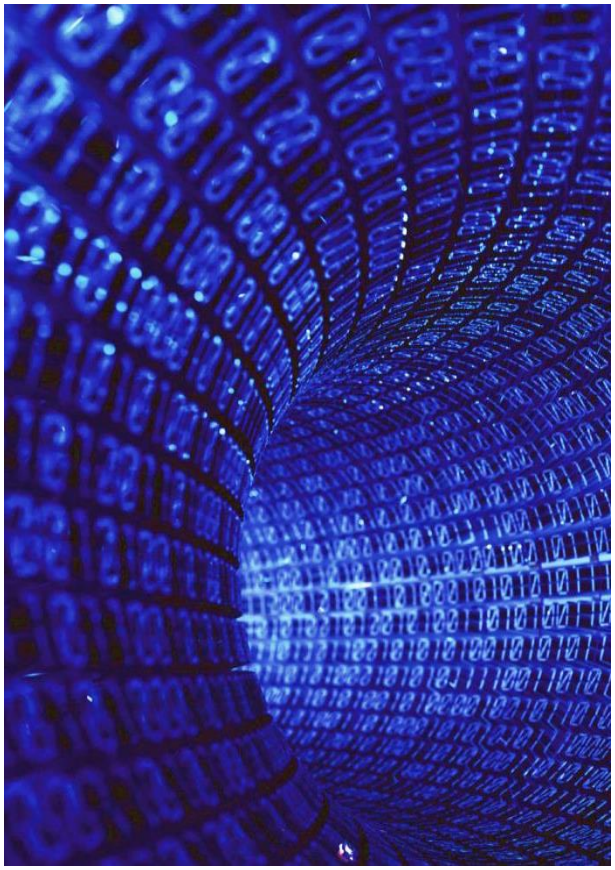
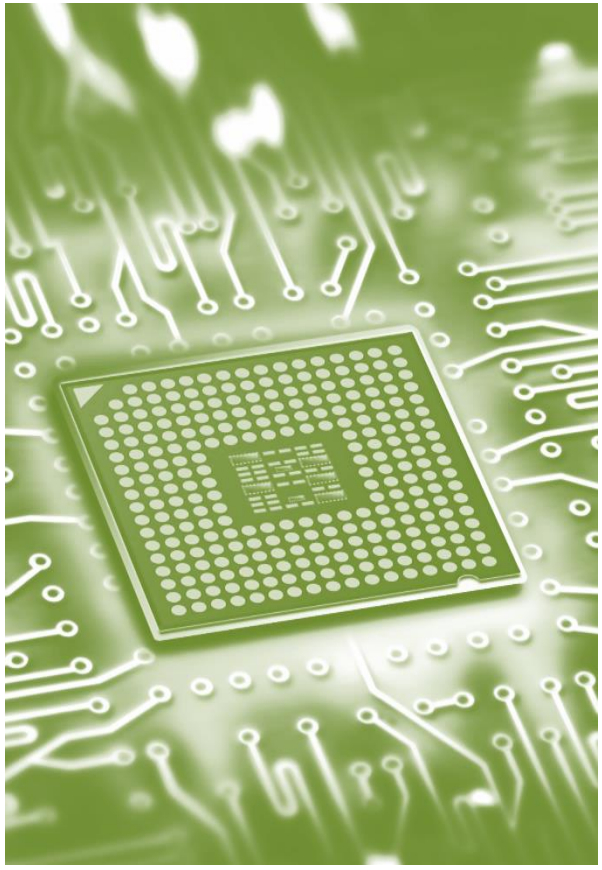
