

RFIDnordic.se

INFORMATION CONCERNING RFID IN SCANDINAVIA Sept 2007

RELIABLE RFID-BASED TRACKING IN A DEMANDING ENVIRONMENT

Aker Yards ASA, an international shipbuilding group, recently started using a RFID-based safety tracking system for 5000 craftsmen working at their Turku, Finland shipyard.

The goal of the project was to fully ensure the safety of employees in a case of fire and for employers to be able to control that safety regulations are followed by utilizing RFID technology.

The system consists of UHF Gen2 tags installed onto the helmet of each worker. By installing RFID readers at each entry gate of the floating ship at the outfitting quay, the system can track how many people are inside the ship. This way the fire and security officials have real-time information on head count and are e.g. able to size up the number of means of escape. The tracking information is particularly important in the case of an evacuation, in order to learn quickly that everybody has successfully exited the vessel.

Unlike many access control reader or paper based systems, the Aker Yards' safety monitoring system is entirely effortless for the employees, who often have their hands full of fitting material and tools while entering the ship.

In order to achieve maximum reliability, availability and read-rate, thorough testing of different tags and tag locations had to be performed prior to project kick-off. The final solution consists of a UPM Raflatac Gen2 inlay applied to the back of the helmet. With this setup, a reliable reading distance of about 5 meters was achieved.

A second challenge that had to be overcome was the challenging work environment. The bridges onto which the RFID readers were installed are located outdoors in a naturally windy quay. Especially challenging was taking



Aker Yards säkerhetschef Petri Moisio och en hjälm med RFID-tag

into account the winter season, during which temperatures can reach -30C and natural elements such as rain and snow can interfere with the RFID reader's antennas. The end result was an easily movable unit that is weather-resistant and includes all the necessary components needed to transmit tracking data wirelessly to the backend system.

The System was implemented by Vilant Systems Oy. Currently in production use, an expansion to integrate the system to all Aker Yards' shipyards in Finland is under way.

*For further information please contact:
Niklas Hild +46 709 98 13 70*



CONTENTS:

- Page 1 **Reliable RFID-based tracking environment**
- Page 2 **UPM Raflatac supplies RFID tags to Spanish healthcare distributor MBA Grupo**
- Page 3 **Industrial material logistics and RFID**
- Page 4 **Nominated for RFID NORDIC Scholarship 2007**
- Page 6 **Adage commences pilot with SAAB Aerotech ground support services**
- Page 7 **Reliable and fewer transports with RFID**
- Page 8 **Identec solutions selected as RFID provider for Horizon Lines**
- Page 10 **Recycling of brackets at Volvo Powertrains with help from RFID**
- Page 11 **RFID in baggage handling**
- Page 12 **Intermec introduces the smartest enterprise RFID reader available**
- Page 13 **Free2move launches G.A.P.s, a new innovative solution for industrial asset positioning**
- Page 14 **Now there is an alarm if the products are placed incorrectly in the warehouse**
- Page 15 **Members**

UPM RAFLATAC SUPPLIES RFID TAGS TO SPANISH HEALTHCARE DISTRIBUTOR MBA GRUPO

UPM Raflatac, a leading manufacturer of RFID tags and inlays, is supplying UHF EPC Generation 2 tags to MBA Grupo, a major European healthcare distributor headquartered in Spain. Through its network, MBA distributes medical products related to orthopaedic surgery, neurosurgery, cardiovascular surgery and anaesthesia. The RFID project is led by BC Biocon, a subsidiary of MBA Grupo.

With an annual turnover of more than 102 million euros, MBA has implemented RFID technology to improve stock management and enable product tracking through the entire supply chain, from production in Asturias, Spain to private and public hospitals in Spain, Italy and Portugal.

In the first phase of the project, a proof of concept test was carried out to ensure the feasibility of RFID technology. The results confirmed that RFID technology can be used with a wide variety of materials and packaging within 48 product groups, amounting to 5,700 different references and more than 300,000 items.

Today, MBA's main warehouse is being equipped with two RFID reader gates to enable order and shipping control. UPM Raflatac RFID tags will be applied to products in stock, thus replacing bar code labels. With the RFID system in place, MBA will improve the efficiency of its goods receipt and shipping with automatic reading in place for the serial numbers and expiration dates on all dispatched products.

The third phase of the implementation will cover the warehouses of MBA Grupo's 23 subsidiaries in Spain, Italy and Portugal. By the end of this year, the hospitals supplied by MBA will be equipped with mobile RFID readers. This will enable MBA to control product stock levels in the

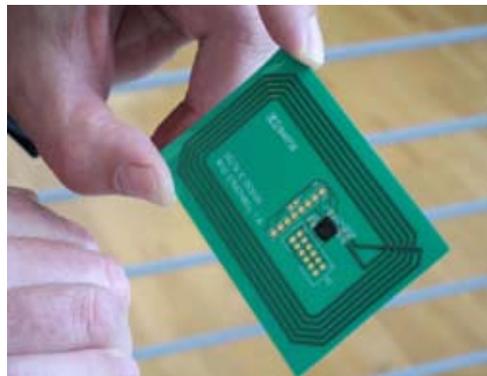
hospitals as well as the expiration dates of sterile products.

"In a hospital environment it is vital that all the required equipment is in place when needed and that it hasn't expired. RFID offers a high degree of ac-

curacy for demanding solutions like MBA Grupo's stock management system. In addition to logistic efficiency, UPM Raflatac UHF Gen2 tags offer MBA Grupo total visibility over which products need to be restocked at hospitals," says Mr Marcus Vaenerberg, Vice President of RFID Sales at UPM Raflatac.

For further information please contact:

Mr Marcus Vaenerberg, RFID, UPM Raflatac, tel. +358 204 168 133





INDUSTRIAL MATERIAL LOGISTICS AND RFID

ABB Oy's drives factory in Pitäjänmäki, Helsinki has successfully implemented an UHF RFID system in its order-supply chain. In its three years of production operation the successful RFID system has been expanded to include e-Kanban, material call-offs and external buffer warehouse transfer order tracking.

Initially, the system was developed for shipments of raw materials between the factory and its component suppliers. When moved to the shipment bay, empty standard material containers trigger an automatic materials order, which shows up on the supplier's extranet. Correspondingly, the supplier executing the order inputs an electronic shipping document into the RFID tag of full containers. At ABB's end the goods are automatically entered and registered in the SAP R/3 Enterprise Resource Planning system, ERP, via a drive-through RFID portal, thus removing the need for paper shipping documents.

