RFIDnordic.se

INFORMATION CONCERNING RFID IN SCANDINAVIA

Jan 2009

THE GOLDEN TAG AWARD 2008

AND THE NOMINATED ARE...

ABB for using a RFID system for automatic identifying of handling units loaded on trucks

Aimpoint for creating red dot sights combining speed and accuracy and for creating a solution that is compliant with US Department of Defence RFID mandates and utilizes EPC standards.

Ejmunds Stafva Farm for RFID-based Beef Breeding

Honkarakenne for using RFID to scale its operations, reduce waste and focus staff on higher-level processes.

Indisputable Key for solving the problem how to create proper raw material for specific final products in forestry-wood production

NP Collection's intelligent clothes store

SlipNaxos System for prescription monitoring of abrasive dosing

SSAB for RFID labelling of the Steelpendulum

Tiehallinto for using RFID based vehicle identification system for the Hailuoto Ferry

Tooltracker for creating traceability and security management of items used in industrial areas.

Read more on the next pages ..

The Prize Ceremony will take place at RFID – Internet of Things at Kista 4.th of March 2009 between 12.30 – 13.30.

You can send a mail to irene.b@mentoronline. se if you want to participate.



NORDIC RFID SCHOLARSHIP 2008, NOMINATED:

Name Institute /Contact Title of Work Henrik Pålsson & Supply chain integration Lund University obtained through uniquely Ola Johansson labelled goods – and The Henrik Pålsson [Henrik.Palsson@plog.lth.se] impact of Auto ID on logistics performance Björn Nilsson Chalmers/Halmstad Towards Energy Efficient bjorn.nilsson@free2move.net Protocols for Active RFID Petteri Koivu **EVTEK University of Applied** RFID Solution for Battery Identification Sciences, petteri.koivu@rfidlab.fi Zhibo Pang & KTH- Royal Inst. of Tech-TouchMe System - RFID Solution for Interactive Package Majid B Nejad nology, [majidbn@kth.se], zhibo@kth.se with Mediated Service Uppsala University, [Oskar. Yep, Another Field service Oskar Josefsson Josefsson@datema.se] Application RFID i forsyningskæden Anders Banghøj Copenhagen Business Nielsen School, Anders Banghøj Nielsen [anni07ai@student.cbs.dk] Naveed Ahsan Linkoping University, [na-Highly Linear Wideband veed@isy.liu.se] Low Power Current Mode LNA Börje Åhgren [ba@techmedia.dk] Jacob Schaffalitzky Copenhagen Business Use of RFID in the de Muckadell School. Danish Market [jasc04am@student.cbs.dk]

AND THE WINNERS WERE:



From the left: Zhibo Pang & Majid B Nejad, Petteri Koivu and Björn Nilsson



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RFID AND ASTRONOMY

What does RFID and astronomy have in common, you may ask yourself. If someone states, there are nine trillion 856 billion 315 stars in the visual part of our universe, I dare say that most people are prepared to accept this as a fact.

In today's information flood, we find numerous articles, information and statements concerning RFID. The chips are small like grains of sand, the memory size is 8 kByte, the reading distance is up to 100 meters, the tag can be mounted directly on metal, the tag works well in water, snow and ice, the price is around one SEK, etc., etc.... Also regarding these statements, I have noticed, that the majority of the people I have met, is inclined to take such information as facts.

Why is it so? Most likely it depends on the lack of reference frames. Nobody would enter the sales premises of a car dealer, selling everything from VW Lupo to the luxury car VW Phaeton, expecting the same price and performance for a Lupo as for a Phaeton. In this case, we do as a rule have experience to fall back on. We know, or at least have a hunch, what you can or

can't expect from a small car, as well as what type of price level a luxury car has

Concerning RFID, there are actually variants, fulfilling the statements, although not all at the same time. The chips are indeed small like grains of sand, but without an antenna or coil connected to the chip, it wouldn't work. It is better and more relevant to talk about the tag, since it constitutes the working unit.

