

RED

The **RUAN** Magazine

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DISRUPTIVE INNOVATIONS CHANGE BUSINESS MODELS. THEY CREATE NEW MARKETS THAT CAN IMPROVE,

ALTER OR ELIMINATE EXISTING ONES, FORCING THE TRANSPORTATION INDUSTRY TO INVEST AND ADAPT.



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Keeping pace with the latest Ruan highlights.

Miles Traveled

In 2016, we drove 297,526,461 miles. In 2017, our drivers traveled 308,822,850 miles.

2016

297,526,461

2017

308,822,850



Robert Moore
Ruan Driver
of the Year

Robert Moore was named Ruan's 2016 Driver of the Year in July after being selected from a pool of more than 4,600 professional drivers. Moore, who operates out of T637 in Bethlehem, PA, has been with Ruan since 2011, logging more than 3.8 million miles during his 38 years as a professional truck driver. He serves Ruan customer Linde Industrial Gases and has had zero preventable accidents.



Loads Delivered for Hurricane Relief

Ruan's Guiding Principles of Safety Focus and People First are our top priorities during storms like Hurricanes Harvey and Irma. First and foremost, we confirm that our team and their families are safe and that they are supported during and after the storms. Many Ruan locations in the affected areas were evacuated to ensure our team members and their families stayed safe and followed recommendations of local officials.

After storms, our teams got to work with relief efforts. Several of our customers generously donated bottled water and other supplies to the affected areas, and our operations team and drivers were anxious to help by providing transportation. Drivers were expected to be out for only a short period of time, but because of road closures and weather conditions, many were away from home for up to four days. They encountered flat tires, flooded roads and lack of fresh clothes and amenities because of the unexpected travel time. But, like the rest of the Ruan team, they were just happy to be able to help.



Ruan's Chester, VA, operation, led by Dedicated Transportation Manager Fred Saunders, was named the 2016 Operation of the Year in July. T007, which serves Airgas Merchant Gases, was selected based on the operation's demonstration of our Guiding Principles of Safety Focus, People First, Customer Satisfaction, Exceptional Performance and Continuous Improvement. The operation employs 36 team members, and the professional truck drivers travel more than 3.6 million miles each year using cryogenic tankers to haul liquid oxygen, nitrogen and argon.

220 TEAM MEMBERS
HELPED RAISE
MORE THAN
\$217,600

Dollars raised for United Way of Central Iowa

- + 220 team members participated
- + Total corporate donation exceeded \$217,600



Million Mile Award

A 2014 Kenworth T660 compressed natural gas (CNG) powered class 8 tractor recently achieved the milestone of 1 million miles in service. The vehicle, which is part of a fleet of 40 tractors domiciled at Ruan's operation in Fair Oaks, IN, has experienced no major maintenance issues over its operating life. These vehicles pull 80,000 GVW loads of milk primarily from Fair Oaks to Southern Indiana.

Contact us today to receive a free analysis of your transportation spend!

After signing a mutual confidentiality agreement, our professional logistics design engineers will gather data and get to know your business. Then we evaluate areas we can make more efficient

and demonstrate how we can remove costs, decrease overhead, reduce risk and free up capital. **Call 1-800-782-6669, ext. 7, or e-mail us at Solutions@ruan.com.**

DEMAND IS RISING. SO ARE THE STAKES.

It's no secret that an industry that employs one in every 13 people is critical to the American economy.

As the U.S. economy and population continue to grow, so will the importance of trucking. According to the American Trucking Associations (ATA), U.S. freight volume grew 3.7 percent in 2017 and will grow 3.4 percent annually through 2023. Because trucking will remain the dominant freight mode, already moving 10.73 billion tons of freight in 2017, that's a lot more freight to haul.

More drivers and more trucks will be necessary to move all the goods needed for the American public in the coming years. In fact, the ATA expects the number of Class 8 trucks in operation to increase 19 percent by 2028. The industry is up to the challenge, though capacity is already tightening due to an existing—and growing—driver shortage and regulatory pressures.

DRIVER SHORTAGE

With the expected freight market growth and a portion of the current trucking workforce nearing retirement, the ATA estimates that the industry will need to hire nearly 1 million drivers and technicians in the next decade to meet demand. The shortage could balloon to 174,000 drivers by 2026 if current economic growth trends continue. To fill these seats with qualified, safe drivers, the industry must make some changes.

There are several underlying factors contributing to the truck driver shortage, including competition within the industry and from other industries; driver qualifications and requirements; workforce demographics; regulations that tighten capacity; and difficulty attracting young people to the industry since one cannot acquire a commercial driver's license (CDL) until age 21. The ATA recently established a workforce development

subcommittee that will work with federal and state officials to find solutions to these issues.

