

## B105- Enabling Technologies: A Peek under the Hood, Part 1



**Marc Amblard**  
Orsay Consulting

Based in the heart of Silicon Valley, Marc Amblard is the founder and managing director of Orsay Consulting. An expert in the deep transformation of the mobility space, he provides advisory services focused on the future of mobility and automotive technologies, i.e. electrification, autonomous driving, connectivity and shared mobility and adjacent domains. Marc has been focusing on the technologies, business models and stakeholders that are driving the profound transformation of mobility for many years. This is a passion. Marc provides OEMs, automotive suppliers and other mobility-related companies various

services including strategic advisory, market insight and domain-specific deep dives, scouting for technologies and startups or executive briefings. In addition, he advises several mobility startups and mentors others at Plug & Play (largest accelerator in Silicon Valley). Marc is deeply entrenched in the overall mobility ecosystem, particularly in Silicon Valley, i.e., startups, accelerators, tech giants, emerging OEMs, VCs/CVCs and corporate outposts, which provides him with an extensive understanding of and insight into how the ecosystem is evolving. He maintains a proprietary database which currently contains over 2,000 (and growing) mobility-related companies across a broad range of mobility and autotech domains. Marc often speaks at mobility conferences and publishes a monthly newsletter on the mobility revolution (over 50 articles published to date) as well as a detailed landscape of the global autonomous driving ecosystem. Marc leverages 25+ years in senior positions at PSA, Valeo, Renault and Alstom (rail), in Europe and the USA. He received a Master's in Mechanical Engineering from Arts et Métiers in Paris, France and an MBA from the University of Michigan.



**Aruna Anand**  
Continental North America

Aruna Anand is Head of Segment 5, Connected Car Networking business unit for the North American region of Continental's Automotive Vehicle Networking and Information business area. She was appointed to this position effective January 1, 2021. In this role, Anand is responsible for all global Connected Car Networking business activities that support customers based out of North America. Previously, Anand was responsible for leading an independently operating business unit that offers comprehensive engineering services. Continental Engineering Services harnesses the extensive know-how and

creativity of its engineers, combined with an access to Continental's entire technology pool, to provide innovative engineering solutions to external customers. In addition, it leverages its flexibility to transform mass production technology to apply to small series and niche applications at economical costs. Since joining the company in 1997, Anand has held numerous leadership positions across the different business areas of the Continental Automotive group sector. She was Head of Software for Gasoline Engine and Transmissions Systems for the Electronic Controls business unit within Vitesco Technologies, North America. She also led the Wireless Product Group Engineering within the Connected Car Networking business unit of Continental's Vehicle Networking and Information business area.



**Dominique Freckmann**

TE Automotive

Dr. Dominique Freckmann leads TE Automotive's Global Technology efforts which includes the product/ technology/ manufacturing roadmapping process for the Automotive business unit as well as identifying new trends, anticipating the evolving needs of innovative players in the areas of Autonomous Driving, Connected Car, and E-Mobility, and supporting early engagements with TE's highly engineered connector and sensor solutions. Prior to her global assignment, she established and lead TE Automotive's Silicon Valley Tech Office which continues to serve the local automotive and transportation industry with TE's technologies. Dr. Freckmann started her career by conducting material science research for more than a decade in areas such as lightweighting, printed electronics, aerospace, and RF materials. She graduated with a Ph.D. in chemistry from the Technical University of Berlin, Germany; has authored and contributed to more than a dozen peer-reviewed scientific publications; and holds several patents related to materials and manufacturing processes for electronics applications.



**Filip Geuens**

XenomatiX, Belgium

Filip Geuens (1970) is CEO of XenomatiX, a Belgium-based tier II automotive supplier, provider of true solid state lidar technology. Filip spent his entire career in optical metrology. He started as the 7th employee at a company called Krypton, developing optical coordinate measuring machines. The company was acquired by Metris which was later bought by Nikon, evolving from 70, to 700 and finally to 27.000 employees. In his previous role Filip was CTO of Nikon Metrology, one of the 6 business units of Nikon. That business unit is developing optical 3D inspection systems for quality control in automotive and aerospace. Early 2015 Filip decides to leave Nikon to build and grow XenomatiX. His past experience in optical systems and automotive business allowed him to appreciate the technology XenomatiX started developing in 2012. Today, the company employees around 30 people in Belgium, Germany, China and the US, and has built solid partnership with key automotive players. Filip holds a BE degree in Mechatronics Engineer from the university of Leuven, Belgium as well as a MS in Operations Management.



