



# FIRING ON ALL CYLINDERS

# INVESTING IN TECHNOLOGY AND PEOPLE TO MOVE THE INDUSTRY FORWARD.

**Each year, new research is released on the importance** of healthy workplace practices. Ensuring you have proper posture, you're moving regularly, getting enough rest, staying hydrated, the list goes on. Society is passionate about monitoring our daily movements and periods of rest, and tech companies have maximized on this obsession with the invention of devices and applications to track our every move.

But what about your workplace? Is it operating at optimal health? Poor working conditions can lead to unnecessary down time, employee illness, lack of productivity and profitability, and more. Now imagine your office space is a 70,000-pound semi-truck moving down the highway at 65 miles per hour. The quality and habitability of that workspace could have a life or death impact.

Similar to a building operations department, trucking companies have maintenance teams dedicated to ensuring our trucks are operating at optimal levels of safety and efficiency. The maintenance team is the hub of any transportation organization. Without proper upkeep of our trucks, we cannot operate and serve our customers. Skilled, professional technicians and diesel engine specialists are in high demand. Fewer maintenance professionals are currently entering the field than in years past, and the demands of the job are more complex and technological than ever before. Additionally, the seasoned professionals of the Baby Boomer generation are retiring from the workforce, creating an even bigger void to fill. This void is only going to grow in the future. In fact, the Bureau of Labor Statistics predicts the trucking industry will need an estimated 142,000 new technicians and engine specialists by 2022.



The American Transportation Research Institute (ATRI) predicts that the need for technicians will grow faster than the national average for other occupations—10 percent by 2026 to be exact. Unfortunately, the industry has struggled to attract enough new and capable talent to make up for this rapid growth. Because the industry is so competitive, technicians can name their price and work nearly anywhere they please. To help attract qualified technicians, carriers are increasing wages at a rate higher than average, ahead of the cost of living increase. Attracting the best in the industry will come at a cost to transportation providers, and remaining an attractive employer is imperative to fleet productivity and carrier profitability.

Some attribute the growing need for technicians to the increasingly complex trucks on the road today. These trucks are designed to be incredibly fuel efficient, environmentally friendly, and technologically advanced, making for much more complicated machines. Technicians are

as fuel efficiency and improved safety technology, it is costlier to maintain and repair due to more advanced features. Innovative technologies, such as roll stability and active braking assistance require new diagnostic equipment and training for technicians and create opportunity for more parts failures.

Another major factor that plays into the repair and maintenance related costs for carriers is the intensity of usage of the equipment. Carriers are, on average, using their equipment less intensely than years past. Fleets that utilize their equipment more intensely have higher repair and maintenance costs due to wear and tear on the machinery. From 2016 to 2017, the average miles driven per truck decreased more than 13 percent, according

to a survey conducted by MacKay & Co., services performed in-house decreased nearly 10 percent from 2011 to 2015, and that number continues to fall. Some carriers conduct routine upkeep in-house and outsource the more technical and advanced work. Others, such as smaller carriers with fewer trucks, outsource all maintenance. For them, the cost of outsourcing is significantly less than the cost to obtain and retain skilled technicians and purchase the equipment necessary to repair technologically advanced trucks.

### Recognizing Our Skilled Technicians

Essentially, trucks are like computers on wheels, resulting in a need for technicians who can not only conduct the manual work to make repairs, but also be skilled enough to operate the diagnostic

2008



**REPAIR AND MAINTENANCE COSTS HAVE INCREASED BY MORE THAN 60 PERCENT SINCE 2008. WHILE NEW EQUIPMENT OFFERS A HOST OF BENEFITS SUCH AS FUEL EFFICIENCY AND IMPROVED SAFETY TECHNOLOGY, IT IS COSTLIER TO MAINTAIN AND REPAIR DUE TO NEWER, MORE ADVANCED FEATURES.**



THE NEXT DECADE WILL SEE MANY ADVANCEMENTS IN THE INDUSTRY, INCREASING

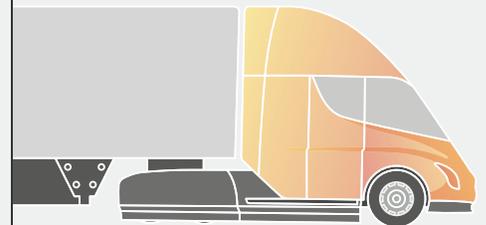
required to have a broader range of knowledge and skill sets to work on these advanced vehicles. Finding the most skilled technicians and funding ongoing training for new diagnostic tools and equipment advances are a major but necessary expense for carriers.

### The Cost of Healthy Fleet

According to ATRI, the average marginal cost per mile incurred by motor carriers increased 6 percent in the 2017. Repair and maintenance costs have increased by more than 60 percent since 2008. These costs have historically been the third highest average marginal cost to carriers, according to ATRI, accounting for approximately 10 percent of all vehicle and driver-based costs. While new equipment offers a host of benefits such

**TESLA'S WHOLLY-ELECTRIC TRACTOR, TO BE ON THE MARKET IN 2020, BOASTS PREDICTIVE AND SELF-DIAGNOSING MAINTENANCE CAPABILITIES. RUAN HAS RESERVED FIVE TESLA ELECTRIC SEMIS.**

2020



to ATRI. While this decrease in miles equates to a decrease in maintenance, the more sophisticated technology and operating systems offset these potential savings.

