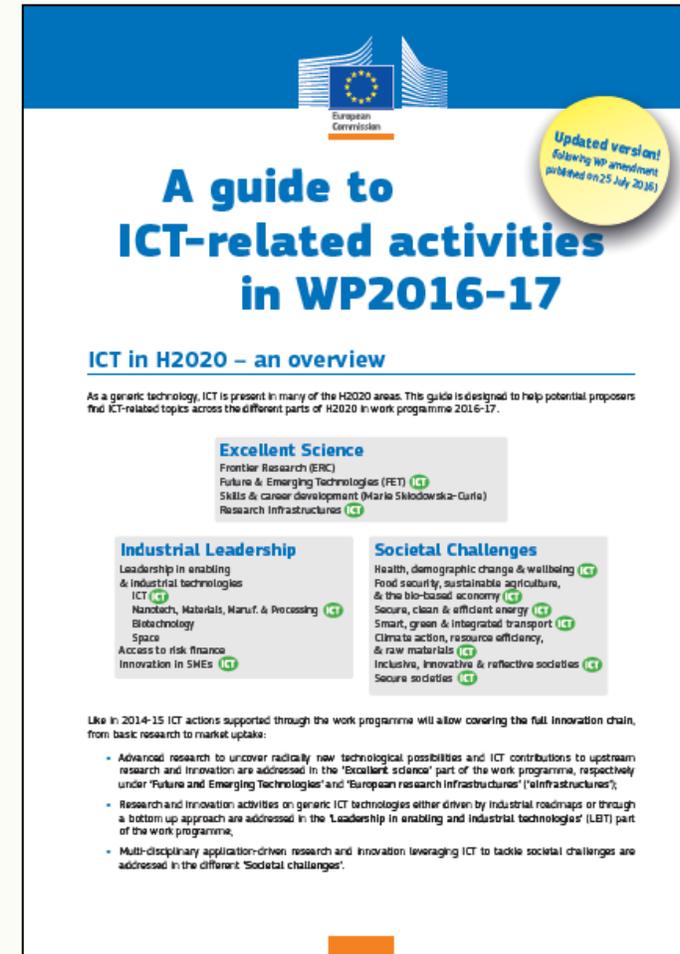
Where to find ICT R&D&I in H2020?

**Everywhere!**

change of mindset

# Guide to ICT-related activities in WP

- Comprehensive coverage of the three H2020 pillars
- Detailed list of calls and topics
- Available on H2020 website



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# Work Programme 2018-20

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To facilitate coordination of European, national & regional initiatives  
such as Industrie 4.0 (DE), Smart Industry (NL) (SK), Industrie du Futur (FR)

### Mainstreaming digital innovation across all sectors:

Setting up a pan-European network  
of Digital Innovation Hubs

### Strengthening leadership in digital technologies

- Public-Private Partnerships
- Industrial platforms
- Large scale pilots & test beds

### Preparing People for the digital age: Skills & Training

#### Regulatory framework:

- Free flow of data & data ownership
- Safety & liability of autonomous systems & Internet of Things

Challenges &  
opportunities of the  
**Internet  
of Things**

### CLOUD



#### European Cloud Initiative in a data-driven economy:

- European Open Science Cloud
- European Data Infrastructure
- Widening access & building trust

High  
Performance  
Computing

Quantum

### STANDARDS



#### Fast development in 5 priority areas:

- 5G
- Cloud Computing
- Internet of Things
- Data Technologies
- Cybersecurity

### DIGITAL PUBLIC SERVICES



#### eGovernment Action Plan:

- New Digital Single Gateway
- eJustice Portal
- “Once-only” principle in Administrations
- Cross-border Health services
- eProcurement & “Once-only” in public procurement

#### To focus investments

(Horizon 2020, EU Investment Plan, EU Structural & Investment Funds,  
national & regional funds, private sector)

**MOBILISING €50bn of public & private investments**

#DigitiseEU  
@DSMeu

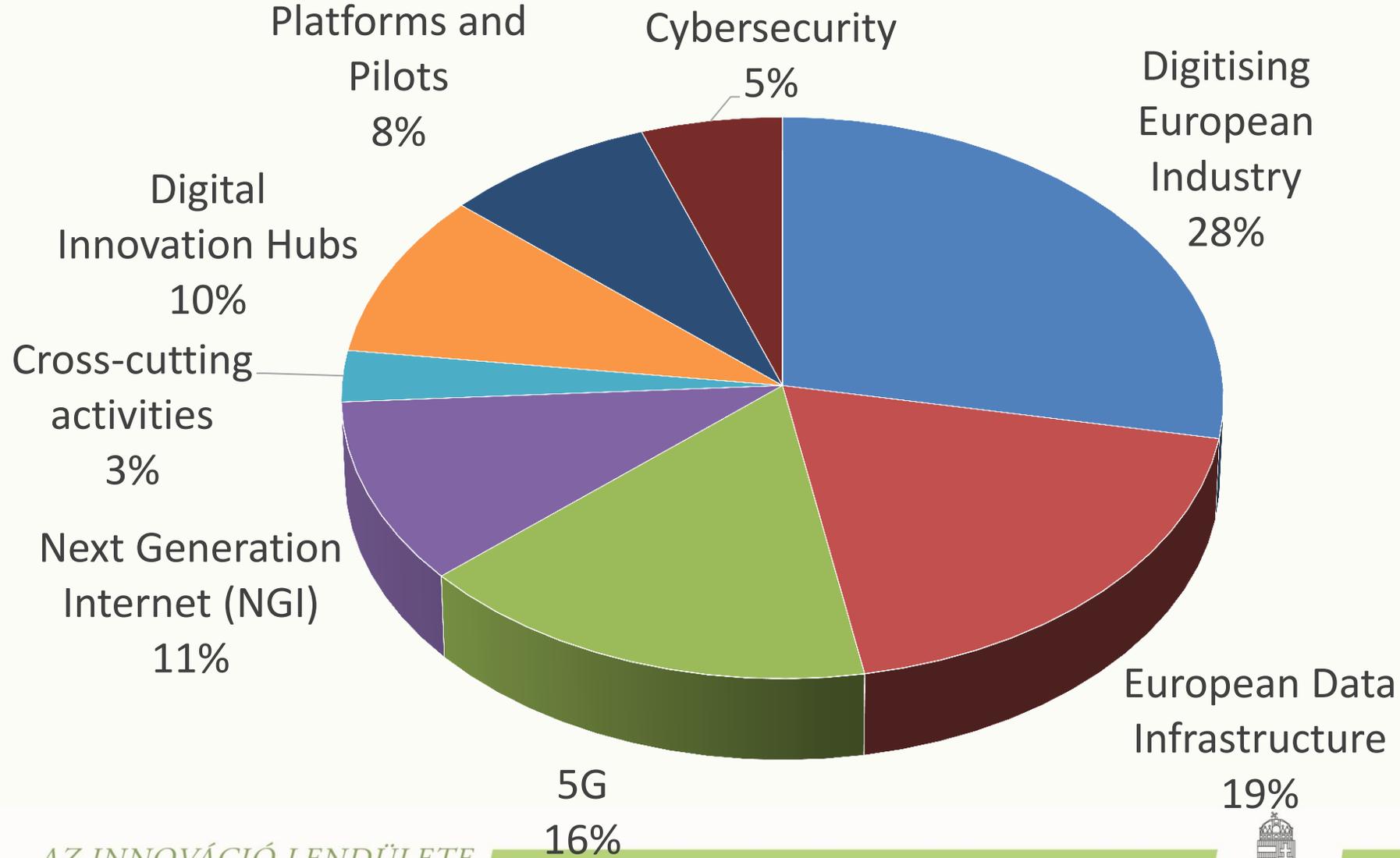
DigitalSingleMarket

[bit.ly/DigitiseEU](https://bit.ly/DigitiseEU)