Lately, RFID has become synonymous with the UHF-system and EPC. Maybe it is because all that has been written about Walmart and "Supply Chain Management" and how this has intensified the development within the frequency band UHF. Thanks to the immense volumes of tags used, this has resulted in steadily sinking prices, which in turn has led to more companies jumping on the train.

This, for the RFID-technology, positive spiral is of course gratifying, but the risk is that we don't see the forest for all the trees and tend to forget the enormous unused rationalization potential we have, if we applied RFID in closed loop, internal systems. If we closely analyze how RFID is used in the daily production, or stock handling, it shows that RFID is used about four times as often in closed loop systems as in open. The explanation may partly be that in open systems, there are so many partners, having to agree to one common system. It is much more difficult reaching a decision, even if that decision has to be made within the four walls of just one company.

The tag in its simplest form is made up of one chip and an antenna (coil by LF-systems) on a substrate i.e. plastic foil. This simple tag (inlay) can be

FORTS >>

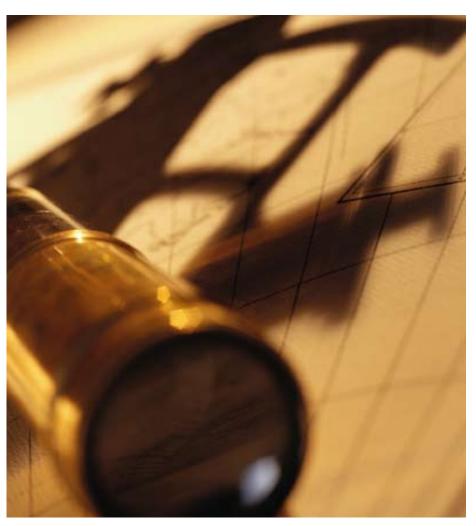


glued directly on to an object, under the condition that it will not be exerted to mechanical forces or damage. A common method is to combine barcodes with RFID. Normally this is done by applying an unprotected low price UHFinlay to the backside of a barcode label. The inlay will be protected by the label itself, once it is glued on to a box or pallet flag. The automation of certain parts of a logistics chain can thus be improved, thanks to the fact that an RFID-system doesn't need any line of sight contact between the tag and the reader's antenna, whilst in other parts of the system it is possible to use cost efficient barcode readers to reduce costs. Why then are the LF-systems needed?

IMPROVED AUTOMATION

When there is a need to increase the degree of automation within closed loop systems there are as a rule a number of criteria that have to be met. One outstanding requirement is that the tag must be robust, being able to sustain blows and vibrations, sometimes even fluids cold and heat. It is obvious that the inlay must be packaged in such a way that it will survive the tough environments, to which it will be exposed. The price for an encapsulated tag, irrespective if it is for a LF-, HF-, or UHF-system, is thus pretty much the same. Since the price of reader and antenna is lower for the LF- and HF-systems, it is common that either of them will be used in closed loop systems. In addition, the LF-and HF-system function very well in environments where fluids, snow, ice and rime may be encountered.

Distribution of spare parts and drugs are two typical areas, where the open part of the distribution chain has been detached from the internal. Within the own walls, standardized plastic crates, equipped with an RFID-tag (LF), travel on roller conveyors between the different commissioning sites utilizing the advantage that no line of sight is needed between tag and antenna. The tag is optimally protected on the inside of the crate. The reader's antenna is mounted below the rolls of the transport conveyor. Thanks to the repeated circulation, the price per read



will steadily decrease towards zero. For the distribution in the open part of the chain, barcode labels are used. It is important that normal barcode readers can be used, since the transport companies very often use subcontractors with a varying car park, making it practically impossible to use common, fixed installed readers.

WORK IN PROCESS

Within the mechanical industry, RFID can be used to improve the control over WIP. Here the LF-systems show their real advantage. Neither cutting chips, nor cutting fluids etc. will have an adverse effect on the system performance.

