SRIA 2023

Focus Topics Austria
Changes in SRIA
Focus topics KDT Call 2023

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Focus Topics of the Austrian Eco-System

(ESBS-Austria Workshop on Jun 8th, 2022)

Results of workshop on June 8th, 2022:
RDI focus topics of Austria ESBS Eco-system

1. Power electronics, its control and testing

2. Hybrid integration, next generation TSV (Through Silicon Via), optical filter technologies and methodologies

3. Sensing, photonic sensors, quantum sensors

4. Automotive middleware for software defined, electrical, automated vehicles and required safety validation ("Car-OS")

5. Development and testing of trustable AI based systems

6. Secure and energy efficient connectivity, communication and processing

Main messages derived from focus topics

1. Electronics and software-based systems are key supporter of the Green Transformation

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   - Secure & Energy Efficient Connectivity, Communication & Processing

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3. Sovereignty of electronic components for ESBS systems is critical

   - Power electronics, its control and testing
   - Sensing, photonic sensors, quantum sensors

4. Sovereignty of AI enabled embedded software for ESBS systems and data is critical too

   - Automotive middleware for software defined, electrical, automated vehicles and required safety validation ("Car-OS")
   - Development and testing of trustable AI based systems

Changes in SRIA 2023

Timeline of ESC SRIA Update for KDT Call 2023

https://ecscollaborationtool.eu/first-draft-ecs-sria-2023.html
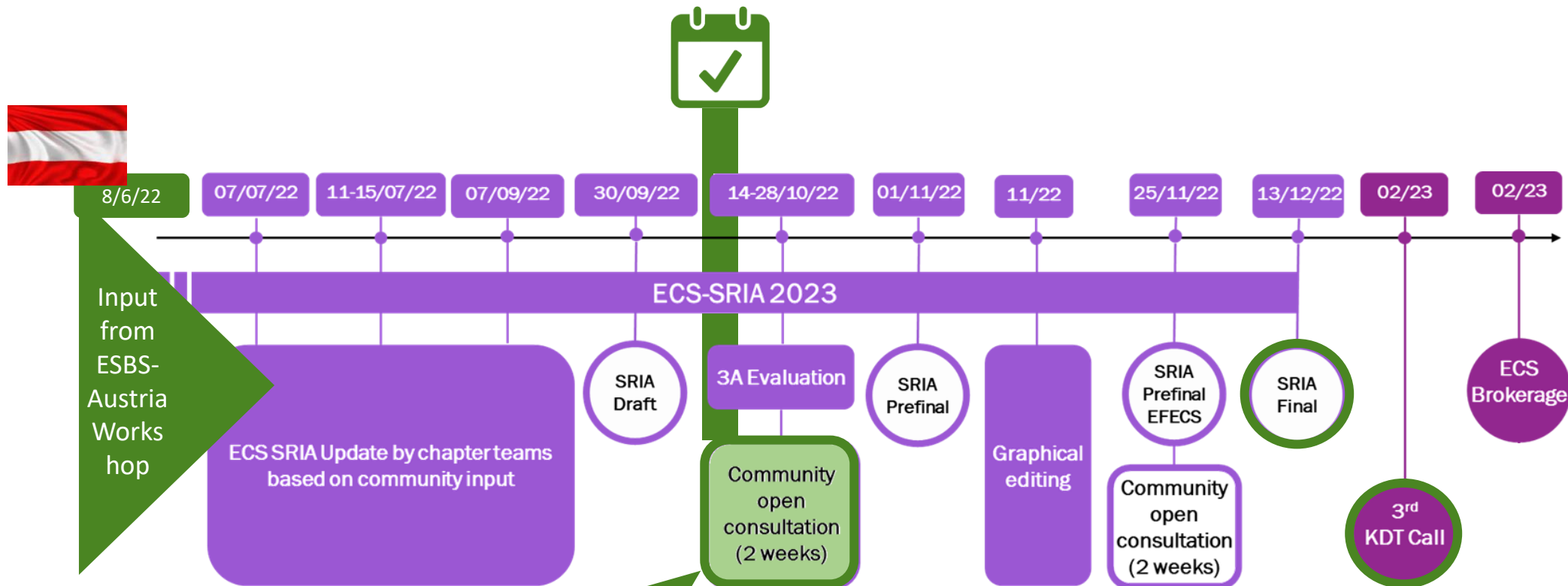
Objectives of SRIA-2023 Update

