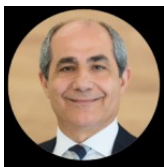


SMART Transportation Forum



L. Altimime
President
Semi Europe, Berlin, Germany



Biography

As President of SEMI Europe, Laith Altimime leads SEMI's activities in Europe and Middle East and North Africa (MENA). He has overall responsibility for regional events, programs, membership, advocacy, and collaborative forums. Additionally, he manages and nurtures relationships with SEMI members in the region, as well as with local associations and constituents in industry, government, and academia. He provides support and services to SEMI members worldwide that have supply chain interests in Europe.

Altimime has more than 25 years of experience in the industry, mostly in Europe. He has held leadership positions at Altis, Infineon, Qimonda, KLA-Tencor, Communicant Semiconductor AG, NEC Semiconductors, and imec.

Altimime holds a BS from Heriot-Watt University, Scotland.

How next generation cars will impact the automotive industry?



P. Boulay
Yole Développement, Villeurbanne, France



Abstract

A vision shared by OEMs and Tier-1s is that next generation of cars will be more and more electric, autonomous and connected. To achieve these goals, automotive players will have to work on the electrification of vehicles that can be hybrid or 100% electric. They will also have to develop and integrate sensors like radars, cameras and LiDARs to increase the level of autonomy. Cars will be increasingly connected meaning that more and more software and AI will be needed as well as technology to connect cars to their environment.

Stricter emission regulations, lower battery costs, and increasing consumer acceptance will create new and strong momentum for penetration of electrified vehicles in the coming years. The speed of adoption will be determined by the interaction of consumer pull and regulatory push, which will vary strongly at the regional and local level.

The autonomous trend is pushed by the development of sensors to monitor the surroundings of the vehicle. To do that, sensors are continuously developed to increase resolution, frame rate and dynamic range for cameras. Radar manufacturers have also released products from short-range to long-range detection and new entrants are working on 4D radars to increase the level of resolution. Finally, the interest into LiDAR sensors is continuously increasing with different technologies being pushed by manufacturers. Finally all these sensors will need higher level of computation as the amount of data generated will boom in the next years. Therefore, the artificial intelligence is slowly but surely invading the automotive ecosystem through autonomous cars and infotainment applications/systems. On the connectivity side, V2X, pushed by the development of 4G/5G-based cellular communication, provides direct communication from the car to other vehicles and infrastructure, and does not involve network operators in the process.

Biography

As part of the Photonics, Sensing & Display division at Yole Développement (Yole), Pierrick Boulay works as Market and Technology Analyst in the fields of Solid State Lighting and Lighting Systems to carry out technical, economic and marketing analysis. Pierrick has authored several reports and custom analysis dedicated to topics such as general lighting, automotive lighting, LiDAR, IR LEDs, UV LEDs and VCSELs. Prior to Yole, Pierrick has worked in several companies where he developed his knowledge on general lighting and on automotive lighting. In the past, he has mostly worked in R&D department for LED lighting applications. Pierrick holds a master degree in Electronics (ESEO – Angers, France).



R. Porter
Director Technology and Innovation
Zenzic, London, United Kingdom



Biography

Richard Porter is Director of Technology and Innovation at Zenzic, defining and overseeing a £200m portfolio of investments to make the UK the global centre for testing and development of self-driving technologies, building on existing and delivering new capabilities, both physical and virtual. Previously Richard was Director of Research and Innovation at Highways England, UK Research Liaison to US DoD, Security policy advisor and crisis manager at FCO. Richard is always interested in new technologies and encouraging collaboration to deliver technologies to market quickly and effectively

Introduction to ESCAPE



S. Lambert
Head of Automotive Electrification
McLaren Applied Technologies, McLaren
Technology Centre, Woking, United Kingdom



Abstract

Introduction to ESCAPE

Biography

Dr Stephen Lambert received his Doctorate from the University of Warwick by looking at the applicability of hybrid and electric drivetrains in motorsport. Following this he worked at Lotus Engineering, developing hybrid and electric demonstrator vehicles for a number of OEMs. Through this role, he found himself working closely with battery manufacturers as a key partner for these projects. He has since worked in various roles around developing battery technology in areas such as Formula 1 and high performance road cars. He is now responsible for the electrification strategy for automotive customers with McLaren Applied technologies, where he is helping deliver advantage by empowering customer to introduce and protect new vehicle concepts and technologies and to drive differentiation in the market.

