RFID in EUROPE

INFORMATION CONCERNING RFID IN EUROPE SEPTEMBER 2017

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CONTENTS

KELISEC – SECURING THE FUTURE

The Kelisec method is a new revolutionary way to transfer secure communication without keys.

This method replace the old and existing PKI-solution (Public Key Infrastructure).

The method enables secure registration, authentication and verification of both physical person, device and server.

The authentication token mutates every millisecond which makes the communication secure against all known attacks and man-in-the-middle attacks.

A process file is randomly created in each node, independent and autonomous from the other node - this replaces the shared keys / secrets that are used in PKI-solutions.

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THE BOARD 2017: *Ove Canemyr, Chairman, Trendsetter, Gunnar Ivansson, Learningwell, Stefan Tjerngren, Telmina, Cashier, Johan Malm, Malm-Logistics, Lucas Åhlström Secretary, Retorium, Bob Forslund AMC and Günther Dieroff, Beneli*

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KELISEC, FINALIST IN ERICSSON GARAGE CHALLENGE 2017

Over 150 global start-ups registered for the Ericsson Garage Start-up Challenge. Nine of them got the chance to pitch in front of a fully packed Ericsson Studio on September 5th, 2017. The Dragon's Den consisted of Tanya Marvin-Horowitz, Co-founder and Managing Partner at CAP A and Partner at Butterfly Ventures, Börje Ekholm, President and CEO of Ericsson and Ville Heikkenin, Partner, Butterfly Ventures.

Kelisec was one of the second prize winners.

NEW TECHNOLOGY DEMANDS NEW SECURITY

FIELDS OF APPLICATION

Kelisec's security solution can be used for anything from financial transactions to IoT, e-health, AI and securing Blockchain technology (node-to-multinode).

The solution is easily scalable both in terms of business applications, users and geographies. It can be applied within almost any area where a secure communication is desired.

www.kelisec.com

KELISEC
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14% of all transactions through our UK gateway are now CONTACTLESS

EUROPEANS LOVE IT.

Consumers are using contactless in over **40 EUROPEAN COUNTRIES**[v]

They carry over **131 MILLION** Visa contactless cards[iii]

This year we expect **10 BILLION** European contactless transactions[vi]

And the value of contactless payments across the continent will **DOUBLE**[iii]

By 2019, **10%** of transactions in Europe will be **CONTACTLESS**[vii]

All Europe's POS terminals will be **CONTACTLESS BY 2020**[viii]

i UK Card Association
ii Creditcard.com
iii Visa Europe
iv Barclaycard
v Mastercard
vi Accenture
vii Gemalto
viii Visa and Mastercard mandates

LET'S TALK
www.verifone.com

RFID LABELLING OF TEXTILES – THE WAY TO EFFICIENT SORTING?

Retail involves complex textile materials composed of several different fiber types, with different dyeing systems and surface treatments. To enable increased tracability and to significantly improve effectiveness of sorting at end-of-life, new innovative solutions are necessary especially to increase the possibility of high value textile recycling. Swerea IVF together with RI.SE and Learningwell West are currently looking into the use of RFID-technology to make the handling more efficient, specific and cost-effective.

To ensure an effective sorting process, able to take into consideration fiber composition and chemical content in used textiles, in addition to increasing traceability, new adaptive methods are needed for identification of textile products. In a new project, Swerea IVF together with Learningwell West, RI.SE, TEKO as well as Swedish brands Peak Performance and Filippa K are looking into the possibilities for using RFID tags in retail, to greatly increase traceability throughout the supply chain, but also to facilitate subsequent processes and lay the foundation for circular textile value chains. An RFID tag can carry a large amount of data and is read when it is within range of a reader. At reading, the tag can be in the middle of the garment and covered with fabric without affecting the quality of the reading. This greatly facilitates handling compared to, for example, barcode systems, which can neither be read from a distance nor carry the same amounts of data. In addition, such a marking must be picked out of the garment and displayed to its reader, which is not the case for RFID. An RFID system can be used adaptively, and allow sorting of textiles based on the parameters specified. For example, such a system would allow removal of textiles containing a certain undesired chemical which is no longer permitted in textile products. Alternatively, it can sort on "simple" parameters such as colours and sizes or on process parameters