# Work Programme 2018 – 2020

- **Technologies for Digitising European Industry:**  
LAE, photonics, nano-electronics, smart systems, manufacturing, robotics
- **European Data Infrastructure:**  
HPC, Big Data and Cloud technologies
- **5G**
- **Next Generation Internet (NGI):** Open Internet, AI, Interaction, IoT, language, inclusion, social connectivity
- **Cross-cutting activities:** STARTS, Start-up EU, PCP, fintech
- **Digitising and transforming European industry and services:**
  - Hubs
  - Platforms & Pilots
- **Cybersecurity:** cyber attacks, resilience, cybersecurity & privacy, quantum key

# Work Programme 2018 – 2020



~ 2.7 B €

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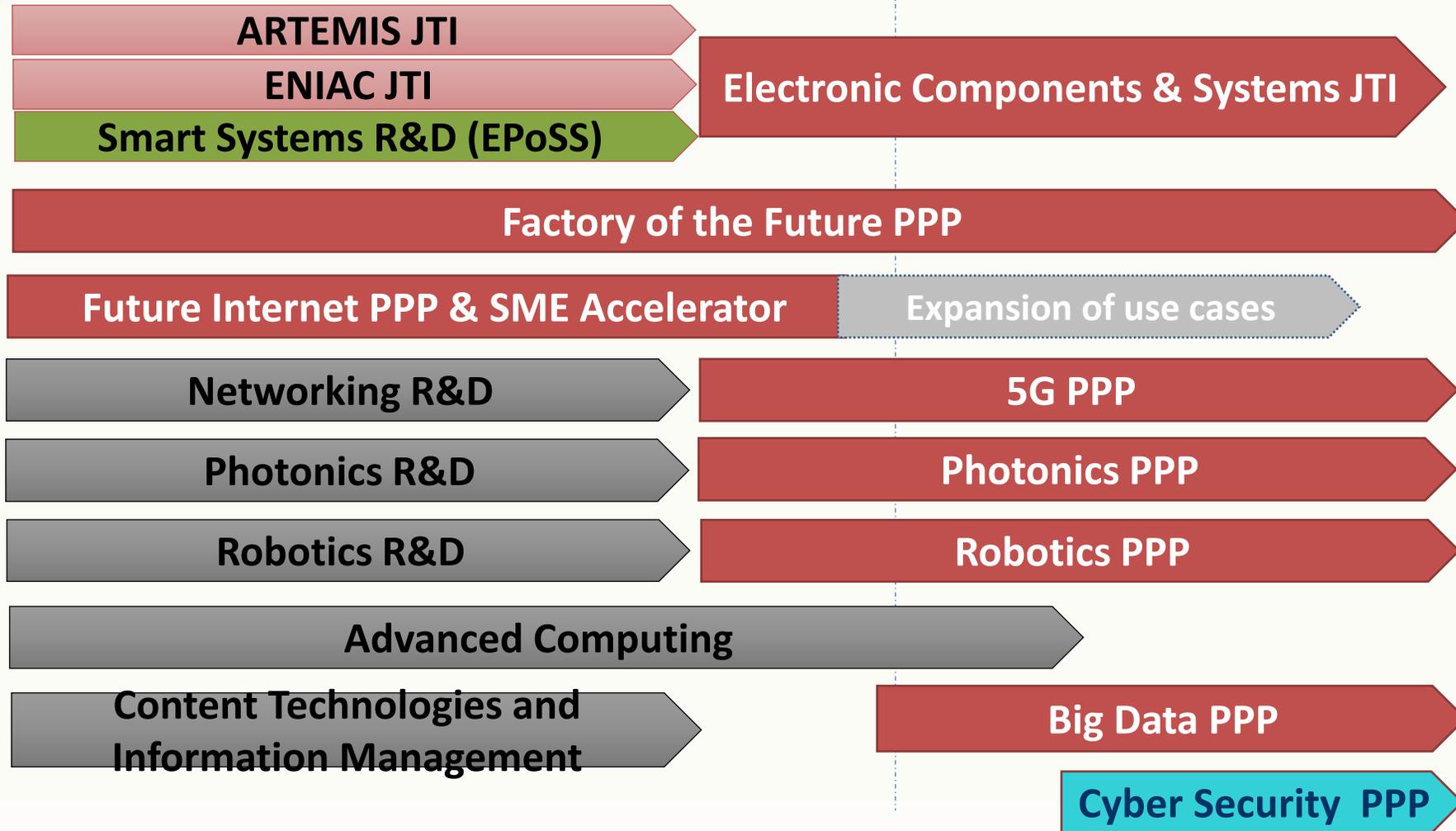
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# Strategic Research Agendas

FP7

H2020



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# 10 Public-Private Partnerships