In addition to establishing consistent, entry-level driver training standards detailed in this article, the subcommittee is encouraging the development of robust apprenticeship programs that engage workers before they can officially qualify for a CDL at 21. Some efforts are even underway to change the federal age requirement for interstate truck drivers. Outreach to veterans and historically

ACCORDING TO THE AMERICAN TRUCKING ASSOCIATIONS (ATA), U.S. FREIGHT VOLUME WILL GROW 3.4 PERCENT ANNUALLY THROUGH 2023.

underrepresented communities like women—who currently make up only 7 percent of the commercial driving workforce—will be critical as well, according to *Transport Topics*.

As the driver shortage intensifies, carriers are more frequently increasing pay or providing sign-on bonuses to attract new drivers and offering performance-based bonuses to retain existing drivers. The National Transportation Institute's driver wage index rose 1.6 percent year-over-year in the third quarter of 2017 and was expected to accelerate in the fourth quarter and into 2018 — and wages have already been increasing for awhile. For the second straight year, driver wages topped carriers' cost-per-mile spending according to data released in October 2017 by the American Transportation Research Institute (ATRI).

Carrier costs on the whole climbed 1.5 cents per mile last year, per the report, with increases in spending on driver wages and benefits outpacing savings from lower fuel.

**1.5
CENTS**

CARRIER COSTS ON THE WHOLE CLIMBED 1.5 CENTS A MILE LAST YEAR.

Often, before carriers can offer their drivers more pay, they must secure rate increases from customers, both in contractual relationships and in the spot market. And they are doing so. The Cass truckload index, which tracks rates minus fuel surcharges, rose 6.2 percent year-over-year in December 2017, the ninth monthly increase after a long decline. And according to research firm FTR Associates, freight rates should be up 6 percent by fall of 2018 — and could increase as much as 10 percent because of tightening capacity and strong freight demand fueled by a mostly positive economic outlook.

REGULATIONS

President Trump's first year in office was marked by a reduction in the number of proposed regulations actively being pursued by the Department of Transportation. This trend follows an executive order issued by President Trump in his second week in office stating that for every new regulation submitted to the Federal Register, government agencies must identify two regulations that should be repealed.

Several regulations continue to move forward and are expected to have a significant impact on trucking productivity, including the recent electronic logging device (ELD) mandate, the creation of a drug and alcohol clearinghouse and the development of entry-level driver training standards. The DOT has postponed work on a mandate to require speed limiters in all trucks; withdrawn a proposed requirement for truck drivers to receive sleep apnea testing; and cancelled a proposal to develop a safety fitness determination system for carriers.

A Federal Motor Carrier Safety Administration (FMCSA) mandate requiring electronic onboard recording devices for heavy-duty trucks went into effect December 18, 2017. Efforts to delay or withdraw the rule altogether were thwarted in courts and Congress, but the FMCSA issued an enforcement grace period to help facilitate a smooth transition.

The mandate, which impacts approximately 3 million commercial drivers, was expected to cause a 3 to 5 percent reduction in productivity due to tighter enforcement of hours-of-service limits, according to Stifel Financial Group. Additionally, 2 to 3 percent of carriers and drivers were projected to leave the industry entirely because of their resistance to ELDs. While the impact of the mandate has yet to be quantified, it's clear that ELDs are the largest hit to trucking productivity since 2013 changes to hours-of-service rules cut driving time with required breaks for commercial drivers. Still, the ELD mandate is largely accepted by the trucking industry because of its positive impact on safety and leveling the compliance playing field.

**IN 2017
10.73B
TONS OF FREIGHT
WERE MOVED**



The national drug and alcohol clearinghouse final rule goes into effect in January 2020, three years after its effective date. The central database will house verified positive drug and alcohol tests, as well as names of drivers who refuse to be tested. Beginning in January 2020, carriers will be required to report positive test results and refusals to test into the database. Employers will also be required to access this database when looking to hire potential drivers—and to query the database annually for current drivers. This rule is intended to increase highway safety by ensuring CDL holders who have tested positive or have refused to submit to testing have completed the DOT's return-to-duty process before driving, as well as ensure that employers are meeting their drug and alcohol testing responsibilities. Some expect the clearinghouse to have a more severe impact on capacity than the ELD mandate because unsafe drivers will be terminated and have difficulty finding new jobs.

The entry-level driver training rule, which goes into effect February 7, 2020, mandates certain minimum training requirements for those seeking to obtain a Class A or Class B commercial driver's license, or a hazardous materials, passenger or school bus endorsement. Drivers must complete a prescribed program of knowledge-based instruction and behind-the-wheel instruction provided by an entity that is listed on FMCSA's Training Provider Registry. According to the FMCSA, "The comprehensive CDL

(CONTINUED ON NEXT PAGE.) →

**FREIGHT
RATES
SHOULD BE UP
6 PERCENT
BY FALL OF
2018**

THE ATA EXPECTS THE NUMBER OF CLASS 8 TRUCKS IN OPERATION TO INCREASE 19 PERCENT BY 2028.



