ECS R&D&I Timelines

Concertation and Consultation on Computing Continuum - 10-11/05/2023 - Brussels

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Secretary General & ECS-SRIA 2023 Chairman

INSIDE Industry Association

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INSIDE Industry Association

INSIDE is the European Technology Platform for research, design and innovation on Intelligent Digital Systems and their applications.

Main focus areas:

- Embedded & Cyber Physical Systems
- Dependable & Trustworthy ECS
- Autonomous, Adaptative & Evolutionary Technologies
- Hyper-connected & High-Performance Embedded Systems
- Edge Computing & Edge AI
- IoT & SoS

- Engineering and ECS lifecycle
- Education and professional training

INSIDE is part of KDT JU, the largest tri-partite industry oriented PPP ever, supporting the digital transformation of all economic and societal sectors and the Green Deal. KDT covers the continuum, excluding cloud.

The KDT will evolve in the Chips Act.

Tri-partite organisation (PPP)

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Aeneas

EPoSS European Association on Smart Systems Integration

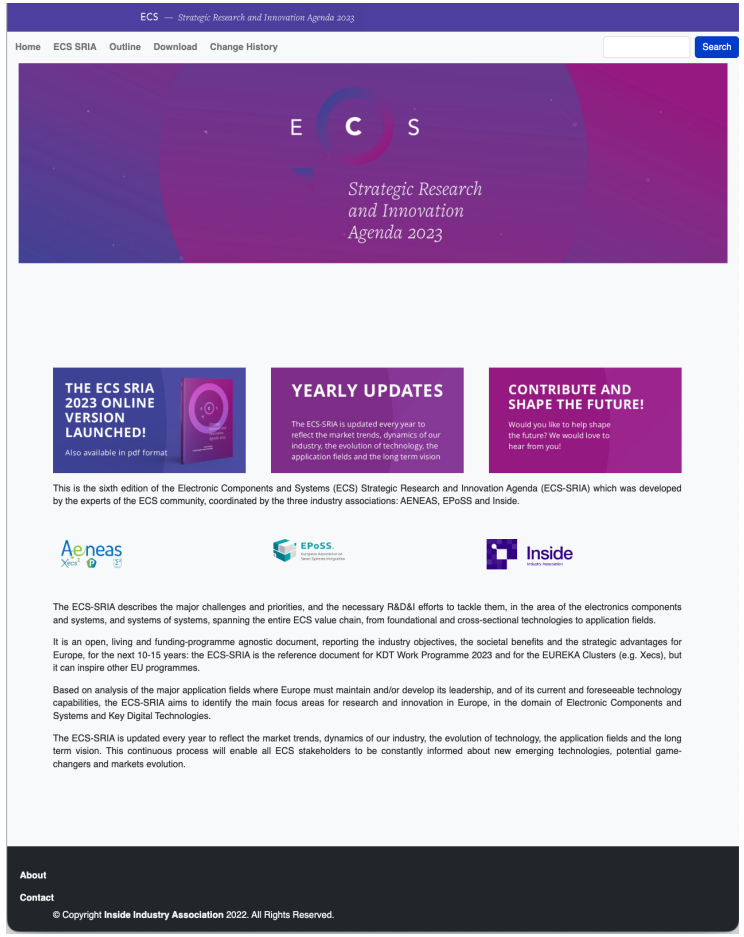
European Union

European Commission

KDT JU
KEY DIGITAL TECHNOLOGIES JOINT UNDERTAKING

Chips JU
CHIPS ACT

ECS Strategic Research & Innovation Agenda

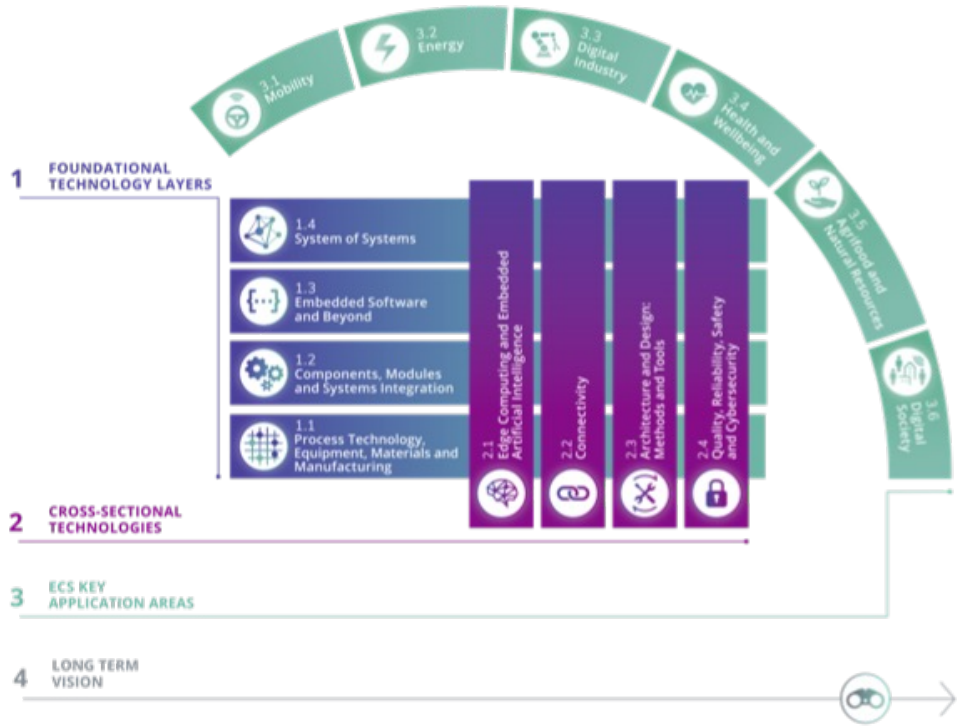


- Identifies the major technological challenges, priorities and required R&D&I efforts in the next decade, covering the entire ECS value chain
- Live, open and funding programme agnostic
- Edited every year by the ECS community, with more than 300 European experts
- Extensive and detailed report, serving as a basis for collaborative research

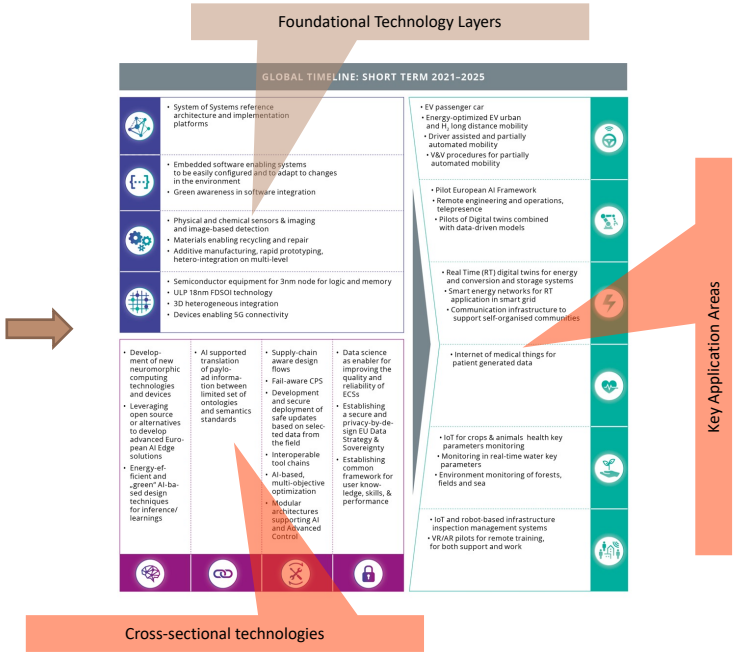
The ECS-SRIA is the reference document for the KDT (and Chips Act) calls for proposals.

https://ecssria.eu/

ECS-SRIA Structure & Timelines



Global and detailed (per chapter) timelines identify the main milestones foreseen in the next 10 years at TRL 8–9 (prototype or early commercialization)



ECS-SRIA structure:

