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TECHNOLOGIES

7 Qualities that Define a 'Modern' TMS

A Guide for Transportation and Logistics Professionals

Cloud-native TMS platforms deliver affordable access to enterprise-class technology

Transportation management software (TMS) systems are on a disruptive path of technology innovation.

When the path changes directions it never goes back. TMS systems used to run on mainframes, for example, before changing to micro-computers and on-prem servers. Today, the direction has changed to cloud-native platforms.

Architecture matters, but motor carriers and freight brokers are more interested in how modern TMS systems can solve today's business challenges.

The consensus of top IT executives in the trucking and logistics industry is that a modern TMS has 7 distinguishing attributes:

1. Fast, low-cost deployment
2. Automatic software updates
3. Future-proof technology
4. Turnkey integrations
5. Intelligent driver workflow
6. Maximum security and readiness
7. Business intelligence

This guide shows how a modern TMS with all of these attributes will make it possible to solve critical business needs today and into the future.

1 Fast, Low-Cost Deployment

Deploying a TMS platform has traditionally required motor carriers and freight brokers to make large, up-front investments in hardware, software licenses, and implementation.

Modern TMS platforms remove cost and complexity from the get-go.

Cloud-native TMS platforms deliver immediate cost savings through a software-as-a-service (SaaS) model. This eliminates upfront costs in hardware and overhead by not needing IT specialists to maintain on-prem servers, notes the CEO of a New Jersey-based logistics company with more than $80 million in annual revenue. "Let the professionals handle that," he advises.

Modern TMS platforms can also save companies significant time and money during the conversion process. Switching to a new TMS is no longer a long, drawn-out series of events.

Modern TMS platforms remove cost and complexity from the get-go.

Magnus Technologies, a provider of an enterprise, SaaS-based TMS, can get customers switched over to a new production system in a matter of days, said Matt Cartwright, Magnus CEO.

The fast conversion is possible with an intuitive and comprehensive TMS for transportation and logistics. Having a cloud-native platform also makes it possible for Magnus to manage the conversion process remotely.

Remote deployment saves fleets thousands compared to vendors with client-server TMS systems that have to send high-paid employees or contractors on site for setup and training exercises.

Likewise, modern platforms have the flexibility to scale for changing business needs without incremental costs. Magnus has a simplistic pricing model based on the number of active assets in a fleet, Cartwright said. This model directly aligns the subscription with a customer's revenues and makes the enterprise-class technology affordable to companies of all sizes.

2 Automatic Updates

Modern TMS platforms deliver regular software updates through "micro" or "quick" releases. This contrasts with the traditional, client-server model where vendors push updates out on quarterly or annual cycles.

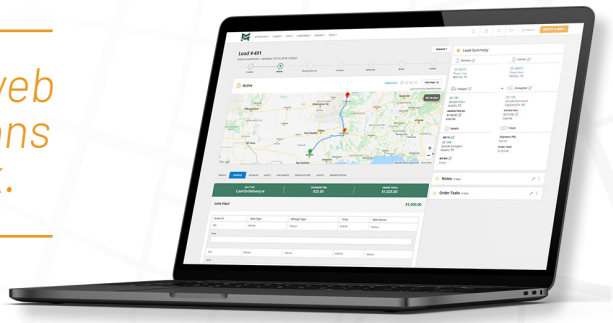
The CIO of a truckload carrier in the Southwest with more than 1,200 tractors said his company is using a TMS from a vendor that sends infrequent updates. The releases are large and take the fleet days and even weeks of testing and training before it can go live.

Because of the work involved, "I can only do an upgrade once every two or three years," he said. Since modern platforms release updates as soon as they are ready, "they are easier to work with than the systems we've got today," he added.

Magnus Technologies uses automation tools to deploy updates to all customers at once in a uniform manner.

"We release on a very regular basis. This allows our customers to take advantage of new componentry earlier, and not have huge learning curves," said Matt Cartwright, CEO of Magnus.

