



Executive  
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**PRELIMINARY GUIDE**

# COMVEC™

**ON-HIGHWAY | OFF-HIGHWAY | DEFENSE**

September 11-13, 2018  
Rosemont, Illinois, USA

**Theme: DISRUPTIVE TECHNOLOGIES**

[sae.org/comvec](http://sae.org/comvec)



# COMVEC™ EXECUTIVE CHAIR



*“COMVEC 2018 brings both commercial vehicle professionals and technology leaders from outside of the traditional Commercial Vehicle industry together and engages in a dialogue on disruptive technologies that will transform the industry and its business model in the coming years.”*

Dennis “Denny” Mooney  
Executive Chair

## **ABOUT THE COMVEC™ TECHNOLOGY CONNECTION PROGRAM**

The COMVEC™ Program is developed by the Executive Council that is comprised of 58 engineering leaders. This program was created to ensure that the event content is relevant, valuable and sustainable for the future. This year’s event will feature two “vertical” symposia tracks and nearly 20 expert panel discussions.

- Symposia “hot-topic” tracks are focused on strategic and business-related issues, with the goal to have expert panelists provide their perspective and engage with attendees during Q&A.
- Expert Panel Discussions are more in-depth sessions on specific topics and allow the technical panel to be an interactive session followed by Q&A. These sessions are geared toward individuals working in the technology area as well as individuals wanting to learn more.
- The L. Ray Buckendale Lecture provides procedures and data useful in formulating solutions and is directed primarily by an industry leader to the needs of young engineers and students with emphasis on practical aspects of the topic.

# EVENT-AT-A-GLANCE

**TUESDAY** September 11

<b>8-9 a.m. Young Professionals Meet &amp; Greet</b>			
8:30-9 a.m. Morning Coffee - <i>Sponsored by Oshkosh</i>			
<b>9-10 a.m. Opening Ceremony &amp; Keynote - Troy Clarke, Chairman, President &amp; CEO, Navistar</b>			
10-10:30 a.m. Networking Break in Exhibit Hall - <i>Sponsored by Sears Seating</i>			
10:30 a.m.-Noon CV Efficiency Symposium - Advanced Emission Regulations	10:30 a.m.-Noon Total Vehicle Mechatronics and Integration Committee: Artificial Intelligence and Machine Learning	10:30 a.m.-Noon Aerodynamics Committee - Organic Truck - Drag Reduction	10:30 a.m.-Noon Manufacturing for the Next
Noon-1:30 p.m. Lunch in Exhibit Hall			
1:30-3 p.m. CV Efficiency Symposium - ICE Powertrain Efficiency	1:30-3 p.m. Total Vehicle Mechatronics and Integration Committee: Connected Vehicles / Platooning	1:30-3 p.m. Aerodynamics Committee - Full-Scale Assessments	1:30-3 p.m. Where are We now and Should We Still be Paranoid-CyberSecurity?
3-3:30 p.m. Networking Break in Exhibit Hall - <i>Sponsored by Ricardo &amp; Young Professionals Speed Mentoring</i>			
3:30-5 p.m. CV Efficiency Symposium - Electrified and Hybrid Powertrains	3:30-5 p.m. Total Vehicle Mechatronics and Integration Committee: Autonomous / ADAS	3:30-5 p.m. Aerodynamics Committee - Optimizing Multi-Vehicle Flow Interference	
5-6:30 p.m. Welcome Reception in Exhibit Hall - <i>Sponsored by Eaton</i>			

**WEDNESDAY** September 12

<b>8:30-9 a.m. Morning Coffee</b>			
<b>9-10 a.m. Opening Keynote - Ranju Das, General Manager, Amazon</b>			
10-10:30 a.m. Networking Break in Exhibit Hall - <i>Sponsored by Allison Transmission</i>			
10:30 a.m.-Noon Evolution of Big Data for Advanced Technology Symposium - Autonomous / ADAS	10:30 a.m.-Noon CV Efficiency Symposium - Disruptive Technologies	10:30 a.m.-Noon Aerodynamics Committee - Unsteady Flow	10:30 a.m.-Noon Chassis Committee - CAE: Vehicle System Level Development
Noon-2 p.m. Keynote & Awards Lunch - <i>Bill Driegert, Director, Uber Freight</i>			
2-3:30 p.m. Evolution of Big Data for Advanced Technology Symposium - Connectivity / Connected Vehicles	2-3:30 p.m. Powertrain Committee - Student ICE Research Projects (MS and PhD Candidates)	2-3:30 p.m. Expert Panel Discussion: Managing Technology Disruptions	2-3:30 p.m. Chassis Committee - CAE: Vehicle Sub-system and Component Development
3:30-4 p.m. Networking Break in Exhibit Hall & Young Professionals Speed Mentoring			
4-5:30 p.m. Evolution of Big Data for Advanced Technology Symposium - Big Data, Analytics and CyberSecurity -"Upping the Game"	4-5:30 p.m. Powertrain Committee - Aftertreatment Panel	4-5:30 p.m. Expert Panel Discussion: Emerging Technology Standards	4-5:30 p.m. Chassis Committee - Uncertainty Quantification and Robust Design
5:30-6:30 p.m. Networking Reception in Exhibit Hall - <i>Sponsored by Navistar</i>			

