

Exploring the Future of the Trucking Industry: Today's Implications for Tomorrow's Technology

Trends in the Future of Trucking

2017 has brought an onslaught of changes to the transportation industry, from the new political administration to industry stakeholders feeling the impact of looming regulations. Transportation management systems (TMS) have evolved to provide even greater visibility for shippers, and increased optimization for users and shippers. Then there is the nearly instantaneous on-demand availability of almost every imaginable service and item from ride shares to groceries to movers and babysitters.

There is also the constant thrum of news about new technologies, from self-driving vehicles to mixed reality, all with the intention of making the transportation industry, safer, greener and more efficient.

What is the Future of Supply Chain Delivery?

Autonomous driving and driverless trucking have been hot topics for quite a while in the transportation industry, and we're finally starting to see some real-life examples of this futuristic technology.

American Trucking Associations President Chris Spear told a panel of U.S. lawmakers during a roundtable on the future of autonomous vehicles in 2016 that "what we're really talking about is not displacing drivers – we'll always need drivers in trucks in cityscapes to do the pickups and deliveries." He equated drivers of autonomous trucks to pilots in the cockpit who do the taxiing, takeoff and landing, and when they get to the cruising altitude, they hit the autopilot button.

By hitting that "autopilot button" during a long haul, drivers could rest and take care of back-office work, potentially allowing them to extend their hours of service (HOS), get home sooner, and spend less time in overcrowded truck parking lots.

Autonomy is not just a futuristic dream; in fact, trucking may be the first part of the transportation industry to be automated at scale.

Cutting Costs with Autonomous Technology

To understand the fiscal impact of autonomous trucks, it's important to understand the challenges currently limiting efficiency in the trucking industry. In 2015 alone, the industry had revenue losses of \$26 billion due to trucks sitting idle – an especially troubling trend for owner-operators, whose loss of productivity during detention at load/unload locations can be unsustainable for these independent carriers.

The trucking industry is rife with inefficiency, with single-driver trucks only actually on the road for 15 to 30 percent of the time. Between HOS restrictions, load/unload times, maintenance and downtime while waiting for new loads, much of a driver's time on the road is non-productive. With autonomous trucks, vehicle utilization could climb as high as 95 percent, giving drivers more opportunities to earn and allowing carriers much greater flexibility in planning efficient routes and marshaling resources.

Autonomous trucks would also address quality-of-life issues for drivers, allowing them to be more independent and productive on long-haul routes while conserving fuel and putting less wear and tear on vehicle systems, such as brakes. With a driver turnover rate reaching 74 percent in 2017, autonomy would likely make driving jobs more appealing, efficient and profitable, rather than causing mass unemployment.

Concepts to Explore: Mixed Reality with HoloLens

One area that we increasingly continue to explore is the opportunity of mixed reality with Microsoft’s HoloLens. The holographic computer and head-mounted display offer the potential to be used in pre- and post-trip inspections, looking at trucks in the yard and virtually accessing maintenance records, dimensioning trailers to determine maximum load and freight efficiencies, and much more.

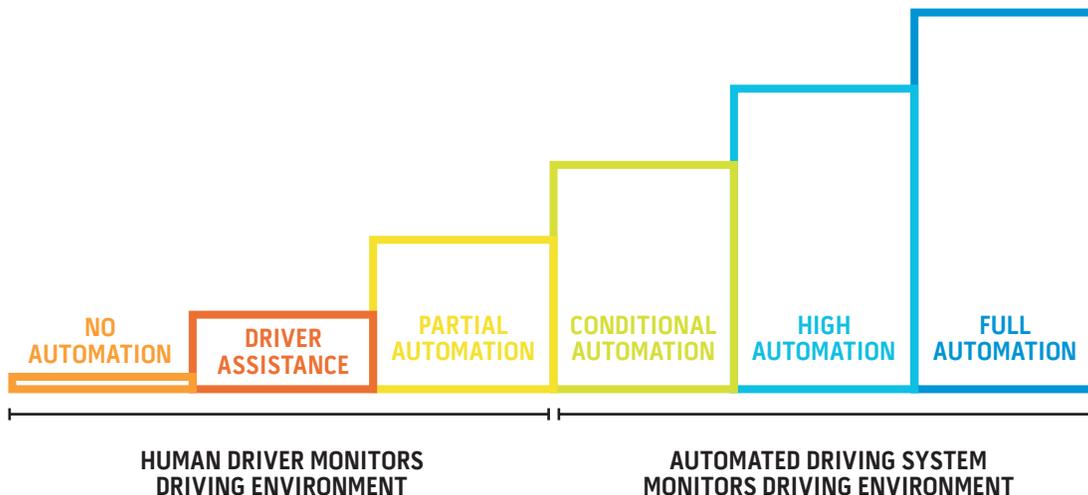
HoloLens could transform how users work with 3D data and unlock many new possibilities for business and productivity.

PeopleNet and Trimble Innovations in Autonomy

PeopleNet is innovating in the realm of autonomy. Its systems provide the eyes and ears of the truck and its performance. Parent company Trimble has played an active role in vehicle autonomy from the beginning and are helping to enable vehicle autonomy as the evolution occurs. As a Trimble company, PeopleNet is exploring how to leverage and partner with parent and sister companies’ technology even further to improve performance and efficiency.

For more information and resources on the future of transportation and autonomous driving, visit www.peoplenetonline.com.

SIX LEVELS OF DRIVING AUTOMATION





Mark Botticelli, Executive Vice President, Technology

Botticelli is a technology executive with over 25 years of experience providing technology innovation, strategic leadership, and superior product delivery. Experienced in implementing software engineering best practices and processes, he has a proven track record of enhancing the productivity and predictability of software development, as well as overseeing the delivery of quality products on-time and on-budget. He is responsible for PeopleNet's North American technology strategy and product delivery across wireless, software, hardware, infrastructure and quality assurance.

Prior to joining PeopleNet, Botticelli was leading the development of several mobile worker-centric, vehicle-centric solutions within Mobile Resource Management and Environmental Solutions businesses, including being responsible for offshore development centers for Trimble across multiple offices.

EDITOR'S NOTE: Mark Botticelli, PeopleNet Executive Vice President, Technology, is available to speak on the topic of autonomy during the 2017 in.sight User Conference and for future stories. Please contact Shelli Lissick, shelli@bellmontpartners.com or (651) 276-6922 to arrange an interview.

Key Takeaways

- The Society of Automotive Engineers (SAE International) defines six levels (0-5) of driving automation in the new SAE International Standard J3016. PeopleNet is currently active in levels 1-3.
- Remote control trucking has the potential to address driver work/life balance, safety, driver fatigue and many other factors.
- PeopleNet's connection to Trimble allows for many opportunities to leverage new technology innovations to improve performance and efficiency.