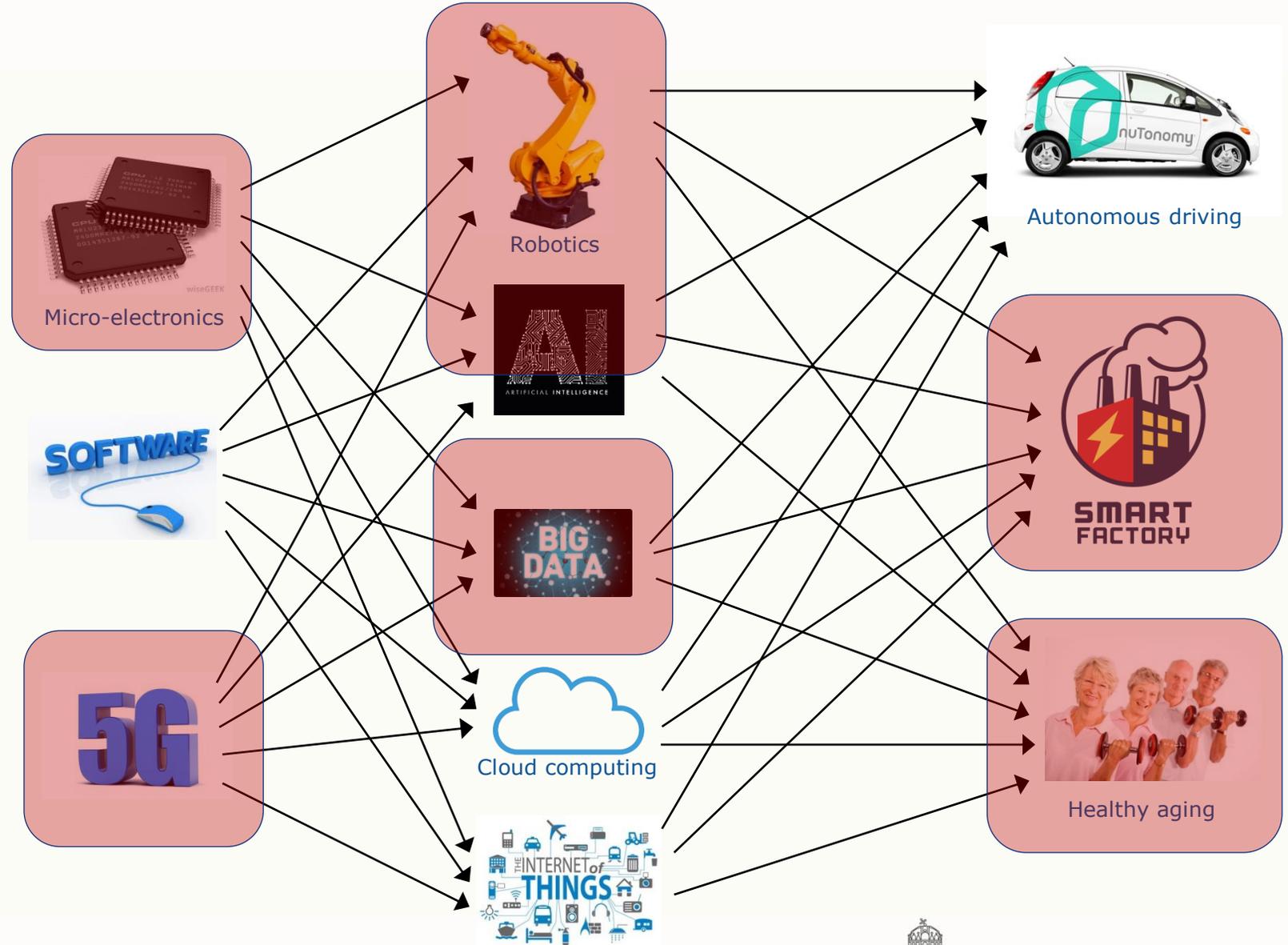
- **Factories of the Future (FoF)**, to support the manufacturing industry through the development of sustainable production technologies and systems (1150 M€)
- **Energy-efficient Buildings (EeB)**, to increase the competitiveness and energy efficiency of the construction industry (600 M€)
- **European Green Vehicles Initiative (EGVI)**, to develop a competitive and resource efficient transport system with significantly less CO2 emissions (750 M€)
- **Sustainable Process Industry (SPIRE)**, to make the process industry more resource- and energy-efficient (900 M€)
- **Photonics**, one of the key enabling technologies for our future prosperity and an essential element of many sectors, from energy and health, to everyday products like DVD players and mobile phones (700 M€)
- **Robotics**, a key driver of industrial competitiveness and essential to address key societal challenges in areas such as demographic change, health and well-being, food production, transport and security (700 M€)
- **High Performance Computing (HPC)**, which plays a pivotal role in stimulating Europe's economic growth and advancing European science (700 M€)
- **Advanced 5G networks for the Future Internet (5G)**, stimulate development of network internet infrastructure to ensure advanced ICT services for all sectors and users (700 M€)
- **Big Data Value PPP**, towards a data-driven economy in Europe (500 M€)
- **Cyber Security PPP** (450 M€)

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# Partnerships

## Digital Value Chain



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# Focus Area: Digitising & transforming European industry and services

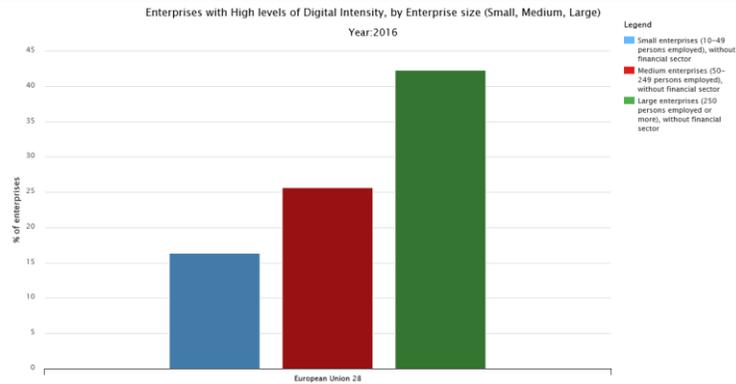
## Mission

- ✓ Enabling all sectors and application areas to adapt, transform and benefit from digitisation, by allowing also smaller and newer players to capture value
- ✓ Develop industrial strategies, incl. new business models
- ✓ Connect to member states and regions, for synergies/align R&I agendas
- ✓ Removing barriers for innovation enabled by digitisation

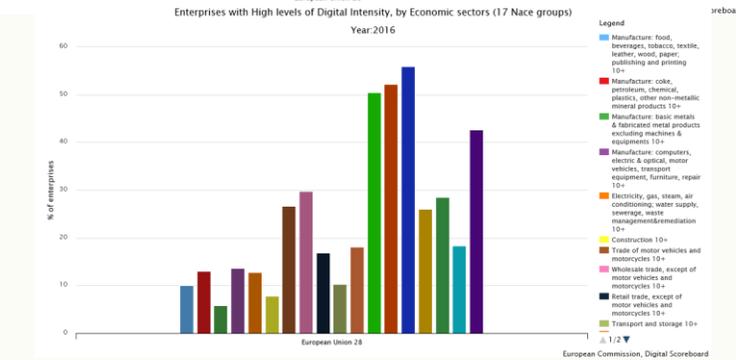
## Component

- ✓ Innovation hubs
- ✓ Cross-sectorial and integrated **digital platforms** and **large-scale pilots** for experimentation and co-creation with users

