Project Ideas from European brokerage events Jan. 18-19

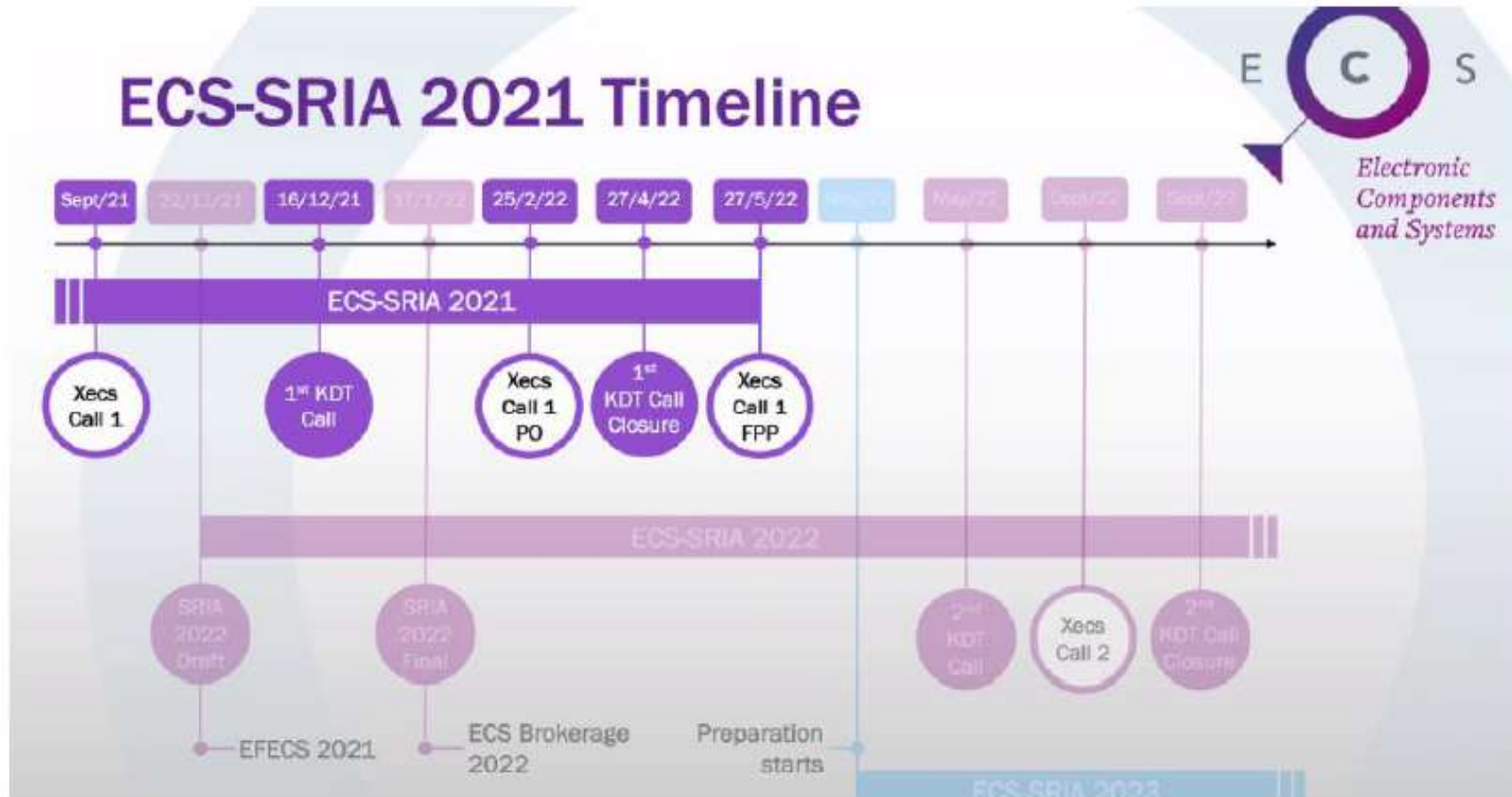Luca Roselli,   University of Perugia
