RACE networkRFID

SUCCESS OF EPCIS PILOT IN SWEDISH FISHERY

Fishing vessels at Simrishamn

Swedish pilot applies EPCIS standard to food traceability.

eTrace, a project within an EU food safety program, Safe-FoodEra, conducted a traceability pilot with Swedish fisheries last month, to find out if the EPCIS standard is suitable for tracing fish through a supply chain. The successful pilot proved various benefits of EPCIS-based systems including increased profits for retailers. EPCIS (Electronic Product Code Information Services) is an EPCglobal standard designed to enable EPC-related data sharing within and across enterprises.

THE INITIAL SCOPE

The pilot represented a joint effort between SINTEF Fisheries and Aquaculture(NO), TraceTracker (NO), Lund University (SE), ROI4U (SE), the Swedish Board of Fisheries (SE) and a selected number of supply chain actors. The initial scope was to track fish all the way through a supply chain, from a fishing boat, through a landing site, processor and wholesaler to a final retailer. Besides testing EPCIS stand-

Labeling boxes

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RFID

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Marten Gustavsson shows a handheld RFID device

ard, the pilot aimed to provide retailers with detailed information about the source and history of specific, individual boxes of fish. The ultimate aim was to develop and evaluate traceability systems that increase the ability to perform precise and reliable recalls in the case of food scares. At the same time as the pilot in Sweden, two other eTrace pilots have been started, tracing meat products in Norway and fish products in Iceland.

TRACKING FROM THE BOAT TO THE RETAILER

The pilot in Sweden took place from the 17th to the 21st of May. Starting in Simrishamn, catches from three boats were loaded into returnable plastic boxes that were labeled with individual, unique numbers (RFID). The data associated with each box contained information that had been sent to the fishing authority including the ID, date, type of catch and the catch location.

In the next step, the raw fish went through the production line to be filleted and then packaged in cardboard boxes for distribution. These cardboard boxes were also equipped with RFID tags, so that they could be registered along the downstream chain. The relationship between the caught fish and the fillet product was established via transformations recorded in an EPCIS database from

TraceTracker.
The individual ID tags were read once again when the cardboard boxes arrived at the wholesaler, Brødrene Hanson, in Gothenburg. Part of the batch was bought by a retailer, Fisklyckan, in Gothenburg who registered that he received the individual cardboard boxes, and was now ready to sell the fish in his store. Other boxes were bought by a restaurant and a fish auction.

By the time the fish reached the retailer, all of the product details were available online.
The retailer could print out a traceability graph showing where each specific fish came from, where it was caught and how it traveled to the store. Significantly, the information could be presented to the customer as proof of the source.

EPCIS IN ACTION

At every stage of the pilot the EPCIS standard was employed to streamline traceability data.
Data from individual RFID tags were captured using handheld RFID readers and the information was automatically uploaded to TraceTracker's EPCIS database using an application called TT Data Uploader. An online user interface, the TT Navigator, was available for showing product details.

POSITIVE RESULTS ON ALL

Retailer
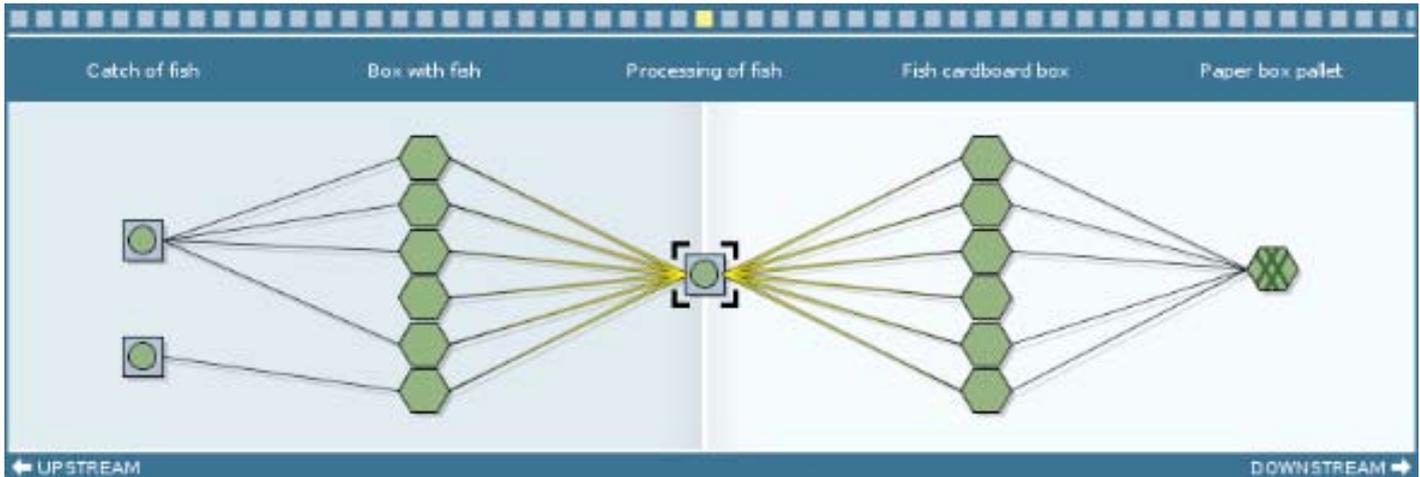
A traceability graph available online

