ECSEL-Austria

ECSEL-Italy Day, 26 January, 2022, online

Francesca Flamigni, TTTECH

ECSEL
Austria

ECSEL-Austria is an industry-driven national research, development and innovation platform representing the technology areas of micro and nanoelectronics, embedded systems and systems integration.

ECSEL Austria

- **Founded 2013** based on ARTEMIS-Austria (embedded software and software architecture) and ENIAC-Austria (micro- and nanoelectronics)
- Legal Status: **Verein**
- currently **44 Members**

ECSEL Austria

Our mission:

Secure supply of key technologies and critical knowhow in the field of electronic components and systems to support innovation in all major sectors of the economy and society in Europe.

Our vision:

European leadership in electronic based systems

Electronic Based Systems (EBS) in Austria

100+
R&D organisations

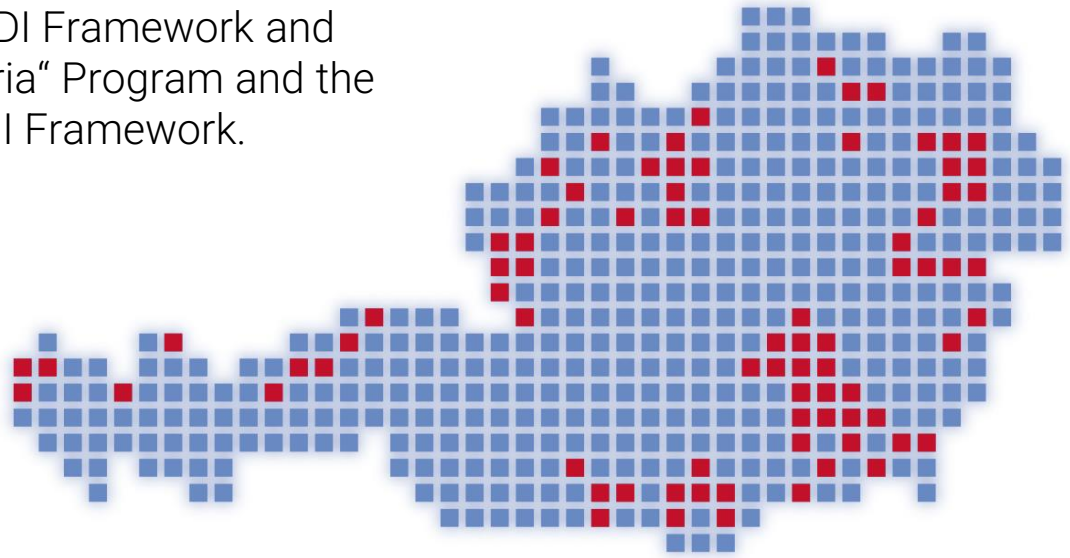
4000+
Researchers

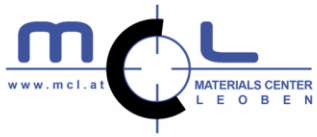
70000+
people employed in EBS-relevant companies

ECSEL Austria

Partners & members

The network of ECSEL Austria consists of Austrian Stakeholders, Austrian Clusters and Silicon Alps, the BMVIT RDI Framework and „Silicon Austria“ Program and the European RDI Framework.





Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

Activities ECSEL-Austria 2022 (planned)

Events

- May ECSEL-Austria spring conference & General Assembly (hybrid)
- Oct Fall event ECSEL-Austria (hybrid)

Network/Strategy

- Cooperation & coordination Silicon Austria Labs (SAL)
- Quantum Communication Infrastructure (QCI)
- Workshops: SRIA, ebs strategy, etc.
- Implementation of new target group-oriented communication strategy
- Interaction with other platforms
- Close cooperation with public authorities on national level (BMK – federal ministery of climate action)