2 TO 3 PERCENT OF CARRIERS AND DRIVERS WERE PROJECTED TO LEAVE THE INDUSTRY BECAUSE OF THEIR RESISTANCE TO ELDs.


(RISING STAKES CONT.)

training requirements, which emphasize safety and promote driving efficiency, will result in lives saved, reductions in fuel consumption and emissions, vehicle maintenance cost reductions and industry-wide performance improvements.”

MOVING FORWARD

In addition to the driver shortage and regulations contributing to a capacity crunch, carriers are contending with a changing marketplace. Freight demand has finally caught up to peak levels from 2006 before the recession. Much has changed in the past 12 years, and transportation companies must balance myriad factors to remain competitive.

174K
driver shortage by 2026 if the current economic growth trends continue



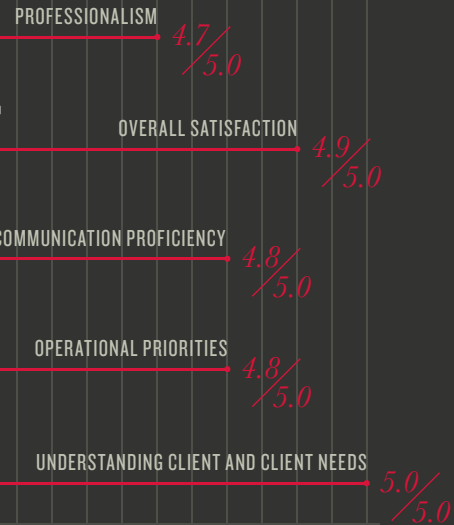
The rapid growth of e-commerce has completely changed how and when and for what price consumers want to receive their goods. Trucking companies must ensure that they help their customers meet the expectations of the final consumer of the products. That includes providing transparency and visibility to where a product is and when. Logistics technology, advanced telematics, apps and online ordering platforms allow them to do so.

Trucking companies certainly face a host of challenges in the ever-changing marketplace, but 2018 will offer success for those able to capitalize on increasing demand for freight and tightening capacity while navigating regulatory pressures and the changing expectations of customers.



3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0

CONSISTENT IMPROVEMENT THROUGH CUSTOMER INSIGHTS.



Satisfied customers are the key to any successful business.

At Ruan, we serve a number of customers in a variety of different industries. Every day is different for each customer, bringing new requirements and challenges. With the constantly changing factors that accompany any organization, it is important to have dependable partners that provide consistent support of these day-to-day challenges.

Because our customers' needs are ever-changing, it is important to regularly gauge our performance. To do this, Ruan implemented a Customer Satisfaction Program in 2010. Each year, customers who meet a set of requirements are enrolled into the program. Our operations leaders identify the customer contacts who work closely with Ruan team members, and those individuals have the opportunity to complete an anonymous survey based on their experience with Ruan. The standardized customer survey process was developed to measure key aspects of Ruan's performance within the relationship, including professionalism, communication, customer service, operational priorities, overall performance, referral probability and commitment to safety, which is regularly a top-rated area for Ruan.

All feedback gained from the completed customer surveys is analyzed by the Ruan team dedicated to each customer and executive leadership. It is used to improve existing practices and create new, customized solutions to address customer needs. Customers continue to give Ruan improved ratings year over year as a result of the action plans developed from customer feedback.

Ruan's customer satisfaction program is unique in the transportation industry; few transportation and logistics companies solicit such information from their customers on an annual basis. Customer Satisfaction and Continuous Improvement are two of Ruan's Guiding Principles, and we strive to be a strategic partner with each of our customers. The opportunity to gain unbiased feedback from our customers and develop action plans based on this feedback allows us to continually evaluate our current practices and improve in every aspect of our business.

Customers continue to give Ruan improved ratings year over year as a result of the action plans developed from customer feedback.

› adjective ‹

able to move quickly and easily –
that is a great definition.

By Dan Greteman
Ruan Chief Information Officer



agile

I like to call agile the “new math” of business enablement and technology delivery.

Let me explain what I mean by “new math.” I had a revelation while assisting my daughter with her math homework not long ago. As a baby boomer, I solve math equations in my head and write down the answer. She said, “No, Dad. We have to document the process we went through to get the answer — in addition to giving the answer.” Then it hit me — I had no idea how to do that. She and this new math thing taught me that if I understand the process, I will understand the answer. New math has merit.

