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3 Indicators Digitization is Transforming the Global Transportation Industry

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Prepared by

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Introduction

The transportation and logistics industry is a vital part of international trade, involving a complex series of logistical activities and transportation systems, including rail, air, maritime, and road. The rise of digital technology is having a profound impact on the transportation and logistics industry, changing many aspects of how these companies operate.

Historically, the transportation and logistics industry has been behind the curve when it comes to using digital technologies to enhance safety and efficiency. Due to the general stability of the industry, there had previously been little need to innovate or invest in new digital technologies. However, the influx of new and innovative market entrants, such as Uber Freight, Google Express, Amazon's same-day shipping and drone package delivery testing, and the emergence of self-driving trucks are examples of disruptions putting pressure on the industry to increase the efficiency and safety performance of its operations, whether transporting by air, rail, truck, or shipping.

Companies are seeking faster and better ways to get goods into consumer hands. In recent years, transportation and logistics companies have started to embrace digitization in an effort to increase the bottom line, improve health and safety, and make faster and more precise data-driven decisions than their competitors.

Here are three reasons why we see the digital transformation of transportation and logistics picking up momentum:

Big Data is Driving Operational Efficiencies

The transport and logistics industry runs on information, and has begun embracing a multitude of digital and connected technologies to address the growing pressure to deliver a higher level of service at much lower cost. As of 2017, 53% of companies have implemented some form of big data analytics, and we are seeing an increasing number of transportation and logistics companies realize the potential for impactful and long-lasting results, such as increased revenues, reduced costs, and the improved safety and reliability of operations.

Large transportation operations utilize a multitude of different vehicles, with hundreds or thousands of trucks, ships, trains, and planes in use at any given time. These operations can be optimized by analyzing data provided through embedded sensors in trucks, cars, ships or airplanes, delivering real-time information about freight door-to-door delivery times, location, traffic, inventory, vehicle performance, scheduling, fuel consumption, or predictive maintenance needs.

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Advances in sensors, telecommunications and the emergence of connected vehicles are driving a new wave of data. For example, railroad companies have integrated big data into the following aspects of their operations:

- **Creation of maintenance logs**
- **Safety data and hazard reporting through hand-held field tablets and ruggedized mobile devices**
- **GPS devices report location, speed, arrival time, and distance between trains**
- **Embedded sensors in equipment, vehicles, and components such as brakes, tracks and other hardware**

An unprecedented amount of data is constantly being produced, and with today's data coming from a wide array of sources, digitally mature companies have the potential to extract and analyze key insights that can be used to maximize safety practices and operational efficiencies. Harnessing the power of big data has allowed transportation companies to drive safety and efficiency performance to new heights by using innovative predictive maintenance to predict and schedule the optimal maintenance needs of transportation equipment. Embedded sensors constantly generate data used to predict upcoming faults or defects in equipment, vehicles, or components such as brakes or tracks. Maintenance can then be scheduled precisely to minimize waste and drastically increase equipment life.

The emergence of connected mobile devices has improved the efficiency of the data collection process, reducing the time and effort spent manually entering data using antiquated paper-based systems. In fact, 40 percent of business leaders in the transportation industry believe that improved use of mobile and connected technologies is a main focus for growth in the industry. Mobile solutions with built in data collection and aggregation tools automate and simplify reporting requirements, and help eliminate the paper-trail, human error, and manual record keeping pertaining to safety and compliance processes.

Safety & Compliance is a great starting point for digital transformation, a technology that is currently playing a big role in the digital transformation of the transportation industry is ITRAK. With ITRAK software, organizations can collect field data, improve operations and enable better decision making.

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ITRAK's platform is efficient, intuitive and paperless and allows transportation companies to accurately collect, standardize, and analyze their field data across their organization. With the ability to perform hazard identification, inspections, workflows, and audits, ITRAK enables large transportation hubs to manage every facet of their quality and safety programs on an array of devices. The result is streamlined, efficient operations and superior health and safety practices.

Today's industry leaders are constantly examining the increasing role that digital technologies play in becoming agile, faster, and better equipped to adapt to challenges and market conditions. Safety & Compliance is a key area that companies need to consider when deciding to invest into digital tools that provide valuable return on investment.

As companies around the world move towards digital transformation, we expect to see an increasing number of transportation and logistics companies leverage the power of big data and analytics to make data-driven safety and compliance decisions.

Sophisticated Technology is Driving Continuous Improvements in Safety Performance

The transportation and logistics industry faces many of the same challenges as any other industry, and occupational health and safety is at the top of the list. Whether by air, truck, or shipping, transporting goods between the point of origin and the point of consumption requires the collaboration and cooperation of many actors and even more machinery, vehicles, and equipment. This, in combination with long shifts, heavy loads, and potentially hazardous working environments, poses a myriad of health and safety risks to transportation employees.

Industry leaders are now recognizing the need for a digital solution that can help streamline the complexities of managing health and safety and facilitate continuous improvement. With its diverse array of methods, processes, equipment, and hazards, the transportation industry requires a flexible and comprehensive digital solution to keep operations moving smoothly and safely. There is a growing demand for digital safety and compliance technologies that help transportation and logistics companies eliminate hazards, enhance reporting, maintain compliance, and most importantly, keep employees safe.