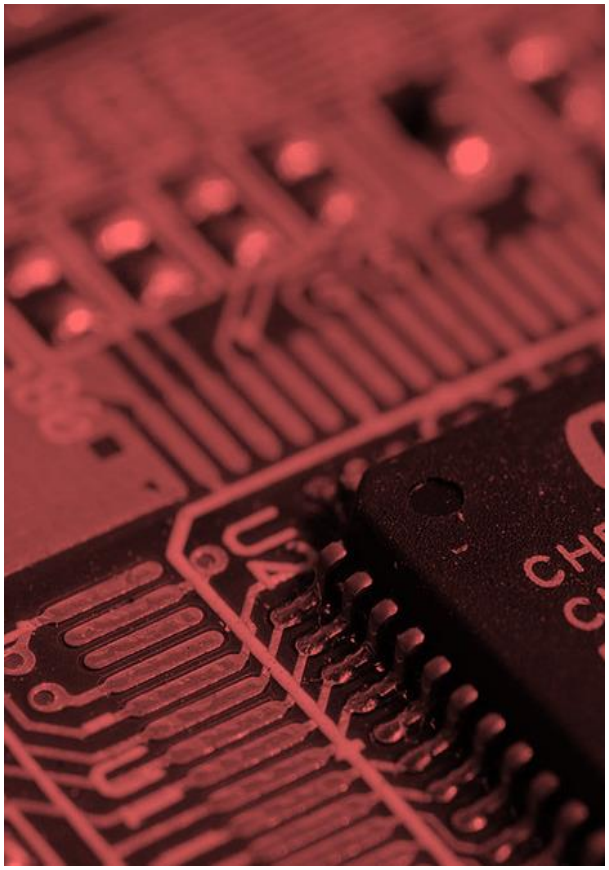
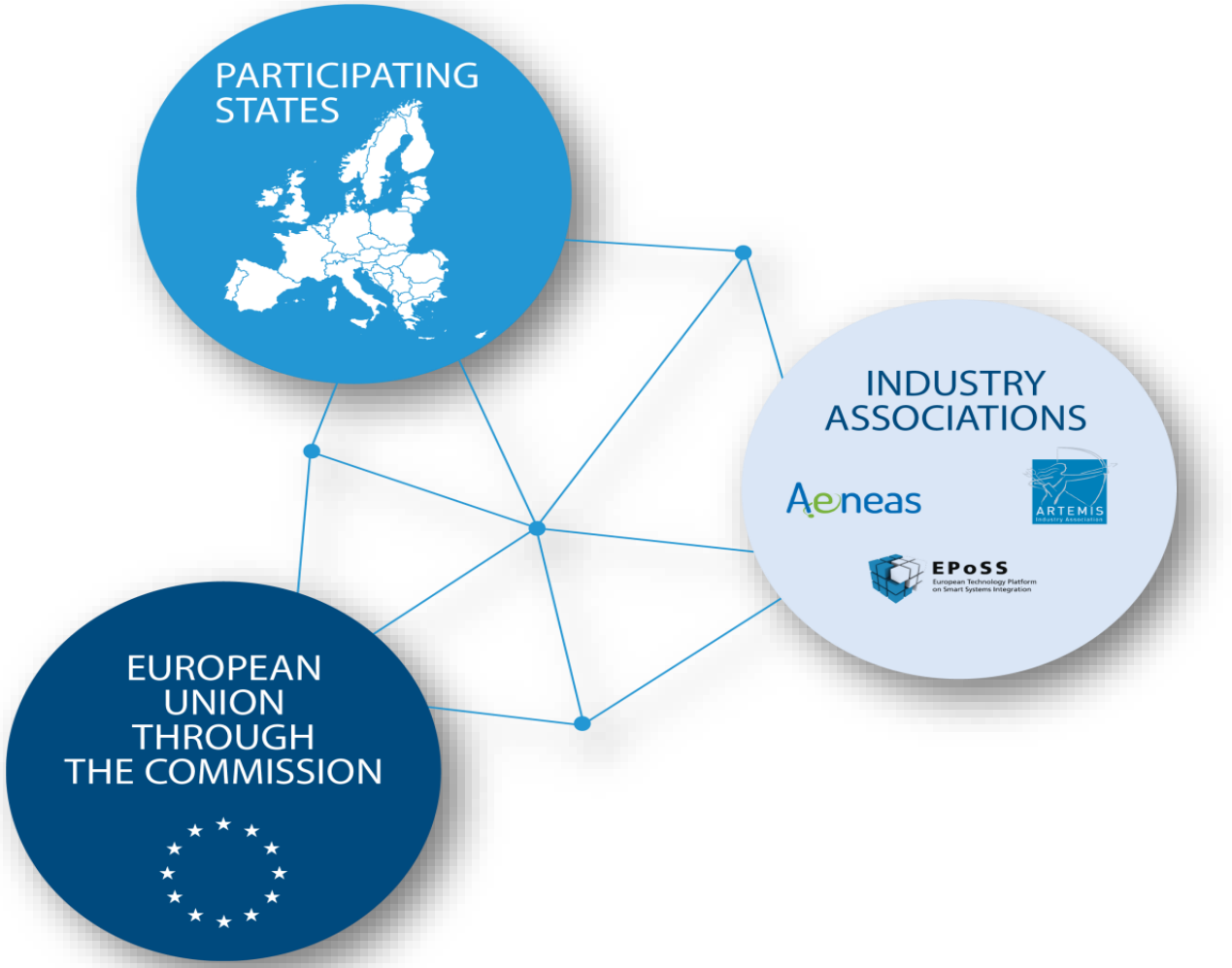