It is also common to use machine tools with automatic tool changers. The cutting units are then equipped with programmable tags, into which the measuring data from the pre-setting machines in the tool room is written. At the machine tool, the tag data is read and entered into the machine's

CNC-control, so that necessary compensations can be performed. Press tools can be equipped with tags, into which setting data and "in-use" time can be written. Thus is is possible to optimize the times between regrinds, and to avoid grinding a tool when it is actually not needed. There is a long list of application areas, where it is possible to apply RFID in a cost efficient way in closed loop systems. Why wait until the open systems are being further developed and the standardization is driven to its next level? Look inwards, to your own production, your own stock handling, your own service system, your own

.

Now, having slid into a recession, that unfortunately seems to stretch in time, is the right

time to act. When production is at top speed, nobody has any time!

WELCOME DOWN ON EARTH!

JAPANESE PUBLISHER SHOGAKUKAN INC. IMPLEMENTS RFID SOLUTION

USING UPM RAFLATAC TAGS TO REDUCE RETURN RATIOS AND WASTE

Japanese publisher Shogakukan Inc. has implemented RFID technology in its operations to substantially reduce the return ratio of unsold books. A reduction in waste volumes was also critical. Shogakukan estimates that annual financial losses in Japan would exceed USD 1.5 billion if some 25% of returned books were disposed of as waste. The RFID implementation has also had a marked affect on distribution accuracy.

In the first phase, Shogakukan has tagged its recently published Home Medical Dictionaries with UPM Raflatac's UHF EPC Gen2 Crab inlays. The

complete solution has been developed by Suuri-Keikaku Co. Ltd.

Shogakukan itself has developed a binary sales system which it uses for RFID-tagged books. The aim is to motivate bookstores to better plan their purchasing operations by offering two alternative sales systems. Bookstores can choose consignment sales, where unsold books can be returned to publisher without expense. With the non-consignment option the margin offered to bookstores is higher, but returning unsold books to publisher means additional costs. Data concerning the choice of sales system is written to the RFID tags.

Bookstores may choose non-consignment sales for their first orders due to high initial sales expectations, for instance. Afterwards, it might be more suitable to switch to consignment sales for additional orders. With the data-carrying RFID tags, the system is easily manageable. Human error is eliminated by automating the data processing and logistics related operations.

"Shogakukan is an excellent example in its use of ultra-high frequency RFID tags to improve logistics in the book industry. The benefits are very concrete, which is why similar projects are currently under implementation worldwide. Various successful rollouts are showing clear ROI values in the

short-term," says Mikko Nikkanen, Business Development Director, UPM Raflatac, RFID.

Shogakukan reports that the new RFID-assisted sales system has been accepted by bookstores with good results. In the beginning stage, 50,000 copies of Shogakukan's Home Medical Dictionaries were sold through non-consignment sales. Total sales reached about 70,000 copies.

"Book clubs making direct monthly book deliveries have good potential to enjoy the benefits of a full RFID implementation. Customer return rates can rise above 20%, and high efficiency for returns in the supply chain is crucial. UPM Raflatac has channelled significant resources into the development of UHF products suitable for applications of this kind," Nikkanen concludes.



For further information, please contact: Mr Mikko Nikkanen, Business Development Director, RFID, UPM Raflatac, tel. +1 828 275 5162 Mr Yutaka Okano, Suuri-Keikaku Co., Ltd., okano@sur.co.jp.

SOKYMAT AUTOMOTIVE BROADENS ITS PRODUCT PORTFOLIO FOR INDUSTRIAL, LOGISTICS AND SECURE APPLICATIONS

SOKYMAT AUTOMOTIVE GmbH, has added a range of white contactless cards, for both HF and LF applications, to its product portfolio.

The company recognizes that the demand for these cards in industrial applications is growing rapidly owing to their benefits such as ease of use, speed and versatility.

The new SOKYMAT AUTOMOTIVE products compliant to ISO 7810 are available in the most common frequencies of 125 kHz and 13.56 MHz. The cards are standard credit cardsized PVC cards equipped with an overlay allowing personalization and application specific printing by any common card printers.

