WORKSHOP ON IPCEIS MICROELECTRONICS:
DEVICES AND SYSTEMS DRIVING THE DIGITAL AND GREEN TRANSITION

(1400-1730, Sep 12th, 2024, Rome and online)

Meet the IPCEI actors!
Register for the matchmaking session to book your one-to-one meeting

Catalogue with the profile of organizations and speakers available for one-to-one meetings with participants (version 4, Aug 2024).

Pre-register here to receive updated information and book your matchmaking meetings. Note that to join the event, you will also be asked to **formally register here** to the NanoInnovation conference. You can find **here** the full agenda of the meeting.

RtoB and BtoB cooperation with STMicroelectronics

Meet with **Cosimo Musca,** Deputy Head of Italy Public Affairs at **STMicroelectronics** & Workstream ACT leader in the governance of the **IPCEI ME/CT**

STMicroelectronics (ST) is a global independent Integrated Device Manufacturer (IDM) with 14 main manufacturing sites, creator and a maker of semiconductor technologies. ST works with its customers and partners to design and realize products, solutions, and ecosystems addressing their challenges and opportunities as well as the need to support a more sustainable world. ST creates semiconductor solutions which are integrated into each of the billions of electronic devices people across the globe interact with every day. ST builds products, solutions, and ecosystems that enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. ST had a worldwide semiconductor revenue of $17.3 billion in 2023, with sales & marketing offices in 40 countries, over 200,000 customers and more than 50,000 employees worldwide.
ST is the most important semiconductor company in Italy, being the largest national manufacturer and supplier with the broadest gamma of technologies and microelectronics product typologies. The organization and the manufacturing structure of ST in Italy reflects that of the Corporate Group. In Italy, ST counted more than 12,500 employees at the end of 2023. ST in Italy has premises located in different sites, with wafer fabs located in Agrate Brianza and Catania, business offices and R&D laboratories in different premises. ST has a unique set of chip-manufacturing technologies enabling solutions for the served markets. ST believes in the benefits of owning manufacturing facilities and operating them in proximity and coordination with its R&D operations. ST operates in Italy drawing on a rich pool of chip fabrication technologies, including also MEMS (Micro-Electro-Mechanical Systems) for sensors & Micro-actuators, Smart power: BCD (bipolar - CMOS - power DMOS), Discrete: power MOSFET, IGBT silicon carbide, gallium nitride, Analog & RF CMOS Vertical intelligent power (VIPower) technologies, and others.

ST objective within the IPCEI ME/CT initiative is to develop, introduce and deploy new semiconductor technologies and products to allow future design and manufacturing of

trustworthy components to enable the next 5/10 years product roadmaps in downstream markets, and sustain the European strategic independence needs, by enabling power, & sensing & actuating for automotive electrification, digitalization, and connectivity. According to IPCEI ME/CT overall project structure, ST in Italy is carrying on its technical objectives within all the 4 Workstreams: “SENSE” developing new technologies for smart sensors, “THINK” developing new technologies for embedded processing and Artificial Intelligence, “ACT” developing new technologies for power electronics and actuation, “COMMUNICATE” developing new technologies for radiofrequency and communication.

RtoB and BtoB cooperation with Infineon

Meet with **Josef Moser**, Senior Director Innovation and Funding Management, **Infineon** (read the biosketch)

Infineon Technologies Austria AG (IFAT) is a subsidiary of Infineon Technologies AG. The Austrian headquarters are in Villach, with further sites in Klagenfurt, Graz, Linz and Vienna. IFAT has an essential role within the Infineon Group as it pools competencies for research and development, innovation-oriented manufacturing, and global business responsibility. With its 5,886 employees from 70 different countries IFAT achieved a turnover of €5,604 billion in the year 2023. 12% of the turnover (€672 million) was invested in Research & Development (R&D). Over the years, IFAT has developed into a leading technology company in Austria. IFAT develops and manufactures semiconductor and system solutions for all business areas within the Infineon Group, more specifically Automotive, Green Industrial Power, Power & Sensor Systems and Digital Security Solutions.

Infineon Technologies is participating and coordinating various HEU and CHIPS JU projects, were cooperation in the field of expertise (power electronics, sensors, advances materials including applications, equipment and processes) are always of interest and everyone is welcome to contact us.

