ROBOTICS in H2020 - ICT-2018-2020

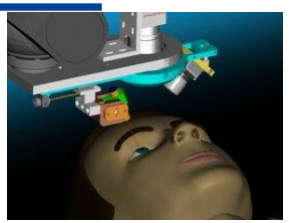
DT-ICT-02-2018: Robotics - Digital Innovation Hubs

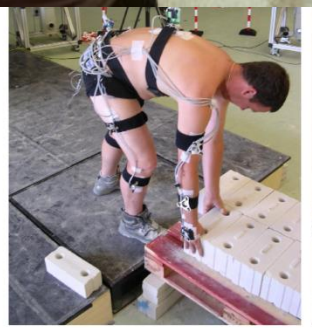
ICT-09-2019-2020: Robotics in Application Areas
ICT-10-2019-2020: Robotics Core Technology
DT-ICT-12-2020: The smart hospital of the future

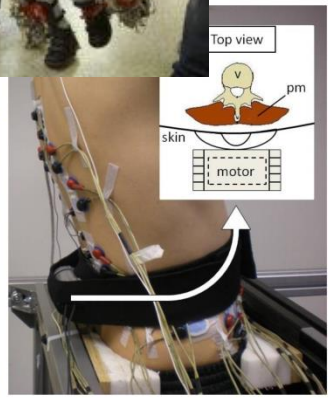
Cécile Huet, PhD
Deputy Head of Unit A1
Robotics & AI
European Commission

