

## AdvanIDe - Newsletter Issue No. 3 – December 2010

### *Introduction – by Holger Roessner, Managing Director*

Dear reader,

The year has almost come to an end and it is time for us to thank our customers and partners for a great 2010. While 2009 was highly affected by the meltdown of the real estate market and the falling of related domino stones, such as consumer spending and electronic production output, the current year is signified by an enormous recovery of the semiconductor industry. In fact, the market was restored in such a pace, that some of our customers and us were taken by surprise at times.



Hence, I would like to take this opportunity to apologize to some of you for not always being able to cope with the high demand resulting in occasional production stops. While capacities have been increased continuously at all our supply partners, the situation remains tight well into 2011 and we will be experiencing long lead times at least through Q1 and perhaps till Q2.

In this newsletter, we have various contributors from our partners and customers sharing insights into their business and product roadmaps. We also have compiled a summary of our Voice of the Customer survey, that was conducted early 2010. We are encouraged by the invaluable feedback given and are glad to have received such a positive response from our customers.

Lastly, if you happen to make your way to visit CARTES in Paris, pls. drop by at the AdvanIDe booth, where our team will be happy to meet you.

Sincerely,



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## AdvanIDe's Voice of Customer (VoC) Survey - Results

We would like to thank all participants of our annual customer satisfaction survey that was conducted earlier this year! We were pleased about the high level of customer involvement with a large percentage of submissions coming back to us. This clearly shows us that there is a sincere interest from our clients in the survey.



Here are some of the key highlights:

- Customer Satisfaction level: 90%
- Amount of customers satisfied with their sales representatives: 89%
- 85% of customers think it is easy to do business with us
- Percentage of customers who would recommend us to colleagues or business partners: 84%

The top areas of importance for our customers are: Delivery, Responsiveness, and Competitiveness. In a mirror survey that was conducted amongst our employees and semiconductor partners we were able to gather valuable inputs which will help us align understanding and expectations between our customers and partners. Amongst all participants, who provided their email contact for the lucky draw, Mr. Andreas Gordes of Cardfactory AG (Germany) is the winner of an iPod Touch. Congratulations to Andreas and a very warm thank you to all participants in our survey. The results are encouraging for the whole AdvanIDe team to further build on our strength and to work on areas of improvement.

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### AdvanIDe behind the scenes: China Offices



AdvanIDe China is a representative office, focussed on the components for RFID Transponders, chip cards, RFID readers and terminals, was set up in 1999 in Beijing, capital city of China and centre of business and politics. With more than 5 year endeavours and developments, a sub office was set up in Shenzhen, a special economic zone of South China, to intent to cover entire of north and south of Chinese market.

AdvanIDe Beijing office is a general office of AdvanIDe China, which is not only a sales office, but also an important backup centre serving for both Beijing and Shenzhen offices on resources supply, technical support and administrative management. Strong and efficient support give AdvanIDe China the fuel to sustain in a favourable position in the competition.

Acting as an indispensable sales function department, the AdvanIDe Shenzhen office is growing very fast, which is mainly serving the southern Chinese Market including Hong Kong, which is one of the key geographical area for identification products distribution.



They complement each other, support each other and strive for the same goal, in accordance with AdvanIDe's mission to place the customers at the heart of everything by enhancing customer value through delivering superior quality products, solutions and professional customer services, which reinforces the long-lasting customer trust and keeps the revenue increasing steadily.

**Patrick Hu** is our Regional Sales Director based in Beijing. Patrick has more than twelve years of smart card and identification industry experience, working formerly with NXP Semiconductors, Schlumberger and Bull in various positions in sales and technical support. Patrick joined the company in March 2010. He holds an Electrical Engineering degree.

**Scott Xu** is AdvanIDe's Sales Manager for South China based in Shenzhen. Scott joined the group in 2004. He plays an important role as lots of key customers are located in Shenzhen. While dealing with customers directly, Scott is also taking care of business development.

