SPARC

The Partnership for
Robotics in Europe

Brokerage Day

5th Dec 2016

Brussels

ICT-2017

- Work Programme focuses on
  - Core technology development with wide application
  - Support for market acceleration
    - testing and benchmarking
    - SME support
  - End User driven innovation with market impact.
    - Gap identification and filling

- Note: WP 2018/19/20 will be structured very differently.

Work Programme ICT-2017

ICT-25-2016-2017 RIA a) b)
Cross Cutting and Step Changes

ICT-25-2016-2017 IA c) d)
End User Driven Research,
Gap Filling

ICT-27-2017 RIA a)
System Abilities

ICT-27-2017 IA c)
Safety Certification (FSTP)

ICT-27-2017 RIA b)
SME Research (FSTP)
Benchmarking (FSTP)

ICT-27-2017 PcP d)
Smart Cities

ICT-28-2017 CSA
a) b) c) Coordination and support
d) Robotics Competition

Step Change Definition

- A Step Change is:
  - A multiplicative improvement in technical capability.
    - Cost reduction
    - Capability improvement
    - reduction in resource requirement
  - Or categorical step in capability
    - Moving from procedural to declarative controller
    - Specification developed by reasoning rather than hand construction
    - From rigid robots to joint compliant robots to segment compliant robots
    - Multi-scale integration of perception and control of base, arm, hand, finger systems.

Work Programme ICT-2017

ICT-25-2016-2017 RIA a) b)
Cross Cutting and Step Changes

a)
"…technical topics which cut across application domains and which can be developed further with a view to achieving high future impact on markets or societal sectors in Europe"

Research

ICT-27-2017
System Abili

b)
"…achieve step changes in the capabilities of RAS technologies…"
Step Change:
Multipicative not incremental improvement
Or Categorical Change.

ICT-2
SME
Benc

ICT-28-2017 CSA
a) b) c) Coordination and support
d) Robotics Competition

Work Programme ICT-2017

c)
"…end user-driven application developments in domains and application areas with significant market potential. Proposals are expected to address system development beyond TRL 5 "

ICT-25-2016-2017 IA c) d)
End User Driven Research, Gap Filling

Innovation

Near Market

ICT-27-2017 RIA a)
System Abilities

ICT-27
Safet… (ESTP)

ICT-27
SME F…
Bench…

d)
"Filling technology or regulatory gaps through end user-driven innovation actions, where the gap represents a challenging market entry barrier…."

ICT-28-2017 CSA
a) b) c) Coordination and support
d) Robotics Competition

Work Programme ICT-2017

a)
"…make a significant contribution to the needs of applications and domains with the highest impact on markets … Address…perception ability which is immune to natural variation…; decisional autonomy; increasing dependability levels to the level of graceful degradation; systems that are able to self-verify correct behaviour in safety critical tasks.
"

Near Market

ICT-27-2017 RIA a)
System Abilities

ICT-27-2017 IA c)
Safety Certification (FSTP)

ICT-27-2017 RIA b)
SME Research (FSTP)
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ICT-27-2017 PcP d)
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Work Programme ICT 2017

b) FSTP
SMEs … to develop novel and challenging technology and systems applicable to new markets… access to specialised development facilities or technology ”
Allows SMEs to take more risk

c) FSTP Development of testing protocols for shared space cooperative and collaborative systems leading to viable safety certification standards. Proposals must cover a range of domains and applications where safety certification is a market barrier The development of common approaches and tools is strongly encouraged
carry out realistic trials to validate

ICT-27-2017 RIA a)
System… ilities

ICT-27-2017 IA c)
Safety Certification (FSTP)

ICT-27-2017 RIA b)
SME Research (FSTP)
Benchmarking (FSTP)

b) FSTP
application-relevant benchmarks and metrics to assess progress in technologies and systems …. they should also help define benchmarks and metrics which are useful to an end user.

ICT-28-2017 (
a) b) c) Coord…
d) Robotics Co…

Work Programme ICT-2017

Total €15M (~€2-4M Per Project)

ICT-25-2016-2017 RIA a) b)
Cross Cutting and Step Changes

Total €19M (~€2-4M Per Project)

ICT-25-2016-2017 IA c) d)
End User Driven Research, Gap Filling

Research | Innovation | Near Market

Total €28M

ICT-27-2017 RIA a)
System Abilities

~€2-4M Per Project

ICT-27-2017 IA c)
Safety Certification (FSTP)

Total €11M ~€6-11M Per Project

ICT-27-2017 RIA b)
SME Research (FSTP)
Benchmarking (FSTP)

~€5-8M Per Project

ICT-27-2017 PcP d)
Smart Cities

Total €7M ~€5-7M Per Project

Total €5M

ICT-28-2017 CSA
a) b) c) Coordination and support
d) Robotics Competition

a) b) c) €3M

d) €2M

But…

- We would all like more money for proposals
  - But there isn't any…
- We would all like to get our proposal funded
  - But we won't…
- We all think our proposals are excellent
  - But they aren't…

Oversubscription

- Oversubscription is a real issue:
  - There are more proposals than money.
  - There are more good proposals than money.
  - There are more excellent proposals than money.
- Please help this by only writing excellent proposals.
  - address the impact statements
  - Make sure your project is technically sound.
  - Carefully describe what you will do in the project.
  - Make sure your consortium is well balanced
- Note that FSTP actions may provide you with a chance for funding later in the project cycle.