**THURSDAY** September 13

<b>8-8:30 a.m. Buckendale Breakfast</b>			
<b>8:30-9:15 a.m. Buckendale Lecture - Kirk T. Steudle, Director, Michigan Department of Transportation</b>			
9:30-10 a.m. Networking Break			
10-11:30 a.m. Evolution of Big Data for Advanced Technology Symposium - Prognostics	10-11:30 a.m. Powertrain Committee - Alternative Fuels and Propulsion Systems - EVs and Hybrids	10-11:30 a.m. Expert Panel Discussion: History and Future of SAEJ1939	10-11:30 a.m. Expert Panel Discussion: Disruption from Beyond - Outside Perspectives that May impact the CV industry
11:30 a.m.-12:30 p.m. Networking / Grab & Go Lunch			

**BIG DATA SYMPOSIUM**

**EFFICIENCY IMPROVEMENTS FOR COMMERCIAL VEHICLE SYMPOSIUM**

## TECHNICAL DISPLAY HOURS

Tuesday 10 a.m.-6:30 p.m.  
Wednesday 10 a.m.-6:30 p.m.

## REGISTRATION HOURS

Tuesday 7:30 a.m.-4:30 p.m.  
Wednesday 8 a.m.-4:30 p.m.  
Thursday 8-11 a.m.

Event-At-A-Glance as of July 12, 2018

# COMVEC™ KEYNOTE PRESENTATIONS

## TUESDAY OPENING KEYNOTE – 9 a.m.



**Troy Clarke**  
Chairman, President & CEO  
Navistar, Inc.

*“Disruptive Technologies: An OEM’s Perspective”*

Participants in the commercial vehicle industry are engaging with a range of technologies that have the power to transform the industry and the way it does business. Troy Clarke, chairman, president and CEO of leading truck and bus maker Navistar, shares his company’s vision for the industry’s future and the role these technologies can play in benefiting both individual industry participants and society at large.

## THURSDAY BUCKENDALE LECTURE KEYNOTES – 8:30 a.m.



**Kirk Steudle**  
Director  
Michigan Department of Transportation (MDOT)



**Niles Annelin**  
Transportation Policy Specialist  
Asset Management and Policy Division  
Bureau of Transportation

*“Transformational Technologies Reshaping Transportation, a Government Perspective”*

## WEDNESDAY KEYNOTE – 9 a.m.



**Ranju Das**  
Director  
Amazon Rekognition

*“How Amazon is helping businesses use Artificial Intelligence”*

## WEDNESDAY KEYNOTE & AWARDS LUNCHEON – 12 p.m.



**Bill Driegert**  
Director,  
Uber Freight

*“Delivering Value Through Innovation”*

# COMVEC™ SYMPOSIA TRACKS

## EVOLUTION OF BIG DATA FOR ADVANCED TECHNOLOGY SYMPOSIUM

### WEDNESDAY, SEPTEMBER 12

#### AUTONOMOUS/ADAS

10:30 a.m. – NOON

In this symposium, industry leaders will present perspectives on the state-of-the-art of autonomous and ADAS technologies. They will also discuss the evolution from today's advanced driver assistance systems to higher levels of automation and opine on the hurdles and pitfalls that will need to be overcome. Similar to the interoperability of the multitude of systems – we will need to make sure that policies and regulations are common across states and possibly countries (North America) in order to ensure regulatory compliance.

#### MODERATOR

Daniel E. Williams, ZF

#### PANELISTS

Hidehiko Enomoto, Hino Motors, Ltd.  
Ross Froat, American Trucking Associations  
Andreas Johansson, Scania  
Andrew Rekow, John Deere & Co.

#### CONNECTIVITY/CONNECTED VEHICLE

2 – 3:30 p.m.

Connectivity brings about a rapid increase in data intake during the engineering phase of new vehicles, which in turn leads to opportunities as well as challenges in data security, analysis methods, IT infrastructure, to name a few. The panel for this session discusses the various technologies, standards, and possibilities for services and vehicle efficiency improvements. It also covers the current and future challenges such as cyber security and data exchange that the current and future V2X technologies bring with them.

#### MODERATOR

Stephan Tarnutzer, FEV

#### PANELISTS

Charles Conway, John Deere  
Gregg Garrett, CGS  
Phill Lawson-Shanks, EdgeConneX  
Micha Muenzenmay, Bosch  
Sanjay Ravi, Microsoft

#### BIG DATA, ANALYTICS, AND CYBER SECURITY – “UPPING THE GAME”

4 – 5:30 p.m.