Electrification: HW, SW and boundaries requirements



B. Hellenthal
Head of Audi Comprehensive Semiconductor
Strategy, Audi AG
Audi AG, Ingolstadt, Germany



Abstract

Electrification: HW, SW and boundaries requirements

Biography

Berthold Hellenthal runs Semiconductor Strategy – Progressive SemiConductor Program (PSCP) at the Competence center Electronics and Semiconductors. Dipl.-Ing. Berthold Hellenthal joined Audi in 2008 as a member of the management team. Working in the Electronic Development Department, he comprehensively supports all Audi electronic development out of the competence center “Robust Design: Electronics and Semiconductors”, specializing in electronic hardware reviews and application analysis as well as semiconductors. Mr. Hellenthal is responsible for the comprehensive “Competence center Electronics and Semiconductors” as well as for the comprehensive Audi Semiconductor Strategy, the Audi Progressive SemiConductor Program (PSCP).

The Power of purpose built SoCs in Automotive



C. Malter
Cadence, Munich, Germany



Abstract

We are witnessing an unprecedented change in the Automotive value chain these days. Autonomous Driving, Connectivity, Shared Mobility, and Electrification lead to massive technological disruptions. The E/E Architecture in cars is undergoing a fast evolution from a distributed ECU network to Gateway and Domain Controller ECUs. Autonomous Driving requires AI capable super computers in cars with lowest possible power and cost footprint. Sensors need to be designed for increased resolution and significantly lower bill of materials. As a result new players are entering the traditional design and supply chain and existing players are redefining their roles. To achieve the optimum technical and economical system performance, we expect to see more and more purpose built SoCs in Automotive moving forward. This talk outlines why this makes sense and what it takes.

Biography

Christian Malter has held the position as Director Automotive Business Management Worldwide since beginning of 2017. He is responsible for driving incremental growth for Cadence in the Automotive segment by working with the Automotive value chain and influencing Cadence's product roadmaps. Malter joined Cadence in 2001 and has held various positions in sales, sales management, marketing and business development, including two years in the Cadence HQ in silicon valley as Chief of Staff for the Chief Marketing Officer. Prior to Cadence Malter spent 9 years in semiconductors with Texas Instruments and LSI Logic in sales and sales management roles in Europe. Malter has more than 25 years of industry experience in semiconductor, IP, design services and EDA. Malter holds a Diploma in Electrical Engineering from RTWH Aachen, and is based in Munich, Germany



B. Hellenthal
Head of Audi Comprehensive Semiconductor
Strategy, Audi AG
Audi AG, Ingolstadt, Germany



Biography

Berthold Hellenthal runs Semiconductor Strategy – Progressive SemiConductor Program (PSCP) at the Competence center Electronics and Semiconductors.

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Overview of the Automotive market and future challenges from memory perspectives



F. Tiziani
Sr. Manager Automotive Marketing
Micron Technology Inc., Embedded Business Unit,
Automotive, Munich, Germany



Abstract

Many car buyers today care more about the infotainment technologies embedded in the dashboard than what's under the hood. Users want to be connected and have convenient access to their personal content anywhere, anytime, on all of their devices. Their vehicles become just another node in the network, an extension of the user's digital and social lifestyle. A "connected" car is safer, more comfortable, and more energy-efficient, equipped with early access to important information such as weather reports, traffic jams, or road accidents. Today, the automotive segment is experiencing a very high rate of innovation. The design of the traditional vehicle is changing dramatically, both during the development phase and in the use and adoption of emerging technologies. A very visible example of this trend is the use of machine learning and artificial intelligence (AI) to support the autonomous vehicle. The use of these new, emerging technologies is introducing new challenges—both in terms of safety and security; the effect is that the design and the validation of a vehicle can't leverage only lessons learned in the past.

