

Autonomous Semi-Trucks Are Shaping the Industry for the Long Haul

Article

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Autonomous, or self-driving, vehicles are not a new concept. Companies such as Mercedes Benz, BMW, and Tesla have reshaped the automobile industry by producing and selling autonomous vehicles equipped with the newest AI technology. Truck companies have followed suit and are speeding ahead of federal regulations with plans for a major expansion this year. Their goal is to revolutionize America's supply chain with faster transport of goods and unburdening of liability based on human limitation or error. With over 7.95 million people working in the industry and more than 750,000 motor carriers with active drivers who either lease or own trucks, the impact of autonomy will be significant.

The National Highway Traffic Safety Administration (NHTSA) has voiced support for automated vehicles and expect them to enhance public safety. Advocates of AI technology, big truck manufacturers, and transportation experts all agree that the benefits to the trucking industry are great and include:

- Streamlining supply chain efficiency;
- Improving road safety and reducing driver fatigue;
- Maximizing productivity and performance;
- Cutting fuel and insurance costs;
- Increasing the number of deliveries and hauls;
- Protecting data and security; and
- Optimizing allocation of resources for faster decision-making.

The benefits, however, are not without concern. Drivers fear being replaced and losing their jobs. Industry leaders are wary of liability issues for the trucking companies that put the trucks on the road and the companies that create AI software that automate the trucks. Questions concerning the use of automated semi-trucks remain unanswered and comprehensive regulations are nonexistent.

The federal government has been clear that unless a state explicitly bans deployment of autonomous vehicles, there is no current regulation prohibiting their use. No state has gone so far as to ban driverless passenger vehicles or

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trucks. This means that companies can test and operate their vehicles across most states. Nearly two dozen states and counting, including Texas, Arizona, and Florida, specifically allow driverless operations. Sixteen states have no regulations specific to autonomous vehicles; while ten states, including California, Illinois, and New York, place limits on the use of autonomous vehicles.

Companies have been training their trucks in Texas since 2020. Autonomous long-haul trucks are already transporting packages and produce for large freight companies, approximately one hundred deliveries a week. By the end of this year, twenty fully autonomous trucks are expected to work the 240-mile stretch between Dallas and Houston. This will begin an enormous transition in the industry, which is experiencing change from various sources.

AI companies have even petitioned the Federal Motor Carrier Safety Administration (FMCSA) to exempt drivers from time limits behind the wheel if AI software is used in the truck. Drivers are currently allowed to drive up to eleven hours within a fourteen-consecutive-hour window. The difficulty with increasing driving time, even by one hour, or passing other relevant regulation is due in part to the classification of autonomous vehicles. Autonomous vehicles fall into one of six classifications, Level 0 being “no driving automation” and Level 5 being “full driving automation.” For regulation to be effective, it must address all levels. Historically, implementing regulations is a slow process, but AI waits for no one and is in it for the long-haul.

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