# Levels of digitisation differ – size of company, sector, region

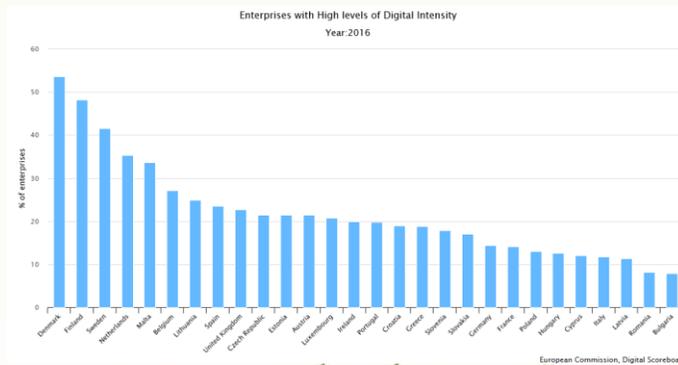


**42% of large companies is highly digitised in the EU vs 16% of SMEs**



**56% of companies in computer programming, consultancy and information services are highly digitised.**

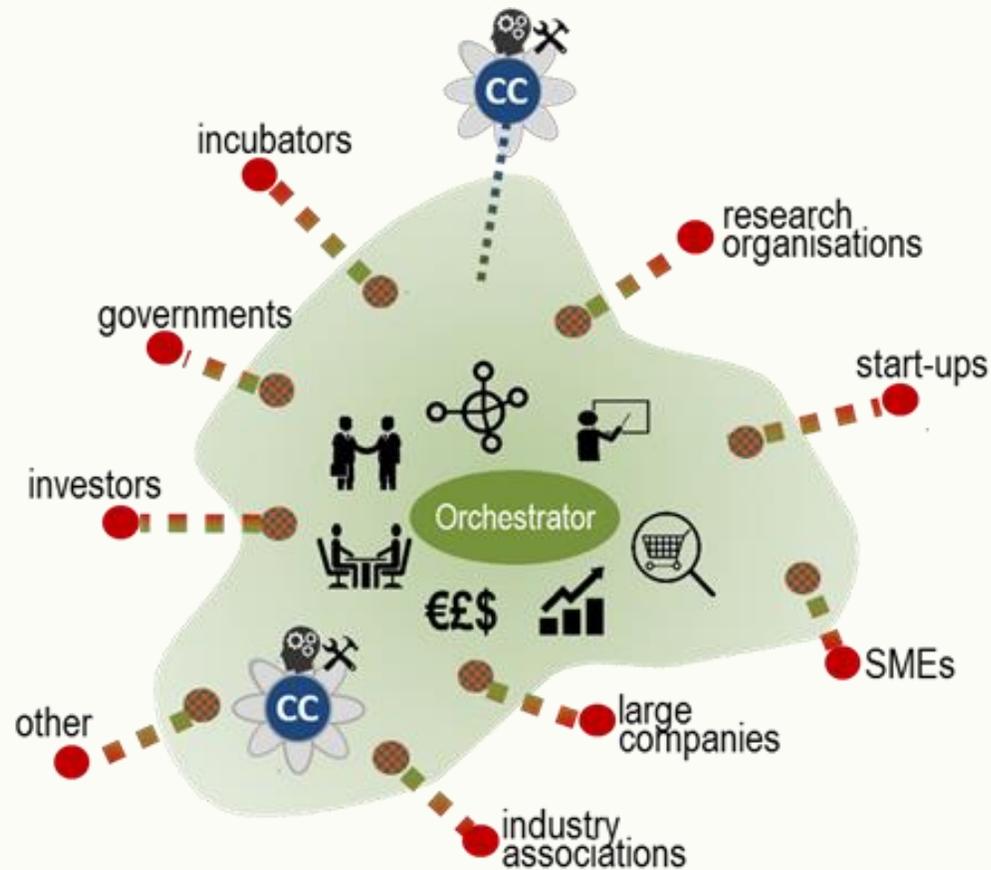
**Only around 6% of companies in basic metals & fabricated metal products excluding machines & equipments are highly digitised.**



**53% of Danish companies are highly digitised vs 8% in Bulgaria and Romania**

# What is a Digital Innovation Hub?

A one-stop-shop providing services to companies in the region through a multi-partner cooperation:

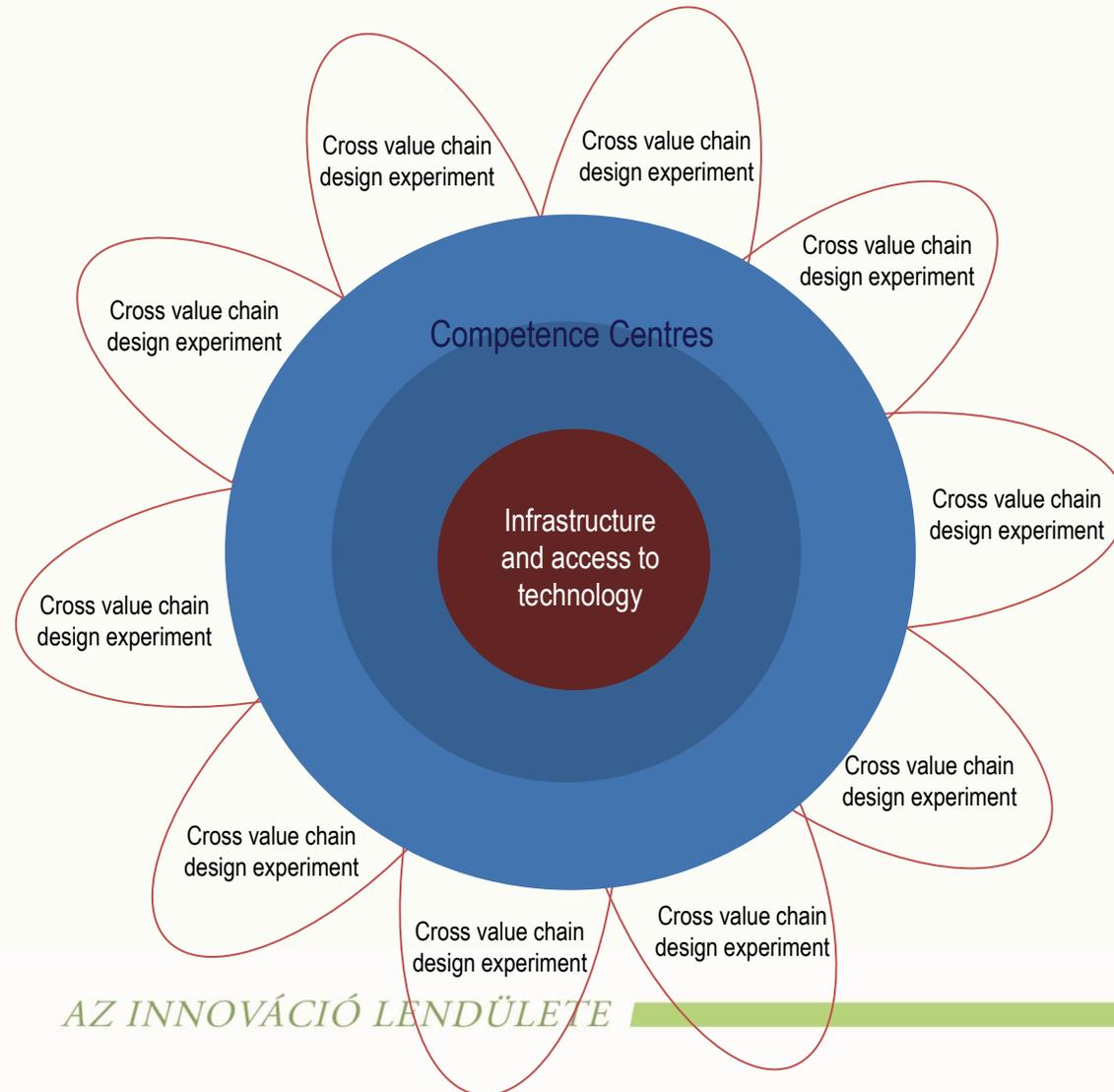


- Access to Specialist Expertise and Infrastructure
- Brokering/matchmaking
- Awareness Creation around Digital Technologies
- Innovation Scouting
- Digital Maturity Assessment.
- Visioning and Strategy Development for Businesses
- Mentoring
- Training
- Access to Funding and Investor Readiness Services

