



Digitising European industry

The role of Digital Innovation Hubs (DIHs)

Vienna, Austria, October 23, 2017

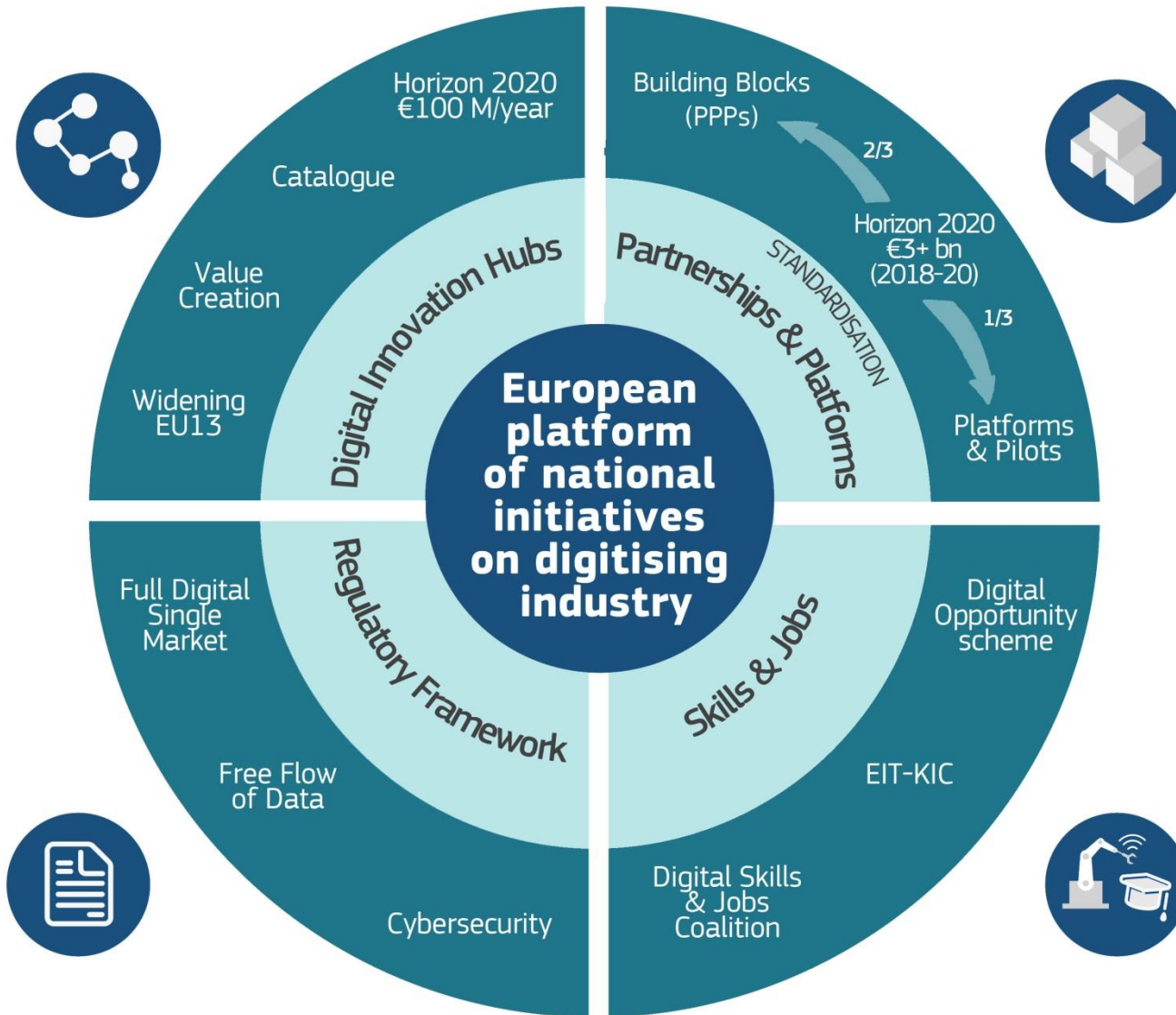
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Digitising European Industry: Europe is delivering



COMMITMENTS FOR A DIGITAL FUTURE OF EUROPE

**The platform:
our added value at
EU level**

8 MSs committed to build and deploy the **next generation of computing and data infrastructures** in Europe



11 Ministers & State Secretaries + industry leaders pledged to collaborate and work jointly within the **EU Platform of National Initiatives**



29 EU and EEA countries signed up for European **cross-border smart mobility corridors**



5 Ministers, 2 MEPs & high-level stakeholders participated in the launch of a pilot project to boost **cross-border digital work experiences**



Industrie 4.0 Österreich

- Founded in 2015 by **Ministry for Transport, Innovation and Technology (bmvit)**
- bmvit invests **185M EUR** per year in **research activities**



Industrie 4.0 Österreich

- Aims to secure and create highly innovative industrial production and boost quality employment, thus strengthening Austria's future competitiveness
- Funding:
 - Tax incentives for RDI activities of private companies;
 - Support programmes for high-tech start-ups;
 - Subsidies for SME investing in Industry 4.0 technologies

<http://plattformindustrie40.at/>

"Produktion der Zukunft"

- An independent funding program installed by bmvit, that promotes national and translational cooperative research and development projects.
- Funding: 20-25M EUR per year

Digital Roadmap for Austria

- Published in 2017 entails strategies and topics on security, R&I, infrastructure and economy to mobility, health, work 4.0, education and inclusion
- **Responsible ministries:** Federal Ministry for Transport, Innovation and Technology and the Federal Ministry of Science, Research and Economy
- Concrete plans to set up a **network of Digital Innovation Hubs** in Austria; **COMET projects** are a good basis.

