

Digital Transformation Guide for Logistics





Contents

The Value of Supply Chain Visibility	3
The Case for Digital Transformation	4
Confronting Industry Headwinds	5
Optimization is Key to Making Every Drop of Fuel Count	6
Digitalization Improves Transparency, Compliance, and Cost Savings	7
Data is the Most Sought-After Currency	8
Innovation and Exploring the Art of the Possible	9
Embracing Digital Transformation	9

The Value of Supply Chain Visibility

When you look beyond fleet tracking and tracing and get a broad picture of supply chain visibility, it becomes clear there is so much more to it. Supply chain visibility covers everything from the terminal to the nozzle and requires a holistic approach to ensuring transparency. Visibility at every stage is critical to optimize operations, beginning with sourcing and inventory availability through route planning to delivery and invoicing. Information at each touchpoint between suppliers, carriers, haulers, and customers should flow and provide insights everyone can leverage.

Logistics companies have been on this journey to get end-to-end visibility for years. Facing the headwinds of an oil crisis and a global pandemic have driven businesses to invest in digital transformation initiatives. This has helped to improve supply chain visibility and data flow, allowing them to gain insights that enable businesses to be more agile. Innovations in big data and artificial intelligence (AI) automate workflows and help the industry overcome the age-old supply chain visibility challenge.



The Case for Digital Transformation

Historically, the logistics industry has faced some obstacles to improving supply chain visibility. Four areas top the list: information silos, disparate systems, manual processes, and older technology. Combined, these limitations inhibit real-time visibility and, over time, degrade operational excellence for any business. A lack of automation and too many manual processes adds complexity, increases risk, and limits transparency among customers, carriers, and suppliers. The opportunity costs to the business go beyond the bottom line and impact customer satisfaction as well.

That's why it's important to turn to a digital-first approach, seek to remove barriers that prevent information flow, and leverage technology that optimizes data captured throughout the supply chain. Each of these areas make up the very essence of digital transformation.



Today, achieving end-to-end visibility across the supply chain and logistics workflows are well within reach with a well-orchestrated digital transformation plan. Much debate surrounds the definition of digital transformation, and pundits are still figuring it out. However, most people agree with George Westerman, MIT principal research scientist, who said, "Digital transformation marks a radical rethinking of how an organization uses technology, people and processes to fundamentally change business performance."

Although the debate about terminology and definitions is ongoing, one thing is clear: digital transformation is not coming, it is here. Operators of all sizes need to reimagine the way they do business to survive.

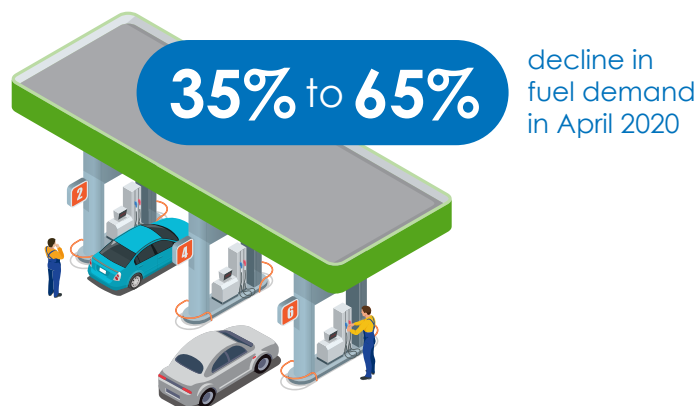
Confronting Industry Headwinds

Historically, the petroleum industry has dealt with more than its fair share of crises. From the 1973 oil crisis to the recent Saudi Aramco fire in September 2019, sudden, unpredictable disruptions of the fuel supply chain have always been an aspect of its volatile nature.

The World Economic Forum's Global Risks Report was published on January 15, 2020. In the survey's decade outlook, infectious diseases didn't make the list of top 10 likely global risks. It was also listed last in terms of impact. Shortly thereafter, an infectious disease dramatically changed how people work, shop, travel, and spend their leisure time.

