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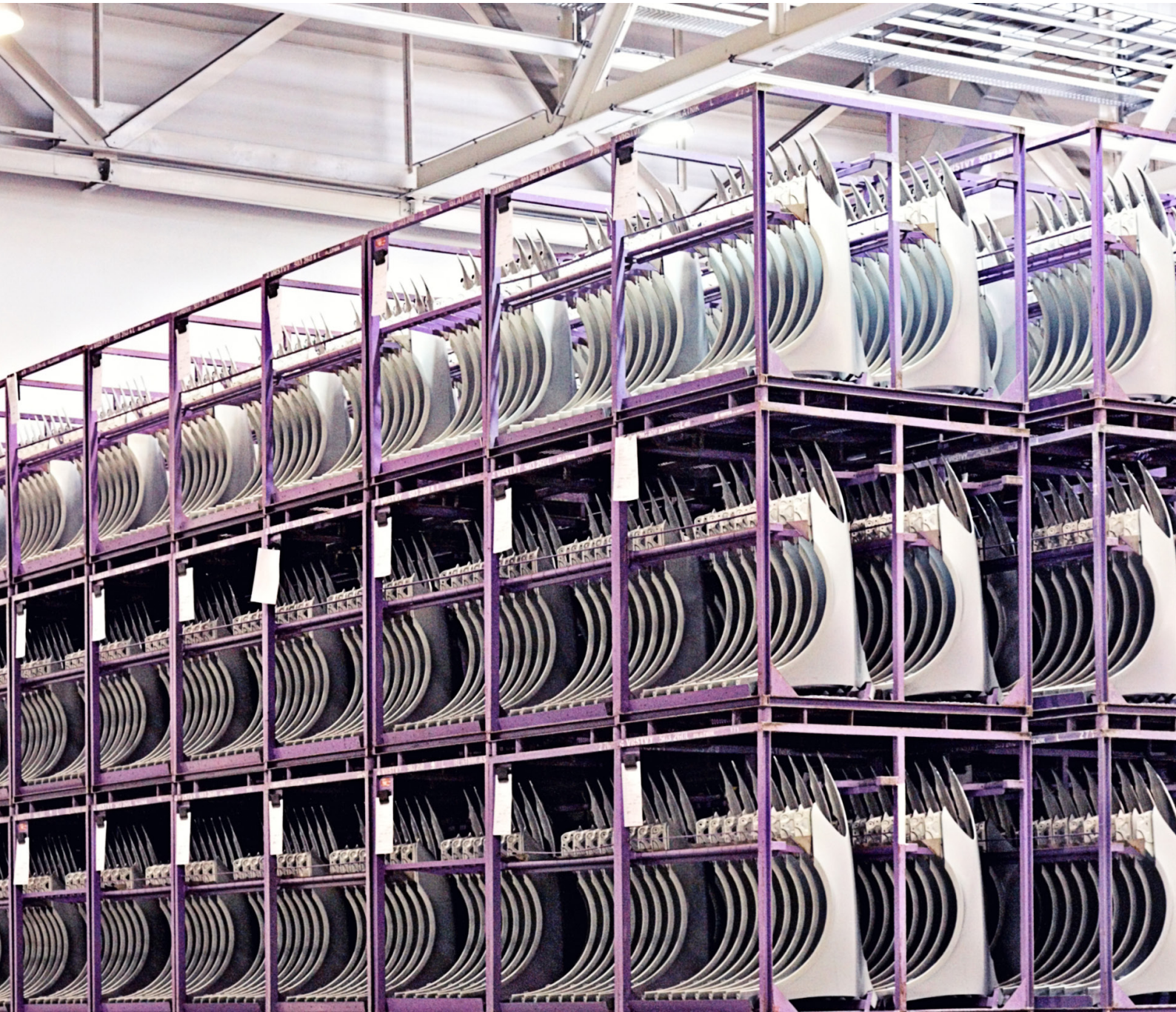
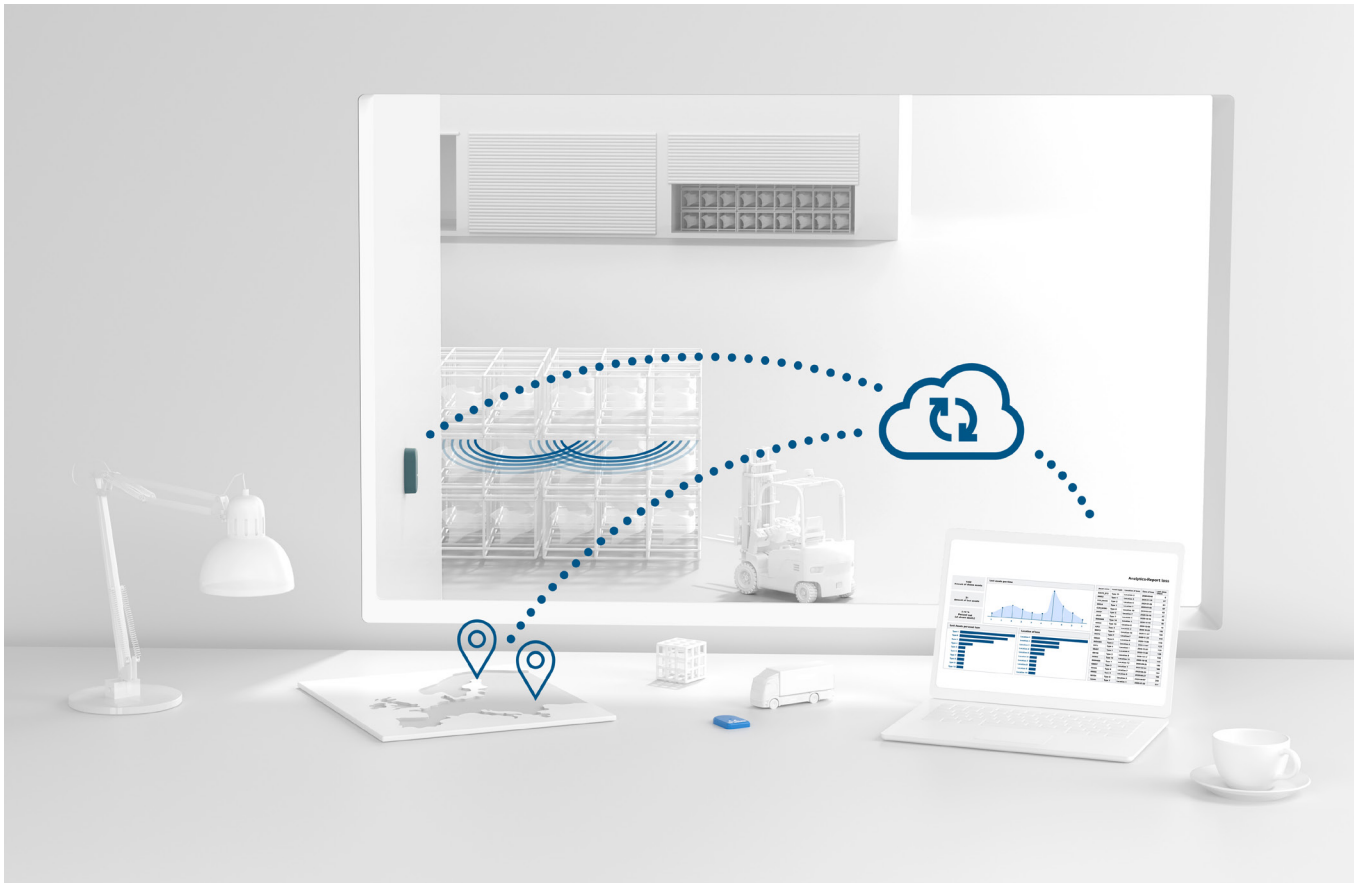
Asset tracking – Transparency all along the supply chain