RtoB and BtoB cooperation with AT&S

Meet with **Sandra Eger**, Innovation Management & Funding Research & Development, **AT&S** (read the biosketch)

AT&S is a leading global manufacturer of high-end IC substrates and printed circuit boards. AT&S industrializes leading-edge technologies for its core business segments Mobile Devices & Substrates, Automotive & Aerospace, Industrial and Medical and high-performance processors for VR and AI applications. AT&S has a global presence with production sites in Austria (Leoben, Fehring) and plants in India (Nanjangud), China (Shanghai, Chongqing) and Korea (Ansan near Seoul). A new high-end production site for IC substrates is currently being established in Malaysia (Kulim). In Leoben, a European competence center including series production for IC substrate technologies is being built. Both sites will start production in the financial year 2024/25. The company employs more than 13,500 people.

RtoB and BtoB cooperation with MEMC Global Wafers

Meet with **Emanuele Corsi**, R&D and Process Engineering Manager, **MEMC-GlobalWafers** (read the biosketch)

MEMC Electronic Materials SpA is part of GlobalWafers Group. GlobalWafers is a global leader in semiconductor technology, capable of providing innovative and advanced solutions to leading chip manufacturers for transforming lives around the world. With R&D facilities in Europe, USA and Asia, and, through a fully integrated manufacturing strategy, the company focuses on innovation for delivering exceptionally pure silicon that can be blend-tailored to meet any specific customer requirement.
On a WW basis GWC is located, with fifteen (15) manufacturing locations/Fabs, in eight (8) different countries, with most of its operations being in Asia where the Microelectronic industry has been developing the most during the recent years.
MEMC Electronic Materials SpA is the Italian subsidiary of GWC group (MEMC-GWC), and it produces silicon wafers for the Microelectronic Industry. It is located in Italy with two manufacturing facilities in Merano (BZ) and in Novara (NO).
The two Italian facilities are vertically integrated with Merano plant fully dedicated to Silicon ingot growing (100% 150mm shipped to Asia – 200mm & 300mm), while Novara site completes the material flow by providing Wafering processing as well as the Epitaxial deposition (both 200mm & 300mm).

Main MEMC-GWC project contribution to IPCEI-ME/CT initiative it is to develop, produce and supply leading edge 300mm and for some advanced applications also 200mm, silicon wafers for the Semiconductor European Industry by mean of a Leading edge newly installed 300mm line and of an upgraded 200mm manufacturing line in its existing Novara Site.
This production site is and it will be capable of developing leading edge silicon wafers for the key European Microelectronic IDMs (e.g. STM, IFX, BOSCH, GF and others) in order to support their technology development in the most relevant and advanced sectors.
This project thanks to existing 200mm silicon manufacturing wafers infrastructures and with the installation of the most advanced equipment and metrology tools for producing 300mm silicon wafers will provide contribution to all four identified Workstreams. In line with the request of European partners more activities are planned within Workstreams ACT and THINK, although SENSE and COMMUNICATE Workstreams will be addressed too.

RtoB and BtoB cooperation with Bruno Kessler Foundation

Meet with **Lorenza Ferrario,** Micro Nano Facility coordinator (read the biosketch) and **Vittorio Guarnieri**, Research Liasion Officer (read the biosketch), **Bruno Kessler Foundation**

Fondazione Bruno Kessler (FBK) is a multidisciplinary research institution specializing in the fields of technology, innovation, the humanities and social sciences, based in Trento. Established by law by the Autonomous Province of Trento, Fondazione Bruno Kessler is a private entity whose mission is to promote and contribute to the advancement of knowledge with a focus on the fields of science and technology that allow for greater and more immediate economic and social benefits.

Active since 2007, Fondazione Bruno Kessler takes up the legacy of the Istituto Trentino di Cultura, founded in 1962 by Bruno Kessler. It is a research institution that, from the year of its founding to the present, has grown to a staff of more than 620 researchers, developers and support staff, 150 doctoral students, 200 visiting professors and PhD candidates, as well as 700 affiliates and accredited students.

FBK developed in the years several access solutions suited to different type of users, including universities, students, SMEs and large companies:

- R&D collaborations, with highly skilled researchers supporting from design to simulation, fabrication, testing and integration;
- Services: activities based on standard technologies, which could focus on single steps (like material depositions, single equipment characterization, dicing);
- Small research prototype production: fabrication of lot of wafers based on fully qualified and controlled processes;
- Direct access to laboratories: with the possibility for external users to be trained to use tools and develop their activities with or without the FBK staff support.

RtoB and BtoB cooperation with CNR-IMM

Meet with **Salvatore Lombardo**, Research Director, **CNR-IMM-Institute of microelectronics & Microsystem, National Research Council** (read the biosketch)

The National Research Council (CNR) is the largest public research institution in Italy, the only one under the Research Ministry performing multidisciplinary activities, with a personnel of about 10,000 people, most of them researchers. The project presented at IPCEI-ME-CT will be carried out by the Institute for Microelectronics and Microsystems (IMM) of CNR. IMM is organized in 5 Sections, located in Milan (Agrate), Rome, Lecce and two Sections in Catania (the Headquarters and at the Univ. of Catania). The Institute has a permanent staff of more than 200 people and a temporary staff including about 60 post-docs and about 70 PhD students. The research activity is focused on innovative solutions for microelectronics, advanced materials and processes for smart components, optoelectronics and photonics, sensors and multifunctional micro/nano-systems.