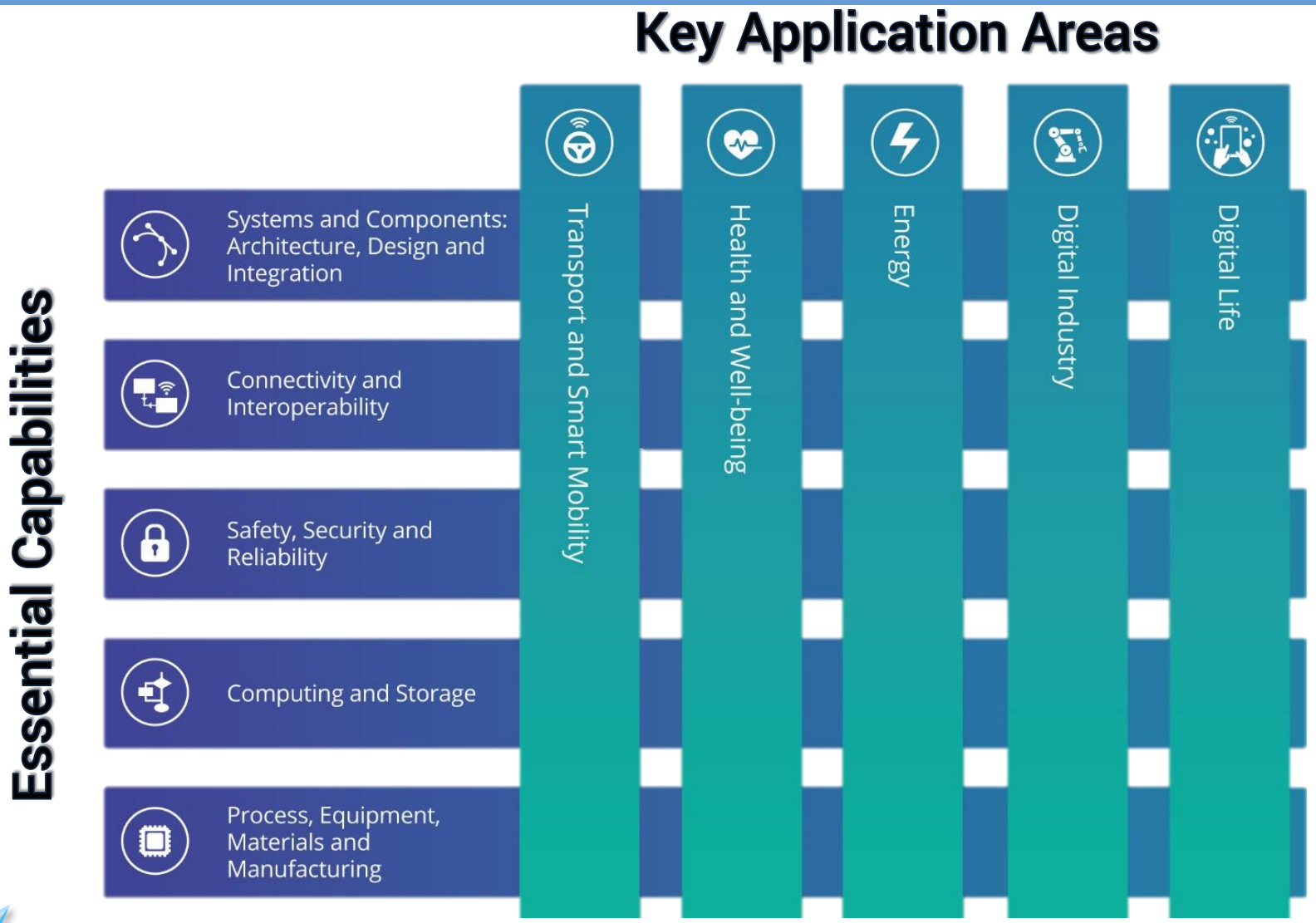
E C S E L JU

Eric Fribourg-Blanc
Programme Officer

ECSEL JU is a Public-Private Partnership



Focus areas


Key Application Areas
Essential Capabilities
Systems and Components: Architecture, Design and Integration
Connectivity and Interoperability
Safety, Security and Reliability
Computing and Storage
Process, Equipment, Materials and Manufacturing
Transport and Smart Mobility
Health and Well-being
Energy
Digital Industry
Digital Life

Call 2018 – Outcome

Calls	Projects	Beneficiaries	H2020 costs	EU Funding	National Funding	ESIF
ECSEL-2018-1-IA	6	266	562,337,259	130,896,002	116,713,198	2,620,000
ECSEL-2018-2-RIA	5	181	185,163,498	53,970,629	43,982,223	2,086,640
Total	11	447	747,500,756	184,866,631	160,695,420	4,706,640

2 projects on the reserve list and under discussion

Selected IA projects

Proposal	Title	Explain	Applicants/Countries	Cost/EU/Nat/ESIF (M€)	Coordinator	Country
APPLAUSE	Advanced packaging for photonics, optics and electronics for low cost manufacturing in Europe	Build on the European expertise in advanced packaging and assembly to develop new tools, methods and processes for high volume mass manufacturing of electrical and optical components	(34/11)	(37/9/8/0)	KLA - ICOS	BE
Arrowhead Tools	Arrowhead Tools for Engineering of Digitalisation Solutions	Adresses engineering methodologies and suitable integrated tool chains with the aim of substantial reductions of engineering costs for digitalisation/automation solutions	(88/18)	(97/24/19/0)	LULEA TEKNISKA UNIVERSITET	SE
MADEin4	Metrology Advances for Digitized ECS industry 4.0	Two productivity boosters: High throughput, next generation metrology and inspection tool development for the nanoelectronics industry AND CPS development which combines Machine Learning (ML) of design and metrology data for predictive diagnostics of processes and tools performances	(47/10)	(126/29/28/1)	APPLIED MATERIALS ISRAEL LTD	IL

