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TMW
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Trimble

NEWS & INFORMATION TO INNOVATE YOUR BUSINESS

PULLING ALL CAPACITY LEVERS

NEW TECHNOLOGY TO AMPLIFY RESOURCES PAGE 4

TECHNOLOGY & BUSINESS INTELLIGENCE IN THE **Final Mile**

PAGE 8

Blockchain:

MOVING FROM THEORY TO PRACTICE PAGE 10

2018 FREIGHT MARKET OUTLOOK

WHAT YOU NEED TO KNOW

PAGE 14

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CONTENTS

NEWS & INFORMATION TO INNOVATE YOUR BUSINESS

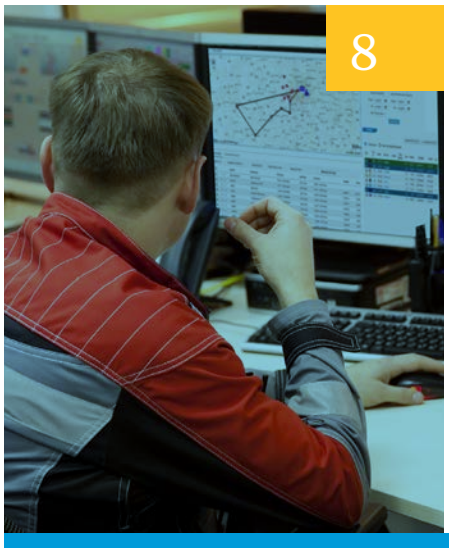
Trimble

4 Pulling All **CAPACITY LEVERS**

From a shortage of qualified drivers to mandatory use of electronic logging devices, transportation companies are feeling the pressure when it comes to truck capacity.

8 Technology & Business Intelligence in the **FINAL MILE**

Companies are getting ahead of the curve by applying business intelligence to their data, and realizing measurable improvements in their last-mile performance.



10 BLOCKCHAIN: Moving From Theory to Practice

Automated. Transparent. Protected. How blockchain's growth in real-world shipping is securing the business of global trade.

12 When **Full-Service Warehousing** Matters

13 How **Leadership Leverages BI**

14 Freight Market Outlook Shines Green Light for Fleets

16 Fuel-Saving Tech: Combatting Rising Diesel Prices

18 Customer Profile: **Super T Transport**

19 The **Customer Support Connection**

A Message from Bryn

ONE TRIMBLE

Delivering solutions for the entire supply chain

One Trimble. What does that mean? It means that we are combining the expertise, knowledge, innovation, data and analytics of 10-4 Systems, ALK, PeopleNet and TMW Systems to provide integrated solutions that address your needs throughout the entire supply chain.

What does it mean for you? You can address your business needs all in one place—without having to integrate systems from different companies—because our solutions all work together. Our commitment to understanding your business will not change, but rather, it will be reinforced by the strength of one Trimble.

One Trimble enables greater collaboration across our networks, which will further enhance our technology and help bring top of the line products to the market quicker than ever. This level of innovation will keep your business on the cutting edge.

This level of collaboration also allows you to access better and more data. Remember: more data + better analytics = better solutions = better business results. With this wealth of information at your fingertips, you can make meaningful decisions that positively impact your business. The sheer amount of capacity and freight that we manage today, more than one million assets worldwide, translates to accurate and precise visibility for you.

As our industry continues to evolve, we continue to offer something that is unparalleled in the industry. And, as you look to grow, you can reimagine your business with one Trimble. My promise to you is: we will be here with you for the long haul. Thank you for choosing to partner with us.

Finally, I'd like to extend a standing invitation – reach out to me as you reimagine your business in the coming weeks and months, as my door is always open.

Bryn Fosburgh

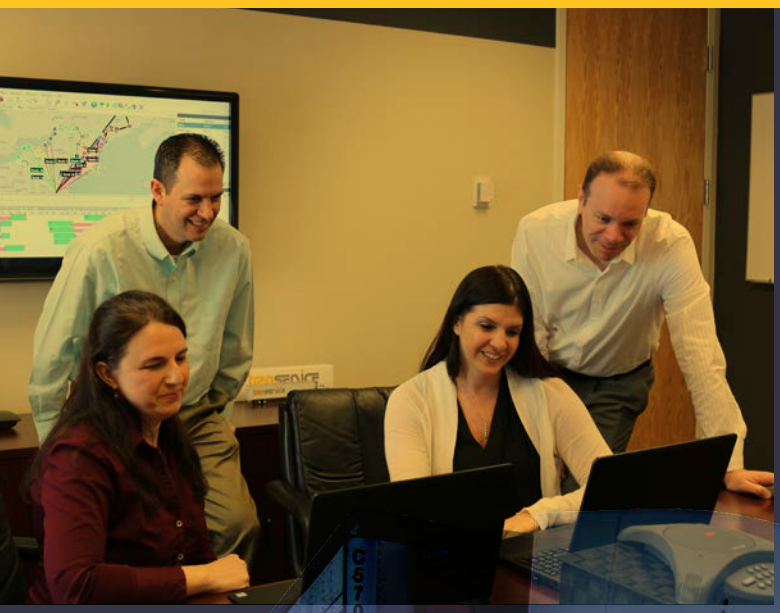
President, Trimble Transportation

Meet Trimble Transportation's **NEW PRESIDENT**

Bryn Fosburgh joined Trimble in 1994 and has held numerous executive roles inside the organization including: VP and GM for Trimble's Geomatics and Engineering Division, VP of Survey and Infrastructure, VP Construction and Agriculture Divisions, and SVP responsible for the Caterpillar, Hilti, and Nikon Joint Ventures, U.S. Federal government strategy and accounts, OEM construction machine business and professional services groups. He was the driving force behind Trimble's entry into the Transportation space in 2010. He has held various positions for the U.S. Army Corps of Engineers and Defense Mapping Agency. Mr. Fosburgh received a B.S. in geology from the University of Wisconsin in Green Bay in 1985 and an M.S. from the school of civil engineering at Purdue University in 1989.

Pulling All CAPACITY LEVERS

Transportation providers use new technology to amplify resources in hot freight market



The pressure on truck capacity is coming from all angles.

A shortage of qualified drivers could be the most serious concern. The American Trucking Associations estimates the industry will need 890,000 new drivers over the next decade—an average of 89,000 per year—to replace those who will be retiring and to keep pace with freight growth.

Pressure is also coming from mandatory use of electronic logging devices (ELDs) that limit driver availability, as well as rising operating costs and higher customer service expectations from the "Amazon effect."