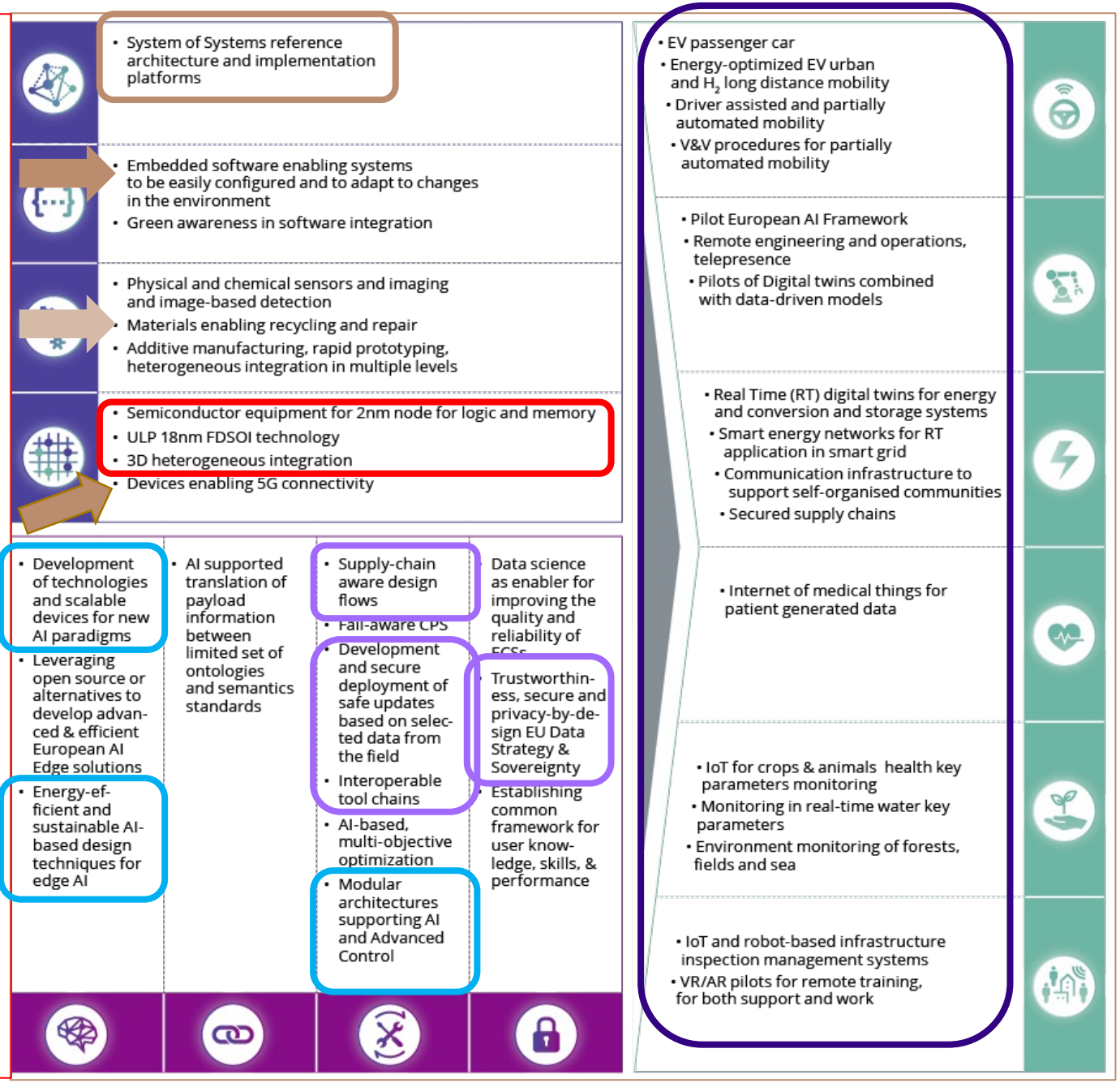
- **Foundational layers**: cover the technology stack of a typical digitalization solution based on ECS
- **Cross-sectional technologies**: focus on transversal areas, where innovation emerges from the interdisciplinary contribution at the different levels of the foundational layers
- **Key application areas for Europe**, having a push/pull relation with foundational/cross-section chapters
- **Long term vision**, illustrating the vision beyond the time horizon covered by the other chapters

Timelines periods:

- **Short term** (2023–2027): the industry has a precise idea of what must be achieved during that timeframe
- **Medium term** (2028–2032): reasonably good knowledge of what can possibly be achieved
- **Long term** (2033 and beyond): expected achievements are more of a prospective nature