(External) visibility

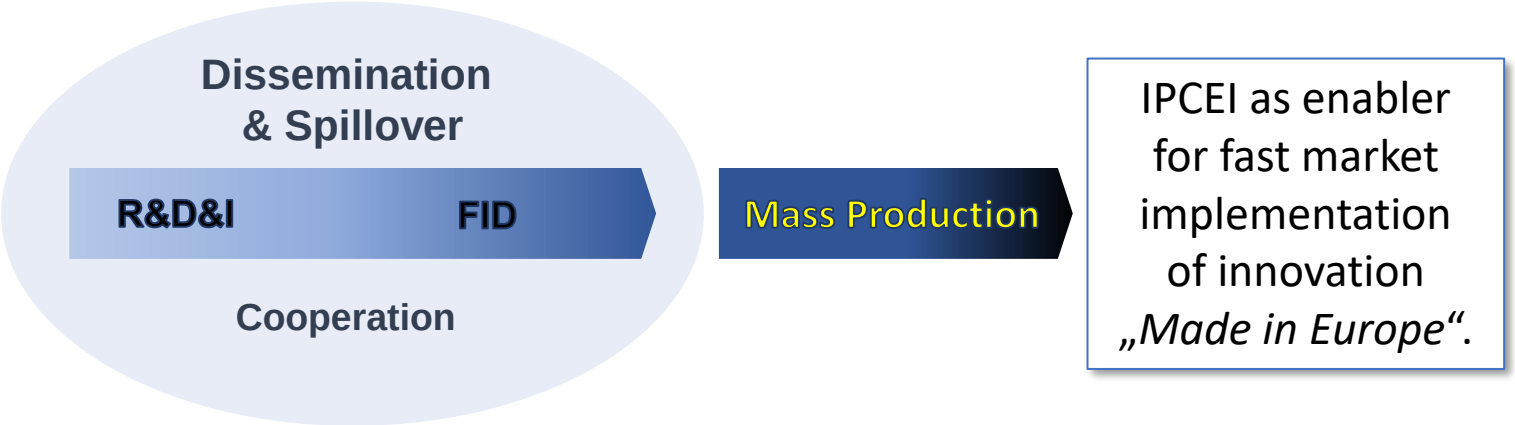
- June IMAGINE22, Vienna, target group researchers and students
- EBS-Study „ECSEL-funded projects and their impact: Case studies of Austrian companies" – Publication via (web/print) broschure; web-story
- ECSEL-Austria „(EBS) FH Preis 2022" (award for EBS-related project, university of applied studies)
- Call & awarding of 3 ebs-related Bachelor/Master Thesis with ebs focus

IPCEI on Microelectronics - The Austrian Contribution

ECSEL Austria

Strengthening IPCEI ME with the Innovation Capacity of Austrian Technology and Market Leaders

- The Austrian IPCEI participation underpins the proactive engagement of Austria in the development of the European **EBS** innovation eco-system, and the technology and market leadership ambitions of the three involved companies.
- The Austrian partners are adding significant complementary competencies to the existing consortium in the area of **energy efficient** and **secure ICs** and **advanced electronic power** solutions.



IPCEI on Microelectronics

Scope & Focus

(of IPCEI contribution)

AT&S:

First Industrial Deployment (FID) of **advanced packaging technology** for European Electronic Based Systems

INFINEON:

Technology Development (R&D&I) and First Industrial Deployment (FID) of **leading edge power semiconductors** supporting Green Deal Targets

NXP:

Hardware-based security for energy efficient and trustworthy EBS solutions

AT&S Infineon NXP

Spill-over Activities by Austrian Partners – Benefits for European Industry & Society

ECSEL Austria

1

Education/ training

Sponsored professorships,
lectures and training activities with universities,
hackathons,
SME trainings,
customer trainings

2

Conferences & workshops

Conference contributions ideally in concert with IPCEI direct or indirect partners, within the microelelectronics sector & beyond (e.g. health, energy sector) to ensure knowledge transfer

3

Papers & publications

Scientific & non-scientific (non papers, white papers) contributions, with partners (e.g. with universities or common standardization events)