European Commission

4 Priority Areas

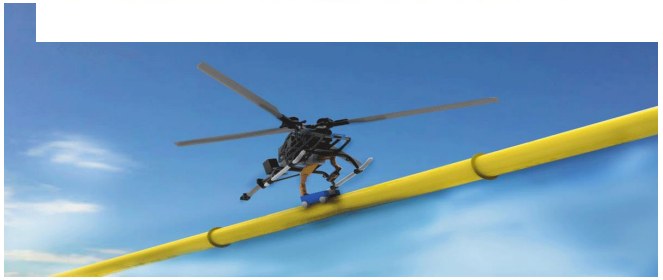






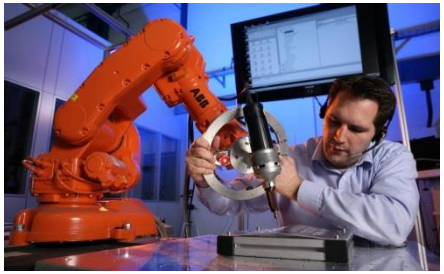
- Healthcare

- Inspection and maintenance of infrastructure



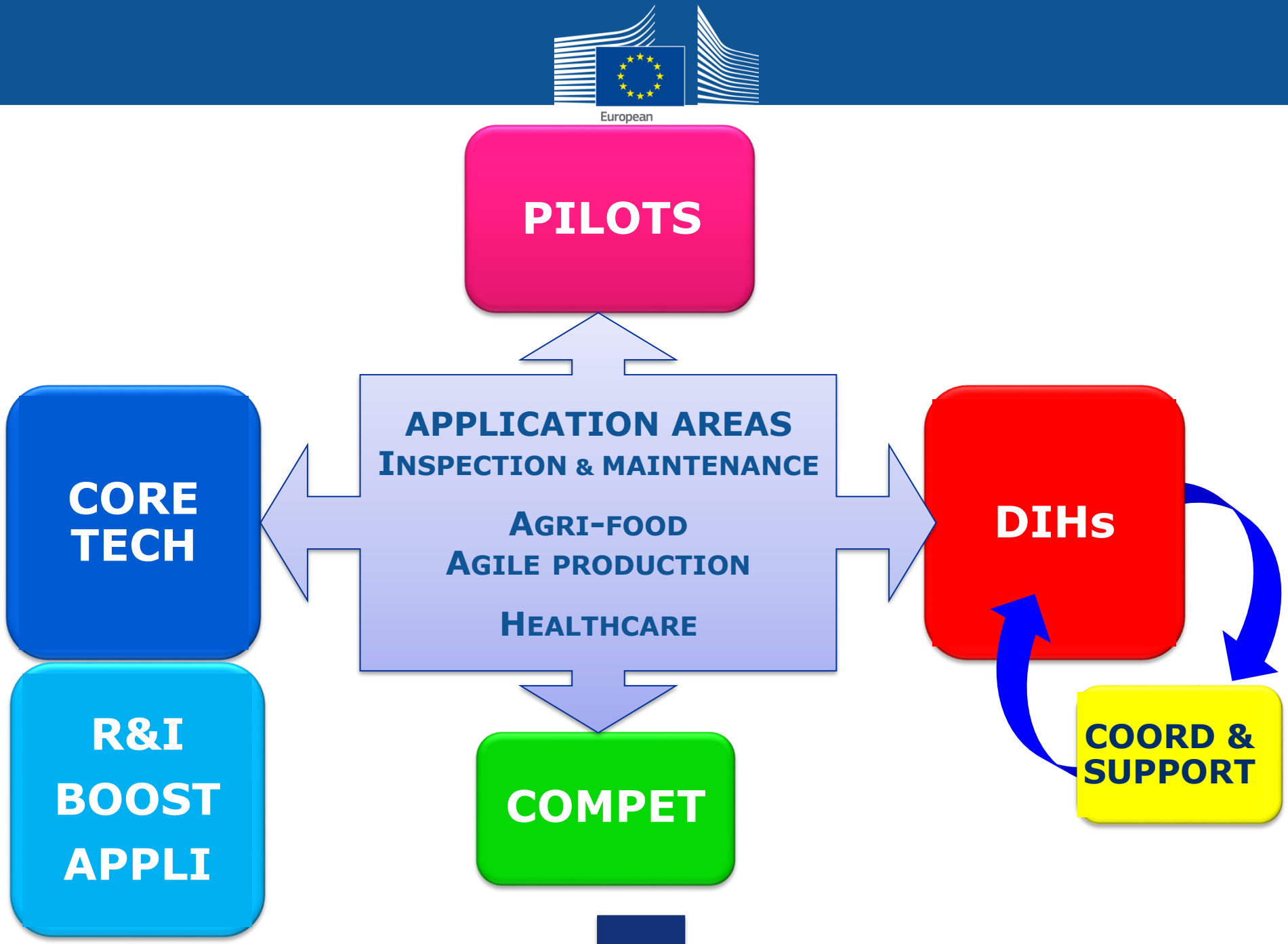
- Agri-food

- Agile production



5 ACTIONS

- DIHs (Digital Innovation Hubs)
- RIAs (Research and Innovation)
- Large Scale Pilots
- Competitions
- Coordination


European
PILOTS
CORE TECH
APPLICATION AREAS
INSPECTION & MAINTENANCE
AGRI-FOOD
AGILE PRODUCTION
HEALTHCARE
DIHs
R&I
BOOST
APPLI
COMPET
COORD & SUPPORT

TIMELINE

European Commission

OPENING

31 OCT 2017

DT-ICT-02-2018 DIGITAL INNOVATION HUBS

17 APRIL 2018

IA 64M€
CSA 2M€

ICT-09-2019-2020: APPLICATION AREAS

ICT-10-2019-2020: CORE TECHNOLOGY

29 MARCH 2019

ICT09: RIA 20M€
ICT09: IA 28M€
ICT09: CSA 2M€

ICT10: RIA 42M€

ICT-09-2019-2020: APPLICATION AREAS

ICT-10-2019-2020: CORE TECHNOLOGY

DT-ICT-12-2020: THE SMART HOSPITAL OF THE FUTURE

OCT2017 | 2018 | 2019 | 2020

TIMELINE

European Commission

DT-ICT-02-2018
DIGITAL INNOVATION HUBS

IA 64M€
CSA 2M€

a. IA – 64M€
1 Network of Robotics DIHs per Priority Area:
- **Healthcare**
- **Inspection and maintenance of infrastructure**
- **Agri-food**
- **Agile production.**

Budget: 16M€/proposal

b. CSA – 2M€
1 Central Robotics DIH CSA
Budget: 2M€/proposal

TIMELINE

European Commission

RESEARCH & INNOVATION
BOOSTING PROMISING APPLICATIONS
(EXCLUDES THE 4 PRIORITY AREAS)
RIA – 20M€

PILOT:
INSPECTION AND MAINTENANCE
IA – 28M€

COMPETITIONS
CSA – 2M€

ICT-09-2019-2020:
APPLICATION AREAS

ICT-10-2019-2020:
CORE TECHNOLOGY

29 MARCH 2019

2019

ICT09: RIA 20M€
ICT09: IA 28M€
ICT09: CSA 2M€

ICT10: RIA 42M€

CORE TECHNOLOGIES:
RIA - 42M€

- **AI & COGNITION**
- **COGNITIVE MECHATRONICS**
- **SOCIALLY COOPERATIVE HRI**
- **MODEL-BASED DESIGN & CONFIG. TOOLS**