Agile, like new math, has merit. Agile changed the business enablement and technology delivery model by allowing for faster business enablement and increased team collaboration. Agile speeds business enablement and uses the collective brain power of a team to deliver better, higher-quality solutions.

When I began working in IT, teams would sit down with business partners, collect a heap of requirements and, albeit effectively, work independently for six to nine months. Each team member would do their work, meet the requirements and hand off their finished product to testing. One of the key challenges was that the requirements changed over those months both in content and priority. The final product took too long to complete and would already be out-of-date by the time it was transitioned to the testing phase. Agile changed the model by having a higher frequency of smaller and more focused deliveries.

For my generation, business enablement and technology delivery was mostly an individual sport; I go into my cube, work for a few weeks or months and pop out with the answer. Under an Agile model, I am in a collaborative workspace, surrounded by people focused on the same products, business and technology. I focus on specific requests selected from a demand backlog. If I have questions, I ask and get answers immediately. If I need help, I ask and get help immediately. Fewer roadblocks, delays and focus points yield faster business enablement and technology delivery.

support multiple fleet business segments. We have equipped our business and customers with feature-rich mobile applications for more than a decade. Our Agile development process allows us to adapt to both business and customer needs in a timely manner. The world changes quickly, and Ruan is up to the challenge — rapidly tailoring our solutions when our customers need it. We listen to their needs and expedite the development of unique solutions, allowing their day-to-day operations to continue without interruption.

The Agile mindset drives an outcome that values the following:

1. Individuals and interactions more than processes and tools.
2. Working software more than comprehensive documentation.
3. Customer collaboration more than contract negotiation.
4. Responding to change more than following a plan.

Ruan is a technology-driven company applying Agile methodology to achieve our Guiding Principles of Safety Focus, People First and Exceptional Performance. Agile is a pragmatic way to bring our teams together, minimize the overhead and enable the business incrementally with greater alignment. Ruan is taking full advantage of Agile to maximize our business and customer impact through speedy capability delivery.

Case in point: The rate at which we enable mobile technology. Ruan, a leader in the application of mobile technologies, has mobile applications that

Using Agile methodology, our team has the capability to provide our Dedicated Contract Transportation customers with a mobile app that closely matches their specific company processes and information. The customized app is deployed to Ruan professional drivers, creating a cohesive operating platform.

The Agile team at Ruan has a solution that is readily accessible, exceedingly fast and offers capabilities beyond what is commonly available in the market today.



DISRUPTIVE INNOVATIONS CHANGE BUSINESS MODELS. THEY CREATE NEW MARKETS



AND VALUE NETWORKS. OVER TIME, THEY HAVE BEEN KNOWN TO IMPROVE, ALTER OR



ELIMINATE EXISTING MARKETS, ESTABLISHED FIRMS, PRODUCTS AND ALLIANCES.



THINK ABOUT

how online streaming services like Netflix have all but eliminated brick and mortar video rental companies like Blockbuster. More and more retail chains are filing bankruptcy or closing altogether due to the convenience of online shopping. The advent of digital photography thwarted the need to develop film. Travel booking websites have reduced the number of travel agents by two-thirds. Ultimately, disruptions force companies to alter the way that they approach their business — or else risk losing market share or becoming irrelevant. In the world of trucking, disruptors are aplenty.

A growing number of existing and start-up companies are developing technology-enabled services and products focused on the transportation industry, including marketplace platforms, fleet management solutions, onboard monitoring and tracking systems and trucking-focused ERP systems. Trucking is moving from pen and paper to fully digital. It's faster, more accurate and saves money.

"Technology has been rapidly changing society, the economy and the way people live, work and interact with each other. Driven in part by smart phones, a substantial increase in inexpensive computing power and the Internet of things, technologies are fundamentally changing access to information and services," said Ruan's Chief Information Officer Dan Greteman. "Within the transportation sector, the implications of new technologies and models of transportation service delivery are broad and are likely to transform the way people and goods move over the coming decades."

According to CB Insights data, trucking tech start ups generated a total of \$750 million in 2016 — and funding was expected to top \$1 billion in 2017. Auto tech funding — think autonomous trucks, fleet telematics, driver safety tools — skyrocketed to more than \$4 billion in 2017, up from \$1.5 billion in 2016. No wonder these tech ventures are attracted to trucking: In an industry that hauls more than \$700 billion in freight annually but uses relatively outdated and labor-intensive systems and processes, opportunities abound for innovation.

These ventures are creating everything from freight quote marketplaces and self-driving trucks to fleet management solutions and mobile technology systems that can wholly transform — or disrupt — the way business has been done. They're revolutionizing the ways trucks operate and interact with the central office, as well as how shipments are booked, paid for and tracked. Some of the key disruptive innovations currently or soon-to-be upending the transportation industry are highlighted in this article.