In just a few months, companies across the globe witnessed the immediate, and clearly unprecedented, decrease in fuel sales. On a global scale, there was a 35 percent decline in fuel demand in April 2020, but some regions have been majorly impacted with declines up to a staggering 65 percent, based on [PDI's COVID's Effect on Fuel Demand report](#).

Although the signs of recovery allow us to be cautiously optimistic, oil companies, carriers, and haulers need to keep a few key lessons in mind. Perhaps the most important lesson is the need for digital transformation to "fundamentally change business performance."



Truck Driver Shortage: A Global Problem



UK: Growing at a rate of 50 drivers per day

US: Will double over the next decade

Germany: 40% are expected to retire by 2027

Japan: 280K unfilled jobs by 2028

Not so long ago, growing a business in the fuel industry usually meant increasing revenues by increasing volumes. Companies would purchase as many new trucks as possible and hire more drivers to increase their transportation and workload capacity. With a looming global driver shortage, numerous policy shifts favoring EVs and green energy, seismic changes in consumption patterns, and significant uncertainty, it may be time for businesses to rethink how to secure sustainable growth.

Here are three questions every operator should ask themselves when deciding where to focus their digital transformation efforts:

- Does my current technology landscape help me reduce friction and information silos while providing me one version of the truth and end-to-end visibility?
- Do my people have the tools they need to maximize productivity, or are they wasting time on mundane tasks that can be automated?
- Are my processes optimized to deliver the best possible results with the least possible cost?

The answers to these questions are as unique as your business needs. But we've identified a few fundamental items you can evaluate.

Optimization is Key to Making Every Drop of Fuel Count

Some 40 years ago, telling a dispatcher that you could put their maps, hand-written notes, and calculations on a computer screen would make their eyes shine with excitement. Today, applications that act as mere data loggers are far from extraordinary.

A comprehensive fuel logistics solution's real value is its ability to leverage end-to-end visibility to optimize every step of the process on multiple levels. A solution that offers sophisticated, industry-specific optimization can prove to be an irreplaceable tool for dispatchers, drivers, and stakeholders. In cases where the vendor manages the customer's inventory (VMI), optimization begins with forecasting and inventory management. Vendors and their customers can benefit from technology that uses sophisticated forecasting algorithms that process supply chain data. Historical data and real-time trends need to be accessible and continuously updated to predict demand and propose order items and quantities accurately. Advanced inventory management is even more beneficial to operators. Not all products are sold at the same rate, and an unbalanced tank replenishment process can lead to inefficiencies, such as idle capital, unnecessary trips, and higher administrative costs. Balanced inventory management ensures product availability to avoid brand-damaging stockouts until it's time for the next delivery. And when this time comes, the customer's tanks will have reached their minimum stock simultaneously to allow for one-trip replenishment.



Once the planning stage is optimized, it's time to consider the VMI and non-VMI customers' dispatch process. The dispatcher drags and drops the orders to assign them to a truck. It's as simple as that. Only, not quite. Orders should be further adjusted to combine truck capacity and stock needs into the optimal order quantity. Then it's time to determine the best trip sequence and available route. Subsequently, the load needs to be allocated to the truck's compartments as efficiently as possible, to ensure maximum payload utilization while adhering to all regulatory and contractual rules.

After the plan is executed, a reconciliation needs to take place. Automating that process allows you to manage by exception, focus on what matters, and facilitate accurate and timely billing, substantially reducing your order-to-cash cycle.



Digitalization Improves Transparency, Compliance, and Cost Savings

While the concept of converting manual processes to digital is not new, operators must make sure they have digitalized every possible aspect of the supply chain to enable end-to-end visibility. When done right, a comprehensive digitalization strategy can reduce friction and information silos, improve operational transparency, and help manage the unexpected.

Eliminating manual processes can be particularly significant for the mobile part of your workforce: your drivers. Automating processes using mobile applications allows you to increase driver productivity, simplify your billing, and improve customer service while minimizing human error. Even the smallest decrease in driver administration time per delivery can easily save numerous hours. But paperless dispatch is more than meets the eye. Apart from the benefits of embracing a more sustainable model for your business, it provides administrative ease, flexibility on the go, security, and reliability.