Biography

Federico Tiziani received an M.S. degree in Electronic Engineering from Politecnico di Torino (Italy) in 1997. He started his career at STMicroelectronics in 1999 as Managed NAND FW Designer and joined Micron in 2010. He occupied various positions up to Managed NAND Application & System Validation Manager. Today, Mr. Tiziani is Sr. Segment Marketing Manager in the Micron Automotive Group.

His responsibility spans the analysis of new architectures and solutions, driving and orientating the automotive innovation path towards leading Car makers, Tier 1 and Chip Set Vendors in the automotive industry. Furthermore, Mr. Tiziani represents Micron in standardization bodies, with the specific task of bringing the automotive perspective in the design of new memory requirements.

Mr. Tiziani is co-author of several books and patents granted internationally.

Trends in Automotive: The Changing Role of Process Control in “Zero Defect”



O. Donzella
Executive Vice President & Chief Marketing
Officer
KLA Corporation, San Francisco, United States



Abstract

Semiconductor fabs have historically used inspection and metrology equipment for yield learning – to monitor individual process tools for excursions and to assure that their manufacturing processes stay in control to maximize productivity. The increasing semiconductor content in automobiles, driven by growth in ADAS, electrification and autonomy, has put a growing focus on the quality and reliability of these devices and their implications for consumer safety and satisfaction.

This push for better reliability is embodied in the industry's Zero Defect initiative, as car manufacturers drive semiconductor DPPM requirements for their chip suppliers below 1PPM. More than half of the semiconductor failures that occur on the automotive assembly line today (so-called 0km failures) have their origin in semiconductor fab defectivity. To successfully meet their customers' reliability goals, fabs across the full range of design rules and device types are looking at their inspection and metrology data in a fresh light. Not only are they using their process control tools to do a better job of reducing overall sources of defectivity, they are also looking to the data to help disposition individual die, removing high-risk defective die from the supply chain.

In this keynote, KLA will update some of these industry trends and some of the exciting steps forward in quality and reliability made possible by these novel methods.

Biography

Oreste Donzella serves as Executive Vice President and Chief Marketing Officer at KLA Corporation. In his current position, Oreste is responsible for market analytics and forecast, customer technology roadmap and semiconductor ecosystem collaborations. In addition to his CMO responsibilities, he is also in charge of automotive solutions and collaborations, the ICOS and SPTS divisions and back-end packaging growth initiatives.

Prior to his current role, Oreste led the world-wide field applications engineering team, and was responsible for Customer Engagement projects and product portfolio optimization for wafer inspection platforms at KLA. Previously, Oreste was Vice President and General Manager of the Surfscan and SWIFT divisions at KLA-Tencor. In these positions, Oreste was responsible for the unpatterned wafer inspection, wafer geometry, and macro inspection business, overseeing new products development, sales, and marketing activities, customer support, and ultimately, division financial performance (P&L).

Oreste brings 25+ years of experience in the semiconductor industry. Prior to joining KLA in 1999, he spent more than six years at Texas Instruments and Micron Technology, holding engineering and management positions in the process integration and yield enhancement departments.

Oreste currently serves in SEMI North America advisory board.

Oreste earned his master's degree in electrical engineering from the University La Sapienza in Rome, Italy.

A new collaborative approach to defectivity challenges in the automotive industry



A. Amade
Senior Regional Director EMEA
Entegris SAS, Global Sales, Moirans, France



Abstract

By 2030, 50% of the automotive costs are expected to be electronics related with the advent of driver assistance and automation technologies. Reaching new levels of automotive innovation poses a new challenge to the industry -reaching the ppb level in failure rate at the component level.

The solution is in collaboration.

The purity and performance of materials will play a key role in reducing latent defects. Non-visible “black box” contamination, which can be missed by the installed metrology tools, have the potential to negatively impact the reliability of the semiconductor chips later in the life of the automobile. If the industry wants to reach the goal of “zero defects,” a new collaborative approach is necessary.