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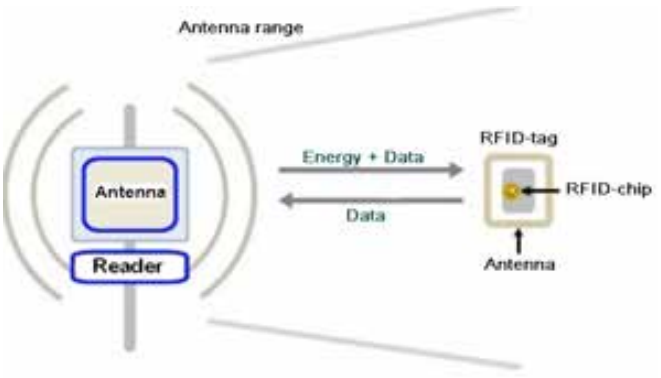
Louise Holgersson och Lisa Schwarz Bour

such as the dyeing system used. The technology would quickly and efficiently sort out textiles in a wide range of fractions according to the selected parameters, thus providing access to textile volumes suitable for different types of recycling techniques in a very efficient, fast, accurate and safe way with very small margin of error. An established technology of this kind directly influences the possibility of high value recycling of textile waste as raw materials.

Built-in or ambient intelligence is the future vision where information will be on and around people without their own knowledge of the actual information technology. In our vicinity and every day life, there is a constantly present information society with distributed data around us in our environment. Users are mobile and communication is established between individuals, between individuals and objects as well as between objects and devices themselves. This communication is achieved through 'invisible intelligent devices' that will touch almost everything in our society in a simple and easy way. These devices can collect, recognize, carry and distribute aggregated information in our immediate vicinity. Radio Frequency Identification (RFID) is one of the most important local connectivity technologies and a technology which can enable and prepare our future proactive data systems. RFID is a method of identifying unique objects using radio waves; the technology consists of a reading device that communicates via radio waves with an RFID tag. This tag has a unique identity but can also save external data in separate memory spaces that can be retrieved or changed. With the help of RFID technology, you get immediate traceability and identification of all RFID tags nearby. The technology is used primarily for identifying idividuals (entry systems) as well as products in logistics.



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Nanoelectronics allow mass production of new RFID silicon circuits at very low cost, which in turn leads to low cost RFID tagging and opens for new exciting applications, as in our case, traceability and identification of textile materials. RFID transponders are usually available in two designs, active and passive. An active RFID tag has a built-in battery while a passive RFID tag does not have its own power source. From an environmental perspective, the passive model is far more environmentally friendly and completely without recycling restrictions. Passive technology also brings more variety of RFID tags as well as readers, with both fixed and simple hand scanners. Another important factor is the need for standards for different brands to be able to read different tags and be supplier-independent. This is best developed within the passive RFID technology.

In addition to laying the groundwork for completely new prerequisites for sorting and recycling textiles, labeling and tracking of RFID technology can also help manufacturers, wholesalers and retailers, and not least end-users and consumers, through improved information across the entire life-cycle and value chain. Improved inventory management, automated inventory, diminished losses and thefts are some of the quick and visible effects. It provides better efficiency throughout the supply chain through lower costs and more effective routines. It also provides safer quality tracking with traceability throughout the supply chain, resulting in lower costs due to low quality, simplified return management at all levels and minimized risk of counterfeiting.

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NFC TAGS: THE SMART SOLUTION

Beneli, based in Sweden, produces high-quality, technologically advanced labels and smart solutions for brands and products. Günther Dieroff, sales and marketing manager, discusses the power of NFC labels to keep products safe, and provide a valuable and changeable marketing platform to brand-owners.

LIf whiskey were sold in unbranded bottles, it'd be difficult to tell whether you were buying a high-quality drink or a cheaper brand. From the outside looking in, they appear pretty similar. But crack open the bottle, take a sip and you'll know for sure. The only problem is consumers don't get to taste it before buying.