How logisticians benefit from IoT applications and put purpose-driven tracking solutions into practice





Asset tracking enables high levels of optimization and transparency with minimum effort. As well as classic asset tracking, the Bosch Track and Trace solution also enables tracking of the materials or goods included in shipments.

Always on top of the supply chain

Digitalization is bringing many benefits to logistics. For instance, it has great potential for taming the growing complexity of supply chains. Thus, more and more companies are adopting digital solutions to maximize processes' transparency and efficiency.

Managing shipping assets such as load carriers, semi-trailers, swap bodies, locomotives, railcars, and ocean freight containers is a multifaceted task. A company's needs determine which technology fits best, so enterprises have to specify their requirements before they commit to a digital solution.

This white paper gives an introduction to digital tracking approaches. Starting out with the challenges in logistics, it shows how companies can benefit from corresponding solutions. Then it turns the spotlight on technologies, highlighting the options companies have to address their specific requirements in ways that best suit their purposes.

Challenges in logistics

Logistics is all about efficiency, but supply chains are growing ever more complex with some already spanning the entire globe. What challenges does this pose for companies?

Inefficient load carrier utilization
Are load carriers full or empty? Are they in good working order or defective? Companies find it hard to answer these questions for a lack of information about their load carriers' condition and status. This often leaves load carriers underutilized. Without a transparent view of their assets, companies may even buy new load carriers, unaware that they have plenty to go around.

