



October 16, 2024

1:00 p.m. – Opening Remarks/Overview

1:15 p.m. – Our Future with Autonomous Trucking

Richard Bishop of Bishop Consulting (<https://www.richardbishopconsulting.com/>) will discuss freight mobility and logistics in a world of widespread autonomous trucking within the context of commercial driverless operations that will begin soon on public roads. He will cover the key use cases of long-haul, short-haul business-to-business, logistics yards, and industrial/agricultural operations and how they complement one another; as well as next steps for commercial operations as they scale up their activities. The roles for local, state, and Federal government will be discussed as well as how rural states like North Dakota can take advantage of the many opportunities that autonomous trucking will bring.

2:20 p.m. – The Autonomous Trucking Industry: Directions and Developments

Dan Goff of Kodiak Robotics (<https://kodiak.ai/>) will discuss developments, growth prospects, and future horizons for autonomous trucking, including plans for moving frac sand in the Permian Basin in autonomous trucks in 2025 in partnership with Atlas Energy. Kodiak Robotics is a leader in autonomous trucking in the United States, with on-going and planned operations in many areas of the country.

3:15 p.m. – Break

3:30 p.m. – Autonomous Trucking in Agricultural Logistics

Agriculture could be the first autonomous supply chain—from field to processing plant. The potential roles of autonomous trucking in the agricultural supply chain will be explored in this session, which will be chaired by **Dr. Greg Lardy**, Vice President for Agriculture and the Director of Extension services at North Dakota State University. The panelists will include:

- **Maynard Factor** of Kratos Defense, an early innovator in the automation of military and agricultural vehicles (<https://www.kratosdefense.com/>)
- **Darrell Oscarson** of Minn-Dak Farmers Cooperative (<http://www.mdf.coop/>), an early adopter of automated trucking
- **Mike Steenhoek**, the Executive Director of the Soy Transportation Coalition, which encompasses 85% of U.S. soybean production (<https://www.soytransportation.org/>)

- **Jeff Zueger**, CEO of Harvestone Low Carbon Partners (<https://harvestonelcp.com/>) and Chairman of Blue Flint Ethanol and Dakota Spirit AgEnergy, both members of the North Dakota Ethanol Council (<https://www.ndethanol.org/>)

The session will focus on: (1) motivations for using autonomous trucks in agriculture, (2) the types of movements amenable to autonomous trucking, (3) levels of autonomy and timelines for deployments, and (4) challenges to be addressed and adjustments needed to facilitate widespread adoption of autonomous trucks in agriculture. Current levels automation (e.g., the leader-follower configuration) will be described, as well as the potential for higher levels of automation (e.g., Level 4 driverless trucks). Panelists will also discuss: (1) the perspectives of the soy industries regarding autonomous trucking; (2) the potential for autonomous truck movements of soybeans, oil, or meal on a regional or national scale, as well as movements of corn to ethanol plants; and (3) the need for carbon credits in the biofuels industries and the potential for transporting CO₂ by truck.

5:30 p.m. Networking Reception Sponsored by Kratos Defense

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8:00 a.m. – Policies and Regulations Affecting Autonomous Trucks

Much short-haul autonomous truck traffic is intrastate in nature. However, most of the longer hub-to-hub shipments will be interstate in scope. Hence, it is important for states to consider the impacts of policies and rules on national freight flows, while also considering state-level regulations that can support responsible autonomous operations. In this session, a panel of experts led by **Jessica Rajkowski**, Division Chief Engineer at MITRE Corporation (<https://www.mitre.org/focus-areas/transportation/road-and-automotive/>) will focus on policies and regulations related to autonomous truck operations, including federal plans aimed at modernizing the regulatory environment and promoting transparency and collaboration; state regulations; and forward-looking policies to create a consistent policy and regulatory environment across the nation. Panelists will include:

- **Zach LaCelle**, Head of Product Development at Forterra Robotics (<https://www.forterra.com/>)
- **Rich Steiner**, VP of Government Relations and Public Affairs at Gatik, a leader in autonomous trucking for business-to-business and middle-mile movements (<https://gatik.ai/>)
- **Zeke Reyna**, Emerging Technology Team Lead at the Texas DOT (<https://www.txdot.gov/>), which has been a leader in enabling the testing and deployment of autonomous trucks

9:15 a.m. – Safety Preparation and Planning for Autonomous Trucks

A panel of safety experts including experts from the Commercial Vehicle Safety Alliance, Federal Motor Carrier Safety Administration (FMCSA), and state highway safety personnel will discuss safety oversight and inspections of autonomous trucks (policies, practices and challenges) and training and preparation needs. The session will be chaired by **Dr. Brenda Lantz** of the Upper Great Plains Transportation Institute's Commercial Vehicle Safety Center (<https://www.ugpti.org/outreach/cvsc/>) and will include

John Sova of the Commercial Vehicle Safety Alliance (<https://www.cvsa.org/about-cvsa/staff-bios>) and **Brian Routhier** of the Technology Division of Federal Motor Carrier Safety Administration.