Transportation companies wield pricing power, as freight demand is outstripping capacity. The DAT North American Freight Index was up 18% year over year in June. Monthly spot market rates in DAT's network of load boards increased 29% and contract rates were up 19% for vans during the same period.

Raising prices is not the only solution to capacity shortages, however. To create more capacity from available resources, transportation companies are pulling new levers by using business intelligence, route planning, and asset management technologies.

Network Balance

Truckload refrigerated carrier Navajo Express is focused on growing its dedicated and regional operations by increasing asset utilization and home time for drivers. Currently, about 50% of its refrigerated business is dedicated and the remaining half is split evenly between regional and over-the-road operations.

In April 2018, the company implemented a new business intelligence tool from MapGraphiX to give office staff key metrics and data visualizations to make load planning decisions that positively impact driver retention and network profitability.

"We've done a better job of breaking down our numbers with the help of tools," says Don Digby Jr., President of the Denver-based company, which operates more than 1,000 trucks and 3,100 trailers. "People want to do the right thing, but they need to know how to do the right thing."

The company decided to invest in the technology after enforcement of the electronic logging device (ELD) rule had leveled the playing field. Navajo Express has been running electronic logs since July 2008.

MapGraphiX creates map visualizations by pulling data and insights from multiple sources. One is its Netwise application from TMW Systems, which forecasts where the company's trucks and loads will be in the next five days based on historical shipping patterns.

"We use the information to understand if we are putting too much or too little capacity in certain markets," says Tim Staroba, Executive Vice President. "The system is able to tell us what capacity will look like in the future based on customer patterns, current freight in the systems, and where trucks will be landing."

The MapGraphiX software also extracts dwell times and other relevant data from the company's mainframe Innovative Enterprise Software (IES) platform, also from TMW Systems.

Since April, Navajo Express has improved its operating ratio by four points and reduced driver turnover. Going forward, Digby says the technology will be helpful to strategically match customers to its network in terms of driver friendliness, transit times, dwell times and other important criteria.

> "WE'VE DONE A BETTER JOB OF BREAKING DOWN OUR NUMBERS WITH THE HELP OF TOOLS. PEOPLE WANT TO DO THE RIGHT THING, BUT THEY NEED TO KNOW HOW TO DO THE RIGHT THING."

Don Digby Jr.
President, Navajo Express

Predictive ETAs

GPS-based breadcrumb reports have been a staple in fleet management technologies for years, but the utility of these reports is limited to assessing past performance. To identify where and when capacity will become available requires tools that deliver forward-looking information.

New route-planning technology can accurately predict arrival times at planned stops. This information is useful for identifying loads that will be late and for eliminating guesswork and manual data entry in the trip-planning process for drivers.

As part of the load planning process, fleets typically require drivers to send macro messages to update their projected time available (PTA). Drivers make PTA estimates by considering future transit times, hours-of-service breaks, fuel stops and detention times for loading and unloading.

An IT Guide for Creating Capacity

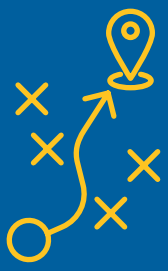
In a hot freight market, motor carriers and logistics providers want to say "yes" more often to their most profitable customers. By using some or all of these four technologies, companies say they are creating more capacity from their available resources and using it more effectively.

Business Intelligence

BI tools can give load planners and customer service reps forward-looking insights and data visualizations that help to identify the best freight in their network and proactively balance customer orders with capacity.

Accurate ETAs

New trip planning tools dynamically account for hours-of-service breaks and many other variables to accurately calculate arrival times and predict when and where drivers will be available for the next load assignment.



Route Optimization

Advanced software can optimally plan driver-load assignments and routes to maximize available capacity. Non-asset transportation providers can also use systems that consolidate loads and efficiently utilize all transportation modes.

Trailer Management

Information from trailer tracking systems and sensors can eliminate time that carriers and drivers spend searching for empty trailers and enable them to proactively manage trailer pools to keep drivers moving.

Load planners and dispatchers use the driver PTA estimates to assign work. If the PTAs are inaccurate—and they often are—carriers miss opportunities to assign drivers an extra pickup or delivery that have available time, says Ray West, Senior Vice President and General Manager of TMW Systems' transportation management software (TMS) product lines.

Without a solid ETA, dispatchers and load planners "are hesitant to make a load assignment by not knowing if a driver will make it or not," says West, and their reluctance may be contributing to turnover. "For drivers, one of the most frustrating things is waiting for the next load."

TruETA is an integrated cloud-based planning tool from TMW Systems that accurately and automatically calculates ETAs for loads and driver PTAs, he says. The tool does this using locations and hours-of-service data from mobile communication units and trip details from carriers' TMS systems—stops, average dwell times and more.

The tool recalculates ETAs continuously for locations on a truck route with every position update from the mobile communication system, West explains, adding, "with the most recent version of TMW TruETA, our customers can save time and money by detecting out-of-route and out-of-corridor events."

Seeing the Big Picture

To make the most of available capacity, fleets are also using advanced systems that simultaneously evaluate all possible combinations of drivers, equipment and loads in a network and factor in all capacity constraints.

TMW Systems offers MatchAdvice, an automated load planning software for truckload carriers. The software determines optimal driver and capacity resources for loads to deliver the best solution for the entire network, West says.

For truckload operations, the software will "free up capacity that you wouldn't have seen otherwise," he explains.

For companies with multi-stop routes, the TMW FinalMile software finds the optimal route plan and sequence of stops that maximizes use of available capacity.

Transervice, an asset-based third-party logistics provider headquartered in Lake Success, New York, uses TMW FinalMile software to create consistent schedules for drivers and

cost-saving solutions for customers, says Tom Poduch, the company's Senior Director of Logistic Design and Technology.

Where possible, the company sends drivers work assignments and routes in advance. On a quarterly basis, the company will eliminate all existing distribution, delivery point or resource constraints and perform "what if" scenarios. The resulting analysis will evaluate different cost-saving scenarios, such as having more flexible time windows for pickups and deliveries, and share the results with customers.

"We want to share all of our findings, results and data with our clients," he says. "We want to help our client partners succeed, and identify potential gaps that can be filled."

Transportation providers also use advanced software to increase capacity by consolidating loads and using all transportation modes and routing options.

The 3Gtms software system is primarily used by freight brokers and third-party logistics firms. A feature in the system consolidates inbound and outbound orders from multiple shippers at consolidation points, such as a local warehouse, and routes the orders in larger volume shipments, says Chuck Fuerst, Vice President of Marketing for 3Gtms.