Selected IA projects

Proposal	Title	Explain	Applicants/Countries	Cost/EU/Nat/ESIF (M€)	Coordinator	Country
PIN3S	Pilot Integration of 3nm Semiconducter technology	Covers process Integration, creation of lithography equipment, EUV Mask Repair Equipment and Metrology tools capable to deal with 3D structures, defects analysis, overlay and feature size evaluation	(25/6)	(142/30/25/1)	ASML NETHERLANDS B.V.	NL
Power2Power	The next-generation silicon-based power solutions in mobility, industry and grid for sustainable decarbonisation in the next decade.	Foster a holistic, digitized pilot line approach by accelerating the transition of ideas to innovations in the Power Electronic Components and Systems domain	(43/8)	(74/17/17/0)	INFINEON TECHNOLOGIES DRESDEN GMBH& CO KG	DE
VIZTA	Vision and Identification Z-sensing Technology and Applications	Innovative technologies in optical sensors and laser sources for short to long-range 3D-imaging to demonstrate value in key applications including automotive, security, smart buildings, mobile robotics for smart cities, and industry4.0	(25/9)	(86/21/20/0)	STMICROELECTRONICS GRENOBLE 2 SAS	FR

Selected RIA projects

Proposal	Title	Explain	Applicants/Countries	Cost/EU/Nat/ESIF (M€)	Coordinator	Country
AI4DI	Artificial Intelligence for Digitizing Industry	Aim is to transfer machine learning and AI from the cloud to the edge in manufacturing, mobility and robotics to increase the European base of intellectual property in artificial intelligence (AI) for digital applications.	(41,12)	(31/9/8/0)	INFINEON TECHNOLOGIES AG	DE
COMP4DRONES	Framework of key enabling technologies for safe and autonomous drones' applications	SESAR JU identified the growing dependence for drone technology on poorly interoperable proprietary technologies and the risks posed to people and property as an important issue with a high impact on European innovation. COMP4DRONES project complements the SESAR JU efforts in this domain with a particular focus on safe software and hardware drone architectures.	(53,9)	(28/8/4/2)	INDRA SISTEMAS SA	ES

