



# ASSIC

AUSTRIAN SMART SYSTEMS INTEGRATION RESEARCH CENTER



## Bringing Technologies into Application

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[www.assic.eu](http://www.assic.eu)

operated by



**SAL**

SILICON AUSTRIA LABS

## VISION & MISSION

# The vision that drives us



As a COMET K1 Centre, ASSIC is one of Austria's selected Centres of Excellence. This ensures trendsetting research in the field of intelligent systems and strengthens Austria as a leading research hub.

ASSIC offers profound system knowledge about micro- and nanotechnologies, components, technologies, materials, packaging and connected technologies. Products and processes become safer, more effective and more intelligent.

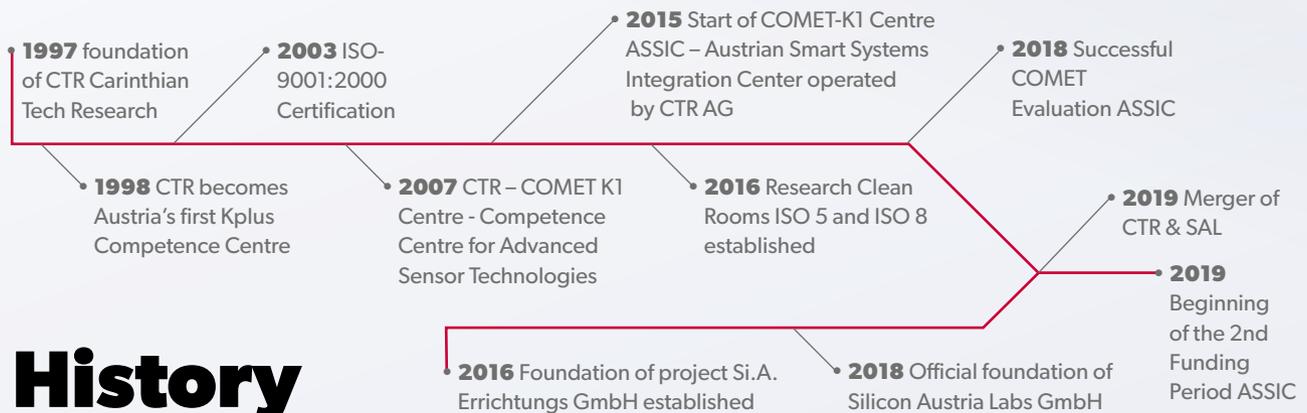
Austria and especially the region of Villach occupy an important position in the European microelectronics sector. With the research focus of ASSIC, we have the responsibility to extend this leading position.

Micro- and nanotechnologies will continue to thrive worldwide. With ASSIC and "Smart System Integration", Austria can play its part in this journey.

### ASSIC AS A COMET CENTRE OF EXCELLENCE

International experts selected SAL GmbH (former CTR AG) with the research focus „ASSIC - Austrian Smart Systems Integration Research Center“ for the COMET-K1 Excellence Status. This status is achieved by offering excellent, long-term and internationally visible research and implementing it together with industrial and academic partners.

ASSIC is funded as a K1-Center within the framework of COMET - Competence Centres for Excellent Technologies by the Austrian Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), the Austrian Federal Ministry for Digital and Economic Affairs (BMDW) and by the Federal States of Carinthia and Styria.



## History

**BRINGING TECHNOLOGIES INTO APPLICATION**

# Intelligent Systems for our lives

Our society is facing major issues in the future, such as energy supply, environmental protection, health and mobility. Research, technology and the effective implementation of innovations can provide valuable contributions to these challenges. In particular, micro- and nanotechnologies as so-called Key Enabling Technologies (KETs) are of great importance.

Micro components and their intelligent integration into products and processes play an important role in this context, as they enable more functional, safer and more precise solutions - in medicine, in analytics, in process or mobility issues.

This is also where the competences of ASSIC - Austrian Smart Systems Integration Research Center lie: in the research, development and integration of intelligent sensor systems. ASSIC offers an answer to social challenges. They enable more precise, effective, safe and intelligent products and processes.