Expanding Trailer Management

When making deliveries, drivers often lose productive time unloading or searching for empty trailers to take to their next load appointments. If no empty trailers are available, office personnel may begin cold calling other customers in the area to locate empty trailers.

Some motor carriers and logistics providers are keeping drivers moving to create more capacity by effectively managing trailer pools.

U.S. Xpress equips its trailers with a tracking system from SkyBitz with cargo sensors. One of the nation's largest truckload carriers, the Chattanooga, Tennessee-based company is using the information to predict when trailers will be unloaded and ready for pickup, says Aaron Woods, the company's Manager of Trailer Management.

The SkyBitz system is integrated with U.S. Xpress' custom transportation management system and with a mapping software tool from ESRI. With the ESRI software, Wood sets up geofences for tracking arrivals, departures, turnaround times and trailer inventories by customer location and by geographical planning regions.

"The big thing that bites us and any carrier is when we have loaded trailers going into markets where we do not have loaded freight out," he says.

The company is managing trailer counts in each planning region to maintain the balance of trailer capacity in its freight network. At times, U.S. Xpress will use secondary carriers and railroads to reposition its trailers in its network, he says.

In the three years U.S. Xpress has been using the SkyBitz trailer tracking system, its trailer count has gone from 17,000 to approximately 14,000 by increasing efficiency and capacity in its network, Wood says.

With the SkyBitz system, U.S. Xpress can also identify trailers at locations that have not moved for an extended period. These events signal possible mechanical defects on trailers that cause drivers to not hook up. U.S. Xpress is also increasing trailer capacity by monitoring their use by the third-party carriers and shippers that have interchange agreements.

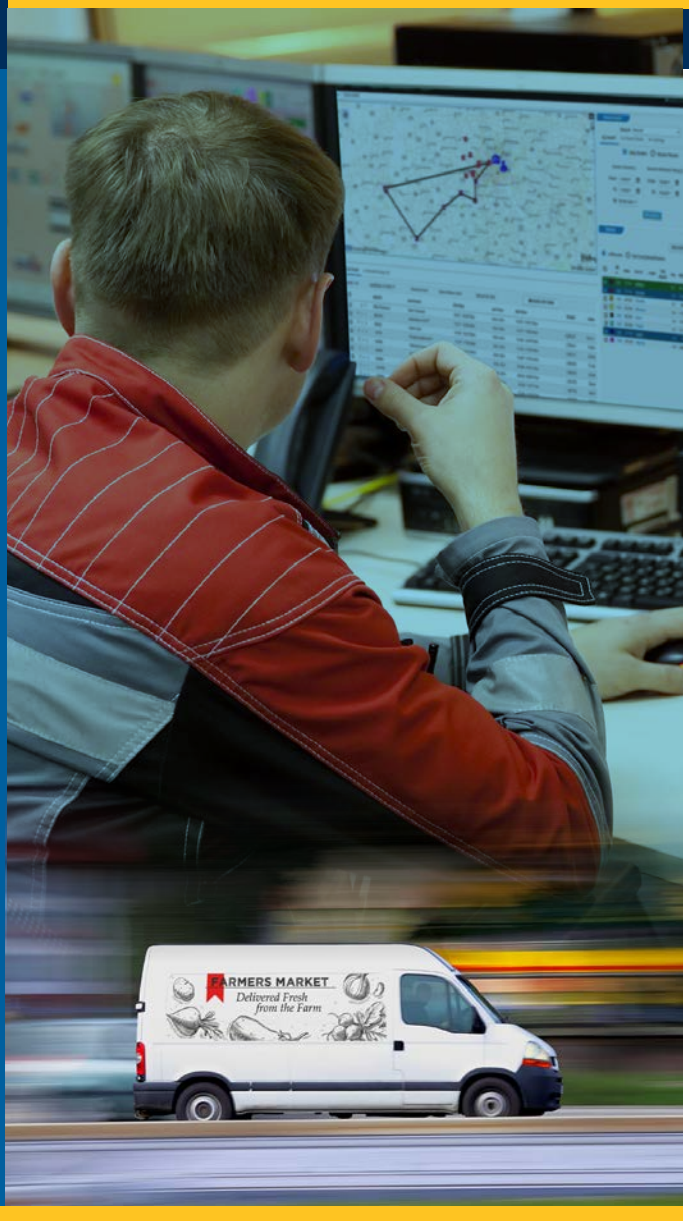
"We know when one of our trailers starts moving," Wood says. The system tracks where trailers are picked up, dropped and how many miles they moved. With this information, the company can efficiently bill carriers for authorized or non-authorized use of its trailers.

Current market conditions make it easy for transportation companies to raise rates, but some are chasing a bigger opportunity. Navajo Express, for instance, is using its technology to identify customers, freight and lanes that are strategically aligned with its network to improve efficiency and driver satisfaction.

"If we can figure out how to manage our costs internally," says Navajo Express' Digby, "the last thing we want to do is go to our accounts and raise their cost." ★

TACKLE THE FINAL STRETCH

Technology & Business Intelligence IN THE FINAL MILE



The rapid rise and advancement of technology sent industries far and wide scrambling to innovate and keep up with the latest best practices. If the company didn't adapt, it was left struggling to stay in business. But now, technology has become entrenched in how companies operate on a normal day-to-day basis, and rather than merely keeping up with the latest trends, many companies are searching for the next big thing to get ahead of the curve. That's how industry leaders are creating more efficiencies within their work and, ultimately, are driving better profit margins.

Transportation and logistics companies have the best opportunity for growth when they apply business intelligence (BI) to the data that they gather from the technology. Reports can be run against the data to see where improvements are needed. BI is used more and more for accelerating and improving decision-making, optimizing internal business processes, increasing operational efficiency, driving new revenues, and gaining competitive advantages over business rivals.

In the last mile of the supply chain—where orders get from warehouses to their destinations—the challenge is to take a broader view by identifying obstacles, generating end-to-end data visibility, and creating objectives that are critical to the whole business, not just to the final mile. Key performance indicators (KPIs) tied to overall business goals are at the core of these successful business improvement processes.

UNDERSTANDING ONE'S BUSINESS THROUGH A BI LENS IS THE "SECRET SAUCE" THAT ALLOWS FINAL-MILE APPLICATIONS TO GO BEYOND THE BASIC APPLICATIONS TO UNCOVER DEEP INSIGHTS THAT WILL HAVE A GREATER IMPACT ON THE BUSINESS AS A WHOLE.