TIMELINE

PILOTS - APPLICATION AREAS:
- AGRI-FOOD
- AGILE PRODUCTION

PILOTS
- SMART HOSPITAL OF THE FUTURE

RESEARCH & INNOVATION
BOOSTING PROMISING APPLICATIONS
(EXCLUDES THE 4 PRIORITY AREAS)
RIA – 20M€

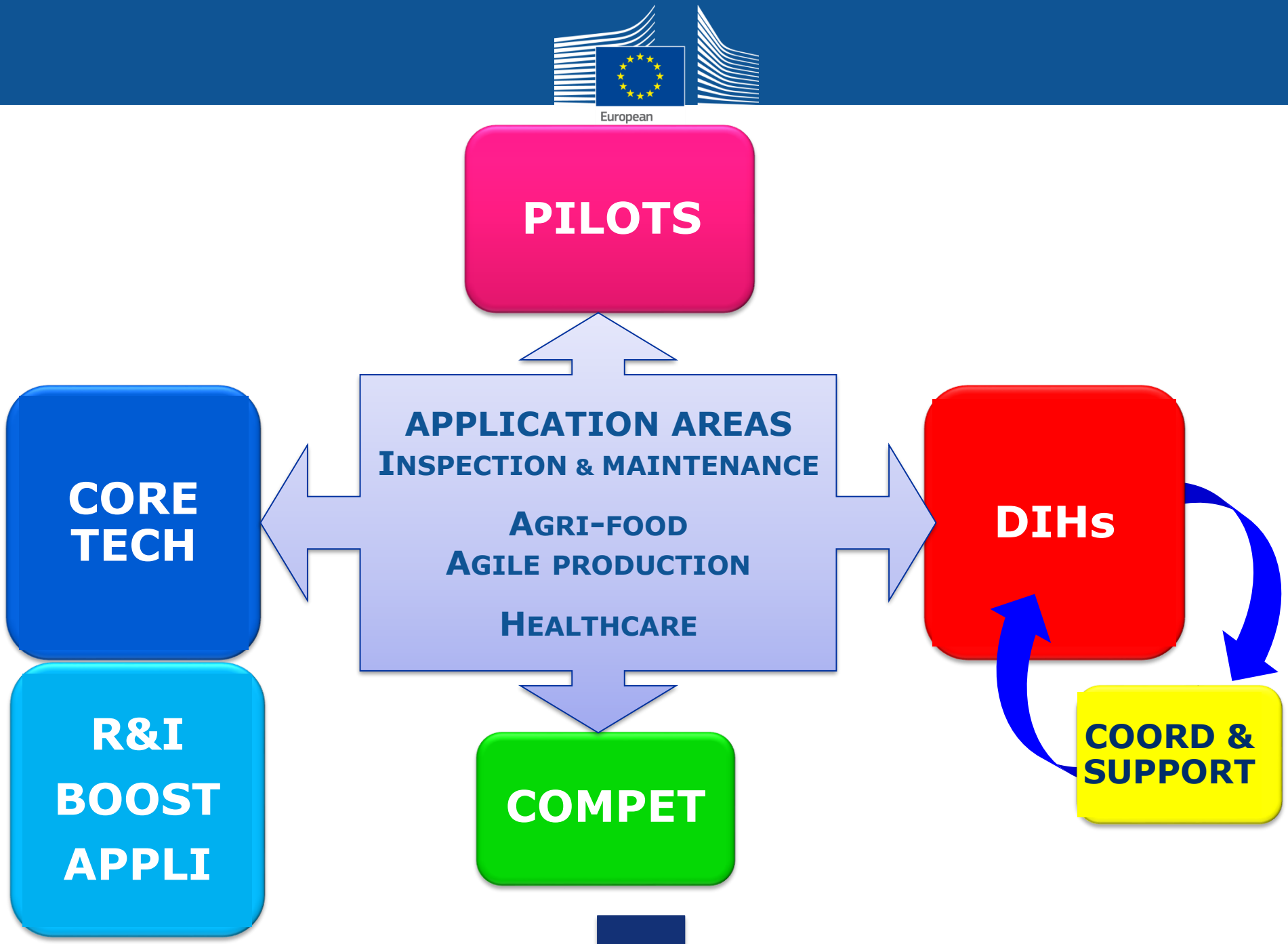
CORE TECHNOLOGIES
- AI & COGNITION
- COGNITIVE MECHATRONICS
- SOCIALLY COOPERATIVE HRI
- MODEL-BASED DESIGN & CONFIG. TOOLS