Big data and analytics are showing promise with improving cyber security. Of course, there are still many challenges as new cyber security threats are popping up daily. Cyber security needs the risk management and actionable intelligence that is common from big data analysis. While it is great to have tools that can analyze data, the key is to automate tasks so that the data are available more quickly and the analysis is sent to the right people on time. To this point, Big data will also help analysts to visualize cyberattacks by taking the complexity from various data sources and simplifying the patterns into visualizations. Come hear Cyber Experts talk about the challenges and opportunities in utilizing Big Data for improving Cyber Security for the Commercial Vehicle Industry.

#### MODERATOR

Gloria D'Anna, General Telecom Systems

#### PANELISTS

Ryan Brander, GEOTAB  
Vince Crisler, Dark Cubed Inc.  
Tamas Cser, Functionize  
Richard Enbody, Michigan State University  
Simon Hartley, RunSafe Security Inc.  
Mark Zachos, DG Technologies

### THURSDAY, SEPTEMBER 13

#### PROGNOSTICS

10 – 11:30 a.m.

Diagnostics have been around for a long time and are well understood and standardized. Huge amounts of diagnostic data have piled up over the years. Many variants and dimensions must be supported. Fortunately, the data is machine readable. This presentation gives an overview of the evolution of big data techniques to promote prognostic development and shows some case studies for the next generation of prognostics development.

#### MODERATOR

Mark N. Pope, DG Technologies

#### PANELISTS

Phil D'Eon, Casebank Technologies Inc.  
Andreas Henge, RA Consulting GMBH  
Troy Schilling, Robert Bosch LLC  
Evandro Silva, Volvo Trucks North America  
Peter Subke, Softing Automotive Electronics GmbH

# COMVEC™ SYMPOSIA TRACKS

## COMMERCIAL VEHICLE EFFICIENCY SYMPOSIUM

Sponsored by



### TUESDAY, SEPTEMBER 11

#### ADVANCED GLOBAL EMISSION REGULATIONS

10:30 a.m. – Noon

This panel will discuss global heavy-duty, on-road and non-road emissions regulations, including the compliance mechanisms used around the world. There will be a particular focus on California and the emerging markets. The high-level technical challenges and diverse potential solutions different regions are employing associated with regulations, compliance, fuels and test methodologies will also be included.

##### MODERATOR

Timothy Johnson, Corning Inc. (ret)

##### PANELISTS

YunShan Ge, Beijing Institute of Technology  
William Robertson, California Air Resources Board  
Lukas Walter, AVL LIST GmbH

#### ICE POWERTRAIN EFFICIENCY

1:30 – 3 p.m.

Commercial vehicle and internal combustion engines have seen significant improvements over past years, but recent stringent requirements to meet phase-II GHG and emissions standards further pushed the boundaries that requires improvement in ICE powertrain efficiency and Aftertreatment technologies. The adoption of these new technologies depends upon the commercial feasibility that includes system / operating cost, reliability and customer adaptation to such powertrain features. The possible low NOx requirements will further require enhancement in aftertreatment technologies, control strategies and integration challenges with powertrain system. This symposium seeks to explore the approaches to technologies that improve the ICE efficiency, emission solutions and market readiness to accept such Powertrain solution.

##### MODERATOR

Jonathon White, Cummins Engine Co., Ltd.

##### PANELISTS

Alexander Freitag, Robert Bosch  
Michael Franke, FEV North America Inc.  
Philip Fehn Gronberg, CNH Industrial  
Philip W. Stephenson, PACCAR Technical Center  
Christian Weiskirch, Traton

#### ELECTRIFIED AND HYBRID POWERTRAINS

3:30 – 5 p.m.

Commercial vehicle and equipment powertrains have seen many changes over the past decades, however one of the most significant changes will be the broad-based adoption of hybridization and electrification. These new powertrains present many challenges to industry including, the system integration with conventional IC engines, emissions compliance across operating cycles, supporting infrastructure for charging, and service and maintenance. This symposium seeks to explore the approach of OEM's from different segments, discuss their approach to the challenges and the unique aspects of the multiple applications.

##### MODERATOR

Dimitri N. Kazarinoff, AVL North America Inc.

##### PANELISTS

Martin Bush, John Deere Harvester Works  
Tom Dollmeyer, Cummins Inc.  
Mihai Dorobantu, Eaton Vehicle Group  
Darren Gosbee, Navistar Inc.

### WEDNESDAY, SEPTEMBER 12

#### DISRUPTIVE TECHNOLOGIES

10:30 a.m. – Noon

This panel will investigate the impacts of disruptive technologies on the national infrastructure. Topics for discussion include: impediments to creating the infrastructure (political, economic, timing; required infrastructure improvements; status of the electric grid; and fuel supply, including natural gas. This panel will not delve into the actual technology details, those are topics for the technical committees.

