



# Confidex Smart Tickets ensure environmental friendliness

**Confidex's Laboratory Engineer Eveliina Koski**  
reaches goals by discipline and persistency

**Meet Confidex in London at**  
Transport Ticketing &  
Passenger Information Global 2016



**CONFIDEX**  
Capturing IDEas

# Trust

## EARNING YOUR TRUST

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We build strong, sustainable relationships based on honesty and responsibility. We are committed to following laws, rules and regulations, and we require absolute integrity from our staff and partners. We keep our promises. We say what we do, We do what we say.



## Offering our expertise

Tampere, December 7<sup>th</sup> 2015

### Dear reader,

For this first issue, I would like, above all, to thank you for the opportunity to tell you about our organisation and the services we offer relating to the supply of Smart Tickets. Confidex is driven by the desire to best serve a wide range of global operators. This desire is underpinned by our corporate values: Trust, Expertise and Commitment which drive everything we do. I trust that this magazine will give you a better sense of who we are as an organisation and provide you with valuable information.

Confidex is a Finnish company, which was founded in 2005 and began shipping high quality Limited Use Contactless Tickets in 2006. As we approach the end of 2015, Confidex has established itself as the leading global supplier, shipping cumulatively more than 550 million units to mass transportation operators around the world.

In this magazine you will find information about our certified processes, our values and highlights of the quality products we are offering.

With the constant evolution of technology the needs and expectations of our customers also evolve. Our commitment is not only to provide our customers with Smart Tickets that are compliant with the increasingly

complex technical specifications of the Public Transportation system, but also to meet the needs of the Smart City and its demanding passengers.

I sincerely wish that you find the content of this magazine interesting and informational about our brand promise. Our goal is to further enhance our offer to ensure our value proposition continues to exceed your expectations.

Please enjoy your reading and do not hesitate to contact me at any time.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'P. Chadebech', written over a horizontal line.

**Pierre Chadebech**

Vice-President of Sales & Marketing,  
Smart Ticketing  
Confidex Ltd.





## In this issue

### December 2015

Confidex, the world's leading supplier of high-performing contactless smart ticketing, provides smart ticketing solutions for millions of users to more than 60 major cities and transport operators worldwide - including Venice, Dubai, Glasgow, Istanbul, Amsterdam and Rotterdam.

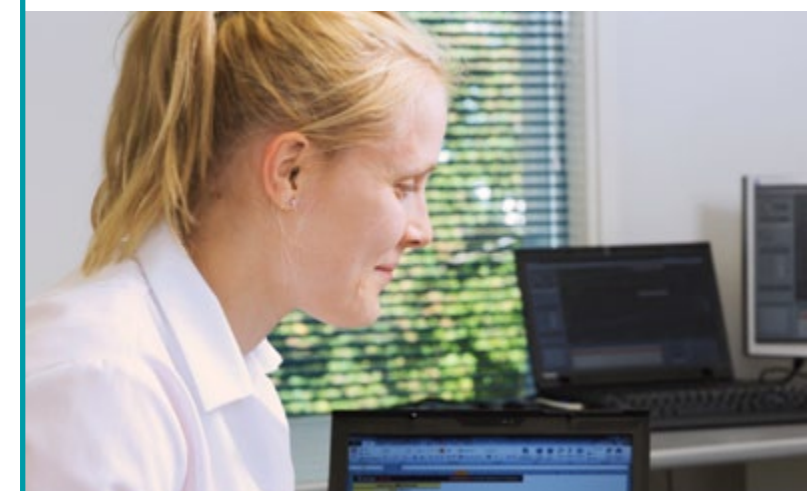


## Confidex Smart Tickets ensure environmental friendliness

*The products and services Confidex provides to its customers combine the attributes of being economical, ensuring 100% customer satisfaction, achieving unmatched quality standards, and promoting environmental friendliness.*

## Confidex editorial

*Eveliina Koski, Laboratory Engineer at Confidex, ensures that new Confidex Smart Ticket structures meet the requirements of customers.*



## Meet Confidex

*Transport Ticketing & Passenger Information Global 2016 takes place in London, on 26<sup>th</sup> to 28<sup>th</sup> January. Confidex will be present at the exhibition.*



# Confidex editorial

*Eveliina Koski,  
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requirements of customers.*

**Eveliina Koski**, MSc. (Tech) in Electrical Engineering, worked with the RFID research team in the Tampere University of Technology before joining the Confidex R&D team. A critical and analytical way of thinking and experience from different kinds of research methods in RFID has given her an advantage in her career.

