# COMMITTEE

**Conference Chairs**

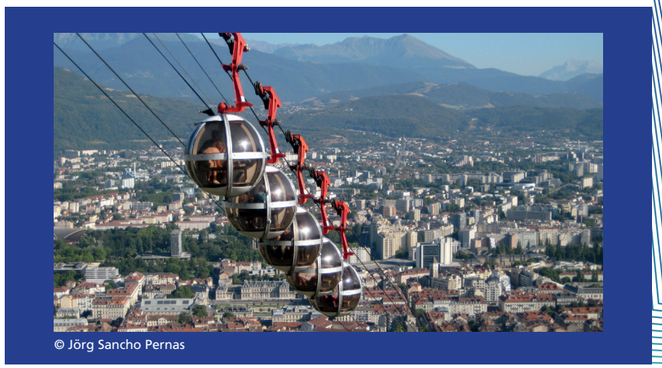
- Thomas Otto, Fraunhofer ENAS
- Stefan Finkbeiner, Bosch Sensortec GmbH
- Emmanuel Sabonnadiere, CEA LETI

**Core Team**

The conference is prepared by the new core team, which includes high-level experts from industry as well as from basic and applied research organizations:

- Klas Brinkfeld, RISE
- Sywert Brongersma, IMEC
- Wolfgang Dettmann, Infineon Technologies AG
- Thomas Dietrich, IVAM
- Albrecht Donat, Siemens AG
- Luis Fonseca, Centro Nacional de Microelectronica (CNM-IMB-CSIC)
- Paddy French, TU Delft
- Wolfgang Gessner, EPoSS
- Rainer Günzler, Hahn-Schickard
- Thomas Hammer, Siemens AG
- Christoph Koegler, T-Systems Multimedia Solutions
- Jochen Langheim, STMicroelectronics / EURIPIDES
- Antonio Lionetto, STMicroelectronics
- Reinhard Neul, Robert Bosch GmbH
- Alan O'Riordan, Tyndall
- Jean-Philippe Polizzi, CEA LETI
- Harald Pötter, Fraunhofer IZM
- Hervé Ribot, Minalogic
- Sven Rzepka, Fraunhofer ENAS
- Elisabeth Steimetz, EPoSS
- David Storer, CLEPA
- tbd, MedicAlps
- Martina Vogel, Fraunhofer ENAS

# VENUE



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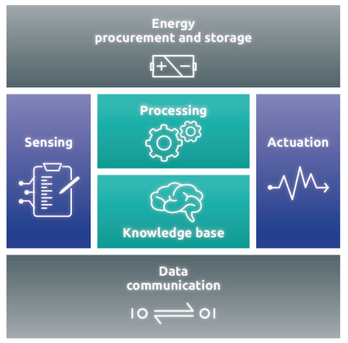
**The conference takes place April 27–29, 2021 in Grenoble, France.**

The conference location will be published on the official conference website in autumn 2020.

The technical organization is done by Silicon Saxony Management GmbH

# smartsystemsintegration

**INTERNATIONAL CONFERENCE AND EXHIBITION ON SMART SYSTEMS INTEGRATION**




# CALL FOR PAPERS

**GRENOBLE, FRANCE**

**APRIL 27–29, 2021**

Fraunhofer ENAS

EPoSS European Technology Platform on Smart Systems Integration

# INVITATION

The Smart Systems Integration Conference and Exhibition re-starts after a one-year break with a new concept and a new technical organizer. We invite you to present your recent developments in the field of Smart Systems along the whole of the value chain, starting from MEMS/NEMS, photonics, micromechanics, microfluidics, printed functionalities through to complete systems and different application scenarios.

Digitalization is not only increasingly entering our lives; it changes the game. Advances in individual components and subsystems are necessary but not enough. In our connected digital world it is the integration of software, connectivity, components and subsystems into smart modules and Smart Systems that is the key. To be successful, interdisciplinary approaches are required. Starting with the conference 2021 in Grenoble, the topics are arranged into five tracks covering technology readiness levels from 1 to 9. Key enablers and key technologies are addressed, as well as Smart Systems solutions for mobility, energy, industry, agri-food, biomedical applications, and healthy living. The former EPoSS sessions are included in the track on strategy and business creation.

The conference will provide, in an engaging and compact format, a unique and valuable opportunity to interact with the stakeholders of the Smart Systems value chain by means of technical sessions, strategy panels and exhibition booths. RTOs, SMEs and industry will share their latest approaches and the results. As in the previous years, the conference is driven by the EPoSS community. The conference industry chair is the president of EPoSS, Dr. Stefan Finkbeiner, CEO of Bosch Sensortec. The local community is supported by the local co-chair Dr. Emmanuel Sabonnadiere, CEO of CEA-LETI.

