

# WHO'S GONNA BLOW THE AIR HORN?

WITH THE TRUCKING INDUSTRY CURRENTLY FACING A SHORTFALL IN DRIVERS, WILL TECHNOLOGY BE ABLE TO PICK UP SOME OF THE SLACK? HERE'S THE LOWDOWN ON WHAT TO EXPECT IN THE NEAR FUTURE

By Kenneth E. Seaton



**P**ICTURE THIS: YOU'RE DRIVING DOWN THE HIGHWAY WHEN SUDDENLY A TRANSPORT TRUCK

ROCKETS BY YOU. YOUR KIDS FRANTICALLY MAKE THE HONK YOUR AIR HORN SIGN AND THEN JUST IMAGINE THEIR SHOCK WHEN THEY SEE THAT THERE IS NO DRIVER BEHIND THE WHEEL.

As the driverless convoy (insert Con-vo-y movie theme music here) whips by nose-to-tail, you wonder what the heck is going on.

With each passing day Canada, and indeed the world is moving ever closer to a self-driving vehicle state. It is getting more common place to see drivers lifting their hands from the steering wheel as their car reverses on its own and parks itself. But, does having drivers use assistance technology mean that autonomous vehicles are right around the corner?

## THE DIFFERENCE BETWEEN VEHICLE AUTOMATION VS. AUTONOMOUS VEHICLES

*Advanced Driver Assistance Systems (ADAS)*

Manufacturers are now starting to offer customers vehicles equipped with ADAS features. Technological advances are allowing dealers to sweeten the new car buying experience. Advances like traffic conscious cruise-control, accident prevention systems, lane changing alerts, au-

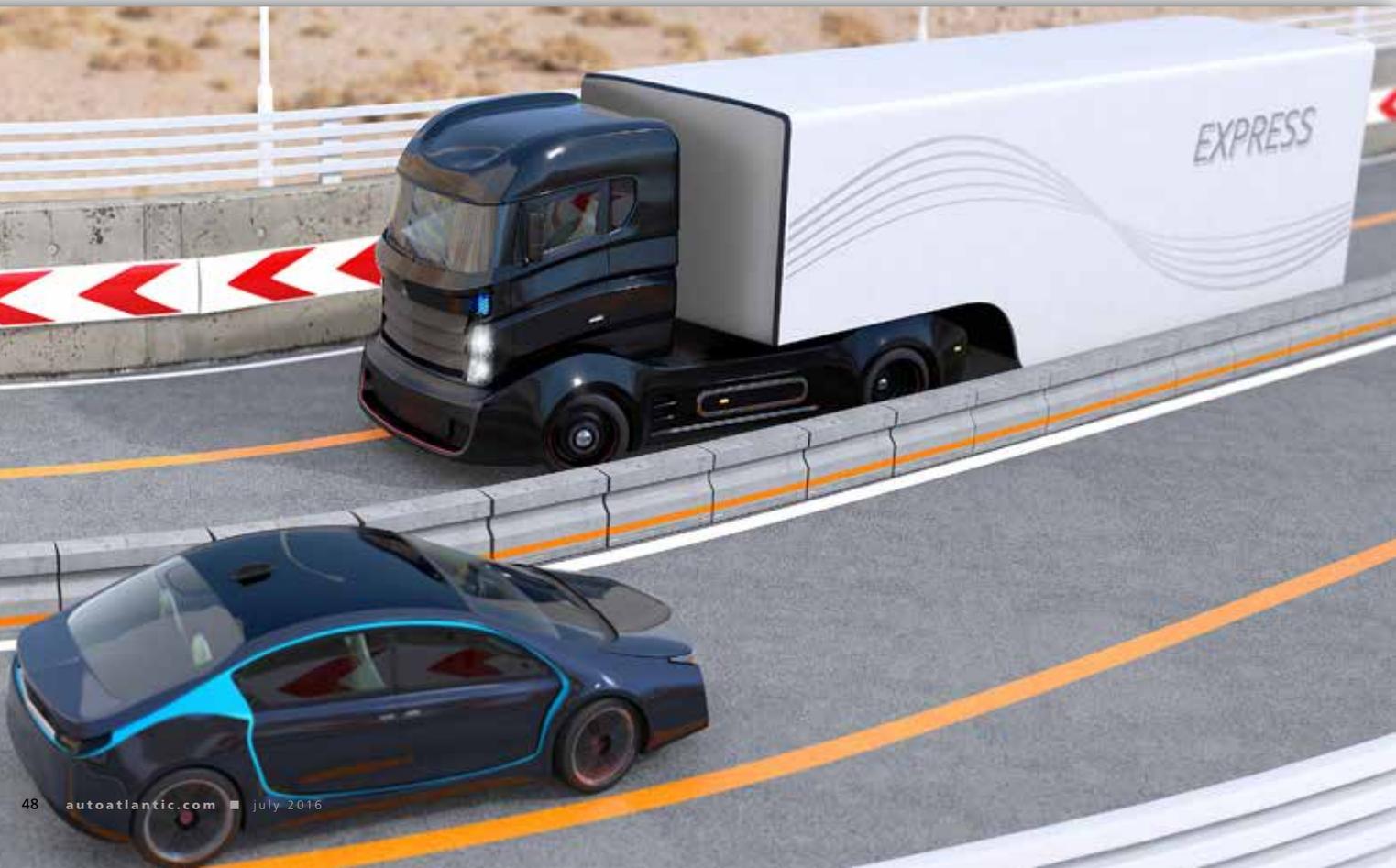
tomatic braking, biometric vehicle access and tracking systems just to name a few.

