

# Empowering Technicians and Enhancing the Customer Experience at Peterbilt



Positive customer experiences along with vehicle performance and reliability are paramount in the trucking industry. As technology evolves, customers expect innovative new features and benefits as well as prompt, timely, and effective service in order to maintain their vehicles. Though it's a common expectation, it's not always easily met.

Peterbilt, a leading commercial vehicle manufacturer, has been a trusted name in the trucking industry for more than 80 years. With a complete lineup of diesel, natural gas, and electric vehicles, Peterbilt has earned a global reputation for superior engineering, quality, and craftsmanship. Peterbilt puts its customers first by leveraging innovative aftermarket services and advanced technology solutions delivered through its 425+ dealer locations in North America. However, as its truck technology becomes more advanced, so does service repair complexity.

Technicians face the dilemma of mastering product knowledge in near-constant states of change. In this high-tech, high-pressure environment, often their only guidance comes from paper-based materials. These instructions often present information that is out of date or lacking in context. Truck manufacturers have been asking themselves—is there a way we can better support our technicians to meet customer expectations and preserve our hard-fought reputation for quality service?



For Peterbilt, the answer was yes.

In alignment with its mission of purposeful innovation, Peterbilt created a game-changing solution that helped improve service technician efficiency and boost customer uptime.

## Customer Expectations and Product Complexity

Today, workforce shortages and the industrial skills gap are challenging manufacturing and service organizations to find technicians with the knowledge to do the job. Training new employees is an even bigger undertaking when you consider the complexity of vehicles. And when service fails to meet your business' standards for quality, the negative impact on your brand reputation is difficult to recover from.

Peterbilt customers have responded positively to key innovations and industry-leading technologies that have been integrated on Peterbilt products to maximize safety and performance, like its state-of-art 15" Digital Display. However, balancing a dramatic digital transformation strategy with customer demands for uptime adds more complexity to the service process. Service technicians must use complex schematics which are printed and followed carefully—making it a tall order for employees at any experience level to diagnose and repair vehicles accurately and in a timely way.

## AR Opportunities

Augmented reality (AR) displays clear, detailed digital content in the context of the user's physical environment. AR's capabilities have become mission critical to industrial and automotive organizations because they minimize the need to rely on paper-based manuals for the ability to share, scale, and

update instructions at any time. Companies can also connect AR with other solutions and systems to create a digital thread of data, so employees can access all relevant information in one place. And for technicians, AR itself is much more conducive to learning and completing complex tasks.



**“Technicians work with complex [schematics]. It can take skill, time, and experience to be able to understand and interpret a schematic correctly, and they've only gotten more complicated.”**

—David Yin, ARTech Product Manager, Peterbilt





## ARTech

At Peterbilt, every truck is built to exact customer specifications. Because no two products are alike, individualized instruction and guidance are critical to both production and service. With that in mind, Peterbilt selected PTC's enterprise AR platform, Vuforia, to help create its ARTech solution. ARTech is an individualized tool designed to help improve service technician efficiency, saving time and money and improving customer uptime. Instead of working with complicated paper materials or crashing computers with huge files, service technicians can access AR on their tablets or mobile phones.

Using Vuforia, Peterbilt created more than 1,600 digital twins (and counting) for its trucks. Now, technicians can view complex wire harnesses inside of the equipment with "X-ray vision" functionality.

Through a 2018 study, Peterbilt discovered that ARTech would save upwards of **20 minutes per repair**, with total time savings potentially growing **up to 24 hours**.



**"Important factors for our customers are time and efficiency. For our technicians, they're being told that every minute counts and to maximize customer uptime..."**

—David Yin, ARTech Product Manager, Peterbilt

## AR and the Digital Thread

With the need for a scalable, customized solution built around specific VIN numbers, Peterbilt leveraged two PTC technologies—Vuforia and PTC's product lifecycle management (PLM) software, Windchill—to create a digital thread. This allows Peterbilt to easily author new experiences around specific truck models at a much faster rate by reusing the product and part data from Windchill. Reusing this data also helps ensure that service technicians are enabled with the most up-to-date information.

## What Is a Digital Thread?

Automotive manufacturers can create a digital thread by connecting their business systems (like CAD and PLM solutions) to more quickly author AR experiences that are scalable and always up to date, ensuring technicians have the most accurate instructions.





## AR Outcomes and Future Opportunities

With AR, Peterbilt's technicians are empowered to improve service quality and speed. For new technicians, schematics are easier to handle and simpler to follow. This allows new hires to get up to speed faster and be more autonomous, freeing up experienced technicians for their complex work. Compared to traditional methods, ARTech saves valuable time and associated costs, benefiting the bottom line.

Fully invested in the future of ARTech, Peterbilt is considering how it can expand the technology's use in fleets and trade schools, and beyond to other areas of the business, such as the factory floor for inspection and training use cases.

Service organizations looking for ways to improve innovation and enhance customer satisfaction can find immense value in AR solutions.



To hear from Peterbilt about the power and value of putting AR into practice, [watch the full replay](#) of their PTC-hosted webinar.