##### MODERATOR

Steven Sokolsky, CALSTART

##### PANELISTS

Michael Berube, U.S. Department of Energy  
Scott Phillippi, UPS  
Todd Sloan, Agility Fuel Systems  
Wolfgang Warnecke, Shell Global Solutions (Deutschland)GmbH

# TOTAL VEHICLE COMMITTEE EXPERT PANEL DISCUSSIONS

## TOTAL VEHICLE MECHATRONICS AND INTEGRATION COMMITTEE: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Tuesday, September 11, 10:30 a.m. – Noon

It is a fascinating time for the transport industry as Artificial Intelligence (AI) applications are taking center stage in R&D. One thing for certain is that artificial intelligence will play a very important role in shifting the current landscape of the transport industry, by going above and beyond what the human brain alone can do. The race is long and many challenges must be faced to come up with safe, viable, and robust systems.

### MODERATOR

Parvate-Patil Girish, Caterpillar

### PANELISTS

Ron Demcko, AVX

Morgan Vawter, Caterpillar

## TOTAL VEHICLE MECHATRONICS AND INTEGRATION COMMITTEE: CONNECTED TECHNOLOGY: DELIVERING VALUE IN FUTURE COMMERCIAL VEHICLES WITH CONNECTIVITY AND ADVANCED SHARED SERVICES

Tuesday, September 11, 1:30 – 3 p.m.

Connected vehicles are being discussed everyday including platooning and ADAS. These technologies are starting to converge as the commercial vehicle industry looks to improve both fleet and vehicle efficiency while improving safety. This panel will discuss the challenges and opportunities of today and tomorrow's innovators as they faced the technologies head-on to realize the future.

### MODERATOR

Ethan Seifer, Cummins Inc.

### PANELISTS

Andrew Dondlinger, Navistar

Chuck Price, TuSimple

Aymeric Rousseau, Argonne National Laboratory

## TOTAL VEHICLE MECHATRONICS AND INTEGRATION COMMITTEE: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Tuesday, September 11, 3:30 – 5 p.m.

ADAS Technology is becoming a norm in trucking because of the high potential to reduce risk and keep drivers safe. With these technologies, the development of highly automated commercial vehicles is possible. The discussions in this panel will highlight the challenges and opportunities of technology developers as they tackle this complex topic.

### MODERATOR

Brendan Chan, Navistar Inc.

### PANELISTS

Daniel Aceituna, DISTek Integration Inc.

Jace Allen, dSPACE Inc.

Pamela Gauci, Velodyne LiDAR

Fabian Jorg Uwe Koark, Invensity Inc.

Jason Lee Palmer, Smart Drive



# CHASSIS COMMITTEE EXPERT PANEL DISCUSSIONS

## CAE VEHICLE SYSTEM LEVEL DEVELOPMENT

Wednesday, September 12, 10:30 a.m. – Noon

This panel will focus on whole vehicle system level performance development using CAE tools. Topics could include but not limited to:

- How are the customers' voice cascaded to vehicle performance?
- How are the vehicle system-level performances cascaded to sub-systems?
- How are the various vehicle system performances balanced and optimized?

### MODERATOR

Xiaobo Yang, Oshkosh Corporation

### PANELISTS

Carlos Agudelo, Link Engineering Co.  
Stefano Cassara, Navistar  
Marle Fernandes, The Timken Company  
Amandeep Singh, US Army TARDEC

## CAE VEHICLE SUB-SYSTEM AND COMPONENT DEVELOPMENT

Wednesday, September 12, 2 – 3:30 p.m.

This panel will focus on vehicle sub-system and component level performance development using CAE tools. Topics could include but not limited to:

- How to ensure the organic integration of sub-system development with the whole vehicle system?
- How are the sub-system-level performances cascaded to components?
- How to develop a sub-system bench testing?
- How to ensure the organic integration of components development with the whole vehicle system?
- How to determine the load cases for components?
- How to develop a component bench testing?

### MODERATOR

Lin Li, Liebherr Mining Equip Newport News Co.

### PANELISTS

Fei Ding, Hunan University  
Pieter Schalk Els, Universiteit Van Pretoria  
Keven Hofstetter, Caterpillar Inc.  
Zhigang Wei, Tenneco Inc.

## UNCERTAINTY QUANTIFICATION AND ROBUST DESIGN

Wednesday, September 12, 4 – 5:30 p.m.

This panel will focus on the uncertainty quantification along with vehicle development using CAE tools. Topics could include but not limited to:

- Benchmarking the uncertainties for vehicle and sub-system levels
- Vehicle robust development
- Proving ground test run-to-run variations

### MODERATOR

Zachary Graves, Smartuq LLC

### PANELISTS

Diego Galindo, Caterpillar Inc.  
David A. Lamb, US Army TARDEC  
Brian Leyde, SmartUQ  
Corina Sandu, Virginia Tech.  
Kyung K. Choi, Univ. of Iowa

# POWERTRAIN COMMITTEE EXPERT PANEL DISCUSSIONS

## CURRENT ICE RESEARCH PROJECTS

Wednesday, September 12, 2 – 3:30 p.m.

