Symposium 2021Breakout Session Title:

B105, Part 1/B205, Part 2-Enabling Technologies: A peek under the hood

Key technology challenges for ongoing AV efforts and discussion of the upcoming requirements for next generation larger commercial deployments

Organizers / Session Contact:

- Chair: Valentin Scinteie - Director Business Development, Transportation, Kontron
- Co-chair: Robert Dingess - President, Mercer Strategic Alliance, Inc.
- Dominique Freckmann - Global Technology Automotive, TE Connectivity
- Jim Misener - Senior Director Product Management and Global V2X Ecosystem Lead, Qualcomm Technologies Incorporated
- Eetu Pilli-Sihvola - Head of Analysis and Research, Traficom

Session Description

This session will focus on the key technologies that shape the autonomous vehicles landscape.

Whether it is for partial automation for L2/3 systems or reaching the holy grail of L4/5 systems, we will examine the components and systems available to AV architects. Our expert panelists will concentrate the discussion on the latest key technology challenges for ongoing AV development efforts and start discussing the upcoming technology requirements for next generation larger commercial deployments in each of the following areas:

- Communications: Vehicle-to-Everything (V2X)
- Sensors, Cameras and Positioning: LiDAR, radar, infrared, cameras, localization/ mapping, and sensor fusion
- High Power Compute and AI Accelerators: data processing and specialized hardware designed to accelerate artificial intelligence (AI) applications such as machine vision and machine learning
- System Integration: integration of V2X, sensors, compute and accelerators, and software to drive the vehicle
- AV technologies specific for L4/L5 trucks

Goals/Objectives/Outputs

The goals of this session are to:

- Provide an overview of the landscape of the ever-expanding number of players developing key technologies to enable autonomous vehicles.
- Examine potential shortfalls and upcoming requirements for these technologies, ranging from pure technical capabilities through the conformance to the perspectives listed above.
- Enable interaction with our panelists and attendees via session Q&A and continuing conversations.

Prelimnary Agenda

Session I - Monday, July 12th
(10:00 - 13:00 PDT / 12:00 - 15:00 CDT / 13:00 - 16:00 EDT / 19:00 - 22:00 CEST)

Intro
(10:00 - 10:20 PDT / 12:00 - 12:20 CDT / 13:00 - 13:20 EDT / 19:00 - 19:20 CEST)
Overview and Trends of the AV Ecosystem

Moderator:
- Valentin Scinteie, Director Business Development - Transportation, Kontron

Panelists:
- Marc Amblard, Managing Director, Orsay Consulting

Panel: Sensors, Cameras and Positioning
(10:20 - 11:40 PDT / 12:20 - 13:40 CDT / 13:20 - 14:40 EDT / 19:20 - 20:40 CEST)
Cameras, LiDAR, Radar, Infrared, Localization/Mapping and Sensor Fusion.

Moderator:
- Eetu Pilli-Sihvola, Head of Analysis and Research, Traficom

Panelists:
- Filip Geuens, CEO, XenomatiX
- Dr. Leaf Jiang, CEO & Founder, NODAR
- Michael Kiehn, Director of LIDAR, Ibeo Automotive Systems
- Youval Nehmadi, Engineering Director, Sensor Fusion & Perception, LeddarTech
- Jari Saarinen, CTO, Sensible 4
- Rick Tewell, COO, AEye

Panel: Communications
(11:40 - 13:00 PDT / 13:40 - 15:00 CDT / 14:40 - 16:00 EDT / 20:40 - 22:00 CEST)
Vehicle-to-Everything (V2X)

Moderator:
- Jim Misener, Senior Director Product Management and Global V2X Ecosystem Lead, Qualcomm Technologies Incorporated

Panelists:
- Justin McNew, President and Founder, JMC Rota Inc
- Eryk Nice, VP of Technology Strategy, Motional
- Shailesh Patil, PhD, Principal Engineer/Manager, Qualcomm Technologies Incorporated
- Jyoti Sharma, Lead V2X Technology Strategy, Verizon
- Brad Stertz , Director Government Affairs, Audi of America
- Yunpeng Zang, Master Researcher, Ericsson Research Germany

Session II - Tuesday, July 13th
(05:00 - 08:00 PDT / 07:00 - 10:00 CDT / 08:00 - 11:00 EDT / 14:00 - 17:00 CEDT)

Panel: High Power Compute and AI Accelerators
(05:00 - 06:00 PDT / 07:00 - 08:00 CDT / 08:00 - 09:00 EDT / 14:00 - 15:00 CEDT)
The ability to process the necessary data for successful autonomous systems including specialized hardware designed to accelerate artificial intelligence (AI) applications such as machine vision and machine learning.

Moderator:
- Valentin Scinteie, Director Business Development - Transportation, Kontron

Panelists:
- Robert Day, Director, Autonomous Vehicles, Arm
- Manuela Midl, Manager Advanced Projects, TTTech Auto AG
- Tom Toma, Head of Sales & Product, Arriver
- Tom Tomazin, Senior Director, SoC Product Architecture, NVIDIA

Panel: System Integration
(06:00 - 07:00 PDT / 08:00 - 09:00 CDT / 09:00 - 10:00 EDT / 15:00 - 16:00 CEDT)
Integration of sensors, compute and accelerators, V2V/I2V and SW to drive the vehicle

Moderators:
- Dominique Freckmann, Automotive Engineering Manager, TE Connectivity

Panelists:
- Aruna Anand, Head of Connected Car Networking, Continental North America
- Dr. Matti Kutila, Research Team Leader, VTT Technical Research Center of Finland
- Olav Madland, CEO, Applied Autonomy
- Paul Perrone, Founder/CEO, Perrone Robotics

Panel: L4/L5 trucks
(07:00 - 08:00 PDT / 09:00 - 10:00 CDT / 10:00 - 11:00 EDT / 16:00 - 17:00 CEDT)
AV technologies specific for L4/L5 trucks

Moderator:
- Robert Dingess - President, Mercer Strategic Alliance

Panelists:
- Dima Kislovskiy, Head of Product Integration, Aurora
- Paul Konasewich, Director of Business Development, PACCAR Innovation Center
- Chuck Price, Chief Product Officer, TuSimple
- Sabbir Rangwala, President, Patience Consulting LLC
- Andreas Wendel, VP Engineering, Kodiak