- Updates follow research and market trends and focus on content and relation between research and market

- Highlight and improve the integration/synergies between the chapters

- Better highlight interdisciplinarity
  - Between technology domains
  - Between technology and applications

- Added a new appendix containing the document prepared by the "Open-source HW and RISC-V" working group

- General update of "Long-term Vision" chapter

Main Changes

1.1 - Process technology, equipment, materials & manufacturing

- o Updated references to EU Chips Act
- o More details on chiplet, Flip Chip Ball Grid Array, new materials
- o Sustainable manufacturing of chips related to CO_2 & water footprints, as well as chemical impact

1.2 - Components, modules & systems integration

- o Integration the Silicon photonics

1.3 - Embedded software and beyond

- o Strengthened aspects on parallelization, Open Source, integrability

1.4 - System of systems

- o More focus on SoS integration along the lifecycle

2.1 - Edge computing & embedded AI

- Complete refresh/update of market figures and timeline
- Added quantization of DNN and transformers

2.2 Connectivity

- 6G & networking virtualization for SoS, enabling runtime engineering, deployment and management of edge and cloud infrastructures

2.3 Architecture and design: methods and tools

- Virtual verification and validation, to improve results for certification
- Verification and validation of AI-based systems

2.4 - Quality, reliability, safety and cybersecurity

- Focus on quality and reliability
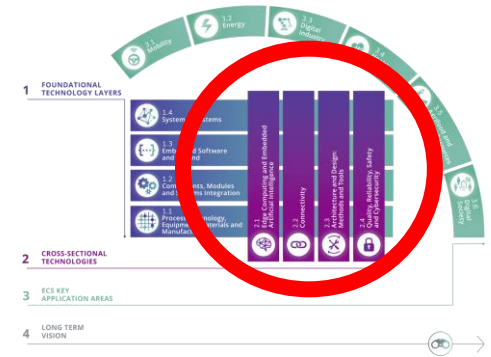
3.1 – Mobility

- New Main Challenge: "Modular, scalable, re-usable, flexible, cloud-based, safe & secure end-to-end software platform (operating system and middleware) able to manage software-defined mobility of the future ("CAR-OS")

- MC1 and MC2 merged: "Enable CO_2-neutral mobility and required energy transformation"

3.5 - Agrifood and natural resources

- Improved focus on climate change

- Precision agriculture as a service
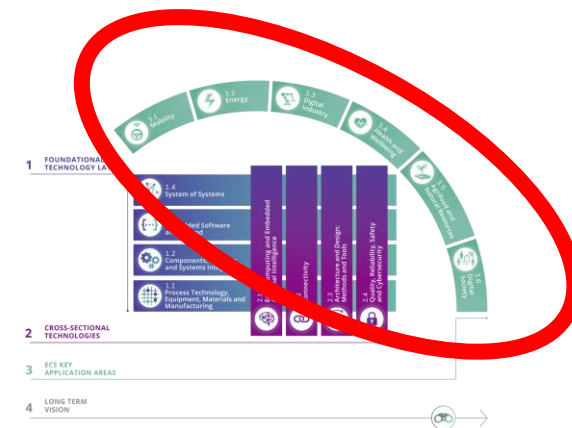
Focus topics in KDT Call 2023

Preliminary info on KDT Call 2023

- Two phase call
- Call opening: most likely Feb 2023
- Phase 1 submission deadline: most likely Apr 2023
- Phase 2 submission deadline: most likely Sep 2023

- IA sub-call based on SRIA
- RIA sub-call based on SRIA

Focus topics

- THz electronics for 6G
- Edge AI
- Energy (maybe also H2)

Preliminary changes possible
More info at EFECS 2022 in Amsterdam (Nov 24-25, 2022)

ESBS AUSTRIA

Questions?
Feedback?