<https://www.digitalroadmap.gv.at/>



"Ensure that every business in Europe, whatever its sector of activity, wherever located and whatever its size, can take full advantage of digital innovations and competences"

Member States & regions:
build-up/strengthening of national and regional structures of DIHs

European Commission:

- Set up a pan-EU network of DIHs
- Support activities *such as cross-border experiments (e.g. SAE), catalogue and assistance in the creation of hubs*

- particular attention to **SMEs**
- Ensure companies can **access** advanced technologies and enhance their **digital competences**
- **€100 million per year (EU)** of support to the hubs and **10 times more from the Member States and regions**

Level of digitisation differs according to size of company, sector and region

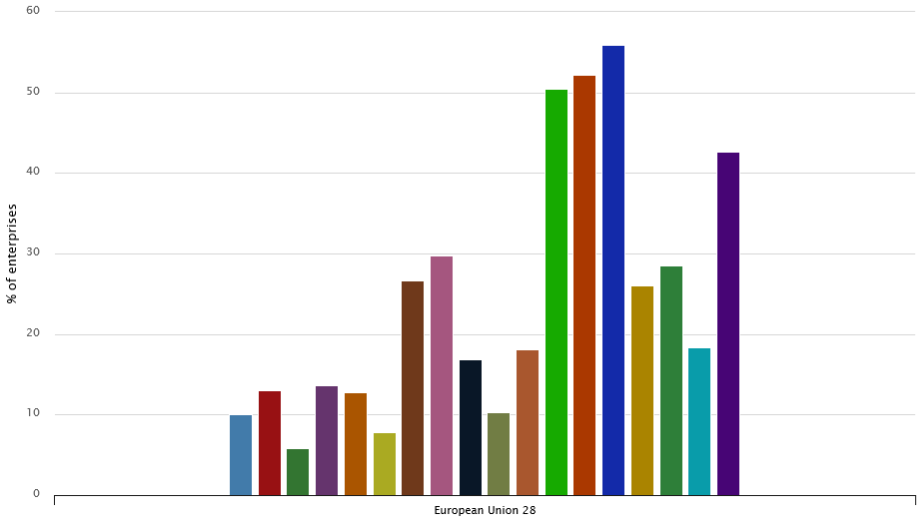
Enterprises with High levels of Digital Intensity, by Economic sectors (17 Nace groups)

Year: 2016

Legend

- Manufacture: food, beverages, tobacco, textile, leather, wood, paper; publishing and printing 10+
- Manufacture: coke, petroleum, chemical, plastics, other non-metallic mineral products 10+
- Manufacture: basic metals & fabricated metal products excluding machines & equipments 10+
- Manufacture: computers, electric & optical, motor vehicles, transport equipment, furniture, repair 10+
- Electricity, gas, steam, air conditioning; water supply, sewerage, waste management&remediation 10+
- Construction 10+
- Trade of motor vehicles and motorcycles 10+
- Wholesale trade, except of motor vehicles and motorcycles 10+
- Retail trade, except of motor vehicles and motorcycles 10+
- Transport and storage 10+

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 & equipment are highly digitised.

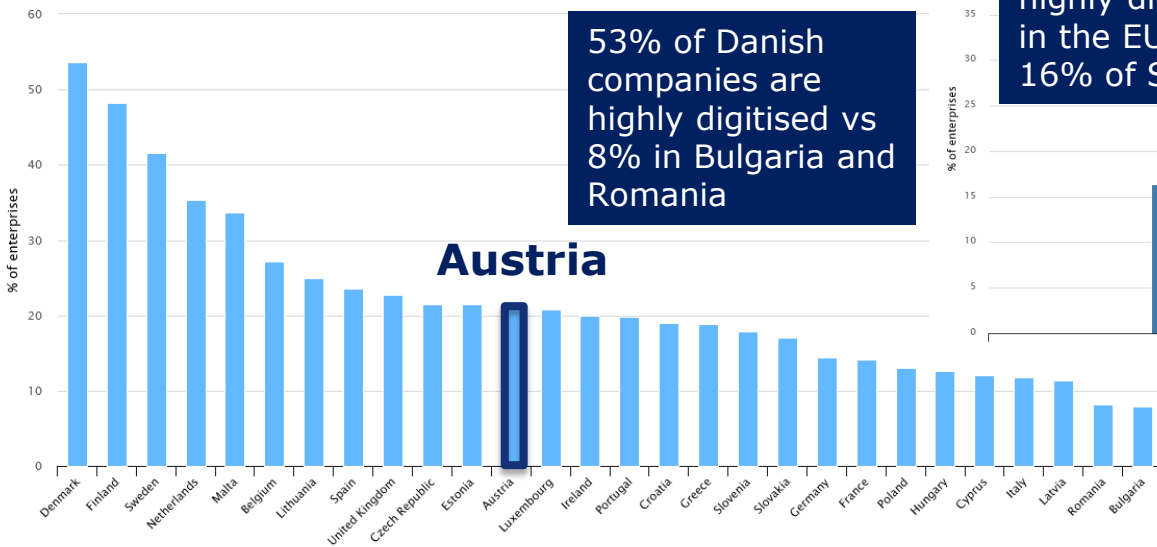


Enterprises with High levels of Digital Intensity

Year: 2016

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

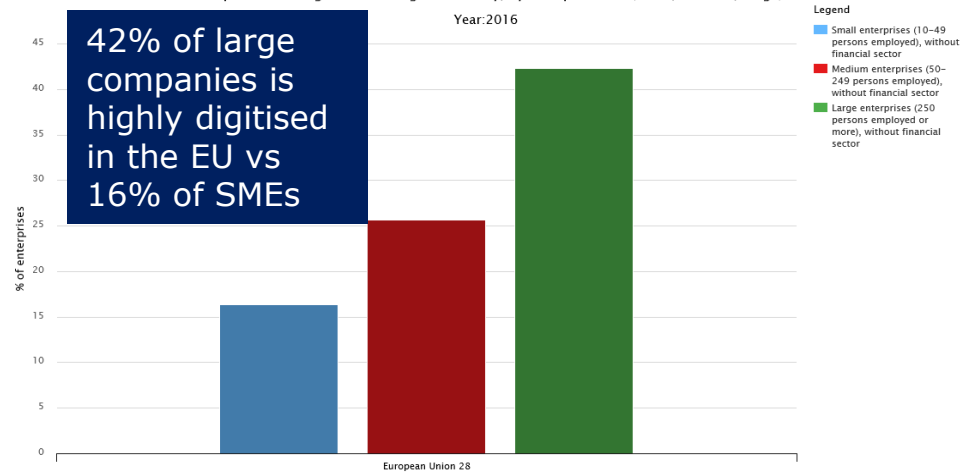
Austria



Enterprises with High levels of Digital Intensity, by Enterprise size (Small, Medium, Large)