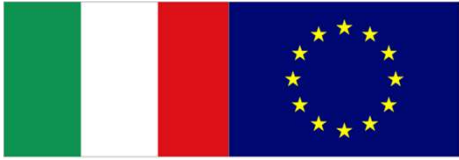
Roberto Zafalon,   STMicroelectronics
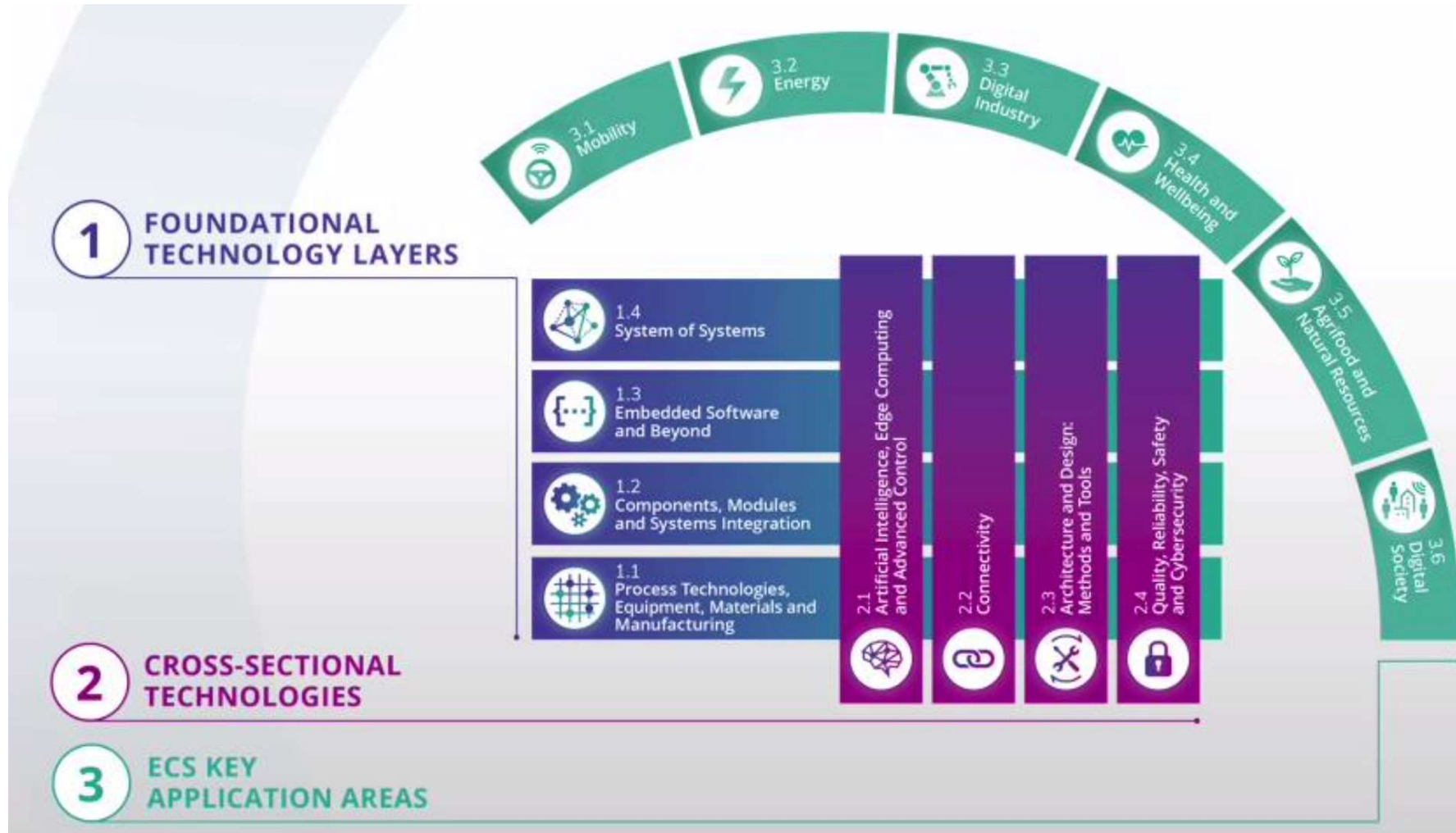
CALLS' TIMELINE