The semiconductor industry is here in the 3rd generation of the contamination control strategy where baseline and excursion control could be improved with an adequate particle and metal ion management strategy focused on materials. Besides the obvious options of filtration and purification, there is a vast list of potential solutions with the challenge to identify the ones that are the most impactful to yield and defectivity. Based on benchmark, case studies, technical meetings and process reviews, this approach is practical and cost effective to implement. A collaborative engagement model exists where device makers and material purity experts work together in task force mode to build the capabilities required to enable the reliable electrification, connectivity and automation of transportation ecosystem. This is the “New Collaborative Approach”.

Biography

Mr. Amade joined Entegris in 1995 as an Application Engineer in its Semiconductor business. In his current role as EMEA Sr. Regional Director, Mr. Amade’s primary responsibilities include growing the semiconductor business in Europe and Middle East through market strategies, and in the management of a sales, customer service and marketing team.

Mr. Amade held leadership positions at Entegris which included: gas microcontamination market management, strategical account management and regional sales management.

Mr. Amade has a degree in Chemical Engineering from ENS Chimie Lille and he is a member of Semi Electronic Materials Group and of the Global Automotive Advisory Council for Europe.

What you should expect from Smart Manufacturing/Industry 4.0



J. R. Behnke
General Manager Final Phase Systems
Inficon, Austin, TX, United States



Abstract

The Smart Manufacturing/Industry 4.0 revolution is underway and already driving changes throughout the supply chain. A comprehensive Digital Twin of a factory is the backbone of this initiative and can deliver significant improvement in classic factory Key Performance Indicators including Cycle Time, On-Time-Delivery, Overall Equipment Effectiveness, and Cost.

Another aspect of Smart Manufacturing/Industry 4.0 is its enablement of new capabilities which can improve the fundamental quality of products as well. These “quality centric” capabilities are key to meeting the quality levels expected by the Automotive Industry to support the deployment of autonomous driving vehicles. This talk will provide an overview of existing, in development, and future Smart Manufacturing/Industry 4.0 solutions for the Semi Industry and their impact on the Automotive Supply Chain.

Biography

John R Behnke
GM Final Phase Systems
An INFICON Product Line

Austin, TX | email: john.behnke@inficon.com | [linkedin.com/in/johnbehnke](https://www.linkedin.com/in/johnbehnke)

Mr. Behnke has 35 years of semiconductor industry experience including: logic and memory manufacturing, technology/product development and fab operational excellence. As the GM of Final Phase Systems an INFICON Product Line, John leads a team that develop and deploy SMART software solutions that enable fabs to improve their manufacturing efficiency. FPS’s suite of software solutions are built upon a common Datawarehouse which enables advanced Fab Scheduling and optimized WIP movement as well as other related capabilities. He is also a Co-Chair of the Semi North America Smart Manufacturing Special Interest Group.

Prior to FPS John served as the CEO and President of Novati Technologies, the SVP and GM of the Semiconductor Group of Intermolecular, the CVP for Front End Manufacturing, Process R&D and Technology Transfers at Spansion and the Director of AMD’s Fab 25’s Engineering and Operations groups where he was a founding member of AMD’s Automated Precision Manufacturing (APM) initiative which led the Semiconductor industry’s development and use of APC and other advanced factory systems. He also led the successful conversion of Fab 25 from Logic to Flash memory which was enabled through the virtual automation of the fab.

Mr. Behnke earned a B.S. degree in Mechanical Engineering with an Industrial Engineering Minor from Marquette University. Mr. Behnke holds five U.S. patents.



A. Banks
Chief Executive Officer
Techworks, London, United Kingdom



Biography

Alan Banks – Chief Executive Officer - Techworks

Alan Banks was appointed as Chief Executive Officer in March 2019

Prior to his appointment as CEO he was most recently Chairman of the Automotive Electronics Systems Innovation Network (AESIN) a role he has held since 2012.

Alan started his career at British Telecom where he trained as a Telecommunications Electronics engineer. He joined Ford Motor Company in 1985 where he held a number of management positions within the IT Department delivering Telecommunications and Product Development systems developing Ford products in Europe.

After completing an International Service Assignment in the United States in the early 2000's he returned to Visteon in the UK where he was the European IT Manager.

