



*Supply Chain Visibility to maximize market potential while mitigating risks*

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## **Quick Guide to Pharma Supply Chain Visibility**

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# The pharmaceutical supply chain: Subject to regulations and strict industry standards



## **Cold Chain Integrity**

Drug quality assurance is among the biggest challenges facing the pharmaceutical supply chain, as temperature requirements and logistics confusion can affect a product's integrity. Temperature excursions, shock and humidity fluctuations may lead to safety issues and waste in the supply chain.

## **Inventory Visibility**

Supply chain managers need to be prepared to handle disruptions and shortages in the supply chain and manage inventory levels. Anytime, anywhere inventory visibility presents a tremendous opportunity for the industry in the breadth of supply chain challenges it addresses, from regulatory compliance, to protecting the supply chain against counterfeit goods.

## **Regulatory Compliance**

Increasing regulatory requirements for track and trace and serialization are driving the need for real-time visibility of product location, availability and condition to verify the quality of incoming components and prevent non-compliance with applicable laws and regulations.

# The complex global supply chains: The case for supply chain visibility

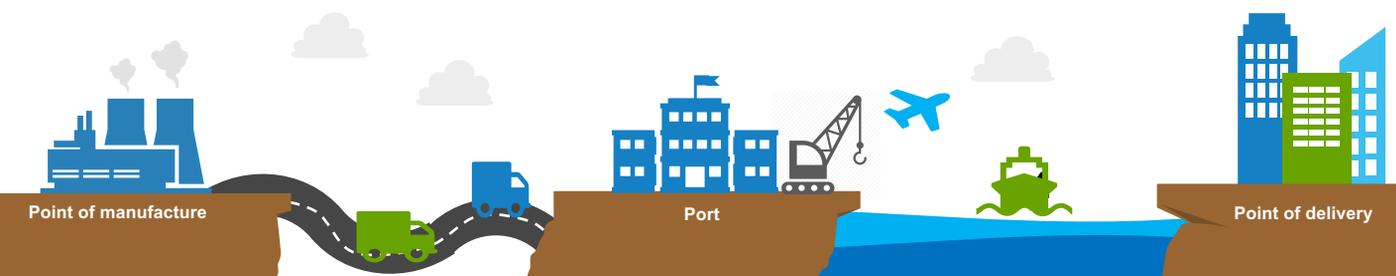
The pharmaceutical supply chain is one of the most complex supply chains in the world. That’s no surprise when we consider the global nature of the industry and the size and scope of the companies that dominate the space. These complex global supply chains involve different players from the production site to the point of delivery. Inevitably, data flow in such organizations is complex and prone to delays. Networks are open to vulnerabilities, and compliance culture is often mismatched.

Improving supply chain transparency is a high priority for companies as consumers and regulators are pushing for more information on how products are made and transported from the point of manufacture to the point of delivery. Additionally, in order to be compliant with regulations companies need to know exactly how their products are being handled at every stage of the manufacturing and shipping process.

To tackle the challenges imposed by global supply chains, industry leaders are beginning to leverage the data hidden in their supply chains to gain valuable intelligence. Real-time data acquired through end-to-end monitoring systems and supply chain visibility solutions has the potential to improve supply chain performance at an unprecedented rate. The insights resulting from uncovering supply chain blind spots empower supply chain managers and other senior decision makers to reduce risk in the supply chain, meet environmental and import requirements and react to disruptions in the supply chain.

*“First of all, transparency has to be critical. We have to know at any given point in time where the product is and under what conditions it is currently, either stored or moving.”*

*Supply Chain Executive cited in UPS Pain in the Healthcare Supply Chain Survey<sup>3</sup>*



# Big data and cloud based solutions: The answer to the need for advanced predictive analytics across supply chains

Today's powerful digital technologies enable businesses to gather large volumes of data. Research shows that implementing data analytics solutions across the supply chain brings visibility that enables data-based decision making and leads to efficiencies, optimized processes and reduced costs. The information about inventory positioning and movement supports both operational activities and strategic planning. The challenge faced by businesses is to have data analytics capabilities in place that are able to process and analyze the large set of the collected data and display it on easy-to-interpret charts. Dashboards uncovering supply chain blind spots by displaying what's happening to the cargo while in transit help decision makers understand where do disruptions happen along the supply chain.