The SAE Powertrain Committee is organizing this session to profile student research projects, with regard to internal combustion engines. Submissions were invited from both MS and PhD candidates. Topics to be addressed may include: Air handling, Combustion, Friction reduction, Controls, Waste Heat Recovery, and Alternative Fuels.

Session Sponsored by:



### MODERATOR

Russell J. Truemner, AVL Powertrain Engineering Inc.

### PANELISTS

Flavio Dal Forno Chuahy, MWM International  
Dheeraj Gosala, Purdue Univ-West Lafayette  
Tim Kroeger, Texas A&M Univ.  
Meng Tang, Michigan Technological Univ.

## AFTERTREATMENT PANEL

Wednesday, September 12, 4 – 5:30 p.m.

Disruptive technologies are affecting the commercial vehicle industry from all directions, by presenting both challenges and solutions. From an aftertreatment perspective, perhaps the most disruptive technologies are those that result from the new emissions regulations for 2024 and beyond. In addition, it is clear that after well over half a century, fuel cell/battery technologies will finally be on a path to large-scale commercialization in hybrid and fully electric vehicles. So, with a future of electrification unfolding before our eyes, what is the future for aftertreatment technology for heavy-duty diesel engines?

In this session, we will address the vision for the future that includes an important role for aftertreatment technology; the regulatory standards that necessitate the development of disruptive technologies in order to meet the OBD challenges; the corresponding requirement for advances in sensor technology; and the obligatory catalyst developments to meet future needs. The goal is to share our insight and walk away with a more enlightened perspective on how to harness disruptive technologies for effective emissions control.

### MODERATOR

Randal Goffe, PACCAR Technical Center

### PANELISTS

Timothy Johnson, Corning Inc. (ret)  
Paul Rodatz, Continental Automotive GmbH  
Christopher Sharp, Southwest Research Institute  
Navtej Singh, Navistar Inc.  
Tom Pauly, Umicore

## ALTERNATIVE FUELS AND PROPULSION SYSTEMS - EVS AND HYBRIDS

Thursday, September 13, 10 – 11:30 a.m.

This panel session is intended bring together experts in the area to discuss the recent developments in the application of Alternative Fuels and Propulsion Systems with a look into the technical challenges associated with electric & hybrid commercial vehicles. Fuel costs are an ongoing concern and reduction of greenhouse gas emissions have introduced new challenges; Consequently, Alternative Fuels and Propulsion Systems are ever more important. Establishing a dialogue on the challenges that are faced and opportunities that are present will enhance the technical development in this area.

### MODERATOR

Shawn Price Ray, Forensic Engineering Technologies LLC

### PANELISTS

Alan Mace, Ballard Power Systems Inc.  
Aymeric Rousseau, Argonne National Lab  
Heimo Schreier, AVL LIST GmbH

# AERODYNAMICS COMMITTEE EXPERT PANEL DISCUSSIONS

## ORGANIC TRUCK - DRAG REDUCTION

Tuesday, September 11, 10:30 a.m. – Noon

To continue improving the aerodynamic drag level of heavy duty vehicles, the development of corresponding drag reduction devices is being pushed towards new performance boundaries. This session presents new insights and innovations containing flexible aerodynamic surfaces.

### MODERATOR

Gandert Van Raemdonck, Wabco

### PANELISTS

Alexander K. Epstein, Volpe Natl Transportation Systems Center  
Brian R. McAuliffe, National Research Council Canada  
Jeff Smith, PACCAR Inc.

## FULL-SCALE ASSESSMENTS

Tuesday, September 11, 1:30 – 3 p.m.

Quantifying the operational aerodynamic performance of a vehicle or a component to a high degree of certainty has driven the engineering and testing community to a greater reliance on full-scale assessment methods that satisfy the dynamic similitude criteria. This session will explore the potential of both experimental and computational methods as well as advanced instrumentation required to fully capture the fundamental phenomena influencing vehicle aerodynamic performance.

### MODERATOR

Raj Nair, Exa Corporation

### PANELISTS

Mark Masoud Doroudian, ESI North America  
Julie Hawkins, U.S. EPA  
Bernard Tanguay, National Research Council Canada

## OPTIMIZING MULTI-VEHICLE FLOW INTERFERENCE

Tuesday, September 11, 3:30 – 5 p.m.

The drive to understand the effect of multiple vehicles travelling together has accelerated in recent times. This session contains results and analysis from a range of tools encompassing on-road data, water tanks and computer simulation to increase discussion in this area.

