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## The Autonomous Trucking Industry: Convoying Reinvented

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The growth of e-commerce is fueling the evolution of a 70-year-old industry. In 2018, consumers spent more than \$500 billion online – with 40% through Amazon alone. The increasing demand for quicker delivery times, a growing driver shortage, and chronically low asset utilization has placed a significant strain on the trucking industry and has forced the industry to look to innovation for an answer.

On October 24, 2018, Pennsylvania joined a majority of states with autonomous vehicle legislation by passing the Platooning and Highly Automated Vehicles Act (the “Act”). While immense public attention is focused on personal autonomous vehicle development and testing, the Act highlighted how the commercial space is where our economy can and will more quickly benefit from autonomous vehicles.

The Act authorized PennDOT to regulate “platooning” and authorized platooning on certain Commonwealth roadways, including the Turnpike. Platooning is defined as the act of operating a number of autonomous or semi-autonomous vehicles in a convoy with each vehicle following closely to the vehicle in front of it. One such scenario involves a lead vehicle operated by a human driver with autonomous vehicles following along in a line. As automation takes hold, trucking companies and the military will reduce costs by having a single driver leading a convoy of autonomous vehicles. For now, platoons are limited to three (3) vehicles with a driver in each vehicle of a platoon.

Locomotion, a Pittsburgh-based company, is a local driving force behind the autonomous commercial trucking industry. Locomotion maintains its competitive edge as the world’s first trucking technology platform to combine AI-driven autonomy with driver augmentation. Launched in 2018 by veterans of Carnegie Mellon’s National Robotics Engineering Center, Locomotion’s central goals are the total elimination of all truck-involved accidents as well as radically-improved cost efficiencies and economic yield for its clients.

Locomotion will retrofit commercial trucks with its patented Autonomous Relay Convoying (ARC) system. Trucks retrofitted with ARC will be capable of linking on authorized roadways in a convoy formation via a vehicle-to-vehicle (V2V) link. To initiate the autonomous convoy, the lead truck driver connects with the following L4 truck. Once connected, the follow driver is off-duty and can rest while the truck autonomously follows the lead truck. After the lead driver is required to take the DOT-mandated 10-hour break, the trucks switch places and the resting driver begins his or her shift.

Locomotion recognizes that the public may be hesitant to trust an autonomous semi-truck convoy on an interstate with its following drivers off-duty. But, as co-founder and CEO Cetin Mericli explains, “Safety is our team’s first priority. It’s the core of our engineering process. We’ve chosen to solve this problem because we know that we can do so in a way that is verifiably safe. Our technology will deliver best-in-industry results for our customers while making sure our highways are a safer place for everybody.”



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*Sources:*

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