LEGACY MODERNIZATION

To start, one of the key issues facing the industry is the need for legacy modernization. To adapt and take advantage of the disruptive innovations in the pipeline, many trucking companies must update their legacy platforms and operating systems that are no longer in widespread use and can be replaced by newer systems. Once a company is accustomed to using these systems, however, change can be difficult. There's pain in not updating as well since new applications a company might want to adopt may not run on legacy platforms.

THE RUAN APPROACH

Ruan has spent the last several years updating our largest legacy revenue-generating programs to stable, supported systems in order to accomplish business proficiencies and improvements. This includes the upgrade to R2.0, our best-of-breed transportation management platform; our accounting and financial software; and our HRIS tool.



MOBILE TECHNOLOGY

Mobile technology systems are a prime alternative for or interaction point with many legacy applications. There's no question that mobile technology has permeated every facet of our lives, from how we communicate to how we shop — and now how we work. According to statista.com, 1.1 billion tablets were sold in the last five years, and annual smart phone sales top 1.5 billion. A poll by the Interactive Advertising Bureau revealed that some 75 percent of smart phone and tablet users have purchased a product or service on their mobile device in the past six months, with nearly a quarter buying goods via mobile devices on a weekly basis.

Thanks to the consumerization of IT, both workers and customers now expect their business interactions to function like their personal interactions. Like workers in other industries, truck drivers — particularly young drivers the industry is desperately trying to attract — are fluent in mobile tech use and expect high functioning technology in the workplace. And shipper customers demand it. To remain competitive, transportation companies must adopt mobile technologies, which can describe systems with mobile capabilities or that can push information to and from a mobile device.

While many trucking companies were early adopters of “mobile technology,” these legacy systems have become almost archaic after the rapid advancements in recent years. Unfortunately, many are strapped with “technical debt” from adopting early systems and have limited financial ability to move to the more advanced systems available.

The 2017 electronic logging device (ELD) mandate will help — or force — carriers to update technologies. Many platforms that met the ELD mandate requirements are available on smart phones or tablets instead of the dash-mounted computers that some carriers adopted for logging and compliance prior to the mandate. For a population that's accustomed to the ease of use

offered by mobile technology for personal needs, dash-mounted computers with chunky keyboards or touch screens that require large buttons or styluses are a hassle.

What's more, drivers and office workers are often tasked with completing jobs or entering data in multiple and separate apps and programs. This context shifting is time consuming, inefficient and downright frustrating. Modern mobile technology allows work to be completed within a single unified, workflow-centric app that runs on common tablets and smart phones. The dynamic workflow capabilities within mobile technologies ensure that data is captured in a uniform way, enforcing consistent and common practices across the company. This results in clean back end data and, therefore, valuable business insights. Plus, workflow and accurate data can eliminate major driver headaches — like delays from handling paperwork, inefficient scheduling, confusing procedures and recording detention time, to name a few. Making the job easier for truck drivers is crucial in the midst of a ballooning driver shortage.

THE RUAN APPROACH

One of Ruan's top priorities is to leverage our mobility platform to increase driver productivity and ensure regulatory compliance across the business. Ruan has been in the mobile space for more than a decade with java phones and our proprietary RedTrak routing system used in our dairy operations, and for the last year, our IT team has been focused on next generation mobility — updating our legacy systems and creating a new app currently being piloted to one day be used across all operations. The Android app integrates with XRS (a logging device used on our dairy operations) and R2.0, our transportation management platform. Drivers input load information to the app throughout their day, and the data is instantly available to our office team members and customers.

Our main objectives when developing mobile apps include to:

1. Provide flexibility and agility;
2. Improve the driver experience with better response times, enhanced device usability and stronger stability;
3. Support the demands of our customers with an increased ability to capture and store real-time freight data;
4. Lower the cost of ownership with more responsiveness to change; and
5. Continue our focus on compliance and safety.

“Our customers want a portal to track their products as easily as they can today with FedEx or Amazon. Our drivers want a device that is easy to handle, a platform that is easy to interact with and the commitment that the device always works as it should,” Greteman said. “I think we've achieved that with our new RedTrak app. In the future, opportunity exists for us to provide innovative and differentiating mobile solutions for multiple user groups across business areas at Ruan.”

AUTONOMOUS TRUCKS



Innovations to trucks themselves have major potential to disrupt the trucking industry as we know it. Start ups and the largest truck builders alike are investing billions of dollars to develop trucks capable of driving themselves down America's freeways. A number of companies are already testing self-driving trucks — with a safety driver in the cab — to work out kinks.