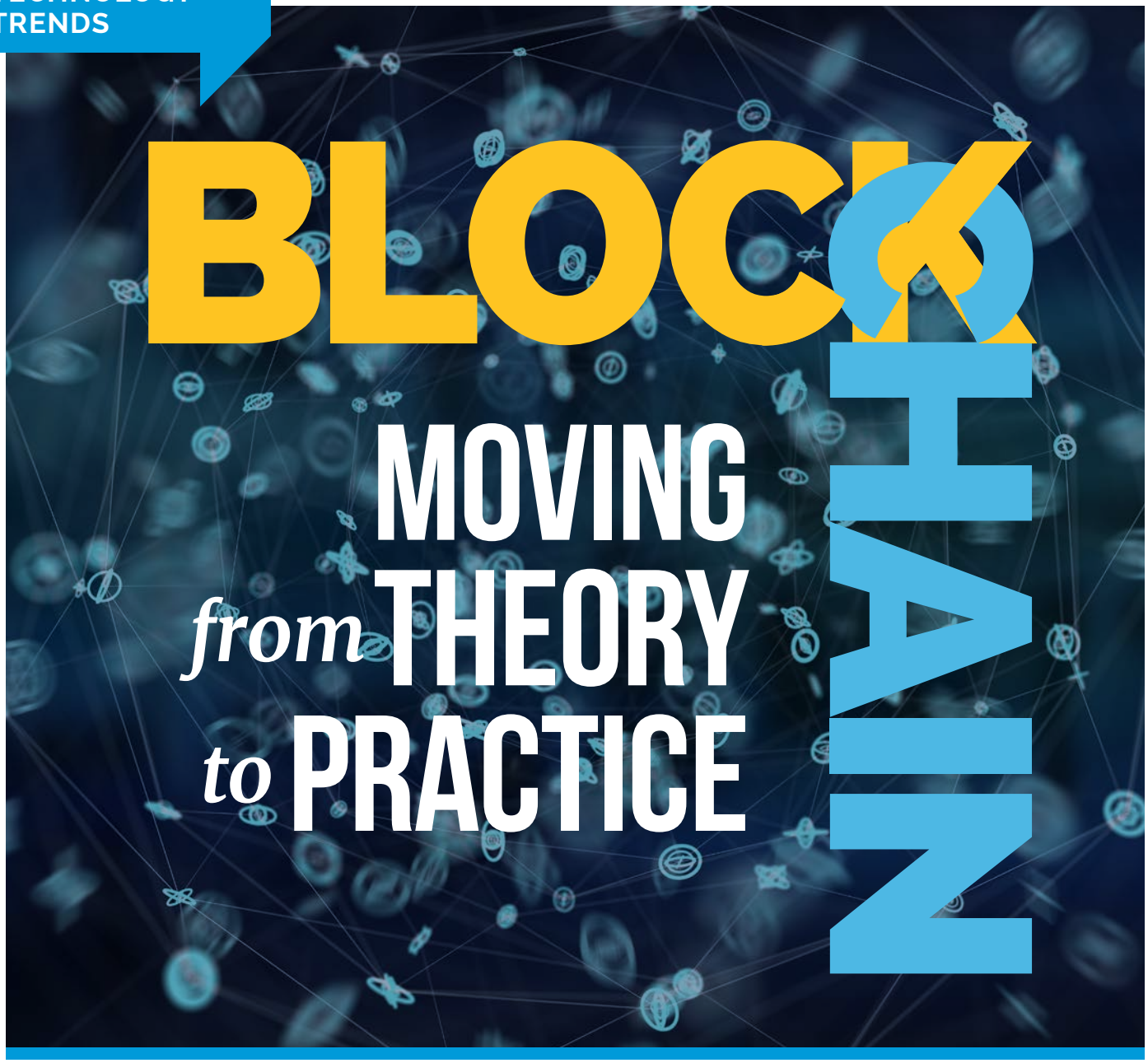
Understanding one's business through a BI lens is the "secret sauce" that allows final-mile applications to go beyond the basic applications to uncover deep insights that will have a greater impact on the business as a whole.

Final-mile deliveries—whether to customers or within an organization—can be challenging given requirements, service level agreements, demands and more. Shippers, carriers and customers all have to ensure that the standards of the contract are upheld and criteria met. In addition, all three parties have to follow regulations set forth by OSHA, the Federal Motor Carrier Safety Administration, and other government organizations. The more regulations, the longer it takes to check off every box in final-mile deliveries. That's where solutions can be used to help manage and track all of those requirements.

The technology behind final-mile operations has become vital to how businesses within this sector of the supply chain work. Gone are the days of manually writing out orders, mapping deliveries and pickups, filling out reports by hand and transferring all that information into another online system. Now, solutions enable users to enter all that information into an online system that can track the order from the time it is placed with a broker all the way to when the customer receives a shipment. That data is then easily accessible to everyone who needs to see it. In addition, queries run against that data can generate reports that map directly back to the KPIs that are most important to the business.

As solutions have increasingly gained traction and matured in final mile, particularly with the application of BI, companies are realizing the value of automation and how it can impact business improvement. Implementing solutions improves efficiency and accuracy, which cuts down on operational costs and inaccurate billing. With all the information collected along every step of the supply chain, a company can analyze the auto-generated reports to see where it can improve its work processes. At the end of the day, making decisions based on proven analytics and solid data can improve profit margins.

Business intelligence is at the core of making a final-mile solution have a more powerful impact on the business. It can provide the analysis needed to go beyond basic dispatching, routing or scheduling to provide the insights that truly affect business process improvements. If applied correctly, BI can make the final mile more impactful by developing KPIs and meeting goals that have a lasting effect on meaningful business outcomes that map directly to overall business objectives. That's why while final mile solutions are critical to companies reliant on pick up and deliveries. BI is key to business improvement that takes final-mile solutions to the next level for ongoing success. ★



BLOCKCHAIN

MOVING *from* THEORY *to* PRACTICE

Trailblazers remain ahead of the pack, developing and implementing blockchain technology in businesses well beyond bitcoin and other cryptocurrencies.

Blockchain is a computerized, tamper-proof ledger with cryptographically secured chains of data. Each new piece of data is appended to the chain. The result is what experts call a chain of trust. All parties to the transaction can see the same data in near-real time. This so-called single source of truth is expected to prevent falsified records and verify which events took place when.

A 2018 study of 203 organizations in 16 countries by the IBM Institute for Business Value found "seven percent expect to have a commercial blockchain solution at scale in 2018." A total of 18% "are working with and investing in blockchain now," and these first

movers say it is transforming functional areas that include product safety, finance, regulatory compliance, and supply chain.