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ITRAK has been implemented by the large transportation hub YVR – Vancouver International Airport. YVR is deeply committed to providing a safe and quality service, and has been voted the best airport in North America in the Skytrax Awards for eight consecutive years, while also receiving recognition in the aviation industry for its culture of innovation and accountability. In this space, ITRAK is helping YVR with subcontractor management and managing work scope as a prime contractor. This includes ensuring that subcontractors comply with the project's safety, quality, and scheduling requirements. ITRAK assists YVR manage subcontractors in the following ways:

- **Tracking and managing subcontractors**
- **Tracking critical scope activities and scheduling**
- **Coordinating and managing multiple contractors**
- **Contract management**
- **Audit trail of time frame**

Transportation companies interested in achieving excellent safety performance require a comprehensive suite of tools for managing all the intricate details of employee competency. From delivering and tracking online training to conducting examinations and managing re-certification, all are easily managed through ITRAK.

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Digitization is Streamlining Logistical Processes and Regulatory Compliance

The rise of digitization, new and innovative market entrants, and globalization have accelerated the flow of goods worldwide, with world trade in goods valued at around USD 16 trillion in 2015. This level of commercial transport involves a vast array of moving parts, including people, machinery, vehicles and processes throughout the delivery chain. With such a complex and interconnected network, the transportation and logistics industry requires innovative digital technologies to streamline logistical processes and maintain regulatory compliance with government regulations and ISO standards.

Today's customers demand a greater level of service from their transportation providers, and due to the fast-paced and competitive nature of the industry, companies require innovative digital technologies that can support them in meeting compliance with quality, health, safety, and environmental standards set forth by regulatory agencies in every country they operate in throughout their global supply chain.

ISO standards are crucial to global trade, providing international frameworks for organizations to transport products and services that are safe, reliable and of good quality, while reducing waste and increasing productivity at every stage of the supply chain. This facilitates fair global trade and helps companies enter new markets. Take, for example, the newly introduced ISO 45001 global standard for occupational health and safety management systems. This standard will provide organizations around the world with a consistent and measurable approach to safety and compliance.

Additionally, each mode of transportation comes with its own unique standards at every level of the supply chain. For example:

Shipping:

- **The construction (ISO 15401) and repair (ISO 15402) quality of the hull structure of bulk carriers**
- **ISO/TC 8 – Standardization of elements used in shipbuilding and marine technology**
- **ISO/TC 104, Freight containers - specifications for containers, including dimensions, handling, and terminology**

Aviation:

- **AS9100 – Manufacturing**
- **AS9110 – Maintenance**
- **AS9120 – Distribution**
- **ISO 9001**

The use of innovative safety and compliance technology will continue to be essential in not only meeting and exceeding compliance with ISO standards, but also in achieving continuous improvement in safety and quality throughout the delivery chain. Using cost-effective, flexible, and configurable solutions such as ITRAK helps to streamline the process of collecting, tracking, and analyzing organizational health and safety data with a high degree of accuracy. This enables organizations to minimize non-compliance risks, while achieving and maintaining compliance obligations in the face of increasingly strict regulations.

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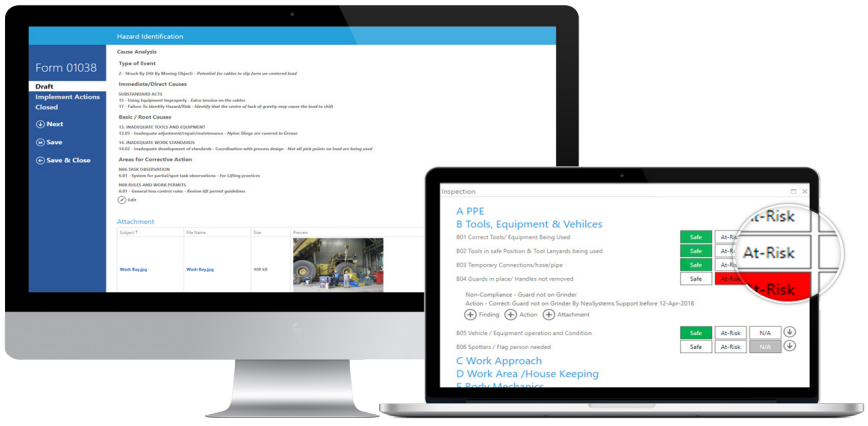
ITRAK QHSE Software - Built for Today's Innovative Transportation Business

ITRAK workflows are fully configurable to meet any unique transportation and logistics processes. With an intuitive, flexible, and scalable safety and compliance solution that is tailored to support their evolving organizational needs, companies around the world are able to increase efficiency, employee safety, reduce workplace risks, and drive continuous improvement. NeoSystems' expertise in mobility guarantees that the ITRAK solution works on a wide variety of devices, is configurable to specific organizational needs, integrates seamlessly into their Microsoft environment and ultimately provides the confidence that they have the insight and knowledge to keep safe and compliant.

ITRAK is the #1 QHSE solution for the Microsoft Cloud, it is certified for Microsoft Dynamics 365 and integrates with Power BI and Azure, allowing users to leverage the power and scalability that comes with Microsoft technology. Our solution allows organizations of any size, to customize the software to their ever-changing workflows, enabling them to be more agile and responsive to operational risks. ITRAK can be implemented within any organization small or large, and through a wide variety of industries across the globe. For over a decade, ITRAK has been enabling businesses from various industries to become more proactive with their safety compliance & reporting processes. We support an established base of customers worldwide in Oil and Gas, Mining, Utilities, Forestry, Transportation and many more.



Sample of ITRAK's dashboards for Hazard Identification, Inspections and the associated Risk Matrix

ITRAK - The #1 QHSE solution for the Microsoft Cloud.

Learn more at **www.useitrak.com**