ICT-09-2019-2020:
APPLICATION AREAS

ICT-10-2019-2020:
CORE TECHNOLOGY

DT-ICT-12-2020:
THE SMART HOSPITAL OF THE FUTURE

2020


European
PILOTS
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APPLICATION AREAS
INSPECTION & MAINTENANCE
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DIHs
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BOOST
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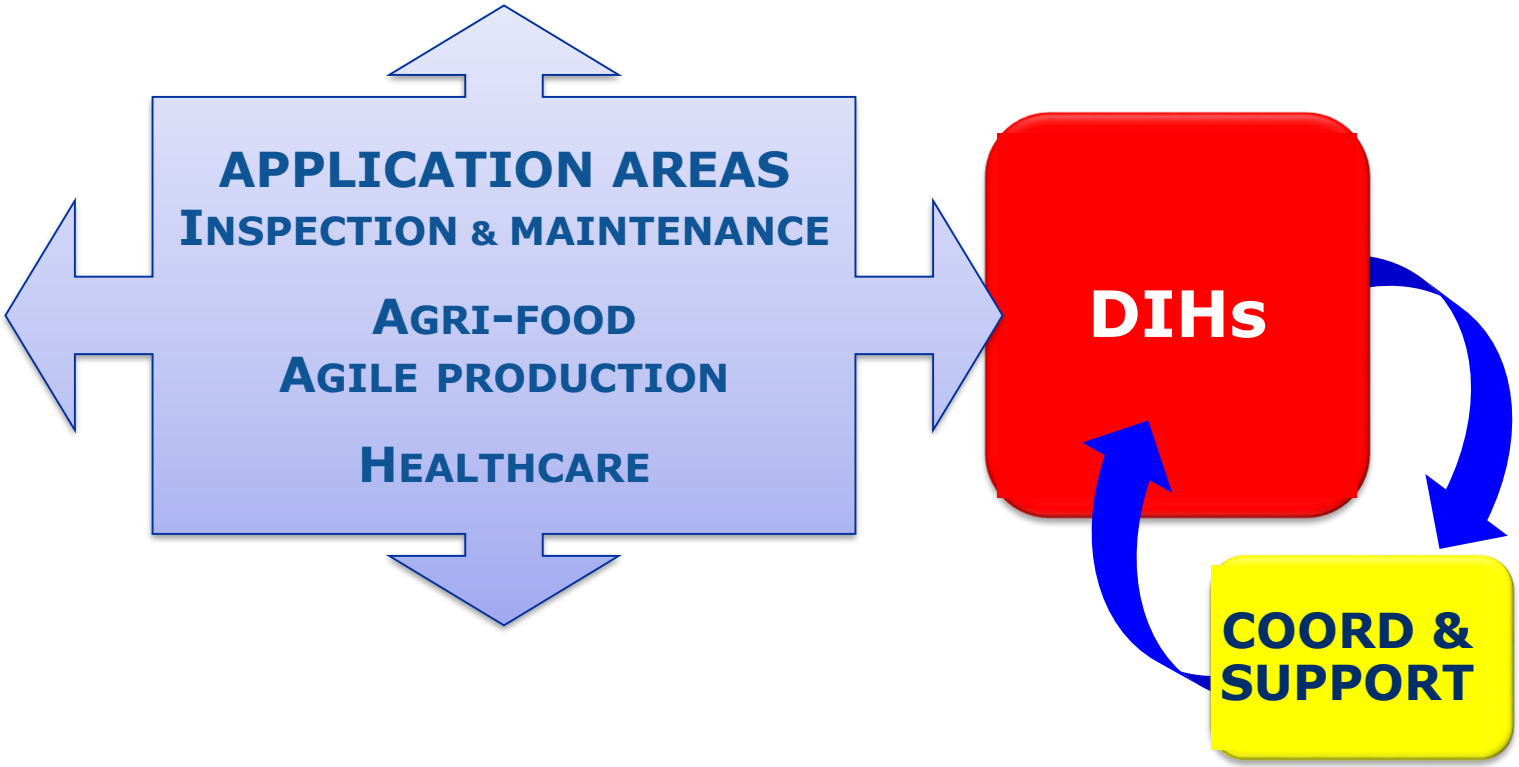
COORD & SUPPORT

2018


APPLICATION AREAS
INSPECTION & MAINTENANCE
AGRI-FOOD
AGILE PRODUCTION
HEALTHCARE
DIHs
COORD & SUPPORT

DT-ICT-02-2018: Robotics - Digital Innovation Hubs (DIH)