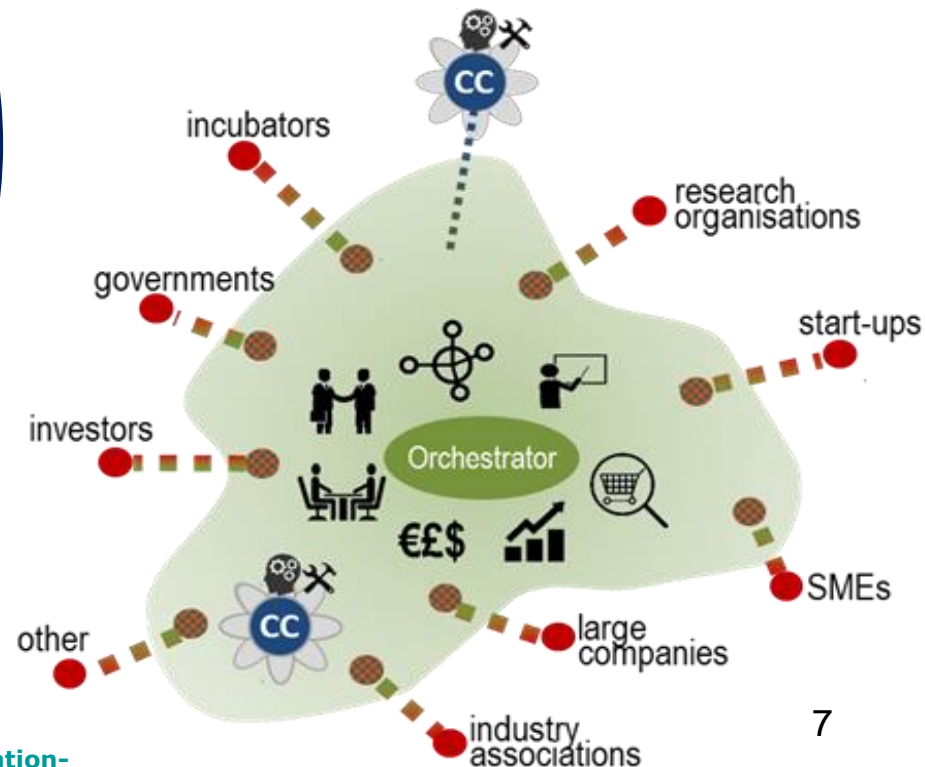
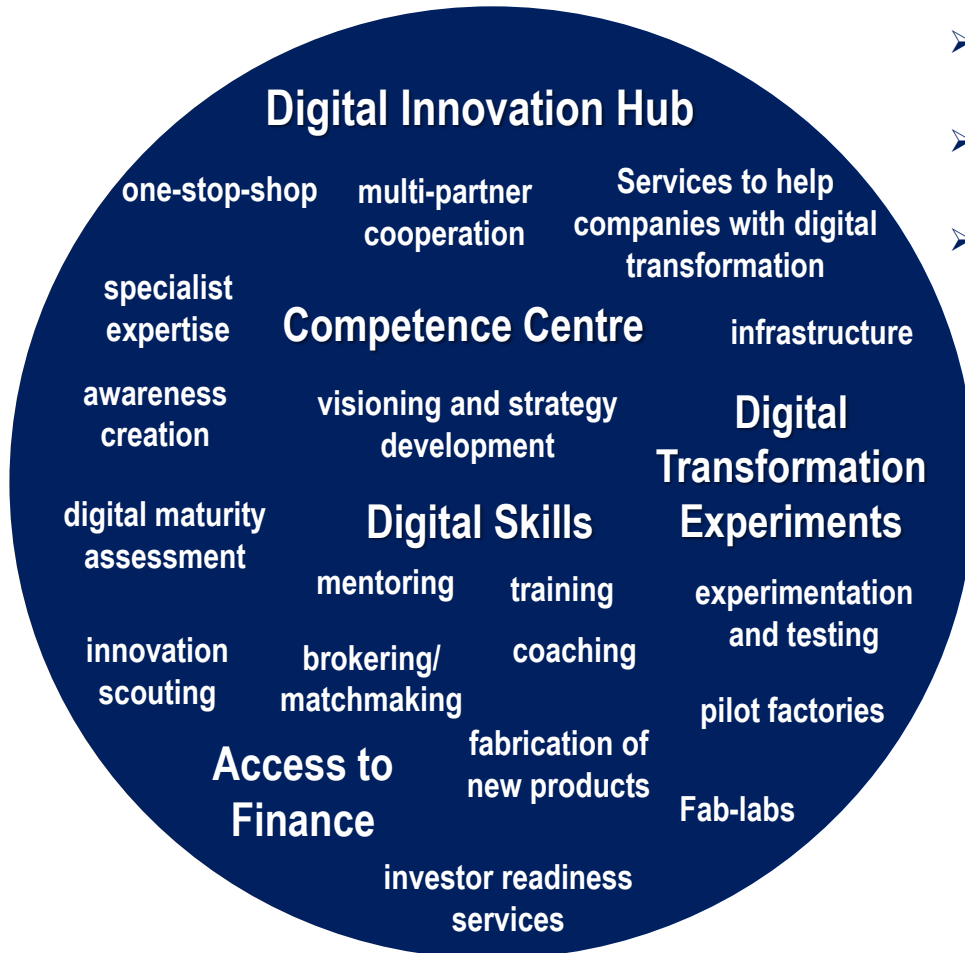
Year: 2016