Focus area "Digitising and transforming European industry and services"  
calls for digital innovation hubs (for 300 M€)

Innovation actions with the following characteristics:

- Consortia should be deeply rooted in **regional/national DIH**
- Critical mass of highly innovative, **cross border experiments**. At least 50% of the budget should **directly benefit SMEs** or slightly bigger companies.
- Activities should aim at **long-term sustainability** and include a business plan for the digital innovation hubs, a plan to attract investors, to address training and skills development needs and dissemination. Established networks reaching out to SMEs like the Enterprise Europe Network and the NCP network should be used.
- Selected projects are expected to collaborate on building a network of Digital Innovation Hubs, covering most regions in Europe.



Develop novel products or services with digital technologies.

Bring together actors along value chain.

Suppliers to assist new users in customising and applying digital technologies in their environment.

Financial support to third parties may be used for flexibility

Many projects are using FSTP to implement open calls in H2020

# Digital Innovation Hubs

- Smart Anything Everywhere (SAE), (CPS, SSI, MNT)
- I4MS (phase 4) - uptake of digital game changers and digital manufacturing platforms
- Photonics
- Robotics (healthcare, infrastructure, agri-food, production)
- Big Data Innovation Hubs
- Digital Innovation Hub network

# Digital Innovation Hubs

- **Survey to map Digital Innovation Hubs around the EU:**  
<https://ec.europa.eu/eusurvey/runner/Questionnaire#>
- **Call for Digital Innovation Hubs in EU13 Member States is NOW OPEN!**  
<https://ec.europa.eu/eusurvey/runner/ApplicationForm>
- **Apply now by 22 October!**
- The European Commission is looking for organisations based in BG, HR, CY, CZ, EE, HU, LV, LT, MT, PL, RO, SK, SI taking on the role of a Digital Innovation Hub (DIH) to participate in a training programme managed by PwC and Oxentia.
- More information about the **call** are presented [here](#) while the overall **Project** is described [here](#).

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# Digital Industrial Platforms

What do we mean?

**X** *A place or opportunity for public discussion*

*e.g. European Platform of National Initiatives*

**✓** *An **operating system** that **integrates** different technologies and various applications and services*

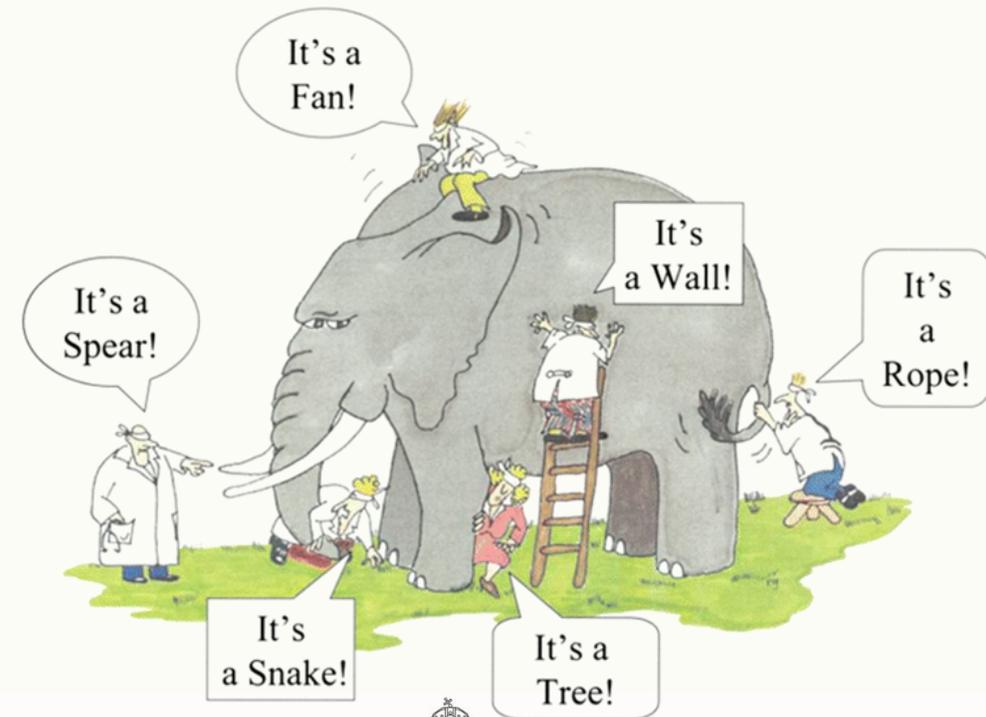
**X** *Online platforms in the consumer world*

*e.g. Facebook, Nest, Android*

**✓** *Industrial platforms in the **business world***

In different ways and to varying degrees they may take in:

- 1) a **community** role
- 2) an **infrastructure** role
- 3) a **data** role



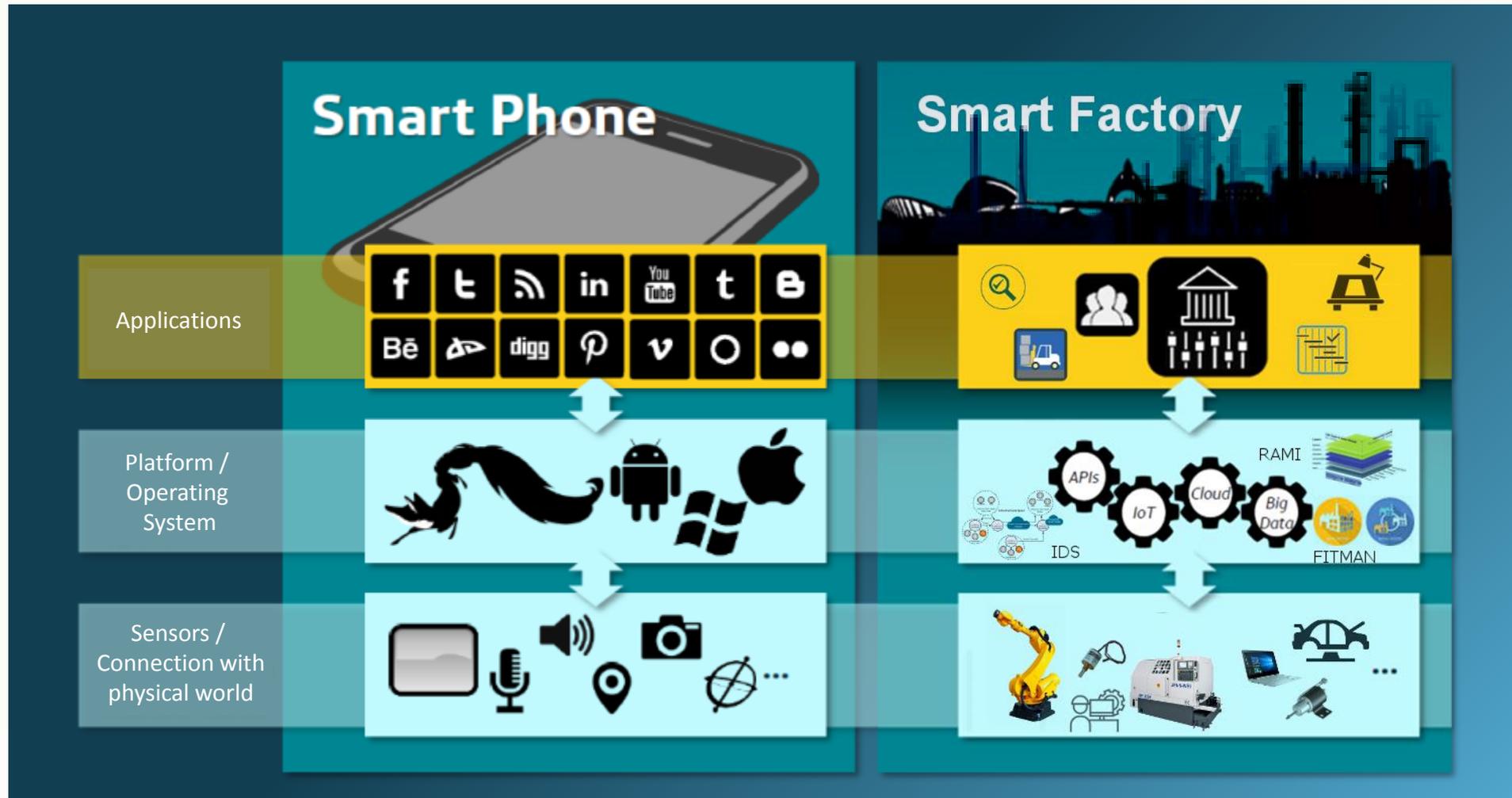
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# Digital Industrial Platforms

## Smartphone analogy



# Digital Industrial Platforms

## Examples

Community-led  
sector-specific  
(vertical)

**AUTOSAR**

ISOBUS



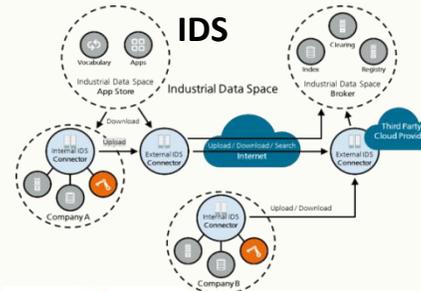
FITMAN



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Community-led  
cross-sector  
(horizontal)

**S3P**  
SMART, SAFE & SECURE PLATFORM



**FIWARE**



Commercial  
with open interfaces

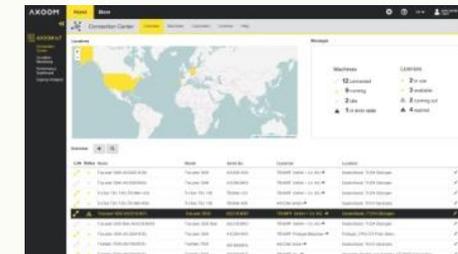
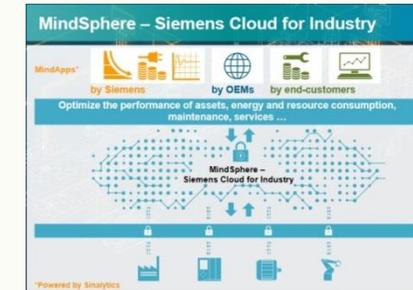


Photo: TRUMPF

**ADAMOS**

**DASSAULT SYSTEMES**



Social and Collaborative apps  
Related brands: ENOVIA, 3DSWYM  
Information Intelligence apps  
Related brands: EKALEAD, NETWORKS  
Content and Simulation apps  
Related brands: JOVIA, DELMIA, SIMULIA  
3D Modeling apps  
Related brand: CATIA, GEOVIA, SOLIDWORKS  
Real time 3DEXPERIENCE Platform

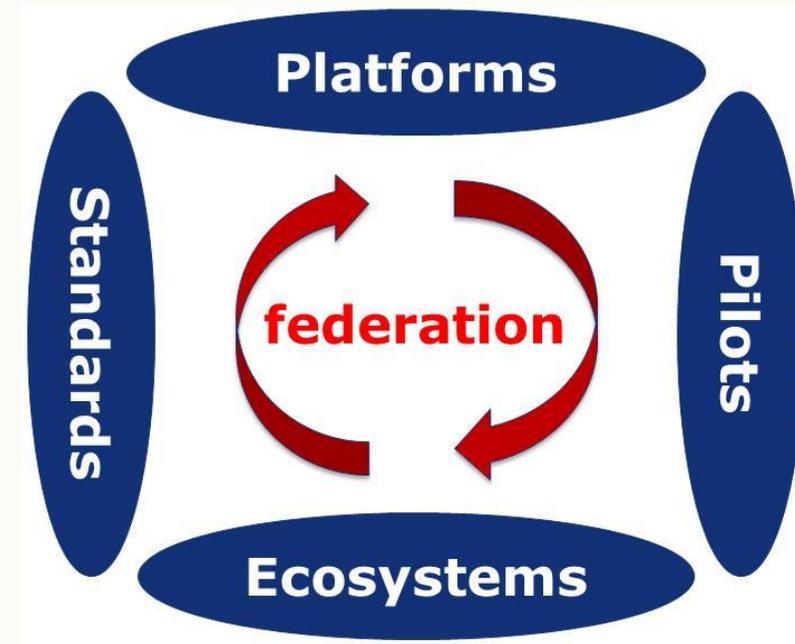
# Digital Industrial Platforms

## Alignment of R&I efforts

**EU actors join forces along common interests**  
**Future global standards & platforms driven by interests of EU actors**

