Robotics in the healthcare domain / DIH status and future

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Outline

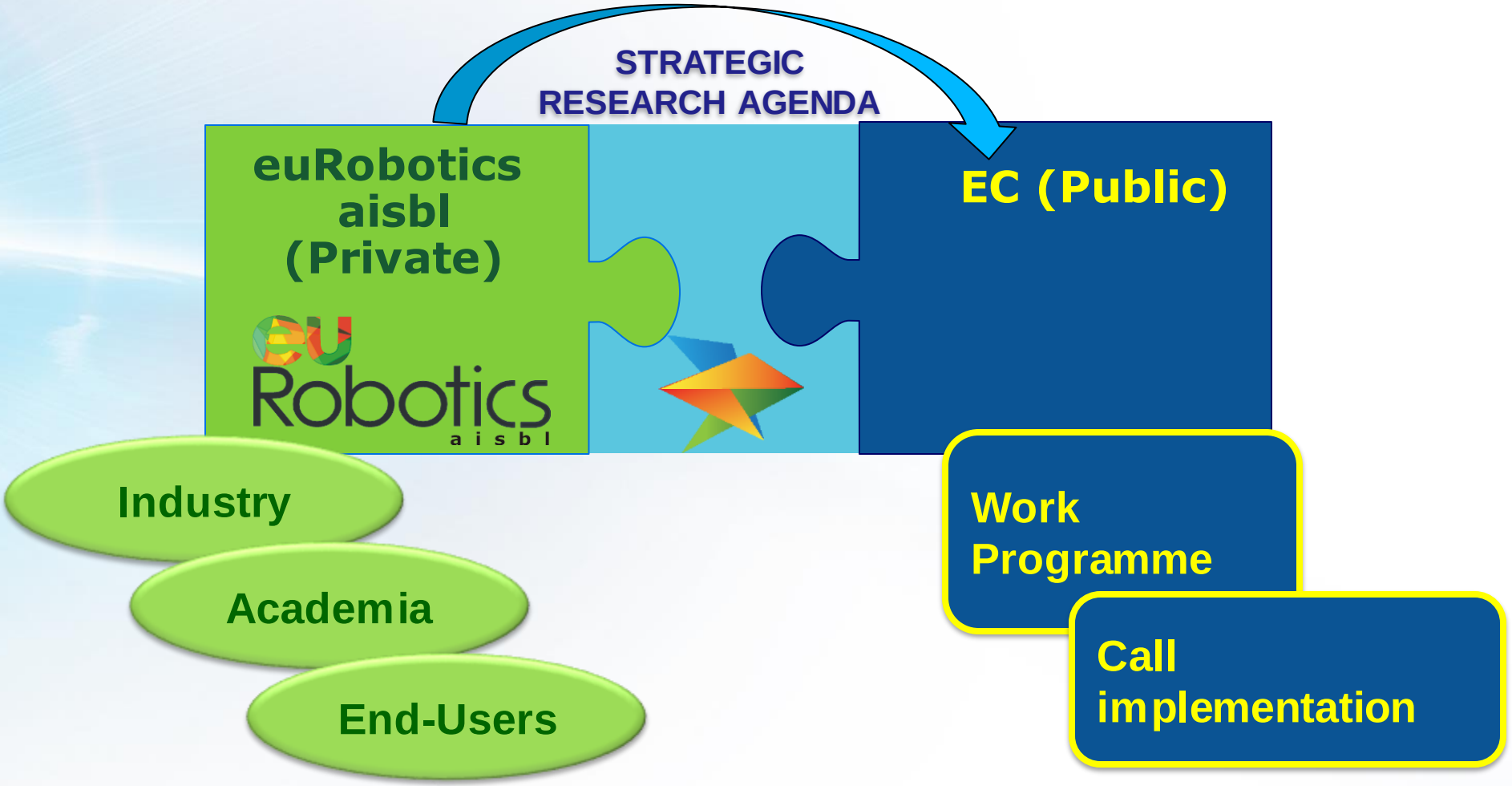
- Robotics and AI programme
- SPARC – Robotics PPP
- H2020 ICT 2018-2020
- Digital Innovation Hubs (Call 2018)
- Healthcare EU-funded projects

Robotics and AI Unit

- Dedicated unit created 2004 (FP5-FP6-FP7-H2020)
- More than 100 ongoing projects
  - over 700 partners
  - over €500m funding
- €70m–€80m funding for new projects per year
- Usually 1 call for proposals per year, up to 200 proposals, about 20 new projects
- Emphasis in FP6 and FP7 on perceiving, understanding, acting – cognitive, intelligent enabling technologies
- Since 01/07/2016: Robotics and AI

- WP2014-2015: €160m
- WP2016-2017: €160m

PPP in Robotics – SPARC



http://sparc-robotics.eu/about/

SRA = Strategic Research Agenda
MAR = Multi-Annual Roadmap (to be updated)

VISION
GOALS

GUIDANCE
HOW TO

Essential reading for proposers, providing detailed definitions of technologies and abilities and illustrative examples of the selected priorities. Proposals are expected to demonstrate their contribution to this roadmap.