**Iva Du** works as Office Executive based in Beijing. Iva has joined in 2001 and is a highly experienced professional. Apart from managing the day to day accounting and administration related activities, she is also responsible for internal sales and customer service.

**Bryan Zan** is our FAE based in Beijing, supporting our customers in PRC region. Bryan joined in 2006 and he holds an Electrical Engineering Masters degree.

**Tony Zhou** is our Sales Manager in North China based in Beijing. He started his career in AdvanIDe from July 2010.

**Linda Ye** is located as Sales Engineer in Shenzhen. She joined us in July 2010. Besides sales activities, she also provides assistance in customer services.

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## Product Updates:

### New products, useful links and documents

#### MIFARE Technology: 4byte UID issue and migration

For the 4byte (UID) Unique Identification Number products in MIFARE family, the industry has run out of unique identifier and these IDs will be no longer unique identifiers. It affects all ISO/IEC 14443 Type A products including MIFARE Classic products (MIFARE Classic Mini, MIFARE Classic 1K and MIFARE Classic 4K), MIFARE PLUS as well as all MIFARE Classic implementations on NXP's SmartMX and JCOP products.

The 4byte UID existing implementations should be migrated to either use 7byte UID in their applications or use 4byte UID as non-unique UID.

This will impact many MIFARE Classic implementations of NXP and licensees on dual interface ICs, contactless SIMs and secure elements. For upgrading or migrating to 7byte UID products please see NXP Application Note AN10927 or contact AdvanIDe local sales representative for support and samples.

The final products with 7byte UID will be available from Q1 2011 onwards.

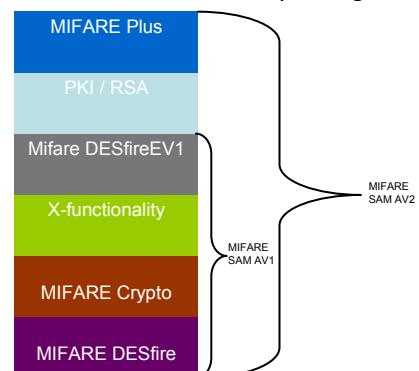
#### MIFARE SAM AV2, available now @ AdvanIDe

For a growing number of smart card applications, solution developers need to ensure ever-changing high security standards. NXP MIFARE SAM AV2 turns even the simplest reader into a high security transmission device. With 3DES and AES capabilities, the MIFARE SAM AV2 hardware solution offers secure key storage and secure communication for a variety of infrastructures. It offers:

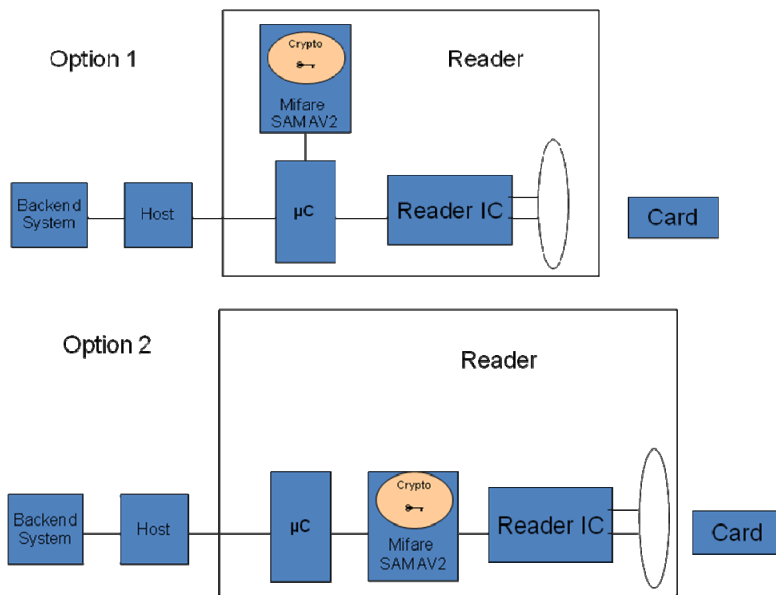
- MIFARE PLUS Support
- Optimized MIFARE Ultralight C support
- Personalization for MIFARE DESFIRE Keys
- PKI for Key Management with distributed installations
- Secured storage and usage of RSA (upto 2048 bits) key pairs