Being able to centrally and digitally handle the shift, trip, loading and delivery processes also enables real-time dynamic adjustments to the initial plan, prevents or manages unexpected returns and runouts, and helps deal with other emergencies. Electronic proof of delivery simplifies billing and saves your drivers and accounting staff valuable time that they would have otherwise wasted trying to read through hand-written or badly scanned notes on printed documents. A fully digitalized supply chain helps you achieve end-to-end visibility, while also increasing transparency and keeping all parties informed with status updates, alerts, and access to their data at any time. Real-time communication is a prerequisite for reaping the benefits of digitalization and paperless dispatch.

Data should flow with speed and accuracy:

- From the truck and trailer electronics to the in-truck solution
- Between the in-truck solution and the dispatch office
- From the loading and delivery points
- Between the dispatch office and the accounting and finance department
- From the vendor's systems to the client and back

That's why a seamless integration between the dispatch solution and all systems involved in the supply chain is essential. But it doesn't need to be cumbersome and time-consuming. Powerful APIs allow for a standardized and accessible integration of the dispatch solution to any third-party system, including business intelligence (BI) systems that measure performance across various business branches.



Data is the Most Sought-After Currency

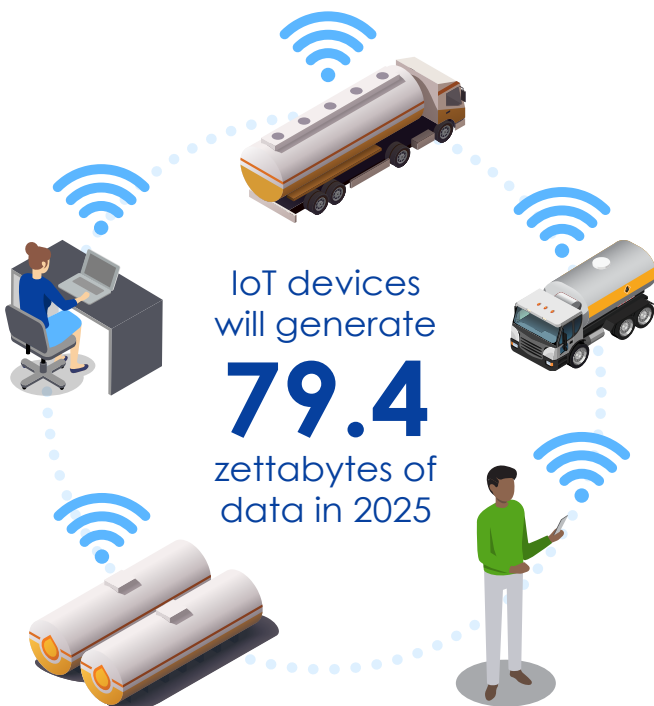
The International Data Corporation (IDC) predicts that connected Internet of Things (IoT) devices will generate 79.4 zettabytes of data in 2025. A few decades ago, most technology initiatives focused on producing data for all aspects of an operation. Today's challenges have shifted towards capturing, storing, and processing the data in a way that delivers real-time insights to influence business performance and enhance decision making. IoT devices revolutionized the data capture process and are found throughout the fuel logistics industry today. From automatic tank gauges (ATG) to terminal automation systems (TAS), all the way to truck and trailer electronics, metering systems, and even POS systems, digitally conscious operators benefit from access to various sources of data in the supply ecosystem.



Turning data into profitable insights requires a thoughtful approach to storing it in a secure, scalable, and shareable way. Cloud solutions provide very flexible models (private, public, hybrid) that combine best-of-breed technologies while making sure unauthorized parties do not access your data. For large organizations, a central data lake connecting multiple systems used to manage everyday operations can complement end-to-end visibility requirements and provide one version of the truth.

Finally, a refined approach to Big Data directly impacts your ability to achieve end-to-end visibility, make informed decisions to fine-tune business processes, and enable your organization's digital transformation.

A comprehensive fuel logistics software streamlines operations and uses data in meaningful ways to provide actionable insights, real-time updates, and predictive analytics. Along the way, the business can achieve a deeper level of supply chain optimization, improved accuracy, and increased customer satisfaction.