In addition, SOKYMAT AUTOMOTIVE offers clamshell cards for LF applications composed of a hard shell ABS for access control applications.

SOKYMAT AUTOMOTIVE processes chips of various renowned manufacturers and offers a wide choice of chips both for the new cards as well as for its well-established portfolio of RFID tags for the automotive, bio and science, laundry, industry and logistics sectors. The company's flexible, fully automated production lines guarantee high quality and fast delivery for the whole product portfolio.

For further information, please contact:

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UPM RAFLATAC LAUNCHES A BROAD PRODUCT PORTFOLIO OF NEAR FIELD COMMUNICATION RFID TAGS

UPM Raflatac is launching a new product portfolio of Near Field Communication (NFC) RFID tags. These products are already in use in several projects, in applications including multifunctional media badges for music, data and movie discs and electronics pairing. The media badge utilizes UPM Raflatac's BullsEye NFC RFID tags, and is the result of collaborative development between UPM Raflatac, CDA and Master Disc.

With a multifunctional NFC media badge embedded into a disc, it is possible to open hyperlinks, use ticket and payment functions and vote for the latest music hits via a mobile phone, for instance. The media badge also offers a normal optical disc interface for music, pictures and movies, as well as a print surface for barcodes, 2D codes and personalized naming.

In electronics pairing applications, NFC tags are generally used to facilitate recognition between a mother device, such as a mobile phone, and its accessories. The recognition protocol between a device and its accessory means that consumers can pair their devices without a complicated set-up procedure.

"Various NFC applications are already available, and we expect to see more during the coming year. Telecom operators are creating services that enable consumers to use NFC technology as the most efficient way of handling several everyday affairs. At the same time, the number of mobile phones available with built-in NFC readers

and encoders, such as the Nokia 6131 NFC and the Nokia 6212 Classic, is growing fast," says Mikko Nikkanen, Business Development Director, UPM Raflatac, RFID.

"In anticipation of market growth, we have designed our product portfolio in a way that enables us to provide solutions for most tag-based NFC applications today and in the longer term," Nikkanen concludes.

UPM Raflatac's extensive new NFC product offering is available with ICs compliant with NFC Forum Tag types 1, 2 and 4. The most suitable tag type depends on the NFC application in question. UPM Raflatac's NFC products are available as from December 2008.

MiniTrack NFC

- Coil size 14 x 31 mm (0.55 x 1.22")
- NFC product for toys, electronics pairing, authentication and key chains

BullsEye NFC

- Coil size 35 mm (1.38")
- NFC product for CDs, DVDs, smart posters and asset tagging applications

RaceTrack NFC

- Coil size 45 x 76 mm (1.77 x 2.99")
- NFC product for ID cards, tickets and asset tracking applications

For further information, please contact: Mr Mikko Nikkanen, Business Development Director, RFID, UPM Raflatac, tel. +1 828 275 5162



RFID TAGS TO STREAMLINE FERRY TRAFFIC TO HAILUOTO

UPM Raflatac is supplying passive UHF RFID tags to the Finnish Road Administration's vehicle identification pilot for car ferry traffic to and from Hailuoto island in the northern Baltic Sea, Finland. The pilot aims to ensure a smooth passage for all travellers, but especially for professional traffic and local residents. Before the pilot, misuse of a priority driving lane was a continual hindrance to these two groups.

In the Hailuoto area, a licence with an embedded RFID tag has been sent to all drivers entitled to use the priority lane to the ferry. When boarding the ferry, drivers hold the RFID licence to the side windows of their vehicles, and the system automatically identifies appropriate licences and grants access. Readers can identify RFID-tagged licences through a window even from a distance of several metres. As a result, access control to the ferry has significantly improved.

