

EPC/RFID brings visibility and better quality data

■ ■ ■ ■ Korean multinational LG selected logistics operator Dinet as its third-party logistics provider in Peru because Dinet is one of the largest logistics operators in the country, and because Dinet's main operations are based in the Lima metropolitan area. The LG distribution operation is now one of the most extensive that Dinet operates, providing full warehousing services for LG products. Although it is a largely manual operation, the KPIs for the LG operation have consistently been among the best of all Dinet's customer operations.

Despite these good results, Dinet is always looking for new technologies, consistently adopts global best practices, and is constantly searching for ways to improve service levels through improved supply chain visibility and the use of better traceability. As part of this approach, Dinet acquired a GPS solution from solution provider Wisetrack to empower their SCM activities and to further improve the visibility of their units. Wisetrack not only brings a traditional GPS solution, but it is effectively a transport management system embedded in a permanent control application.

In this context, and in collaboration with GS1 Peru, Dinet started a project to implement an RFID-based track and trace solution for the LG operation. GS1 Peru was the chosen partner because of the experience and knowledge they had gained while working on SCM consultancy and other EPC/RFID projects. GS1 Peru is positioned as an enabler providing access, knowledge, and technology and helping to improve quality and innovation in new and improved processes based on the GS1 System of standards.

The high-level objective of the project was not only to improve the quality of the information coming from Wisetrack, but also to gain all the possible benefits from the application of EPC technology to the LG operation. More specifically, the project objectives included:

The ROI analysis showed that investments paid for themselves within 3 months

- Assessment of the suitability of EPC/RFID technology to the LG Distribution operation
- Selection of the most appropriate EPC/RFID tag technology
- Integration of information from GS1 EPCglobal and the Wisetrack GPS solution
- Elimination of unnecessary processes in order to reduce lead times in the warehouse
- A positive return on investment (ROI), taking into account the improved service levels, the operational benefits, and the required up-front investment



Besides LG, Dinet and GS1 Peru, other participants in the project included:

- Wisetrack Peru, the provider of the GPS solution and the information systems platform
- UPM Raflatac, the supplier of EPC/RFID tags
- Impinj, EPC supplier and technical support provider
- Motorola, provider of the hand held EPC/RFID solution

The project scope was to collect all the information about the activities in the warehouse, from the requirement picking to the delivery of the goods. The project was divided into two pilot phases, aligned with the objectives, with a third phase for the deployment of the complete solution.

In the first phase, focused on evaluating the technical and operational feasibility of the technology, the project scope was to prepare the picking of 200 items and their delivery to two different LG customer warehouses. The objective was to confirm the technical integration between EPC and the Wisetrack solution in a "live" process.

This objective was achieved with the required performance quality, using the GS1 EPC standard and GS1 GLN Identification Keys with EDI to create an interchange platform between LG and Dinet.



To confirm the results of the first phase, the second phase implemented five different shipping notices, with the objective to measure the process activities, the time saved, and the labor force requirements. Since the technical feasibility had been completed in phase one, the work focused on the financial framework to support the ROI calculations and to determine the fit with the ROI tools designed by the Massachusetts Institute of Technology (MIT), the Stanford Global Supply Chain Management Forum and GS1 EPCglobal.

The operational assumptions for the ROI analysis were that:

- Products would arrive with EPC/RFID tags attached at the factory, with the serial number already encoded in the tag using a GS1 S-GTIN Identification Key
- LG's customers might have an RFID solution in place to receive the goods, but if not, a mobile handheld reader could be used
- The tags would be encoded with GS1 EPC identifiers

After the data was compiled, the ROI analysis showed a three-month payback period for an initial investment (primarily for the RFID equipment) of USD \$22,500, generating approximate cost savings of USD \$9,800 per month.

Since the scope of the project also includes the delivery of goods from Dinet's warehouse to LG's customers, many additional benefits were identified at this level, including:

- Elimination of serial number errors
- Significantly reduced customer rejection of serial number errors, leading to the elimination of lost sales, return transport costs, delays, and credit notes as well as warehouse space savings
- Reduced time spent on serial number capture
- Warehouse space savings for dispatch serial number capture



- Reduced time spent on unit counting and merchandising review
- Improved disposition of field transportation units
- Increased quality in preparation of dispatched goods
- Improved visibility and traceability of items (by serial number) by each Shipping Notice on route
- Enabling of on-line loaded and unloaded goods confirmation
- Reduced time cycles for distribution and payment documents
- Improved control of transportation units
- Document visibility in real time, for each delivery point
- Enabling of on-line, cross-system Proof of Delivery



After these very satisfactory first results, the next steps include undertaking a complete financial analysis for RFID implementation at LG points of sale and a feasibility study to implement integrated RFID/GPS technology in Dinet's trucks.

For more information about LG, visit www.lg.com

For more information about Dinet, visit www.dinet.com.pe

For more information about GS1 Peru, visit www.gs1pe.org