BUDGET: 66M€

a) Innovation Action – 64M€

=> 4 projects expected to be funded

- **1 per Prioritised Application Area – 16M€/each**

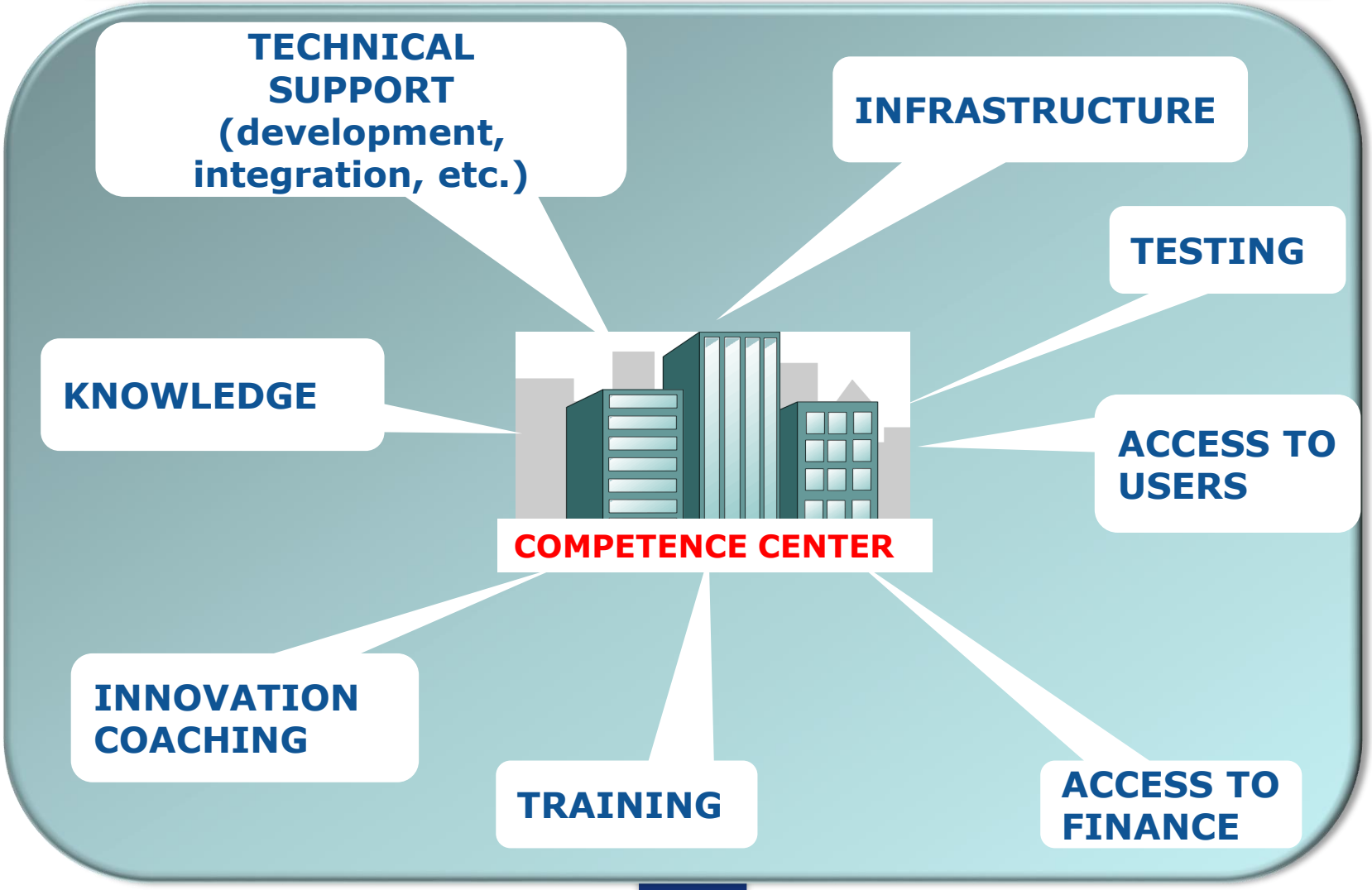
b) Coordination and Support Action – 2M€