ECS-SRIA-STRUCTURE

Project pitches

Title	Topic	Organization	Email
ADL-BD4CPS Advanced Deep Learning from Big Data for Cyber Physical Systems	Compact parameterized monitoring, **control and optimization solutions for combining data from different sources**. Intelligent temporal analysis integrated.	University of Oulu	esko.juuso@ oulu.fi
AI4Datasheets AI for making data sheets machine readable	Develop and employ **machine learning methods to extract the information contained in the various knowledge types in data sheet**s, like: tables, schematics, graphs etc. Store the extracted information in a knowledge graph which allows to make the information available to further downstream applications, like: EDAtools, select optimal parts for a given problem etc.	DIQA GmbH	Hansch@diq a.de
<mark>Bio-curity</mark> Data quality and security system for digital biomarkers development	Improved patient engagement & diversity •Development and adaptation of **safe and effective digital biomarkers to improve patients outcomes** •New approach for overcoming major issues around data quality, security and validation •Establishing new health prediction models	MedVision 360 BV	joanna@me drecord.io

Project pitches

Title	Topic/Goal	Organization	Email
Bluestone® on Board	Bluestone® on Board gives the user the experience of having full access to data on board several air or space platforms, using very little band-width. The project will first put Bluestone® on a minicomputer. The next step will be to put this Bluestone®-equipped minicomputer ("Bluestone® on Board") on a remote sensing UAV / HAPS. The last step will be to put the space-qualified Bluestone® on Board minicomputer on board an Earth Observation satellite.	Spacemetric	dag@spacemetric.com
CANOLAA Compact, Affordable Nitrous Oxide Lasers for Agricultural Applications	Goal: develop a laser-based nitrous oxide analyzer that can meet accuracy and quality specifications required for monitoring agricultural emissions but at a cost that makes the system widely deployable for management of agricultural practices.	Eosense Inc.	nick@eosense.com
3-click Digital Twin	Integration with Arrowhead/IoT framework to create 'Digital Twin' in days rather than in months with a 3-click approach: Import CAD, mount sensors and configure IoT.	Jotne EPM Technology AS	kjell.bengtsson@jotne.com

Project pitches

Title	Topic/Goal	Organization	Email
DNN4progress Deep Neural Networks for progress in everyday life	To use **deep neural networks for converting data into practical knowledge, i.e., make it explainable**. This includes the setting of the appropriate architecture, the optimization of its structure, integration for different specific usages.	Jožef Stefan Institute	gregor.papa @ijs.si
Egde AI	**End-to-end software infrastructure for operating your space systems remotely from anywhere** – including pre-flight operation planning and analog testing.	Mission Control Space Services	
FAST-V Applications & Systems Targeting RISC-V	Exploration of **multiple custom compute architectures or design methods** (e.g., ISA extension, MPPAs, CGRAs, NN accelerators, etc), integrated into the RISC-V ecosystem. The project will focus on the hardware templates and architecutres themselves, and on HW/SW co-design methods and tools. Integration with the emergent MLIR to target heterogeneous systems. Call HORIZON-KDT-JU-1-IA Focus-Topic-1	INESC TEC	nuno.m.pauli no@inesctec. pt
FlexChip High-Speed Flexible Chip Assembly	The objective of the project is to advance the technology towards applications preferably, but not limited, to **flexible electronic systems in reel to reel production lines**.	Laser ZentrumHanno ver e.V.	j.duesing@lz h.de

