



ICT – 03 - 2016

SSI

Smart System Integration

Introduction - Context

Smart System Integration, Funding opportunities

Technology coverage

Research and Innovation Actions (RIA)

Coordination and Support Actions (CSA)

Expected impact

Budget – What is reasonable to request

Components and Systems - Where, and When ? -



 ICT-03
Smart System Integration

 ICT-01
Smart Cyber Physical Systems

 ICT-31
Micro- and nanoelectronics technologies



 ICT-02
Thin, Organic and Large Area Electronics



 ICT-29 +  ICT-30
Photonics KET

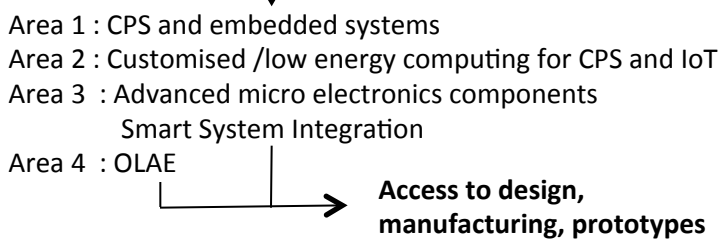


 NMBP-13
Cross-cutting KETs for diagnostics @ point-of-care



 IoT-01 +  IoT-02
IoT Large Scale Pilots - eg, Autonomous vehicles, Wearable

 ICT-04
Smart Anything Everywhere



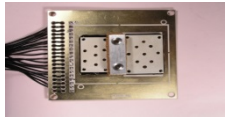
Hardware intensive

Software intensive

Communication intensive

Objective: To develop and manufacture smart objects and systems

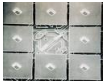
Functional integration:



Sensors

Actuators

MEMS



Processing power

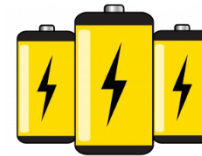
Embedded memory



Communication capabilities

Optimise:

the use of supply power



Requirements: Technology breakthroughs in

Integration

Miniaturisation

Reliability

Resilience

Security

Low power consumption

1. RIA - Research & Innovation Actions

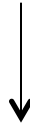
Technological breakthroughs →

Technology integration:

- Micro- Nanoelectronics
- Microfluidics
- Micro- Nano- Electro Mechanics
- Magnetic
- Photonics
- Bio-electronics, MNBS
- Microwave



Miniaturised & Reliable Smart Integrated System



Validation in laboratory environments



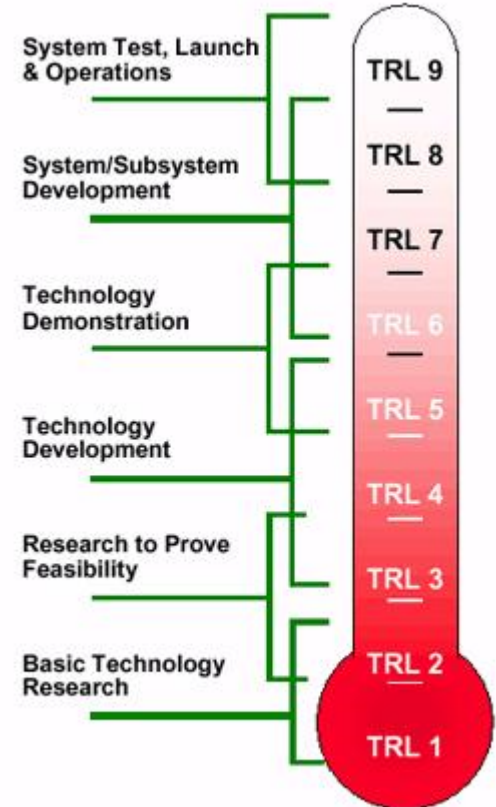
17 M€ - 100% funding

TRLs 2 to 4



Activities of direct industrial relevance
Medium time to market

(Complementing "Industry driven" activities in ECSEL)



Research & Innovation Actions

Technologies

- New generations of miniaturised smart systems

Performance:

size, cost and affordability, reliability and robustness
low power consumption - energy autonomy
user acceptability

- Industrial **leadership** with high market potential
- Business growth and increase competitiveness by strengthening **cooperation** along the value chain
- industrial **investment** in smart system integration technologies
- Strengthening Europe's position in **manufacturing**
- Provide innovative solutions for addressing **societal needs** and expectations in particular for the health and well-being, safety and security and environment.

Economy

Societal

2. CSA - Coordination and Support Actions

Objective: Complement RR&I activities



- Structuring **industrial cooperation**
- Facilitating **end-user adoption**

Possible activities (need not cover all)

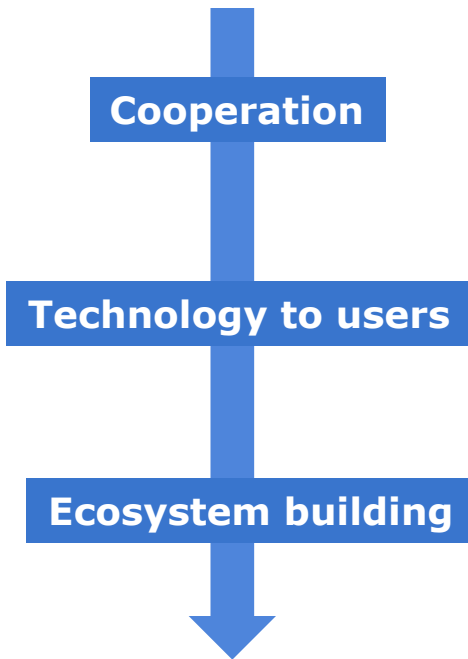


- Understand the needs of **end-users** and changing requirements → customer acceptance
- Translate Industry need into:
 - Strategic **R&I Agendas**
 - Measures for standardisation, regulation, policy initiatives, harmonisation, skill development
- **Communicate** and demonstrate benefits to:
 - Users, Public procurers, investors, regulators...
- Strengthen the **networking and cooperation** between stakeholders, in Europe and in the world
- Foster **cooperation / clustering** between projects and monitor the field



1.5 M€ - 100% funding

Coordination and Support Actions



- Strengthened **cooperation between** smart systems research and innovation **stakeholders**
- Better connected **technology developers** and **users** community in selected sectors
- Strengthened smart systems integration **ecosystems** and better addressing public procurers needs

Research & Innovation Actions

2 - 4 M€



Coordination and Support Actions

0.5 - 1 M€



Thank you for your attention

Digital Agenda for Europe – Components and Systems:

<https://ec.europa.eu/digital-agenda/en/science-and-technology/components-systems>

DG CONNECT (Communications Networks, Content and Technology):

http://ec.europa.eu/dgs/connect/index_en.htm

Horizon 2020 on the web: http://ec.europa.eu/research/horizon2020/index_en.cfm