RtoB and BtoB cooperation with Siae Microelettronica

Meet with **Alessandro Fonte,** Senior Microwave Engineer, **Siae Microelettronica** (read the biosketch)

SIAE MICROELETTRONICA is a leader in wireless communication technology. It offers advanced solutions for microwave and millimeter-wave transport domain with world-class portfolio of products and professional services. SIAE MICROELETTRONICA design and produce end-to-end RF components exploiting in-house labs, clean rooms and industrial grade product assembly. Its product portfolio include 2.5GBps dual-carrier full outdoor system, 10GBps E-band radios and microwave radios tailored for mobile x-hauling. SIAE MICROELETTRONICA delivers a complete range of professional services to successfully design, build, maintain and optimize wireless networks.

RtoB and BtoB cooperation with Optoi

Meet with **Alfredo Maglione,** CEO, **Optoi** *(read the biosketch)*

Optoi is a company specialized in optoelectronics founded in Trento in 1995 and today is the holding company of a 5 companies Group.
Since its establishment Optoi has focused its core business on optical microelectronic components and intelligent optoelectronic sensors, producing them in the ISO 6 Clean Room located in the main headquarters.
Optoi presents itself as a technological partner appreciated by customers belonging to the industrial sector but also mobility, medical, energy and green.
Over the years the Group has exceeded 50 employees.
Every day Optoi is committed to developing innovative solutions and sensors that promote progress and sustainability, bringing to the market both patented standard products and custom solutions with high level of reliability.

RtoB and BtoB cooperation with Silicon Austria Labs

Meet with **Marco Deluca,** Head of Research Unit Thin Film Technologies, Microsystems Division**, Silicon Austria Labs GmbH (SAL)**

Silicon Austria Labs (SAL), founded in 2018, is European's leading Research and Technology Organisation (RTO) in the field of Electronics and Software Based Systems (ESBS). SAL established the foundation for groundbreaking innovations and pioneering processes in advanced thin film technologies, bridging the gap between fundamental research and industrial implementation. With locations in Graz, Villach and Linz, SAL is a centre of excellence for collaborative development of ultra-high performance thin-film technology for sensors, actuators, RF MEMS and power electronic devices throughout the entire industrial value chain. As an applied research centre, SAL offers access to a cutting-edge cleanroom infrastructure for advanced thin film technology, facilitating industrial deployment and related microfabrication processes for "More than Moore" applications, also through a unique "lab-to-fab" approach by streamlining low-TRL research towards prototyping and pilot production. SAL currently employs over 350 scientists, engineers, and support staff, and operates two cleanrooms in Villach with a total area of over 1400 m_2, focused on advanced thin film technology and microfabrication on up to 8" wafer sizes.

RtoB and BtoB cooperation with Materials Center Leoben

Meet with **Elke Kraker,** Head of Department Materials for Microelectronics, **Materials Center Leoben Forschung GmbH (MCL),** Austria

The **Materials Center Leoben** (MCL) is an internationally active research institution specialized in materials, production and processing engineering, and innovative material applications. The MCL carries out cooperative research and development projects with industrial partners and offers a wide range of

services. In particular, the MCL represents a hub between academia and industry. MCL acts as the operating company and research partner of the COMET-K2-Competence Centre IC-MPPE – Integrated Computational Materials, Process and Product Engineering. The MCL division "Materials for Microelectronics" concentrates its research activities on material-based solutions for the microelectronics industry and has a wide-range of methods and a broad expertise in material characterization as well as in numerical simulation of materials-, processes- and components at all length scales. The research concentrates on the development of functional materials for sensor solutions, materials, and damage analytics, method development for material characterization and reliability analysis, and condition monitoring.

- MCL provides material-based solutions for the microelectronics industry.
- MCL develops functional materials with new property combinations or additional functionalities
- MCL provides methods, workflows and software platforms for accelerated development of new and improved materials, processes and devices.
- MCL reveals process-structure-properties relations of materials and systems by means of combining different high-end analytics methods and multiscale modelling.
- MCL applies machine learning to accelerate and improve computer simulations, material characterization- and material testing methods.
- MCL improves the reliability of materials and systems.
- MCL's condition monitoring solutions enable adaptive, property-optimized manufacturing and maintenance-efficient products.

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