Work Programme 2018-2020

WP Overview

Joint Funding

Market Driven

Focus Application Areas

Demonstrators, Pilots etc.

- Healthcare
- Inspection, Maintenance and Infrastructure
- Agri-Food
- Industrial SME

Platforms

Service Layer platforms
System Layer platforms
API Layers (Physical, Electronic and Software)

Core Technologies

AI & Cognition in Robotics
Cognitive Mechatronics
Socially Cooperative Human Robot Interaction
Model Based Design and Configuration tools

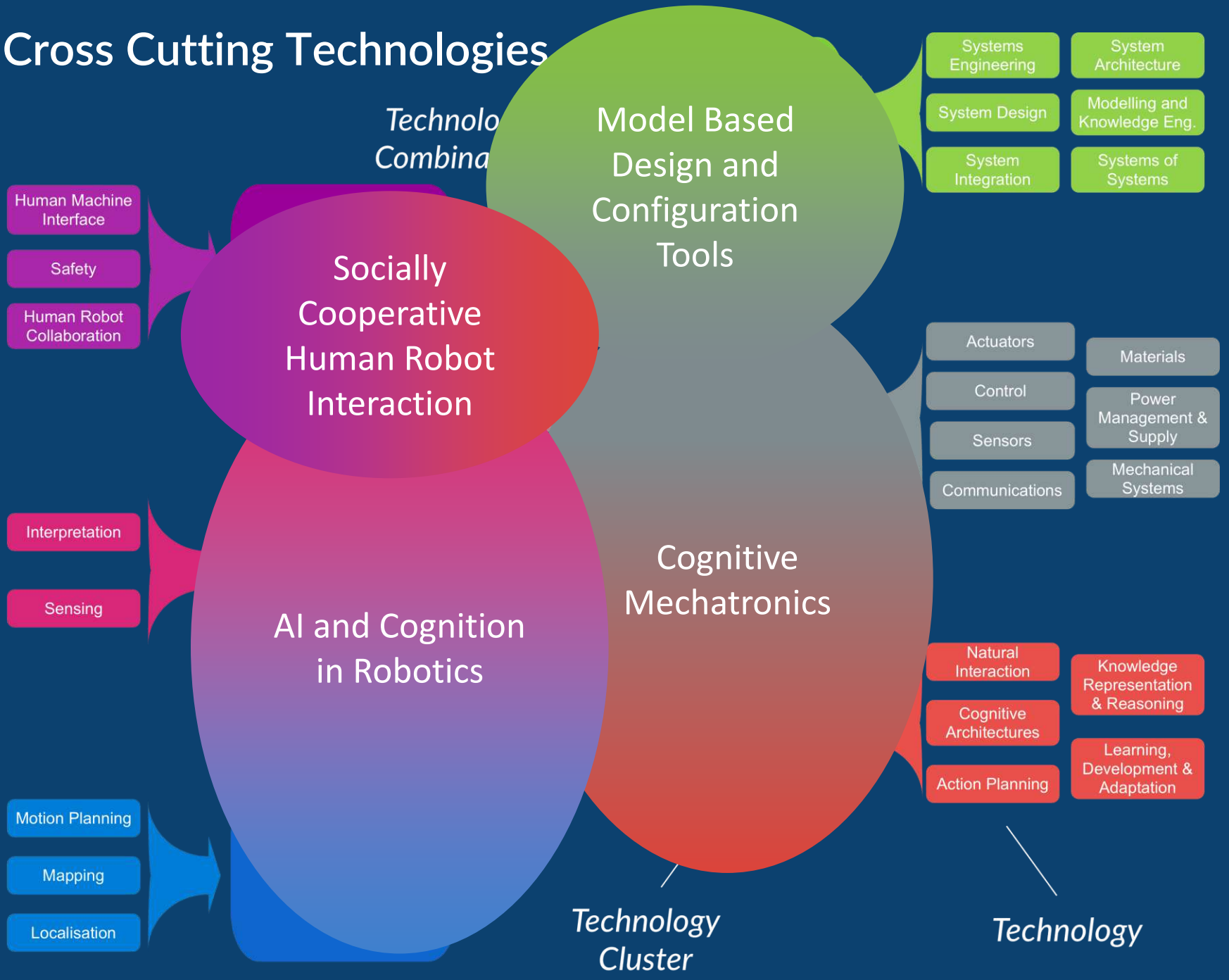
Community

Digital Innovation Hubs
Standards, ELSE Challenges
Networks,

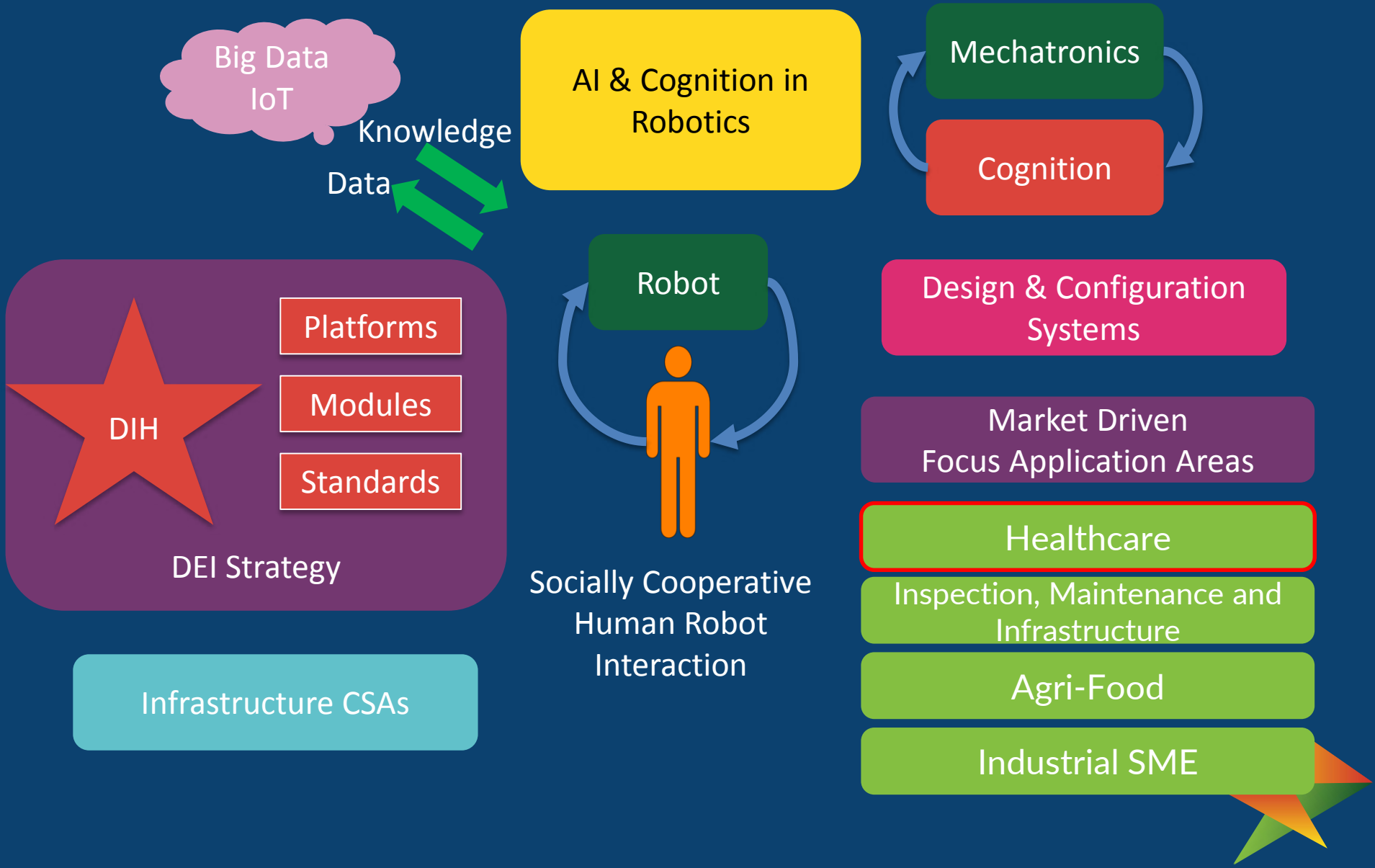
Innovation Strategy

- Build networks of stakeholders
  - Based on value creation.
- Define common directions
- Stimulate co-innovation
  - Platforms, Pilots etc.
- Ensure technology application alignment
- Ensure market focus
- Enable communication and collaboration
- Focus public funding to act as a catalyst.

Cross Cutting Technologies



WP Focus


Big Data
IoT
Knowledge
Data
AI & Cognition in Robotics
Mechatronics
Cognition
Robot
Design & Configuration Systems
Platforms
Modules
Standards
DIH
DEI Strategy
Market Driven
Focus Application Areas
Healthcare
Inspection, Maintenance and Infrastructure
Agri-Food
Industrial SME
Socially Cooperative Human Robot Interaction
Infrastructure CSAs