MIFARE SAM AV2 available Modes:

- AV1 Mode
  - Functional backwards compatible mode to MIFARE SAM AV1
  - Default delivery configuration
- AV2 Mode



This MIFARE SAM AV2 could be implemented in two options shown briefly as below:



#### LEGIC Reader IC SM4200 13.56MHz

LEGIC Reader IC SM4200 operates at 13.56MHz and comes in QFN56 package with dimensions of 8mm X 8mm X 0.9mm. Highlights of this reader IC are:

- Operates with ISO 14443 A+B, ISO 15693, LEGIC RF standard, Sony Felica, Inside Contactless (Pico Pass)
- Ultra low power consumption
- Small Size & easy design-in
- All-in encryption package
- Full end-to-end security
- Firmware upgradable
- Best price-performance ratio



LEGIC advant reader chip SM-4200 size 8x8 mm (1:1 illustration)

Target markets of this reader IC are electronic cylinders, door locks, mobile applications, logical access, government ID projects and multi-technology readers where small reader size and battery life is crucial. Because of the selection of almost all the RF standards and security element, this tiny reader IC is prepared for future upcoming requirements and will benefit in one investment for an ongoing migration. This reader IC is easy to integrate and all mobile applications will benefit with the extended battery life time.

Supported transponders are:

- All ISO / IEC 14443 A+B part 4 compliant transponders for e.g. MIFARE DESFire, MIFARE Plus, SmartMX, Infineon SLE66, etc.,
- Selected ISO 15693 compliant transponders for e.g., EM4035, Infineon my-d, etc.
- Additional Transponders for e.g., NFC Forum Tag 2/3/4 types, NXP Ultralight, NXP MIFARE Classic (UID only), Sony Felica (plain text), Inside Contactless (UID only), HID iClass (UID only), etc.

#### Infineon Evaluation Kit Contactless

The Evaluation Kit Contactless assists designers getting started with Infineon's contactless security controllers, contactless memories and RFID. The kit offers sample cards, sample inlays and easy to use PC software plus a desktop reader. The reader supports a various number of features and functionalities of Infineon's smart card products. Products with either a contactless interface or a contact-based interface can be evaluated and

tested. All software tools are equipped with a Graphical User Interface (GUI) and assist users getting started and support expert modes too.

To highlight only one new feature i.e., the support for the EasySAM SLF 9620 in combination with the my-d manager 1.7 for my-d proximity 2, my-d vicinity secure products as well as for MIFARE compatible products.

The EasySAM which is mounted at the reader board enables secured authentication between the reader and my-d™ chip cards or card using MIFARE-TM technology, 3DES or AES128 authentication schemes. It features a dedicated key management system including key derivation and key upload.

AdvanIDe now has access to Infineon's Evaluation Kit Contactless ready for delivery to support you needs for Infineon's Contactless smart card products.

#### Software Packages

CCTop®, Expert tool for:

- Smart Mask Support (CB & CL)
- Mifare compatible products
- APDU Command Interface (T=0, T=1, T=CL)
- ISO/IEC 14443 layer 3/4 support
- Includes reader API

Smart Card Manager, getting start tool for

- Smart Flash support (CB & CL)
- Mifare compatible products
- APDU Command Interface (T=0, T=1, T=CL)
- Script Support (Java)

my-d™ manager, standard tool

- RFID & CL memories
- EasySAM support

5 Samples each

- Ticket SLE66R01P my-d™ move
- Sample card SLE66R32P my-d™ NFC
- Sample Card SLE66R32S my-d™ proximity 2
- Sample Card SLE66R35
- Inlay SRF 55V01 my-d™ light
- Inlay SRF 55V02P my-d™ vicinity
- Inlay SRF 55V10P my-d™ vicinity
- Inlay SRF 55V10S my-d™ vicinity

