Internet of Things

Cognizant Cold Chain

Quickly and reliably monitor temperature controlled supply chains with built-in intelligence that ensures product integrity and minimizes risks.

Shippers and their customers must safely transport temperature-sensitive products such as pharmaceuticals, biologics, food and beverages. Without proper environmental monitoring, unsuitable conditions during transportation and storage can risk human lives, economic losses and damage to brands and customer loyalty.

This requires companies to consider a simpler, end-to-end solution that senses, monitors, and manages data at every link in the cold chain.

Enhance visibility and control to maintain safer cold chain storage

That’s why Verizon, Microsoft and Cognizant formed a partnership to make it easier for businesses to build intelligent applications that keep food and medicine shipments safe by proactively monitoring and managing temperature in a smarter, faster, more cost-effective way.

The Verizon/Microsoft/Cognizant solution cuts implementation time and costs by integrating core IoT infrastructure components into one bundled solution.

- Verizon ThingSpace platform gathers sensor data, manages it at the edge and uses APIs to deliver insights to enterprise applications using Microsoft’s Azure IoT Central cloud and analytics platforms.
- Verizon’s LTE-M and 5G wideband network delivers secure and reliable connectivity.

Supply chains cause 40% of food waste in North America, of which 14% is caused by handling and storage.

– Supply Chain Dive, 2019
• **Verizon’s Critical Asset Sensor (CAS)**
  device monitors not only temperature, but location, vibration, humidity, pressure/impact, acceleration, tilt and light.

• **Cloud hosting** on Microsoft Azure IoT Central provides a low-code enterprise-grade platform that easily scales as you deploy your solution.

• **The Cold Chain application** provides cloud-based analytics and pre-built templates to quickly ingest critical data from business assets and begin visualizing it in near real time.

• **Cognizant’s experience in supply chain, industry and global systems integration** guides how companies develop, deploy and operationalize a complete cold chain storage solution.

**Benefits**

- Integrating sensor data with supply chain management, regulatory reporting and other platforms – along with suppliers, customers and shippers – improves predictive maintenance, compliance, remote monitoring, fleet management, predictive quality and usage analysis.

- Microsoft’s scalable, cloud-based data and analytics platform ensures that decision-makers have the data they need – whenever and wherever they need it.

- Out-of-the-box integration reduces implementation costs while multi-use sensors allow enterprises to track temperature, and other vital data.

- Cognizant’s consulting, design and implementation experience ensure a cost-effective solution that meets your most critical requirements.

Our intelligent cold chain monitoring system is quick and easy to implement across the globe, offers predictable pricing, and requires no upfront hardware costs.

**How it works**

By some estimates, 14% of the world’s food is lost between harvest and retail stores due to spoilage. Life sciences companies lose more than $35B in products each year due to cold chain interruptions. The move to biopharmaceutical treatments – those created from biological sources – makes tracking temperature even more critical.

Real-time temperature reporting can avoid such losses by allowing managers or drivers to quickly detect possible problems and minimize damage, by re-routing payloads to refrigerated warehouses or dispatching crews to repair malfunctioning equipment.

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The pharmaceutical industry loses $35 billion a year due to failures in temperature-controlled logistics chains.

– IQVIA Institute for Human Data Science, 2019
The ability to track the temperature of specific lots within a larger shipment can reduce waste by disposing of only those lots that exceeded desirable temperatures, rather than losing an entire truckload.

Verizon’s Critical Asset Sensors replace traditional data loggers and networked sensors that cannot share information in real time.

Microsoft Azure IoT Central provides the scalability, predictive and prescriptive analytical tools, and customized user experiences delivered on the device of the user’s choice.

Getting started
We use our four-step approach – assess, design, pilot and scale – to first understand your business, regulatory and safety needs. We then work with you to design a solution roadmap, pilot a solution for urgent needs, and roll out the solution across multiple locations. Working closely with Microsoft and Verizon, we can deliver a business case for Cold Chain Monitoring within 6–8 weeks.

Why Cognizant
Cognizant has 25 years of experience implementing complex supply chain solutions across a variety of industries. We have in-depth experience with the top 30 global pharmaceutical companies, nine of the top 10 biotech companies and 12 of the top 15 medical device companies. We combine industry leadership with digital acumen to enhance logistics and incorporate the latest digital technologies, including Internet of Things (IoT) systems, smart network planning and analytics for predictive maintenance.

Learn more about our cold chain monitoring solution and partnership: [https://thingspace.verizon.com/partners/microsoft](https://thingspace.verizon.com/partners/microsoft).