# Success Factors

With conducting interdisciplinary basic and applied research, ASSIC forms the link between science and industry and helps to close the existing gap between invention and innovation. Meaningful research that we are launching today.



## TEAM WITH EXPERIENCE

ASSIC is embedded in the established organizational structure of SAL GmbH (former CTR AG). This means international and highly qualified leading experts from science and industry, with a common goal of interdisciplinary cooperation and of "Bringing Technologies into Application".



## INFRASTRUCTURE

The laboratories and measurement technology infrastructure of SAL are available to ASSIC. In addition to the optical, chemical, electrotechnical and mechanical equipment, there is simulation software and hardware for fluidic, optical, mechanical or magnetic problems. The infrastructure is complemented and enhanced by a high-tech grey and clean room.



## STATUS OF EXCELLENCE

As a COMET-K1 Centre, ASSIC is one of the most excellent research centres in Austria. This claim to offer scientific excellence with international visibility and an application-oriented approach, accompanies the ASSIC team in their research every day.



## RESEARCH PARTNERSHIPS

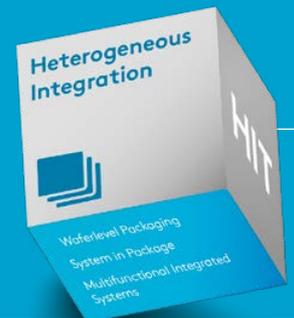
Partners from science and industry with regional, national and international backgrounds combine their know-how to form an excellent research network within ASSIC. This top-class consortium combines research and practice to bring high-tech developments from the laboratory into practice.

## Sensor Element Microsystem Technologies



AREA I

## Sensor Module Heterogeneous Integration



AREA II

## Sensor System Smart System Solutions

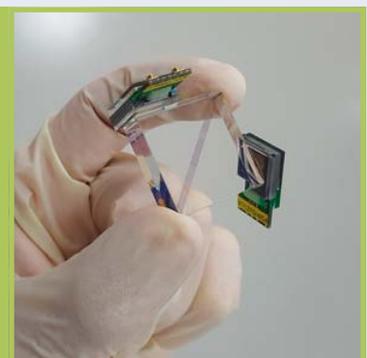
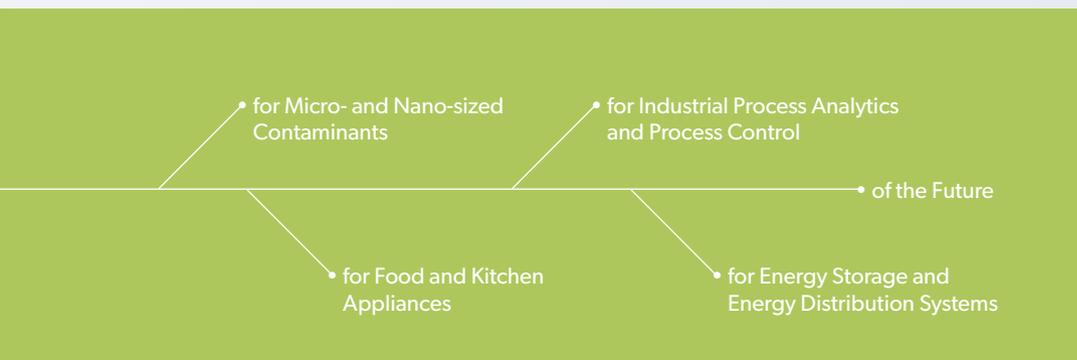
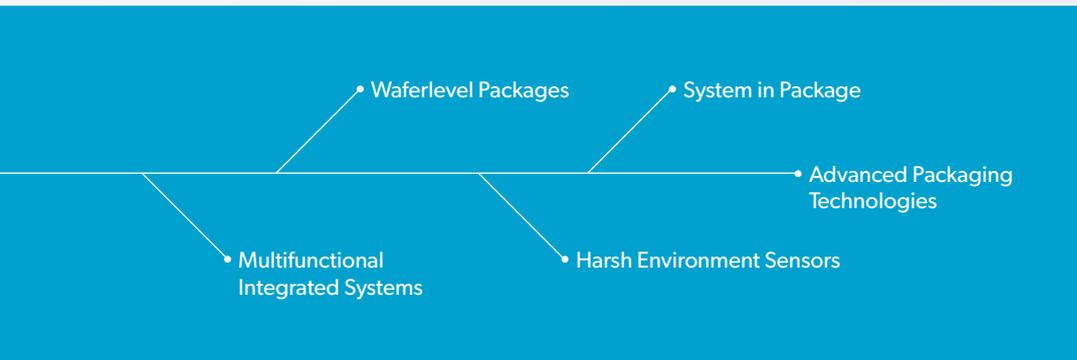
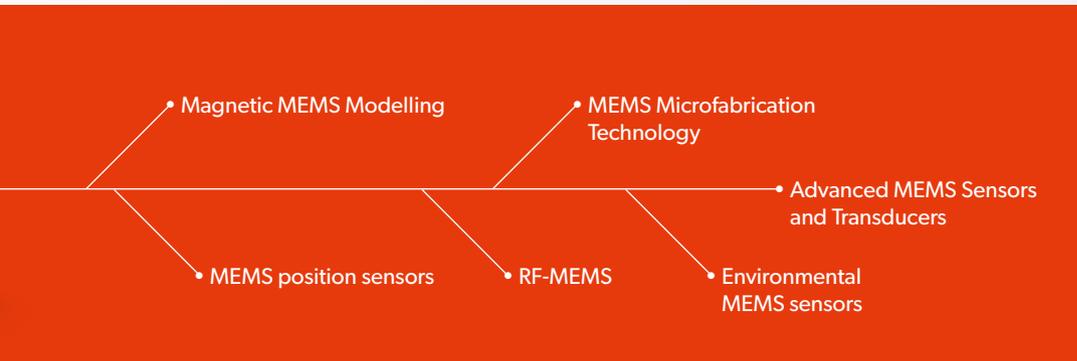


