

SEMICON® EUROPA

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Entegris



A. Amade
President, EMEA Region
Entegris, Moirans, France



Biography

Mr. Amade joined Entegris in 1995 as an application engineer in its semiconductor business. Today, he is the President of the Europe and Middle East (EMEA) region as well as the VP of sales for the Microcontamination Control division focused primarily on growing the semiconductor business in North America, Europe and the Middle East through market strategies and the management of sales. For more than 25 years, Mr. Amade has held leadership positions at Entegris in gas microcontamination market management, strategic account management, and regional sales management. Mr. Amade has a degree in Chemical Engineering from ENS Chimie Lille and is a member of the SEMI Electronic Materials Group, the Global Automotive Advisory Council for Europe (GAAC) and the Platform for Automotive Semiconductor Requirements Along the Supply Chain (PASRASC).

SiC: Paving the way for Sustainable Mobility



M. Ruhnau
Manager
Porsche Consulting S.A.S., Paris, France



Abstract

Power transistors based on silicon carbide (SiC) technology will play an important role in a wide range of industries in the context of electrification and decarbonization. For the automotive industry, with the shift to battery-electric vehicles in many regions, SiC will be an important technical lever to improve charging performance and efficiency, and thus range. There are also weight and packaging benefits to consider. However, as the maturity of SiC technology is still relatively low compared to mature silicon-based products, the semiconductor industry, as well as Tier-1s and OEMs, need to address three main challenges. First, unit costs must be reduced to penetrate volume segments and make the technical benefits widely available. Second, automotive quality requirements are high, especially when considering the higher mileage mission profiles of future vehicles. Third, global capacity must keep pace with rapidly growing global demand. By

addressing these three levers, OEMs, Tier-1s and the semiconductor industry can make the most of SiC technology and pave the way for a sustainable automotive future.

Biography

Since 2019: Porsche Consulting Germany and France

Manager with competence focus semiconductor technology, product strategy and development, product cost optimization, design to cost, cost reduction and profitability programs

Disruptive System Design within the SiC Value Chain



A. Blum
Project Manager, Progressive Semiconductor
Program
Volkswagen Group Components, Munich,
Germany



Abstract

Coming Soon

Biography

Dr. André Blum joined Audi in 2004, starting as a developer for EMC capabilities of ECUs. In 2008 he finished his PhD work in electrical engineering (power electronics). In the following years he managed several projects and small teams in different production departments. Since the beginning of 2016 Dr. Blum is a team member of the Audi Semiconductor Strategy and VW Group OneTeam and works with semiconductor companies on a daily basis. Dr. Blum was promoted to Audi Management in 2015. Based on his long history within Audi, working in the product development as well as in the production & logistics and production planning divisions, Dr. Blum is an expert in automotive electronics as well as in industry 4.0 electronics.

The Role of SiC in E-Mobility



R. Bornefeld
Senior Vice President Business Line and
Engineering Power Semiconductors and Modules
Robert Bosch GmbH, Reutlingen, Germany



BOSCH
Invented for life

Abstract

The fast adoption of battery electric vehicles (BEVs) boosts the use of wide bandgap semiconductor materials. Silicon carbide has become tantamount to electro-mobility due to its superior performance in improving efficiency of electric drivetrains. However, it still has a higher cost than conventional silicon-based technology. This presentation will focus on efficiency and affordability aspects. We will go through the latest SiC innovations in material development, device structures and drivetrain concepts, and show how, all put together, enable not only efficient but most importantly affordable electrification from an end user perspective.

Biography

Ralf Bornefeld is Senior Vice President with responsibility for business line and engineering of Power Semiconductors & Modules at Bosch. He joined Bosch in November 2019.

Before he held various management positions at Infineon Technologies AG: senior director technology in frontend production from 2005-2008, senior director engineering of automotive sensors until 2011 and finally vice president and general manager business line automotive sensors.

Ralf started his career at Elmos Semiconductor in 1992 as a technology development engineer. Afterwards he took several management positions until end of 2004, mostly serving as vice president of R&D and eventually as vice president of business line microsystems.

Ralf Bornefeld was born in Schalksmuehle, Germany, in 1964. He graduated with a degree in Electrical Engineering from Technical University of Dortmund in 1992.

Si, SiC and GaN – the Three Essentials for Power



D. Werber
Vice President Automotive High Voltage
Development
Infineon Technologies AG, Munich, Germany



Abstract

Coming Soon

Biography

Dorothea started her career as research assistant on SiC power devices at the Technical University Munich. In the year 2010 she joined Infineon as chip development engineer. She managed several development projects for industrial IGBT and diode chips as well as frame based power modules. Later on, she led the Intelligent Power Module product and package development. Currently she is leading the technology and product development for Automotive High Voltage. She holds a Dr.-Ing. degree in electrical engineering as well as a diploma in business.

The Road to High Volume Manufacturing: Applied Materials Solutions for Silicon Carbide



D. Britz
Senior Director, Strategic Marketing
Applied Materials, ICAPS, Santa Clara, United
States of America



Abstract

Silicon Carbide's challenges demand specialized solutions. At Applied Materials, we offer the widest range of semiconductor manufacturing equipment for Silicon Carbide wafers and devices. We will discuss how we are supporting our customers in increasing production volumes and improving yields to meet market demand.