THE REALITY OF WORKERS COMPETING WITH AUTOMATION IS ONE THAT ALL INDUSTRIES WILL FACE, NOT JUST TRANSPORTATION; SOME ANALYSTS PREDICT THAT BY 2030 SOME 75 MILLION TO 375 MILLION WORKERS (3 TO 14 PERCENT OF THE GLOBAL WORKFORCE) WILL NEED TO SWITCH OCCUPATIONAL CATEGORIES, AND ALL WORKERS WILL NEED TO ADAPT.

self-driving tech developers are positioning the technology as a partner to drivers rather than a job killer — productivity increases, but the job becomes more attractive to drivers; from exit to exit, drivers can shift to perform other tasks, like ensuring data is captured accurately, while the truck runs on autopilot. The job of professional driver will change and adapt, but it will never go away. Truck drivers will remain the backbone of the American economy.

Noël Perry, a transportation economist, has said on record that the shift to autonomous trucking is “the most powerful thing to hit us [the trucking industry] since the building of the superhighways in the 1950s.” The reality of workers competing with automation is one that all industries will face, not just transportation; the consulting firm McKinsey & Company forecasts that by 2030 some 75 million to 375 million workers (3 to 14 percent of the global workforce) will need to switch occupational categories, and all workers will need to adapt. Jobs will need to change, but not necessarily be lost.

Self-driving trucks could help companies reduce labor costs by extending the number of hours trucks are in operation and potentially cut the number of drivers needed, at least to drive on interstates. Plus, some believe autonomous trucks have the potential to be safer — and could therefore reduce insurance premiums — as accidents are largely caused by human error.

The industry agrees, however, that drivers will still be necessary to navigate city streets for the first and last miles of trips. In fact,

While the autonomous technology could soon be in place, the challenge is to get autonomous trucks on the road and making money. Several technical and regulatory hurdles to that future currently exist, but a growing number of trucks are already equipped with autonomous braking and collision mitigation systems that step in to assist when drivers are slow to react. Still, the prospect of seeing a truck moving down the interstate at 65 mph without a driver operating the wheel is several years down the road.

ELECTRIC TRUCKS



One of a trucking company's largest — and often most volatile — operating expenses is fuel, so Tesla's recent announcement about the launch of its wholly electrically-powered tractor-trailer could be a game changer. A number of major carriers have already reserved Tesla semis, which cost \$150,000 for a model with a 300-mile range per charge and \$180,000 with a 500-mile range. Most diesel-powered tractors cost around \$100,000, but Tesla predicts that the electric vehicle will pay for itself within two years thanks to savings in aerodynamics, reliability and, of course, fuel. The vehicle boasts additional safety features as well, including wrap-around windshields, cameras instead of rearview mirrors and autonomous systems like automatic emergency braking, automatic lane keeping and forward collision warning, according to Tesla. The widespread adoption of electric trucks will depend on how they perform in real-world situations, the availability of battery-recharging facilities and the training of workers to service electric vehicles.

THE RUAN APPROACH

Ruan has reserved five Tesla electric trucks to begin testing in 2019.



DRIVER MONITORING



Heavy-duty trucks are involved in more than 4,000 fatal accidents annually. That's too many. One way the industry is moving to combat accidents caused by human error and fatigue is the use of driver monitoring tools. The newly required electronic logging devices are a type of monitoring system, as they track and report speed, location and driving status, in addition to where drivers stand within federal hours-of-service requirements. Trucks now widely come equipped with advanced driver assistance systems that use a combination of radar- and camera-based components, like following distance alerts and active braking, to intercede on the driver's behalf to eliminate or greatly decrease a collision's severity. Any event triggered by the technology is reported to employers.

But more intrusive technologies are entering the marketplace and being adopted by trucking companies. Ballcaps can measure brainwaves and give a fatigue rating, a critical factor for drivers as a majority of accidents are caused in one way or another by the effects of fatigue. One company is developing a vest that can detect a driver's heart attack and stop the truck as a result. Trucking executives can use these and other biometrics tools to recommend changes to improve the safety, health and efficiency of workers.

More common, road- and driver-facing dashboard cameras are used to record actions that can negatively affect safety — but also monitor slacking behavior or unauthorized stops, according to *Forbes*. Onboard video event

recorder systems link into a truck's engine to record video clips before and after exception-based events such as speeding, forward collision warnings, harsh braking, lane departure alerts and collisions themselves. Those videos may then be accessed for driver coaching or for litigation in the case of an accident. Some driver-facing cameras even monitor drivers' eyelids for signs of fatigue.

Drivers, who already feel closely monitored by regulators, employers and their customers (who are demanding real-time

“MONITORING TECHNOLOGIES NOT ONLY PROTECT OUR DRIVERS, BUT ALSO THE MOTORING PUBLIC AROUND US. THESE TECHNOLOGIES HELP KEEP DRIVERS ALERT AND VIGILANT IN THEIR DAY-TO-DAY ACTIVITIES, AND WE’RE ABLE TO COACH AND EDUCATE IN AREAS LIKE SPEEDING, SAFE FOLLOWING DISTANCE AND HARD BRAKING.”