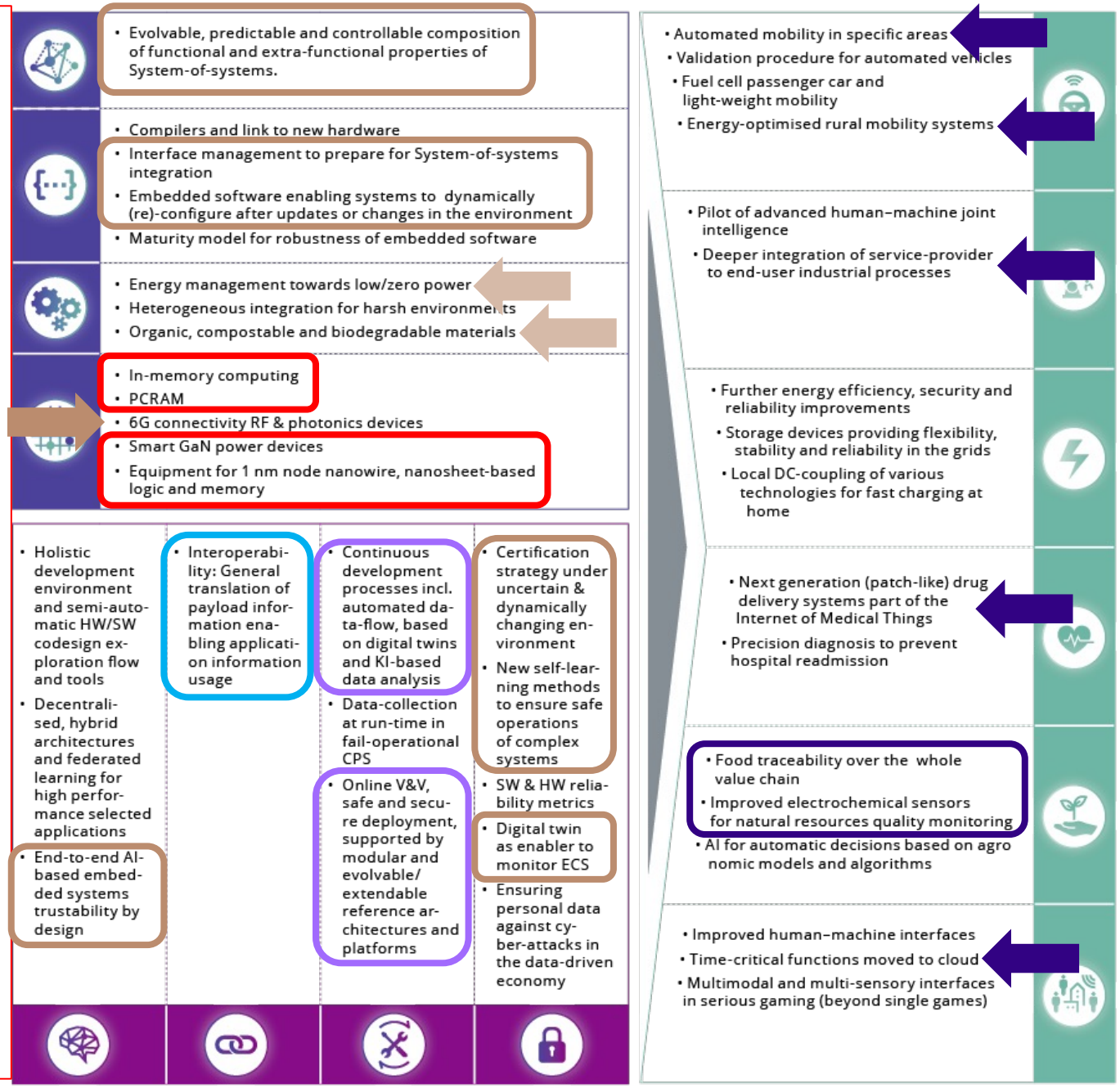
Short term priorities (2023–2027):

- Improving features and computing capabilities on the edge
- Increase the autonomy of systems on the edge (AI)
- The continuum from the SoS perspective (e2e monitoring, orchestration & control)
- Towards circular economy in the continuum
- The engineering continuum
- Key applications based on the computing continuum