"Criminals can theoretically put a low-price whiskey in a high-price bottle and pretend it is the original," says Günther Dieroff, sales and marketing manager at Beneli. "This is why NFC labels work so well as tamper-proof seals. Consumers can be sure of the contents inside the bottle."

To put the threat into perspective, the global counterfeit market is worth about $600 billion a year, with phoney medical products accounting for about $140 billion.

"This is why NFC labels work so well as tamper-proof seals. Consumers can be sure of the contents inside the bottle."

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TAMPER-PROOF AND USER-FRIENDLY

Beneli has partnered with Norwegian company ThinFilm, which has recently expanded with a new factory in Silicon Valley. ThinFilm produces printed electronics, building the chips and technology inside NFC labels.

Currently in use with Beneli's labels is a tamper-proof tag under the brand name Open Sense. This can tell consumers if the product has been opened previously.

When it comes to medical solutions, devices and supplies, counterfeit products pose serious health issues. EU legislation, which will be enacted in February 2019, dictates every medical package be equipped with a tamper-proof seal, which will drive the market for NFC solutions.

So how good is NFC technology at thwarting counterfeiters?

"Each tag displays an individual number and nothing else," Dieroff says. "The rest is done in the cloud."

Criminals would need to remove the NFC label and replace it with another in order to conceal a crime. "This is a hell of a project," Dieroff says. The rest of the information is kept securely on a cloud-based system.

When an NFC label is activated by a consumer's smartphone, it can link to a landing page. This adds another important layer of communication to spread the brand message.

"Normally you see labels with product information in such small letters you almost need a microscope to see what's on there," Dieroff says. "NFC enables brand-owners to add more information."

They can use this space to tell the brand's story, engage with consumers through brand-related tasks, as well as issue additional instructions for use or provide specification sheets.

> *"This means brand-owners with products in different stores or on different shelves within the same store, can compare which geographical areas or display positions are performing best."*

REMOTE ACCESS

All this information can be amended remotely via the cloud. Say a brand-owner produces 100 bottles of exclusive brandy but realises, after they've hit the market, that the first ten bottles are substandard because of an incorrectly washed machine used in production.

"We can reprogram the individual tag numbers to deliver an apology to consumers, informing them there has been a mistake in production," Dieroff says. "For example, the message could tell them to return the product to receive two new replacements." This can be done in real time, taking only seconds to change.

Geographical data is another powerful tool provided by NFC technology. It shows where the tag has been tapped by a consumer's smartphone. This means brand-owners with products in different stores or on different shelves within the same store, can compare which geographical areas or display positions are performing best.

Beneli produces RFID tags and NFC labels. The former is used for long-range items and NFC for short ranges of up to 2–3cm. When it comes to paying solutions, a common use for NFC technology, short-range capabilities are essential. "It has to be very close with the device to read only the tags in front of the scanner," Dieroff says.

As the internet of things grows, NFC will help to connect more items to this network. Unfortunately, with interconnectedness comes more opportunity for meddling with the integrity of products. Dieroff says brand-owners of higher-priced consumer goods (above €20), such as certain alcohol brands, olive oil, truffles or Russian caviar are prime examples of products in need of protection from tampering.

The example of counterfeit whiskey is frustrating, but fake medical products could be life-threatening. NFC technology provides companies with the capability to protect reputation and product, as well as looking out for customers. As Dieroff says, no one wants to be cheated.

CIVINTEC NEW-GEN UTOUCH FREE ACCESS CONTROL BY SMART PHONE

CIVINTEC, one of the leading designer and manufacturer in NFC RFID terminals and devices, has planned its next show to present the new generation uTouch terminal at Trustech on 28-30 November 2017 in Cannes, France.

With Android OS 5.1 quad-core, uTouch is a new flagship on its more powerful general purpose management platform to run different Android APP in faster speed and high compatibility.