Everyone is used to the mobile and web experience now and have expectations of how things should look and work.



Updating or migrating TMS platforms has traditionally been a more complex process for mid- and large-size carriers and freight brokers who have customized their TMS systems to work the way they want.

Modern TMS platforms address this challenge by using a microservice architecture. This allows software providers to update application components and make new data available to custom software applications more easily through a standard message bus (or middleware).

The Magnus TMS, for example, uses a highly secure and reliable hosted message bus, Amazon SQS, that can be accessed using any programming language that AWS supports to integrate data from the TMS with custom applications, Cartwright explains.

3 Future-Proof Platform

Trucking and logistics companies may worry about being stuck with a particular TMS platform when something better is just around the corner. A good insurance policy against technology obsolescence is the underlying components of a TMS. The Magnus TMS runs on a cloud-native Microsoft SQL Server database, and this technology "is not going anywhere," Cartwright says.

If SQL Server ever had an end-of-life, Magnus could switch its TMS platform over to the next-best database technology available from cloud computing providers like Microsoft Azure and AWS.

To be future-proof, TMS systems must also be simple and configurable for end users. This will drive user adoption, noted the CEO of the N.J.-based logistics company, and help with recruiting and retaining back-office talent, he said.

TMS platforms must also be accessible using any device since the workforce will continue to shift towards a decentralized model.

"The 'access anywhere' mindset is now the standard..."

"Everyone is used to the mobile and web experience now and have expectations of how things should look and work," said an IT executive from a large truckload carrier in Canada. For example, transportation companies will find it harder to recruit younger employees who have never used TMS systems with an archaic character-based "green screen" interface.

Plus, employees want to stay connected to a business using mobile devices. "The 'access anywhere' mindset is now the standard, so this is important for users of the platform," the IT executive added.

4 Turnkey Integrations

IT executives also agree that modern TMS systems must have the flexibility to share data, back and forth, with custom or third-party applications.

Legacy TMS platforms often fall short in connectivity. As a result, users must shuffle between different screens and retrieve information from external web portals.

"These days, workflows are so much more integrated," said the N.J.-based logistics CEO.

For years carriers have been pushing TMS providers for more open systems with API sets that allow any new provider to 'plug into' the TMS with little effort, noted the CIO of a 1,000-truck fleet based in the Northwest. "We want TMS providers to be open to allow new technologies take hold," he said.

Cloud-native TMS platforms are all about connections. With a modern TMS, users have access to application programming interfaces (APIs) to connect data from the TMS with their custom or third-party applications.

APIs make it easy for a custom or third-party applications to extract data from a TMS, process it, and then hand over the output to a TMS to keep users in their native environment.

Modern TMS systems can help motor carriers and logistics companies build a competitive advantage by integrating data and using it in creative ways, the CIO noted.

5 Better Driver Experiences

Modern TMS platforms can also extend the power of automation to drivers to create a better, more rewarding work experience.

"Having a full-featured, driver centric mobile app platform is critical," said Magnus CEO Matt Cartwright. "Too many TMS providers today are trying to stitch one together or do not have one at all."

The Magnus Mobile Driver App has driver-centric workflows that go beyond pickup and delivery tasks. Drivers can view their pay for upcoming loads, for example, and for completed loads. They can also request time off, among other tasks.

Having a full-featured, driver centric mobile app platform is critical.

The N.J.-based logistics CEO sees more fleets adopting modern TMS platforms with powerful mobile apps to help drivers gain more control over their home time, work schedules and earnings. New technology will help driver managers be "capacity advisors" who have better tools to assist drivers in reaching their goals, he said.

6 Security and Readiness

The attributes of a modern, SaaS-based TMS would be worth little if motor carriers and freight brokers did not get better system reliability and performance than on-prem solutions.

The CIO of the 1,200-truck Soutwest fleet said modern TMS platforms make it easier for companies of any size to backup and restore data to protect themselves from ransomware attacks and other disasters.