AREA III

# Research Programme

ASSIC's Smart System Integration is the bridge from individual sensor elements via the sensor module to the intelligent product.

The research program of ASSIC comprises the development of selected MEMS (Micro-Electro-Mechanical Systems) components with high practical relevance for sensors and actuators, the related packaging methods and technologies, as well as the corresponding processes for system integration.

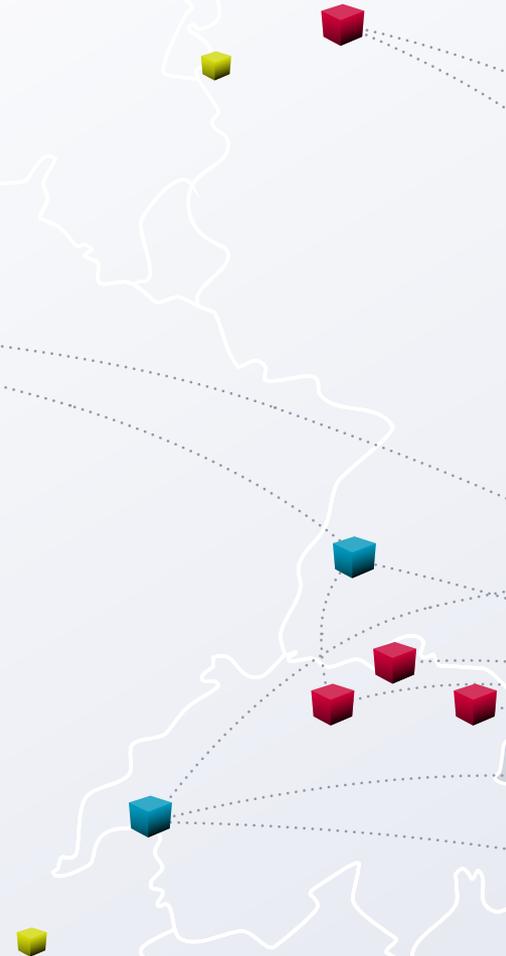
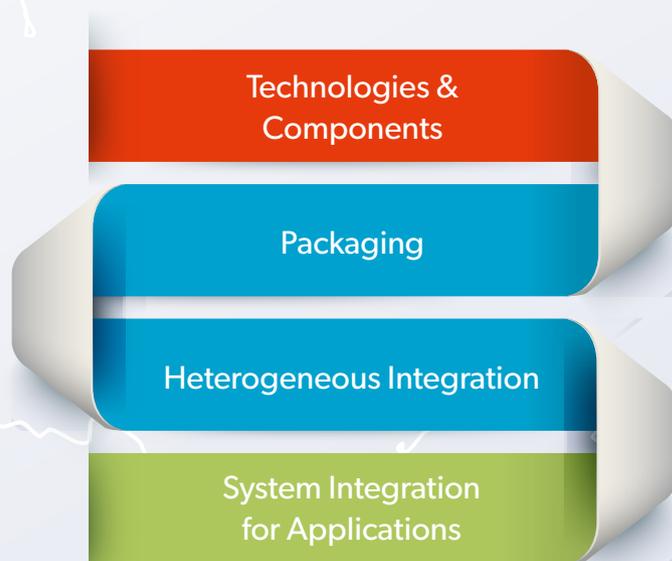


