



INDEPENDENT STUDY

RFID technology passes the lab test



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Item-level traceability along the entire supply chain is key to success when shipping high volumes, preventing counterfeiting and managing stock at the warehouse. *Point of View* spoke to Bruno Aceto, CEO of INDICOD-ECR, who explained how RFID technology is being tested at the EPC Lab in Italy, equipped with Checkpoint Systems solutions.

Tell us about INDICOD-ECR and EPC Lab.

INDICOD-ECR is an Italian non-profit association that gathers together industry and distribution companies who operate in the field of consumer goods. INDICOD-ECR deals with the creation and promotion of global standards of communication and business relationships between companies and consumers. The EPC Lab was established by the School of Management (Politecnico di Milano) in cooperation with Telecom Italia. Since 2007, several full-scale tests and trials have been carried out to check the reliability of RFID technology with regard to supply chain processes, as well as compliance with the International EPC (Electronic Product Code) standard. This standard is managed by GS1, the

international body that coordinates the diffusion and correct implementation of GS1 coding standards worldwide. INDICOD-ECR's EPC Lab also plays an active part in the European Network of EPC Labs that was created with the aim of promoting and adopting RFID and EPC technology in Europe, and exchanging information, software and tools to carry out trials, develop education programs and improve knowledge of relevant processes. Besides Italy, labs in France, Germany, Great Britain, Norway, Denmark, Austria, Spain and Poland are taking part in this program.

What kinds of tests are performed at the EPC Lab?

Thanks to a scale representation of the



consumer goods supply chain, the EPC Lab is able to test the relevant technology during the various logistical stages, taking into account the main processes and activities – from the end of the production line up to point-of-sale – thus identifying the best performing tags and parts that guarantee a greater reliability in terms of package and pallet identification. In general, tests were focused on the most critical points, such as those represented by liquid items or metallic packages, or with a high number of items to be traced, as in the case of the apparel industry. Lab tests are also being carried out on other aspects, such as sale and replenishment of shelf goods, portals interfering in delivery/receipt stages, assorted pallets, fresh commodities, analysis and configuration of optimal palletization for EPC applications, and a study of new optimal packaging for EPC applications.

In addition, supply chain pilot projects are being implemented in order to test the flow of goods from manufacturer to point-of-sale with regard to single – and multiple – item pallets, packaging, direct shipment, or via a logistics third party using various item typologies (from cold chain to high-tech).

What are the advantages of adopting RFID technology?

An accurate identification of goods enables the quick and flawless management and monitoring of the data flow in a company or distribution process, which saves both time and money. In addition, RFID tags applied to items allow the storage of a lot of information, which can be accessed at various points of the supply chain.

Compared to the traditional barcode system, this technology implies additional advantages. First of all, an optical line is no longer required to read information; secondly, the flexibility in terms of data storage is much higher; thirdly, information can be exchanged via the EPC network.

RFID tags also have further advantages: they can be reused (in theory, there is no limit to the number of tag reading/writing cycles); they last longer - often more than 10 years and they are sturdier. They also provide a high safety standard, because they can be password protected and data encrypted – which is extremely useful against thefts fraud and counterfeit attempts.

How did the cooperation with Checkpoint begin?

With regard to tests and trials of anti-theft systems, the EPC Lab's cooperation with Checkpoint Systems was a natural outcome. Getting RFID frequencies to converge with EAS frequencies in compliance with the EPC standard for the various supply chains is our mutual goal, both at national and international levels.

What is more, Checkpoint has developed great experience working with retailers worldwide, and has been constantly searching for and producing the best solutions to support distribution and industry business.

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What kind of advice could you give to a company interested in implementing an RFID project?

Any company that today needs to strategically evaluate the strength of this new innovative technology for its own business should be able to verify how EPC/RFID applications would affect them, and to what extent its performance could be improved, by implementing a source tagging project (i.e. introducing an anti-theft tag directly in the production site of the relevant product).

This solution will already prove how the entire supply chain can be more easily run, losses more effectively managed and, as a result, stock management optimized.

It's a short step from here to the RFID implementation, and INDICOD-ECR EPC Lab's experience and know-how can be a great support. We have also developed a financial analysis tool – a so-called ROI tool – to monitor the entire supply chain, thus highlighting the project costs and recurring costs on the one hand, and operational and indirect benefits on the other hand (reduced shrink, out-of-stock, administration costs and the fight against counterfeiting). ■