### MODERATOR

Andrew Mosedale, Auto Research Center LLC

### PANELISTS

Brian R. McAuliffe, National Research Council Canada  
John Nuskowski, Univ. of North Florida  
Gandert Van Raemdonck, Wabco

## UNSTEADY FLOW

Wednesday, September 12, 10:30 a.m. – Noon

While driving on the road vehicles are experiencing transient flow behavior. This session will cover operational effects of changing flow field in and around the vehicle. Some applicable topics for the session include tire splash and spray, wind buffeting, vehicle stability under changing flow field and time-averaging techniques.

### MODERATOR

Ilhan Bayraktar, General Electric Aviation

### PANELISTS

Devaraj Dasarathan, Exa Corporation  
Andrew Mosedale, Auto Research Center LLC

# EXPERT PANEL DISCUSSIONS

## MANUFACTURING FOR THE NEXT

Tuesday, September 11, 10:30 a.m. – Noon

Advances in Medium and Heavy-Duty technologies coupled with a changing business model are profoundly changing the players, the marketplace, and the way vehicles and their components are designed and manufactured. What does this mean for the factory? How does this change the business model and the footprint? What does this mean for automation technologies and processes? How does AI and sensing fit in? What is needed in order to make this digital transformation a reality? How do we pivot to the new “next”? Join our panel discussion of mobility industry and technical experts as we discuss the roadblocks, the requirements, and the future of manufacturing.

### MODERATOR

Monika Minarcin, Accenture

### PANELISTS

Adrian Jennings, Ubisense Inc.  
Craig Sutton, Deere & Company  
Rodney Rusk; Karthik Gopalakrishnan, Bosch  
Andrew Hopkins, Accenture

## WHERE ARE WE NOW AND SHOULD WE STILL BE PARANOID-CYBERSECURITY?

Tuesday, September 11, 1:30 – 3 p.m.

During the past few years, vulnerabilities of commercial vehicles were demonstrated that allow denial-of-service attacks and even safety-critical attacks which is of great concern to the US economy. This panel will discuss recent advancements in the space of commercial vehicle cybersecurity. The panel will also address potential risks and available protection methodologies, discuss existing industry-wide collaboration efforts, and the potential for further collaboration and standardization & what’s next.

### MODERATOR

Gloria D’Anna, General Telecom Systems Inc.

### PANELISTS

Doug Britton, RunSafe Security Inc.  
John Chandy, University of Connecticut  
Karl Heimer, Heimer And Associates  
Larry Hilke, Cummins  
Suzanne Lightman, National Institute of Standards & Technology  
Lee Slezak, U.S. Dept. of Energy

## COMMERCIAL VEHICLE INDUSTRY DISRUPTION PANEL

Thursday, September 13, 10 – 11:30 a.m.

New technologies are revolutionizing commercial vehicles, but are we simply substituting the new technology for the old, assuming the industry structure will remain similar. New business models are using big data to change product distribution. Will drones be doing deliveries? Will some products be printed and minimize the distribution system? Will there be a place for individual owners/operators? We have assembled a panel to speak to these issues and the new ways disruption may impact us.

### MODERATOR

Frederick M. Cartwright, PRUV Mobility Ecosystem

### PANELISTS

Carla Bailo, Center for Automotive Research  
Tony Kriech, Heritage Environmental Services  
Mike Stankard, Aon Risk Solutions

# SAE STANDARDS EXPERT PANEL DISCUSSIONS

## MANAGING TECHNOLOGY DISRUPTIONS

Wednesday, September 12, 2 – 3:30 p.m.

Standards development strategy and partnership between SAE, regulators, and the commercial vehicle industry will be the focus of these discussions. The panel will provide a vision into the processes used to identify critical need and establish guidelines that lead to the development of standards required for the maturation and implementation of critical disruptive technologies.

### MODERATOR

TBD

### PANELISTS

William Gouse, SAE International  
Vivek Sujun, Cummins Inc.

## EMERGING TECHNOLOGY STANDARDS

Wednesday, September 12, 4 – 5:30 p.m.

Join standards development leaders as they discuss the working strategies used to identify and develop specific standard documents that support the industry adoption of emerging technologies. Specific topic areas to be discussed related to current and future standards development activities are; braking, active safety systems, automated vehicles, aerodynamics, fuel economy, human factor and crashworthiness.

### MODERATOR

Ilhan Bayraktar, General Electric Aviation

### PANELISTS

Ilhan Bayraktar, General Electric Aviation  
David Ganson Engelbert  
Stephen C. Spata, NTEA

## HISTORY AND FUTURE OF SAE J1939

Thursday, September 13, 10 – 11:30 a.m.

Join these panelists, as they celebrate 25 years of use for J1939 standard and contemplate the future of J1939 in light of disruptive technologies including Functional Safety, Advanced Driver Systems, Cybersecurity and CAN FD. PART I will focus on the selection of CAN as the communication technology, and celebrate the achievements attained. Part II looks at progress in functional safety, in advance of ISO 26262, cybersecurity, advanced driver systems, and the adoption of CAN FD.

### MODERATOR

Eric Swenson, Navistar Inc.