The largest global retailer, Walmart, continues its lead to implement blockchain solutions in the realm of food safety. On the heels of a test to trace shipments of pork from China to the United States, it demonstrated the speed with which blockchain could trace packaged mangoes in their supply-chain journey.

Tracing those mangoes from farm to Walmart shelf with today's supply chain led Walmart's food safety team on a hunt that took six days, 18 hours, and 26 minutes, according to published reports. By comparison, a trace using blockchain took two seconds to complete when demonstrated at the annual shareholders' meeting and included numerous time stamps in the supply chain.

Supply chain-related companies in North America are joining a newly formed industry association with the aim of developing standards for blockchain use. Blockchain in Transport Alliance envisions supply chain movements according to six phases. Initially, a carrier connects a truck/driver to a blockchain network being used by the shipper/3PL. That enables the carrier to solicit freight from 3PLs or shippers offering loads in the blockchain network.

When truck and driver are connected with a shipper, electronic logging data will be verified via blockchain to ensure the driver has the driving hours available for the trip. Next, a price, smart contract and any surcharges are established, with the carrier agreeing to the terms.

Following agreement to the smart contract, the truck and driver are dispatched, trip events are logged in the blockchain. That gives all parties full visibility to the load and progress. Once delivered, a proof of delivery is transmitted and an invoice is sent. The carrier is paid immediately via electronic payment and the transaction is completed.

Based on results of a blockchain test that ended in early 2017, shipping and information technology giants Maersk and IBM created a joint venture company to apply blockchain solutions for real-world shipping uses. Initial goals, the joint venture reported, are developing a shipping information pipeline and what it calls paperless trade. The information pipeline will offer parties in a supply chain visibility of all data in real time. Paperless trade will digitize and automate paperwork filings, allowing organizations to share, validate and approve documents. It will also implement smart contracts.

14% of transportation industry executives surveyed, the First Movers, are working with an investing in blockchain today.

77% of all transportation executives surveyed expect to have a blockchain network in production in one-to-three years.

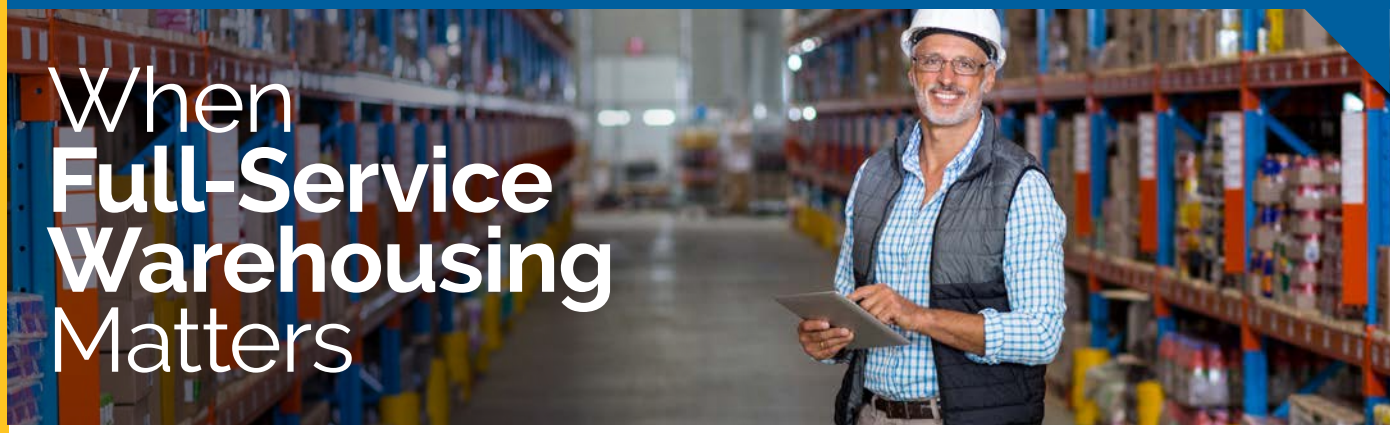
7 in 10 First Movers anticipate that blockchain will help reduce cost, time and risk.

Source: *IBM Institute for Business Value survey*

While the venture's development aim is to establish more efficient and secure methods for conducting global trade using blockchain technology, its progress is yet to be measured. A regulatory agency-imposed "quiet period" prevented the company from expounding on its current business.

Blockchain trailblazers such as Paul Brody of Ernst and Young—he worked on the first blockchain with IBM—have said at industry gatherings "we're not just in the early days anymore." Carriers such as UPS and FedEx are stepping up tests and collaborations to evaluate the technology.

As implementations of blockchain expand in the supply chain and elsewhere, Brody explained, private networks will likely be replaced by public networks. Ultimately, blockchain is likely to become as universal as email. ★



When Full-Service Warehousing Matters

Accelerated economic growth and a clear change in consumers' purchasing habits are increasing pressure on warehousing operators and third-party logistics providers to transform—and maybe revolutionize—their businesses. Industry experts said three of the top factors driving the revolution are:

OMNICHANNEL DISTRIBUTION ▶ OPTIMIZATION OF PEOPLE AND TECHNOLOGY ▶ FINAL-MILE DELIVERY DEMANDS

Digital Commerce 360 reported for its Internet Retailer 2018 Top 500 rankings that seven of the 13 largest retail chains increased web sales by at least 19%. Walmart Inc.'s ecommerce grew by 61.5% over the previous year fueled in part by acquisitions.

No longer are 3PLs only receiving inventory and shipping to distribution centers or retail outlets. They now must ship according to the consumer's desire for instant gratification while complying with brand-image constraints. Think Amazon Prime.

Traditional retailers and 21st-century internet start-ups are focused on optimizing sales according to the ways consumers can shop—in-store, by computer or by smartphone. Consequently, retailers want consumers to have a seamless shopping experience. That challenges retailers to allow consumers to shop online and pick up in-store or shop in-store and have the purchase delivered to home or office.

Ominchannel is one of the latest buzzwords in supply chain parlance, said David Miller, Vice President of Solution Engineering for 3PL Central. The omnichannel approach is "turning into a competitive race to provide the best customer experience" across retailers' various sales channels. Consumers demand value, convenience and "immediate gratification, which includes ease of ordering and knowing when a purchase will be delivered."

According to Miller, the race for omnichannel dominance presents opportunities and challenges for 3PLs because retailers focus more on marketing and brand awareness. "They are less focused on the fulfillment piece of the business," he said. "And even small sellers are ready to outsource their logistics needs."