He held a number of senior positions within Visteon delivering Vehicle Cockpit Electronic Programs and after 35 years completed his career at Visteon as the Engineering Director responsible for delivering cockpit electronics for Ford and Jaguar Land Rover.

Alan is a member of the UK Automotive Council's Intelligent Connected and Mobility Working Group and is the lead for Power Electronics at the Automotive Council.

He is passionate about growing Electronics capability and believes strongly that connected communities and collaboration are the key to exploiting successful partnerships enabling the exploration of the wealth of opportunity it brings with new and exciting emerging technology markets-

De Ambroggi Luca



L. De Ambroggi
Senior Research Director, Artificial Intelligence
and Automotive
InformaTech (former IHS Markit Technology),
Munich, Germany



Biography

Senior Research Director, Artificial Intelligence (AI), Informa Tech (formerly IHS Markit)

Luca De Ambroggi is the global research and analysis lead for AI Solutions within the Transformative Technology team at Informa Tech.

His role as AI Solutions lead is to offer customers insights, data and strategic assistance for individual growth strategies, market-entry plans and competitive analysis in the disruptive world of machine learning and AI across different industries and levels in the supply chain. Mr. De Ambroggi also is recognized worldwide as one of the leading experts in electronics and semiconductors components for the automotive market. He has actively contributed to the automotive electronics and semiconductor research services and secured a 10-fold increase in revenue and customer engagement over the last four years. Luca De Ambroggi had more than 20 patents issued while working in the semiconductor industry. He possesses technical knowledge, as well as valuable insights on strategic market and business scenarios. Mr. De Ambroggi joined the company with 16 years of semiconductor industry experience in technical marketing, product and design management. He started his career as a design engineer with STMicroelectronics and later held various technical and marketing positions within both STMicroelectronics and Infineon. Mr. De Ambroggi graduated from the University of Catania, Italy, with full marks in electro-technic engineering. He is fluent in Italian, English, and German.

Donzella Oreste



O. Donzella
Executive Vice President & Chief Marketing
Officer
KLA Corporation, San Francisco, United States

Biography

Oreste Donzella serves as Executive Vice President and Chief Marketing Officer at KLA Corporation. In his current position, Oreste is responsible for market analytics and forecast, customer technology roadmap and semiconductor ecosystem collaborations. In addition to his CMO responsibilities, he is also in charge of automotive solutions and collaborations, the ICOS and SPTS divisions and back-end packaging growth initiatives.

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Oreste currently serves in SEMI North America advisory board.

Oreste earned his master's degree in electrical engineering from the University La Sapienza in Rome, Italy.

Cracknell Mark



M. Cracknell
Head of Technology
Zenzic, London, United Kingdom

ZENZIC⁴

SELF-DRIVING REVOLUTION

Biography

Mark joined Zenzic as Head of Technology in 2018, he is leading on establishing a world-leading suite of test facilities called Testbed UK. Mark is the architect of the UK Connected and Automated Mobility Roadmap to 2030 which establishes an industry wide view of the future. He previously worked at TfL, supporting the London connected and automated Testbed amongst other Surface Transport roles. Mark is a Chartered Engineer and has a First-class degree in Electrical and Electronic Engineering from Southbank University.

Watroba Radoslaw



R. Watroba
Carmaker Business Development EMEA Region
STMicroelectronics, Munich, Germany



Biography

Radoslaw Watroba was born in Racibórz, Poland in 1975. He received his diploma in electrical engineering from the Aachen University of Applied Sciences, Germany in 2002.

During and after his studies he held positions in the automotive segment as hardware developer and systems engineer in a medium-sized research and development company and globally operating tier1-supplier and semiconductor manufacturer.

In 2012 he joined STMicroelectronics as technical marketing principal engineer being responsible for marketing of the product and technology portfolio to the automotive industry in the fields of ADAS, digitalization, in-car networking, electrification and connectivity accompanied by a close collaboration with OEMs.

In his current position he manages the business development relationship with the EMEA Carmakers primarily focusing on introduction of new semiconductor technologies and system solutions targeting future vehicle generations.

About STMicroelectronics: ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices. By getting more from technology to get more from life, ST stands for life.augmented. In 2018, the Company's net revenues were \$9.66 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com.