=> 1 project expected to be funded

CALL DEADLINE: April 17 - 2018

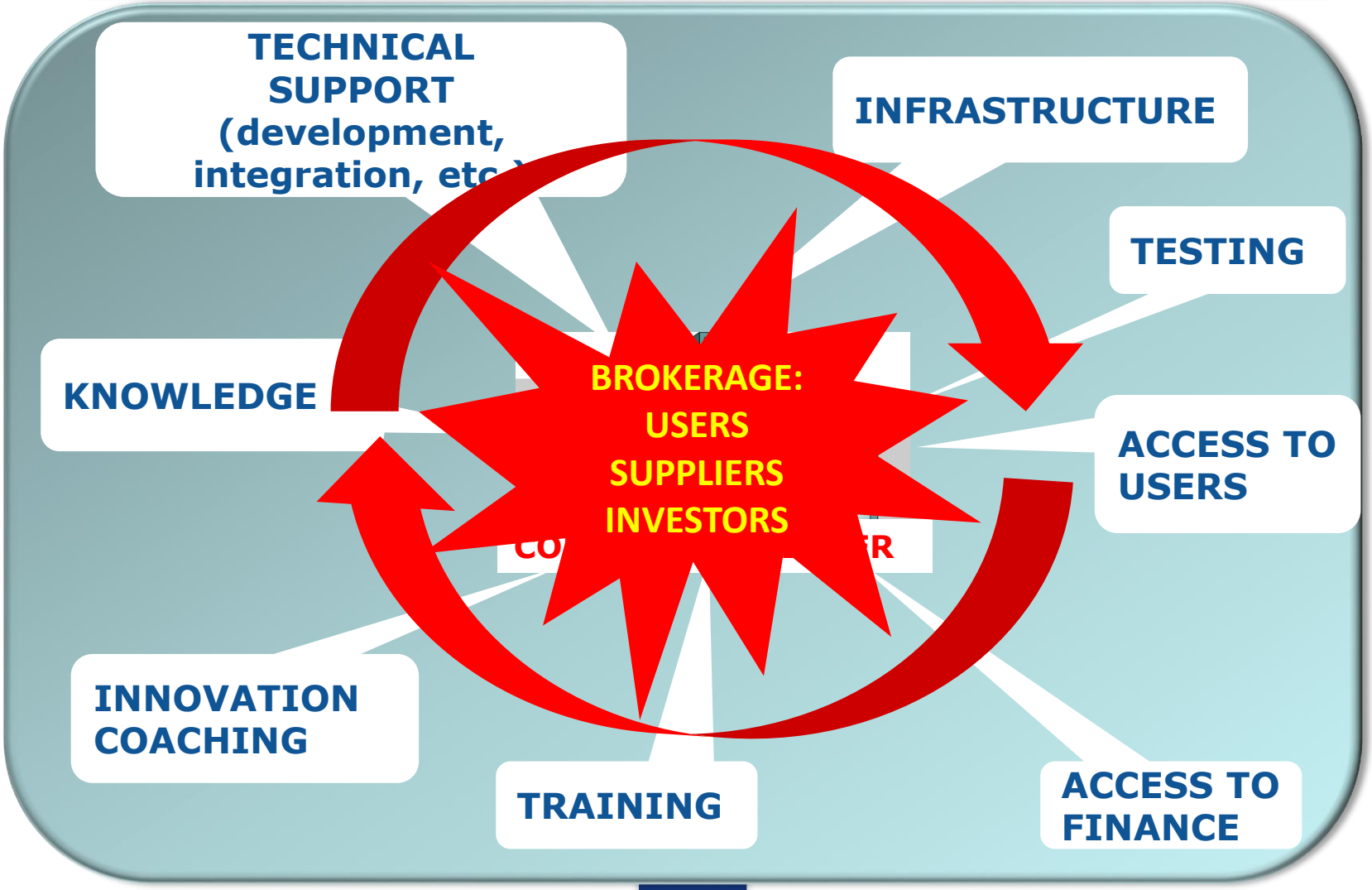
European Commission

DIGITAL INNOVATION HUB: INGREDIENTS



European Commission

DIGITAL INNOVATION HUB: INGREDIENTS



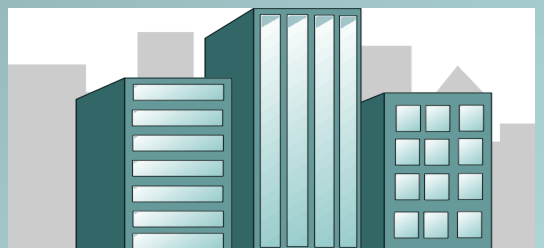
DIGITAL INNOVATION HUB: ACTORS

ENTREPRENEUR

INCUBATOR

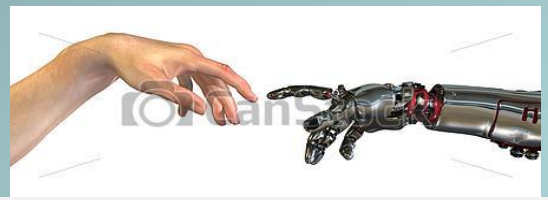
ACADEMIA

GOVERNMENT



COMPETENCE CENTER
SHARED PHYSICAL INFRASTRUCTURE & SUPPORT (TECHNICAL, LEGAL, ADMINISTRATIVE, BUSINESS,...)

INDUSTRY



USERS COMMUNITY:
SMES, CITIZENS,
LOCAL ECONOMIC ACTORS,...

INVESTORS

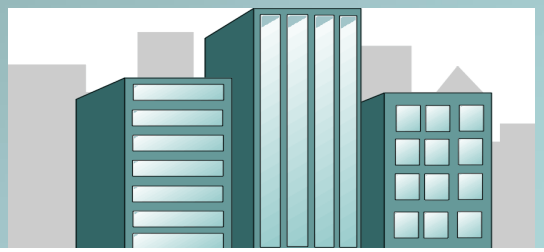
DIGITAL INNOVATION HUB: ACTORS

ENT[illegible]PRENEUR

I[illegible]BATOR

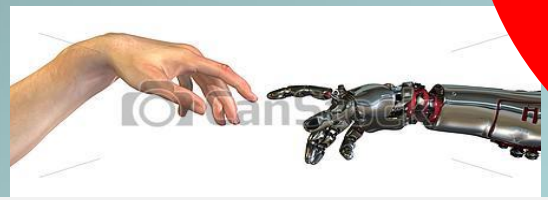
ACADEMIA

GOVERNMENT



COMPETENCE CENTE[illegible]
SHARED PHYSICAL
INFRASTRUCTURE & SU[illegible]RT
(TECHNICAL, LEG[illegible]
ADMINISTRA[illegible]VE,
BUSINESS,...)

INDUSTRY



USERS COMMUNITY:
SMES, CITIZENS,
LOCAL ECONOMIC ACTORS,...