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



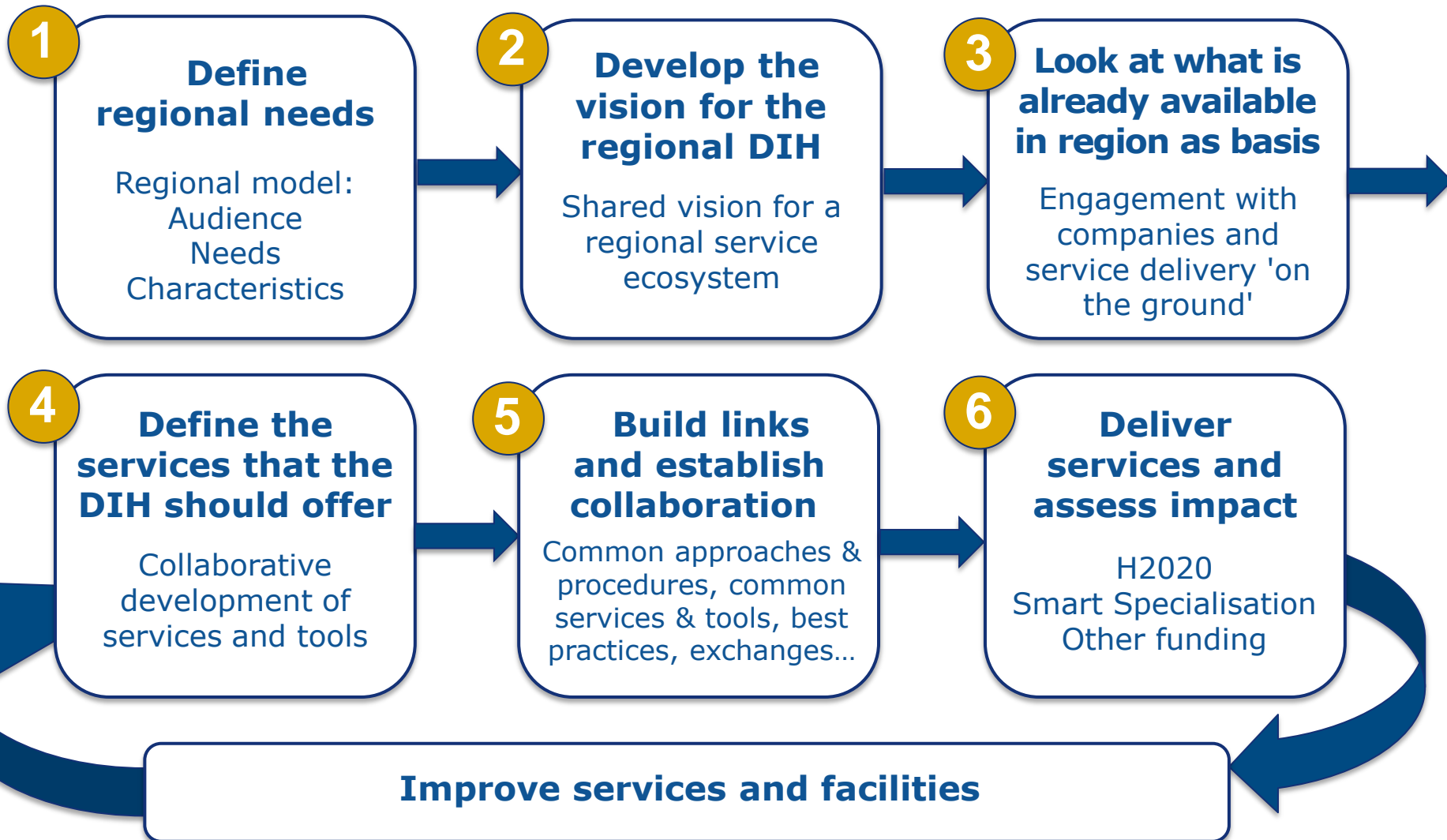
What is a Digital Innovation Hub?

- Provide support to **existing industry** to manage their **digital transformation**
- **Competence Centres** are at the **core of DIHs (ecosystem approach)**
- **Variable geometries:** technology applications, sector, SME focus etc.
- Provides opportunities for both **ICT users** and **ICT suppliers**



Working Group report on DIHs:

<https://ec.europa.eu/futurium/en/content/report-wg1-digital-innovation-hubs-mainstreaming-digital-innovation-across-all-sectors-final>

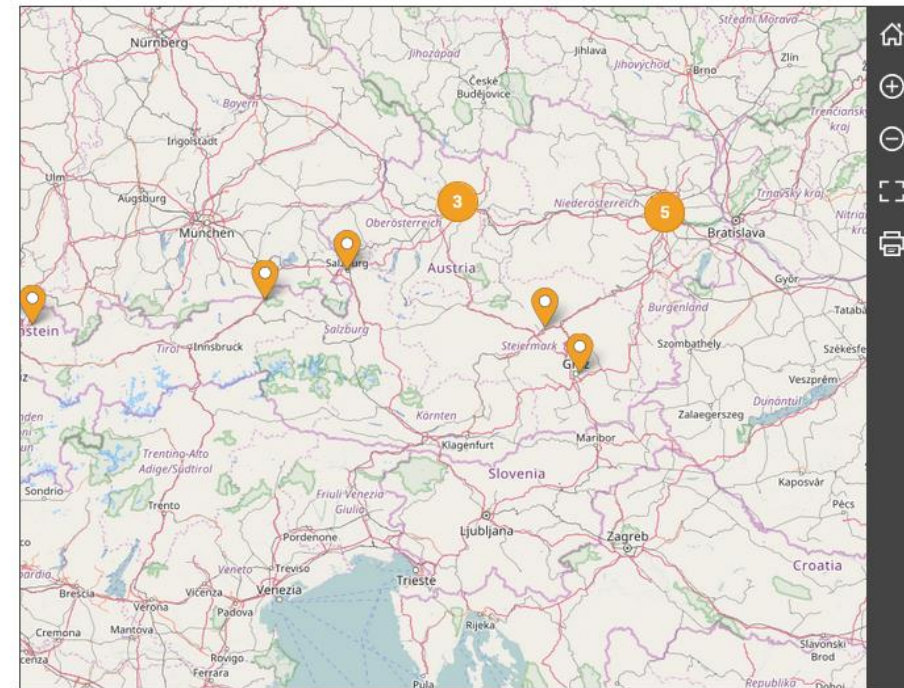


First version available:

- Fact-sheets with profile, contact data, service examples for regional, national, and EU-supported DIHs
- Map-based search tool by technical competences, market sector, services
- 50+ DIHs included in the Catalogue so far



Digital Innovation Hubs



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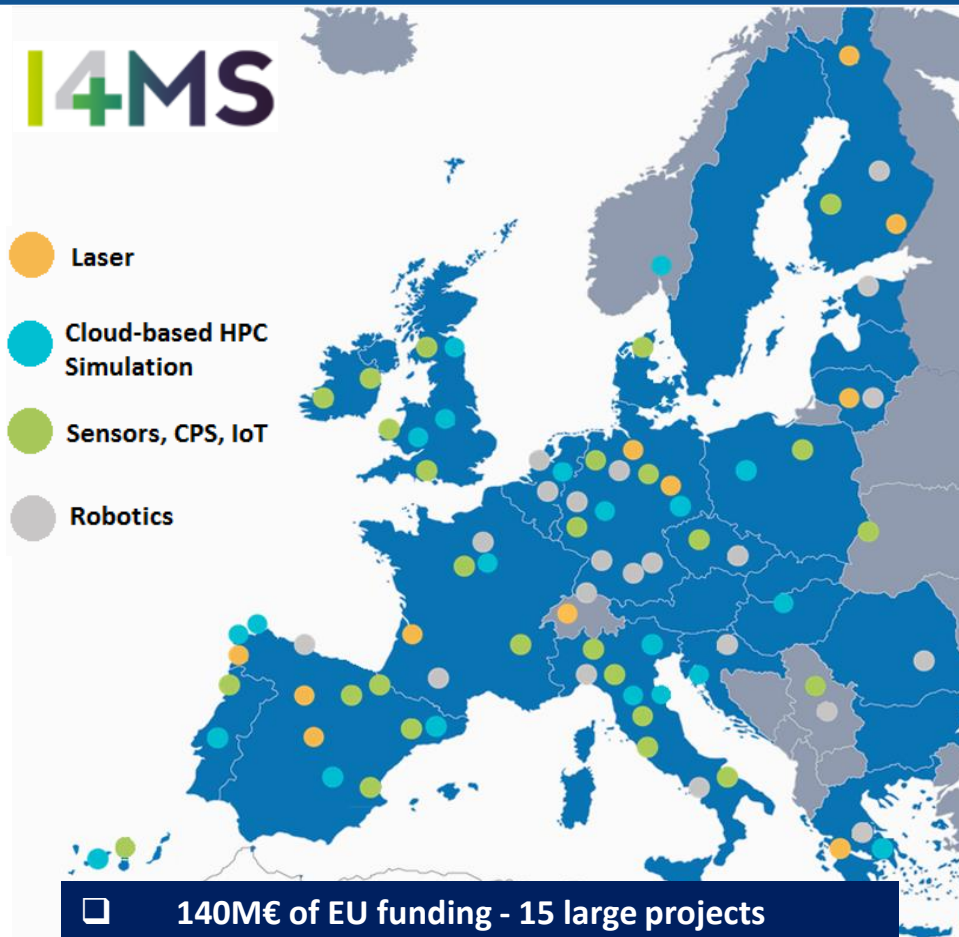
Export Hubs to csv

Hub Name	Location	Country	Contact	Phone	Email	Website
Data Market Austria (DMA)	Leopoldskronstraße 30, 5020, Salzburg	Austria	Allan Hanbury	+43 676 9780991	✉	🌐
Fachhochschule Technikum Wien	Höchstädtplatz 6, 1200, WIEN	Austria		+43133 40770	✉	🌐
Fraunhofer Austria Research GmbH	Theresianumgasse 27, A-1040, Wien	Austria			✉	🌐
Innovationsplattform Kufstein / Iku	Andreas Hofer-Straße 7,	Austria	Dipl.-Kfm.	+43 5372 71819	✉	

<http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool>

JRC-B3-DIH@ec.europa.eu

Building on and expanding successful actions (examples)



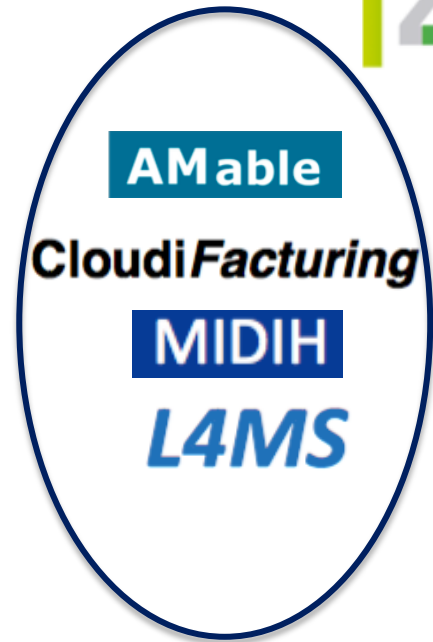
- 140M€ of EU funding - 15 large projects
- 125 DIHs/competence centres
- 450 experiments: 80% cross-border dimension
- 560 contractors. Out of which 406 industrial: 84% SMEs and mid-caps, 50% users, 65% new in EU R&I Programmes
- 29 Members States and Ass. Countries

- 62M€ of EU funding - 10 projects
- 100 DIHs/competence centres
- 285 experiments: 75% cross-border dimension
- 248 contractors. Out of which 203 industrial: 70% SMEs and mid-caps, 40% users, 55% new in EU R&I Programmes
- 19 Members States and Ass. Countries

Innovation for Manufacturing SMEs (I4MS)

where are we now?