**Michael Kiehn**

Ibeo

Michael Kiehn received a degree BEng Hons in Electronics Engineering with telecoms option from the University of Portsmouth in 1996 and a diploma in the same field from the University of applied science Hamburg in 1997. He joined Ibeo in 1998 as a design engineer for hard- and firmware. In 2003 Michael became head of the Ibeo sensor development department. Besides his work for Ibeo he was involved in projects in FP5, FP6, FP7 and Horizon 2020 as member of the project consortia and as reviewer. His main interest is in the development of new LIDAR technologies for future environmental perception sensors.



**Paul Konasewich**

PACCAR Innovation Center

Paul Konasewich is Director of Business Development for the PACCAR Innovation Center in Silicon Valley. PACCAR is the maker of Peterbilt, Kenworth, and DAF trucks. Paul was part of the founding team of the Innovation Center, and is charged with finding emerging tech opportunities for PACCAR. Paul's technical training is in Computer Engineering, and he has an MBA from the MIT Sloan School of Management. Paul's experience includes R&D management at Microsoft, semiconductor M&A at SMSC, and startup partnerships at Honda.



**Leaf Jiang**

NODAR

Dr. Leaf Jiang is the CEO and Founder of NODAR, a leading provider of camera-based 3D vision software technology, which is a crucial component in the development of ADAS and autonomous vehicles bringing unmatched safety, performance, and affordability to the automotive market. Jiang is a recognized expert in LiDAR systems. He designed and built coherent and direct detection LiDARs for 12 years while at MIT Lincoln Laboratories, where he served as Associate Technology Officer. Jiang holds five patents, was published in 32 academic publications and is the winner of seven prestigious engineering awards. Prior to Lincoln Labs, Jiang earned his BS, MEng, and PhD in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology.



**Justin McNew**

JMC Rota Inc.

Justin McNew has 23 years of experience in communications systems engineering, standards development, and communications and automotive systems product development. In addition to developing and deploying infrastructure solutions for cellular, Wi-Fi, and location-based services, Justin has been very active in the development of connected vehicle technologies. He has led the development of a variety of connected vehicle technical standards, while also embodying those standards with the industry's first commercially available V2X platforms. In 2013 McNew founded JMC Rota Inc., where he is engaged in various projects ranging from healthcare technologies to continued development of V2X standards and solutions, and he is now providing expertise in the field of cooperative automated vehicles and automated driving. At JMC Rota, Justin is leading the development of V2X standards and solutions. He serves as Chair of the IEEE 1609 standards Working Group, Vice Chair of the SAE Infrastructure Applications Technical Committee, and he is the sponsor and technical editor of SAE J2945/1, the first V2V safety communications standard. Justin is also leading or deeply involved in developing a variety of other standards for vehicle mobility and safety, such as weather, road safety, traffic management, traffic-signal oriented applications, public transit, and roadside infrastructure. Finally, he actively supported the development of the SAE J3216 definitions and taxonomy report for connected automated vehicles and cooperative automation. Justin earned a Master of Science in Electrical Engineering at Clemson University, and his Bachelor of Science in Physics. He has 15 patents and several publications related to wireless networks, location technologies and transportation systems.



**Jim Misener**  
Qualcomm

Jim Misener is Senior Director, Product Management and the Global V2X Ecosystem Lead for Qualcomm. He develops and executes Qualcomm's C-V2X deployment strategy across all global regions and works with roadside and automotive stakeholders, enabling software/hardware stack suppliers and internal teams to accomplish broad C-V2X deployment. Previously at Qualcomm, Jim led the automotive standards team and C-V2X was a major emphasis as well. In addition to his roles at Qualcomm, Jim serves as a 5GAA board member, ITS California board member, the SAE C-V2X Technical Committee Chair

and is active in TRB, which involves serving as an ITS Committee member, Vehicle-Highway Automation committee member and Automated Vehicle Symposium Enabling Technologies session organizer. Jim also serves as an Advisory Council member to the Carnegie Mellon University/University of Pennsylvania/Ohio State National University Transportation Center, Mobility 21 and on the IEEE Intelligent Transportation Systems Society Board of Governors. Jim was an early pioneer in vehicle-highway automation and vehicle safety communication at the California Partners for Advanced Transit and Highways (PATH) at UC Berkeley, starting in the mid-90s. He has served as the PATH Executive Director, Executive Advisor to Booz Allen Hamilton, and an independent consultant.



**Youval Nehmadi**  
LeddarTech

Youval Nehmadi has over 25 years of experience in the high-tech industry, including in applied materials, algorithms, computer vision, deep neural networks, and business development in both large enterprises and startups. Youval holds a PhD in 3D sensor fusion for autonomous vehicles and an EMBA from Kellogg-Recanati of Tel Aviv University, and is the owner of more than twenty patents. In January 2016, along with Ronny Cohen, Youval co-founded VayaVision, a sensor fusion and perception software company focusing on the autonomous driving market. VayaVision developed an innovative

patented technology that enables best-in-class sensing with added-value cognition abilities at an affordable price. In July of 2020, VayaVision was acquired by LeddarTech, a global leader in Level 1-5 ADAS and AD environmental sensing technology.