The expansion to include mixed pallet inbound tracking, material call-offs and external warehouse material

call-off and reception tracking was implemented using latest EPC Gen2 technology. Tight integration with ABB's SAP backend was needed in order to fully extract all the benefits from the automated system. Goods reception efficiency increased 80%, material reorder cycle times were sped up fivefold and an a positive impact on safety buffers was achieved. The system increases productivity and efficiency at the very heart of industrial materials management. It increases the transparency of the supply chain by reducing the time it takes to initiate orders, receive goods and rectify errors. Additionally, the system allows access to precise statistical data on goods traffic. This results in a more streamlined flow of materials and frees up capital from current assets through-

hout the supply chain.

The system has been implemented by Vilant Systems Oy, a leading RFID systems integrator based in Finland. Vilant has over 5 years of applied experience in industrial RFID solutions and currently over 30000 daily RFID tracking events recorded by its systems. Vilant's RFID customers include Nokia, ABB, Aker Yards, Finnair, Finnish Post, Finnish Railways, Nokian Tyres, Valtra, Fenestra, Wärtsilä and many others.

For further information please contact:

Ville Saarinen, Product Engineer at Vilant Systems, ville.saarinen@vilant.com

THE RFID NORDIC SCHOLARSHIP 2007

1. Analyses of the Suitability of using RFID Technology within Schenker

FILIP BERGDAHL
filip.bergdahl@gmail.com
INSTITUTIONEN FÖR TEKNIK OCH
NATURVETENSKAP
UNIVERSITY OF LINKÖPING

ABSTRACT

The reason why this project was initiated was that the logistics service provider Schenker saw the need of knowing how the technology could be used within its business and to analyze the possible advantages and disadvantages of the technology before the customers presented their desires and demands regarding the use of RFID. Three systems have been developed to show how Schenker can use RFID. The results show that many of the manual processes related to the data capture can be automated. Also, better information and increased control of the goods can be achieved. It can though be technically difficult to implement RFID in Schenker's business, because of the physics of the terminals and goods shipped. Results show that the annual possible savings are 7 to 74 % higher than the cost for necessary equipment, depending on suggested system. However, hardware cost can be considered to be 25 - 35 % of the total cost for the whole system. The profitability is to some extent dependent on if spin off effects can be accomplished or not. The conclusion that can be made after completing this project is that there is some potential for improvements when using RFID within Schenker's business. These are however related to quite high initial costs. Furthermore there are some technical difficulties that require that the system have to be planned and constructed with consideration of full

functionality. Tests and trials in smaller material flows at Schenker would be a good way to acquire experience and knowledge about the functionality, possibilities and limitations of RFID.

2. Value Creating Activities with RFID in Supply Chain Collaboration.

NANNA FRIEDBERG &
MARTIN STARCKE JENSEN
martinstarcke@gmail.com
Mobil +45 51 22 24 59
Copenhagen Business School

ABSTRACT:

In this thesis, we examine the value of activities related to RFID through collaboration in the supply chain. We used Yin's multiple case study approach as a methodology resulting in qualitative interviews with four Danish companies with experience within RFID and experts within the field. Furthermore we have supplemented with secondary case studies where we found it appropriate. Our research shows that RFID is primarily used to improve processes within a company and rarely in a supply chain context. Manufacturers primarily use RFID for improvement within asset tracking, production efficiency, handling of raw materials, and quality control, while distributors benefit from secure delivery, shrinkage, and counterfeiting, whereas the retailers greatest benefits are related to inventory control, shrinkage, theft, and supply security. In a holistic perspective RFID have shown a positive influence to reduce out-of-stocks for all participants along the supply chain. Barriers to the development of RFID are related to technology issues (i.e. reading through water and metal) and lack of willingness to share information between companies in a supply chain. Besides this, also prices on passive RFID are seen as a

barrier. To reveal the full potential of RFID we recommend companies to make a clear strategy for their use of RFID. At the same time it is essential to establish control procedures for the maintenance of a long term focus clear to the project.

3. The cost and process of implementing RFID technology to manage and control returnable transport items

DANIEL HELLSTRÖM
Daniel.Hellstrom@plog.lth.se
Telefon: 046 2227230
Mobil: 0730 560 580
Förpackningslogistik
Inst. för Designvetenskaper
Lunds Universitet

The purpose of this paper is to explore and describe the cost and process of implementing RFID technology to manage and control the rotation of returnable transport items. Due to the novelty of using RFID in logistics and supply chain management, in-depth case studies were conducted at two global firms in the retail industry to investigate how and why organisations implement and assess RFID technology. The cases were an RFID trial conducted by IKEA and an RFID implementation conducted by Arla Foods. These case studies provide insights into how RFID benefits have been attainable in practice, and indicate that the cost of introducing RFID technology is not generally a barrier. As a result, this paper proposes an inductively derived stage model of the RFID implementation process. In it, implications for management are identified and discussed to guide managers in the process of implementing RFID technology.

CONTINUE >>

4. The Intelligent stick

ERIK WAHLUND, MATTIAS BOHLIN.
Mattias Bohlin, 0736-100375,
matte@uppland.net
Erik Wahlund, 0702-769288,
erwa8837@student.uu.se

Our contribution consists of an "intelligent stick" intended to be used as a service tool in e.g. museums and similar exhibition sites.. The main idea is that the visitor borrows a "stick" and a Bluetooth head-set. When the visitor, whilst browsing the exhibition, finds an object of interest, he/she is then points the stick in the vicinity of e.g. a plaque describing the object. This plaque is assumed to carry both legible texts describing the object as well as an RFID tag. As a result of the pointing at the RFID equipped plaque, additional information will be presented to the visitor by reading it aloud through the head-set, and hence experience an alternative way of receiving the information about the objects. There are four buttons on the "stick" for activating operations such as repeat, pause and stop the playback. The intension is to also be able to switch language as well as the direction of information wanted. The advantage of this approach compared to the current way of disseminating information is that the visitor may browse the exhibition at his/her leisure, skip uninteresting parts and delve deeper into parts of specific interest, without having to rely on guides. As the information is stored in the "stick" as conventional sound files, it is very easy to update the information. The "stick" has a normal USB port for connection to a standard PC. The Stick is intended to emulate a USB flash memory stick which makes it easy to move new files to the "stick" as well as updating its database. The USB port is also used when charging the batteries of the "stick".