### PANELISTS

Franklin Josey, Volvo Trucks North America  
Michael Lyons, Caterpillar Inc.  
Eric Swenson, Navistar Inc.

# SPECIAL EVENTS

## GET INVOLVED WITH AN SAE TECHNICAL COMMITTEE

Wednesday, September 12

8 – 9:00 a.m.

Grand Ballroom Foyer (near SAE Membership Lounge)

Join us to meet with Committee chairs/vice chairs, ask questions, and learn more about the COMVEC Committees on Aerodynamics, Chassis, Powertrain, and Total Vehicle Mechatronics & Integration. Each Committee chair/vice chair will be available to answer any questions for prospective committee members.

## KEYNOTE & AWARDS LUNCHEON

Wednesday, September 12

Noon – 2 p.m.

Awards to be presented:

- L. Ray Buckendale Award
- SAE McFarland Award
- SAE/AEM Outstanding Young Engineer Award
- SAE/Magnus Hendrickson Innovation Award

### Keynote Speaker:

**Bill Driegert**, Director, Uber Freight

## L. RAY BUCKENDALE LECTURE

Thursday, September 13

8 a.m. – **Breakfast**

8:30 – 9:15 a.m. – **Lecture**

### Transformational Technologies Reshaping Transportation, a Government Perspective

**Kirk T. Steudle, P.E.**, Director, Michigan Department of Transportation (MDOT), **Niles Annelin**, Transportation Policy Specialist, Asset Management and Policy Division Bureau of Transportation Planning

Sponsored by:



## VISIT NAVISTAR'S COLLECTION OF ANTIQUE INTERNATIONAL TRUCKS

Thursday, September 13

Noon – 3 p.m.

On Thursday, Navistar is offering a free bus ride and tour of its collection of more than 30 International trucks dating from 1907 to 1980.

Join company historian Tom Clark to see everything from an early truck with wagon wheels to cab-over models and Scouts. See a 1939 D-Series pickup re-envisioned as a hot rod with a 7.0-L diesel engine. Other highlights include a WWII U.S. military highway tractor and a 1920s Speed-Series truck with a wooden cab.

For more information and to register, visit:

[sae.org/attend/comvec/attend/navistar-tour](http://sae.org/attend/comvec/attend/navistar-tour)

## EXHIBITOR SPOTLIGHT: NEW PRODUCT & TECHNOLOGY SHOWCASE

COMVEC will provide its exhibitors a platform to present a commercial-based presentation - completely different from those held during the symposium. These 10-minute TED-like-Talks will be held during the breaks in the exhibit hall.

### EXHIBITOR LIST (as of July 12)

Accurate Technologies Inc  
Altair Engineering Inc  
AVL  
BAA  
Control-Tec  
Cummins Inc  
DISTek Integration Inc  
dSPACE Inc  
Dana  
ETAS Inc  
Exa Corporation, A Dassault Systems Co  
FEV North America Inc.  
G W Lisk Company Inc  
HBM Test and Measurement  
IAV Automotive Engineering Inc  
Intrepid Control Systems Inc  
IPG Automotive USA Inc  
Mechanical Simulation  
Northern Illinois University  
Oetiker, Inc.  
SAE Mobility History Committee  
Softing Automotive Electronics GmbH  
Sonceboz  
Thermamax Inc  
Tru-Flex LLC

# GENERAL INFORMATION

The COMVEC™ Technology Connection is designed for engineering professionals and academics of all levels to engage, learn, and collaborate in a casual, informal setting.

## ATTIRE

Business Casual – No ties, coat/jacket optional, dress pants/khakis

## ENGAGE WITH EXECUTIVE COUNCIL MEMBERS

Each executive council member will be identified with a specific ribbon. We encourage you to introduce yourself and strike up a new business relationship.

## REGISTRATION

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## REGISTRATION PRICING

(\*Pricing reflects discounted rate. The rate will increase after August 24.)

SAE Members

Full Conference: \$850

One-Day: \$350

Non-Members: \$1,250

SAE Student Member: \$100

Participants

Full Conference: \$325

One-Day: \$150

Non-Member Student: \$150

Young Professionals (Under 35 years of age and less than 10 years of work experience): \$100

## HOTEL INFORMATION

### HYATT REGENCY O'HARE

9300 Bryn Mawr Ave.

Rosemont, IL 60018

+1.847.696.1234

Room Rate: \$199+

Room Block Expires: August 28, 2018

Hotel Parking: \$10 per night for self-parking

For more information on directions, parking, and other travel information, please visit: [sae.org/comvec](http://sae.org/comvec)

## SAE MEMBERS:

Join us at the Members-only Lounge for light refreshments/beverages, interactive demo stations of SAE's Member Connection, Mentor Program, and SAE Propel – including giveaways, prizes, and more!

Membership Lounge Hours:

Tuesday, September 11: 8 a.m. – 5 p.m.

Wednesday, September 12: 8 a.m. – 5 p.m.