**Shailesh Patil**  
Qualcomm Technologies

Shailesh Patil leads 5G/6G research for automotive applications at Qualcomm Technologies. This includes leading research and 3GPP standardization of C-V2X and telematics enhancements. Previously, as a rapporteur, he led the standardization of device to device communication in 3GPP LTE. This was for the first time that device-to-device communication was standardized in any cellular standard. He has 144 granted U.S. patents (total of 693 granted patents worldwide). Shailesh got his PhD and MS from University of Texas at Austin in 2006 and 2004 respectively. He has been with Qualcomm Technologies since 2006.





**Eetu Pilli-Sihvola**

Traficom

Eetu Pilli-Sihvola currently leads analysis and research activities at Traficom. He is an expert on connected and automated driving, mobility innovations and digitalization in logistics. Eetu has worked in research from 2010 and has authored and contributed to more than 10 peer-reviewed articles. He was responsible for creating the first national roadmap on automated transportation in Finland in 2015. Eetu has a M.Sc. (Tech.) in software systems from Aalto University. In his career, Eetu has also been involved in developing road weather information systems and services, assessing the impacts of ADAS systems, and evaluating the business potential of location-based services.



**Sabbir Rangwala**

Patience Consulting

Sabbir is an optics veteran with 30 years experience in telecom optics, quantum detectors, optical sensors, movement automation, perception and LiDAR. He is a regular contributor to Forbes where he concentrates on LiDAR and other sensors for autonomous driving and ADAS. He currently heads up Patience Consulting, which provides customers with expertise in areas of sensing, perception and robotics. He is passionate about cars (human and autonomous). Prior to this, he led Princeton Lightwave as President, pioneering the development of 1550 nm LiDAR. The company was sold to Argo.ai in 2017. Prior to this, he held leadership roles at JDS Uniphase and AT&T Bell Labs, primarily in

optics based product developments. He has a Ph.D. from the University of California at Berkeley.



**Jari Saarinen**

GIM Robotics

Jari Saarinen, or “Mr. Autonomous Vehicle” has over a decade of academic robotic research behind him. He has done his doctoral thesis at Aalto University, earlier known as Helsinki University of Technology, in the beginning of 2000. Later, after a postdoc at Örebro University Jari began a commercial robotic career by founding his first own company GIM Robotics to create various robots and commercial research for autonomous intelligent machines. Today he is leading the technical development of the Sensible 4 autonomous driving software product.



**Valentin Scinteie**

Kontron Transportation

After more than 20 years in the transportation and security industries with Alstom Transport and Genetec respectively, Valentin joined his current employer Kontron Transportation in 2014. Valentin holds a Bachelor's degree in Electrical Engineering from McGill University, Montreal, and a MBA degree in International Business from l'École des hautes études commerciales (HEC), Montreal. In his current position, Valentin is responsible for product market alignment and business development of Kontron's next generation transportation “Autonomous Anywhere” rugged Intelligent Vehicle Computers

(IVCs) and IoT (Internet of Things) ready gateways for onboard and smart city applications. Valentin also chairs the TVAC (Technologies for Vehicle Automation and Connectivity) APTA (American Public Transit Association) Subcommittee and the TRB ARTS (Automated Road Transportation Symposium) Enabling Technologies Breakout Sessions. Valentin is a regular blogger and moderator/speaker at conferences on the topics of Autonomous Vehicles (AVs), IoT and Emerging Public Transportation Technologies.



**Jyoti Sharma**  
Verizon

Jyoti Sharma is a Manager in the Technology, Architecture and Planning team at Verizon. In this role Jyoti is responsible for defining architecture and strategy for Verizon's Network, Enterprise & Consumer products and services. Jyoti has over 20 years of industry experience in technology and telecommunication roles including: Wireless Systems engineering, System performance, and new technology introduction. Currently, she's focused on Cellular V2X technology Strategy and 5G Automotive Association (5GAA). Jyoti is leading a cross functional team to demonstrate V2X Use cases over 5G and MEC

leveraging other products and services with partners across V2X ecosystem, Prior to her current role at Verizon, Jyoti worked at Nokia, Alcatel-Lucent and Lucent in the Wireless R&D Organization defining base band algorithms, running simulations and writing requirements for 3G/4G/5G Wireless Networks and contributing to the 3GPP standards. Jyoti is a senior member of IEEE and currently serves as the Chair of Women In Engineering at the IEEE North Jersey Section. She has worked as an Adjunct Professor at the Fairleigh Dickinson University and the DeVry University. Jyoti earned a Ph.D. in Electrical Engineering from the Indian Institute of Technology, Delhi, India, a Master's in Telecommunications from the Asian Institute of Technology, Bangkok, Thailand and a Bachelor's in Electronics & Communications Engineering from the Delhi Institute of Technology, Delhi, India. Jyoti lives in New Jersey with her husband, two kids and a dog. She is passionate about education, promoting Girls in STEM, community service activities and is a volunteering champion at Verizon.