INVESTORS

TYPE OF COMPETENCE CENTERS

COMPETENCE CENTER

SHARED PHYSICAL INFRASTRUCTURE & SUPPORT

- TECHNO CENTRIC: RTO, EXCELLENCE CENTER,…
- USER CENTRIC: TESTING FACILITY IN SPECIFIC AREA (FACTORY, HOSPITAL, FARM, URBAN AREA, TEST-HOUSE, …)

European Commission

THE HUB = CENTER OF A NETWORK EXPLOIT COMPLEMENTARITIES (LOCAL AND EUROPEAN)

COLLABORATION AND NETWORKING BETWEEN CENTRES
→ ONE-STOP-SHOP FOR EXPERTISE, COMPLEMENTARITY & SPECIALISATION

COMBINED FUNDING:
PRIVATE & PUBLIC

European Commission

PRIVATE

National, regional, local Funding

EU Regional funding

EC Investment Plan

PUBLIC

COMBINED FUNDING:
PRIVATE & PUBLIC

EARTO – HEALTHCARE
27 JUNE 2017

PRIVATE

National, regional, local Fu[illegible]ng

EU Regional [illegible]

COMBINE FUNDING:
PRIVATE ←→ PUBLIC
LOCAL ←→ EU

EC Inv[illegible]t Plan

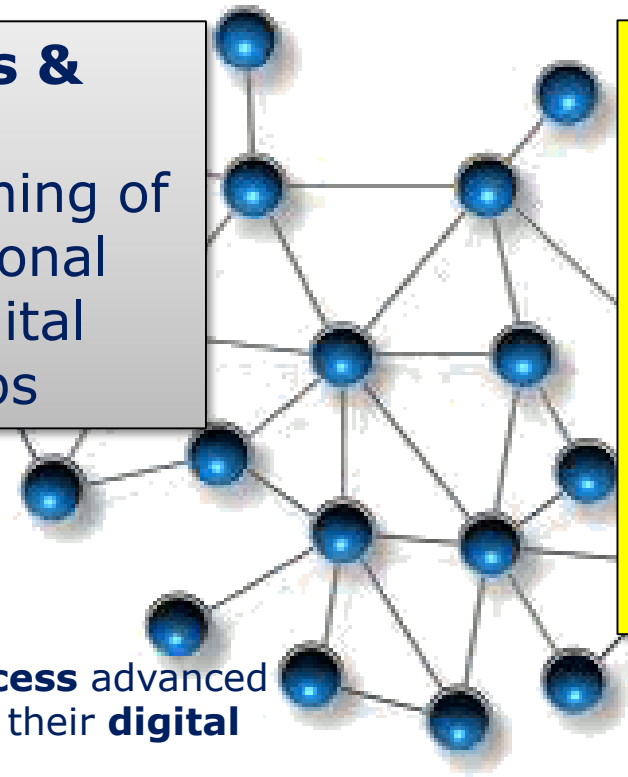
PUBLIC

→ PUBLIC SECTOR SHARING RISK WITH INDUSTRY IN INNOVATION

Digital Innovation Hubs: Towards organic Growth

"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 digital innovation hubs



Commission:

- Set up a pan-European network of Digital Innovation Hubs
- Support activities *such as cross-border experiments, 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**

Specific Challenge

- provide a **sustainable ecosystem** of robotics stakeholders covering the **entire value network** to facilitate and accelerate a **broad uptake** and integration of **robotic** technologies, and supporting the **digitisation** of industry through **robotics**.

a) DIH Innovation Actions

Network of robotics DIHs in the four PAA:

- Healthcare
- Infrastructure Inspection and Maintenance
- Agri-Food
- Agile Production

Proposals are expected to:

- develop a network of DIHs
- deliver services (technical and non-technical)
- access to best practice & research results relevant to the application area
- contribute to common system platforms
- engaging in the development of industry-led standards
- develop and disseminate standards demonstrators
- facilitate access to pilots
- collaborate with all the robotics actions funded in the WP and beyond, as appropriate.

Proposals are expected to:

- connect, share expertise, and closely collaborate with the DIHs in the other PAAs via the Central Robotics DIH CSA.
- address ethical, data privacy and protection issues, and consider cyber-security issues (including security by design).
- support the development of use-case demonstrators at TRL 5 and above, preferably based on open system platforms.
- contribute to a Working Group that connects the actions funded in this WP with the Central Robotics DIH CSA to disseminate best practice, to coordinate access to technology, resources, demonstrators and open platforms, and to facilitate the cross development of platforms.

Proposals are expected to:

- use financial support to third parties (FSTP) to support industry, in particular SMEs, in their digital transformation, through for instance, demonstrators and platforms development, technology transfer experiments, or other services (technical or non-technical), as appropriate.
- FSTP should comply with the conditions set out in part K of the General Annexes of the Work Programme.
- At least 50% of the budget is expected to be dedicated to FSTP and the maximum amount of FSTP is EUR 300.000 per third party for the entire action duration.
- EU contribution: 16 m€ for DIHs in each Priority Area (indicative)
- At least one action in each Priority Area will be supported.