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Project pitches

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Fruit Drops	Additive manufacturing processes are becoming more and more important for economical production. **Advanced RF packages** demand high requirements for structure sizes and accuracies. In this project we will develop **additive manufacturing solutions for high-frequency components**.	CITC	Francesca.Chiappini@citc.Org
IoT4Ag	Plant tissue culture is very sensitive in terms of maintaining not only the sterile environment but also controlling environmental parameters including light, temperature and humidity also for faster growth, preventing disease and pest outbreaks. **New technologies for Genome Wide Association Studies (GWAS) to identify desirable crop characteristics (markers).**	National Research Council of Canada	Pankaj.Bhowmik@nrc-cnrc.gc.ca
META-PhoMo	**Metasurfaces for unprecedented freedom in manipulation of light with potential impact on imaging, spectroscopy and optical communication**. META-PhoMo aims at unprecedented freedom in manipulation of light by exploring new concepts for tuning optical behaviour of metasurfaces using advanced materials or heterogenous integration to create advanced photonic sensors.	SINTEF Digital	jo.gjessing@sintef.no/

Project pitches

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NEUROKIT	Neurokit aims at offering in one single framework, **a kit of tools and IP for neural network design,** optimization and implementation on various embedded hardwares. The framework aims at **initiating a European open source environment for advanced embedded AI** solutions, offering an alternative to GAFAM Framework.	SAL FRAUNHOFER THALES	Sandrine.varenne@cea.fr
PatchUS	Develop the **next generation of wearable body patches** that: • Monitor organs and processes using **MEMS ultrasound** • Use edge AI for use by non-experts • Connect to the cloud • Are demonstrated in demanding use cases • Are integrated in healthcare workflows • Pave the way towards 3D wearable ultrasound	Philips Research	Ronald.dekker@philips.com

Project pitches

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R PODID	Massive power-savings could be achieved if industrial production machinery and drives were switched off during idle times. Unfortunately, these devices tend to fail randomly during startup, e.g. due to faults in the connected power converters. **Integration of a short-term fault prediction into power converters to give machine operators confidence in the next power-on to happen reliably and safely**. The system shall work without network connectivity or cloud dependency to allow implementation in standalone environments.	Fraunhofer IMS, Duisburg	alexander.stanitzki@ims.fraunhofer.de
RESTORE	Tracking microbiome evolution may reinforce a virtuous cycle of exercise, relaxation and improved sleep, healthy food habits. **Biodegradable sensors, paper based electrodes and novel sensor packaging will be combined with machine learning tools**	AlphaSIP Santa Clara	mroncales@alphasip.es

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Project pitches

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RobustRadio 2.0	Enabling system designers to meet the application requirements already at the beginning of their development. The project will develop a digital knowledge base that combines materials, components and functional aspects with models on functionality, reliability and manufacturability. **It will combine real world characterization, testing and validation with the advanced design and modelling tools**.	Fraunhofer IZM	
TASTI	**Synthetic image data** is playing a fast-growing role in various applications where real image data is difficult or risky to acquire. Examples of such applications are AI development in the healthcare, automotive, agricultural or digital industry domains or training environments for hospitals or aerospace. Each application has specific requirements, but image generation tooling is usually too generic to be useful or too specific to be reusable in a different application. TASTI aims to develop **technology to tailor synthetic image generation towards its application without having to start from scratch**.	Philips	stefan.schalk @philips.com

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ECS Brokerage 2022, Jan 18-19

- All presentations given at the ECS Brokerage Event are accessible through the following link: https://ecscollaborationtool.eu/community/event/poster-session.html

- **ECS Collaboration Tool**
  The ECS Collaboration Tool (ECT) is ready (upon registration) for posting project ideas, searching for project partners and joining consortia.