SIDES

According to the Swedish Fishery Board, the results have been positive. "The response from the fishermen, first buyers and retailers who have been involved in the project is very positive about the possibilities of sharing information in a structured and understandable manner," said Mårten Gustafsson, Swedish Board of Fisheries. The participating retailer noticed an increase in sales. "Traceability has been a driver for increase sales," said Peter Kallstrom, owner of Fiskelyckan, Gothenburg. "By taking part in the eTrace project and promoting traceable food, we have stimulated a strong interest from consumers. Next to the cod, we posted a map showing where the fish was caught and processed. The map told the history that consumers have been waiting to hear, namely that the fish is local. Instead of selling just a few kilos a day, I sold more than 150 kilos over 4 days. This is a very significant increase for us." Other supply chain partners experienced a decrease in manual data entry. "Having an open, automatic system directly reduces the need to enter information manually," explained Niklas Hild, the Project Manager of the Swedish eTrace pilot. "Everyone along the supply chain can access the same information on the screen, reducing redundancy. In addition, the pilot showed that RFID and EPCIS works well in harsh environments such as the fishing industry."

Peter Kallestrom, the owner of Fiskelyckan

EPCIS proved to be a viable standard enabling compliance with European regulations on food safety. "The Swedish Board of Fisheries sees the EPCIS-standard and RFIDtechnology as a potential tool to meet the upcoming demands of the new control regulation,(EG) nr 1224/2009 in EU. This regulation states that all member states must have traceability in the fish supply chains. Also, it seems to be a great tool in fisheries control," said Mårten Gustafsson.
"From an academic perspective, the EPCIS pilot demonstrated IT tools for solving traceability problems that have been clearly documented." said Henrik Ringsberg from Lund University Department of Design Science, Division of Packing Logistics, "Over the last year and half I have been working for the Swedish Fishing Authority carefully charting various issues involved with achieving full chain traceability in seafood supply chain. A lack of supply chain visibility, and a lack of data compatibility between supply chain players is clearly improved by uploading product information to EPCIS databases and available online."

FINAL RESULTS

In effect, the pilot proved that EPCIS compliant traceability systems can integrate data from different information sources related to food safety and suitable enterprise management systems. EPCIS based systems were shown to improve the speed and efficiency of traceability operations.

GERRY WEBER CHOOSES NORDIC ID AS THEIR HANDHELD RFID SUPPLIER

Gerry Weber International Ag, a fashion and lifestyle company , recently chose Nordic ID as their handheld RFID supplier. The international, chain-wide RFID project stipulated high mobility requirements, which Nordic ID's PL3000 UHF RFID Cross Dipole computers fulfill. The delivery of the handheld devices will be in July 2010 to the "Houses of Gerry Weber" in Germany and throughout Europe.

The RFID handhelds will be most heavily used in goods receiving and inventory management at about 150 stores. „Nowadays it takes us about two days to complete the inventory on a 200-square-foot retail space," says Christian von Grone, CIO at Gerry Weber. "After the rollout, this process will take only about ten minutes".

Nordic ID handsets were chosen after a meticulous selection process, including extensive testing of different devices. The fact that the PL3000 Cross Dipole is able to read tags from up to four feet away, even through closed boxes, was the deciding factor in its choice. For Gerry Weber, this is especially important when tagged goods, in individual boxes, are transported in bulk on pallets.

