Cold Chain

Confidence Connected for monitoring temperature sensitive products throughout the logistics cycle
Cold chain practitioners face an increasingly complex global logistic landscape. Gemalto’s M2M cold chain solution makes real-time monitoring and regulatory compliance more manageable.

**M2M Technology for Cold Chain**

The M2M revolution is taking hold in the pharmaceutical, biomedical, and food industries, which are increasing their reliance on advanced technology to provide real time monitoring of temperature-sensitive goods and medicines. Vaccines, protein-based products and genetically engineered goods are just a few examples of items that require constant temperatures to maintain their efficacy.

Historical supply chain monitoring, which consisted primarily of post-delivery audits, is no longer sufficient to assure viability of today’s evolving products. Fortunately, Machine-to-Machine (M2M) technology coupled with state-of-the-art applications can provide a complete solution to solve the complex puzzle of global monitoring and managing of the cold chain for any vertical industry - from pharmaceuticals to frozen foods.

M2M-enabled cold chain technology starts with temperature sensing tracking devices with integrated wireless modules to allow real time communication. These devices, which deliver the highest level of monitoring quality and accuracy, are configured to report environmental conditions at specified intervals and provide alerts when changes are detected. From there, devices connect to servers and to applications that make information easily accessible and actionable to logistics supervisors as well as governing agencies.

Gemalto M2M Cinterion® Products & Services – Top quality, secure, highly reliable

Gemalto M2M is at the forefront of the cold chain movement and has been a consistent M2M industry leader since its inception in 1995. The company’s full spectrum M2M offering includes a range of advanced M2M wireless modules enabling reliable communications, ruggedized Machine Identification Modules (MIMs) for secure connectivity to mobile networks, and an enhanced cloud-based SensorLogic Application Enablement Platform that monitors and alerts users the moment a temperature excursion is detected.

Gemalto M2M technology can be easily integrated into existing logistics solutions. Devices use Cinterion wireless modules to enable mobile communications, onboard data processing and secure over-the-air updates. Cinterion-powered temperature monitoring solutions, based on the cloud-based SensorLogic Platform, provide enterprises with a cost-effective, highly reliable way to ensure product efficacy with the highest level of digital security.
Monitoring in the Cloud
With embedded Gemalto M2M technology, cold chain monitoring devices securely send location and temperature data from sensors to the cloud-based SensorLogic Platform, which further analyzes and processes the data providing 24-7 visibility of products as they travel the globe.

Gemalto’s market-proven M2M technology is ideal to meet the demands of the goods transportation industry and its stringent regulations and demanding service level agreements. The company’s strong reputation for reliability is achieved through unprecedented experience, strict quality assurance and the highest manufacturing standards, which include full traceability with a verifiable audit trail.

Benefits of an M2M-Enabled Cold Chain
When the cold chain is continuously monitored and every shipment analyzed, manufacturers and distributors reduce spoilage and damage while increasing revenue due to less waste. In addition, distribution routes are optimized with improved location monitoring capabilities. Products can be traced to the minute and mile, reducing surprises and providing peace of mind for customers. Fleet companies and their customers have complete control of designing analytics and reporting capabilities to meet the myriad requirements necessary for compliance with emerging regulations and divergent requests from governing organizations. Precise analytics help assess the success of distribution processes and equipment so that prudent adjustments can be made to continually improve outcomes. All data can be gathered and used as an important part of internal risk management and quality assurance processes.

New Services & Business Models
The cold chain logistic services market is expected to grow from $6.7 billion today to $10.7 billion by 2017. To remain competitive, manufacturers, logistics providers and producers of goods can improve their business models by adding cost effective wireless modules, MIMs and cloud-based solutions leveraging the SensorLogic Application Enablement Platform to optimize the cold chain.

The SensorLogic Application Enablement Platform utilizes a complex event processing engine to evaluate data and send real time alerts via email or text message when critical thresholds for heat, humidity, shock, vibration or tilt are reached. This action allows supervisors and dispatchers to respond swiftly to make adjustments to save cargo – and profits.

Since M2M modules enable two-way communications, the SensorLogic Platform can automatically send commands back to the container’s temperature system where changes can be made remotely to ensure product integrity. In other cases, real time monitoring and alerts allow supervisors to proactively re-route cargo to the nearest icing station to save goods before spoilage occurs or to fulfill emergency customer requests immediately. Additionally, the system can order new shipments to replace damaged goods, which reduces distribution delays, and it can communicate with customers to let them know when delays are expected.

“We are not interested in finding out sooner that a shipment is bad; we are more interested in proactively intercepting the shipment and preserving product integrity.”

- UPS Logistics Manager
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