5. Are you tagged? – Analysing the Profitability of a RFID deployment.

SOFIA PETERSSON, EMELIE TOLLIN,
HENRIK KJELLSON
Sofia Petersson, speep04@student.

vxu.se, 0706671126
Emelie Tollin, etoep04@student.vxu.se
Henrik Kjellson

The intention with this paper is to scrutinize the effects and opportunities that RFID creates in corporations that have deployed the technology. Hence, the objective is to analyze the impact of the technology upon the profitability of the company. The scientific viewpoint chosen was a positivistic one in conjunction with a deductive scientific approach. We chose to contact companies that are members of an RFID organization in order to find the right contact persons from the start. This gave us four companies that were willing to contribute the information we needed. The companies we chose to interview were, Texi AS (St Olavs Hospital), SSAB Oxelösund AB, Plastal AB, and Laxbutiken AB. We have seen how the intermediate goals of these companies have changed in different ways depending on how the RFID technology was used. We have also seen that that RFID impacts the company profitability but we are not prepared to draw the conclusion that the use of RFID directly leads to increased profitability. The high initial investment cost means that the cost reduction benefits achieved in different areas still requires a fairly long period of time to give positive payback. Our suggestion for continued research is to make more in-depth studies on the impact of RFID technology, using real numbers in the calculations of the profitability within companies that have used the technology over an extended period of time.

6. Assessment of the Physical Interface of UHF Passive Tags for Localization

BOYAN YANAKIEV
boyany@gmail.com
Department of Electronic Systems,
Aalborg University.

The project investigates a novel way of looking at the backscattered signal from passive UHF tags with the purpose of localization. As a consequence, a whole new spectrum of

RFID applications, with huge commercial impact, is possible. The idea is based on the existing technology, but requires some signal processing changes at the reader side. The lack of line of sight leaves some ambiguity to where exactly the tag is. Nowadays, RFID readers simply mark the tags as in or out of field which is not enough for UHF and microwave systems, where the reader's field can be several meters. Imagine a postal service for example where the packages have to be routed to their destinations, based on the information stored in the tags. In this case, conventional RFID implementation would be impractical. If, however, one is able to localize individual tags within the reader's field, RFID becomes a powerful ally as it will be able, not only to sort packages properly, but also read the information regardless of the position of the package. The purpose of this project is to suggest a simple solution for localization, based on the existing technology. Most passive UHF tags use Amplitude Shift Keying (ASK) where the phase of the signal is not utilized. Considering also that most applications include some sort of a moving conveyor belt, this project suggests that the phase changes introduced by the movement can be used for localization. Similar methods have been applied before in radar technology. The work concluded that localization, based on phase detection, is possible with the existing RFID technology. Accuracy of about 30 cm was achieved with a simple signal processing algorithm. Different signal patterns were tested: objects with deterministic shape as well as object with non deterministic shape. One, common algorithm was able to localize the tags with an order of wavelength accuracy. This opens RFID for new applications that have been BAR code dominated so far.

ADAGE COMMENCES PILOT WITH SAAB AEROTECH GROUND SUPPORT SERVICES

Saab Aerotech Ground Support Services in Arboga, Sweden, commences a pilot with the purpose to create a history over what equipment has been exposed to during transportation and storage, a pilot ordered by FMV. Saab uses a RFID based system delivered by Adage Solutions that measures and logs humidity, temperature and vibrations/chock.



Saab GSS has chosen to mount active measuring and log tags on sensitive material during transportation and storage. The purpose is both to secure what the equipment has been exposed

to during transportation, as well as secure what the equipment has been exposed to during storage. At this point of the pilot the critical parameters are humidity, temperature and vibrations/shock, in order to flag for irregularities at an early stage so proper actions can be taken before damage has occurred.

The purpose for Saab GSS is to be able to guarantee the quality of the equipment in an effective and proper way. By using RFID with measuring and logging functions both quality and function of the equipment can be guaranteed in a better way than through using traditional methods.

Adage Solutions develops complex RFID based systems that are easily scalable and prepared for integration to existing IT systems. The system can easily be adapted to each customer's specific needs by implementing modules each with its specific function, e.g. GPS for positioning, measuring/log of other parameters than humidity, temperature and chock, the system can be equipped with map database or radio module for longer reading range.

*For more information please contact:
Peter Boström
Peter.bostrom@adage.se*



RELIABLE AND FEWER TRANSPORTS WITH RFID

The new RFID based logistic system that Volvo Arendal and Port of Göteborg has launched gives safer and fewer transports, shorter lead times and less administration. The main parts of the system are RFID tags inside the containers, new trailers that can load longer cargos (exemption from the National Road Administration) and readers that are placed securely at the gates.

The administration decreases to minimum, lead times are shortened and the amounts of transports are reduced to a third. Passive tags are used inside of the containers.

The RFID-readers are hidden below ground at the gate to Port of Göteborg

and by the entrance at Volvo Arendal. The containers are registered when they enter and leave the area of the harbour. In case the lorry has not arrived in the right time, an automatic alarm is sent to the container planner at Volvo Logistics.

Volvo is the first company in the world using this transport solution, says Per André at Volvo Logistics.

*For further information
Johan Malm, Datema,
+46 70 289 11 41*



IDENTEC SOLUTIONS SELECTED AS RFID SOLUTION PROVIDER FOR HORIZON LINES

Horizon Lines, the leading container and logistics company, has selected IDENTEC SOLUTIONS active RFID technology for their ongoing management and tracking of assets throughout the supply chain.

Following comprehensive testing in remote areas of Alaska, IDENTEC SOLUTIONS RFID technology was able to continuously outperform other vendors in both accuracy and reliability. An innovator in the shipping and logistics industry, Horizon Lines was seeking a solution that would enhance the visibility of all assets while in transit. This required a system that could withstand extreme temperatures, as low as -50F, provide reliable mission critical data and accurate long-range, high-speed data capture.

Further enhancing IDENTEC SOLUTIONS patented Intelligent Long Range technology was an industry specific software that was developed to address Horizon's specific requirements.

"We worked closely with Horizon Lines and were able to co develop an industry specific tracking and reporting software that would ultimately benefit Horizon's customers by showing greater visibility throughout the supply chain", stated Peter Linke, CEO and President of the Americas. "Horizon Lines needed a technology that was reliable in extremely harsh environments and as well provide critical data throughout the supply chain and we were able to meet all of those requirements."