4

Media activities

(IPCEI) Website activities,
Social Media,
Linked-In Campaign,
Press Releases

5

Actions with industry associations/ clusters

E.g. Silicon Alps (Silicon Europe Alliance), application clusters like AC Styria

IPCEI on Microelectronics

AT&S Infineon NXP

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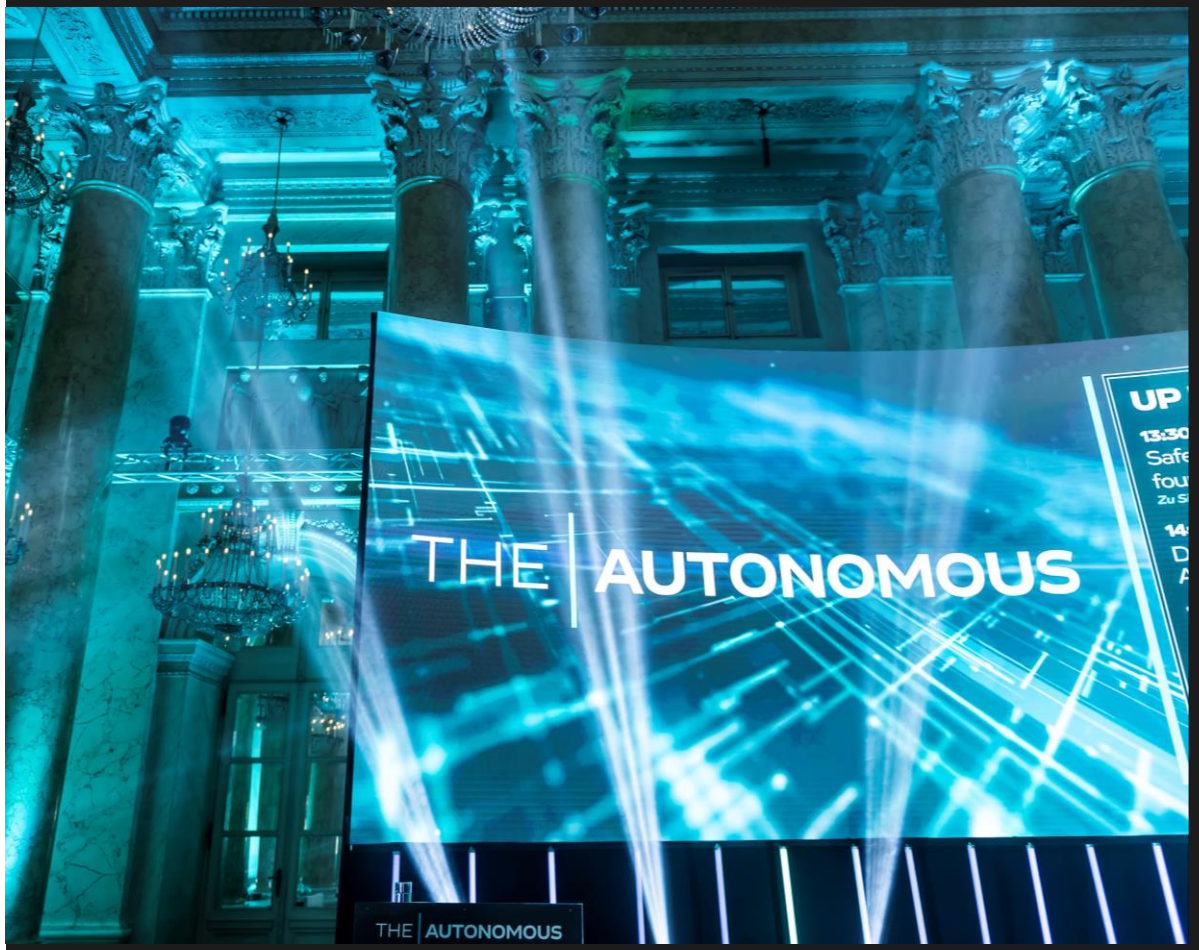


THE | AUTONOMOUS

The global community shaping the future of safe autonomous mobility

ECSEL Austria

THE | AUTONOMOUS

The Purpose:

TACKLING THE BIGGEST SAFETY CHALLENGES

The Autonomous brings together the world's major mobility stakeholders to shape the future of safe autonomous vehicles.

- is an open platform initiated by TTTech Auto
- is a global community shaping the future of safe autonomous mobility
- aims at building an ecosystem of all actors involved in the development of safe autonomous mobility
- will develop Global Reference Solutions facilitate the adoption of safe autonomous mobility on a grand scale (Complementary to standardization organizations)

Ricky Hudi – Chairman:

Joining forces will help to develop safe technology, share the substantial costs and lay the basis for sustainable customer trust and unified standards.