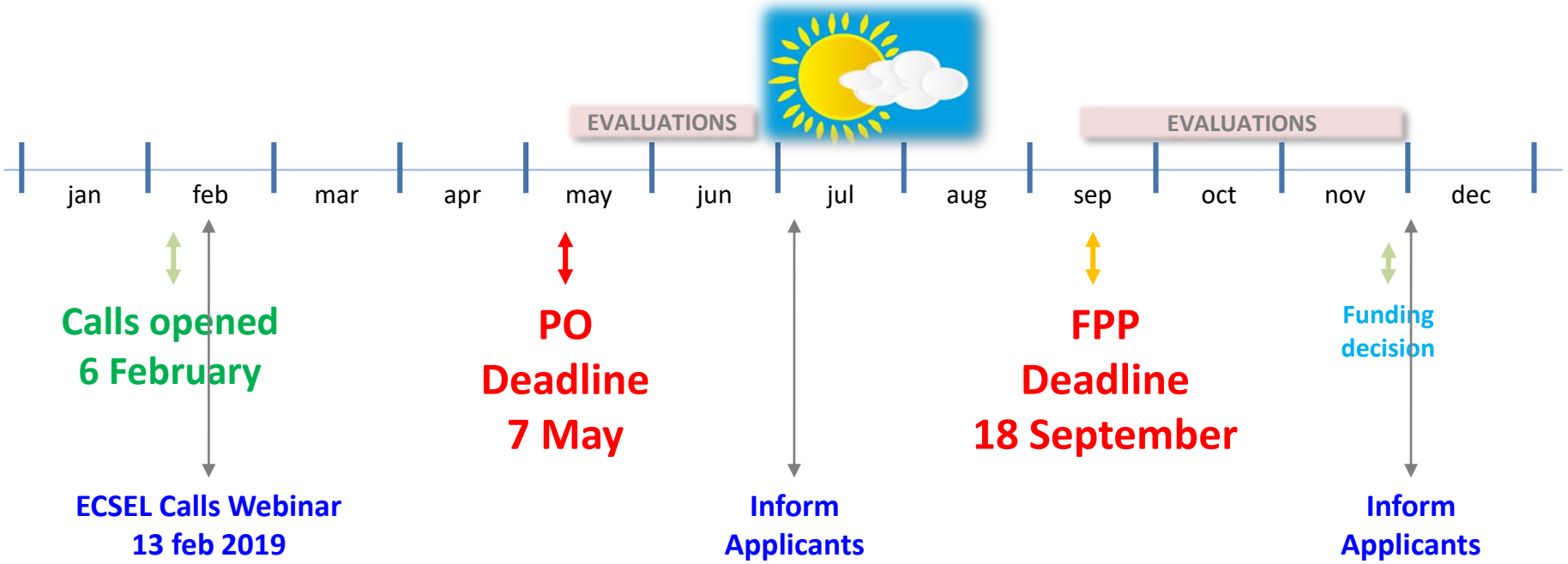
Selected RIA projects

Proposal	Title	Explain	Applicants/Countries	Cost/EU/Nat/ESIF (M€)	Coordinator	Country
HELIAUS	tHErmaL vIsion AUgmented awarenesS	Aims to deliver breakthrough perception systems for in-cabin monitoring and car surrounding by developing smart thermal perception that will enhance acutal systems (LIDAR, visible, RADAR) to all light and weather conditions, a must for L4, L5 autonomous driving.	(11,4)	(29/9/7/0)	ULIS SAS	FR
NewControl	Integrated, Fail-Operational, Cognitive Perception, Planning and Control Systems for Highly Automated Vehicles	Develops virtualized platforms for vehicular subsystems essential for highly automated driving and enabling mobility-as-a-service for next generation highly automated vehicles. It provides an industrially calibrated trajectory towards increased user-acceptance of automated control functions, through an approach that is centered on the premise of safety by design.	(48,12)	(48/14/12/0)	INFINEON TECHNOLOGIES AG	DE
UltimateGaN	Research for GaN technologies, devices, packages and applications to address the challenges of the future GaN roadmap	To safeguard Europe's leading position in terms of power semiconductors and high performance RF applications by driving an innovative breakthrough change with the next generation of GaN-technologies	(26,9)	(48/14/13/0)	INFINEON TECHNOLOGIES AUSTRIA AG	AT

2019 calls for proposals

- **ECSEL-2019-1-IA:** Innovation Actions (92.5M€)
- **ECSEL-2019-2-RIA**: Research and Innovation Actions
  - **ECSEL-2019-2-RIA** (65.8M€)
  - **ECSEL-2019-2-RIA-Special Topic 1 – Architectures, components and systems for validation/simulation of connected automated vehicles** (5M€)
  - **ECSEL-2019-2-RIA-Special Topic 2 – Edge computing** (10M€)
- **ECSEL-2019-3-CSA** for **HEALTH.E** Lighthouse Initiative (0.5M€)

Timeline IA & RIA Calls 2019



https://www.ecsel.eu/calls/calls-2019

ECSEL-2019-2-RIA-Special Topic 1
Architectures, components and systems for validation/simulation of connected automated vehicles

- Scope
  - For safety validation of connected automated road vehicles (cars, busses or trucks), the development and implementation of innovative mission oriented ECS systems are necessary to improve robustness and quality assurance. Identification of the failure risk for each part in the ECS value chain. The systems and components allow the identification and management of risks over the entire ECS automotive value chain players including semiconductors, subsystem and systems behavior. The focus of this special topic will be on component design, subsystem and system integration up to sensor fusion.

- Proposals should cover some of the listed aspects but are not limited to:
  - Architectures, components, sub-systems, simulation in complex environments enabling virtual development and validation for automated driving.
  - Methods and tools to validate the models used in virtual validation
  - Metrics for quality assurance for ECS for automated vehicles. Definition and understanding of test coverage should be developed. Off-line supervised learning from fleet observations data should be possible
  - Methods to significantly shorten the validation process with respect to an acceptable residual risk. For this a set of comprehensive traffic situation database supporting scenario tests (including maps and traffic information needed for simulations) as well as simulation models with special focus sub-systems, components and sensors used in automated vehicles

ECSEL-2019-2-RIA-Special Topic 2
Edge computing

- Scope
  - Complex computing systems at the edge of the network, like in cyber-physical systems and industrial applications, suffer from the limitations of today's computing technologies in terms of e.g. scalability, power efficiency, reliability, security and performance. Proposal should address innovative hardware and software solutions that can provide significant advances in relevant areas.

- Proposals should cover one or more of the aspects described in the non-exhaustive list below
  - Test and experimentation of innovative computing architectures suitable for embedded and autonomous operation. Of particular interest, computing approaches supporting Artificial Intelligence techniques.
  - Automated and semi-automated tools, possibly based on Artificial Intelligence techniques, to simplify the development of systems and applications at the edge of the network, and guarantee their quality while reducing the skill level required to the developer
  - Techniques and tools to guarantee secure (including privacy aspects), safe and time-critical behaviour in complex and heterogeneous computing architectures for edge computing, while guaranteeing interoperability with the environment
  - Innovative integration of hardware and software components for efficient operation in embedded edge applications with very limited energy budget

Submission and evaluation

- At least 3 legally independent participants from Member States or Associated Countries

- Page limits at PO phase: 60/60/60, respectively for the administrative forms, the technical and the financial annexes
- Total threshold: 11

NB: for information purpose. Participants are requested to double check with the latest official information on the ECSEL JU website (https://www.ecsel.eu/calls/calls-2019)

Specific elements for 2019 calls

- Encouragements: SMEs should be encouraged to participate to the proposals in a significant way
- Duration limit: The maximum duration of the project is 3 years
- Size limit: The maximum number of participants in a project is 90 for IA and 50 for RIA
- Capping:
  - The EU contribution per project is capped at 25M€ for IA or 12M€ for RIA
  - The maximum contribution per partner in a project is limited to 50% for IA and 40% for RIA of the total EU funding for the project
- *For IA only* – International visibility: Partners are encouraged to create visibility to promote the developed technologies outside of Europe creating the basis for European impact on future international markets