But the PL3000's reading ability should come as no surprise, considering that the European EPC Competence Center (EECC)'s recent testing of the device produced the best value ever measured in an EECC test procedure for receiver sensitivity. Because of the innovative cross-polarizing antenna developed by Nordic ID, the device is capable of reading tags both horizontally and vertically. For the Gerry Weber project this was one of the factors to choose Nordic ID PL3000 Cross Dipoles, since in the reading process in rapid succession, the orientation of the RFID tags are negligible and this speeds up their processes significantly.

The 800-gram Nordic ID Cross Dipole UHF devices come with a battery charge of up to 20 hours, a robust, ergonomic design and can easily be used in a dark environment thanks to function-key lighting.

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RFID TECHNOLOGY HELPS SONOCO-ALCORE BETTER SERVE ITS PAPER CORE CUSTOMERS

Sonoco-Alcore, a wholly ow-nedsubsidiary of Sonoco with 30 tube and core plants and six paper mills in Europe, is using UPM Raflatac DogBone RFID tags in its fiber-based cores to help customers reduce costs through advanced inventory tracking.

RFID technology allows Sonoco-Alcore to provide customers the ability to reduce costs associated with lost inventory and manual labour many companies currently use for inventory tracking. By embedding RFID tags in roll cores, customers of Sonoco-Alcore can follow rolls through the supply chain process with real-time tracking and location information. Sonoco is using the technology to produce its Intellicore™ engineered carriers.

One market already using Sonoco's Intellicore™ carriers is décor paper. RFID tags are embedded in the cores during the winding process and tested to ensure 100 percent functionality.

"This technology is a value-add to our products that can provide cost savings to our customers. It allows for easy tracking and management throughout the product's life cycle,"

"This technology is a value-add to our products that can provide cost savings to our customers. It allows for easy tracking and management throughout the product's life cycle,"

says Eddie Smith, Vice President, Sonoco Europe.

"Printing houses can benefit in many ways by using RFID technology. Paper roll traceability at core level enables continuous printing through several phases without loosing important paper type and quality information of the material. Material leftovers from the previous run can be re-used for new printing work. In savings this can result in over 10% savings in material costs," says Mikko Nikkanen, Business Development Director, UPM Raflatac, RFID.

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TAGMASTER PRESENTS THE NEW XT SERIES UHF READER AND ID-TAGS AT INTERTRAFFIC

TagMaster, the leading producer of advanced RFID solutions for access control and rail applications presents the new XT series readers and ID-tags addressing the EPC Gen 2 specification at the international trade show Intertraffic in Amsterdam. This reader family together with ID-tags is designed for typical installations in application areas such as Parking, Gated communities, Condominiums as well as People access.

This new reader family and ID-tags extends the TagMaster product portfolio with support for the ISO 18000-6 type C standard (also referred to as EPC Gen 2), providing automatic identification of ID-tags at up to 5 meters. The XT series is particularly suitable for installations involving a high volume of ID-tags, such as in Vehicle Access and Parking applications.

Two new members of the TagMaster reader family
TagMaster is initially introducing the XT-2eu and XT-2us to its UHF series. The XT-2eu is designed to comply with the European regulations for ISO18000-6 type C, while the XT-2us is designed for the North American regulations, in terms of frequency range and output power. Both readers are characterised by the high-quality and reliability associated with TagMaster,s RFID products.

The XT reader family is equipped with the same Linux operating system thus supporting the same reader software applications used in the market leading LR series of readers from TagMaster. These applications will now be available in the XT series providing extensive functionality and communication options. This makes integrating the XT series to management systems and other equipment both quick and easy.

New ID-tags added to the TagMaster product range
TagMaster has added a new range of passive UHF ID-tags which fully support EPC Gen 2 standard. TagMaster will offer both standard EPC Gen 2 ID-tags as well as TagMaster,s ŒSecure MarkID, format, which is an EPC Gen 2 compliant ID-tag which provides added security in terms of a unique identity which cannot be duplicated. Together with EPC Gen 2 ID-tags supplied by TagMaster, the XT series readers provide a read range of up to 5 meters.