*By leveraging big data and the data collected by cargo tracking and monitoring, companies can gain unprecedented visibility and control across the supply chain.*

## Results companies have achieved using big data analytics in the supply chain<sup>1</sup>

Improvement in customer service and demand fulfillment of 10% or greater

46%

Faster and more effective reaction time to supply chain issues

41%

Increase in supply chain efficiency of 10% or greater

36%

Greater integration across the supply chain

36%

Optimization of inventory and asset productivity

33%

Improved cost to serve

28%

Improvement in demand driven operations

20%

Shortened order-to-delivery cycle times

14%

# Supply chain visibility solutions: The key to mitigating supply chain risk

Supply chain visibility has significant benefits for supply chain operations. An effective supply chain visibility solution together with a well developed traceability strategy allows organizations to see where each ingredient came from and where the finished product is heading. This end-to-end visibility is the key to resilient supply chains and becomes especially important when facing disruptions in the supply chain or during crisis situations. The visibility and the data provided by IoT solutions in pharmaceutical supply chains allow organizations to significantly reduce supply chain risk by enabling the company to either take action to prevent disasters or to respond to disruptions by activating backup plans.

## Reducing risk in the supply chain



### React to disruptions

Real-time alerts and information enables supply chain leaders to proactively address disruptions.



### Mitigate supply shortages

Continuous data flow enables supply chain managers to build resilient supply chains.



### Compliance with regulations

Ability to meet safety and security requirements as well as import and environmental regulations.



### Ensure consumer safety

Unbroken data streams help to mitigate risk improving brand and corporate reputation.



### Optimize inventory levels

Knowing the location of goods helps to optimize inventory levels and safety stock levels