As an experienced speaker at science conferences and featured author in scientific publications, she has a clear understanding of what it means to take responsibility of research methods and results face-to-face with a critical public audience. Now she is facing the global



expectations of millions of public transport passengers and the system operators – making sure that the manufacturing structures, materials and qualification processes of Confidex Smart Tickets meet the strict customer requirements.

It's a rainy afternoon, but the Confidex RFID Laboratory in Tampere Finland is brightly lit. Eveliina is surrounded by research equipment, too modern to make buzzing noises, like they do in sci-fi movies. There are some antennas, though. But not ones that we are used to seeing on rooftops or mobile phones. These antennas are invisible to the consumers' eyes – hidden inside the contactless high-tech RFID tickets known as Smart Tickets.

Eveliina changes into her white laboratory coat, protecting her from any chemicals that are used to perform reliability tests on NFC labels – another of Eveliina's responsibilities. She sits on a saddle chair, puts on blue rubber gloves and continues a task from yesterday: the creation of a new ticket prototype for customer needs. She picks up a pair of tweezers and gently attaches the tiny new type of microchip on a special antenna designed for this new attachment. It's a perfect fit.

"Good morning, everyone! Please continue the good work – don't let me bother you." Senior Product Development Manager and founding member of Confidex, **Heikki Ahokas**, enters the

laboratory. He is the global market leader in antenna design: more than 550 million contactless Smart Tickets of his original design have circled around ticket vending machines and to the hands of public transportation passengers during the last 10 years.

The laboratory is soon filled with relaxed conversation, topics ranging from an ongoing EU research project of future integrated RFID solutions to yesterday's sunny sporting weather. Innovation needs not only strong individual capabilities but team efforts and good team spirit – all that is present here, at Confidex innovation office.

Eveliina lifts up the newly attached prototype. It's time to test its durability, to confirm that the chip and antenna connection is up to the challenges of mechanical bending. Eveliina enters the prototype into the specially designed testing machine, "Bender". She adjusts the speed and starts the time. Strict working methods ensure the results are reliable. However, it's hard to find a person more critical or strict than Eveliina when it comes to performance and routine. She is a national top level body fitness contestant, after all.

While the prototype is being tested, Eveliina has time to confide what she thinks about her work environment. The best thing about it is the creative and ambitious working atmosphere.

"We work together and everyone's talent gets highlighted. We share development ideas and take



on new challenges enthusiastically. We support each other and set high goals. I like to work here, we have trust and commitment in this team as in the whole company. I have been with Confidex now for 1,5 years and got a warm welcome to the team. I received excellent introduction to the ways of working here and I fully relate to the values and vision – trust, commitment and expertise – of Confidex.

It's just like my attitude towards fitness as a sport: you work hard, challenge yourself and reach the goals by discipline and persistency. And when something goes wrong, you get support and guidance from the coach and team. Since, after all, development is only achieved by reaching your limits. In the end you get really surprised at how far you can go."

When asked about her future career goals, she smiles. "Although my main responsibility is to perform the qualification and reliability tests for all of our customer specific products and to maintain the testing equip-

ment, I have already taken part in the actual antenna designing. The testing process is a very important part in designing of new products, so I can see my strengths there as well. All our products – Smart Tickets, NFC labels and RFID tags – need to pass the high standards of Confidex and our customers to be entered into Confidex product portfolio and offering."

The Bender's time is up. Eveliina detaches the prototypes from the reel and checks the reading of each. The curve spikes high on the parameter – it's all clear.

Time to send the prototypes to the factory for production implementation and testing. And later, after a sample drive and an approval of the "golden samples" from the customer, the new ticket type is ready to be launched into full scale production – and eventually, to the hands of metropolitan city passengers. ■

## Commitment

SUCCEEDING TOGETHER

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Our dedicated personnel are the most important resource in our company. Understanding the customer's needs and requirements is the foundation for our success. With each other's encouragement and support, we can all reach our full potential. We treat each other with dignity and respect. We are talented individuals, but realize that together we can achieve even more things to be proud of.

*Quality control of customer specified RFID antenna. Eveliina forwards the good results to **Matti Ritamäki**, the CTO of Confidex.*





# Confidex Smart Tickets ensure environmental friendliness

*Today, the public transportation operators are facing increasing demand for environmental friendly systems and processes from the governments and conscious passengers. Confidex is taking this challenge seriously - being dedicated to offer only products and services with solid product life cycle based on environmental performance and durability.*

One of our ambitions at Confidex is to grow profitably while respecting the environment. As a starting point, this requires solid product life cycle based on environmental performance and durability.