The XT readers and ID-tags will complement TagMaster,s existing product portfolio. The LR-series of readers using 2.45 GHz technology is well recognised as market leading, with installations all over the world, in all climate conditions and working in all types of demanding applications. The XT series meets the high demands for reliability and functionality set by TagMaster,s global network of partners.

ABOUT TAGMASTER

TagMaster is a Swedish technology company founded 1994 with headquarters in Kista (Stockholm), Sweden. TagMaster designs and markets advanced long-range radio frequency identification (RFID) systems and information services associated with automatic vehicle identification, rail bound transportation and people access, in order to increase efficiency, security, convenience and to decrease environmental impact. TagMaster exports mainly to Europe, Asia and North America via a global network of partners, systems integrators and distributors. TagMaster shares are traded on First North in Stockholm, Sweden. TagMaster,s Certified Adviser is Remium AB. <http://www.tagmaster.com/>www.tagmaster.com

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SCANDINAVIA'S LEADING SLATE MANUFACTURER MINERA NORGE AUTOMATES DELIVERY PROCESSES WITH AWARD WINNING RFID SOLUTION

Scandinavia's leading slatemanufacturer, Minera Norge, uses UPM Raflatac ShortDipole and Hammer RFIDtags converted by AdhTech, superDAGFINN and portalRFID solutions from ACT Systems Skandinavia to automate the locating and delivery processes of its stone products. Minera Norge's products are used for example in interiors, walkways and floors, and are exported worldwide. The premium quality slate manufacturer is located near the source of its raw materials in Norway where drastic changes in weather conditions set special requirements to RFID tags used. Minera Norge's RFID implementation was recently honoured in the RFID Journal Live 2010 annual industry event with the esteemed "Best RFID Implementation" award.

Minera Norge uses RFID to track pallets from loading to the point of shipment. Each worker uses an ID card with an embedded RFID tag to log into the company's ERP system. After showing the RFID card to a reader, the system provides workers an updated list of incoming orders. By selecting an order for processing, the system in turn requests the specific stones needed for the employee to complete the order.

The weighty stone products are cut into tiles and blocks, then packed and placed on pallets attached with UPM Raflatac RFID tags. The pallets are moved to an RFID reader portal where information on each pallet's unique ID number, product and weight are linked to the corresponding order. The pallets are then stored outdoors on Minera Norge's large yard using a forklift equipped with GPS system and an RFID reader.

The ShortDipole and Hammer UHF tags from UPM Raflatac once again have proven RFID's ability to deliver real results in a challenging supply chain management application.

When a driver picks up a pallet, the superDAGFINN software shows data of the pallet on the forklift's screen enabling the driver to quickly confirm it is the correct product. The GPS system, GPStracker, is used to locate the pallets in real time, as they are moved with the forklifts. It also provides drivers with maps showing the exact location of each pallet as well as the forklift, and directions for reaching the specific pallet.

Moreover, the RFID solution is used to automate the invoicing process as it enables forklift drivers to indicate from the onboard screen that a product

has been shipped, and send an advance shipping notice to a customer, thus activating the actual invoicing process.

The complete RFID solution was installed and operational at Minera Norge in just four weeks. Since the implementation in May 2009, the company has been able to enjoy the benefits of accelerated and accurate locating of products, which in turn have resulted in faster and correct deliveries for customers.

"The ShortDipole and Hammer UHF tags from UPM Raflatac once again have proven RFID's ability to deliver real results in a challenging supply chain management application. It provides excellent reliability even when attached to massive pallets of stone products facing harsh and seasonal weather conditions from freezing snowstorms to rain and heat. Because of its proven performance, passive RFID technology is adopting an increasingly important role as essential part of GPS and WiFi based location solutions," says Mikko Nikkanen, Business Development Director, UPM Raflatac, RFID.

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NORDIC ID AND CONTAINER CENTRALEN SIGNED A EUROPEAN COOPERATION AGREEMENT

Nordic ID and Container Centralen have signed a cooperation agreement to market and to sell software in the Nordic ID handheld readers to bring the benefits of RFID to the European horticultural industry.