In the cargo business, knowing where a particular item is and when it will reach its destination is paramount in running an efficient supply chain. Yet for many years, businesses that shipped containers within Alaska have had

no way of locating their shipments in real time. In 2006, Horizon Lines introduced the first fully functional intermodal active radio frequency identification (RFID) solution to the 49th state. This tracking system, wedded to Horizon Lines' Web-based event management system, allows shippers to have unparalleled shipment visibility from the time a container leaves the loading facility until it arrives at its final destination.

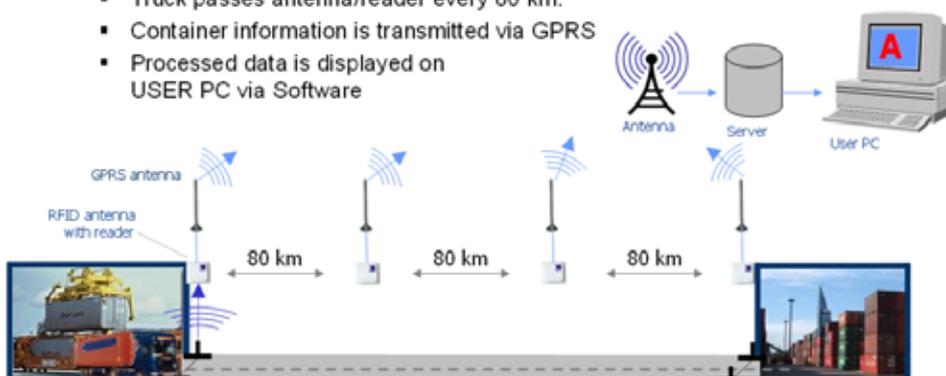
"Active RFID tags are also more reliable in an environment like Alaska's where they have to survive in a harsher climate," he added. "The RFID tags that we are using, provided by IDENTEC SOLUTIONS INC., have proven themselves to work in extreme temperatures, including the Canadian railroad."

The tags, which carry a unique serial number, are attached to Horizon Lines' containers. Many of these tagged containers were then used by Safeway for northbound shipments after the grocery chain agreed to participate in the pilot project. Tags are read by receivers placed along the highway, as well as at locations in Alaska and Washington and in some Safeway distribution and retail locations.

"Every five seconds, the tag sends out a beacon consisting of the tag information for a reader or receiver to process," sa Peter Linke. "That information, compiled every one to five minutes, comes into Horizon Lines' supply chain management system in Dallas and is logged as an RFID sighting." Customers can access the RFID sightings through

Solution

- Shipped containers with mounted RFID broadcast Tags are loaded onto truck
- Truck passes antenna/reader every 80 km.
- Container information is transmitted via GPRS
- Processed data is displayed on USER PC via Software



- ✓ Always know in which area the truck/container is located
- ✓ Optimised production flow
- ✓ Increase in process throughput
- ✓ Better product quality
- ✓ Prevent shipping to incorrect location.
- ✓ Strategic competitive advantage

CONTINUE >>

Horizon Lines' customer portal. To date, most of Horizon Lines' equipment in the Alaska loop has been tagged, and the company plans to outfit 22,000 pieces of equipment in its fleet.

FROM RETAIL OPPORTUNITIES TO ROADWAY INFORMATION

According to Horizon Lines, Safeway, the leading grocery chain in the Alaska market, quickly saw the value of participating in the pilot project. Through RFID, Safeway is expected to save resources and focus attention on other activities that add value to the company.

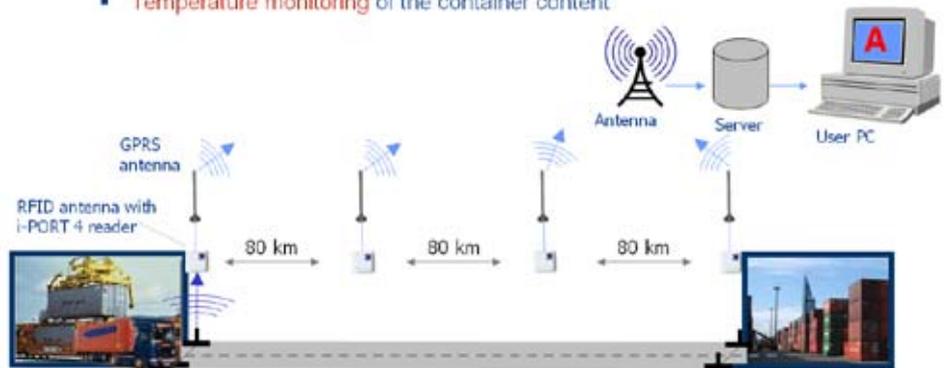
In addition to knowing when cargo is being transported and where it is, RFID technology also helps companies identify containers that aren't moving at all. "RFID allows businesses to see what equipment is still at their facilities – they may not even realize that certain containers are still sitting in the yard, or that others have been lost in route," says Peter Linke. "RFID can also help improve businesses' equipment turn times, because they know where their equipment is and how long it is taking to load or unload cargo."

Utilizing the data we provide, companies can see if a truck is sitting at a dock four hours after it's been unloaded. And if a truck is delayed by weather, managers can better schedule dockworkers so that they are not paying overtime.

The first installation took place on August 14th 2006 during a trial period and readers have now been placed along the highways at Turnagain Pass, Houston, Healy and the Knik River Bridge. Readers are also installed at the ports of Tacoma, Anchorage,

Implementation

- Not just container tracking but also
- **Temperature monitoring** of the container content



- ✓ Always know in which area the truck/container is located – including all its benefits
- ✓ Information about minimum/maximum temperature
- ✓ Complete Visibility of containers between ports

Kodiak and Dutch Harbor as well as at three of Safeway's main distribution centers in Bellevue and Auburn, Wash., and in Anchorage. Readers have also been installed at Safeway's retail locations in North Pole and Kenai.

ABOUT HORIZON LINES, INC.

Horizon Lines, Inc. is the leading domestic container management company, accounting for approximately 36 % of the total U.S. marine container shipments between the continental U.S. and the three non-contiguous Jones Act markets of Alaska, Hawaii and Puerto Rico, and to Guam. The company is headquartered in Charlotte, North Carolina. More information is available at <http://www.horizonlines.com>.

