EU Digital Future Forum

Overview of EU policies supporting the growth of microelectronics in Europe

M. Ceccarelli
Programme Officer
European Commission, Brussels, Belgium

Abstract
The semiconductor sector is undergoing a number of economic, technological and geopolitical developments. At the same time, the European Union has been facing unprecedented circumstances, such as Brexit and the Covid pandemic, right after a new Commission and Parliament took office. The European Union responded with an historic agreement, Next Generation EU, to accelerate the recovery of regions and sectors hit by the pandemic, and to increase the resilience of the European economy. In times of change, and these are exceptional ones, new opportunities arise. Europe must exploit its outstanding competences to drive and reap the benefits of the digital transformation. The European Commission is working on a number of instruments, to support the growth of the EU semiconductor industry. The new Multiannual Financial Framework 2021-27 includes initiatives such as the Key Digital Technologies Joint Undertaking and the Digital Europe Programme. Furthermore, an Important Project of Common European Interest is being conceived, together with interested Member States, to support innovation in the microelectronics sector. Europe has the assets to become a technology leader, provided that all the actors of the ecosystem team up. The support from the European Commission needs to be combined with ambitious objectives, a suitable industrial strategy and proper execution, for which partners are needed. “Working together, we can achieve great things. To do so, we need you, start-ups, SMEs, big companies. If we join forces, the digital revolution can benefit everyone in Europe.” *(Thierry Breton, Commissioner for Internal Market, Industry, Entrepreneurship and SMEs)*

Biography
Marco Ceccarelli is currently Programme Officer at the European Commission in Brussels (B). He contributes to the definition of EU policies for the electronics industry in directorate "AI and digital industry" of DG CNECT. Prior to joining the Commission in 2017, he worked in different roles in the domain of digital innovation and high-tech business. He was Director of Business Operations for Dada, the mobile and internet services arm of RCS Media Group (I), and acted as Managing Director and International Business Manager for high-tech start-ups (UK and I). Previously, he headed Product Strategy and Marketing for Business Solutions at Philips Consumer Electronics, worked as Product Manager at Philips Digital Networks, and as Project Manager at Philips Research (NL). Marco graduated in Electronic Engineering at the

University of Florence (I), conducted research at the Technical University of Delft (NL) and obtained an Executive MBA from the Essec Business School (F).

MADEin4 Project Introduction: Metrology Advances for Digitized ECS (Semiconductor and Automotive) Industry 4.0

I. Englard
Applied Materials Israel (AMIL), Rehovot, Israel

Abstract
In the core of MADEin4 (a European Funded project) are the developments of new tools and methods which combine in an intelligent way, for both the Semiconductor and Automotive industries, the large amount of metrology data, with design, process and tools data to enhance productivity as well as predictability of the production processes.

Biography
Ilan Englard is a projects manager for Applied Materials (AMAT) Israel and MADEin4 project coordinator. He has 26 years of experience in the semiconductor industry as AMAT's application engineer at Micron technology in the USA and Italy and as AMAT's technologist at ASML in The Netherlands. He has authored numerous papers in the metrology and lithography fields. Ilan Englard holds an Electronic engineering degree and in recent years, additionally to his work for AMAT, he provides a consultancy and management services regarding European funded projects in the Electronic Components and Systems (ECS) domain.

Advance X-Ray Metrology Equipment As Part Of A European Semiconductor and Automotive Industry 4.0 Cycle Time and Yield Improvements Scheme

J. Vandermeer
Head of Application Development X-ray
Bruker, Mannheim, Germany

Abstract
TXRF (Total Reflection X-ray Fluorescence) is a non-destructive method to detect metal traces on wafer surfaces and plays an important role in the fab cleanliness monitoring process. Bruker improved the throughput and sensitivity for light element analysis of the TXRF platform in the MADEin4 project. In addition, Bruker collaborates with MADEin4 partners to test and assess wafers from their process.

Biography
My background is in physical chemistry and materials science. I earned my PhD from Utrecht University (Netherlands).
I am with Bruker for more than 12 years, based in Karlsruhe, Germany.
I have more than 10 years' experience in X-ray metrology for the semiconductor industry.
Currently I am working as product marketing manager in the Bruker Semiconductor division and I represent Bruker Semiconductor in European consortia and manage the collaboration projects with our partners.

New industry 4.0 metrology approaches driven by predictive in line control requirements: At the frontier between academic studies and industrial world

B. PELISSIER
Head of the EquipEx IMPACT project and team
LTM-CNRS, Cedex, France

Abstract
New industry 4.0 metrology approaches driven by predictive in line control requirements: At the frontier between academic studies and industrial world

Biography
coming soon

Social Robot Collaboration use cases

M. Hadad-Segev
Founder and CEO
Brillianetor, Jerusalem, Israel

Brillianetor

AI that thinks like you

Abstract
Brillianetor's ground-breaking SocialArtificial Intelligence (AI) technology cultivates human collaboration and social awareness skills in industrial robots. Our platform and tools enable organizations to easily deploy robots capable of efficient and robust teamwork, with rapid setup and development, increased production speed, reduced time requirements, and significantly lowered costs.

Biography
Dr. Meirav Hadad-Segev is the founder and CEO of Brillianetor, a proprietary AI technology platform for Social Collaborative AI**,** enabling organizations to deploy machines, bots, and robots with revolutionary capabilities for human-like collaboration skills. She is the inventor of novel technologies in the area of Multi-Agent Systems and has published extensively on the subject of AI.
Dr. Hadad-Segev has a proven record in senior management in the High-Tech industry, specializing in the development of practical real-world applications for Multi-Agent AI in the fields of robotics, defense systems, games and simulators. She holds a Ph.D. from Bar-Ilan University and Post Doctorate from the University of Haifa with a specialization in AI Multi-Agent Systems.