This is a part of Container Centralen's "Operation Chip It", which is the tagging operation that takes place in the autumn of 2010. All 3.5 million CC Containers must get new tags before the cutoff date: November 1, 2010. With "Operation Chip It", Container Centralen introduces RFID technology in the horticultural industry to ensure that all CC Container users are prepared for the increasing demand

for optimized transport and logistics. The RFID technology will benefit all organizations in the horticultural industry as it makes identification of the CC Container simple and quick, while providing a platform for future integration with IT Management systems.
 "The cooperation with Container Centralen gives us a head start in delivering RFID scanners to the horticultural industry throughout all of Europe", says Atte Kaskihalme, Sales Director at Nordic ID.
Container Centralen has already bought Nordic ID scanners with the horticultural industry software for their own use in order to improve their logistics with their CC Containers. Container Centralen has also certified Nordic ID PL3000 handheld reader

with the horticultural industry software to be marketed and sold to their own customers so that also they can get the benefits from RFID. Nordic ID is an expert in RFID and experienced within the horticultural industry and thus can provide traceability to ensure freshness and origin for the products.

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MARTELA IMPROVES SPEED AND ACCURACY WITH RFID

normal office room can be inventoried in 10 seconds. Due to the accurate and up to date inventory record, office moving and upgrade planning is improved. The customer also receives accurate furniture inventory records for book keeping.

The RFID tags are attached to Martela furniture already in production. Old furniture will be tagged with RFID tags during the first inventory take. Martela employees take the office furniture inventory with handheld RFID readers. Vilant's RFID software updates Martela's inventory applications with the inventory data. Martela's customers can focus on their core business by outsourcing office furniture maintenance and inventory take to Martela.

Martela has launched a system that improves the speed and accuracy of office furniture inventory take at customer sites significantly. The system implemented by Vilant Systems is based on RFID tags that are attached to furniture.

Space is inventoried with handheld RFID readers that pick up tagged furniture efficiently also from longer distances. The system improves the design and planning process of office upgrades or moving. It also improves inventory accuracy for book keeping.

The system reduces human error during inventory and it speeds up the inventory take process significantly. It is normal that the office layout lives while employees do small changes and inventory records are out of date quickly. With the new system a

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JAPANESE APPAREL AND TEXTILE CONSORTIUM CUTS COSTS WITH RFID TECHNOLOGY

I.T.'S International Co., aconsortium of Japanese apparel and textile companies including Flandre, Teijin Group and Sumikin Bussan Corp., have implemented RFID technology in store operations. The solution, providing cost savings throughout supplychain and resulting in positive effects on consumer prices, utilises UPMRaflatac ShortDipole RFID tags. This is the first large scale item-level RFID implementation for the Japanese textile and apparel industries.

The solution, named SPA (Speciality Store Retailer of Private Label Apparel), is compliant with the guidelines for RFID in apparel supply chain management provided by the Japanese Ministry of Economy, Trade and Industry coupled with the Japan Apparel Industry Association. Moreover, it is the first-ever RFID operation commissioned by the Ministry of Economy, Trade and Industry in Japan.

The SPA solution has been implemented in all phases of the supply chain, including production, distribution and stores, for all parties of the consortium. On store level, the RFID implementation saves time as information processing for incoming goods can be done immediately instead of doing it manually, item by item. Stocktaking and inventory data transfer between stores are also substantially faster, as they can be done in real-time by utilising RFID.

Information on stock situation for products by colour and size, as well as related goods and their location are instantly available. The item-level solution streamlines also check-out process as clerks can scan all products for payment simultaneously. This leaves more time for store personnel to focus on customer service.

For strategic planning in the apparel industry, RFID technology has a lot to offer. As in this case, the technology can be harnessed to provide data of customer profiles, trends and goods movement, which create an excellent basis for brand strategy planning and product development.

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ABOUT UPM RAFLATAC

UPM Raflatac, part of UPM's Engineered Materials business group, is one of the world's leading suppliers of self-adhesive label materials and the world's number one producer of HF and UHF radio frequency identification (RFID) tags and inlays. UPM Raflatac has a global service network
consisting of 13 factories on five continents and a broad network of sales offices and slitting and distribution terminals worldwide. UPM Raflatac employs 2,600 people and made sales of approximately EUR 0.95 billion (USD 1.3 billion) in 2009. Further information is available at www.upmrfid.com.