#### Picture of Evaluation Kit Contactless



#### Reader DUALi DE620R with USB Interface

- CL interfaces (ISO/IEC 14443, ISO/IEC 15693)
- CB smart card interfaces compliant to PC/SC (ID-000 integrated + ID-1 Card slot)
- Powered via the USB interface

#### HF Analyzer Kit (miniVNA)

The miniVNA is a tiny antennae analyzer. It is connected to a computer with just one USB cable and is powered using the same interface. An internal option for serial (RS232) communication is available as well. With the included antenna and cable, you are able to setup a mobile test station within minutes. Quickly analyze frequency of smart cards and it will be displayed on the application screen immediately.

Analyzer characteristics:

Frequency coverage for HF Smart Cards

USB compatibility

Software compatible with Windows and LINUX OS

Small box, ideal for customer visits

Features:

Measure Resonance Frequency

Measure Q Factor

Fast check card behavior



Drivers available for Win98SE, Win2000, WinXP, Win Vista, Windows 7 or LINUX

USB or RS232 port

For datasheet please click [here](#).

**Important Links:**

- NXP CLRD70x PEGODA Contactless reader firmware update  
[http://www.nxp.com/#/pip/pip=\[pip=PE099231\]|pp=\[t=pip,i=PE099231\]](http://www.nxp.com/#/pip/pip=[pip=PE099231]|pp=[t=pip,i=PE099231])
- NXP MF RC5xx Sample source code and basic function library  
[http://www.nxp.com/#/pip/pip=\[pip=CLRC632\]|pp=\[t=pip,i=CLC632\]](http://www.nxp.com/#/pip/pip=[pip=CLRC632]|pp=[t=pip,i=CLC632])
- GlobalPlatform Card Specification v2.2  
<http://globalplatform.org/specificationscard.asp>
- Nokia Development tools for Java application on Series 40 platform  
<http://www.forum.nokia.com/develop/java/tools/>
- EM Microelectronics tools for RFID devices from EM  
<http://www.emmicroelectronic.com/line.asp?idline=31>

**Webinars & Trainings:**

**AdvanIDe**

We provide support on all requests like tender / RFQ support or technical issues on a global level. Please contact our support on the below emails and someone will assist you immediately.

Technical Support:

Americas [support.americas@advanide.com](mailto:support.americas@advanide.com)  
 Europe - Africa [support.europe-africa@advanide.com](mailto:support.europe-africa@advanide.com)  
 Greater China [support.china@advanide.com](mailto:support.china@advanide.com)  
 India / Middle East / ASEAN [support.asia@advanide.com](mailto:support.asia@advanide.com)

For dedicated sales or technical trainings, please contact us at [info@advanide.com](mailto:info@advanide.com).

**NXP**

NXP organizes webinars and technical trainings on a periodical basis in Asia and Europe regions. Detail schedule of these webinars and trainings are available with us as well as on NXP's website. Registration is possible via email for upto 3 working days before the webinar. Registration requires full information including participant's name, company, address and telephone numbers.

To register please send an email to [CAS.trainings@nxp.com](mailto:CAS.trainings@nxp.com). An invitation letter will be sent via email regarding the webinar details and login credentials, just before the training.