### *Automated Vehicles (AVs)*

AVs are basically any type of robotic vehicle capable of driving without a human operator on most if not all road conditions. To be truly classified as a self-driving vehicle it must be able to travel on roads that have not been adapted for its use. Additionally, some AV trucks will also be able to be connected to one another and travel in convoy fashion.

### ON THE ROADS NOW

In-fact, in April a dozen or so semi-automated self-driving cargo trucks – from six of Europe's major manufacturers DAF, Daimler, Iveco, MAN, Scania and Volvo – successfully completed a platooned convoy journey of over a thousand kilometers, crossing over several European



borders in the process. The driver in the lead vehicle picked the routes and set the traveling speed for the vehicles. The other trucks followed automatically via WiFi connections, which kept their braking and acceleration (but not steering) in sync.

These trucks were semi-automated with minimal human help, although human drivers were required to assist with the steering and for back up in case of emergency.

Convoys of platooning trucks utilizing vehicle-to-vehicle communications and ADAS equipped vehicles will allow two or more trucks to roll down the freeways in closely positioned groups travelling at highway speeds. Fuel savings that arise from decreased wind resistance – “drafting” in race car vernacular – quicker and safer trips will only boost both driver and company profits.

## THE CURRENT STATUS OF TRUCKING IN CANADA

The Canadian Trucking Alliance reports that trucks move 90% of all Canadian consumer products and foodstuffs. The transportation services sector accounts for 4.2% of Canada’s GDP, or \$53 billion. Presently, there are over 300,000 truck drivers nationally and by 2020, it is predicted that there will be a nationwide shortage of over 33,000 drivers.

Today, 8% of Canada’s trucking population live in Atlantic Canada, and a new report by the Asia Pacific Gateway Skills Table <sup>1</sup> states that the professional truck driver shortage will be felt most sharply on the East Coast. This is because demographically, the capacity crunch will worsen at a faster rate there than in many other parts of the country.

The report also maintains that a whopping 68% of the truck drivers operating into or in support of the ports of Saint John and Halifax are over 44 years old. Nearly half the Canadian drivers (42%) are 55 years of age and older. Most drivers (56%) expect to leave the sector in the next 10 years. This includes 68% of drivers with over 20-years’ experience. Additionally, the Atlantic Provinces Trucking Association has reported that Atlantic Canada is responsible for nearly 10 per cent of the Canadian trucking industry. It estimates that the trucking industry is worth close to 4 billion dollars annually to the four Atlantic provinces and is responsible regionally for around 25,000 jobs.

## CAN AUTONOMOUS TRUCKS SOLVE THE COMING DRIVER SHORTAGE?

Some trucking experts believe that AVs will be the norm by 2030 and that

they could conceivably lessen the impact of any looming driver shortage. Their rationale is that if truck driving becomes easier – due to AV assistance – commercial licensing qualifications for drivers could be eased somewhat. This could open up the field to many new drivers, who previously would not have met the necessary requirements to apply for a commercial driver’s licence.

However, until this actually happens, most experts believe that companies that have their vehicles equipped with innovative ADAS technology will be able to hire and retain more newcomer and millennial drivers. Once these vehicles become more



accepted they should make the trucking industry generally, more efficient and safer.