ABOUT FLANDRE

Flandre is one of the leading Japanese companies manufacturing and selling ladies' and children's clothing.
Flandre has about 600 shops in Japan.
Flandre employs 3,000 people and made sales of approximately USD 600 million in 2009. Further information is available at http://www.flandre.ne.jp/

ABOUT SUMIKIN BUSSAN CORP.

Sumikin Bussan is a Japanese trading company concentrating on marketing and import/export of steel, machinery and metals, textiles, foodstuffs, among others. Sumikin Bussan employs around 1,000 people and made sales of
approximately USD 12 billion in 2009. They are one of the leading companies in developing RFID solutions for businesses and started distribution for Impinj, Inc. RFID products in Japan. Further information is available at http://www.sumikinbussan.co.jp/index.html and http://www.sbrfid.com/front/bin/home.phtml

ABB AVOIDS SHIPMENT ERRORS WITH RFID TECHNOLOGY

RFID technology provides significant benefits to ABB Oy in the management of outbound goods streams. The system developed by Vilant Systems Oy prevents loading errors for consignments, and it records movements of goods automatically in the stock control system. When outbound consignments are loaded, there is a significant saving in floor space used, because it is no longer necessary to assemble goods in a consolidation area. Instead, goods-vehicle trailers can be used for storage. The automation in question covers around two million transactions per year.

The system used by ABB is based on RFID-reader gates situated by the loading platform, via which all transport units, belonging to the consignment and marked with adhesive RFID tags at the parcel level, are delivered.

Vilant's RFID software is integrated with ABB's own SAP system.

In the SAP system, the registration number of the vehicle arriving for loading is recorded, after which Vilant Server 5 software controls the progress of the delivery automatically. Because the system knows what the consignment should include, the gate issues an error warning if there is an attempt to load the wrong goods onto a vehicle. Also, the gate will not even close until all goods belonging to a consignment have been loaded onto a goods vehicle. Thus, in practice it is impossible to make incorrect deliveries.

ABB has now been using pioneering RFID solutions since 2004. The application of RFID started with the control of re-usable plywood boxes then used in orders of standard raw materials. This system, which is still in use, is based on the fact that all boxes equipped with RFID tags travel through RFID gates both at the supplier and at the factory. An empty box leaving ABB's factory will trigger off a material order at the supplier, and likewise the departure of a full box from the supplier will generate an electronic notice. When it arrives at the factory, a full box is recorded automatically in the SAP system in the stock control system.

ABB Oy's Head of Processes, Julle Ala-Lahti, has been pleased with the RFID applications provided by Vilant Systems Oy: "Vilant Systems took full responsibility of the implementation. Their consistent and rigorous approach revealed improvement potential in our material flow and offered prompt results."

ABB's systems are based on the Vilant Server 5 product family and Vilant Systems Oy's RFID hardware products. UPM Raflatacin RFID tags are used as identifiers.

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THE WINNER OF THE EUROPEAN GOLDEN TAG AWARD WAS
COOPER POWER TOOLS SAS/ RECOULES, FRANCE

At the Exhibition: Distribution, Logistik och Materialhantering in Malmö, Cooper Power Tools SAS/Recoules i Frankrike was given The European Golden tag Award. The Minitag went to AMC i LÄNGHEM in Sweden and Bob Forslund who was responsible for the RFID - solution.

Here follows a brief decription of the winning soulution:

AMC designed a small RFID reader that could be integrated into the drill motor body. The reader can control two antennas. The drill machine is of a modular design. It has a control unit to, amongst other features; also govern feeds, speeds and coolant supply. Depending on size and type of tool, different nose pieces can be attached to the machine. Each of the nose pieces has a small RFID tag installed. One antenna is used to verify that the correct type and size is fitted for the job to be performed.

The second antenna is mounted at the very tip of the nose piece. It is oriented so that when the machine is securely clamped in the drill bushing, the nose antenna and the bushing tag are lined up in front of each other. When the machine is first set under power, the reader automatically switches to antenna No.1. As soon as the nose piece has been identified and

verified to be the correct one, the machine is ready to dock onto a fixture bushing. There the bushing tag ID is read and sent to the machine control unit.
There the correct program is loaded and the hole is automatically drilled, using the preset ideal cutting conditions.