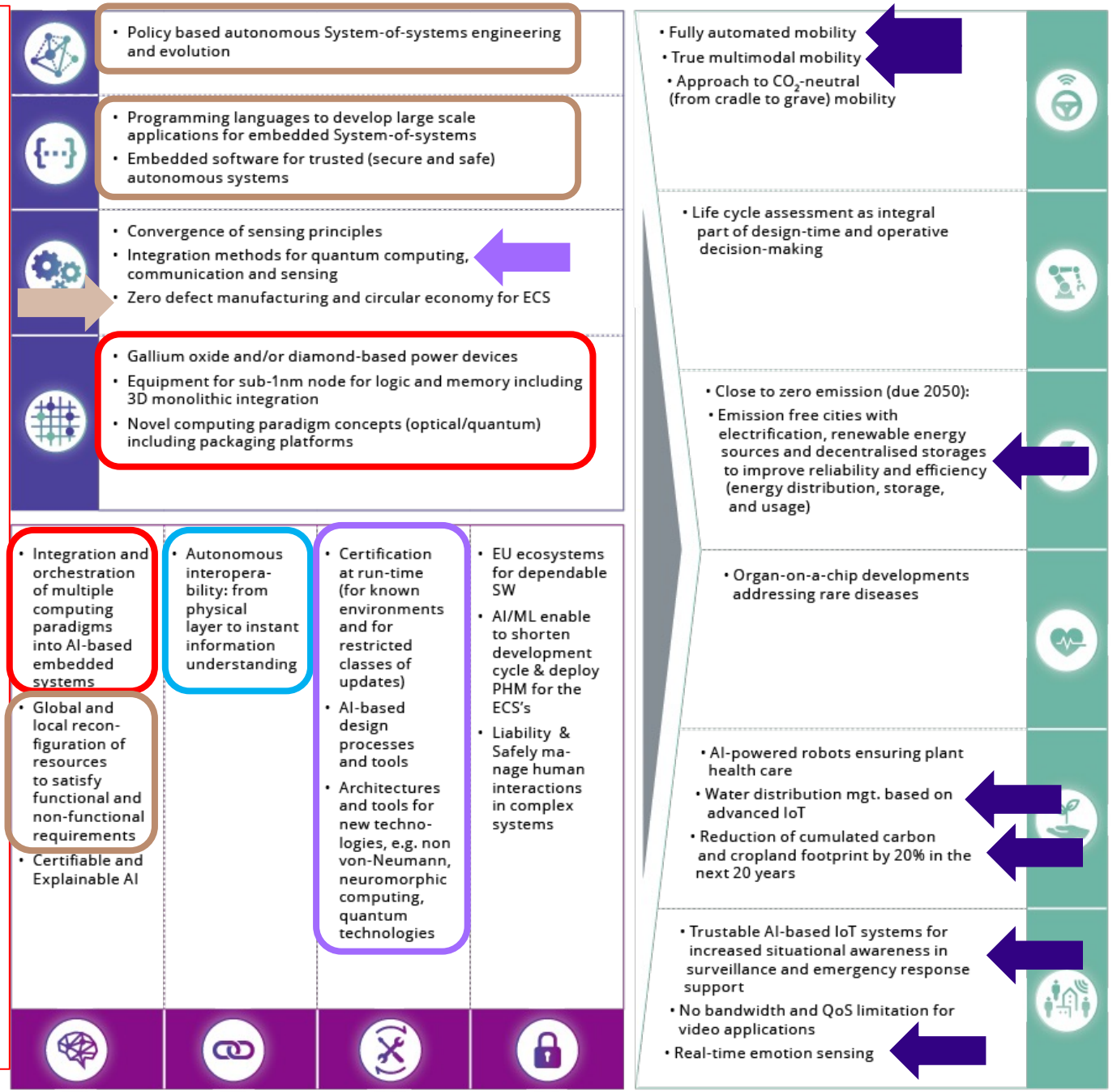
Medium term priorities (2028–2032):

- Improving features and computing capabilities on the edge
- Towards intrinsically interoperable continuum (AI)
- The evolutionary nature of the continuum (SoS level)
- Improved circular economy in the continuum
- The continuum in engineering
- Key applications based on the computing continuum



Long term priorities (2033 & beyond):

- Improving features and computing capabilities on the edge
- Next generation of continuum connectivity
- Autonomous evolution of the continuum (SoS level)
- Full circular economy in the continuum
- The continuum in engineering
- Key applications based on the computing continuum



Thank you for watching

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