To combat the burden of maintenance costs, many carriers are choosing to outsource some or all of their maintenance. This is becoming a more attractive option to carriers as technicians become more difficult to find and keep. According

equipment and reset the machine after making repairs. The American Trucking Associations' (ATA) Technology and Maintenance Council's National Technician Skills Competition—TMCSuperTech—is designed to highlight and test the skills of the best technicians across the country in a written exam and in hands-on skills assessment. According to the ATA, TMCSuperTech is North America's premier skills competition for professional commercial vehicle technicians. Most recently, Ruan had three professional technicians compete in the competition.

## DID YOU KNOW?

A typical tractor engine weighs 345 pounds more than a Mini Cooper.



## The Future Is Here

What does the future hold for the world of tractor-trailer maintenance? One of the advancements in trucks hitting the market today includes self-diagnosing technology. For example, Tesla's wholly-electric tractor, to be on the market in 2020, boasts predictive and self-diagnosing maintenance capabilities. The truck alerts its owner of upcoming routine maintenance anywhere in the country using Tesla's online portal or app, allowing carriers to further predict tractor downtime.

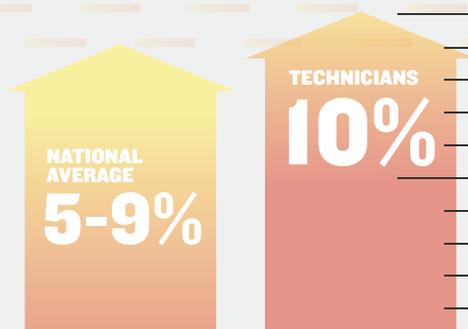
Ruan has reserved five Tesla electric semis. "The reservation of these vehicles is part of Ruan's

in the safety realm, such as lane departure warnings, rear-view cameras, collision avoidance systems, and more. Similar to Tesla, more tractor manufacturers will begin to include telematics in their equipment, allowing for more vehicle-to-vehicle communication and increased safety on our roads. All of these advancements will make for safer roads and safer jobs for professional truck drivers. But they will also require technicians to have a broadened knowledge base and skill set to service these sophisticated machines.

program, industry-leading equipment and diagnostic tools, and more. Technicians at Ruan service thousands of vehicles at more than 50 locations. Additionally, some technicians are mobile and travel within a region to provide service wherever needed. These mobile technicians reduce driver downtime for maintenance repairs and, in turn, offer a cost savings to our customers by ensuring their products are delivered on time.

Ruan recently held our first Top Tech Competition during our own Technician Appreciation Week.

**13%**  
2016-2017  
FROM 2016 TO 2017, THE  
AVERAGE MILES DRIVEN  
PER TRUCK DECREASED  
MORE THAN 13 PERCENT.



**2026**

**THE NEED FOR TECHNICIANS  
WILL GROW FASTER THAN THE  
NATIONAL AVERAGE FOR OTHER  
OCCUPATIONS—10 PERCENT BY  
2026 TO BE EXACT.**

## DEMAND ON PROFESSIONAL TECHNICIANS, THEIR SKILL SETS, AND RESPONSIBILITIES.

**THE BUREAU OF LABOR STATISTICS  
PREDICTS THE TRUCKING INDUSTRY  
WILL NEED AN ESTIMATED 142,000  
NEW TECHNICIANS AND ENGINE  
SPECIALISTS BY 2022.**

**2022**

**142K**

sustainability efforts and commitment to providing our customers and professional drivers with the best technology available," said James Cade, Ruan's vice president of fleet services.

Autonomous trucks will present another round of challenges for technicians. In addition to the routine maintenance and advanced mechanics of these trucks, they will be technologically advanced with complicated radar, ultrasonic sensors, and camera systems. Keeping these components in working order will be imperative to the safety of all drivers as autonomous vehicles hit the road.

Into 2019 and beyond, we can expect to see trucks with more highly advanced technologies, especially

## The Ruan Approach

Ruan has worked to grow our roster of technicians in recent years. We are dedicated to attracting and keeping the best in the business. These talented professionals provide the best service to their customers: our drivers. Our technicians are responsible for keeping our equipment operating properly and safely to ensure our drivers return home to their families—and they take that responsibility seriously. They ensure our equipment is functioning properly to keep repair costs down through regular preventative maintenance.

Ruan's professional technicians enjoy competitive pay and benefits, paid training, a free tool protection

This competition was an opportunity to highlight our technicians' skills and mastery of the industry's latest diagnostic tools and technologies. In addition, it placed a focus on training and education in an ever-changing and ever-advancing field. As part of the competition, all Ruan technicians participated in a written assessment, and the top 10 scoring participants advanced to the skills test in our headquarters city of Des Moines, IA. These participants were tested in 10 separate skill stations including brakes and collision mitigation systems, preventative maintenance inspections, HVAC, engine service information and diagnostics, tires and wheels, warranty and VMRS coding, DOT inspections, electrical, wheel end, and fasteners.