THE RESULT IS AN IMPROVED HOLE QUALITY AS REGARDS:

- Diameter tolerance
- Countersink depth tolerance
- Hole finish
- Hole straightness
- Lack of burrs
- No delamination in composites
- No fiber fraying in composites
- No metallurgical change from excess heat

LOWERD COST PER HOLE:

- Decrease the drilling time
- Reduce the number of operations for a finished hole
- Combine drilling and countersinking into one operation
- Self clamping attachments minimize hole to hole time

REDUCED INVENTORY & CAPITAL INVESTMENT:

- Portable equipment eliminates expensive, large stationary machines
- Simultaneous drilling and countersinking reduces total equipment requirements
- Self clamping significantly reduces fixturing costs
- Modular designs reduce the number of complete backup units
- Improved tool economy:
- Exact monitoring of tool life
- Only regrinding when needed

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ODETTE INTERNATIONAL'S INITIAL RFID STANDARDIZATION PHASE CONCLUDED

As a result there are now three approved and published standards in place to guide the members of the European Automotive Industry on where and how to use RFID. The three standards provide RFID usage recommendations in the following areas:

1. For labeling of Returnable Transport Items, a.k.a. RTIs. The details are found in the Odette LR01 standard, "RFID in Supply Chain Container Management".

2. For labeling of parts in vehicles, primarily for the purpose of achieving a standardized infrastructure to support traceability on component level. This is defined in the Odette LR03 standard, "RFID for Tracking of Parts and Assemblies".

3. For labeling of complete vehicles. The main purpose of this standard is to facilitate a higher degree of automation (and hence reduce errors) in the process of distributing cars, from manufacturers to resellers. The details are found in Odette LR02, "RFID in Vehicle Distribution Processes".

The bulk of the standard text and particularly the procedural sections were primarily provided by the German VDA, "Verband der Automobilindustrie" whereas the RFID specific parts were provided primarily by Volvo Logistics, AutoIDExpert Scandinavia, VW, Daimler and Odette Sweden. During the inception of the documents, there was also a natural interaction with other companies, organizations and individual experts, such as Renault, Michelin, Q.E.D. Systems, ISO etc.

Maximizing the (re)use of already existing standards were one of the objectives during the development phase, as time is precious and we did not have the resources to reinvent any wheels. Other requirements were; Maximal compatibility with existing data formats currently used in standardized barcode based representations, as well as fitting the data structures to existing member company part number schemes and labeling of packaging, such that the new RFID standards should have the least possible negative impact on legacy systems, thereby becoming easier to accept and encompass.

Apart from the organizational issues, there was also a strong requirement

that the new standards should be possible to implement using currently commercially available RFID system components. Another strong influence was taken from the fact that EPC based RFID data representations (standards such as the SGTIN and GRAI etc.) cur-

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rently are the dominant encodings in the retail industry, and therefore had to be taken into account. Not only for the purpose of peaceful co-existence, but also acknowledging the fact that objects using both [Odette and EPC] data representations will be found side by side in the near future in e.g. petrol stations.

This resulted in Odette acknowledging the use of EPC as well, if so agreed by the trading partners directly involved in a specific transaction.

As a result of these requirements, and more, the Odette standards can be implemented with just about any ISO/IEC 18000-6C compliant RFID reader that can

a. read (and write) ISO/IEC 18000-6C compatible tags with 240bits of UII memory;
b. read (and write) the ISO/IEC 18000-6C MB012 Protocol Control Word;
c. optionally read (and write) data to/from MB112;

This also implies that tags with a UII memory size of 240 bits, and that conforms to the air interface defined in ISO/IEC 18000-6C [a.k.a EPC Gen2 Class1] must be used. The use of MB112 [USER] memory is not mandated, but the syntax and semantics are fully defined in all three standards if needed.