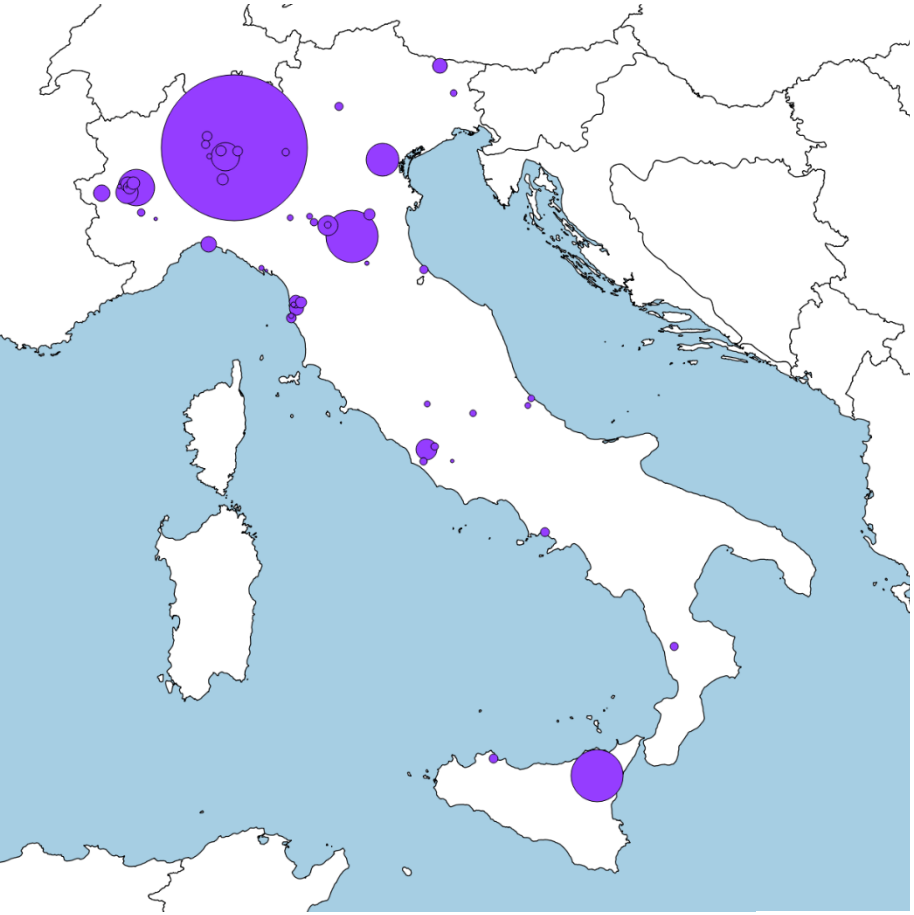
NB: for information purpose. Participants are requested to double check with the latest official information on the ECSEL JU website (https://www.ecsel.eu/calls/calls-2019)

Communication, Dissemination & Exploitation

- All are vital for the programme
  - **Communication**: informing a broader audience on the use of public funds
  - **Dissemination**: information and access to results for direct stakeholders in the RD&I chain
  - **Expoitation**: conversion of funded RD&I into added value (economic, societal, ...)
- EC / H2020 has a specific Strategy for assuring adequate Dissemination and Exploitation
- **H2020 Participant Portal**
  - Communication
    - http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/communication_en.htm
  - Dissemination and Exploitation
    - http://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/dissemination-of-results_en.htm

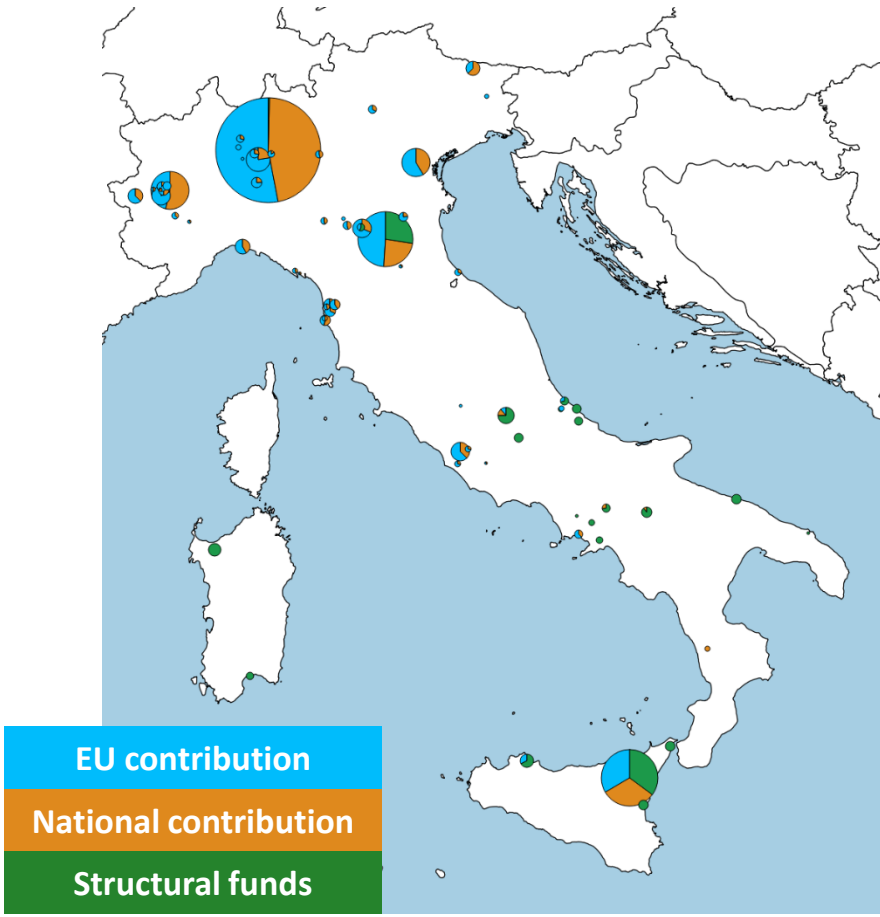
Italy participants (2014-2018)

