



THE FLEET OF THE FUTURE

Autonomous commercial vehicles will disrupt virtually every aspect of fleet management in the future and require new ways of thinking as well as new types of employees with new skill sets.

By Jack Roberts

Autonomous logistics systems, with driverless trucks as their technology crown jewel, will enter the marketplace in the coming years. The only questions are the timeline, and the corresponding acceptance and take-rates that will accompany these new technologies.

You only have to scan a few headlines in the trucking and logistics trade press to see that many of these systems already are being tested, validated and deployed in limited, piecemeal applications. It is only a matter of time before these systems begin to integrate into powerful, complementary tools for fleets and shippers worldwide. And, of course, it will be the autonomous truck at the center of the circle — the vehicle where all of these systems join and work together to move freight in ways that still are stunning to contemplate.

Talk to experts in the field, and you get a wide swath of predictions as to when — and how quickly — this technological revolution will occur. Some tech futurists predict a slow, cautious adoption curve, determined primarily by high initial acquisition costs, an abundance of safety concerns, and a skeptical public that will have to be convinced these vehicles are safe to operate on public roadways. Other experts argue that the technology will be so transformative and beneficial to shippers, fleets and ordinary people that autonomous trucks will dominate trucking operations in a relatively short timeframe — less than a decade after their mainstream market launch.

In any case, it is reasonable to assume that once driverless trucks are out of the lab and on the roads, there will be, at some point, a tipping point in terms of their impact on virtually every aspect of our society and economy.

To give you an example of how sweeping these changes will be, consider for a moment the personnel and organizational makeup of a fleet in the not-too-distant future running a high percentage of autonomous trucks to move freight in super regional and long-haul applications. Obviously, such an operation would be very different from the business model commonly used by fleets across North America today.

Twenty-four hour operations are enabled in the absence of human physical limitations. No longer constrained by hours of service limitations, a single truck could operate 24 hours a day with some exceptions for maintenance and refueling.

The number of commercial drivers that fleets would need to employ would decrease. It seems logical to assume that a few CDL holders would be required to stay on staff to monitor operations, evaluate new product investments and move vehicles around — or even drive them — in some select instances. Or, perhaps, this type of job will become another aspect of the “gig economy” work that is increasingly common today.

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Still, it seems apparent there will be far fewer drivers in a fleet with a high percentage of self-driving trucks. Which, in turn, means that many — if not all — of the jobs associated with supporting those truck drivers will need to migrate to other roles. Dispatchers, driver trainers, safety officers, and HR departments are just a few of the many jobs that also will be affected by the decrease in the number of human drivers autonomous trucks will enable.

At the same time, it seems reasonable to assume that many of these jobs will change significantly, and that new jobs will arise as a result of these new operational models. For



example, I can envision a new type of “logistics manager” job, where specialists operate computers to manage a set of autonomous trucks as they work their way across the country and deal with any of the many issues that still will arise on a daily basis — even in this technologically advanced future.

I can picture every fleet in the country with its own version of a “Mission Control” room — sort of a miniature version of NASA’s famed control center — where these specialists troubleshoot problems, confirm digital freight transactions or rerouting requests at all hours of the night and day.

This future vision gets a little murkier for me when I consider the maintenance aspect for fleets operating autonomous trucks in the future. This is not because autonomous vehicles will be such a game-changer on the maintenance front. But rather because the trend toward complex powertrain systems already is calling into question the viability and depth of fleet maintenance operations.

Modern heavy-duty truck powertrains have been vertically integrating for 20 years or more. And, increasingly, OEMs are reluctant to share the sophisticated, proprietary, computing algorithms that govern virtually every aspect of a powertrain’s performance with the outside world. As one OEM executive told me, “If you were the CEO of Coca-Cola or KFC, you wouldn’t share those secret recipes with the world, would you? You’d be crazy to do that.”

That said, it does seem reasonable that in an autonomous future, some fleets still will want to keep many routine maintenance procedures in-house, to control costs and ensure a “set of eyeballs” get on the trucks at regular

intervals. However, it does seem logical to assume that there will be a need for a new type of technician in the near future.

On the one hand, there clearly will be a need for some sort of “Automotive IT” tech, capable of troubleshooting and repairing various computer, sensor, Wi-Fi and cellular issues that are already becoming commonplace on vehicles. And, there is no reason to assume that autonomous trucks will run exclusively on diesel fuel. There will be a need for technicians well versed in new powertrain technologies and alternative fuels, such as high voltage battery-electric, and hydrogen fuel cell powered drivetrains. The alternative fuels will require significant infrastructure as well, opening up additional demands for construction, maintenance and operations.

It seems that in many ways, the fleet of the future will be a different kind of workplace, staffed by a smaller number of employees with highly specialized skill sets. But at the same time, the mission of the fleet will remain just as it has for over a century now — moving freight quickly, efficiently and cost effectively.

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.



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