The publication of these three standards documents concludes a 2.5 year long period of active work defining and writing these standards. Now members of the European automotive industry as well as their suppliers worldwide can safely initiate the process of RFID technology deployment, knowing that there are sufficient standards in place to future proof their investments.
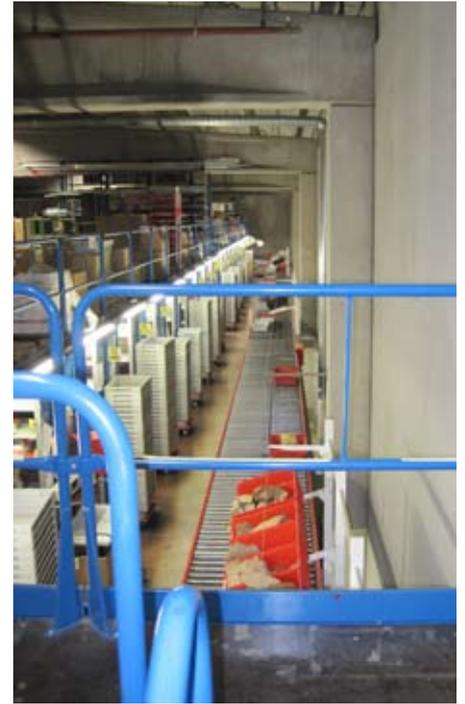
WÜRTH UPDATES ITS RFID SYSTEM

The Finnish tools and equipment supplier, Würth Oy, has been one of the early birds in the field of RFID as they introduced their first RFID system in Finland already in 1995. Automating their picking line with RFID has brought Würth tremendous savings along the years thanks to error reduction, savings in labor costs and more efficient collection process.

Würth introduced its first RFID system already 15 years ago. This low frequency (LF) RFID system was proprietary technology and dependable on specific hardware. When the reader manufacturer stopped making the design used by Würth, the company

was unable to get spare parts to their system which caused massive problems. New solution was delivered by Vilant Systems, a Finnish RFID system supplier, and is working reliably at the customer site. The new system is based on Ultra High Frequency (UHF) Gen2 RFID.

The automatic picking line consists of 1,5km of conveyor and over 20 picking stations with over 40 RFID readers. The RFID readers identify tagged picking boxes on the line and direct them to the correct picking stations along the way. The picking boxes are tagged with UPM Raflatac Web inlays and the tags are identified with ThingMagic Astra readers. The amount of daily RFID tracking events is close to 40 000.

The picking line is operated in two shifts, five days a week with over 70% of all orders passing through it every day. The line is crucial to the daily operations of Würth and can't stand any unintended down time. Vilant Systems was able to provide the hardware, software and the project work to update the whole picking line without any interruptions to the production. The reliable operation and ease of maintenance were two key factors in the evaluation criteria for the new system. With Vilant Server 5 device management and device monitoring functions, Würth's requirements towards the critical part of their operations were met.

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RFID TECHNOLOGY ENABLES EFFICIENT USE OF ASSETS IN GAS CYLINDER INDUSTRY

UPM Raflatac and Technology Solution Partners LLC have jointly developed a curved UHF RFID tag as part of a gas cylinder tracking and production solution called Trakaid CyTrack.

The solution interfaces UPM Raflatac Belt RFID tags equipped with NXP's U-Code G2XM chips with a four part application comprising tracking, interface, mobile and synchronization systems.

The solution seamlessly integrates the production, warehousing and distribution processes. Each gas cylinder is tagged, and data from the tags is automatically read and entered into the system. This leaves no room for data entry errors due to illegible handwriting, poor readability, transcription or transposition.

"The RFID solution helps Kay Nitro improve the visibility of the cylinders' operational cycle and improve customer-facing processes while reducing untraceable assets,"

Trakaid CyTrack was first implemented at Kay Nitro, a manufacturer and supplier of industrial gases including medical oxygen and nitrogen in Maharashtra, India. The company uses the solution to manage cylinder movement during receipt, filling and issue in order to reduce operating costs and improve productivity by automating data entry. This automation improves overall accuracy, allows an efficient use of assets, enables a faster turnaround of inventory, increases employee and customer safety, reduces cylinder loss and enhances the customer experience.

"The RFID solution helps Kay Nitro improve the visibility of the cylinders' operational cycle and improve customer-facing processes while reducing untraceable assets," says Yogendra Chaudhary, Manager of Kay Nitro. "We use RFID technology to shorten the production and turnaround time for cylinders to remove costs and down time from our processes. This also results in improved safety, which shows directly on our bottom line." Kay Nitro implemented the RFID solution into its normal operating processes without any disruptions.

The benefits of an RFID implementation to the gas cylinder industry are measurable. Cylinders represent a highly valuable investment, and productivity is closely tied to how well these assets are managed. Overall, the average increase in productivity from receiving to shipping is 30%.

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