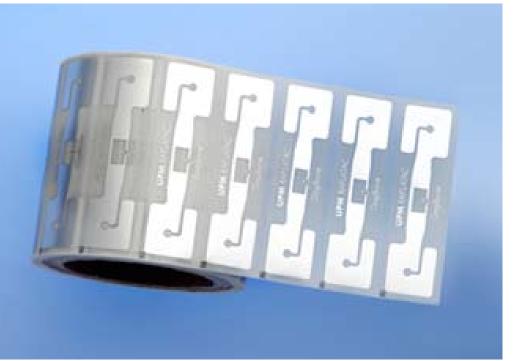
The automated access control used in Hailuoto is based on a standard passive Gen 2 UHF system with DogBone tags from UPM Raflatac. The readers are connected to a server

program via a mobile network (GPRS). Administrators can follow and control the ferry traffic in real time and from any location with a web browser. The complete RFID solution has been developed by Vilant Systems.

Thanks to encapsulation, the year-round RFID solution endures challenging outdoor conditions like rain and frost – an essential requirement due to Hailuoto's location. UPM Raflatac's DogBone inlay was selected for the pilot based on reliable performance and an excellent read range.

"UHF RFID technology offers an automated, reliable and robust means for personnel and vehicle tracking. The pilot uses cost-effective passive RFID tags in vehicle identification, and is thus a remarkable opening even on the larger scale," says Jari Ovaskainen, Business Development Director, UPM Raflatac, RFID. The Finnish Road Administration's RFID pilot began in June 2008.

For further information, please contact: Mr Jari Ovaskainen, Business Development Director, RFID, UPM Raflatac, tel. +358 40 353 2880



NP COLLECTION'S INTELLIGENT CLOTHES STORE

Finnish apparel company NP Collection has opened one of the most advanced intelligent clothes stores in Hollola, Finland. In this new store, customers can try on clothes in intelligent changing rooms supported by RFID technology.

When trying on clothes, customers can use wall-mounted touch screens to browse additional product information, view suggestions for matching clothes and accessories and have alternative products or sizes brought straight to the changing room. NP Collection also uses a check-out system with RFID reading abilities to speed up customer service.

RFID tags are attached to all NP Collection's products during manufacture, and data from the tags is read at several points all the way to the central warehouse. The capacity to follow the stream of goods in real time provides substantial cost-reductions in logistics and manufacture. On the store level, this data can be exploited to plan shelf-use in advance, for

During the next six months, the company will also implement a new, RFID-assisted Shop in Shop concept designed for use in NP Collection's retailers' premises.

example. Finally, the RFID tags can also function as antitheft devices.

The RFID implementations continue a development project initiated by NP Collection in 2007 which covers the entire supply chain. The project aims to rationalize and intensify logistic processes and provide added value to customers by improving service levels.

The intelligent store concept will expand to St. Petersburg, Russia, during November, where NP Collection is opening a new clothes store equipped with smart Senso modules similar to those currently used in Hollola. During the next six months, the company will also implement a new,

RFID-assisted Shop in Shop concept designed for use in NP Collection's retailers' premises.

The solutions are supplied through cooperation between several parties including UPM Raflatac, RDN, SML, Impini, Microsoft, IBM and Digia.

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NEW SHIPMENT WITHIN 48 HOURS SERVICE FOR A WIDE SELECTION OF RFID PRODUCTS

UPM Raflatac has enhanced its service level with a promise to ship a wide selection of RFID tags and inlays in its product offering to customers within 48 hours of order. The selection consists of both HF and UHF products. As the number of new RFID implementations continues to grow on a global scale, availability of tags and inlays is increasingly important.

With UPM Raflatac's new service, companies can rely on rapid deliveries for their current and upcoming RFID implementations. "As a concrete benefit, our customers don't have to worry about tying up too much capital for storing large amounts of RFID tags. Instead they can rely on the availability of UPM Raflatac's RFID products based on occurring needs," says Marcus Vaenerberg, Vice President, Sales, UPM Raflatac, RFID.

In late 2008, UPM Raflatac strengthened its position as the leading manufacturer of RFID tags and inlays globally by opening a new production facility in China. "With production on three continents, Asia, North America and Europe, we are able to provide our customers with the best possible

service level on a remarkably short notice," Vaenerberg highlights.