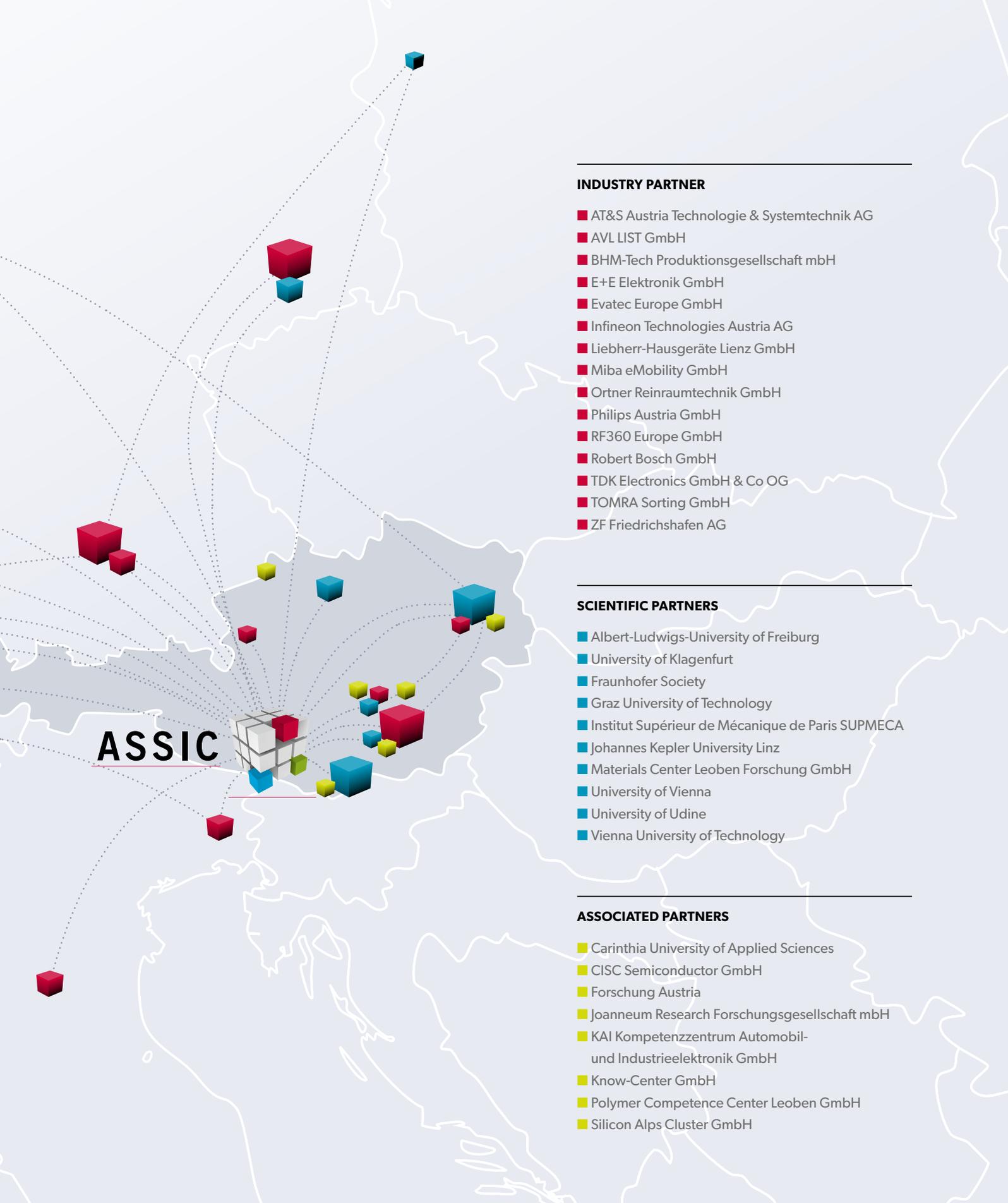
CONSORTIUM

# Partner along the value chain

ASSIC brings together leading Austrian industrial partners and research institutes with excellent international partners along the technological value chain and generates a culture of cooperation and "Open Innovation".

The high-calibre consortium guarantees outstanding research on the one hand, and on the other R&D results with equally high relevance to practice for next-generation products and processes.



A map of Austria with the ASSIC logo in the center. Dotted lines radiate from the logo to various colored cubes (red, blue, yellow, green) placed across the map, representing the locations of industry, scientific, and associated partners.

**ASSIC**

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#### INDUSTRY PARTNER

- AT&S Austria Technologie & Systemtechnik AG
- AVL LIST GmbH
- BHM-Tech Produktionsgesellschaft mbH
- E+E Elektronik GmbH
- Evatec Europe GmbH
- Infineon Technologies Austria AG
- Liebherr-Hausgeräte Linz GmbH
- Miba eMobility GmbH
- Ortner Reinraumtechnik GmbH
- Philips Austria GmbH
- RF360 Europe GmbH
- Robert Bosch GmbH
- TDK Electronics GmbH & Co OG
- TOMRA Sorting GmbH
- ZF Friedrichshafen AG

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#### SCIENTIFIC PARTNERS