Biography

Dr. David Britz leads the Strategic Marketing organization for the ICAPS business at Applied Materials. Prior to Applied, David has experience at both Fortune 100 and startup companies in strategy, business development, and product management. David has an MBA from MIT Sloan and a DPhil in Materials from the University of Oxford.

Quality of SiC for Automotive Business



E. Sabonnadière
SVP Division Automotive & Industrial
Soitec, Grenoble, France



Abstract

Coming Soon

Biography

Since July 2021, Mr Sabonnadiere is Senior Vice-President of the Division Automotive & Industrial of Soitec. He is also in charge of the Strategic Program SiC. From September 2017 to July 2021, Mr Sabonnadiere was CEO of CEA-Leti, one of the most innovative Labs in the industry of microelectronics and biotechnology, based in Grenoble (France). Previous two years, Mr Sabonnadiere was CEO & Chairman of the Business Group Professional of Signify, former Philips Lighting (Amsterdam). From 2014 till 2016, he served as Senior Associate of MidCap Private Equity firm named Gimv (Paris, Antwerpen, Munich, Den Haag). Previously in his career, Mr Sabonnadiere was CEO & Chairman of General Cable Europe & Africa (Barcelona). From 2005 till 2008, he was CEO of NKM Noell GmbH, the German branch of the group REEL. Mr Sabonnadiere was vice-president of the Distribution Transformers division of Alstom T&D for 5 years. He began his career in 1992 with Schneider Electric holding various positions including that of Managing Director of equipment units for 10 years. Mr Sabonnadiere has a strong innovation and technological background combined with a successful business track record over decades and some key innovations adopted into the markets. With 30+ years of executive leadership of large operations, he produced high level performances of operating margins & results and generation of cashflow. He gained a sound experience of change management in large multi-cultural organizations to adapt to new markets conditions and dynamics in European and International environments. He designed and set-up ambitious strategic plans including some merge & acquisitions. Mr Sabonnadiere believes in operational excellence, innovations in technology, talents management and enthusiasm in leadership. His sound experience in the European industry make him a highly knowledgeable and respectful Board member. Mr Sabonnadiere obtained a PhD in physics (France), and an engineering degree in Information Technology (France). He holds an MBA (France). Mr Sabonnadière is a fully qualified instructor at the ski school in Les Ménuires, and member of the Advisory board of IAC Consultant and Sparring Capital firm

Meeting the SiC Gold Rush with Entegris Capabilities



N. Mahadev
Vice President, Advanced Planarization Solutions
(APS) Division
Entegris, Freemont, United States of America



Abstract

Entegris leads the way in the design and manufacturing of dedicated SiC consumables, including CMP slurries, post CMP cleans, and pads. Our products are meticulously engineered for high-volume production, catering to the growing demand in the industry.

Our versatile products can be utilized across a wide range of new and existing OEM tools, such as single, double, and batch polishing equipment. By incorporating our slurries, these tools experience improved throughput efficiencies while simultaneously reducing wafer level defects and scratches.

Post CMP cleaning of wafers is of utmost importance, ensuring the removal of particles and metal contaminants before the epitaxial process. Our post CMP cleans are specifically developed to address this challenge while maintaining the performance of CMP pads and tool sets through effective cleaning solutions. Lastly, Entegris possesses cutting-edge cleanroom facilities, enabling us to conduct in-depth studies, analysis, and testing of pad/slurry interactions. This capability allows us to develop next-generation slurries and cleans, particularly as the industry transitions from 6" to 8" wafer sizes.

The focus of this presentation is to showcase compelling data on the performance of Entegris' SiC consumables across various toolsets, addressing both current and future industry requirements.

Biography

Niraj Mahadev is an esteemed professional with a proven track record as a leader in the semiconductor industry since 1999. With extensive experience in the TDK Group of Companies, he has successfully held diverse roles in multiple countries across Southeast Asia and the USA. Throughout his career, Niraj has excelled in research and development (RD), new product introduction (NPI), yield optimization, and operations management. Notably, he demonstrated exceptional leadership skills while overseeing a large-scale manufacturing facility. Additionally, Niraj served as the managing director at BASF MicroChemicals, where he exhibited expertise in managing PCMP cleans and polishing/lapping slurries for the processes within the Hard Disk Drive Industry.

Niraj Mahadev's career has been marked by remarkable achievements and notable milestones. His contributions have been instrumental in driving industry advancements, including the successful adoption of the first Apple iPod hard disk drive. He also orchestrated the seamless transfer of high-volume manufacturing for hard-drive products from the United States to Singapore, optimizing operational efficiency and global supply chains. His impactful career highlights his ability to lead and deliver groundbreaking solutions in the semiconductor and storage industries.

Within Entegris, Niraj Mahadev leverages his wealth of experience and deep-rooted passion to drive advancements in the realm of advanced planarization solutions. His primary objective revolves around the development of specialty chemical products that seamlessly integrate chemistry and processes. By doing so, he aims to tackle the persistent challenges of enhancing performance, yield, and reliability in the storage, optical, and semiconductor industries. Through his dedication and expertise, Niraj contributes to shaping the future of these sectors by spearheading innovative solutions that optimize processes and elevate overall industry standards.