ABOUT IDENTEC SOLUTIONS

IDENTEC SOLUTIONS is the global

leader in wireless tracking and tracing solutions. Our unwavering commitment to service and customer satisfaction, combined with leading edge RFID technology, has enabled us to maintain a leadership position within the Automotive, Transportation and Logistics, and Aerospace and Defense industries. We consistently provide our customers with superior products and services that assist in cost reduction, increased productivity and thereby enhanced competitive positioning. More information is available at <http://www.identecolutions.com/>

For additional information on the application, please contact Identec Solutions Nordic: Anders Boman, at 0046 36 13 50 80.

RECYCLING OF BRACKETS AT VOLVO POWERTRAINS WITH HELP FROM RFID

The engines at Volvo Powertrains factory in Skövde can not leave the factory without a rack. Different types of brackets are assembled to the rack to keep the engine in place. With RFID the brackets can be identified when they return to the factory.

Each and every of the 48 000 brackets are marked with a RFID tag with a unique ID number. When the brackets return to the factory the personnel read the RFID Tags with a reader that is built inside a thumb attached to a working glove. The reader is connected to a Bluetooth client which is attached to the arm. From there the ID number is transferred to a handheld

computer attached to the belt. The handheld computer tracks the matching ID number and a voice tells where the bracket should be placed.

The stock balance is constantly updated via a wireless network. When the engines are transported to the factory, information about which brackets that are enclosed is received automatically.

Thanks to RFID tags you can discover in time if the warehouse is becoming empty. Return of investment is two to four years, according to information from Stina Ekhammar at Volvo Logistics.

*For further information
Joakim Dahlberg, 08-517 150 80
joakim.dahlberg@datema.se*



RFID IN BAGGAGE HANDLING

The use of transponders in baggage handling has been restricted by the necessity of making them thin enough to be laminated into a paper baggage tag. Now that this problem has been overcome, barcodes on the conveyor belt could soon become a thing of the past.

RF transponders require no built-in power source as they are energised by a reader antenna's power field. This has contributed to the feasibility of manufacturing them for integration into units such as credit cards. One problem, however, has been to make the transponder thin enough to be laminated within a sheet of paper. Confidence International AB, has a patent that is aimed to solve this problem and making it suitable for laminating into a paper baggage tag.

IATA has compiled specifications for the use of RF technology (Recommended Practice 1740C) where, among others, a requirement (§5.6) is that it "must have a minimum system reliability of 99.9 per cent, or one read failure in 1,000 and a system accuracy of 99.99 per cent, or one undetected incorrect reading in 10,000". Today most airport has selected the UHF frequency.

To minimise the risk of a malfunctioning transponder being released into the baggage handling process, the first reader station is mounted in the baggage tag writer at the check-in counter. Confidence two patents is based on two technologies! The first is a pre produced paper roll with the tag imbedded and the second solution is a one or two single paper rolls that get the transponder inserted in the printed baggage tag at the printing time.

BENEFITS AND SECURITY

When capacity constraints appear at peak time, a baggage handling system that is based on zone partitioning can, where RFID technology is implemen-

ted, alleviate the problem by half-sizing the zones, thereby doubling the capacity of the conveyor systems. The limiting factor is then the baggage sorting system's physical ability to distribute the baggage to the appropriate pocket. However, as the use of



RF technology results in substantial reductions in incorrectly sorted baggage, personnel can be redeployed to more meaningful activities.

A substantial increase in security against sabotage and terrorism is also achieved as the baggage is time-stamped when it enters the conveyor and must arrive at the following reader station within a given timeframe. If the system establishes that a piece of baggage is not 'on time', the baggage is redirected to a special pocket for investigation, thereby safeguarding against baggage being removed from

the conveyor and tampered with.

The last baggage control point is immediately before loading the aircraft. The upper end of the mobile baggage conveyor is fitted with a reader station and communication with the system to register the baggage as loaded (with a loading time-stamp) is via a wireless, modem. It is now that the final step in the process occurs: ensuring that all passengers who have checked in baggage do, in fact, board the aircraft. When the gate closes, a report is produced showing all baggage without a corresponding boarded passenger. A combined hand-held RF and bar code reader is then used to locate and identify any errant items of baggage and once the loader has confirmed that the illicit baggage has been removed, the aircraft is cleared for push-back.

CONCLUSION

This type of RFID uses frequencies that are harmless to human beings and, with the exception of metals, the signal passes through all solid and liquid materials. Depending on the antenna's area and the transponder's shape, it can be read from a distance of up to 80cm. This short distance can, however, be extended by installing several antennas to cover, for example, a wide conveyor. In other areas, microwave transponders can be used to achieve a reading distance of up to 200m, but as the transponders and readers are significantly more expensive.

*For further information
please contact
Lucas Åström lucas@rfig.se*

INTERMEC INTRODUCES THE SMARTEST ENTERPRISE RFID READER AVAILABLE

- **The new IF61 Enterprise RFID Reader features Intel Celeron M 600MHz processor and up-to-1GB of memory to run complex RFID applications**
- **Hosts applications written in Java, Java Script, Visual Basic .NET, or C# .NET**
- **Only reader to include localized workbench to load, edit and run Java Script directly on the reader**
- **“Store and Forward” capabilities ensure that data won’t be lost**

RFID (radio frequency identification) readers can be simple data conduits or they can have the built-in intelligence needed to manage data and complex processes. Intermec (NYSE: IN) introduces the IF61 Enterprise RFID Reader, which combines a powerful Intel Celeron M 600MHz processor with ample storage and memory to run complex applications, store tag data and operate peripheral devices—all without a dedicated industrial computer.

Built for high-volume operations, the rugged IF61 is available with up-to-1GB of scalable Flash memory and an optional 40GB spinning drive capable of storing data from billions of EPC tags. The reader’s “store and forward” capabilities and onboard memory ensure that data won’t be lost even if the host system or electrical power fail. The localized intelligence capability of the IF61 means it can be programmed to easily store a day’s worth of shipping manifests, compare the pallet tags it reads against the manifests in its memory, and drive a peripheral device to issue a visual or audible signal of a correctly or incorrectly loaded pallet.

Unlike other RFID readers, the IF61 can host applications written in Java, Java Script, Visual Basic .NET, or C# .NET, performing the typical functions of an industrial PC or server such as filtering, storing, manipulating, and formatting information from tags before sending to the host in the required data format. It is also the only reader to provide a localized workbench to load, edit and run Java Script, allowing programmers to test business logic directly on the reader, enabling faster

application development.