Greater service demands of 3PL operations will be exacerbated by a looming shortage of warehouse workers. One study from The Manufacturing Institute said the shortage could be 2 million.

According to 3PL Central's Vice President of Customer Success, Jen Benson, warehousing operators need to examine their expectations for staff and consider upgrading technology to help customer service representatives better serve customers.

"What would happen if you revolutionized how your CSRs get their jobs done," she asked. "Do they have to look at two, three or four different systems to review inventory, billing, and account level data? What about hard copies of bills of lading?"

The combination of top talent and latest software will help warehousing operations capitalize on changing business opportunities. Benson also recommended securing the right staff who can execute for a future business model and potentially lead a business through the next round of changes. Software consultants could help 3PLs better leverage new integrations with related software.

Consumers' desire for immediate gratification continues forcing supply chain innovation, as noted by Miller when he said "two-day delivery is so 2015." Various delivery options have been embraced, such as self-service package lockers, grocery delivery from someone's car and "man-in-a-van" for dense urban areas. Warehouse operators can use existing delivery fleets or other local delivery providers to offer exceptional in-store, home or office delivery services.

Regardless of the latest moniker or buzzword describing consumers' desires, 3PLs that employ the human and technological resources to satisfy those desires will win more business. ★

How Leadership Leverages BI

It's not always business as usual when it comes to embracing data and using business intelligence to drive company operations. For fleets and 3PLs, adopting tools that seem far removed the road might seem counterintuitive to business practices that have worked for decades. But if you haven't been questioning the effectiveness of those practices in the current business climate, you're getting left in the dust by competitors who are using technology to maximize the most important, and least visible, elements of success: saving time and improving efficiencies.

Questioning what's still working goes against the "if it ain't broke" maxim, but it's essential in today's climate. Right now there are well-developed, cloud-based tools (no hardware investments required) that can gather information from numerous standalone applications and systems, analyze it according to a specific company's needs or requirements, and provide actionable data that can improve profitability, identify missed revenue and cost-saving opportunities, and make the last mile more efficient. Getting there isn't necessarily easy—it takes resolute leadership, time commitments, and team collaboration.

Trimac Transportation, a 75-year-old Calgary-based bulk trucking and logistics operation that also provides brokerage service and transload facilities, is a case study on how to get it right.

Trimac, named 2017 TMW Business Intelligence Innovator of the Year, initially had difficulty developing a data warehouse for reporting and metrics, abandoning its first effort after it was unable to effectively integrate a sea of information produced by stand-alone systems. The company's CEO, an unflinching advocate for business intelligence, pushed his team to start over, providing them with key performance indicators on which he wanted metrics. Committed leadership led to buy-in from management which in turn spread throughout the staff.

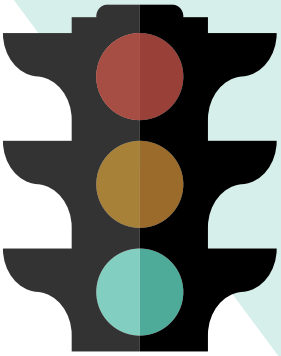
Investment in TMWSuite and TMW Data Warehouse helped Trimac achieve success, providing the company with an overview of its entire operations. Once it integrated its diverse systems, which included Microsoft software, Omnitracs, HR and safety, Trimac had the ability to comprehensively view fuel expenses, identify pockets of risk and exposure to fraud and theft and focus on key performance indicators like utility, pay, revenues, compliance and usability cycles.

QUESTIONING WHAT'S STILL WORKING GOES AGAINST THE "IF IT AIN'T BROKE" MAXIM, BUT IT'S ESSENTIAL IN TODAY'S CLIMATE.

Staying flexible, constantly reviewing the relevance of data and ongoing prioritization is a key to succeeding, as is knowing what needs to be retired (and when). Staying focused on a limited number of goals at a time will deliver tangible, measurable results and avoid the "scope creep" that dilutes efficiency, diverts resources and wastes time.

Another key to success is keeping the data clean and easy to intuit, especially on a visual level, which includes using uncluttered dashboards for information management and presentation. Managers and team leaders will know their business intelligence is working for them when they can immediately spot an opportunity for improvement in a metric and understand how to achieve it.

Finally, once your data is removed from its silos and put to use, keep it relevant by having it managed and reviewed by a collaborative and informed team that constantly monitors it for effectiveness and new insights. ★



FREIGHT MARKET OUTLOOK SHINES GREEN LIGHT FOR FLEETS

Where is the economy headed? Will shipper demand remain strong? What is the outlook for freight carriers?

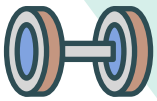
These are burning questions for anyone in the transportation space, given the complex factors influencing today's economy. A closer look at economic trend analysis provides some answers.

TRUCKING: CARRYING ITS WEIGHT

How important is trucking?

According to the US government Freight Analysis Framework**:**

- Tonnage of total freight is projected to increase at about 1.4% per year between 2015 and 2045.
- Trucks carry the largest shares by value, tons and ton-miles for shipments moving 750 or fewer miles.
- The value of shipments moved by truck far exceeds the value moved by any other single or combination of modes.



CONFIDENCE RULES: STRONG Q2 RESULTS EXPECTED TO CONTINUE

Confidence, an intangible influencer on economic strength, has rebounded since the Great Recession of 2008 and remains buoyant—a high tide floats all that ships.

Following first quarter 2018 results up 2.2%, second quarter results show GDP growth at 4.1%, the third best since the recession. Growth is expected to keep pace through Q3 and Q4, projected around 4.0%.

Factors contributing to current growth include tax cuts. Companies are investing in facilities, equipment and labor, spurring growth along multiple supply chains that rely on truck transport. Another stimulus? Pent-up consumer demand, exemplified by the housing market.

To date, confidence shows no signs of fading through 2018, even in the face of rising interest rates or recent tariffs, pointing to continued economic strength into 2019.

DEMAND: DRIVING THE ECONOMY AND FREIGHT CAPACITY

Economic growth has created a bull market for all classes of freight. Retail sales are up 6% over 2017. E-commerce has actually increased—not redirected—the amount contract freight in the system. Industrial production is up as well.

Inventories have risen steadily, but not out of line with sales. In fact, the inventory-to-sales index is trending lower, at 1.35. Leaner inventories indicate faster turnover, sustaining shipping demand.

Across the board, freight is at capacity. Shipper demand is stronger than carrier ability to meet it. This trend shows no signs of retreating near-term.

TARIFFS: NO 800-POUND GORILLA, YET

Analysts are taking a wait-and-see position on the impact of tariffs. At this point, tariffs apply to a relatively small number of products, impacting isolated industries.