Inefficient utilization is perhaps most prevalent in the run-up to peak shipping seasons. This is when companies tend to hoard load carriers, which are then underutilized for a time. Space can become a problem when there are so many assets to store.

Inefficient fleet management
Companies lack detailed insights into the location of the trailers, freight cars, and containers that convey load carriers. This impedes their planning efforts and makes it difficult to respond flexibly to an unexpected turn of events such as a late shipment.

The lack of transparency also prevents companies from spotting potential for improvement in their processes.

For example, transition points can be bottlenecks, say when load carriers need to be offloaded from freight cars. With a finite number of unloading stations, a freight car may sit in a customer's yard for days – much to the detriment of the logistics service provider who owns that car, but can only bill the customer for forwarding the freight it carries.

Inefficient inventory management
Managing inventory usually involves a lot of hands-on effort. Companies often have to task employees to search for items and inventory assets. This time-consuming and tedious task leaves people unavailable for more important jobs.

Logging load carriers and goods in and out also ties up personnel. And manual scanning is an error-prone task. Companies can soon lose track of inventories and devote far more time than necessary to administrative processes.

On-demand webinar: How IoT brings transparency along the supply chain

Asset tracking enables logisticians and supply chain managers to create transparency throughout the supply chain. For example, TRUMPF connected specialized shipping boxes with the smart Track and Trace solution from Bosch to spend less time searching and coordinating.

But how do companies find the solution best suited to their needs? In this webinar, logistics experts from TRUMPF and Bosch.IO explain what really matters when it comes to asset tracking.

Learn more

How companies benefit from digital tracking solutions

Up to
25 %
higher utilization of load carriers: no new investments required

Up to
75 %
less searching, inventory, posting, and scanning work

More than
50 %
reduction in lost load carriers

Up to
50 %
time saving for status updates and coordination

Digital tracking solutions are about much more than locating assets in the supply chain. Rather, they create comprehensive transparency and help companies master the increasing complexity. Which use cases are conceivable?

Asset management
In light of the challenges in logistics, asset management represents a central use case for digital tracking solutions. Companies gain comprehensive insights into the supply chain, which they can use as a basis for optimizing workflows and processes.

For instance, companies can get an accurate picture of their load carriers' utilization and see where there is room for improvement. In the course of the projects, Bosch was able to increase the utilization of logistics assets by up to 25 percent. It also proved possible, to boost the availability of reusable containers by as much as 25 percent, sparing companies the cost of buying new ones.

A digital solution also provides transparency as to the whereabouts of assets. It can slash the time and effort spent gathering asset information and coordinating cargo flows by as much as 50 percent. In addition, companies become aware of inefficient processes. For example, a digital solution can quickly call a logistics service provider's attention to the fact that his freight cars are serving as a temporary warehouse on wheels. The logistics company can then let the customer know about this misappropriation of assets and perhaps charge for this non- contracted use.

Finally, companies can leverage a digital solution to automate administrative routines. Thus, they reduce the time spent searching, inventorying, logging, and scanning by as much as

75 percent. They also eliminate error sources by cutting down on manual scanning efforts.

Asset Loss

Companies find it difficult to keep track of all load carriers that are in circulation, particularly in complex supply chains. A logistician may not even notice if a customer or supplier forgets to send back a few pallet cages and uses them to store goods. Transport container theft might also go unnoticed. Consequently it can become impossible for a company to account for many assets that are on the books, but out of reach, at the end of the year. The company will have to buy replacements if their assets do not turn up, incurring unexpected costs.

A digital tracking solution can prevent that problem. Depending on the solution at play, companies are aware of the last-known position of their assets in the supply chain and might even track them if they are no longer part of the logistics cycle. For instance, the logistician can see that certain pallet cages are not finding their way home from a customer or supplier. It also makes it easier for companies to track the whereabouts of an asset stolen from the network.

Asset monitoring

In various industries, companies require insights into additional parameters during transit and in storage. Food retailers and pharmaceutical companies are a case in point – they have to keep a close eye on the temperature of their goods. Sensors built into tracking devices can provide this monitoring capability. Companies can also keep track of other parameters such as shock or humidity.

Keeping tabs on external influences is one aspect of asset monitoring; keeping up with equipment usage is another. For example, construction companies equip machinery such as plate compactors or road rollers with tracking devices. That way, they know where the machines are and – given the proper sensors – if they are actually in use.

Curious? For the complete Track and Trace Whitepaper contact sales.tnt@bosch.com

Asset Tracking Guide: How to get your tracking project off the ground

What questions should companies be asking themselves to find that perfect tracking solution?

With many Track and Trace projects for load carriers to its credit, Bosch had ample opportunity to identify the five key questions that companies need to address. Click on Contact for more information.

Contact