



Program of the day

9:00 Registration

9:30 **Welcome address**
Mario El-Khoury, CEO, CSEM SA

9:45 **2D materials: from research to applications**
Kostya Novoselov, winner of the 2010 Nobel Prize in Physics, University of Manchester School of Physics & Astronomy

10:30 Networking coffee break

11:00 Parallel CSEM technology sessions

IoT & Wearables :: The seamless integration of ultraminiaturized autonomous systems into the human body and its environment enables fundamental changes in the way that we evolve in the economy and in society. We will discuss the ultralow power consumption of microelectronics and sensors as well as how the integration of complex microsystems is crucial to the realization of a large spectrum of IoT and wearable devices.

Chaired by Harry Heinzelmann

- :: "Microelectronics", David Ruffieux, CSEM SA, and Philippe Bourban, Director of Product Development ON Semiconductor
- :: "Smart sensors & deep learning", Stéphane Emery, CSEM SA, and Christian Brändli, CEO, Insightness
- :: "Wearables & e-health", Mattia Bertschi, CSEM SA, and Patrick Schoettker, Biospectal

Advanced Manufacturing & Industry 4.0 :: Microtechnologies developed at CSEM have enabled quantum leaps in micromanufacturing and have made revolutionary products possible, contributing in terms of processes, quality control, and reliability. By combining "classical" silicon, microfabricated microsystems, we expect to bring about a change in paradigm in terms of manufacturing techniques and processes. Moreover, the integration of ultraminiaturized, autonomous, and versatile devices into versatile software platforms will help realize the dream of Industry 4.0, contributing to predictive maintenance, logistics, process monitoring, and optimization, as well as improving automation.

Chaired by Helmut Knapp

- :: "Machine Learning for Robotics & Automation", Philipp Schmid, CSEM SA, and Venkat Nadipuram, Global Product Manager drive systems, ABB Mining
- :: "Micro-manufacturing processes, Michel Despont, CSEM SA, and Anthony Serpry, Richemont International SA
- :: "Quality control in additive manufacturing, Olha Sereda, CSEM SA, and Felix Reinert, ProtoShape GmbH

PV & Energy Management :: Technologies developed by CSEM and its partners play a vital role in steering the world toward more efficient PV systems and potentially dramatic cost reductions. We will address these technologies' integration into the economy, covering aspects from building integration to energy scavenging, as well as energy storage and management, highlighting the benefits for a large spectrum of industries.

Chaired by Dieter Ulrich

- :: "High-efficiency crystalline silicon cell technology, Christophe Ballif, CSEM SA, and Omid Shojaei, Indeotec
- :: "BiPV, Laure-Emmanuelle Perret-Aebi, CSEM SA, and Boris Luchessa, ISSOL SA
- :: "Energy systems, Andreas Hutter, CSEM SA, and Sohail Malik, Neurobat AG

12:30 Standing networking lunch with CSEM experts, and an exhibition of our latest technology demonstrators

14:30 **Challenges for digital excellence in Europe**
Thomas Skordas, Director, European Commission, Digital Excellence and Research Infrastructures

15:00 **World Café round tables on the evolution of the following exciting domains**

Industry 4.0 for SMEs :: The evolution of the challenges inherent in the implementation of ubiquitous sensors and communications systems in new manufacturing processes: expectations and fears.

Chaired by Christoph A.P. Rennhard, LCA Automation AG
Philipp Schmid, CSEM SA

IoT—deployment in a real-world situation :: The integration of smart, miniaturized devices into the digital society of tomorrow: opportunities and issues.

Chaired by Dawn Linke, Swisscom
Alain-Serge Porret, CSEM SA

Digitalized energy :: Just an enabler for decarbonization and decentralization, or a transformative force on its own?

Chaired by Martin Kauert, BKW
Christophe Ballif, CSEM SA

Digital health :: How microtechnologies can further strengthen prevention, patient empowerment, and out-of-hospital care?

Chaired by Mikael von Euw, Biovotion AG
Jens Krauss, CSEM SA

16:30 **Open questions and wrap-up of round tables**

17:00 **Networking aperitif**