Italy participants (2014-2018)

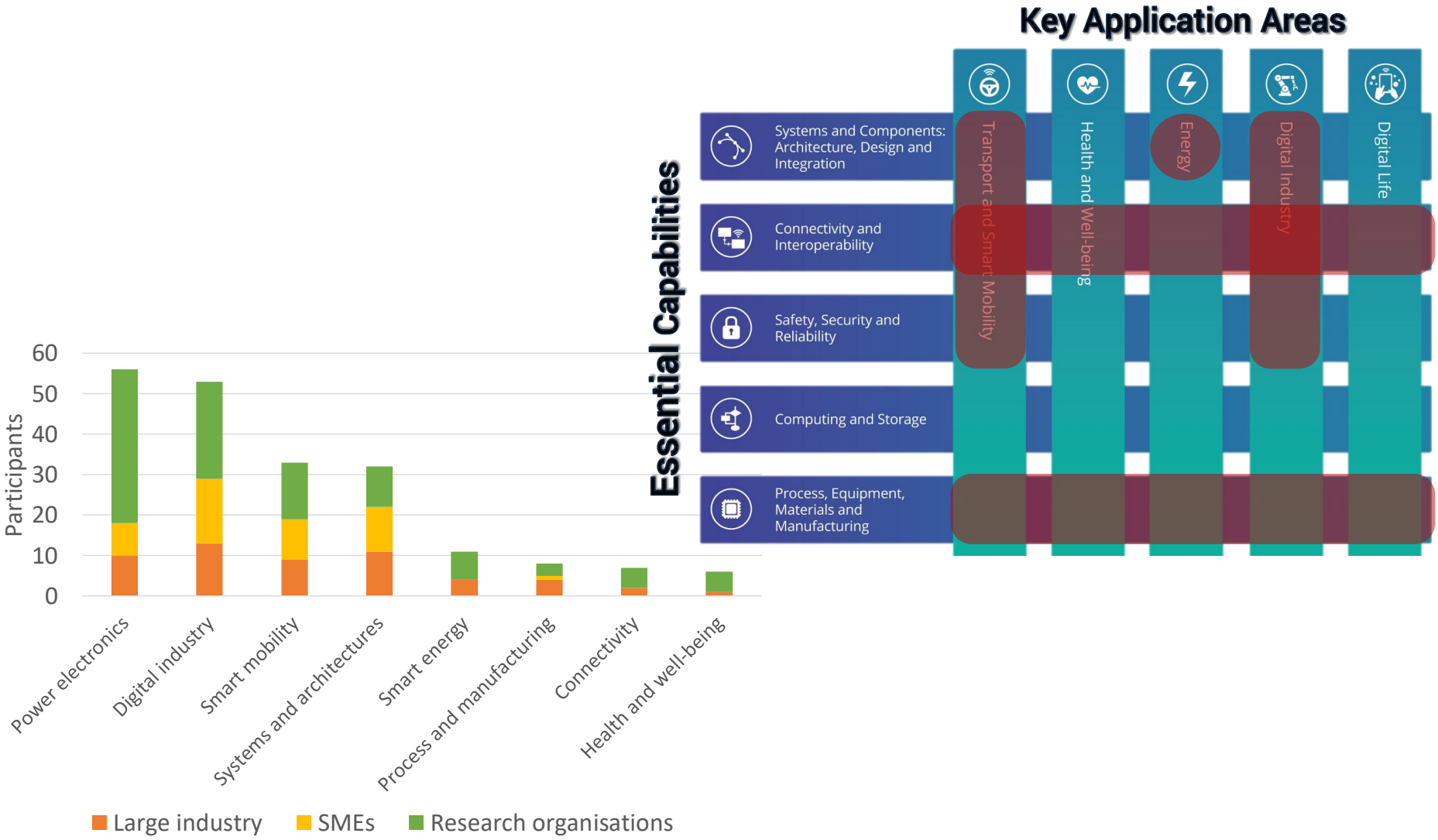


NB: Total costs as accepted following the rules of Horizon 2020

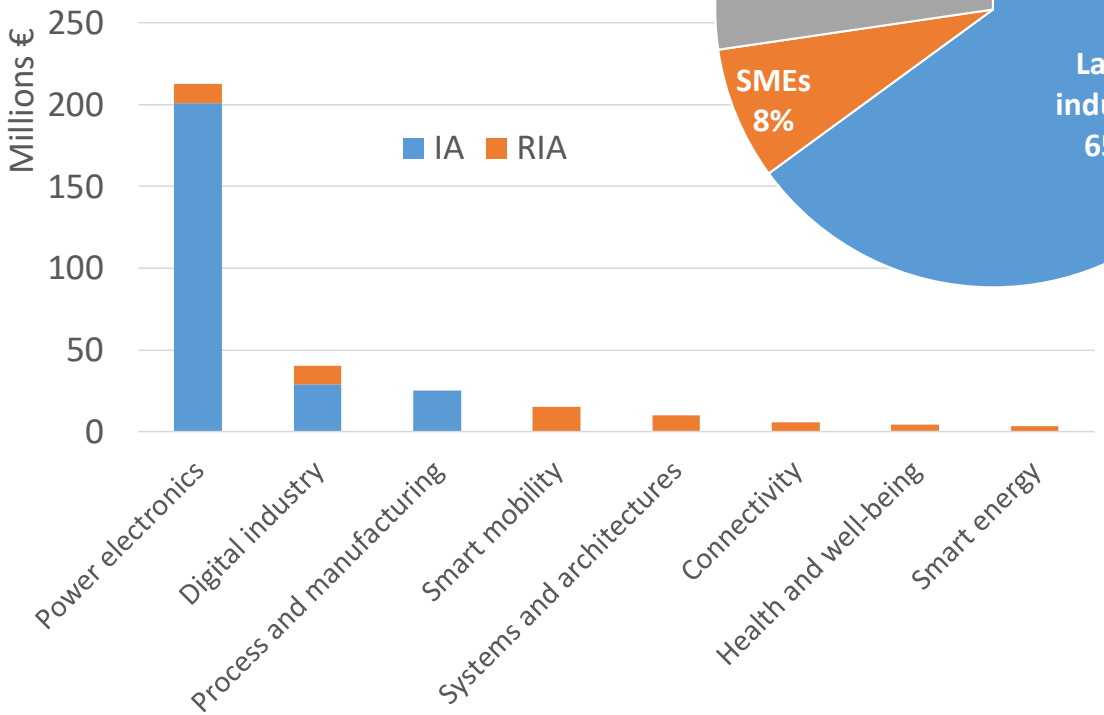
NB: Funding figures from national authorities and structural funds correspond to the initial state and do not necessarily represent the current situation

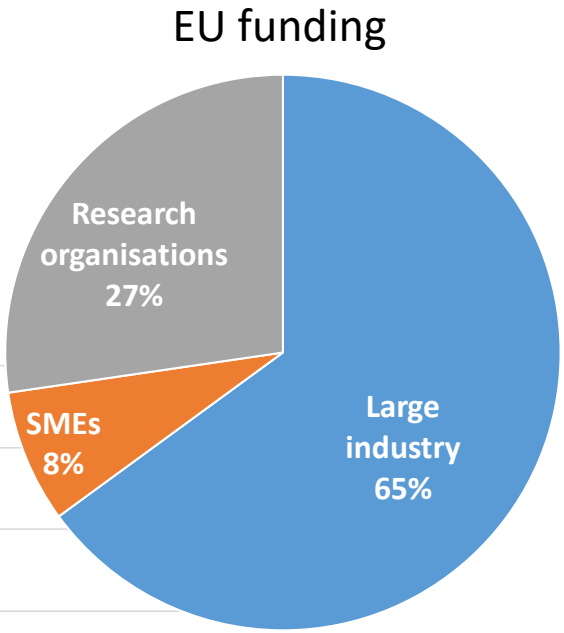


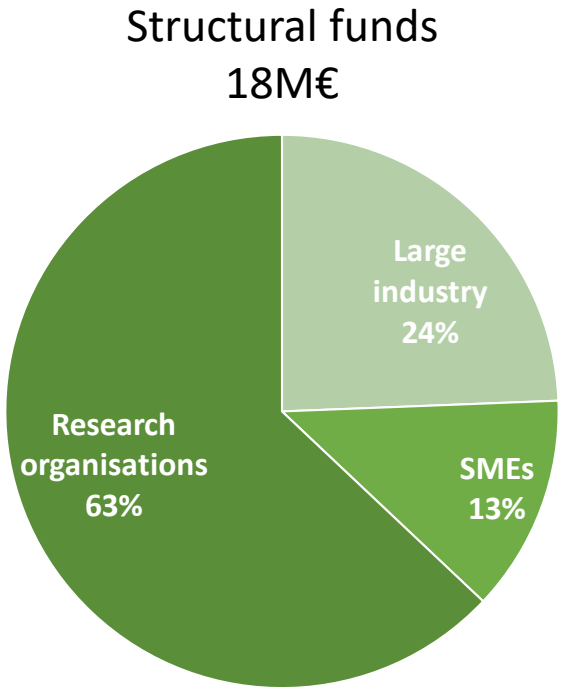
Focus areas


Key Application Areas
Essential Capabilities
Systems and Components: Architecture, Design and Integration
Connectivity and Interoperability
Safety, Security and Reliability
Computing and Storage
Process, Equipment, Materials and Manufacturing
Transport and Smart Mobility
Health and Well-being
Energy
Digital Industry
Digital Life
Participants
60
50
40
30
20
10
0
Power electronics
Digital industry
Smart mobility
Systems and architectures
Smart energy
Process and manufacturing
Connectivity
Health and well-being
Large industry
SMEs
Research organisations

Investment and funding








Thank you
for your attention!