WEDNESDAY 08:30 – 17:50

Embedding Sustainability into RF Technologies

SW01
EuMC/
EuMIC

Chair: Bertrand Parvais [1]
Co-Chair: Cedric Rolin [2]
[1]imec & VUB, [2]imec

Room: Juliana 2

Our world is constrained by environmental limits and finite resources. Today's innovation process must factor in these limitations to foster the advent of technologies that remain sustainable on the long term. Sustainability is however a broad complex multidisciplinary topic, joining engineering with environmental sciences and encompassing full product life-cycle, which includes material and energy sourcing, product manufacturing, product usage and end-of-life disposal. Addressing this may seem a daunting task for the engineer involved in early technology R&D and product design.

This short course aims to address these difficulties by providing actionable insights and tools to integrate sustainability into the development of RF technologies. Our aim is to equip the course attendees with the knowledge and methodologies needed to incorporate sustainability into their research practices, with a focus on RF technologies that are currently being intensively research for the deployment of our future wireless communication networks. The event will be structured around three key axes: (i) the sustainability of the semiconductor industry, (ii) the embodied emissions of RF chips, and (iii) the operational emissions of RF technologies. By offering a deep dive into these areas, the workshop will empower engineers to make informed, sustainable decisions throughout the product lifecycle.

PROGRAMME

Sustainability in ICT: the double-edged quest for efficiency
David Bol [1]
[1]UCLouvain

Perspectives for sustainable ICT
Hughes Ferreboeuf [1]
[1]The Shift Project

Sustainability in the context of technological innovation
Anna Wieczorek [1]
[1]Eindhoven University of Technology

Quantifying the environmental impact of IC chip manufacturing
Cedric Rolin [1]
[1]Imec

Assessing the environmental impact of R&D cleanroom operations
Enola Fidon [1]
[1]CEA Leti, France

A life-cycle assessment study of RF technologies
Benjamin Vanhouche[1]
[1]Imec & VUB

Indium Phosphide Semiconductor Technology for Next Generation Communication Systems: Sustainability and Material Considerations
Laura Vauche[1]
[1]CEA Leti, France

Sustainable engineered substrate at Soitec
Alexandra Lelong[1]
[1]SOITEC

Bottom-up model of the life-cycle environmental impacts of cellular networks
Louis Golard [1]
[1]UCLouvain