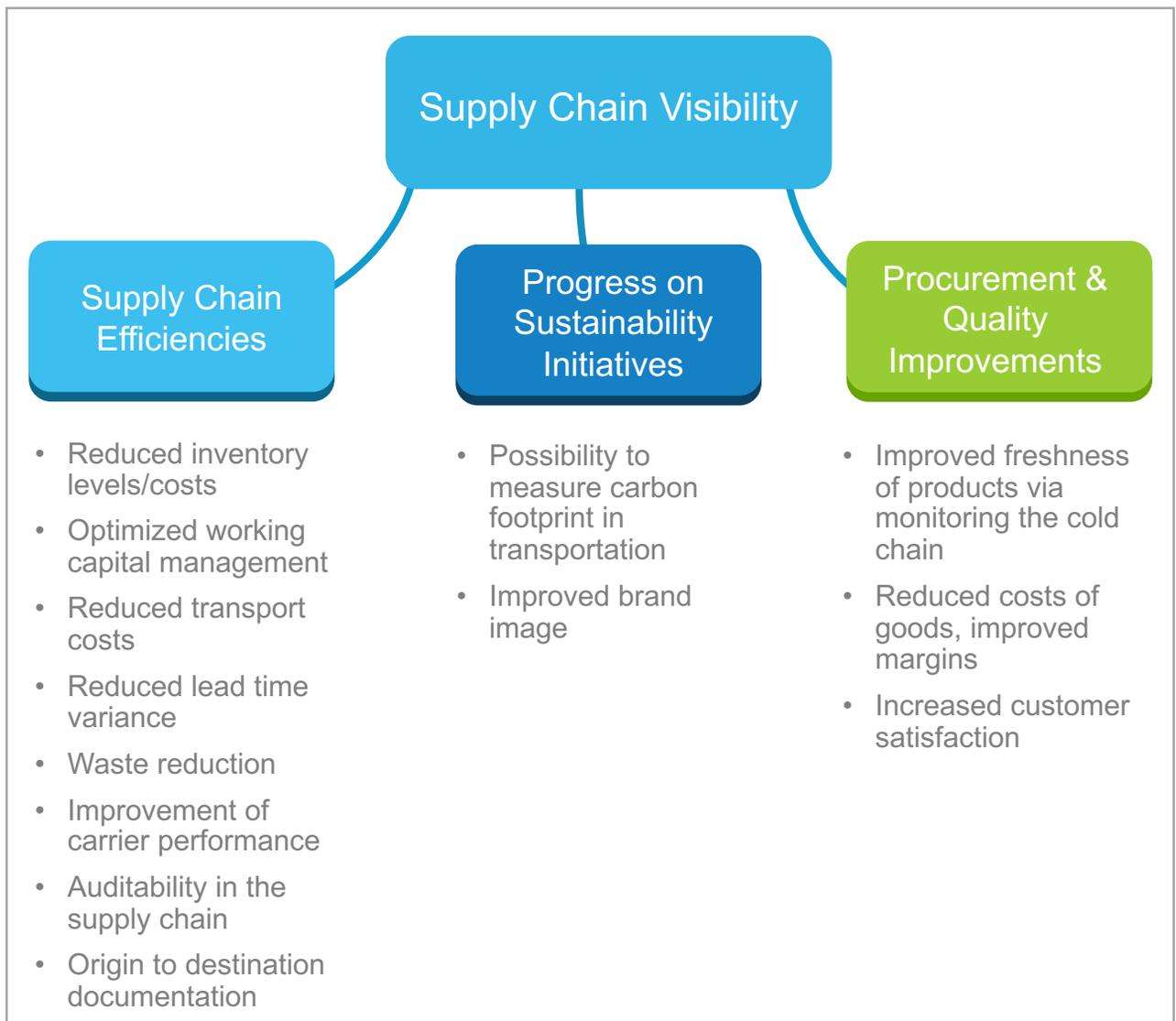
### Reduced recalls

Continuous data on cargo integrity enables organizations to prevent, rather than react to recalls.



# The business case for supply chain visibility solutions

Beyond reducing risks in the supply chain, supply chain visibility solutions offer quantifiable business results. This value created by visibility solutions could pay for supply chain visibility and cargo monitoring systems and justifies their implementation.<sup>2</sup>





## Monitor your cargo

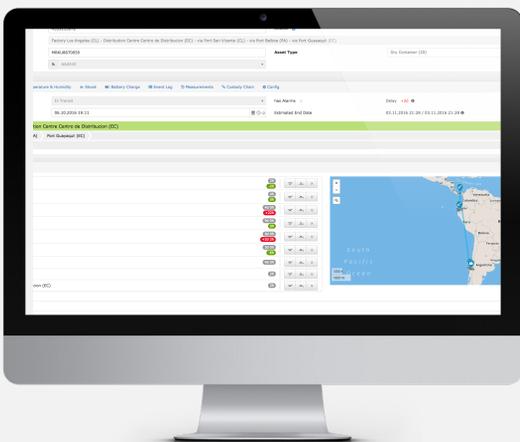
We eliminate milestone based visibility solutions that only record data about the status & condition of assets when goods reach or leave certain checkpoints. Arviem provides real-time, trustworthy, carrier independent data about the whole journey of the goods from the point of manufacture to the point of delivery uncovering supply chain blind spots. Our cloud-based, easy to use cargo monitoring and analytics platform provides business intelligence for decision makers.

# Supply chain visibility solution by Arviem

Arviem's supply chain visibility solutions support their users in the efficient management of strategic, operative and financial supply chains via supporting real-time data-driven decision making. Arviem offers a wide array of services that are transforming supply chains by combining the latest sensor technology, big data, and clever data analytics methodology. Arviem's pay-as-you-use cargo tracking and monitoring services are enabling our customers to efficiently manage and optimize their operative and financial supply chains without the need for investing in assets or technology.

*"Monitoring the location and environmental conditions of our shipments is a very important component of our stewardship efforts. Arviem provides us this capability."*

*Dow Chemicals on Arviem's Services*



## Parameters Monitored by Arviem

Our cloud-based, easy to use cargo monitoring and analytics platform provides business intelligence for decision makers.