Complete and up-to-date information about products included in the shipment within 48 hours service is available at www.upmraflatac.com.

For further information, please contact: Mr Marcus Vaenerberg, Vice President, Sales, RFID, UPM Raflatac, tel. +358 40 555 8693







IF SOMEONE IS ABOUT TO TOUCH A BOTTLE WITH AN EXQUISITE PRECIOUS WINE,

IT'S AN EQUAL DEVASTATING ACTION AS IF HE IS ABOUT TO GRAB A VALUABLE PAINTING.

For that reason, wine owners, with some delicious wines in its custody started taking an interest in the theft and touch protection system ArtSafe as RFIG Sweden is proposing.

The protection system ArtSafe consists of a transponder in the same format as a domino tile.

Museum in all aspects - but, who do not appreciate a good wine and want to ensure that it remains in its position to the day it will be decanted. Would someone just touch the valuable object, an immediate attention of the incident will be reported to the owner that will be able to identify the thief. The small transponder - with an embedded motion sensor will transmit an alarm. Even if someone is trying to take the object and walk away, all types of indications and initiations of alarm systems will be activated. Some may want to activate a camera, others need to send an alarm to a mobile phone, or someone even wanted to initiate an act from an emergency squad. In some cases the ArtSafe system will simply start a siren with a loud signal to warn those intruders that put their hands on the object, and make an indication of that something serious is about to take place. That is to give the person concerned a message that

he should return the item in its original location. Only if you touch the item it will be given a warning and the incident will be documented in a database.

Is it complicated to use the system? It is extremely easy to launch and install the alarm. A simple instruction will show how to install one or several readers. The software works in the MS Windows environment and easy to install. Then the user can type in and activate what he wishes to be carried out at various attempts to "move" the fine wine. In case someone authorized need to



registered and also the identification of who has the right to make this move.

How is it then, if you have a personal need for a bottle of Wine and need to take it out of the wine cellar? The owner just indicates that the wine now can be possessed in one way or another and the event is documented (if this option is activated).

What are the benefits of such a sophisticated system, when you can simply look the door?

The point is that the owner has an individual monitoring of each item and that the owner can allow people to move freely in the storage room and look at the object on the show.

Fine wine is an art, it should monitor! It must also be handled with care - so - ArtSafe is a must for the owner of a fine wine - in any case, if they intend to save it until a special date or an appearance of truly valuable friend or a valuable customer.

THE RFID AND WINE LOVER

Lucas Åhlström RFIG Sweden AB 070-182 1500 lucas@rfig.se

internet of things



2009 års mötesplats för alla som vill veta mer om affärsnyttan med RFID

Tid: 4 mars | Plats: Kista Science Tower, Stockholm

PROGRAM

Moderator: Lucas Åhlström

09.00 - 09.30

UAE Project Future business in Security by RFID

Examples of RFID applications covering the Security Area in special environments and the Middle East.

Atheel Abdullah, Misk Consultancy for Electronic Systems Miskconsultancy.com, Abu Dahbi

09.30 - 10.00

RFID in Maintenance

Not only a 'record' of work carried out, but total assetmanagement made extremely easy. Cases from indoor and outdoor Airport Environment. Alan Jones EGS Solutions Ltd, England

10.00 - 10.30

RFID in a global perspective

Abdul Rashman Bedin, Malaysia

10.30 -11.00 Kaffe

11.00 - 11.30

Businessoriented RFID Solutions

Experience in Industrial Environments

Harry Pappas RFID International Business Association USA

11.30 -12.00

Industrial Applications and RFID

Harshed and complicated environment solutions

Patrick F. King, Michelin USA

12.00 -12.30

Casesstudy Logistic RFID Soultions

Casestudy from Quatar Post and other Logistics projects Catrina Aghayan, Quatar Post /Chairman RFID UAE, Quatar

Lunch and The Golden Tag and The Mini Tag Award 2008 Ceremony

13.30 -16.30 Workshops



Pris 2 225 kr

I priset ingår lunch, kaffe och dokumentation





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