Affected companies will adjust strategies, such as building inventories of raw materials or key components, to buy time to adjust supply chains. Some will look at intermodal or rail as alternate links. Intermodal rates are up 15%. By comparison, road freight is up 8-9%.

Conditions could change pending further trade negotiations. Regardless, all sectors must ship their goods, fueling continued demand for carriers.

With the economy adding 223,000 jobs a month, and unemployment as low as 3.8%, this puts a premium on manpower. Especially for fleets.

LABOR: A FORCE TO BE RECKONED WITH

Converging factors have led to lean capacity. Economic expansion has created a domino effect, challenging all businesses in a supply chain.

With the economy adding 223,000 jobs a month and unemployment as low as 3.8%, this puts a premium on manpower. Especially for fleets.

Warehousing is booming. Employment in that sector is up 52% since the end of the recession. Over the same period, trucking is up 10%, retail 7%.

Drivers are being hired at a rapid rate, faster than in other sectors. But not fast enough to satisfy shipper demand.

Drivers consider lifestyle—not just pay—in accepting a job. This raises other considerations for fleets: Load rejections and driver retention.

WHAT SHIPPERS AND CARRIERS CAN DO NOW

Data suggests that the recent ELD mandate is affecting driver availability, particularly in the mid-range sector (451-800 miles). The Tender Rejection Index (TRI) indicates that drivers and carriers are being more selective of loads they accept. Mid-range sector rejections are running 27-34%, local rejections at 8.5%.

Carriers as well as drivers favor loads that offer more driving time, less idle time. Higher rejection rates put pressure on rate structures.

For shippers, faster load turnaround is key. One immediate step is to improve dockside efficiency to minimize idle time, ensure load acceptance and improve delivery response.

What can fleets do to be more competitive?

- Integrate internal operating systems to streamline data collection and expand real-time reporting
- Upgrade logistics technology to improve dispatch, route planning, load tracking and driver utilization
- Update asset management systems to improve vehicle uptime, reduce parts inventory and labor costs, expand warranty recovery and optimize customer satisfaction

LOOKING AHEAD: AN ECONOMY LOADED WITH OPPORTUNITY

Continued strong demand is expected to drive the economy and, in turn, capacity.

At this point, analysts indicate tariffs will only impact select industries and cost structures. And while they expect seasonal differences in regional freight demand cycles, they observe that all geographic sectors are trending up.

Barring extreme weather events or other shocks in the system, economists project strong demand and robust rate structures into 2019.

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FUEL-SAVING TECH

Combatting Rising Diesel Prices

Carriers could be waiting a while for their electric and CNG tractors to arrive. So what technologies are available now to help minimize companies' diesel costs and stay competitive?

ADJUST YOUR ENGINE PARAMETERS

"An engine today is a lot like a smartphone," according to Mike Roeth, Executive Director of The North American Council for Freight Efficiency. He says by adjusting engine parameters, fleets can increase fuel efficiency significantly, "Sometimes they'll find three, four, five or 10% because they can program the engine to be more fuel efficient and customize that engine for that customer route, driver and that sort of thing."

USE PREDICTIVE AND ADAPTIVE CRUISE CONTROLS

Effectively using predictive cruise control features can lead to up to 2% in increased fuel efficiency, according to Glen Kedzie, Vice President, Energy & Environmental Counsel for the American Trucking Associations. By anticipating the routes, these systems ensure the most fuel-efficient gear and speed for the road ahead.

Adaptive cruise control features smooth-out driving patterns to save fuel. One way according to Roeth, is by braking sooner and more gently, to avoid collisions. This reduces the need for a hard brake and quick acceleration to get back up to speed.

ENCOURAGE FUEL-EFFICIENT DRIVING WITH TECHNOLOGY

"There's a saying in our industry that the difference between the worst eco-driver and the best eco-driver could be up to a 30% fuel efficiency variation," Kedzie states.

Telematics could help close that gap. "Telematics are useful for correcting driver behavior," says Steve Saltzgiver, CAFS®, Manager of Mercury Associates, a fleet consultancy, "coupled with systems like rewarding drivers for good behavior." By monitoring things like speeding, hard stops, jack-rabbit starts and excessive idling, Saltzgiver says, you can use the data you glean to counsel and retrain drivers.

CONSIDER AERODYNAMIC INNOVATIONS

Roeth sees the biggest opportunities for carriers to improve aerodynamics on trailers. He's seeing more skirts, tails, nose cones and other high-tech add-ons. "If you're under a 3-to-1 trailers-to-tractor ratio, those aerodynamics on the trailers really pay back."

Technologies deployed to improve fuel efficiency have widely varied results. Kedzie estimates that adding trailer side skirts alone could improve fuel efficiency around 5%.

KEEP YOUR FUEL SAVINGS ROLLING WITH TIRE TECHNOLOGY

Automatic tire inflation systems that ensure trailer tires remain at proper inflation levels can yield around a 1.2% improvement in fuel efficiency, according to Kedzie. Tire pressure monitoring systems that alert drivers and fleets to low pressure can also improve fuel efficiency by spurring manual inflation sooner.

And don't forget about tires at every wheel position. Switching to lower, rolling-resistant tires can improve fuel efficiency by 3% or more, Kedzie says.

WITH BATTERY AND SOLAR UPGRADES, DON'T BE IDLE

Roeth cites opportunities for fuel savings by using "battery HVAC" or APUs instead of idling the engine for hotel features while the driver is sleeping and resting in the cab while stopped. He describes it as a 4-battery pack system that uses the energy in the batteries to run the AC, TV, computer, etc. He says some drivers are coupling the battery system with inexpensive, easy-to-install solar panels to extend the charge.

LEVERAGE TECHNOLOGY SOLUTIONS FOR BEST PRICES

With general use apps like GasBuddy drivers can be directed to low diesel prices geographically. But according to Saltzgiver, to take advantage of the opportunities out there to secure the lowest fuel prices, the first thing you need is a good telematics system that maps geographically and alerts you when you're going near diesel.

With a solid telematics foundation, you can add fuel plan optimization software that integrates route planning, identifying the best fueling locations and determining the best fuel quantity at each stop. ★

CUSTOMER PROFILE

Super T Transport

Karen Hayes
CFO, Super T Transport

SUPER T GAINED OVERALL BENEFITS, ACHIEVING DRAMATIC IMPROVEMENTS IN DRIVER SETTLEMENTS, AND IN ITS METHODS FOR MORE EFFECTIVELY RETRIEVING DATA FROM THE COMPANY'S MASTER FILES.