Door opening



Temperature fluctuations



Geo location



Position based ETA



Intrusion detection



Humidity fluctuations

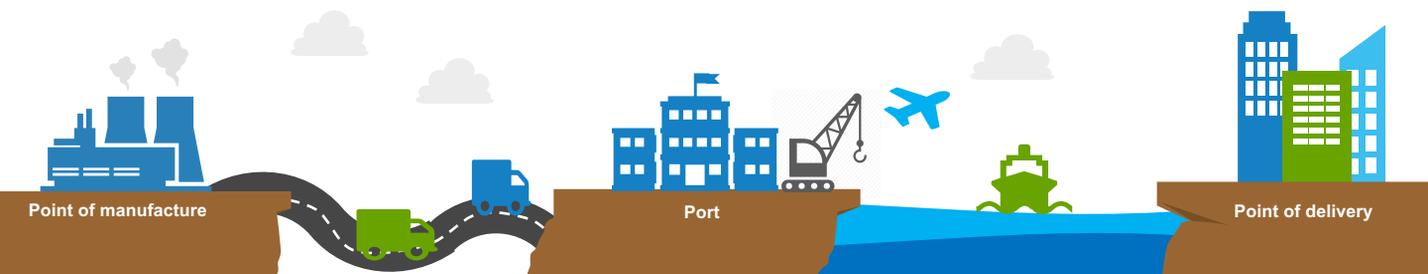
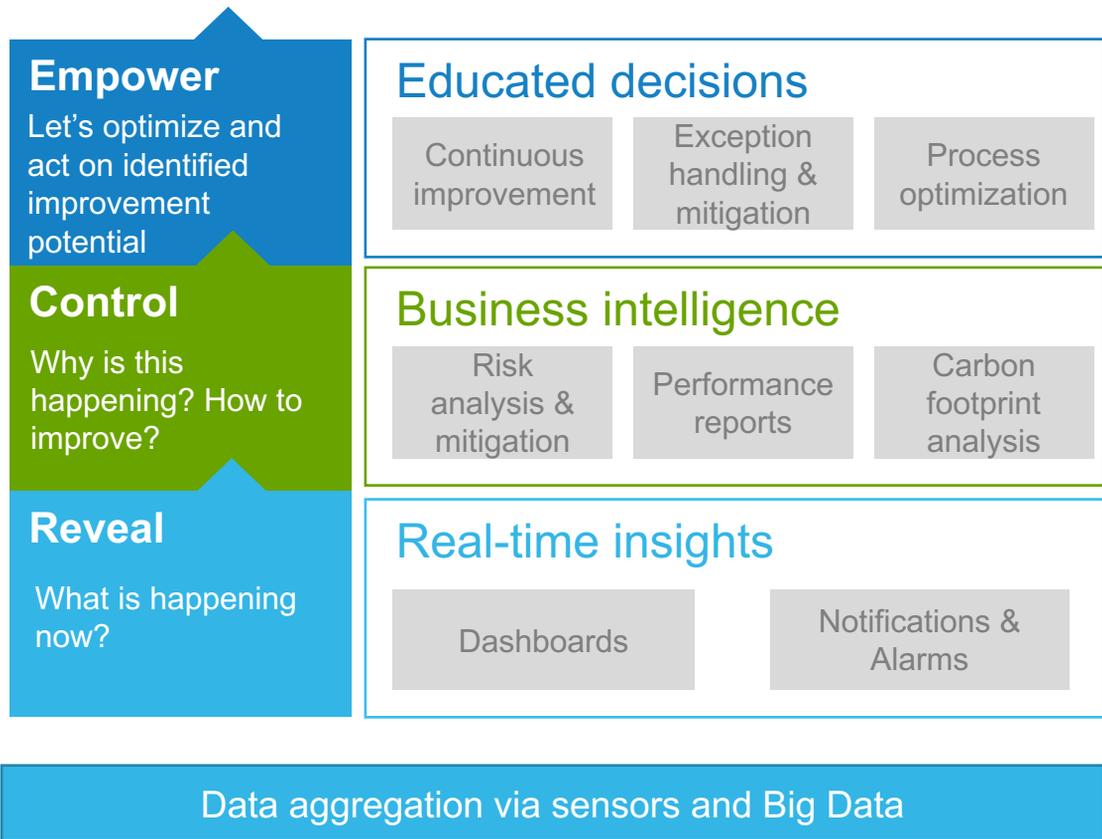


Shock detection



Performance reports

# The Arviem supply chain visibility operating model



# Why Arviem?

We operate **worldwide** and offer a **full service**

We provide **multimodal** cargo monitoring solutions

We offer '**pay-as-you-use**' service, no investment needed

We guarantee **24/7** customer service

Our solution is up and **running in a day**

We have **long established expertise** in the industry

We operate from and develop our software in **Switzerland**

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*"We have eliminated waste,  
reduced demurrage costs  
substantially and achieved timely  
product availability and product  
freshness."*

*Nestlé on Arviem's Services*





Resources:

- 1: Accenture: Big Data Analytics in Supply Chain: Hype or Here to Stay? Accenture Global Operations Megatrends Study
- 2: Wilkinson, S. (2012) The Value of Supply Chain Visibility: Traceability is just the start
3. UPS Pain in the Healthcare Supply Chain Survey (2015)  
<https://www.ups.com/media/en/UPS-PITC-Executive-Summary-North-America.pdf>



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