Jean Marc Picard, executive director for the Atlantic Provinces Trucking Association believes that “The automated truck era is here, but this will not necessarily address the driver shortage in Canada anytime soon. Manufacturers are reaching new levels in technology with these trucks and they are very excited to show them to the world but we are not about to see a driverless truck coming down our highways anytime soon.”

## THE GOOD, THE BAD AND THE JUST PLAIN UGLY OF ADAS & AVS

ADAS vehicles will greatly reduce fatigue and increase the alertness in its

drivers – especially for long haul trips – through the support of new technologies. Self-correcting sensors will relieve some driver strain by making minor vehicle course direction shifts and help in balancing trucks against strong wind shears. Sensors will also be aware of and will make corrections for; lane drifting and blind spot management, etc.

Picard continues, “I think it’s revolutionary what we’ve accomplished so far, but for today, we should actually call them semi-automated trucks. In trucking, there are five levels of automation: Zero being where nothing is automated up to level four, where the truck is fully automated (no driver).

“Currently,” he adds that, “the industry is at level two - the truck is equipped with sensors and software that assists with the driving, such as braking or lane entering. The driver is still driving the truck. This technology is great for safety - anytime we can improve on safety, the industry will buy in!

“Yes, the automated trucks are being tested around the world and so far, they have proven to be very safe - even flawless. In fact, there is talk that automated trucks will be seen in certain areas such as construction fields. If they prove to be what they are said to be, we will certainly see more in other areas.”

Case in point, some Canadian mining operations – as well as ones in Australia and some other countries – are currently and routinely using self-driving loader trucks. It is worth mentioning that the Rio Tinto Group, a British-Australian multinational metals and mining corporation, is already operating 22 remote-control trucks in two of its larger iron ore pit operations.

Some transportation experts believe that the continuing acceptance of self-driving vehicles could result in them being, at least in the beginning, relegated to segregated or dedicated highways that have trucks-only lanes. Funding to create and maintain the highways could be paid for by the installation of toll roads. Converting lanes for autonomous-only vehicle usage, will also likely increase capacity and reduce congestion on these highways.

Currently, the Central North American Trade Corridor Association (CNATCA) has its members working on plans for establishing a centralized north-south trade autonomous vehicle corridor.

The corridor is expected to operate from Mexico City and run up to the border; travel northward across the U.S. into Canada. From there the corridor will trek through the prairies to BC; proceed

through the Yukon and end up – or start depending on which way you are traveling – in Alaska. The CNATCA's plans call for the trip to be accomplished devoid of the need for passports, visas or even drivers.

**WILL AUTOMATED VEHICLES MEAN IT'S THE END OF THE LINE FOR TRUCKERS?**

Truck driving, as a career, is one of the few remaining jobs in the country that provides a solid middle class salary without the need for any post-secondary degree. Truckers can currently earn on average, around \$35,000 to \$50,000 Canadian annually. Of-course where they live and drive in the country has a considerable impact on salaries.

Over the next 10-to-20 years the trucking sector will be facing tremendous challenges as it toils to not only maintain, but also increase the size of its current labour pool. An aging workforce combined with the difficulties in hiring and retaining qualified drivers are just some of the issues confronting the trucking industry.

It will become increasingly important to prepare for the predicted loss of experienced and skilled drivers – crucial components in the trucking industry – to avoid any potentially negative impacts on the Candian economy that may be experienced, as a result of any failures in the rapid movement of goods around the country.

It is more than likely that the usage of ADAS vehicles may prove to be valuable assets to the industry. As we move towards a time when we will only see automated vehicles on our roads, the trucking industry – not to mention its drivers – will have to make necessary changes to their industry, in order to move with the times.

APTAS' Picard sums it up best by saying, "We are excited to see the industry evolving in such matters and encourage anything that will make the industry better. However; we still have to fully understand this technology:

How does it work in our climate? Will it be socially accepted? What role will the government play in moving this technology forward? We are a heavily regulated industry and share the road with millions of people. Many steps will have to be taken before we see a driverless truck on the highway."

<sup>1</sup> *Asia Pacific Gateway Skills Table, Labour Force Profile of Professional Drivers Working at Ports in Atlantic Canada, Prepared by Malatest, Inc., January 2016. [http://apgst.ca/projects/pdfs/APG\\_Atlantic\\_WEB.pdf](http://apgst.ca/projects/pdfs/APG_Atlantic_WEB.pdf)*

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