Upcoming RFID webinars are as below:

<b>Authentication for Fast Moving Consumer Goods</b>	December 13, 2010	9.00am CET for Europe & Asia	1 hour
		5.00pm CET for Europe & America	1 hour
<b>Frequency Selection for your RFID applications</b>	December 14, 2010	9.00am CET for Europe & Asia	1 hour
		5.00pm CET for Europe & America	1 hour

Upcoming JCOP Webinars are as below:

<b>EEPROM Characteristics</b>	December 01, 2010	9.00am CET for Europe & Asia	1 hour
		5.00pm CET for Europe & America	1 hour
<b>EMV Introduction</b>	December 29, 2010	9.00am CET for Europe & Asia	1 hour
		5.00pm CET for Europe & America	1 hour

**Partner Profile:**

**Plasticard-ZFT**

**ID Card for Any Application**



Identification media such as identification cards are subject to increasingly stringent requirements. The need for security is growing, as are the range of buildings requiring security and demands for convenience and the service life of the cards. Though these growing demands increase the complexity of ID media, all functions should still be available in single ID medium. Plasticard-ZFT GmbH specializes in implementing individual solutions tailored to the unique needs of its customers. In extreme cases, the company is even able to combine upto 7 storage technologies in one card-ranging from magnetic strips to barcodes to crypto-controllers. Plasticard-ZFT GmbH specializes in manufacturing of plastic and chip cards with and without contactless embedding in small and medium size editions featuring an individual design:

## The House of Cards

- Chip cards e.g., memory or process chip cards
- Combi cards with various chip types
- Hybrid cards with crypto-controllers
- Individual printed windshield labels with UHF technology
- Key fobs with RFID technology in numerous shapes and colors from our production
- XXL cards in 140 x 88mm format
- Open formats
- Highly durable cards (e.g., resistant to high temperatures, UV radiation, bending stress, etc.)

More information please contact:

Plasticard-ZFT GmbH - The House of Cards

Managing Director Jürgen Werner

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[Juergen.werner@plasticard.de](mailto:Juergen.werner@plasticard.de)

[www.plasticard.de](http://www.plasticard.de)

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**Agfa Gavaert, ARECON and AdvanIDe team up for the marketing of PETix, a new generation of card materials in Asia Pacific**



Life time expectations for ID Documents and cards are increasing, requesting enhanced robustness of card materials. The current long life solutions, based on Polycarbonate, are pushed to their limits and beyond. Agfa took this as the motivation to use their decades of experience in Polyester manufacturing and converting to develop PETix Polyester films, customized for standard card manufacturing processes.



Following the successful market introduction through ARECON into the EMEA market in 2010, ARECON and Agfa selected AdvanIDe as their exclusive partner to extend the sales reach and execute the market introduction into the Asia Pacific region.

PETix product family consists of a variety of clear overlay and core films providing excellent laser contrast, good printability, perfect scratch resistance and superior mechanical stability leading to a lifetime expectation for cards manufactured of this new material, exceeding 10 years.

Combined with standard PVC or PETG material, PETix provides performance superior to Polycarbonate at a fraction of the price.

Cards made of a combination with PETix and PVC reaching temperature stability up to 110°C and bending resistance according to ISO, exceeding 500.000 bending cycles (ISO requests min. 3000 bendings) PETix cards outperform Polycarbonate products by far.

PETix properties within the competitive environment:

	PVC	PET-G	PC	Teslin	PETIX™
Heat stability	3	3	1	2	1
Flex/Torsion resistance	3	3	2	2	1
Scratch resistance	3	3	3	3	1
UV resistance	3	3	2	2	1
Chemical resistance	3	3	3	2	1
Resistance against delamination (of outer layers)	3	3	1	1	1
Compatibility with contact chip	1	1	1	2	1
Compatibility with contactless chip	1	1	2	3	1
Price-performance ratio	2	2	3	2	1

1	Best
2	better
3	reference

Considering the great market coverage of AdvanIDe in the Asia Pacific region ARE CON and Agfa are extremely excited about the opportunities the collaboration with AdvanIDe will generate for the PETix materials on a worldwide basis. For further information please contact the ARE CON team at [rettig@are-con.com](mailto:rettig@are-con.com) or +49 441 8000 676

***New Employees:***

The following new employees have joined our team throughout 2010:

In our Beijing, P.R. China office:



Patrick Hu  
Regional Sales Director



Tony Zhou  
Regional Sales Manager

In our Shenzhen, P.R. China office: Linda Ye,  
Sales Engineer



In our Singapore Office:



Danny Pan,  
Logistics Manager



Janice Ling,  
Accountant



Veronie Yong,  
Accountant



Christine Chong,  
Operations Executive

In our Walluf, Germany office:



Kay Plaumann,  
Line Manager



Thuy-an Nguyen,  
Customer Service Officer

**Shows:****Recent SmartCardsExpo Show in Mumbai**

This year the Smart Cards Expo took place in Mumbai instead of Delhi because of the Common Wealth Games. Mumbai is a major centre for financial and banking industry and the capital city of Maharashtra state. Maharashtra state is the third largest state in the country by area and second largest by population, about 97 million people.

The focus of the show was on State-level e-Governance, Corporate and Financial & Banking applications.



AdvanIDe got an award as a Valued Exhibitor.

Thank you to customers and partners and to the Indian team as well for a great show. With 187 exhibitors from about 25 countries and over 6000 visitors, it was a great show and we hope to see you all again at the next show in Delhi in 2011.

**September 28 - 30, 2011 Pragati Maidan, New Delhi, India.**



September 28, 29, 30, 2010  
Bombay Exhibition Centre,  
Goregaon, Mumbai, India

**Upcoming Cartes Show – Visit AdvanIDe**

Paris, France: Cartes & Identification 2010  
On December 7, 8 & 9, 2010  
Booth: 4 M 012

**Article:****Smart Documents – how JCOP with RSA fits into the application**

What a fortunate day!!! After all the precious time spent in education, you finally graduate with flying colors. You are very happy and anxious to take on all of life's challenges, look forward to an impressive job in a reputed firm and show the world your achievements. Finally, you get your first interview call and the first thing asked in the communication mode is the valid documents in original, which will be required for verification. You gather all your belongings and enter the interview premises. Alas you see that there are more than a dozen of people being called, of which you are one of them. After the entire interview process, you are asked to wait till the documents are verified by the placement agent / prospective employer. No doubt, either the documents or its copies are with them and they would take about a month or so to get these verified. What happens during this month? There are so many what-ifs going around in that fresher's minds. There is precious time wasted by the prospective employer and guess what, if there's a placement agency involved, they will actually be going haywire with all these pending decisions. After all these efforts and time spent, a final what-if about "the prospective employer hires a fresher with fake certificates" is still lurking on everyone's minds. Ever imagine what RFID can do here?

Here's where RFID helps all the entities in speeding up this process. Yes, we are talking about smart RFID controllers embedded inside the documents that could self certify, self authenticate and self verify its contents. No internet, no couriers, no waiting, no hassles, on the spot verification and quick decisions taken. Surprised??? With smart cards and RFID already enhanced by several manifolds in last few years, all of this is now possible.

We have come a long way to evolve these secured documents. Initially we had manually written signed & stamped documents, which eventually we switched to electronically printed documents with issuers and document holder's photograph. With this also being duplicated, we started to put various security features on the physical document like UV inks, micro-prints, security threads, etc., which are comparable to what is being used in currency notes. With these traditional security features like holograms, anti-copy, invisible watermarks, etc being not sufficient enough to prove the authenticity of the document, as a recent and ultimate solution, we now introduce smart RFID controllers, which are highly secured and certified with Common Criteria, embedded into these physical documents. With combined security features which are visible and invisible, electronic chips enhance the protection from all the fake documents.

Securing documents is a relative term, and just like selecting the right solution for an application, it is very important to select the right RFID chip for this application. There are several RFID chips available from those that are unsecured or purely free readable, to highly secured controllers that implement the highest level of secured key management systems.

The categories of RFID chips are:

- Pure UID based chips,
- Hardwired memory logic chips,
- Hardwired crypto memory logic chip and
- Smart controllers with crypto co-processors.

