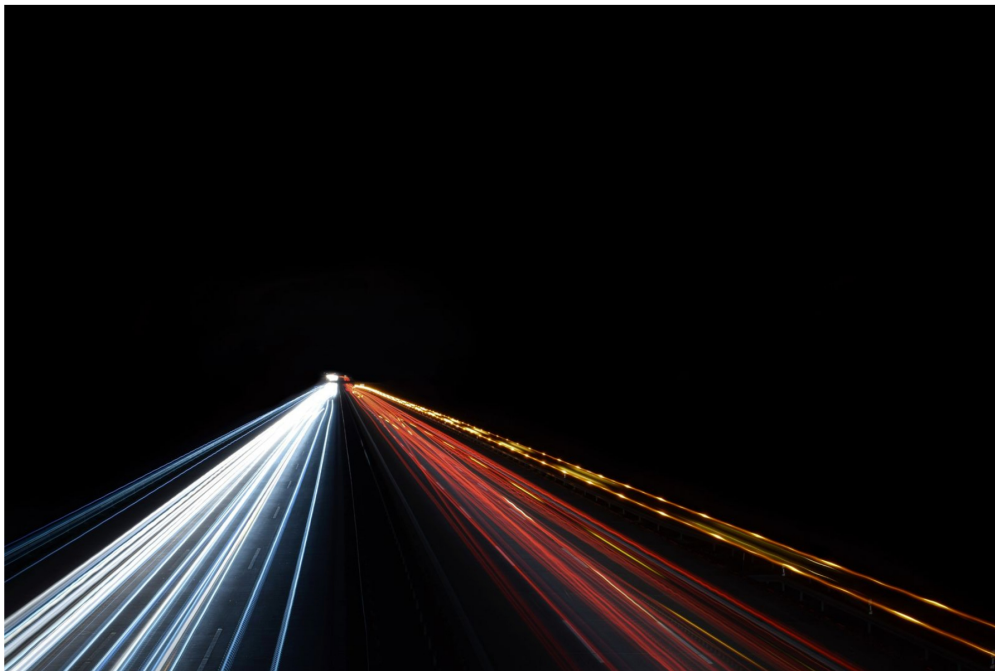


BDP Blog

# Changing the supply chain game with IoT technology



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Supply chain success is a reflection of information. It's not enough that the shipment is scheduled to arrive on Thursday. Will it arrive on Thursday? And if not, when?

**Today's shipping managers expect — rather, demand — supply chain visibility.** It's not enough to know that the shipment departed from Newark, New Jersey on Monday, arrived in Antwerp, Belgium, on Saturday afternoon while waiting for a transfer to another carrier. Understanding what's transpiring in the interim of each recorded handoff— a traffic jam, weather disruption, vessel issues, labor unrest — are key to achieving the 7Rs in product delivery: the right product to the right place at the right price to the right customer in the right condition at the right time with the right quantity.

Of course, the traditional supply chain solution has left logistics managers in the dark. Delays or misrouted shipments are identified only after they arrive (later than scheduled, if at all) at their destinations. And to be clear, it's not that these disruptions are entirely avoidable.

**But it is the ability to minimize disruptions and lost hours (or days or weeks) that determine bottom-line success, along with the preservation of customer loyalties.**

There's a solution. Enter the Internet of Things (IoT), a smart technology that uses

sensors to emit real-time data into the precise movement of assets. The result? Shipping managers can respond more quickly to missteps and make better, more strategic business decisions.

When a shipper integrates IoT technology onto a “smart” ship, that person gains control of numerous transit functions as well as movement data — for instance, temperature regulation, precise cargo movement tracking and anti-theft capabilities, are all available in real-time. Sensors measure these and other factors, transmitting the data back to the sender and allowing not just greater visibility across the entire supply chain but also information that can be used to optimize future supply chain logistics, i.e. sourcing, production and manufacturing.

Whereas radio-frequency identification (RFID) is commonplace today, tagging goods and tracking them as they reach their destination, the technology is limiting and restricted to fixed destinations (i.e. Newark and Antwerp in our example above).



### **And it is what is occurring in the interim — between transit stops — that provides critical information for those in charge of logistics management.**

IoT devices will use our ever-growing wireless bandwidth, whether wi-fi, satellite or the up-and-coming 5G to stream a plethora of data of all kinds to data aggregating applications. Available 5G space will allow for billions and billions of new devices. Data collection will be integrated into everything.

IoT technology has a number of use cases in the supply chain, including:

- **Location management:** Track shipments wherever and whenever, with integrated push messaging that notifies shippers (and customers) as to precise locations.
- **Inventory tracking:** IoT sensors allow companies to track inventory items, an important part of building a “smart” supply chain and one that minimizes losses.
- **Predictive analytics:** Predictive analytics is the ability to collect and interpret massive amounts of data, which can then be used to optimize route and delivery logistics — often in advance of a disruption. The result is a proactive approach that replaces parts, maintains vehicles and prevents disruptions.
- **Self-driving vehicles:** As autonomous vehicles make the transition from prototype to reality, IoT devices will play an important role in safety and efficiency, collecting huge amounts of data and optimizing delivery routes and directions.
- **Things we haven't even thought of yet:** The greatest part about 5G is that it's empowering the unknown future. Stay tuned because it will undoubtedly get interesting.

**The ability to meet the growing demands of your customers is an operational imperative, one facilitated by the introduction of IoT technology. It's the intelligent solution to today's complex shipping challenges.**



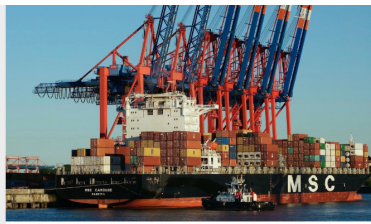
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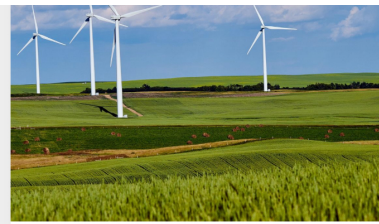
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