“Intermec’s IF61 platform, in combination with IBM’s IT class RFID middleware, enables companies to easily implement robust, enterprise class solutions to collect, manage and act upon the massive amounts of RFID data and drive the process innovation that unlocks the business value opportunities,” said Scott Burroughs, RFID solution executive, IBM Software Group. “The IF61 supports IBM’s Eclipse open standards-based RFID platform model for WebSphere RFID Premises Server 6.0, facilitating the deployment flexibility to implement use case capabilities and reliable messaging both on the server and directly on the IF61 itself.”

The IF61’s powered general purpose input/output (GPIO) circuitry enables it to directly monitor and/or control peripherals, like presence detectors and signal lights, without requiring extra devices and power supplies to facilitate the connection.

“As we continue to roll out RFID technology throughout our operations, scalability becomes increasingly important,” said Dr. Gerd Wolfram, managing director of MGI METRO Group Information Technology GmbH. “Intermec’s IF61 Enterprise RFID Reader fulfills the current needs in various installations as well as the more complex, higher-volume needs

of the future.”

The Intermec SmartSystems™ Foundation comes standard on the IF61 for quick device set-up, configuration and management from a single, convenient console. With SmartSystems Foundation, administrators can change device settings, send firmware upgrades, update applications and execute other changes from one central console saving time and cutting support costs.

The IF61 Enterprise Reader is based on the IM5 radio module by Intermec,



which is certified by EPCglobal for Gen 2 interoperability and compliance. The IF61 carries approvals from both ETSI and the FCC for global operation in the 865MHz, 869MHz or 915MHz frequency bands.

*For further information
please contact:
Linda Skanser,
Intermec Technologies AB
Phone.: +46 70 811 92 96, e-post:
linda.skanser@intermec.com*

FREE2MOVE LAUNCHES G.A.P.S, A NEW INNOVATIVE SOLUTION FOR INDUSTRIAL ASSET POSITIONING

- Keep track of your valuable assets with Free2Move's industrial positioning device. By combining technologies in innovative ways, G.A.P.S lets you take control over your equipment.

Free2Move announces the launch of G.A.P.S, a global asset positioning system. The device enables full control over important and valuable equipment as vehicles, machinery, goods and containers.

G.A.P.S communicates wirelessly and keeps track of position and movement on a worldwide basis. Primary usage areas are Theft Prevention and Equipment Tracking Management (ETM).

G.A.P.S features a very easy plug&play installation and is equipped with sensors for temperature and sound

which makes it useful in a wide range of industrial applications.

ABOUT FREE2MOVE

Free2move is a leading provider of highly qualified and innovative products based on wireless technology. We offer a covering program of OEM products for shortening the time to market for our customers. Free2move's product portfolio ranges from high performance surface mounted Bluetooth™ modules to LAN access points, Active RFID systems and embedded Linux systems with Blue-

tooth™ access.

*For further information,
please contact:*

Dan Hellgren, Product Manager,

dan.hellgren@free2move.net

Marcus Österberg, CEO, marcus.

osterberg@free2move.net

Free2Move AB

Sperlingsgatan 7

SE-302 48 Halmstad, Sweden

www.free2move.net



"NOW THERE IS AN ALARM IF THE PRODUCTS ARE PLACED INCORRECTLY IN THE WAREHOUSE..."

- UNIQUE TRACKING ABILITY WITH COMBINED RFID AND BARCODE SOLUTION!

Borealis – based in Austria and with a wide net of factories in most parts of the world – wanted to optimise the tracking ability in the company. The task was solved as a pilot project in the Swedish production unit.

"It was a very complex task," says Peter Nykvist, Logistics Material Handling Maintenance Service Engineer at Borealis. "The goal was to achieve maximum security for tracing and delivering materials and products through the entire supply chain, from production to warehouse to delivery at the end user. We needed a technologically highly specialised collaborator in the field of mobile and wireless computer technology to complete the task." They chose Psion Teklogix.



SAP AND RFID WITH TRUCK AND HAND TERMINALS

"It was a demanding project and I will not conceal that there were several unknown factors," says Håkan Nyström, Swedish Area Sales Manager at Psion Teklogix. "It was an all-inclusive contract with solution design, technical installations, employee training and implementation."

A tracking system was developed based on a SAP solution as well as RFID technology combined with barcodes. On the hardware side Psion Teklogix supplied the flexible, durable and easy-to-read truck terminals model 8530 for mounting on selected trucks. Also hand terminals, model 7535, for

tracking and registration of the individual products. The hand terminal can be used both for barcode scanning and tag-programming.

TAGS IN THE FLOOR

Tags which have to communicate with the RFID scanner were placed in the floor in front of selected warehouse zones. On the underside of the truck a specially designed antenna was mounted and the pallets were provided with barcodes.

"Now tags, RFID scanner and barcodes register where every single product pallet is placed in relation to the company's logistic planning," explains Håkan Nyström. "If a pallet is placed in a wrong place, then the system sounds an alarm to the truck driver and other employees so the mistake can be corrected immediately. If the pallet is placed correctly, then it is accepted quietly."

The system is linked to the information in the barcodes that are scanned by using the truck's fork function and ensures full tracking ability without needing tags on the pallets. (See the illustration).

MUTUAL SATISFACTION

Peter Nykvist from Borealis is satisfied with the solution and is positive about the cooperation with Psion Teklogix. "The task was difficult and demanded a lot of flexibility from both sides," he says. "A lot of obstacles has to be overcome, but the task was solved at a technologically high, but functionally simple level. We have with this pilot project achieved the goal of



improving the tracking ability for our supply chain. We now save both time and other resources on that account. It gives exciting perspectives for the future."

Håkan Nyström from Psion Teklogix agrees and adds:

"One of the exciting moments in the solution was the combination of the latest RFID technology with the more traditional barcodes. It shows that innovation has many facets. It is about creating the future's solutions with an open mind and with open eyes that can see new possibilities. Both in new and existing technology – and also the two combined."

BOREALIS

- shaping the future with plastics Borealis is a market leading company in the field of innovative, value creating solutions in polyethylene and polypropylene plastic materials. The company has more than 4.500 employees where approximately 10% are constantly working with research and development. Borealis is based in Vienna, Austria and has 8 production units in Europe – in Scandinavia there are factories in Sweden and Finland – 3 innovation centres as well as 7 customer centres spread out in Europe.