The Autonomous Community

THE | AUTONOMOUS

Safety, Research & Innovation workshop @ THE AUTONOMOUS

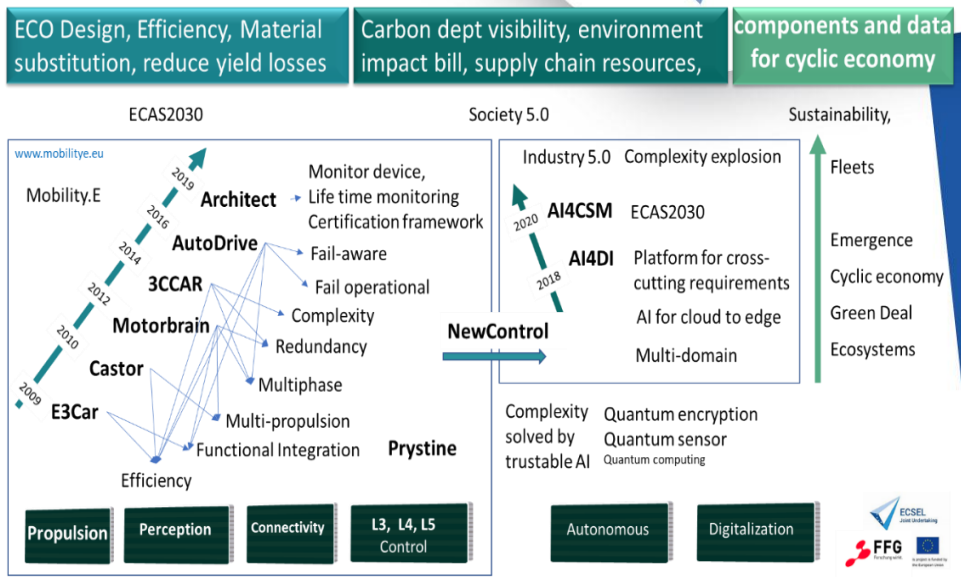
ECSEL Austria

- **Focusing on the next biggest challenges of autonomous and sustainable mobility**
- **Presenting funding opportunities in ongoing and future programmes such as KDT JU, SNS JU, CCAM, Horizon Europe, (i.e. PRYSTINE, NewControl, Up2DATE) …**
- **Taking assets of the results of completed or ongoing projects**
- **Discussing how to support the innovation, e.g. new partnerships, funding schemes, strategic agenda,…**

For more information:

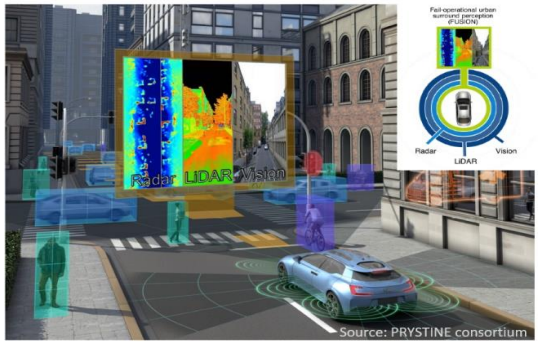
https://www.tttech.com/autonomous-innovation/

The ecosystem



PRYSTINE

ECSEL Joint Undertaking



Driving, connected assets, digital twin

MOBILITY-E LIGHTHOUSE

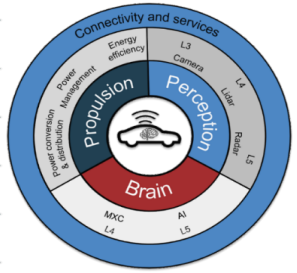
Integrated, Fail-Operational, Cognitive Perception, Planning and Control Systems for Highly Automated Vehicles

- Increase the accuracy and robustness of algorithms, E/E architectures for adaptive perception
- Increase performance, power, reliability, and reduce cost of the on-board computing platforms used for perception, cognition and control
- Achieve certifiability of adaptive algorithms for safety-critical control functions
- Develop a generalized hardware abstraction layer for efficient, adaptive fail-operational control of propulsion systems across vehicular platforms
- Competitive edge to European industry
- Increase user acceptance of automated control functions