ROBOTICS in H2020 - ICT-2018-2020

4 PRIORITY AREAS (PAs)

- Healthcare
- Inspection and maintenance of infrastructure
- Agri-food
- Agile production

5 ACTIONS

- RIAs (Research and Innovation)
- DIHs (Digital Innovation Hubs) => 2018
- Large Scale Pilots
- Coordination
- Competitions

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

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

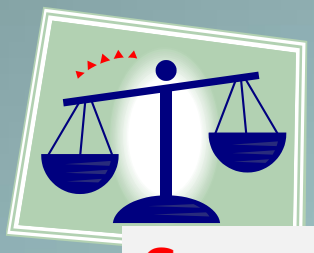
DIGITAL INNOVATION HUB: ACTORS

ACADEMIA

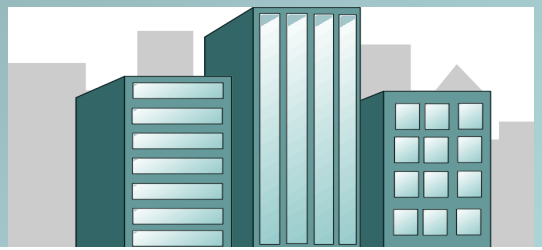
ENTREPRENEUR

INCUBATOR

INDUSTRY



GOVERNMENT



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

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, …)

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

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.

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.
- …. (and any other relevant activities)

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.

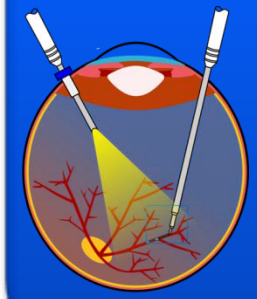
Healthcare robotics in H2020

- *Societal Challenge 1*
  - **Better health and care for better well-being and growth**
  - **Digital transformation in Health and Care**
- *Focused areas on digitization - DEI*
  - **Digital transformation of Health and Care**
- *LEIT & Robotics*
  - **Including Digital innovation hubs for robotics**
- *Synergies to develop with other initiatives*
  - **ESTHER / COCIR**
  - **KETS**

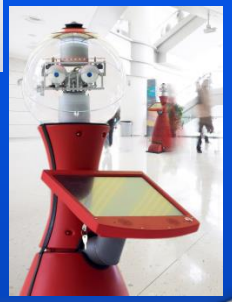
Robotics & Health (LEIT H2020)

European Commission

Operating room
(~ 26 MEUR)

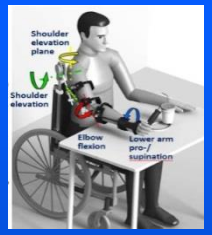


Support in Hospitals
(~4 MEUR)



Robotics

Exoskeleton & Rehabilitation (~50 MEUR)



Support at Home
(Assistive living)
(~10 MEUR)

Healthcare EU funded projects (list not exhaustive)

MURAB *- MRI and Ultrasound Robotic Assisted Biopsy*

EurEyeCase *- Use Case for European Robotics in Ophthalmologic Micro−Surgery*

EDEN2020*- Enhanced Delivery Ecosystem for Neurosurgery in 2020*

ENDOVESPA *- Endoscopic Versatile robotic guidancE, diagnoSis and theraPy of magnetic-driven soft-tethered endoluminAl robots*

CyberLegPlusPlus *- The CYBERnetic LowEr-Limb CoGnitive Ortho-prosthesis Plus Plus*

An.Dy *- Advancing Anticipatory Behaviors in Dyadic Human-Robot Collaboration*

MOVECARE *– Multiple-actOrs Virtual Empathic CARgiver for the Elder*

DREAM *- Development of Robot-Enhanced therapy for children with AutisM spectrum disorders*

More information

Social Media
http://twitter.com/RoboticsEU
http://www.facebook.com/RoboticsEU

Web site of EU-funded robotics activities
https://ec.europa.eu/digital-single-market/robotics

SPARC – Robotics cPPP
https://eu-robotics.net/sparc/

SPARC
The Partnership for Robotics in Europe

WP2018-2020
https://ec.europa.eu/programmes/horizon2020/en

Q&A Call 4
http://ec.europa.eu/research/participants/portal/desktop/en/support/faq_all.html [search using the topic code as keyword "DT-ICT-02-2018]

THANK YOU