Contact RFID nordic organisation

ASSA ABLOY ITG

Björn Norinder
Storängsvägen 25
115 42 Stockholm
Tel 08 667 25 00
Fax 08 667 25 40
Mobile 070 657 46 49
Email bnorinder@aaaitg.com
http://www.acg-id.com

ACSC INTERNATIONAL

Pether Axelsson
Box 119, 599 23 Ödeshög
Tel 0144 10 000
Fax 0144 100 82
Mobil 0706 42 42 88
Pether.axelsson@acsc.se

ADAGE SOLUTIONS

Juha Rajala
Box 10021, 952 27 Kalix
Tel 0923 668 81
Fax 0923 668 88
Juha.rajala@adage.se

samarbete med:

AIM Denmark
Arne Rask, ordförande
ar@logisys.dk

samt

AIM Europe
milagros@aimglobal.org

ADHTECH AB

Peter Nilsson
Box 22023
250 22 Helsingborg
Tel 042-25 60 21
Mail contact@adhstech.se
www.adhstech.se/

AREFF SYSTEMS AB

Fredrik Martinsson
Verkövägen 102, 371 65 Lyckeby
Tel +46 455 61 66 02
Mobil +46 733 526102
Mail fredrik.martinsson@areff.se

AVISTA TIME

Ulf Gullstedt
Färögatan 33
164 51 Kista
Tel 08 545 705 16
Mobil 070 663 78 00
ulf.gullstedt@avistatime.com

BEA SYSTEMS

Peter Oldeen
Gustav III:s Boulevard 42
SE 169 27 Solna
Mobil 0708 80 92 03
Office 08 522 260 00
Fax 08 522 260 60
Peter.oldeen@bea.com

BEAB

Harri Vantaa
Box 943
501 10 BORÅS
Tel 033 29 09 56
Mobil 0705 28 54 56
Harri.vantaa@beab.nu

BIOETT

Scheelevägen 19 A
SE-223 70 Lund, Sweden
Tel 046 286 39 30
Fax 046 286 39 40
olle.hydbom@bioett.com

CAPGEMINI

David Glans
Gustavslundsvägen 131, Box 825
161 24 Bromma
Mobil 0736 737355
david.glans@capgemini.se

CONFIDEX LTD

Torbjörn Andersson
Haarlankatu 1, 33230 Tampere,
Finland
+46 768 530 130 (mobile)
+358 10 424 4100 (office)
Skype ID: lakselva
torbjorn.andersson@confidex.net
www.confidex.fi

CUB SYSTEMS I TÄBY AB

Urban Engström
Ella Gårdsvägen 40 B, 187 45 TÄBY
Tel 08 638 88 50
Fax 09 758 39 70
0705 70 90 80
urban.engstrom@cubsystems.se

DATEMA

Solna Strandväg 98
Mobil: 0708 89 74 85
Tel 08 517 150 80 (00 vx)
Fax 08 28 77 05
joakim.dahlberg@ise.se

DANATECH APS

Tommy Berg Kjeldsen
Jomfru Ingefeds Vej 21
7100 Vejle, Danmark
Tel +45 7582 1343
Mobil +45 4075 0082
tbk@scanditech.eu

ELECTRONA-SIEVERT AB

Gunnar Ivansson
Vretvägen 13 142 34 SKOGÅS
Tel 08 447 31 10
gunnar.ivansson@electrona.se

FLEXLINK

Anders Pihl
Kullagergatan 50
415 50 Göteborg
Tel 031 337 31 00
Mobil 0705 90 40 34
Anders.pihl@flexlink.com

FREE2MOVE

Dan Hellgren
Serlingsgatan 7
302 48 Halmstad
Tel 035 15 22 60
dan.hellgren@free2move.se

HANDELSBANKEN

Henrik Sirborg
Tegeluddsvägen 31 115 82 Stockholm
Mobil 070 - 53 156 34
hesi02@handelsbanken.se

HP

Kent Roger Wistam
Gustav III Boulevard 36
169 85 SOLNA
Tel 08 524 910 00
per.englund@hp.com

IDENTEC SOLUTIONS

Blekingegatan 3
554 48 Jönköping
Tel +46 36 13 50 80
Fax+ 46 36 13 51 80
Mobil +46 708-139454
a.boman@identecsolutions.at

IMPINJ

Torbjörn Andersson
Kosmosvägen 12
181 63 Lidingö
Tel 08 446 05 05
Mobil 0768 530 130
torbjorn.andersson@impinj.com

INTERMEC

Thorbjörn Sporre
Vendevägen 85 A
182 91 Danderyd
Tel 08 622 06 63
Mobil 0708 16 03 55
thorbjorn.sporre@intermec.com

IT UNIVERSITETET

Peter Öst
Rindögatan 17, 8 tr.
11536 Stockholm
www.it2ospe@ituniv.se

KGM PRODUCTS

Box 2048
350 02, VÄXJÖ
Kurt Olsson
Tel /fax 0470-77 91 51
Mobil 070-516 73 29
kgm@tele2.se

KIWOK

Björn Söderberg
Finlandsgatan 60, 164 74 Kista
Tel 08 679 82 00
Fax 08 679 82 10
Mobil 073 805 09 00
Bjorn.soderberg@kiwok.com

I samarbete med:

Kompetansenettverket eforum
i Standard Norge
August Nilssen, Prosjektleder
Tlf dir: 67838689
Mobil: 90140566
http://www.eforum.no/

LARBERG CONSULT

Rolf Larberg
Rolf.larberg@telia.com

LOGOPAK SYSTEMS AB

Lilla Bommen 1
SE-411 04 Göteborg
Tel 0 31 - 700 12 30
mobile: 0709 - 67 84 70
fax: 031 - 15 12 01
mail: LThuring@Logopak.se
web: www.logopak.se

MECTEC ELEKTRONIK AB

Joachim Holgersson
Agnesfridsvägen 189
S-213 75 Malmö
Tel 040 689 25 01 (Direct)
Mobil 070 354 75 01 (Mobile)
Växel 040 689 25 00 (Switchboard)
Fax 040 689 25 25 (Fax)
joachim.holgersson@mectec.se
http://www.mectec.se

MENTOR ONLINE

Lars Nordmark
Tel 042 490 19 17
Fax 042 490 19 99
Mobil 0709 75 99 42
www.mentoronline.se

MODULSYSTEM

Torbjörn Henryson
Tel 08 506 30 115
Torbjorn.henryson@modulsystem.se

MOTOROLA ENTERPRISE MOBILITY

Jonas Folkesson
Solna Strandväg 78, 171 26 Solna
+46 8 445 29 23
Mobil +46 733 35 29 23
Jonas.Folkesson@motorola.com