We are aware of, and responsive to, environmental risks and opportunities: at Confidex, we comply with

environmental legislation and anticipate its development.

As a proof of our processes, Confidex Finland and Confidex China have both been certified according to ISO 9001-2008 quality standard. Additionally, Confidex factory has been officially certified according to the 14001 environmental management standard, since September 2010.

## Confidex, in order to achieve the environmental goals:

- Uses ISO 14001 environmental management system to maintain and improve environmental performance.
- Designs its products to minimize their impact on the environment during the entire product life cycle.
- Uses recyclable materials in production.
- Uses RoHS and REACH compatible materials.
- Helps its customers to reduce their environmental footprint through providing advice and recommendations as well connections to our partners offering recycling solutions.

- Communicates regularly its environmental policy to all employees, subcontractors and suppliers.
- Involves all employees in activities of energy saving, waste reduction, and environmental protection in its production.
- Continuously improves the environmental performance of its operations and the know-how of personnel.

*By selecting Confidex Smart Tickets, you select not only Smart Mobility but a solution based on sustainable responsibility - since Confidex owns the full value chain from an idea to a finished product, we ensure not only our product performance but also provenance and best-in-industry full lifecycle environmental control. ■*



*The products and services Confidex provides to its customers combine the attributes of being economical, ensuring 100% customer satisfaction, achieving unmatched quality standards, and promoting environmental friendliness.*



## Expertise

OFFERING OUR EXPERTISE

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Our aim is to lead the industry by continuously developing our performance and skills. We are highly professional, hard working, creative and innovative in everything we do. We dare to question old ways of thinking and find brand new solutions. We look forward to overcoming each new challenge. We highlight quality in every single area in which we work.



## Meet Confidex at Transport Ticketing & Passenger Information Global 2016

*Transport Ticketing & Passenger Information Global 2016 celebrates its 7th gathering on the 26-28 January 2016 in the Old Billingsgate Market, London.*

The world's largest and most exciting public transport ticketing conference brings together all the key players from across the smart ticketing and passenger information industry. The entire ticketing and payments ecosystem in public transport gathers at this event for the annual opportunity to meet representatives and peers, build new relationships, get live updates

on current ticketing programmes, be the first to hear about launches and hear from the tech pioneers on how to scale your programme. ■

**Come and meet us at booth B15!**

Venue: Old Billingsgate Market, London

Date: 26-28 January, 2016

*To get more information on the event visit event site:*

[www.transport-ticketing.com](http://www.transport-ticketing.com)





## Confidex Smart Ticketing TECHNICAL DETAILS

RF / Standards:  
ISO 14443A, ISO 14443B, ISO 15693, MIFARE, ISO 15457

Contactless chip:  
NXP, Infineon, ST Microelectronics, EM Microelectronic

Memory:  
from 256bit up to 8k bytes EEPROM

Security:

- UID (unique identification number)
- OTP (one time programmable memory)
- Write and/or read protection
- Optional: cryptographic certificate, 3DES dynamic authentication
- Holograms

Formats:

- Size: ISO 54x86mm, special sizes on request
- Thickness: from 250um to 480um
- Delivery form: reel, fanfold, single cut, carnet (booklet)

Personalization:

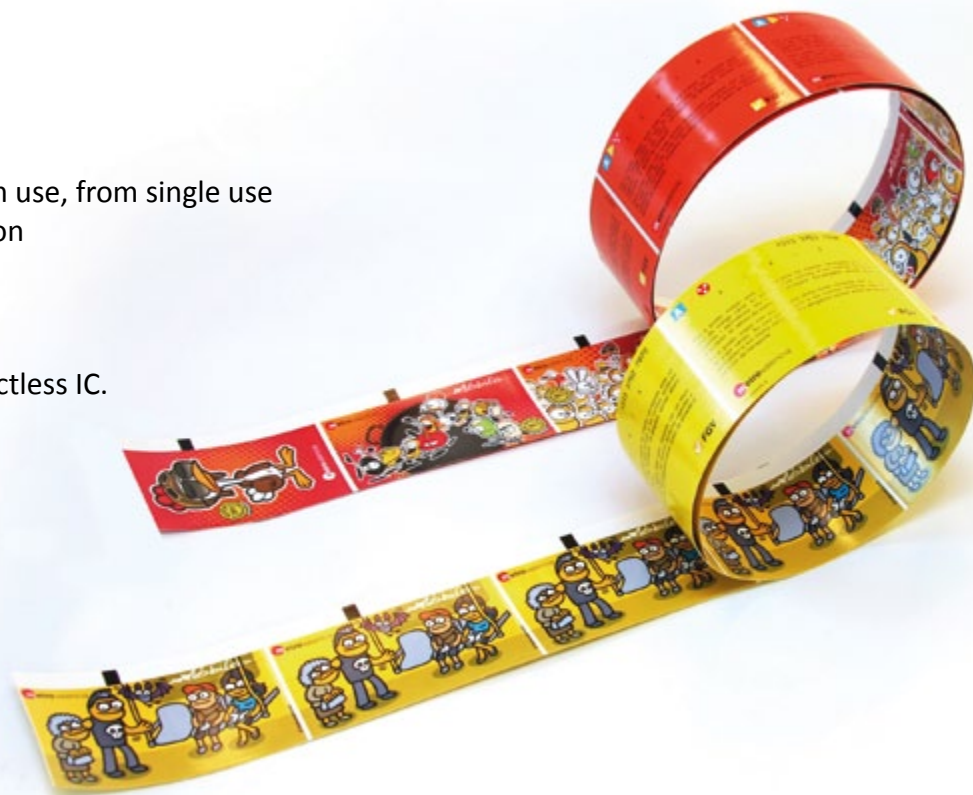
- Customer specific printed artwork, thermal paper
- Ink-jet post printing: UID, incremental continuous serial number, barcode
- Customer specific electrical encoding: certificates, fares, values, validity dates etc.
- Customer specific data log files
- Further services on request

Materials:  
Paper / PET inlay / paper, full PET (thin PET card)

Durability:  
Robust, high immunity to flexion

Life time:  
Designed for short and long term use, from single use to minimum of 1 year in operation

NOTE:  
some technical indications may be specific to the selected contactless IC.



Confidex Smart Ticketing solutions combine unmatched product reliability, versatile customization services and environmentally friendly materials – *all at an attractive total cost of ownership.*

Smart Ticketing for AFC systems • Tourist and city cards • Parking and Park & Ride tickets • Leisure • Access Control  
Turnkey solution Fully compatible with your ticketing infrastructure Flexible delivery services Ready-to-use fare media





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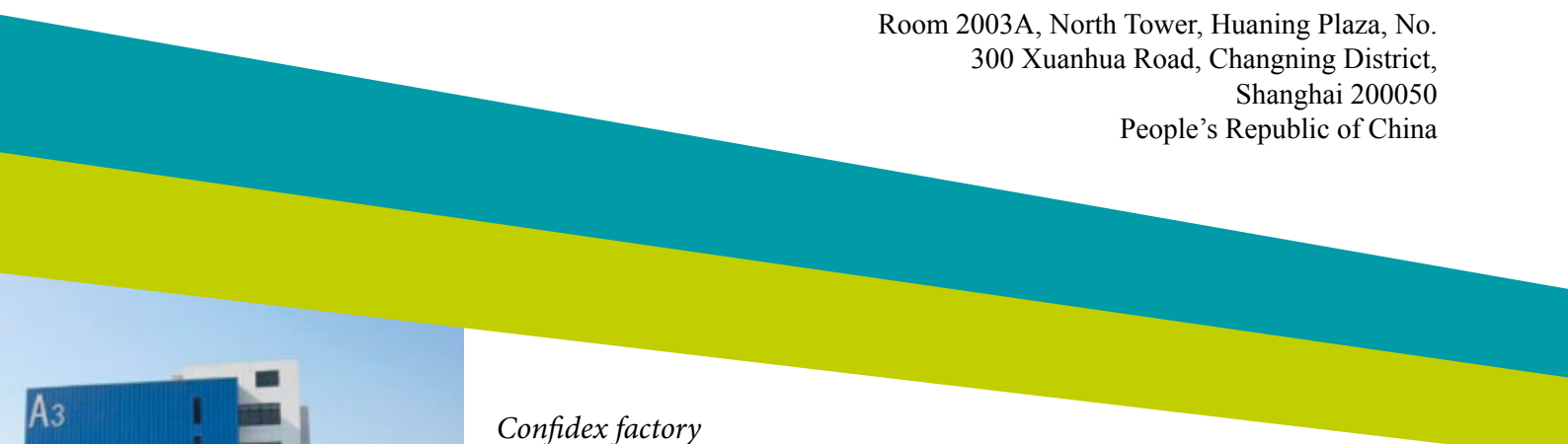
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*Confidex factory  
located at  
Guangzhou  
science city.*