- Albert-Ludwigs-University of Freiburg
- University of Klagenfurt
- Fraunhofer Society
- Graz University of Technology
- Institut Supérieur de Mécanique de Paris SUPMECA
- Johannes Kepler University Linz
- Materials Center Leoben Forschung GmbH
- University of Vienna
- University of Udine
- Vienna University of Technology

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#### ASSOCIATED PARTNERS

- Carinthia University of Applied Sciences
- CISC Semiconductor GmbH
- Forschung Austria
- Joanneum Research Forschungsgesellschaft mbH
- KAI Kompetenzzentrum Automobil- und Industrieelektronik GmbH
- Know-Center GmbH
- Polymer Competence Center Leoben GmbH
- Silicon Alps Cluster GmbH



# ASSIC

AUSTRIAN SMART SYSTEMS INTEGRATION RESEARCH CENTER

## DATEN & FAKTEN

### ASSIC – Austrian Smart Systems Integration Research Center

Legal Entity:	<b>Silicon Austria Labs GmbH</b>
Duration 2nd Funding Period:	<b>2019 – 2022</b>
Industry Partners:	<b>15</b>
Scientific Partners:	<b>10</b>
International Partners:	<b>9</b>
Research Funds:	<b>20,4 Mio Euro</b>

operated by

#### Silicon Austria Labs GmbH

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Innovation und Technologie



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