So, in order to be fully prepared with the best available security for the documents, one must use the smart RFID controllers and implement a PKI based Key Management System.

We are now talking about all the security encryption algorithms and digital keys & signatures available on a tiny chip that could enable self-verification of its data content and authenticate itself as being genuine. As seen above, not all RFID chips can do this. Only the smart RFID controllers that can operate over a standardized radio frequency on standardized protocols with open source crypto algorithms and digital keys & signatures can perform these jobs.

In our case, the entire process of enabling a document with these security features offered by a smart RFID controller consists of embedding this chip into a blank specialized paper with watermarks, then doing security micro prints using specialized inks and processes, including UV threads, electronically personalizing the smart RFID controller, printing the candidate's details, signing and stamping by an official, plastic lamination of the



document for longer life, presenting it folded with a ribbon to the candidate in a ceremony and finally having this self verified by anyone involves various entities right from the RFID to paper embedder, a scheduled security printer, various university department officials, placement agencies, the employer and finally the verifier, in general. If the solution is not open and standardized, the trust factor on the solution dies out immediately with plenty of ifs and buts.

Like in this case study, there are plenty of application areas wherein along with other so-called "cosmetic" security features, a document would be highly secured using the services of embedded smart RFID controllers. There are secured documents everywhere, Government Departments, Documents issued by Special Bureaus, Banking and Financial Undertakings, High Value Investment Instruments, Inter-industry certifications, Permits and Authorizations, Legal Proceedings, Land Record Documents, Title Deeds to name just a few. In other words sky is the limit to this solution.

Coming back to the smart RFID controllers, these are enhanced micro-controllers with strong and fast crypto hardware co-controllers which support all the possible data

security encryption technology available as of today. These micro-controllers operate on a standardized radio

frequency which it uses to power up the chip as well as for communication. They run an open source operating system that supports high-level application development to use all the security algorithms supported by the chip's hardware, thereby giving full flexibility to the solution developers. We look upon a particular product offering from NXP Semiconductors i.e., the SmartMX series, and an open source operating system the JavaCard / OpenPlatform or the JCOP. This chip supports symmetrical cryptographic algorithms like 3K-3DES and 128-bit AES along with the well-known asymmetric public key infrastructure based key-pairs like upto 2048-bit RSA and 192-bit ECC. Apart from all this, the SmartMX hardware also supports the SHA-1, SHA-224 and SHA-256 hash algorithm. With data retention time of minimum 20 years and 500K read/write cycle endurance, this chip fits all the requirements of this application at its best. JavaCard / OpenPlatform operating system acts as an icing on the cake, providing all the power to the system integrators to program this chip to function the way they want it to.

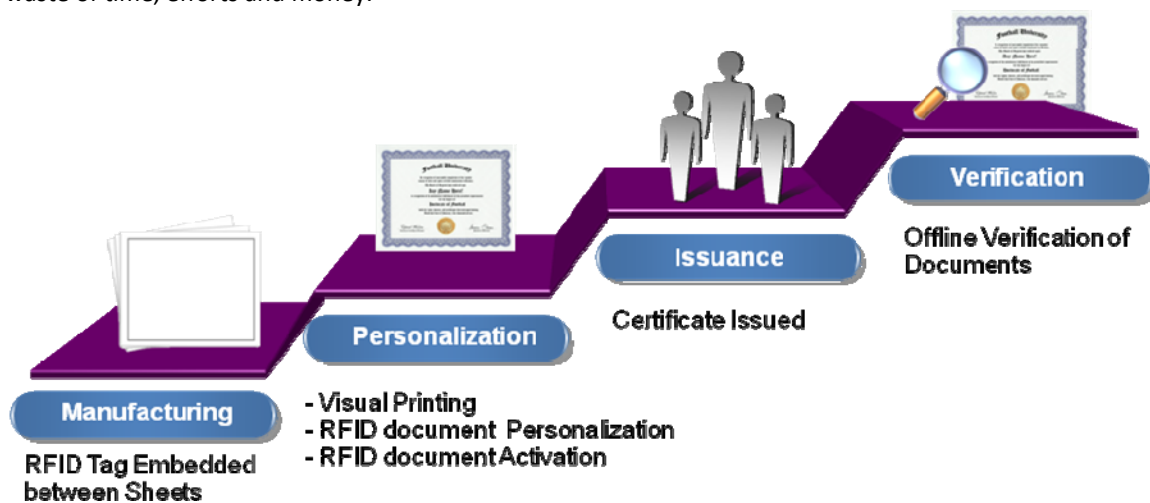
However, since you have the power to design and program this chip, certain things should be very well implemented to have the best security possible. They are as follows:

- Use the best available security algorithm provided by the smart RFID controller
- Design a secured Key Management System for the card access and authentication
- Use Hardware Security Module at the backend to encrypt all the processes involved with the personalization of the smart RFID controller in the document and further activation processes

In smart RFID controller embedded documents, the key application requirements here are as follows:

1. To prove that the chip is genuine based on the verification of the self-generated PKI keys,
2. Self-authenticating by verifying the public key from the reader / application,
3. Reading out the hashed and digital signature signed contents for further verification in an encrypted format, and finally
4. Recording a log all the successful verifications done during its life time.

If any of these points are not satisfied, the entire purpose of embedding an RFID chip in the document is a waste of time, efforts and money.



As a part of the personalization process, the document issuing authority generates an RSA Master Key Pair inside its HSM. The smart RFID controller document then generates its own RSA key pair. The content electronically stored on this document is protected with the documents key-pair and encrypted with the issuing authority's Master Key and finally the data is stored onto the chip.

As a part of the verification process, the application, which is a one-time installation, uses a standard computer with ISO 14443 type A part 4 compliant reader. This application can be made available either from the issuing authority's website or in an encrypted format via email. This application contains the issuing authority's public key of its Master Key-pair so that all the documents issued by it can be easily verified. To add more to this, if the verifying authority has an NFC mobile phone, then an application for that mobile phone can also be made available, allowing the verifying authority to perform the necessary verification on the go.

Overall, the cost of implementation of smart RFID controller into a document is very low as compared to the installation and maintenance of huge online data-farms and preventing it from various types of online attacks. Coming back to the secured document, the real world challenges that this document would face consists of the RFID components to resist heat, pressure, bend stress, UV-protection, X-Rays, infrareds, and finally manhandling wherein, they are more prone to damage as compared to a plastic card. However the way these

documents are manufactured, makes them as reliable and durable as plastic cards. As a result, we have a long lasting reliable and durable document that has been embedded with a smart RFID controller, that can self verify and certify its own contents. The best part is that we could still print on the top of this smart RFID controller embedded document using any printer just like a normal paper document, either with a LaserJet or with a desk jet printer, considering that dot-matrix printers are completely outdated.

As a benefit to the issuing authority, it gives them the state-of-the-art security technology, a non-replicable solution, reduction in workload with offline verification of its documents, low cost of ownership on its infrastructure and added credibility value to the entire system.

As a benefit to the document holders, on the spot verification saves overall turn-around time for their processes and adds value to them when presented in the market.

As a benefit to the verifying authority, it provides them with hassle-free verification process, no in-transit document losses, quick verification, online lump sum payment of verification charges if any, lower cost of verification if opted for and agreed by the issuing authority and lower cost of ownership for the verification hardware as same hardware can be used to verify other issuing authority's documents using the same technology.

A sample demo application is going to be demonstrated in the upcoming Cartes show in Paris. Please visit us there.

For more details on the case study, smart RF controllers mentioned, embedding techniques that can be used, physical security measures implemented and derived verification methods please feel free to contact AdvanIDe local sales representative or email us at [info@advanide.com](mailto:info@advanide.com).