**Brad Stertz**  
Audi Government Affairs

Brad Stertz is Director of Audi Government Affairs in the Washington, D.C. office. He represents Audi interests on a range of rapidly evolving topics, including automated vehicle testing and deployment, electric vehicles and charging infrastructure, connected vehicle technologies, safety, cybersecurity, emissions regulations and trade. He founded, and currently serves as co-chair for, Partners for Automated Vehicle Education (PAVE), a coalition of AV innovators and key stakeholders dedicated to better informing the public and policymakers about the mobility revolution taking shape around AV technology

advancements. Notably he worked closely with Audi / VW and Stanford University researchers who accomplished the milestone achievement of piloting an unmanned Audi TTS to the summit of Pikes Peak in 2010. He also framed early public perceptions of automated driving, including the first opportunity journalists had to experience hands-free performance at highway speeds during a January 2015 test drive from Palo Alto, CA to Las Vegas. He has been instrumental in furthering partnerships between Audi and leading technology innovators, while remaining closely aligned with the AUDI AG global government affairs and technical development teams in Ingolstadt, Germany. In 2008, Stertz joined Audi to lead Corporate Communications. In that role he was responsible for building awareness about the progressive strides made by Audi advanced technologies. Mr. Stertz is the co-author of the best-selling book Taken for a Ride: How Daimler-Benz Drove Off With Chrysler. Fortune magazine counted this account of the ill-fated DaimlerChrysler merger among history's 75 "Smartest Books We Know." Mr. Stertz graduated with a bachelor's degree from the University of Kansas. He lives with his family in Purcellville, VA.



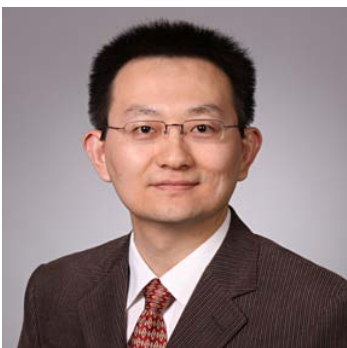
**Rick Tewell**  
AEye

Tewell is an automotive and LiDAR veteran with more than 30 years of engineering and operations experience, including two decades in automotive electronics. Prior to AEye, Tewell was COO at Velodyne. He has also held senior roles in both hardware and embedded software at industry-leading high technology companies, including NVIDIA, Freescale, NXP and VeriSilicon.



**Andreas Wendel**  
Kodiak Robotics

Andreas Wendel is the VP of Engineering at Kodiak Robotics, a leading developer of autonomous long-haul trucking based in Mountain View, California. As one of Kodiak's founding engineers, he has built the company's engineering team from the ground up. Prior to joining Kodiak, Andreas was the Perception Tech Lead at Waymo, where he was part of the small team that launched the first driverless car on public roads. Andreas earned a PhD in Computer Science from Graz University of Technology, with highest distinction. He led the Aerial Vision Group working on autonomous visual navigation for quadcopters, he lectured at the Institute for Computer Graphics and Vision, and he was a visiting researcher at Carnegie Mellon's Robotics Institute. Andreas has received multiple national and international recognitions for his work, including being named Austria's Innovator of the Year.



**Yunpeng Zang**  
Ericsson Eurolab, Germany

Yunpeng Zang is a Master Researcher at Ericsson Eurolab, Germany. His focus is on research and standardization of V2X communications and Intelligent Transport Systems. His activities cover ETSI TC ITS and 5G Automotive Association (5GAA). Yunpeng was the chairman of 5GAA Working Group 2 Architecture and Solution Development between 2019 and 2021 and the leader of several work items in 5GAA and ETSI ITS. Yunpeng is also involved in Ericsson's activities of V2X communications and ITS in the context of 3GPP and CEPT, as well as publicly funded research projects. Yunpeng received his Doktoringenieur (Dr.-Ing.) degree in Electrical Engineering from RWTH-Aachen University, in 2015. His dissertation on vehicular communication protocol design received the "Borchers-Plakette" award from RWTH-Aachen University.