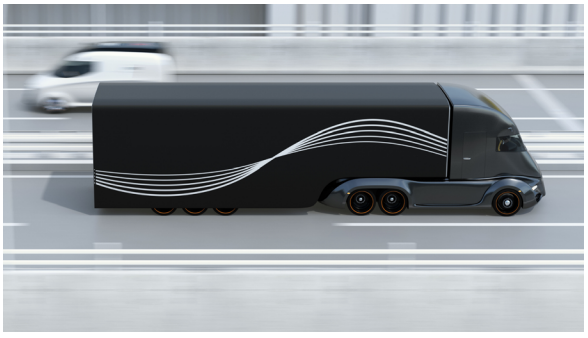
BRIDGET McCREA | Contributor

Autonomous Trucks Coming to a Highway Near You



Organizations around the world make impressive progress on their autonomous trucks initiatives.

The day when autonomous trucks are a common sight on the nation's highways could be getting closer. In early July, global autonomous trucking technology firm TuSimple officially launched the world's first Autonomous Freight Network (AFN).

An ecosystem comprising autonomous trucks, digital mapped routes, strategically placed terminals and the TuSimple Connect autonomous operations monitoring system, the AFN was developed in partnership with UPS, Penske, U.S. Express and McLane.

"Our ultimate goal is to have a nationwide transportation network consisting of mapped routes connecting hundreds of terminals to enable efficient, low-cost, long-haul autonomous freight operations," said TuSimple's Cheng Lu in a press release.

"By launching the AFN with our strategic partners," he continued, "we will be able to quickly scale operations and expand autonomous shipping lanes to provide users access to autonomous capacity anywhere and 24/7 on-demand."

A Phased Approach

TuSimple says the AFN will be rolled out in three phrases, and that it lays the groundwork for self-driving autonomous trucks to become commercially available by 2024. Phase I, for example, will offer service between the cities of Phoenix, Tucson, El Paso, Dallas, Houston and San Antonio, while Phase II will include the area between Los Angeles to Jacksonville (effectively connecting the east coast with the west coast).

The company says it's already operating autonomously on routes between Phoenix, Tucson, El Paso and Dallas. The AFN integrates with existing logistics networks and transportation management systems to enable efficient, low-cost long-haul autonomous freight operations.

Additionally, TuSimple technology allows autonomous trucks to be 10% more fuel efficient than manually driven trucks, and in the future operate continuously without hours of service (HOS) limitations. Once the AFN rolls out nationwide, TuSimple wants to replicate that success in Europe and Asia.

Not the Only Ones

The push to make trucks completely or somewhat autonomous is on. According to *Recode*, TuSimple isn't the only company working to make fully automated shipping a reality. Several companies, including Aurora, Daimler and Embark Trucks, are also competing for a slice of the future of self-driving freight trucks. For example, Alphabet-owned Waymo recently announced that it would be expanding its own self-driving trucking routes throughout the American Southwest and Texas.

"TuSimple's expansion plans seem more concrete than some of its competitors," *Recode* reports, noting that the company currently has 40 autonomous trucks in use, and that it plans to add 10 more this year.

According to *Transport Topics*, Plus.ai, a Cupertino, Calif. startup, completed a cross-country commercial run with an International truck that covered more than 2,800 interstate miles in autonomous mode in late-2019.

"Solving autonomous driving requires exposure to all types of weather, road conditions and driving scenarios," Plus.ai told *Transport Topics* at the time. "That is why Plus.ai is focused on an extensive testing program that will cover all permissible continental states in the U.S. by the end of 2020."

Transport Topics says these pilot programs use a safety driver to assume control if needed, but adds that TuSimple plans to demonstrate fully driverless operations in 2021. "Earlier this year, Volvo Trucks established its Volvo Autonomous Solutions division to focus on commercialization of self-driving trucks," it adds. "Already, several projects are underway."

Overcoming the Challenges

The biggest hurdle facing self-driving vehicles is technical complexity, *Transport Topics* points out. Factors such as cross traffic at intersections, bicycles, pedestrians and the limits of digital connectivity in certain areas all create challenges.

And while TuSimple, Waymo and others are making progress on the autonomous trucking front, *Recode* says it could be years before the majority of America's long-haul shipping is carried out by autonomous trucks.

"Engineers and regulators are still studying how self-driving trucks — and self-driving cars — actually work on the road," *Recode* states. "But the hope is that the technology will make trucking cheaper, safer, faster and more fuel-efficient."