MOWISE

Lavendelvägen 5, 192 54 Sollentuna
Tel 08 96 53 87
Mobil 070 662 88 81
Gunnar.widen@mowise.com

NILÖRNGRUPPEN AB

Per Wagnås
Box 499, 503 13 Borås
Tel +46 33 700 88 53
Mobile +46 70 915 18 67
Per.wagnas@nilorn.com

NORD-EMBALLAGE

Bo Wallteg
Bankvägen 30
262 70 Stöveltorp
Tel 042/207166
Mobil 0703/207163
Mail: bo.wallteg@n-e.nu

PETER ÖST

Lagman Eskils väg 4
443 34 Lerum
0706-376803

POSTEN LOGISTIK AB

Produktion
A11V2-9
105 00 Stockholm
Tel 08 781 15 03
annika.nasstrom@posten.se

PRESSINFO

Håkan Linger
Mässans Gata 10, 412 51 Göteborg
Tel +46 31 708 16 28
Mobil +46 707 58 16 28
hakan.linger@pressinfo.se

CONTINUE >>

PSION TEXLOGIX

Håkan Nyström
Hammarby Fabriksväg 23
120 33 Stockholm
Tel 08 452 88 80
hakan.nystrom@psionteklogix.com

RBS AB

Christer Andersson
Box 274
S-761 23 Norrtälje
Besöksadress: Roslagsgatan 6-8
Tel 0176 - 745 00
Direkt: 0176 - 745 22
christer.andersson@rbs.se

I samarbete med:

RFID Innovasjonscenter AS
Petter Thune-Larsen
Postboks 124 Blindern, 0314 Oslo
www.rfidlab.no
petter@idconsult.no

I samarbete med:

RFID Society
www.rfidsociety.com

I samarbete med:

RFID Business Association
www.rfidba.org

I samarbete med:

www.moreRFID.com

RFID CONSTRUCTORS

Niklas Hild
Scheelevägen 19A
223 70 LUND
Tel +46 46 286 30 61
Mobile +46 709 98 13 70
Mail/Skype niklas.hild@rfidconstructors.com
www.rfidconstructors.com

RFIG/PLEFO

Lucas Åhlström
Narvavägen 3
114 60 Stockholm
Tel 08 667 4020
Mobil 070 182 15 00
Mail: lucas@rfig.se

R2M

Daniel Asvelius
Box 1027, 164 21 KISTA
Tel +46 8 633 13 00
Mobil +46 733 709 515
daniel.asvelius@r2m.se

SAP

Magnus Norrman
Box 12297
Gustavslundsvägen 151 D 102 27
Stockholm
Tel 08-587 700 00
Dir 08-587 700 29
Fax 08-587 700 01
Mobil 070-346 19 73
magnus.norrman@sap.com

SCHENKER CONSULTING

Gunnar Schrewelius
Box 8013
163 08 Spånga
08 585 10 832
070 624 83 66
Gunnar.Schrewelius@schenker.com

SCIROCCO

Staffan Sjögren
Electrum 217
(Isafjordsgatan 30 A)
164 40 KISTA
Tel 08-752 98 90
Mobil 070 920 21 60
staffan.sjogren@scirocco.se

SMARTICWARE

Österögatan 1-3, 164 40 KISTA
Omid Aval
Tel 08 750 7660
070 3502389
omid.aval@smarticware.com

SIEMENS AB,

Höjdrodergatan 25, 212 39 Malmö
Tel 040 59 25 16
Mobile 070 728 16 92
hakan.huselius@siemens.com

I samarbete med:

SIS Swedish Standards Institute
Stina Wallström
118 80 Stockholm
+46 8 555 520 00
stina.wallstrom@sis.se

SOGETI

Hoss Eizaad
Gustavslundsvägen 131
Box 825 161 24 BROMMA
Tel 08 536 820 07
070 922 99 77
hoss.eizad@sogeti.se

STOCKHOLMSMÄSSAN

Daniel Andersson
125 80 Stockholm
Tel 08 749 41 00
Daniel.andersson@stofair.se

SVENSK HANDEL

Bo Svensson
103 29 Stockholm
Tel 08 762 78 28
bo.svensson@svenskhandel.se

SWEDBANK

Angelika Melchior
015 34 Stockholm
Tel 08 585 900 00
Angelika.melchior@foreningssparbanken.se

SYMBOL

Box 1115, 164 22 KISTA
Rebecca Krantz

TAGMASTER

Peter Thorander
Kronborgsgränd 1
164 87 Kista
Tel 8 632 19 50
peter.thorander@tagmaster.se

TELIASONERA

Alf Johnson
Augustendalsvägen 7
SE 131 86 Nacka Strand
Mobil 070 680 4101
Tel 08 601 8609
alf.johnson@teliasonera.com

TEXI AS

Arild Engesbak
Abelsgatan 5
N-7030 Trondheim
Tel +47 99 53 54 64

TRACTEchnology

Mats Nordström
Gustavslundsvägen 147
167 51 Bromma
Tel: 08-556 934 01
Fax: 08-556 934 19
Mobil 0705 959492
mats.nordstrom@tractechnology.se

UPM RAFLATAC

Sami Liponkoski
P.O. Box 669
Myllypuronkatu 31
FI-33101 Tampere
Tel +358 204 16 8243
Mobil +358 40 842 2470
Sami.liponkoski@upmraflatac.com

VILANT SYSTEMS OY

Antti Virkkunen
Sinikalliontie 4
02630 Espoo, Finland
Tel +358 9 8561 9900
Mobil +358 50 529 4574
Antti.virkkunen@vilant.com

XPONCARD

Jan-Olof.Andersson@xponcard.se
Hornsgatan 103 117 28 Stockholm
Tel 08 658 75 10
Mobil 073 684 47 18
Evamaria.matell@xponcard.se

ÅF-ENGINEERING

Greger Du Rietz
Kvarnbergsgatan 2 |
Box 1551, 401 51 GÖTEBORG
Tel 010 505 30 84
Mobil: 0730 70 10 84
Fax: 010-505 30 10
greger.durietz@afconsult.com

**IF YOU WANT TO FOLLOW THE EXITING DEVELOPMENT JUST WATCH WWW.RFIDNORDIC.SE
AND GIVE YOUR OWN COMMENTS.**

If you want to be a member of the RFID Nordig organisation just give us a call on +46 8 662 31 95

Welcome