I4MS



PHASE 1
2013 - 2015
74M€

PHASE 2
2015 - 2017
32M€

PHASE 3
2017-present
33M€

HPC Cloud-based simulation

Laser and Additive Manufacturing

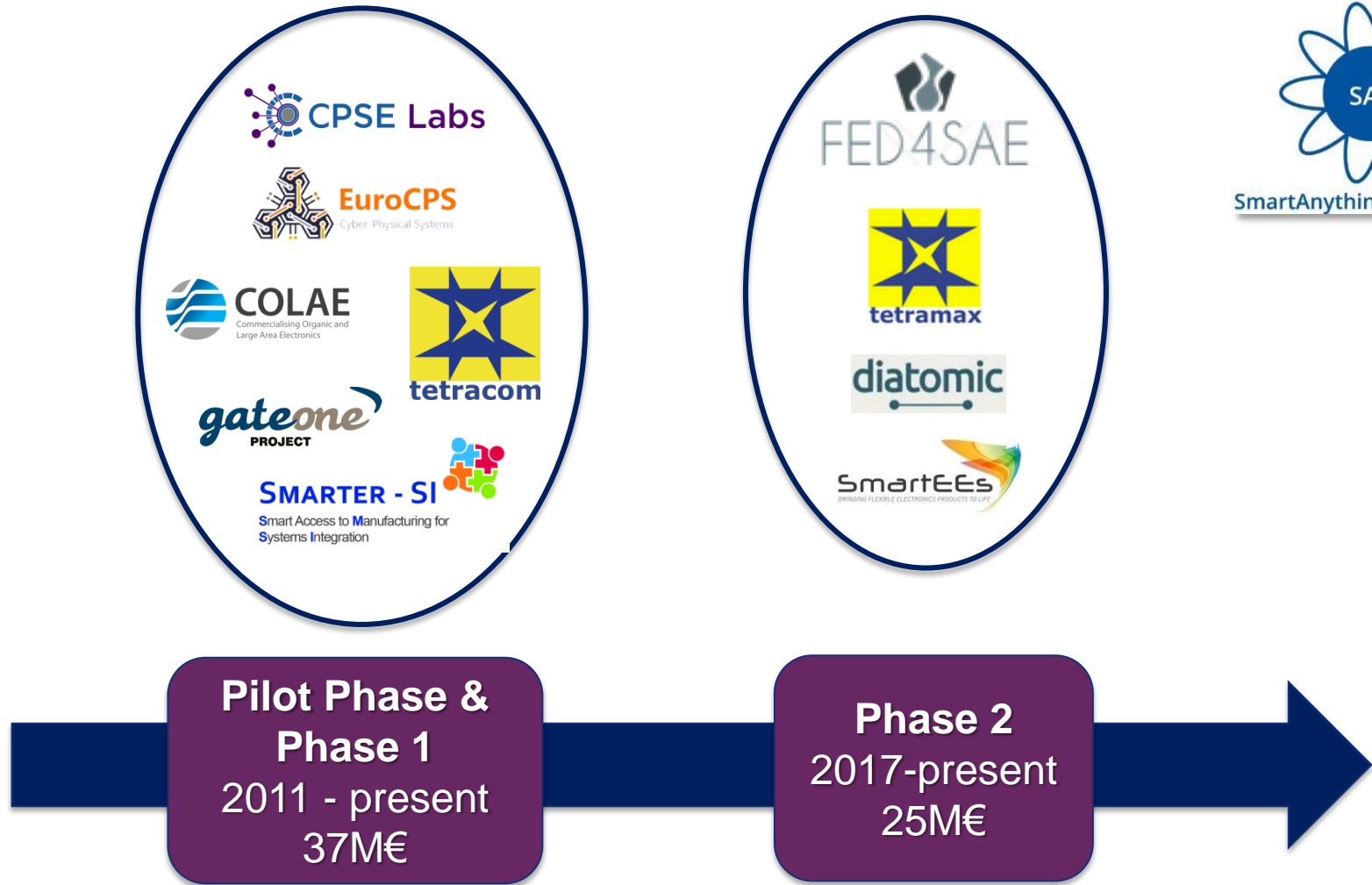
Sensors, CPS and IoT

Robotics

Smart Anything Everywhere (SAE) where are we now?



SmartAnythingEverywhere



Cyber-Physical Systems

Advanced Computing

Smart System Integration

Organic and Large Area Electronics

H2020

- 200 M€ in the H2020 work programme 2016-2017
- 300 M€ in the new H2020 work programme 2018-2020, focus area "Digitising and transforming European industry and services"
- Focusing on networking Digital Innovation Hubs and highly innovative cross border experiments