Thursday, September 13: 8 a.m. – Noon

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# BUILD YOUR CAREER AT THE COMVEC™ TECHNOLOGY CONNECTION

COMVEC is dedicated to providing young professionals support in developing skills, identifying new career focuses, and building key professional relationships and networks in the commercial vehicle industry.

## CONNECT WITH SUCCESS:

Discuss your future in the commercial vehicle market by connecting with experienced experts. Take advantage of direct access to influential engineering management and leadership from top companies. Ample mentoring sessions and networking opportunities are available throughout the three-day event designed to help you develop and strengthen your role.

## Young Professionals Meet and Greet

Tuesday, 8 – 9 a.m.

The Young Professionals meet and greet is your chance to interact exclusively with other YP's and students. Stop by for a few minutes to mingle with your industry colleagues.

## Mentoring Sessions:

Tuesday, 3 – 3:30 pm

Wednesday, 3:30 – 4 p.m.

## Networking Receptions:

Tuesday Reception, 5 – 6:30 p.m.

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Wednesday Reception, 5:30 – 6:30 p.m.

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Making a global impact starts at COMVEC. Join us and be a part of redefining and advancing the commercial vehicle industry.

## YOUNG PROFESSIONALS: NOT AN SAE MEMBER?

Take advantage of a special offer of FREE SAE Membership for one year to Young Professionals attending Comvec.

Visit the Membership Lounge, or email [Amanda.Hildabrand@sae.org](mailto:Amanda.Hildabrand@sae.org) for more information (note: this offer good for non-members only).



# EXHIBIT AND SPONSORSHIP OPPORTUNITIES AT THE COMVEC™ TECHNOLOGY CONNECTION

COMVEC™ brings together both on- and off-road engineering professionals from across the globe. The event provides a valuable engagement opportunity between engineers, supply managers, and executives.

## WHO ATTENDS?

**90%** of attendees are influencers, decision makers, and/or purchasers (\*based off 2017 registration)

**86%** of attendees use face-to-face time at conferences to become aware of new products, evaluate vendors for future purchases, and/or narrow their choices to preferred vendors (\*data obtained from CEIR)

## ATTENDEES FOCUS ON THESE TECHNOLOGY AREAS:

Design, Testing, Consulting, and R&D Services • Parts and Components Supplier • Tier 1 Supplier/ Tier 1 Systems Integrator • Heavy Duty – Heavy or Medium Truck • Heavy Duty – Industrial • Government • Aerospace incl. Suppliers, Commercial, Regional • Noise, Vibration, and Harshness • Heavy Duty – Agricultural • Automotive OEMs • Power & Propulsion incl. Environment, Emission, and HEV/EV • Vehicle Dynamics & Chassis/Vehicle Handling • Electrical/ Electronics & Electrical Systems; Avionics • Tests and Testing • Software and Software Engineering • Modeling/ Simulation • Human Factors and Ergonomics • Thermal Management incl. Climate Control • Materials • Safety

...ALL ENGAGED WITH THE ON-HIGHWAY, OFF-HIGHWAY, AND DEFENSE COMMUNITIES

## HIGH-IMPACT WAYS TO ENGAGE THE COMVEC™ TECHNOLOGY CONNECTION AUDIENCE

**SPONSORSHIPS** – Increase your organization's brand recognition and distinguish yourself as a leading industry expert as a leading sponsor.

### SPONSORSHIP BENEFITS

- Interact with individuals and other supplier companies to generate new business opportunities
- Create opportunities for expanded business
- Reconnect with current customers
- Establish contacts and potential customers
- Participate in the event as an attendee
- Company recognition in the Event Guide and Mobile app
- Company recognition on the Commercial Vehicle sponsor webpage with hyperlink to your web page
- Recognition on sponsor appreciation signage throughout event

## EXHIBIT SPACE

Showcase your organization's latest products or innovations as an exhibitor at COMVEC™. Put your brand in front of key decision makers at the only industry event focused on on-highway, off-highway, agricultural, construction, industrial, military and mining commercial vehicles.

### EXHIBIT FEATURES

- Exhibit Space includes – 10' x 10' booth space
- Two (2) full conference registrations (admittance to symposia, technical sessions, exhibition, lunches, networking breaks, and copies of oral only presentations)
- Company listing and profile in the event guide and/or mobile app and online exhibitor directory

## INCREASE YOUR EXPOSURE WITH THE INDUSTRY'S MOST POWERFUL AUDIENCE

Don't miss your chance to have a prominent presence at the COMVEC™ Technology Connection!

Reserve your sponsorship or exhibit space today!

Secure Your Opportunity Today

For more details and information, please contact:

### Megan McCoy Event Sales

o +1.724.772.4037

e [megan.mccoy@sae.org](mailto:megan.mccoy@sae.org)

Have another idea? We can create a customized option that will help you achieve your goals and reach your targeted audience.

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