



IS PLATOONING STILL IN PLAY?

Truck platooning has gotten a bit lost in the autonomous truck tech shuffle over the past few years. But one developer still believes it's a viable autonomous tool for commercial fleets.

When autonomous trucks burst on the scene in 2015, truck platooning was pretty much part-and-parcel of the presumed technological landscape at the time. Truck platooning is the practice of electronically “tethering” following driverless trucks to a lead truck. The following trucks basically mimic the speed and maneuvers of the lead truck via some form of cellular or wireless communication system integrated with an autonomous vehicle control system.

The basic principle behind platooning was that one driver (in the lead truck) could effectively move two to 10 tractor-trailers down the highway in a truck platoon. This would exponentially boost the driver's efficiency in moving freight. Moreover, the advanced autonomous control system — which can react much faster than a human driver — would allow the following trucks to follow the leader at a much closer interval for enhanced aerodynamics and fuel efficiency. Essentially doing what NASCAR fans know as “drafting.”

But despite some impressive early demonstrations, platooning as a component of autonomous trucking technology kind of fell by the wayside over the past three or four years. There's not one overriding reason for this fall-off. Primarily, I think, autonomous technology developers collectively realized that they faced a massive challenge in perfecting the systems needed for a single driverless truck to perform on the road. Getting that right was — and is — obviously where they need to put their initial research and development efforts. Once that goal has been satisfactorily achieved, platooning as an additional component of autonomous truck operations will most likely follow along in due course.

And I'm not alone in that assessment. Another application where truck platooning makes a lot of sense is in the military. And a company called Kratos Defense

has been building autonomous trucks for the United States military for several years now. In addition, the company has been working on a civilian version of its platooning technology for commercial vehicles since 2014.

The first Kratos commercial trucks were targeting vocational applications with the company's Autonomous Truck Mounted Attenuator (ATMA). ATMA, developed in collaboration with multiple state DOTs and highway patrol agencies, is a retrofit, automated maintenance truck operating in a platoon with the driverless technology, the company says.

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The ATMA is deployed as a shadow vehicle replacing conventional human-operated Truck Mounted Attenuator (TMA) vehicles used to protect workers and equipment ahead in mobile highway maintenance operations. Thousands of TMA trucks are deployed across the globe every day, and the drivers of these vehicles risk their lives daily as human-driven crash barriers protecting maintenance crews from an errant vehicle entering the work zone.

And now the company is working on its Leader Follower Platoon concept for freight-hauling applications. A



Kratos Defense has developed a platoon crash-barrier truck for use in highway construction applications and is now working on freight-hauling systems as well.

Kratos truck platoon recently made test runs across Florida, traveling several test route locations across US-90 and Interstate-10 coordinated with the Florida Department of Transportation and Florida Highway Patrol. And now these trucks are being tested in North Dakota and Minnesota to see how they perform in short-haul applications.

According to Kratos, the first set of Leader Follower Platooning trucks were deployed in Wahpeton, North Dakota with Minn-Dak Farmers Cooperative (MDFC), one of America's largest sugar beet shareholder/grower cooperatives. The trucks deployed from the MDFC facility with empty caged-flatbed trailers to a piling location approximately 30 miles away where harvested sugar beets were stored. Once at the location, leader and follower trucks were both loaded to approximately 99,000-lbs. and navigated back to the MDFC facility where they were unloaded. Multiple runs were performed in varying extreme winter conditions traveling in hands-free driverless follower mode through the entire North Dakota route.

A second set of Leader Follower Platooning trucks have been deployed for preliminary evaluation in Northern Minnesota. The trucks are connected to tanker trailers

and are the first self-driving trucks to haul non-HAZMAT biodiesel in routes between plants performing various phases of the refining process.

Kratos plans to deploy a third set of trucks in the Ohio-Indiana region with a third-party logistics (3PL) organization to support various revenue-generating routes to be announced in a follow-up release.

These developments make a lot of sense, in my view. I believe that once autonomous trucks are finally able to operate at Level 5 without human drivers, platooning trucks will make a lot of sense from a fleet efficiency perspective. Kratos is a reminder that work on many aspects of autonomous truck operations are ongoing all over the globe and will transform trucking forever when they eventually come to market.

About the Author: Jack Roberts is a transportation journalist who has been covering North American commercial vehicles for 25 years and has developed a reputation as a leading authority/futurist concentrating on new trucking technology, including autonomous vehicles, battery-electric trucks and emerging blockchain technology.



The North American Council for Freight Efficiency (NACFE) works to drive the development and adoption of efficiency enhancing, environmentally beneficial, and cost-effective technologies, services, and operational practices in the movement of goods across North America. NACFE provides independent, unbiased research, including Confidence Reports on available technologies and Guidance Reports on emerging ones, which highlight the benefits and consequences of each, and deliver decision-making tools for fleets, manufacturers, and others. NACFE partners with Rocky Mountain Institute (RMI) on a variety of projects including the Run on Less fuel efficiency demonstration series, electric trucks, emissions reductions, and low-carbon supply chains. www.nacfe.org

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