On behalf of the whole committee – we are looking forward to receiving your application or scientific oriented submission.

Prof. Thomas Otto
Conference Chair

Dr. Stefan Finkbeiner
Conference Chair Industry

# TIMELINE

**Deadlines**

- **Submission of Abstracts** October 31, 2020
- **Selection by Committee** December 11, 2020
- **Submission of Full Paper** January 22, 2021
- **Peer Review** February 20, 2021
- **Submission of Revised Paper** March 13, 2021

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**EPoSS Working Group Meetings**
April 27, 2021

**Conference**
April 28–29, 2021

**Exhibition**
April 28–29, 2021

**Conference Dinner**
April 28, 2021

**Online Abstract Submission**
**until October 31, 2020**

# SUBMISSION REQUIREMENTS

**Conference Language**
English

**Conditions of Acceptance**
Only original material can be submitted.
The different tracks address TRLs 1–9

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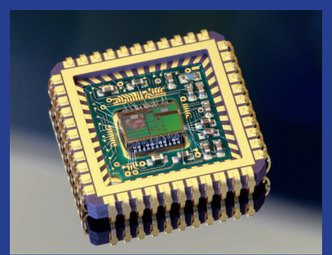

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**Selection Process**
The committee will review the abstracts. Submitted abstracts may be selected for oral or poster presentation. Full scientific papers (min. 4 pages) undergo a Peer review process. Conference proceedings will be online available.

**Oral and Poster Presentations**
Three parallel sessions will be held at the conference. Poster authors will have the possibility to present their posters in a special session and also throughout the conference. All oral and poster presentations will be included in the conference proceedings. The proceedings will be available online. If the session has a panel discussion, the authors may be invited to be part of this panel.

**www.smartsystemsintegration.com**
**available in September 2020**
**Questions concerning Submission: SSI@enas.fraunhofer.de**

# TRACKS

**Please indicate the track number when submitting the abstract or the full paper.**

**Track 1**
**Key Enablers for Next Generation Smart Systems**
New discoveries & inventions of functional principles for smar systems and artificial intelligence at the edge & in the cloud:

- Novel concepts for smart sensing, actuation, energy supply, data processing, storage, AI and communication
- Design & design verification methods for Smart Systems
- Material innovations, new fabrication tools & processes
- Advanced micro / nano and smart power technologies
- Heterogeneous integration for Smart Systems with AI
- Methodologies and concepts for reliability, safety, and security to be inherently built into components and systems

**Track 2**
**Key Technologies for Smart Systems**
Hardware and software building blocks of Smart Systems, their design, fabrication, and test methods at device, wafer, component, module, and system levels:

- System Integration: 2.5/3D integration, interconnect technologies & packaging for the electronics and all associated sensors/actuators etc.
- Embedded intelligence and cognition at the device level
- Fabrication of micro/nano systems & smart power systems
- Smart low-cost approaches including roll-to-roll technologies and printed functionalities
- High volume components at Euro cents for billions of infection or immunity tests

**Track 3**
**Application Domains: Mobility, Energy, Industry**
AI based smart sensor systems and networks, control units and drives incl. aspects such as power electronics, packaging and further system integration as well as communication systems for the fields of (auto)mobility, energy, and automation like:

# TRACKS

- E-mobility (land, air and sea) and its infrastructure
- Highly automated and connected vehicles
- Secure, reliable, decentralized, multi-modal energy systems with a high level of renewable sources
- Highly automated distribution grids coupling the energy sector with mobility, industry & domestic use
- Ultra-flexible, high-performing, energy and resource efficient, and collaborative production facilities
- Digital twins supporting from design to customer service

**Track 4**
**Application Domains: Food, Biomedical, Healthy Living**
Disruptive innovation of Smart Systems in terms of accuracy, autonomy, automation, cost, size, etc. for applications like

- Digitizing Agriculture for sustainable production
- Food safety, security, and monitoring from field to fork
- Inexpensive real-time disease detection, e.g. COVID-19
- Connected life - Enabling the work-life balance
- Combined wearable / implants systems
- Enabling healthy lifestyles to prevent disease and to promote autonomous living

**Track 5**
**Strategy and Business Creation**
Instruments of support addressing aspects of strategy and business creation:

- Global market dynamics and the stability of value chains
- The competitive advantages of European ecosystems
- Political framework and support programmes
- From research to business: start-up and SME support
- Global co-operation and Joint venture strategies
- Opportunities and challenges of networking at European and regional level
- Standardisation