When profits and performance decelerate, transportation and logistics providers can benefit from technology that delivers solutions to help them reclaim their professional best.

"It comes down to numbers and knowledge," says Karen Hayes, now in her sixth year as CFO and tech boss at Super T Transport. "Streamlining services, eliminating extra steps and time savings are all achievable when we know where the numbers come from and what apps are needed for improvements."

Hayes' affinity for numbers and technology has proven advantageous to the Idaho-based carrier, which meets the refrigerated transportation needs of the Midwest and Pacific regions. During her Super T tenure, the firm increased personnel from 60 to nearly 250; in addition, she and the management team oversaw an acquisition that resulted in the carrier doubling its terminals and fleet. Hayes also guided a 2013 software transition from Innovative IES to TMWSuite on a .NET platform.

Shifting Gears

In efforts to improve internal performance and operation, the Super T management team took steps in late 2017 to locate the source of the problems and investigate corrective measures. Says Hayes, "We wanted to see what we could do better."

Hayes requested TMW conduct a Business Process Assessment (BPA), a full-range analysis of the quote-to-cash cycle that targets areas needing overhaul, and delivers practical advice for performance enhancement and revenue maximization.

The BPA helped Super T gain overall benefits, with dramatic improvements in driver settlements, and in its methods for more effectively retrieving data from the company's master files for tracking and reporting revenue.

Solutions for Sustainable Performance

In late 2016, Super T was among an exclusive customer base to test TMW's newest Business Intelligence platform. "It allows us to grab fields from pertinent areas, such as accounting, dispatch and operations, and get the comprehensive stats for everyone more efficiently. We came in on the ground floor and it's been a real asset."

Stressing the value of a strong vendor-client relationship, Hayes credits her TMW sales rep as being an immeasurable asset to her company's technology requirements. She also acknowledges the TMW team that worked with Super T throughout its April 2018 cloud migration, noting, "There was a tremendous focus to ensure we had virtually no down time. It was a near-seamless transition."

Among Hayes' "someday" solutions: an app designed for the unique demands of the refrigerated transportation industry, for which extensive third-party integration is required to ensure compliance. Explains Hayes, "We may log on to as many as 10 sites every day to manage loads. Software that consolidates these steps would result in greater efficiency at our end and let us focus on internal and customer goals." ★

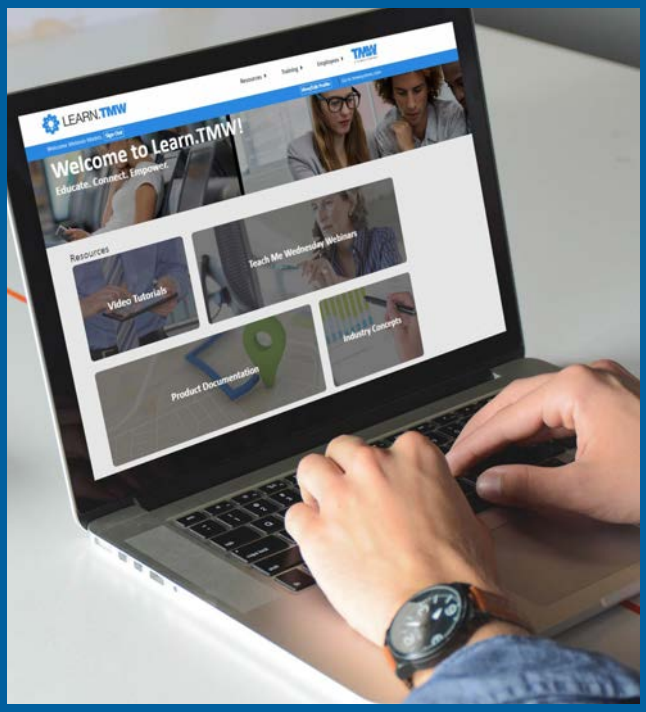
Your Customer Support Connection

In an ongoing effort to provide more information and resources to TMW customers, we present, *Your Customer Support Connection*. On behalf of our well-trained team we remain ready, willing and able to work beside you toward your success. As always we're here to take your call or email when you need us. Here are three more ways to hone your skills, monitor your case or provide feedback.

Learn.TMW

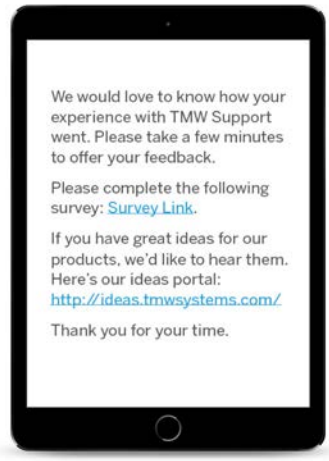
Explore our learning hub for a vast variety of resources at Learn.TMWSystems.com

- **Video Tutorials.** We have published over 450 video tutorials to date, with more in production across all lines of business. Our offerings will continue to grow, so check back regularly!
- **Product Documentation**
- **Industry Concepts** Introductions, Definitions and Links to Industry Concepts
- **Teach Me Wednesdays.** Every week, TMW conducts free, one-hour remote educational sessions called Teach Me Wednesdays. They cover a wide range of topics, such as transportation industry trends, releases for new and existing TMW products, system administrator tips and tricks, business intelligence trends, and best practices for how to use your TMW software more productively and efficiently.



NetSuite Client Portal

The Client Portal provides the ability to create, review and update cases directly using NetSuite. By accessing the NetSuite Client Portal (through the Client Center—TMWCare.com) you will be able to view all of the features NetSuite offers. For access, please contact your Customer Support Team.



Your Experience and Opinion Count!

Our Customer Support Teams are committed to delighting our customers. Please take a moment to tell us how we are doing by filling out the brief surveys that come your way after your support case closes.

The ideas portal is an important tool that allows us to make our products better. The portal enables users to make suggestions on a feature or an improvement that would make a product even better. There is also space for comments and voting for favorite ideas.

We look forward to hearing about your Customer Support experience!

NUMBERS TO KNOW

Here's how to reach us:

TMWSuite Support

Team 1
Dial (800) 663-0626
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Team 2
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Choose option 6, option 1 and option 2
email: supportteamtwo@tmwsystems.com

Team 3
Phone (800) 663-0626
Choose option 6, option 1, then option 3
email: supportteamthree@tmwsystems.com

Team Microsoft Dynamics (formerly Great Plains)
Phone (800) 663-0626
Choose option 6, option 1, then option 4
email: gpsupport@tmwsystems.com

Team MobileComm
Phone (800) 663-0626
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