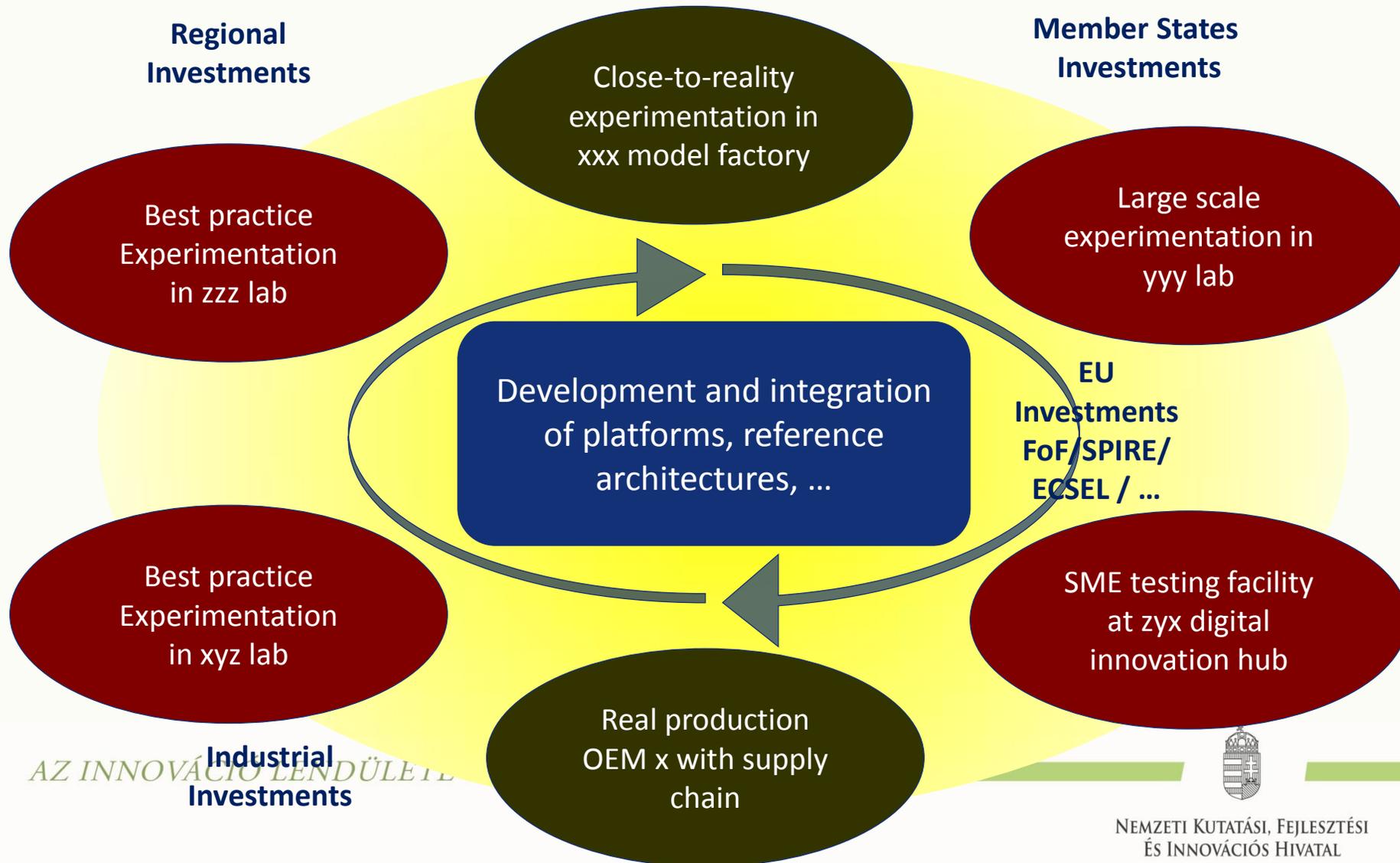
Focus investments on:

- Integration of key digital technologies
- Digital industrial platforms, reference architectures, ...
- Reference implementations, large-scale piloting, experimentation environments
- Ecosystem building and standardisation



# Digital Industrial Platforms

## Pooling Investments



# WP 2018-2020

## Topics pan-European platform-building and piloting



**Draft**

# WP 2018-2020

## Focus Area

*Focus Area 'Digitising and transforming European industry and services',  
Platforms and Pilots*

### LEIT-ICT

- **DT-ICT-07-2018-2019: Digital Manufacturing Platforms for Connected Smart Factories** 95 M€
- **DT-ICT-08-2019: Agricultural digital integration platforms** 30 M€
- **DT-ICT-09-2020: Digital service platforms for rural economies** 30 M€
- **DT-ICT-10-2018-2019: Interoperable and smart homes and grids** 30 M€
- **DT-ICT-11-2019: Big data solutions for energy** 30 M€
- **DT-ICT-12-2020: The smart hospital of the future** 25 M€
- **DT-ICT-13-2019: Digital Platforms/Pilots Horizontal Activities** 4 M€

### SC1

- **DT-TDS-01-2019: Smart and healthy living at home** 60 M€

### (LEIT-NMBP:

- **DT-NMBP-20-2018: A digital 'plug and produce' online equipment platform for manufacturing** 20 M€ )

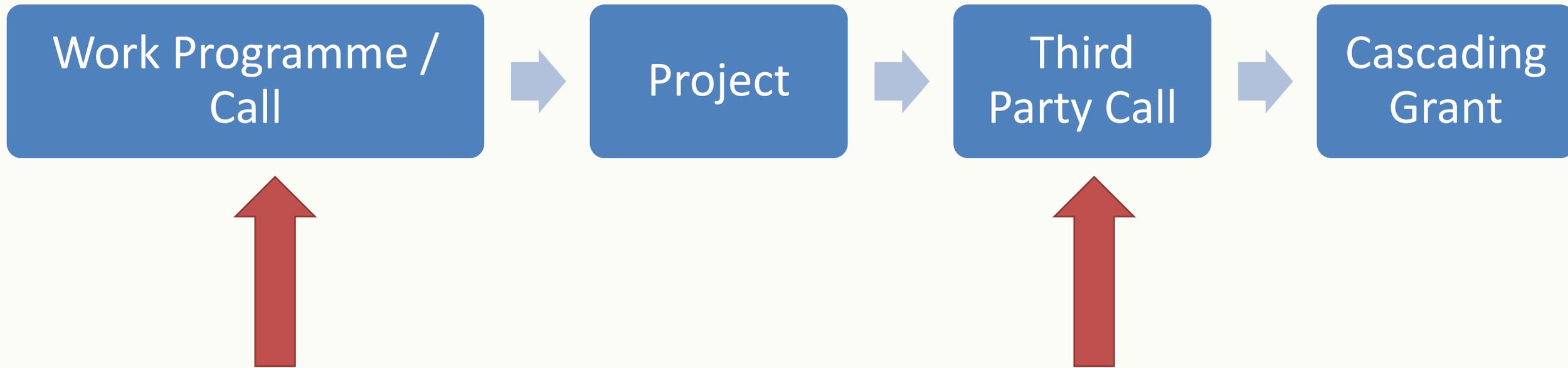
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# Channels for H2020 ICT Funding

- H2020 projects in LEIT (eg. Research and Innovation Actions, Innovation Actions, SME Instrument, FTI projects, Prizes)
- H2020 projects in Societal Challenges (same)
- H2020 projects in Excellent Science (eg. Marie Curie Projects, FET, Infrastructures)
- ECSEL JTI, AAL, ERA-NETs
- Calls for Third Parties / Expressions of Interest through large initiatives (eg. PPP projects, Large Scale Pilots, Smart Anything Everywhere, I4MS, IoT EU platforms, FET Flagships etc.)