European Structural and Investment Funds

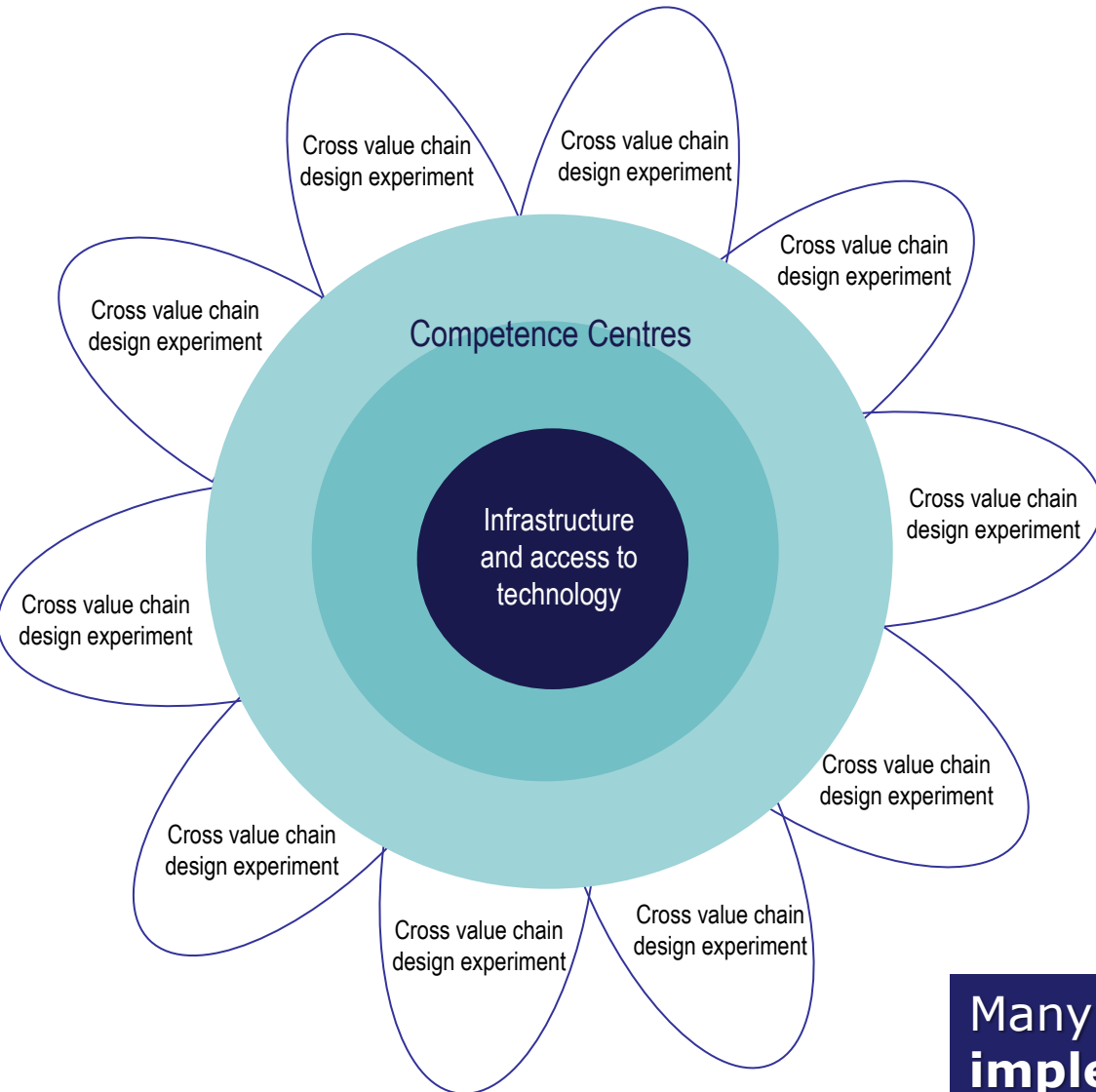
- **ESIF support for digital growth is based on national or regional Digital Growth Strategies and Research and Innovation Strategies for Smart Specialisation.**
 - Around EUR 2 billion will support digitising EU industry, in particular SMEs, to develop ICT products and services, e-commerce and the take-up of ICT,
 - Around EUR 1.2 billion will support e-Inclusion, e-Accessibility, e-Learning etc. to enhance human capital for the digitised economy and society,
 - Around EUR 7.6 billion will go into intelligent transport, smart grids, e-health and e-government, offering also procurement opportunities for IT firms,
 - Over 100 regions and 14 countries at national level will also invest in ICT-related research and innovation. Total funding for RIS3 accounts for 42 billion euro.

**Other
sources of
funding
(private,
innovation
funds of
regions,
loans, etc)**

- Focus area "Digitising and transforming European industry and services" calls for digital innovation hubs (for 300 M€)
 - DT-ICT-01-2019: Smart Anything Everywhere (SAE) Initiative, with the "widening" part for industrial regions that are currently underrepresented in I4MS and SAE
 - DT-ICT-02-2018: Robotics – Digital Innovation Hubs
 - DT-ICT-03-2020: I4MS (phase 4) - uptake of digital game changers and digital manufacturing platforms
 - DT-ICT-04-2020: Photonics Innovation Hubs
 - DT-ICT-05-2020: Big Data Innovation Hubs
- In SC2: DT-RUR-12-2018: ICT Innovation agriculture – Digital Innovation Hubs for Agriculture

- 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 DIHs, 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.

Critical Mass of Cross-Border Application Experiments



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

Examples within Cyber-physical systems – safety critical systems

Autonomous robot that can check lights on airport runways



stereola
ADVANCED SOLUTION MAKER

EZ10: a driverless shuttle to cover short distances on predefined routes

Steery.io/EasyMile



Autonomous weeding robots

nai
Technologies

- DT-ICT-01-2019: Smart Anything Everywhere
 - CSA to support the SAE network – 1 M€

- DT-ICT-02-2018: Robotics - Digital Innovation Hubs
 - CSA to support Robotics DIH network – 2 M€

- DT-ICT-06-2018: Coordination and Support Activities for Digital Innovation Hub network
 - CSA to network all DIHs – 1 M€

Upcoming open "cascading funds" calls

Project	Technology Area	Call 1	Call 2	Call 3	Call 4	Call 5
I4MS (Innovation for Manufacturing SMEs) Initiative						
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	-	-
SAE (Smart Anything Everywhere) Initiative						
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	Advanced micro-electronic components and Smart System Integration	Mar.18	Sep.18	-	-	-
SmarTEES	Organic and large area electronics	Mar.18	Jul.18	Nov.18	Apr.19	Sep.19
Other projects						
Data Pitch	Data brokerage between public sector organisations and SMEs	Jul.17-end of Sep.17	Autumn 18	-	-	-

Where to find cascading funds open calls on participant portal?

- www.i4ms.eu
- www.smartanythingeverywhere.eu
- <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/other/competitive.html>



The screenshot displays the 'Participant Portal' for 'RESEARCH & INNOVATION'. The page is titled 'Open Competitive calls and calls for third parties' and lists various funding opportunities. The navigation bar includes 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'EXPERTS', and 'SUPPORT'. A search bar and 'LOGIN'/'REGISTER' buttons are also present.