— ALLISON MEINERS
MANAGER OF SAFETY TRAINING AND COMPLIANCE

data on loads to appease their own customers), are often bothered by the use of these additional monitoring technologies because their trucks serve as their offices — and homes for over-the-road drivers. Some feel mistrusted and are stressed out by the idea of constantly being monitored while they go about their normal workplace activities. Others like the idea of working for companies that value providing drivers the resources to stay safe and improve their skills. If the technology can help prevent accidents, provide coaching opportunities after near-misses and save carriers money, more carriers will likely conclude that the intrusion is warranted. But like it or not, the job of professional truck driver can no longer be considered fully independent or autonomous, which has long been one of the main attractions for the position.

THE RUAN APPROACH

Ruan's top Guiding Principle is Safety Focus, so we invest heavily in tools that can help ensure our drivers get home safely to their families.

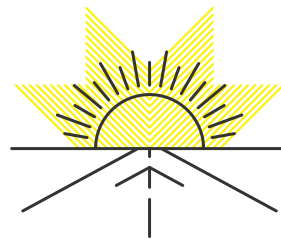
- + *Ruan is currently testing 100 road- and driver-facing dash cameras in one of our business units, and we have seen great results, particularly in correcting driver behaviors.*
- + *Ruan uses SpeedGauge, a program that takes the GPS location breadcrumbs from our automatic onboard recording device and compares that information to the database of all posted speed limits within the United States. This then generates a report of the fleet's percentage of speeding, along with individual speeding events. Our on-site managers use this report to coach drivers and promote safe driving habits.*
- + *More than 57 percent of our trucks are equipped with advanced driver assistance systems that monitor events like hard braking, following distance alerts, lane departure warnings and speeding. All new trucks added to our fleet have these systems. Those units equipped with a collision safety system have fewer rear-end, merging and lane change accidents than those not equipped with the systems. Ruan utilizes the provided data on driver performance to coach drivers to improve safety and key performance indicators (KPI) like mpg.*

“Monitoring technologies not only protect our drivers, but also the motoring public around us. These technologies help keep drivers alert and vigilant in their day-to-day activities, and we’re able to coach and educate in areas like speeding, safe following distance and hard braking,” said Manager of Safety Training and Compliance Allison Meiners. “All of these investments are in the name of safety, and we will do anything to keep our drivers and our families safe out on the busy roads and get them home every night.”

MOVING FORWARD

It's clear the world of trucking looks wildly different than it did 10 years ago, and the next 10 years will be marked by even more change — the drivers, the transportation management systems, the data and the trucks themselves.

“For forward looking companies, there's a lot of opportunity to take advantage of these innovations to reduce costs, generate sales and improve safety,” Greteman said. “Now we just need to take a step back and determine what the application is, then prioritize what to implement.”



OUR HIGHEST PRIORITY EARNS THE HIGHEST HONOR.



Ruan was awarded the American Trucking Associations' President's Trophy in the over 100 million miles category at the ATA's Safety, Security and Human Resources National Conference and Exhibition in November. The President's Trophy is the highest safety award available to motor carriers in the United States and is presented annually to only three motor carriers. The award goes to fleets that demonstrate innovative approaches to safety and go above and beyond to keep the highways safe.

“THIS AWARD IS A TESTAMENT TO THE CULTURE OF SAFETY AND QUALITY WE HAVE BUILT THROUGHOUT THE PAST 85 YEARS AT RUAN,” SAID RUAN CEO BEN MCLEAN. “IT IS AN HONOR TO BE RECOGNIZED AMONG OUR PEERS, AND WE THANK THE ATA FOR THE RECOGNITION.”

“This industry provides constant examples of hard work and professionalism exhibited by its people on a daily basis,” said Chris Spear, ATA president and CEO at the award ceremony. “Today, we take a moment to honor groups of people and companies that have gone above and beyond in the pursuit of excellence to earn the title of champion and promote safety throughout our vital industry.”



Pictured Left to Right: John Joines, VP Safety Great West Casualty Company and ATA President's Trophy Sponsor; Ron Hanson, Ruan SVP and CAO; Allison Meiners, Ruan Safety Training and Compliance Manager; Ben McLean, Ruan CEO; Dan Van Alstine, Ruan President and COO.