# Channels for H2020 ICT Funding



# H2020 calls

- [Future Internet PPP](#) – Accelerators (FP7, closed)
- [ECHORD ++](#) - Robotics (FP7, closed)
- [I4MS](#) – ICT Innovation for Manufacturing SMEs
- [SAE](#) - Smart Anything Everywhere
- [FIRE](#) – Future Internet Research & Experimentation
- [FET Flagships](#) – [Human Brain](#), [Graphene](#)
- [Internet of Things - European Platforms Initiative](#)
- Pre-commercial procurement (PCP) tenders
- .... Further competitive calls on [Participant Portal](#)

# Upcoming open calls of DIH projects (using FSTP)

Project	Technology Area	Call 1	Call 2	Call 3	Call 4
<b>I4MS (Innovation for Manufacturing SMEs) Initiative</b>					
HORSE	Robotics	Nov.17	-	-	-
ReconCell	Robotics	Nov.17	-	-	-
L4MS	Logistics for Manufacturing	Sep.18	Sep.19	-	-
CloudiFacturing	HPC cloud-based simulation services	Jul.18	Jul.19	-	-
MIDIH	CPS/IoT for Manufacturing	Mar.18	Mar.19	-	-
AMABLE	Additive Manufacturing	Mar.18	Mar.19	Mar.20	-
<b>SAE (Smart Anything Everywhere) Initiative</b>					
FED4SAE	Cyber-Physical and Embedded Systems	Nov.17	May18	Nov.18	-
TETRAMAX	Low energy computing powering CPS and IoT	Nov.17	Oct.18	Sep.19	Apr.20
• Bilateral					
• Value chain/ interdisciplinary		Feb.18	Dec.18	Oct.19	Apr.20
• Entrepreneurial		Aug.18	Aug.19	Aug.20	-
DIATOMIC	Organic and large area electronics	Mar.18	Sep.18	-	-
SMARTEES	Smart System Integration	Dec.17	Nov.18	-	-
<b>Other projects</b>					
Data Pitch	Data brokerage between public sector organisations and SMEs	Jul.17–end of Sep.17	Autumn 18	-	-

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# National Contact Point & Partner Search & Proposal Development



# NCP system in Hungary

- Free information on Horizon 2020 – per thematic area
- Information days: <http://nkfi.gov.hu/nemzetkozi-tevekenyseg/horizont-2020-rendezvenynaptar/nkfi-hivatal-h2020>
- Electronic / phone / personal information on funding opportunities and processes
- Personal consultations with potential applicants, feedback on project ideas and proposals
- H2020 news, events
- National H2020 website: <http://www.h2020.gov.hu/>

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



[Open calls](#)

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- > [2016 Mobility for Growth](#)
- > [2016-2017 Green Vehicles](#)

[Recent Partner Searches](#)

- > [PS-IL-102368: Range Anxiety's reduction for the L-Category Vehicles users](#)



[ICT Events](#)

[View All](#)

- > [Information and Networking Days on Horizon 2020 Big Data PPP topics 2017](#)

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# For more information

- Digitising European Industry [WG2 report](#)
- Industrial Innovation [Information Days](#)
  - Brussels, 3-4 Oct 2017
- Workshop "[Digital Manufacturing Platforms for Connected Smart Factories](#)"
  - Brussels, 19 Oct 2017
- ICT [Proposers' Day](#) 2017
  - Budapest, 9-10 Nov 2017

Digitising European Industry

<http://bit.ly/DigIndEU>

 @DigIndEU

# ICT Proposers' Day

9-10 Nov 2017

Budapest



INFORMATION – BROKERAGE – CONSORTIUM BUILDING - EXHIBITION

Web: <https://ec.europa.eu/digital-single-market/en/news/ict-proposers-day-2017>

Twitter: <https://twitter.com/ictproposereu> (hamarosan)

# ICT Proposers' Day

9-10 Nov 2017 - Budapest

Day 1: Thursday 9/11/2017

	NGI & 5G	Digitising European Industry	European Data Infrastructure	FET	Societal Challenges	Innovation
9:30 - 11:00	5G - Phase 3 & Global 5G Collaborations (part I)	Digital Platforms & Manufacturing	European Data Infrastructure: HPC (part I)	FET Proactive	Cybersecurity & Digital Privacy	Innovation Radar Pitching session
COFFEE BREAK						
11:30 - 13:00	5G - Phase 3 & Global 5G Collaborations (part II)	Digital Platforms for Homes	HPC (part II)	FET Open	H2020: Proposal Making *	Innovation Radar Pitching session
LUNCH						
14:00 - 15:30	Future Hyper-connected Sociality	Agriculture Platforms & Horizontal Actions	eInfrastructures and European Open Science Cloud	FET Flagships	E-health, Well-being and Ageing (Part I)	Artificial Intelligence & Start-ups
COFFEE BREAK						
16:00 - 17:30	Artificial Intelligence	Smart Systems & Flexible Wearable Electronics	European Data Infrastructure: Big Data	H2020: Proposal Making *	E-health, Well-being and Ageing (Part II)	Innovation Radar Awards
					Cybersecurity & Digital Privacy: Authentication prize	

\* Information/ Horizontal session

# ICT Proposers' Day

9-10 Nov 2017 - Budapest

Day 2: Friday 10/11/2017

	NGI & 5G	Digitising European Industry	European Data Infrastructure	FET	Societal Challenges	Innovation
9:30 - 11:00	NGI and EU-US Collaboration	IPR Helpdesk & EUPL*	H2020: Proposal Making*	Quantum Technologies Flagship	Transformations & Governance	SME Instrument/ Fast Track to Innovation
COFFEE BREAK						
11:30 -13:00	A multilingual NGI	Digital Innovation Hubs	Cooperation on 5G, Security, Cloud, IoT, Big Data & AI with Japan & Korea	Research & Innovation Trends beyond 2020*	Societal Challenges from SC2 to SC5	Start-up Europe & Access to Finance
LUNCH						
14:00 -15:30	NGI, Interactive Technologies and Digital Curation of Cultural Heritage	Photonics	Software Technologies	Cascading Grants*	CEF* Fintech	STARTS*

\* Information/ Horizontal session

CPPP (NCP) in the room on the 1<sup>st</sup> floor TBC

Standardisation in the room on 1<sup>st</sup> floor

# Thank you and get in touch !

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ICT & FET

Programme Committee Member

National Contact Point

**NKFIH**

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