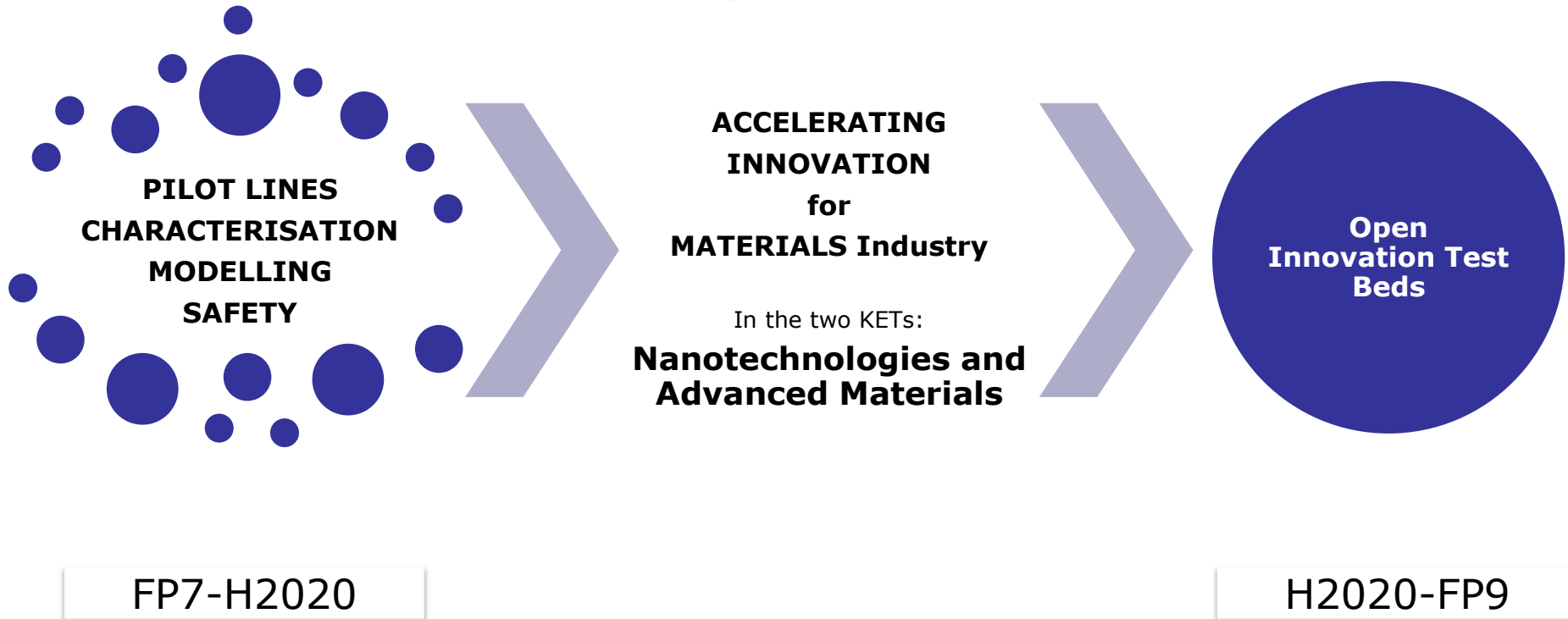
Open Competitive calls and calls for third parties

- Fourth FIESTA-IOT competitive Call for Experiments
- Third Open Call SoftFIRE
- RobMoSys open call
- KATANA – open call n°2
- INNO LABS – 1st Open Call
- bioTope - Building an IoT Open Innovation Ecosystem for connected Smart Objects
- Data Pitch
- ROSIN Open Call
- PERMIDES Open Call
- IMPACT GROWTH Open call
- NEPTUNE call for third parties
- SuperBIO call for third parties

Closed Competitive calls and calls for third parties

- ACTIVate - Announcement of an open call for recipients of financial support
- Organicity: Co-creating Smart Cities of the Future
- Third FIESTA-IOT Competitive Call for Experiments
- BIG IoT first Open call
- Second Open Call SoftFIRE

Open Innovation Test Beds





Open access to facilities and services for design, development (prototyping), testing, and upscaling materials and nanotechnologies for new products



Demonstration in the relevant industrial environments



Show-casing technologies with user industry in cross border applications



Facilitate access of European SMEs along product supply chains



Identification and assessment of potential regulatory, economic and technical barriers



Engagement of stakeholders across the EU and the Associated Countries

- For upscaling nanotechnology and materials in the following technology domains
 - Lightweight nano-enabled multifunctional materials and components
 - Safety Testing of Medical Technologies for Health
 - Nano-enabled surfaces and membranes
 - Bio-based nano-materials and solutions
 - Functional materials for building envelopes
 - Nano-pharmaceuticals production
- The activities will be supported through the establishment of Open Innovation Test Beds in Characterisation and Modelling as well as the already established NanoSafety Platform

- Technology focus
- In DIH beneficiaries should be deeply rooted in a regional/national digital innovation hub
- DIHs allow Financial Support to Third Parties for open calls

S+T+ARTS == STARTS initiative

Artists stimulating innovation for Europe

HORIZON2020
WP 2018-20

STARTS is exploring unconventional art-inspired solutions to industrial/societal problems and new art-inspired technology uses.

Three fields of action:

- 1-STARTS Prize giving visibility to successful art-technology collaborations
- 2-STARTS Residencies embedding artists in technology institutions
- 3- STARTS Lighthouse Pilots addressing important challenges in teams with artists

Opportunities:

(a) The H2020 LEIT program encourages all proposers to enhance their innovation capacity by including artists as out-of-the-box thinkers in their proposals.

Running projects wanting to host artists can apply to the STARTS residence program (see www.starts.eu)

(b) Call ICT-32-2018 : STARTS lighthouse pilots (4MEUR each) opens 31-10-2017

Pilot 1 Art-inspired interactive human-centred environments

created by digital objects and novel (social) media for cities and homes.

Pilot 2 Art-inspired urban manufacturing de-centralised digitally-

enabled production systems and co-creation in urban environments.



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- Working group on Digital Innovation Hubs Report:
<https://ec.europa.eu/futurium/en/content/report-wg1-digital-innovation-hubs-mainstreaming-digital-innovation-across-all-sectors-final>
- Catalogue of Digital Innovation Hubs
<http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool>

Thank you for your attention

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Questions?