CASE STUDY

CelloTrack Nano & MultiSenses used in Supply Chain Management

About our Partner

Navisat specializes in customizing state of the art traceability technology solutions for monitoring, assessing and protecting cargo in real-time. Their unique solutions provide unprecedented levels of real-time security and "sensing" of key assets, from production to storage, distribution and retail. www.navisat-gps.com

Key Partner Challenges

Every global manufacturer requires tracking and tracing capabilities within the supply chain in order to secure it. The supply chain arena has various players, including warehouses, factories, 3rd party logistics providers, and transportation and delivery contractors - each of which has its own management system for tracing and logistics purposes.

Navisat, as a leading provider of traceability and warehouse management systems, received many requests to consolidate the finished goods movement data within the entire supply chain - from the factory, warehouse, third party logistics provider, right up to point of sale - all in one unified solution.

Their challenge was to create a solution that would deliver full control of system operations while at the same time remaining cost-effective and compatible with multiple industry open standards.

The first phase was to resolve which hardware could answer this challenging requirement, in binding together all the different parts of the supply chain - the manufacturer, distributors, retailers, and consumers - into a single smart monitoring solution. The second phase was to develop a tailor-made scalable cloud solution that would showcase real-time monitoring of the supply chain and generate data-driven insights

The Solution

CelloTrack Nano™ and MultiSenses™
Asset & Cargo Management IoT Solution based on a Smart Hub and Wireless Sensor Network.

The CelloTrack Nano is an Asset & Cargo Management IoT solution based on a smart hub and BLE Wireless Sensor Network. The smart hub communicates with the cloud platform, which processes the data and presents it in an easy-to-use visual display via a management dashboard. The solution includes an API protocol to enable rapid integration with any cloud-based/ERP platform. The CelloTrack Nano hub enables real-time monitoring of the location and environmental conditions of cargo and assets, including specific alerts related to issues and delays. This platform provides everything you need to generate data-driven insights from connected devices.
The CelloTrack Nano and MultiSenses deployment in Navisat's application includes one CelloTrack Nano device located at the warehouse entrance and another one at the back door or next to the vent of each transporting truck. The MultiSense devices are located inside the shipment boxes and on the back door of the truck. The devices inside the boxes are configured in Tag Mode, enabling the CelloTrack Nano to read an unlimited number of MultiSenses, as the CelloTrack Nano only reads their Mac (Media Access Control) Address. In this way, the CelloTrack Nano "knows" if a box has left the warehouse.

During the manufacturing process, unique codes are applied on each pack, carton and master case and are subsequently scanned. It enables each packaging unit to be tracked along the supply chain without the need for unpacking, scanning and repackaging of each unit. At the backend, each MultiSense is interlinked to a specific box and the box is interlinked to its content. As products travel the supply chain, movements are scanned by warehouse operators and the journey history recorded.

All data is transmitted via the CelloTrack Nano located at the warehouse to the backend system, including notifying that package X has left the warehouse. As soon as the package enters the truck, the CelloTrack Nano inside the truck recognizes it via the Mac Address and the operating center pairs the CelloTrack Nano inside the truck with the MultiSenses inside the boxes over-the-air (up to 16 MultiSenses can be paired simultaneously). Once the MultiSenses are paired, the operating system receives real-time data of the temperature, humidity, light and geo mapping. The MultiSenses also provide alerts when the package or the truck's door is opened.

During the entire supply chain process the package barcode can be scanned via a mobile application and all the MultiSense recorded data that was transmitted via the CelloTrack Nano is visible. When the package progresses along its route or reaches its destination, the journey history can be checked.
Navisat can also provide a tailor-made application for each manufacturer, which can check the information and transmit it to the cloud, and then send it from the cloud to the manufacturer‘s website.

All the data can also be part of the manufacturer’s inventory management system, enabling the manufacturer to inform customers where the product will be sent from, and to trace its exact precise location. The company receiving the package can scan the package, check its validation and add their signature for delivery confirmation within the application.

Check out this video presenting the solution: https://www.youtube.com/watch?v=i4wmVW8HXcQ

Results & Benefits

The successful connection of the CelloTrack Nano and MultiSenses with Navisat's tailor-made Supply Chain scalable cloud system achieved the following results:

- A completely transparent supply chain process, delivering real-time precise data - anytime, anywhere.
- Full product lifecycle management and control - from factory to retailer.
- A cost-effective solution, complying with open standards across multiple industries.
- Rapid ROI and increased productivity.
- Improved customer satisfaction; as the customer can confirm validity and receipt of the delivery on-the-fly, it enables the manufacturer to broaden the warranty period for the shipped product.
- Simplifying a complex challenge into an easy and ready-to-use unified solution that can assist global businesses in securing world-class supply chains.

Customer Quote

"The versatility and modularity of the CelloTrack Nano and its MultiSenses enabled us to answer all the requirements of our clients and was a perfect match for our needs."
Walter Mbindyo, CEO & Founder, Navisat Telematics.

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