It will likely feature major design enhancements, including easier and faster personal identification by shaking smart mobile phone or operate APPs through both NFC and BLE (Bluetooth low energy), more APPs can be built to work with uTouch in various applications and occasions. uTouch is derived from physical access control with multiple advanced secure identification technology as RFID secured smart cards and biometric, but extended to more market to bring flexibility on people and devices auto and remote control.

Visit
www.civintec.com
to get more information.

IQ CABINETS THE SMART RFID KEY CABIN!

WHY DO WE NEED THIS TYPE OF CABINETS? THE IQ KEY MANAGEMENT ADVANTAGES

HERE IS SOME OF THE ADVANTAGES BY HAVING A STORAGE CABINET FOR DIFFERENT TYPE OF OBJECTS!

First of all, the right persons will have the right keys for the right time. If it is a key or storage cabinet, all keys and objects are stored in a safe place and you can protect them and follow the usage thru the log system.

When the users are many or the facility are spread out, you can manage keys centrally for several buildings and have an automatic real-time tracking of usage (who used the key before – view or print reports from the automatically updated Log)

Do you need to plan key usage (book a key for car or meeting room in advance)?

Controlled access to keys and box contents by defining the rights for individuals and groups on demand for keys and personnel.

How about security – only authorized staff has access to the system and it has an electronic protection against theft and sabotage. The cabinet also can invoke an external alarm.

All keys and stored objects are secured by electronic locks and each key has its own ID number (RFID).

You can arrange the cabinet in a random fashion but the keys can also be returned to a fixed position!

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One benefit is that you can grant temporary access remotely for external workers which can

increases efficiency and reduces cost!

SO – WHAT IS THE BENEFITS OF OUR SYSTEM?

First, it is an integrated industrial embedded computer with an integrated touch screen!

It has a built-in database and web server – No additional external software is needed for remote management and administration, just use the web-browser (directly from your desk)!

The system is easy to integrate with legacy systems using web services and XML based interfaces!

True RFID based identification, for every key position, individually.

Data synchronization between key cabinets (no limit for number of keys/boxes in networked cabinets)!

Thru the booking system (to reserve a key in advance).

The networking functions by default is smart and easy, (no additional software is necessary).

Flexibility to manufacture tailor-made solutions according to your needs are open for suggestions!

Storage box modules and key modules can be combined within one cabinet and the cabinets are expandable. It is easy to grow when you need additional new key- or box-modules!

Why wait – Do like the police, security companies, government facility's, real-estate companies, armed forces, car companies, home care, hospitals, banks and many others .

Go for it and contact us thru:
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or Lucas Åhlström, lucas@loxtore.se

WHAT IS RFID IN EUROPE?

RFID in Europe AISBL is a not-for-profit organization established in 2012. RFID in Europe's principle goal is to promote the adoption of Radio Frequency Identification and related technology solutions enabling small and medium sized organizations throughout Europe to gain competitive advantage through their best use. RFID in Europe connects with European end-users, operators, solution providers, universities, research establishments, nongovernment and government organizations and all other European stakeholders through own initiatives and promotion of national projects via our international network. RFID in Europe is an extension of a European Commission FP7 Thematic Network called RACE networkRFID initiated in 2009. RFID in EU also supports EU National RFID Organisations and related events including: RFID Nordic, DKRFID, ID World and EC IoT Week, in addition to industry initiatives including RFID & U with Marks and Spencers.

MAIN ACTIVITIES IN 2017?

- RFID in Europe Magazines with exciting updates www.is.gd/rfid_mag
- Annual general assembly (see the RFID in Europe website for updates)
- Academic engagement - Call for papers / proposals
- Hosting RFID in Europe networking events
- Development of RF identification technology (RFID, NFC, IoT, etc.) roadmap documents outlining current "state of the art" and future market trends.
- Direct engagement with European Commission and EC funded research initiatives
- Conducting European wide surveys to evaluate RFID implementation, highlighting common pitfalls, outlining general recommendations including interest and perceptions.

OUR MISSION?

Promote the adoption of RFID and related technology solutions across European end-users, operators, solution providers, universities, research establishments, including governmental and nongovernmental organizations.

MEMBERSHIP IS FREE!

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