Innovation and Exploring the Art of the Possible

We often talk about the future and what's in store for the petroleum industry. And while looking ahead is vital to make your business thrive in the long run, one must not forget the here-and-now. Fuel logistics operators should employ solutions that allow them to realize immediate gains and achieve the expected ROI by improving key performance indicators while leaving room to explore what's possible through innovation. From capturing data via IoT devices like ATGs to using artificial intelligence (AI) like machine learning and chatbots, the latest digital technologies are enabling greater visibility and predictability throughout the fuel supply chain. Innovation and the digitalization of logistics workflows improve operational efficiency, reduce costs, enhance supply chain visibility, and ultimately keep drivers safe.

For much of the last decade, innovation centered around moving to the cloud and mobile. The innovations of this next decade will likely encompass data, analytics, AI, automation, and robotics. With 5G on the horizon, we could also see an explosion of IoT devices and data with next-generation connectivity.

A fuel logistics solution that is suitable for forward-thinking oil or transportation companies should be built on a solid, state-of-the-art and future-proof technology core. Its functionality and user interface needs to be sophisticated enough to address the complex needs of the distribution process, yet intuitive enough to allow for uninhibited productivity. By connecting all the dots and automating workflows you gain clarity, agility, and flexibility. Last but not least, it should leverage the cloud to enhance visibility and accommodate scaling.

Better understand how end-to-end visibility and digital transformation can affect your bottom line by contacting us for a non-binding conversation.
<https://www.pdisoftware.com/contact-us/>



Embracing Digital Transformation

The new normal is shaped by a great deal of uncertainty and fluctuation. That's why it's important for logistics providers to optimize their processes to make sure that every drop of fuel is distributed in the most efficient way. They also need to take full advantage of the benefits that digitalization can offer by approaching innovation in a manner that solidifies their presence while safeguarding their future. The benefits can be felt directly at the bottom line: decreased returns and runouts, reduced mileage and on-site stock levels, increased productivity, and maximized payload usage combined with compliance across the board.

Today's connected world calls for solutions that enable end-to-end visibility and accelerate digital transformation to produce better outcomes and measurable results for your business.

About PDI

Professional Datasolutions, Inc. (PDI) helps convenience retailers and petroleum wholesalers thrive through digital transformation and enterprise software that enables them to grow topline revenue, optimize operations and unify their business across the entire value chain. Over 1,500 customers in more than 200,000 locations worldwide count on our leading ERP, logistics, fuel pricing and marketing cloud solutions to provide insights that increase volume, margin and customer loyalty. PDI owns and operates the Fuel Rewards® loyalty program that is consistently ranked as a top-performing fuel savings program year after year. For more than 35 years, our comprehensive suite of solutions and unmatched expertise have helped customers of any size reimagine their enterprise and deliver exceptional customer experiences.

For more information about PDI, visit
www.pdisoftware.com



References

Fuel demand in April 2020 declined by 35%-65% globally
<https://go.pdisoftware.com/covid-effect-global-fuel-demand>

FreightWaves, September 2019, UK: Growing at a rate of 50 drivers per day
<https://finance.yahoo.com/news/iru-exclusive-driver-shortages-real-141656549.html>

Bloomberg, July 2019, United States: Double over the next decade
<https://www.bloomberg.com/news/articles/2019-07-24/u-s-truck-driver-shortage-is-on-course-to-double-in-a-decade>

FreightWaves, September 2019, Germany: 40% are expected to retire by 2027
<https://finance.yahoo.com/news/iru-exclusive-driver-shortages-real-141656549.html>

Nippon, August 2019, Japan: 280K unfilled jobs
<https://www.nippon.com/en/news/yjj2019082000928/public-private-efforts-to-tackle-truck-driver-shortage-in-japan.html>

Annotation: Insights from the World Economic Forum's 2020 Global Risks Report
<https://www.weforum.org/reports/the-global-risks-report-2020>

Annotation: IDC predicts that connected Internet of Things (IoT) devices will generate 79.4 zettabytes of data in 2025
<https://www.idc.com/>