"We'll do backups all the way up to a real-time replication in a different environment," said Magnus CEO Matt Cartwright. At a baseline, Magnus backs up customer data in 5-minute increments and can quickly switch customers to a different environment, if needed, to speed recovery time in the event of a disaster.

"We do all of that seamlessly and use best-of-breed technologies and practices to ensure minimal data loss risk," he said.

Modern platforms can level the "security" playing field for trucking companies of all sizes, noted the N.J.-based logistics CEO. With modern SaaS-based TMS platforms, small carriers have all the protocols to meet the heightened IT security needs of shippers.

7 Business Intelligence

A robust suite of self-service business intelligence (BI) tools is one of the most important features of modern TMS platforms.

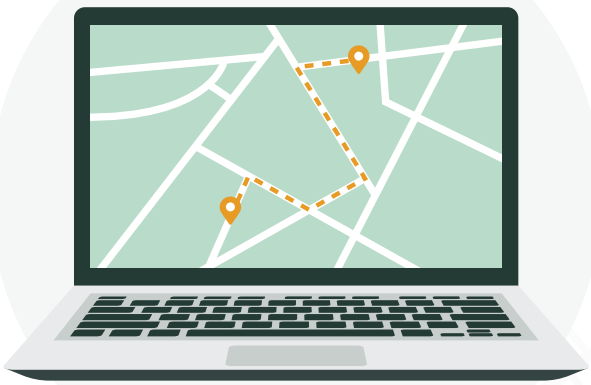
Users should not have to ask the IT department to build a report, Cartwright explains. Accessing data and making intelligent decisions is everyone's job, from the frontlines to the C-suite. The BI tools of a modern TMS can empower people to make strategic decisions, regardless of industry experience or job tenure.

The Magnus TMS subscription includes user-friendly tools such as Power BI and Tableau to create reports and use data visualizations to spot trends and compare performance results for different time periods, Cartwright said.

Some TMS vendors also have skilled report writers and data scientists who create advanced reports that benefit all users.

For example, vendors might use artificial intelligence to develop models that identify drivers who are at risk of quitting. The models can identify patterns of behavior, such as changes to work schedules and pay, and send alerts to management. The action item for such an alert could be to contact the at-risk driver to address a concern and positively change the outcome.

Conclusion



Trucking and logistics companies of all sizes will continue to deploy modern cloud-based TMS platforms. Most are already using SaaS-based applications for ELDs, trailer tracking, and fuel payments, and other essential tools.

The migration of larger fleets to SaaS-based TMS platforms will happen at a slower pace since client-server is the only model that is currently offered by the industry's largest TMS developers. Even so, the direction has changed and today companies of all sizes can take advantage of modern, SaaS-based TMS platforms that deliver affordable access to enterprise-class technology.

"I feel the monopoly in TMS options is creating a pent-up demand for change that could be exploited by a well-designed TMS platform coming into the market," said the CIO of the 1,000-truck fleet based in the Northwest. "I believe the giant TMS providers insulated themselves through acquisitions that left their customers with little choice and options. That may have been a good short-term play, but there is a pent-up backlash in the market just waiting for a well-executed and forethinking TMS provider to come along. I think when that happens, there will be a seismic shift in the TMS market."

Trucking and logistics companies of all sizes will continue to deploy modern cloud-based TMS platforms.

About Magnus Technology Group

Magnus Technology Group, headquartered in Austin Texas, has 20 years of experience designing, developing, and delivering enterprise TMS software. Magnus is the first software provider in the transport and logistics industry to offer an enterprise SaaS-based TMS that is affordable and scalable to fleets of all sizes.

The Magnus TMS platform is modular and works seamlessly with the Magnus Driver App and Magnus Carrier Advantage network to deliver a complete, end-to-end mobile dispatch and order fulfillment solution for truckload and LTL fleets to maximize profitability and growth.

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