

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.
- 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.

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.

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

– IQVIA Institute for Human Data Science, 2019



MEDICINES



FOOD & BEVERAGES



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>.

About Cognizant Digital Business

We help clients build digital businesses and innovate products that create new value – by using sensing, insights, software and experience to deliver on what customers demand in the digital age. Through the Internet of Things we connect the digital and physical worlds to make smart, efficient and safe products, operations and enterprises. Leveraging data, analytics and artificial intelligence we drive intelligent decisions and anticipate where markets and customers are going next. Then we use those insights, combining design and software to deliver the experiences that consumers expect of their brands. Learn more about how we're engineering the modern enterprise at cognizant.com/digitalbusiness.

About Cognizant

Cognizant (Nasdaq-100: CTSI) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](https://twitter.com/Cognizant).



World Headquarters

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277

European Headquarters

1 Kingdom Street
Paddington Central
London W2 6BD England
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102

India Operations Headquarters

#5/535 Old Mahabalipuram Road
Okkiyam Pettai, Thorajipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060

APAC Headquarters

1 Changi Business Park Crescent,
Plaza 8@CBP # 07-04/05/06,
Tower A, Singapore 486025
Phone: + 65 6812 4051
Fax: + 65 6324 4051