Safety Focus is Ruan's number one Guiding Principle. Ruan was the first transportation company to implement a formal safety program in the 1940s and has had a consistent and prominent safety focus since. In 2012, Ruan developed a propriety safety program called Megasafe, a comprehensive system that guides training, safety meetings and overall field safety operations. This system allows Ruan to closely align safety efforts with the measurements used by the Department of

Transportation. All Ruan professional drivers and operations personnel participate in mandatory quarterly safety meetings to review safe practices and stay abreast of any changes to industry regulations.

In recent years, the company has implemented a number of strategies to ensure safety for everyone on the road. This includes the use of automatic onboard recording devices in all Ruan tractors, and most tractors are equipped with lane departure warnings, roll stability, collision mitigation and more.

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RUAN'S FLEXIBLE INTEGRATED SOLUTIONS OFFERING IS AN OPTIMIZED COMBINATION OF OUR CORE SERVICES.

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PART[S]NERSHIP

BOBCAT COMPANY AND RUAN PARTNER FOR PARTS

A Ruan distribution center delivers parts just-in-time to Bobcat Company's manufacturing facilities while also distributing finished goods.

Manufacturing is hard enough without having to master a supply chain as well. That's why many companies turn to partners to help manage warehousing and logistics. Bobcat Company is



Bobcat

a global leader in compact construction equipment and

utility vehicles. The company's operations and manufacturing facilities are based in its home state of North Dakota, with additional facilities located in Minnesota and North Carolina and throughout the world. Bobcat has partnered with Ruan for more than a decade to improve its supply chain processes. While Ruan is primarily known as a transportation company, Bobcat first started partnering with Ruan on warehousing and consolidation services. The partnership produced substantial results, driving 15 percent of waste from Bobcat's supply chain by optimizing trailer loads.

Several years ago, Bobcat sought to streamline its supply chain even further. "We have been doing business with Ruan for more than 10 years as a 3PL already. So we had a good history with them," said Mike Jorgenson, Bobcat's distribution site manager. "And after evaluating all of our options, they still came as the best solution for us."

The expanded partnership now includes inbound and outbound transportation as well as use of a new Ruan-owned distribution center (DC) in Otsego, MN.

MULTIPURPOSE FACILITY

The 300,000-square-foot distribution center is dedicated solely to serving Bobcat's supply

chain. The Otsego operation deals with two types of inventory. First are raw materials and parts to support Bobcat's manufacturing efforts. The second type includes finished products coming from its plants for distribution to Bobcat dealers.

Ruan works with approximately 300 suppliers to process the inbound parts and raw materials. The facility holds about 1.8 million parts, comprising around 5,000 stock-keeping units (SKUs). The parts arrive in returnable containers, corrugated cartons and wooden crates as well as on pallets. The bigger parts are floor-stored in the facility. Large returnable containers are floor-stacked up to six high. Other loads are placed into pallet racks, while individual cartons are deposited into flow racks. Radio-frequency (RF) scanners perform putaway and picking duties.

Throughout the day, Ruan employees collect parts and components needed for manufacturing at four Bobcat plants—three of which are in North Dakota and the other in Minnesota.

Ruan has 98 drivers dedicated to Bobcat logistics. They transport inbound products from Bobcat's suppliers to the distribution center and then deliver parts from the DC to the manufacturing facilities. Once at the plants, the drivers pick up finished goods to bring back to the Otsego distribution building. They also bring empty containers back to Otsego, which will be returned to suppliers when they pick up new parts and raw materials. Additionally, the trucks return used corrugated and crates from manufacturing for recycling.

Finished goods that arrive in Otsego are driven off their transport vehicles to staging areas in the distribution facility. Attachments and other accessories are also unloaded and placed into floor locations and pallet racks. Most finished products will remain in the facility for less than two weeks, with many shipping out the same day to Bobcat dealers.

DRIVING EFFICIENCIES

Jorgenson said that partnering with Ruan has brought huge improvements to Bobcat's supply chain. "We've seen a reduction in inventory in our factories, which has opened up critical floor space to improve our manufacturing,"

he said. "We've seen a reduction in the cost of transportation of both raw product and finished goods. And we've seen an improvement in the cost associated with just being customer-ready for the factory. Ruan is engaged and committed and is continuing to develop the 3PL solutions that its customers need."

Ruan is engaged and committed and is continuing to develop the 3PL solutions that its customers need.



To see a video of operations at the Ruan facility in Otsego, MN, that supports Bobcat manufacturing, go to dcvtv.com and click on Channel Two.

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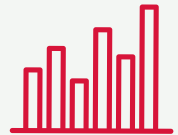


Are you maximizing your 3PL? *Ask yourself:*



Did I see the savings I was promised?

Am I getting the KPIs that I need to evaluate my spend?



Is efficiency an issue?

Do I have visibility throughout the lifecycle of an order?



Do I need to look outside of my current network to upgrade my 3PL?

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