10:45 a.m. – Infrastructure Planning for Autonomous Vehicles

To operate most effectively in a variety of domains, autonomous vehicles (AVs) will need advanced infrastructure capabilities. The facilitating ecosystem for AVs includes physical features (e.g., signals, signs, lane markings, road edgings, and guardrails) as well as digital infrastructure. In addition to high-definition mapping, the latter includes vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-everything (V2X) communications; high-speed data transfer capacities (e.g., 5G); and data management. In this session, **Russ Buchholz**, Innovation Manager of the North Dakota Department of Transportation (<https://www.dot.nd.gov/>) will describe the physical infrastructure requirements/enhancements to facilitate autonomous trucking and how transportation departments are working with private industry to advance the safe deployment of autonomous vehicles on a statewide basis. **Dr. Raj Bridgelall**, director of the Upper Great Plains Transportation Institute's Center for Surface Mobility Applications & Real-time Simulation environments (SMARTSeSM) at <https://www.ugpti.org/smartse/> will describe the advanced digital infrastructural capabilities needed for AVs to operate universally over an extensive public road network.

12:00 p.m. – Lunch (served)

1:00 p.m. – Challenges to Autonomous Trucking in Rural and Northern Regions

A panel of experts led by **Alex Rudin**, Senior Autonomous Systems Engineer at MITRE Corporation (<https://www.mitre.org/>), will look at the challenges and unique issues faced by autonomous driving systems in rural and northern regions, including operations over two-lane roads in sparsely populated regions without frequent landmarks under challenging weather and visibility conditions. In addition, on-going and future research efforts needed to facilitate autonomous trucking will be explored. The panelists will include:

- **Jessica Rajkowski**, Division Chief Engineer at MITRE Corporation (<https://www.mitre.org/>)
- **Jon Dege**, Site Manager for May Mobility Grand Rapids, MN (<https://maymobility.com/locations/grand-rapids-minnesota/>)
- **Mike Wagner**, CEO at Edge Case Research (<https://www.ecr.ai/>)

2:20 p.m. – Break

2:30 p.m. – Cybersecurity of Autonomous Trucks

Cybersecurity is perceived by the public to be a mysterious process of great interest which is only vaguely understood. In this session, a panel of experts led by MITRE Corporation (<https://www.mitre.org/focus-areas/cybersecurity/>) will offer an enlightening discussion on cybersecurity, particularly as it relates to autonomous trucks and smart and connected infrastructure, dispelling many of the mysteries and misconceptions. A variety of topics will be addressed including sources of potential threats, existing solutions from similar domains, and the roles of government in collaboration with private industries. The session will be moderated by **Alex Rudin** of MITRE

(<https://www.mitre.org/our-impact/mitre-labs/artificial-intelligence-and-autonomy-innovation-center/>)

and the panelists will include

- **Dave Keppler**, Senior Principal Cybersecurity Engineer of MITRE Corporation
- **Dr. Ronnie Chowdhury**, Professor and Founding Director of the National Center for Transportation Cybersecurity and Resiliency at Clemson University (<https://www.clemson.edu/cecas/tracr/>)
- **Dr. Xiaojian Jin** of the Division of Freight, Transit, and Heavy Vehicle Safety of the Virginia Tech Transportation Institute (<https://www.vtti.vt.edu/>)

3:45 p.m. – Preparing for Autonomous Trucking in Rural Communities

This session will focus on the levels of community readiness and preparations needed for widespread growth of autonomous trucking. Options will be discussed and recommendations formulated—i.e., what do Tribal and rural communities need in terms of resources, expertise, partnerships, and community engagement to be ready for this revolutionary change? **Ron Hall**, the Upper Great Plains Transportation Institute’s Tribal Transportation Program Manager and director of the Northern Tribal Technical Assistance Program (<https://www.northernttap.org/>), will lead a panel of Tribal community leaders and **Heidi Corcoran** of PLUM Catalyst (<https://www.theplumcatalyst.com/>) will describe strategies for rural communities to incorporate automation and electrification, including success stories in the northern United States.

4:30 p.m. – Conference Wrap Up

5:00 p.m. – Adjourn