4 requirements to DIHs

- 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.

b. Coordination and Support Activities

- Central Robotics DIH CSA
- Support and cooperate closely with the PAA-oriented DIH actions
- Network them, to coordinate their activities and to develop synergies among them
- Disseminate best practices in developing pilots, demonstrators and open platforms
- Championing the development of open industry-led system platform standards
- EU contribution:2M€(indicative)

Expected Impact:

- Increased deployment of robotics in each PAA.
- Formation of supply chains around platforms and modules that straddle PAA
- Introduction of cross-industry-based standards for modules and systems
- Generation of new businesses based around platform supply
- The development supply chains.
- Leveraging effect on other sources of funding, in particular regional and national funding

Work Programme topic : Robotics - Digital Innovation Hubs

1. What are you looking for?

- **Pan-European Network** of DIH in robotics in 4 prioritised areas
- Inclusive:
  - Mobilise existing DIHs (funded under H2020 or other initiatives – e.g.: national/regional)
  - Capitalise on existing results/centers
  - Involve Techno-centric & User-Centric DIHs
- Build on the Catalogue of DIH
  http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool
- Networking: Plan for cooperation with CSA – other relevant projects/initiatives

2. What do you NOT want?

What do you NOT want?	What do you want?
Standard RIA/IA project Proposals "dressed in DIH proposals"	The focus is on developing networks of DIHs to foster the digitization of industries (esp. SMEs and non-tech)
To fund DIHs themselves (this is Regional/National competency)	H2020 focuses on the "EU layer" : • Set up a pan-European network of Digital Innovation Hubs • Support activities such as cross-border experiments, catalogue and assistance in the creation of hubs
Small consortia with 1 – 2 locations	Should be inclusive and involve the relevant DIHs from the start
Research	This is Innovation Action – the focus is on showcasing/feasibility/tech transfer/use-cases

Work Programme topic – topic evolution

3. Is this new or has it been called before?

e.g. How is it new / different from previous calls
What previous WP topic is it linked to?
What are the main changes?
Is it linked to other topics in the current WP? (e.g. in LEIT or other pillars)

- First call on DIHs for Robotics
- Linked to previous Robotics calls, Shared facilities, I4MS (mentoring schemes for DIHs)
- Main change – focus on DIHs + selection of 4 priority areas
- Linked to LEIT – DIHs CSA / Robotics topics in 19-20

Work Programme topic – topic evolution

4. Current project portfolio *(if relevant)*

e.g. Please mention some highly relevant projects!
Is there an overview of current project portfolio?
Are there clusters / groups of projects?

- RIFs (Robotics innovation facilities) in ECHORD++
- RTOs in ROBOTT-NET
- EuRoC (sharing facilities focusing on Challenges)
- Horse/Reconcell
- Robotics projects in
  - Agri-Food (e.g.: Flourish, Sweeper, Vinerbot, SoMa)
  - Healthcare (e.g.: martSurg; EurEyeCase, EndoVESPA, MURAB, XoSoft, SPEXOR, SoftPro, INPUT, DeTOP, EDEN2020)
  - Maintenance/inspection (e.g.: Petrobot, AEROBI, AEROARMS, AEROWORKS)
  - Agile Production (e.g.: Horse, Reconcell, RAMPup, ColRobot)
  - https://ec.europa.eu/digital-single-market/en/news/first-robotics-projects-h2020-starting
  - https://ec.europa.eu/digital-single-market/en/news/new-robotics-projects-2015-announced
  - https://ec.europa.eu/programmes/horizon2020/en/news/new-horizon-2020-robotics-projects-2016

Work Programme topic – Key actors

5. Who are the leading players?

- Major Users in the 4 Application Areas
- DIHs in Robotics
- User-centric DIHs/Competence centers

6. Is there a key group of actors (eg. cPPP or other) driving this?

- Robotics PPP - SPARC

Work Programme topic

7. Are there any additional / background documents?

e.g. call specific background / guidance notes;
EC communications and other policy documents;
work programme consultation workshop reports;
strategic research agendas, other research roadmaps;

- 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
  https://ec.europa.eu/futurium/en/content/digital-innovation-hubs-catalogue-project-0

Q&A document (planned)

Future Outlook

8. Do you have information about future trends, emerging initiatives, roadmaps, key players in this area?

- Keep in mind future calls (RIA/Pilots/Competitions) & plan accordingly (projects funded under this call should last long enough to support projects funded under in later calls – 19-20)
- DIHs plays a key role in Digitizing all industries (esp. SMEs – non-tech)

Upcoming events / information days

9. Please list upcoming information days and other events of relevance to this area

ICT Proposers' Day 2017 Budapest, 9-10 Nov 2017

And…

DO NOT MISS

BROKERAGE EVENT
ROBOTICS - DIHs
DECEMBER 6 2017
BRUSSELS

https://www.eu-robotics.net/sparc/

PLEASE MOBILISE YOUR "DIHs"
THANK YOU

Cecile.Huet@ec.europa.eu

SPARC
The Partnership for Robotics in Europe