NEWCONTROL

Holistic virtualized platforms enabling mobility as a service

ECSEL Joint Undertaking



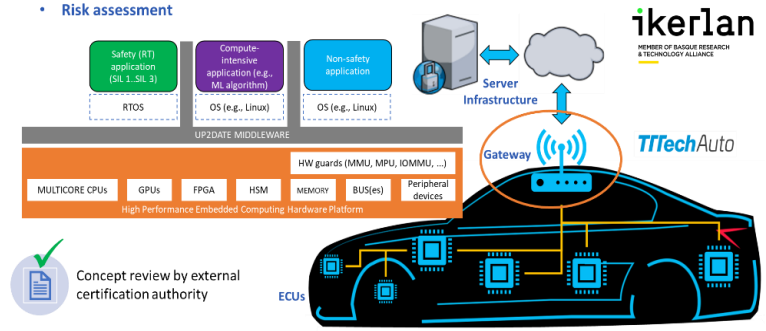
UP2DATE

European Commission

Horizon 2020 European Union funding for Research & Innovation

Safety and security

- Safe and secure update management procedure
- Safe and secure requirements and mixed-criticality architecture design
- Risk assessment



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TTTechAuto

Concept review by external certification authority

The Initiative

THE | AUTONOMOUS

ECSEL Austria

The Autonomous Main Event (in-person and virtually simultaneously)

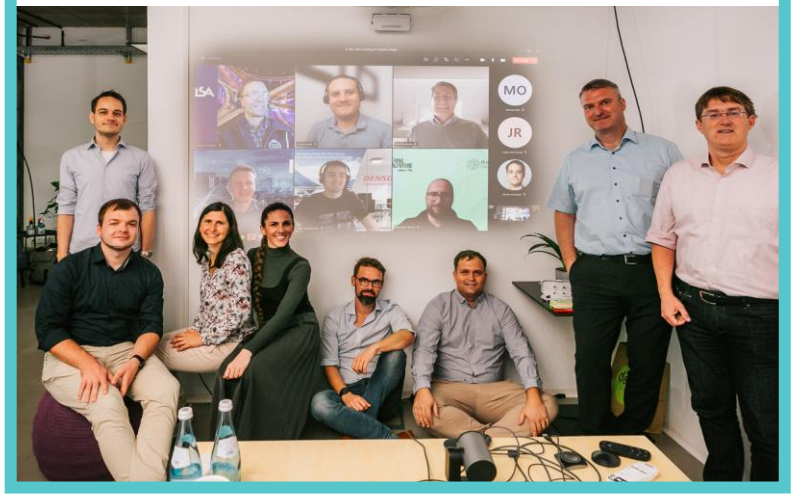
- **SAVE the DATE** – **September 27, 2022, Vienna, Austria**

  - ✓ Hybrid **keynotes and panel discussions** (virtual & in-person)
  - ✓ Unique **networking opportunities** with leading executives and experts from the industry
  - ✓ **On-site** workshops + **virtual** roundtables

Registration will open soon!

Event Stream

THE AUTONOMOUS Working Group Safety & Architecture



Innovation Stream

THE AUTONOMOUS WORKING GROUP Safety & AI

****New Working Group on Safety & Artificial Intelligence****

✓ Stay tuned for the kick-off of The Autonomous second Working Group on Artificial Intelligence in 2022!

First international Working Group on Safety & Architecture

✓ Major technology and automotive companies are now working on **a safe system architecture** for self-driving vehicles.

arm · Audi · NXP · Infineon · CoreAVI (Innovating a Safer Tomorrow) · KTH Vetenskap och Konst · TTTechAuto · DENSO · FIVE · Fraunhofer IESE · BASELABS

For more information visit

www.the-autonomous.com

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Thank you!

ECSEL-Austria
Mariahilfer Straße 37-39
1060 Wien
Tel. +43 1 58839 41
Mail: office@ecsel-austria.net
www.ecsel-austria.net

Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology