

# The VAULT

## LET'S TAKE A CLOSER LOOK AT SECORA™ ID

FEATURED ARTICLE

**Making noise in the ID market.**

Infineon Technologies

ALSO IN THIS ISSUE

Eviden  
cryptovision ePasslet Suite on SECORA™ ID.

Mühlbauer Group  
Revolution done right.

Wibu-Systems  
Horses for courses.



# Lights, Camera, Action . . . Done!

## An all-inclusive device for biometric photo capture and person verification

- reliable ISO-compliance check
- accurate 1:1 verification
- presentation attack detection
- light-weight, slim design

Cognitec's FaceVACS-Entry technology not only takes biometric photos, it now allows for their comparison against facial images retrieved from ID documents or databases. The process also includes presentation attack detection to ensure a live person interacts with the device.

The slim, light-weight device fits wide-ranging installation scenarios, including eGates, desks, kiosks, and free-standing pillars. Instant camera positioning, active lighting, and responsive user guidance


lead to optimal capturing conditions, accurate verification results, and fast processing times.




FaceVACS-Entry serves all applications that require the acquisition of standards-compliant photos, and the comparison of probe images against a live image or stored image data.

The new product version unites all the proven features Cognitec thus far developed for border control applications, equipping it perfectly for other identity management use cases.

It includes Cognitec's renowned software for ISO compliance checks, and a robust matching algorithm for fast, accurate verification and identification results.





**Portrait Assessments**

- Eyes open
- Eye distance
- Even lighting
- Proper exposure
- Correct focus
- Normal eye color
- Uniform background

---

- Hot spots on skin
- Incorrect ratio of head/image

Cognitec is the only company worldwide that has worked exclusively on face recognition technology since its inception in 2002, offering products for facial image database search, recorded video investigation, real-time video screening and people analytics, border control, ISO-compliant photo capturing and facial image quality assessment.

# Contents

Revolution done right: The Launch of the Mozambique eVisa platform 4

Kuggeneswary Sekar, Mühlbauer Group

AUSTRIACARD HOLDINGS listed at the Vienna and Athens Stock Exchange 8

AUSTRIACARD

SECORA™ Pay portfolio now available in 28nm chip technology 10

Infineon Technologies

SECORA™ ID – Making noise in the ID market 12

Markus Moesenbacher, Infineon Technologies

Eviden's cryptovision ePasslet Suite on SECORA™ ID 20

Klaus Schmeh, Eviden (an atos Business)

Horses for Courses: Picking the Right License Container 24

Daniela Previtali, Wibu-Systems

Silicon Trust Directory 2023 30

---

## Imprint

### THE VAULT ISSUE 36

Published by Krowne Communications GmbH, Berlin.

PUBLISHER: Krowne Communications GmbH, Kurfürstendamm 194, 10707 Berlin

EDITOR-IN-CHIEF: Steve Atkins

ART DIRECTOR: Nina Eggermann

PARTNER DIRECTOR: Yvonne Runge

EDITORIAL CONTRIBUTIONS: Steve Atkins, Markus Moesenbacher, Kuggeneswary Sekar, Daniela Previtali, Klaus Schmeh

PHOTOS: ISTOCKPHOTO, WIBU-SYSTEMS, MÜHLBAUER, INFINEON TECHNOLOGIES, KROWNE COMMUNICATIONS, EVIDEN

EDITION: MAY 2023. No portion of this publication may be reproduced in part or in whole without the express permission, in writing, of the publisher. All product copyrights and trademarks are the property of their respective owners. All product names, specifications, prices and other information are correct at the time of going to press but are subject to change without notice. The publisher takes no responsibility for false or misleading information or omissions.



09:19



LTE



Tourist Visa



Business Visa



© 2022 Multi-bauer Version:  
1.0.140

AA

evisa.gov.mz

09 10:35  
8 December 2022



# REVOLUTION done *right*: The Launch of the MOZAMBIQUE *eVisa PLATFORM*

By Kuggeneswary Sekar, Mühlbauer Group

□ Since the end of the civil war in 1992, Mozambique has been delineated as a post-war rehabilitation triumph, seeing several transformations in many sectors. In the last decade, the economy has seen a positive trend, but experienced its first economic slowdown in almost three decades due to the pandemic. In 2021, they resumed their growth to aid the development of the country, while also addressing the harm caused by natural disasters and several other reasons.

The Government of the Republic of Mozambique came up with a plan to modernize their border posts with the latest technology and to replace all the hardware and software with a much more trouble-free process in 2018, where the German technology specialist Muehlbauer came into the picture. As Muehlbauer Group took on this project to further prove their specialty in security, their main aim was to create state-of-the-art technology for the issuance and verification of multiple types of identification documents for the Mozambicans. To start this project, Muehlbauer established its business location in the capital of Maputo, with around 67 employees. More than 1,200 government employees from the Mozambique side have also been trained to operate the eVisa system.

Mozambique's president, Filipe Nyusi, announced the commencement of the PAE, a program to stimulate the economy, on August 9, 2022. This involved the eVisa platform curated by Muehlbauer. It is believed that the online platform would help to enhance the business climate in Mozambique, while boosting the nation's competitiveness in luring leisure, business, and direct international investment. Among the points made by the minister, the introduction of border visas in the past almost doubled the number of tourists entering Mozambique, and he expects the eVisa to have a substantial effect on the tourism industry.

In December 2022, the eVisa platform was successfully launched in Mozambique. This platform aims to make it easier for applicants to apply for their visas. In accordance with the launch of this platform, different types of interesting visas were also added to the list, including sports visas and tourism visas. Applicants can now apply for their visa online without having to fill out the paperwork physically, send it through the mail, or take it to the local embassy. The Mühlbauer eVisa solution reduces the burden on applicants by eliminating the time-consuming process for applying for a visa.



**KUGGENESWARY SEKAR** is a junior marketing manager in the German technology company Mühlbauer. She graduated in Corporate Communication at the University Tunku Abdul Rahman in Sungai Long, Eastern Malaysia. After gaining experience in the marketing business at the NGO Warisan Think, Kuggeneswary moved to Germany and started to produce textual and design content for future technologies at Mühlbauer.

The Mühlbauer eVisa solution aimed to create an exemplary platform, which was a success. The platform runs responsively with all the standard browsers and popular operating systems, on desktop PCs, tablets, and even mobile phones. The platform is also very functional and has an easy navigation system, available in English and Portuguese. As the platform is still in its improvement phase, it is anticipated that it will soon include an online payment option, which would further reduce the wait time. The eVisa solution from Mühlbauer also provides a user-friendly application and certainly helps to avoid long lines at border crossings and the embassy, with its simplified handling and quick data transfer. Another foremost rationale for the eVisa platform, was to ensure health security with very minimal requirements for physical attendance.

Applicants can now apply for their visas from where they are, as it is highly accessible on nearly all devices. The applicant will then be notified via email in PDF format when their application is reviewed and authorized, and they will get either the approved Preliminary eVisa Document or, in the event of a rejection, the Application Rejection Letter.

The approval procedure is estimated to take 5 business days, and the applicants shall collect their visas at the airport. This is the only phase that requires the physical presence of an applicant where upon arriving at the airport, land border, or embassy, a comparative verification process is carried out using all of the applicant's pre-registered data and the databases already in place. Hereafter, upon validation of the data, the visa is issued and applicants can proceed with their journey.

This platform also aims to attract more foreigners who wish to have investments in Mozambique, as the visa allows them to stay longer in the country. As part of this measure, Mozambique will also select a few more countries to add to the visa exemption list in the upcoming months. It is also anticipated that straightforward short-term tourist visas would evolve into mixed tourist and business visas in the future. The Mühlbauer eVisa solution creates a more appealing and welcoming nation for foreign investments and tourists. With the eVisa platform's continued development, we may expect a more intricate but simple-to-use platform in the future, making it simpler for anyone who wants to visit Mozambique. The Mozambique eVisa platform's launch is an example of revolution executed right. ☒



# WE TAILOR YOUR SOLUTION – MÜHLBAUER

GLOBAL TECHNOLOGY EXPERT FOR IDENTIFICATION, VERIFICATION  
AND AUTHENTICATION OF PEOPLE AND THEIR DOCUMENTS.  
THERE IS NO CAN'T DO – MÜHLBAUER TURNS YOUR IDEAS INTO REALITY.  
**CUSTOMIZED SYSTEMS FOR INDIVIDUAL NEEDS.**



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

# AUSTRIACARD (HOLDINGS)





# AUSTRIACARD HOLDINGS

## listed on the *Vienna* and *Athens* STOCK *EXCHANGE*

□ It all began in 1897 with a small printing company in Athens. 126 years later, AUSTRIACARD HOLDINGS AG (ACAG) employs more than 3,000 people in more than 50 countries worldwide and is now one of the leading providers of Secure Digital Solutions in Europe. As of March 27, ACAG shares are listed on the Vienna and Athens stock exchange.

Numbers are undoubtedly an indicator of economic success. Continuous growth, with a simultaneous increase in profitability, pleases management and shareholders alike. But much more impressive is the technical progress that ACAG has achieved. What once began with simply printing ink on paper, has evolved through the production of Eurochecks and lottery tickets, to smart card solutions for payment and identification, to book-on-demand printing, process automation and artificial intelligence. Numerous renowned companies rely on the know-how of AUSTRIACARD HOLDINGS, including the Austrian Health Insurance Fund with the e-Card, for which the operating system also comes from ACAG, through major banks and fintechs, to large utility companies and governments.

The shares of AUSTRIACARD HOLDINGS AG are now listed on the stock exchange in Athens and in Vienna. This has come about, so to speak, via a detour, namely a merger through a cross border transaction with the Greek subsidiary INFORM P. LYKOS HOLDINGS SA, which was listed on the Athens Stock Exchange for 29 years.

The listing in Vienna and Athens is an important step, with more to follow. New technologies around digital applications and developments of biometrics in smart cards, to complex network technologies. As Mr Lykos pointed out in his speech during the celebration at 'ringing the bell event' in Vienna: 'For AUSTRIACARD HOLDINGS what we do today will be only part of what we will be doing tomorrow. Why? Because we envision an informed society by shaping the systems through which people communicate, pay, work, travel, vote and ... beyond'. ☒

# SECORA™ PAY PORTFOLIO now available in 28nm CHIP TECHNOLOGY

□ Infineon Technologies AG is expanding its SECORA™ Pay solutions portfolio to 28 nm technology. With this, the company further pushes the limits of payment cards with new, innovative product designs. In addition, it also offers the latest technology as a reliable sourcing option to all regional payment ecosystems. The new product family is the first of its kind on the market using leading edge 28 nm chip technology, with an embedded non-volatile memory. It is targeting pain relief that the payment industry has been experiencing due to the semiconductor shortages in mature technology nodes.

“In recent years, touchless payment experience with dual-interface payment cards has become a global standard, among others also driven by the COVID-19 pandemic,” said Tolgahan Yildiz, Head of Payment Solutions at Infineon’s Connected Secure Systems Division. “The SECORA Pay solution portfolio is tailored to enable manufacturing and issuance of high quality dual-interface payment cards and delivers highest transaction performance with reliable security for trusted seamless payments.” The global dual-interface payment card market is expected to grow at a compound annual growth rate of six percent from 2022 to 2027, starting from an estimated 2.6 billion units in 2022 [1].

The new plug-and-play solutions from Infineon offer a simple onboarding and migration path for card manufacturers. They are backward-compatible with existing SECORA Pay product offerings in terms of card production, antenna design, personalization and product certification. Furthermore, the devices provide industry-leading contactless and personalization performance, enabling contactless transactions within 155 ms [2].

The product family uses a security controller with certified software integrated into Coil on Module (CoM) chip modules and is using standardized inlays for easy and fast card production, compatible with SECORA Pay products on 65 nm, 40 nm and 28 nm technology – one inlay sheet fits the already available and the new SECORA Pay generation. The CoM system offers maximum flexibility in card design, as Infineon uses inductive coupling technology in combination with copper wired card antennas. It is therefore perfectly suited for future market trends, such as environmentally friendly cards made of recycled and ocean-bound plastic or wood, as well as high-performance dual-interface metal or LED cards.

In addition, SECORA Pay solutions support the highest throughput in card production, with minimal resources for manufacturing highly robust dual-interface cards. This makes contactless payment technology itself resource-efficient. New value-added services based on SECORA Pay's NFC tag functionality enable further use cases, such as initial card activation, as well as authentication for online banking and for loyalty programs.

[1] Source: ABI research, *Payment and Banking Card Secure IC Technologies*, August 2022

[2] with 144 byte key, according to the new 2023 Mastercard performance policy

## Availability

Product versions supporting the latest Visa and Mastercard applications are available now, with extremely long approval life time. Certified applets for American Express, Discover and others will follow later this year. ☒

THE GLOBAL EVENT FOR INNOVATIVE  
PAYMENT AND IDENTIFICATION SOLUTIONS



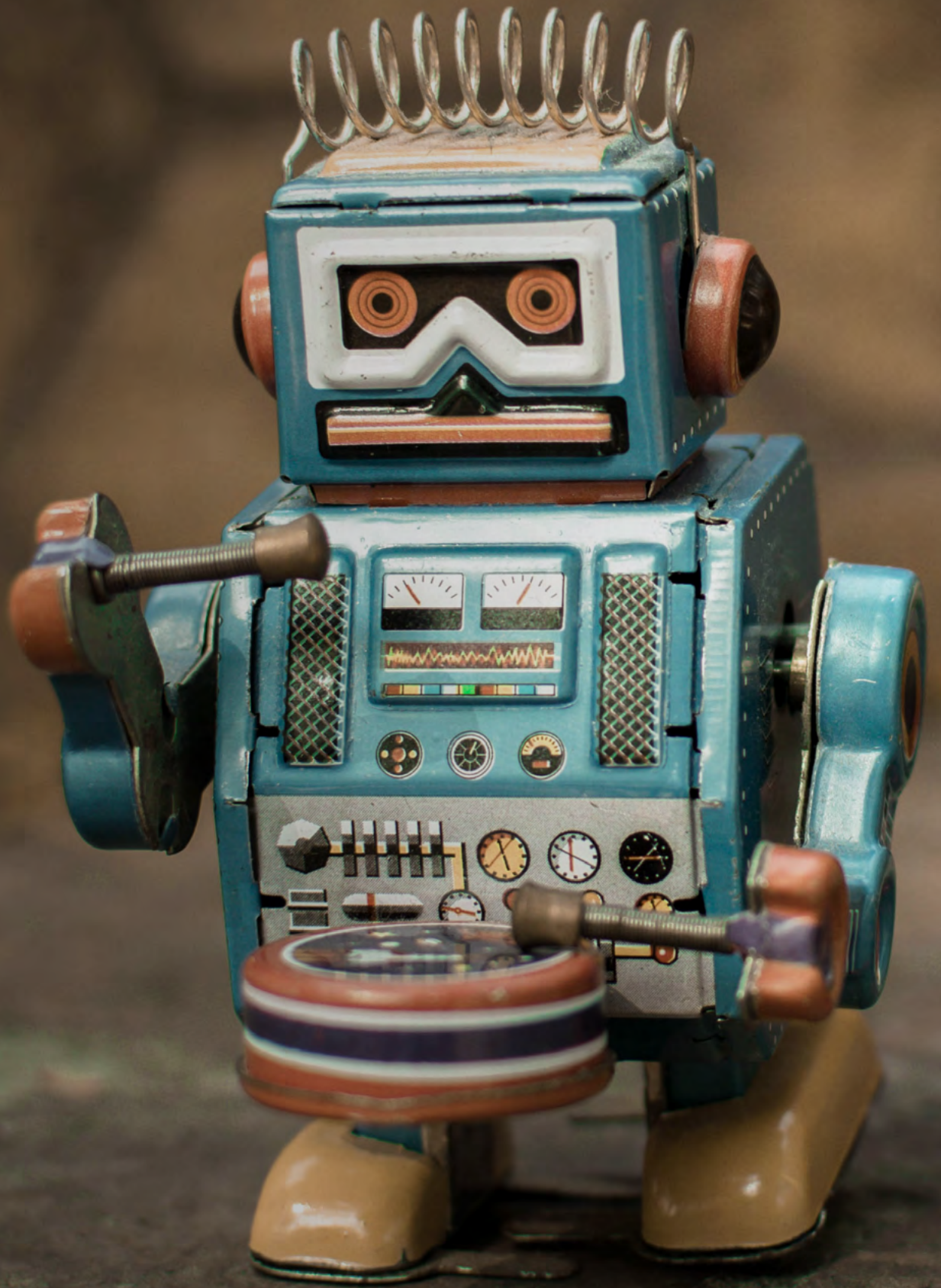
**28-30  
NOV  
2023**

PARIS EXPO  
PORTE DE  
VERSAILLES  
PAVILION 5.2



DEMANDEZ  
VOTRE BADGE





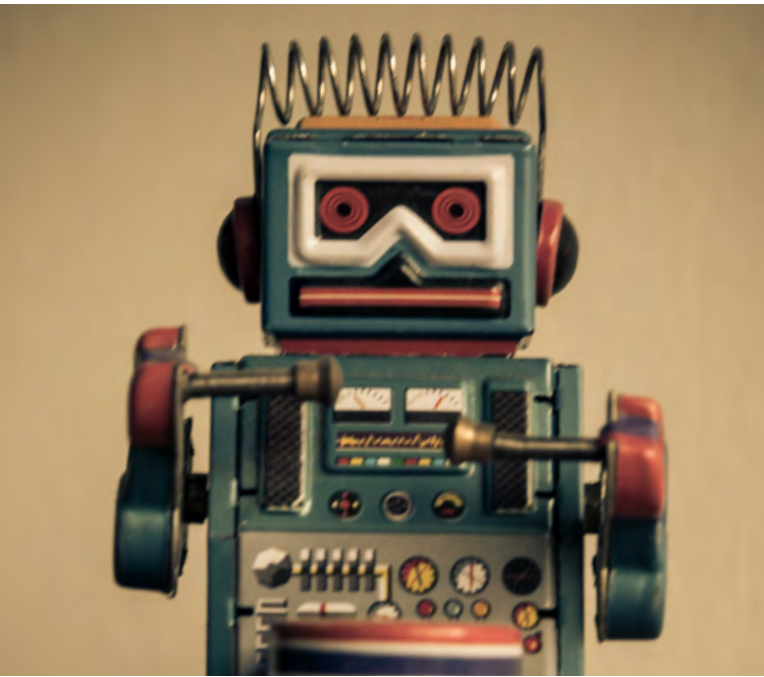


# SECORA™ ID – Making *NOISE* in the *ID* MARKET

By Markus Moesenbacher, Infineon Technologies

Today, the amount of our lives spent in one digital scenario or another is growing exponentially. Be it paying, connecting, identifying or authentication and verifying – it is the times we live in. Such a massive digital presence requires not just secure software solutions, but hardware-based secure solutions to facilitate this new digital life.

Hardware-based secure solutions will facilitate such security measures, as increased regulation, tokenization, encryption of data, remote erase features and highly robust multi-factor security mechanisms related to identification, authentication and authorization – all to protect the safety of the underlying user credentials. These circumstances also encourage companies and organizations to take a data-centric approach to security, looking at the way this information has been transmitted to a company or organization from a device and how it is subsequently managed and controlled.



□ SECORA™ is Infineon's industry-recognized family of one-stop security solutions with integrated operating system (OS) and packages (contactless, contact based or dual interface) providing a cost-efficient way to fast and agile implementations. It is based on a solid chip platform, which is highly secured and reliable, as well as easy to install and delivering best price-performance ratio. No wonder so many users are talking about it.

## Whatever the tempo – SECORA™ ID accelerates regional ID Integration

The ID market growth is mainly driven by electronic identification, electronic passports, electronic health cards and electronic driving licenses, with strong variations to reflect local flavours. In addition, the request for multi-application is increasing for electronic ID cards. To meet these demands, a flexible product is required, which allows the customization of the application according to local requirements.

The SECORA™ family incorporates Infineon's unique SOLID FLASH™ microcontroller family, providing contactless transaction speeds and superior performance for today's single- and multi-application projects. Furthermore, Infineon's innovative Coil on Module (CoM) chip package increases production efficiency and general robustness of dual-interface cards. CoM contactless enables ultra-thin (550µm) polycarbonate passport datapages. At the same time, the very small antenna design supports novel contactless form factors, such as wrist bands and hardware tokens.

SECORA™ ID is a ready-to-go Java Card™ solution optimized for all electronic identification (eID) applications, allowing maximized customization for local needs. It continues to

support all the features necessary to serve typical ID use cases. Typical ID applications are standardized to a high extent.

Identification is mostly based on the ICAO 9303, which defines the MRTD (machine readable travel document). This standard, primarily developed for electronic passports (ePP), is also used for National electronic ID (NeID) cards and a variation for the electronic Driving License (eDL). Authentication needed for applications such as NeID or electronic health cards is predominately based on ISO and CEN (European Committee for Standardization) standards, as well as standards for logical access such as FIDO.

However, every country has its own system and solution based on national requirements and applications. It is these scenarios that demonstrate the benefits from developing with SECORA™ ID. The Java Card™ solution provides a highly flexible portfolio to support various use cases and interfaces. The open platform allows the user to implement their own applet through the use of sophisticated tools from Infineon. Additionally, the customer can use a ready-to-go solution from Infineon, comprising of applets for eGovernment applications.

Performance and security are key for governmental applications. The product is secured by the SLC 52 security controller based on high-speed 100MHz 16bit technology, equipped with state-of-the-art security features. Both the hardware and SECORA™ ID are certified on highest security levels CC EAL 6+ and EMVCo.

SECORA™ ID also has several delivery options, including wafer, dual interface based on CoM (Coil on module) inductive coupling technology or contactless modules. This "ready to use flexibility" can accelerate the customer's process to realize his final product.

“ *Infineon Technologies has developed all the components of SECORA™ ID: The chip hardware, the packages, the OS platform, as well as the Applets.* ”

## You heard correct – SECORA™ ID allows easy eID introduction

SECORA™ ID is an enablement platform that allows security printers and card manufacturers to continue their path towards digitalization. The solution supports contact based, dual interface, as well as contactless applications to allow a smooth migration from contact-based to contactless reader infrastructures.

Infineon Technologies has developed all the components of SECORA™ ID: The chip hardware, the packages, the OS platform, as well as the Applets. Consequently, the OS is implemented in a way to reach maximum performance. In addition, Infineon can offer best in class support for each card component.

### The Solution components

- **Chip Hardware:** SECORA™ is based on the SLC52G platform which is a sophisticated real 16 bit Intel platform with the Infineon double CPU security technology (Integrity Guard) SOLID FLASH™ and VHBR (Very High Bit Rate) up to 6.8 Mbit/ sec. SLC52 is CC EAL 6+ high certified according to Common Criteria. The security controller has been developed by Infineon Technologies in Munich and in the contactless competence center in Graz.
- **Package (Module):** Infineon Technologies provides a comprehensive packaging offering. The most innovative package technology is Coil on Module based on flip chip technology, which allows easy integration of contactless and dual interface inlays in cards, as well as in electronic passports. Coil on Module is based on inductive coupling. Inductive coupling between card antenna and module antenna does not require a

mechanical contact connection between antenna and module, which increases durability and robustness of smart cards.

- **OS Platform:** SECORA™ ID
- **Applets:** Applets from Infineon, cryptovision and Masktech.

### SECORA™ ID Offering

SECORA™ ID is a lean operating system with planned security certification CC EAL 6+ with two configurations:

With SECORA™ ID, Infineon offers comprehensive Applet choices for the major eID applications from different well-known and acknowledged vendors: The Infineon in house developed “Infineon Applet Collection”, the “ePasslet Suite by cryptovision GmbH”, as well as the “Applet Collection by Masktech GmbH”. The Applets will be CC EAL 5+ certified according to the relevant protection profiles.

For maximum customization, Infineon provides Java Card development tools based on Eclipse, to enable the customer to implement their own Applets according to proprietary or local requirements. The development tools contain a simulator, as well as personalization scripts for standardized applications like eMRTD according to ICAO 9303.



**MARKUS MOESENBACHER** is Head of Product Marketing for Digital Identity Solutions at Infineon Technologies. He is responsible for driving the strategic definition of chip hardware and software solutions and customer communication. In 2016 he joined the Technical Marketing Team of Infineon Technologies and moved after 3 years to Product Marketing. He holds a Master Degree in Electrical Engineering from the University Graz, Austria and has more than 20 years' experience in the Smart Card business.

## SECORA™ ID portfolio comprises the S and X variants

- SECORA™ ID S is designed for use cases like e.g. electronic ID cards, electronic passports, digital signature, electronic driving license, health card.
- SECORA™ ID X, the high-performance version for ID applications is optimized for use cases with multi-application, as well as for the support of LDS 2.0. (see breakout box)

## Use Case Examples to shout about

### eID (electronic Identification) with ICAO 9303 eMRTD:

A basic eID which is used to store personal data consisting of personal information, facial image and optional fingerprints can be used for local identification and border crossing between dedicated countries, which have a common travel agreement.

This use case can be enabled with SECORA™ ID in combination with the ready to go Infineon Applet Collection.

### eID with ICAO 9303 eMRTD and digital signature: An

eID based on an ICAO 9303 eMRTD Applet, which is used to store identification data. In addition, digital signature is used for authentication, which could be applied, for example to authenticate at a governmental web service.

This use case could be supported with SECORA™ ID S in combination with the ready to go Applet Collection by Masktech GmbH.

### eDL (electronic driving license) based on ISO 18013:

The electronic driving license contains personal information and the license for the different vehicles the user is allowed to use. This use case can be supported by SECORA™ ID S in combination with the Infineon Applet Collection.

### High end multi-application electronic ID card with post issuance: Requirements for this use case are as follows:

- eID card for identification and authentication, which can be extended during its life time with an e-health card application once the specification is in place.
- The ePasslet Suite by cryptovision GmbH could support this use case as this solution is optimized for multi-application. The Java Card platform allows post issuance, which is necessary to extend the functionality of the card in the field after issuance of the card.

**Middleware:** Middleware for personal computers (mac OS, Windows, Linux) to enable PC to use SECORA™ ID digital signature function to sign documents and additional different encryption and signature use cases.

## Let's hear it for SECORA™ ID!

SECORA™ ID continues to make noise for itself in the ID solutions market. It remains a flexible solution for eID applications, allowing maximized customization for local needs. All components of the solution, like chip hardware, packages and software, comes from one vendor, which simplifies the process and enables a rapid eID project realization.





# Accelerate your eID project with SECORA™ ID

When time is tight and you need a customized solution ...

SECORA™ ID is our new ready-to-go Java Card™ solution optimized for electronic identification (eID) applications. It accelerates your time-to-market through ready-to-use applets supporting rapid project migration. Combined with our free development tool, the SECORA™ ID platform gives you maximum freedom to develop your individual eID or multi-application solutions.

## Highlights:

- › Ready-to-go solution for fast time-to-market
- › Easy and rapid migration of individual projects
- › Open platform for highest flexibility
- › Best-in-class security controllers and wide choice of packages
- › Targeting the highest international security standards for eID applications

Find out more:

[www.infineon.com/secora-id](http://www.infineon.com/secora-id)



## ***Infineon's SECORA™ ID X continues to drive the introduction of contactless multi-application ID solutions***

*SECORA™ ID X is the company's high-end secured, yet versatile, government ID solution targeting customized applications. The solution's particularly large user memory of up to 450 kByte allows the realization of a broad variety of eID products, ranging from identification only, to multifunctional cards that combine identification, digital signature and secured web access.*

*To accelerate the introduction of locally customized ID documents, Infineon provides the SECORA™ ID X open platform with all the necessary tools for easy implementation. Chip and operating system are certified according to Common Criteria EAL 6+, hence fulfilling highest security requirements of eGovernment applications. Besides enabling multi-application and country-specific customization, SECORA™ ID X also allows post issuance, i.e., activation of the card in the field by the document owner.*

*SECORA™ ID X is provided with the ePasslet Suite by crypto-vision GmbH and is already deployed in several customer projects. With the help of cryptovision's ePasslet Suite, users of SECORA™ ID X can put numerous eID functions into practice easier and with greater flexibility.*

*Cryptovision's ePasslet Suite on SECORA™ ID X provides applets for various eID document applications, including electronic passports, eIDAS-compliant ID and signature cards, international electronic driver's licenses, electronic health cards (eHIC), custom national eID cards and more. ePasslet Suite V3 also supports ICAO LDS 2.0, an extension of electronic passports with electronic visas and entry and exit stamps.*

*"We are delighted to have reached a further milestone on our path to offer modular, standard-based eID solutions on all major chip platforms. Government customers across the world will benefit from this broadened portfolio," said cryptovision's CEO, Markus Hoffmeister.*

*In addition, ePasslet Suite on SECORA™ ID X can be freely customized through various configuration options. It evolves to support new use cases and applications while retaining Common Criteria (CC) certification, thereby enabling multi-application cards and documents.*

*ePasslet Suite on SECORA™ ID X is being certified according to Common Criteria (CC) EAL 5+. It is available in three editions, offering cost-efficient configurations for standard, as well as high-end and customized ID document solutions. Samples of the solution are now available on request.*

*With Infineon's SECORA™ ID X for ePasslet Suite, cryptovision is extending its offering for international eID customers: Infineon's expertise is based on more than 200 government ID projects that cover more than 75 percent of the world's population.*

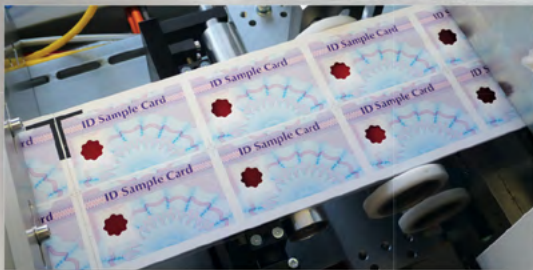
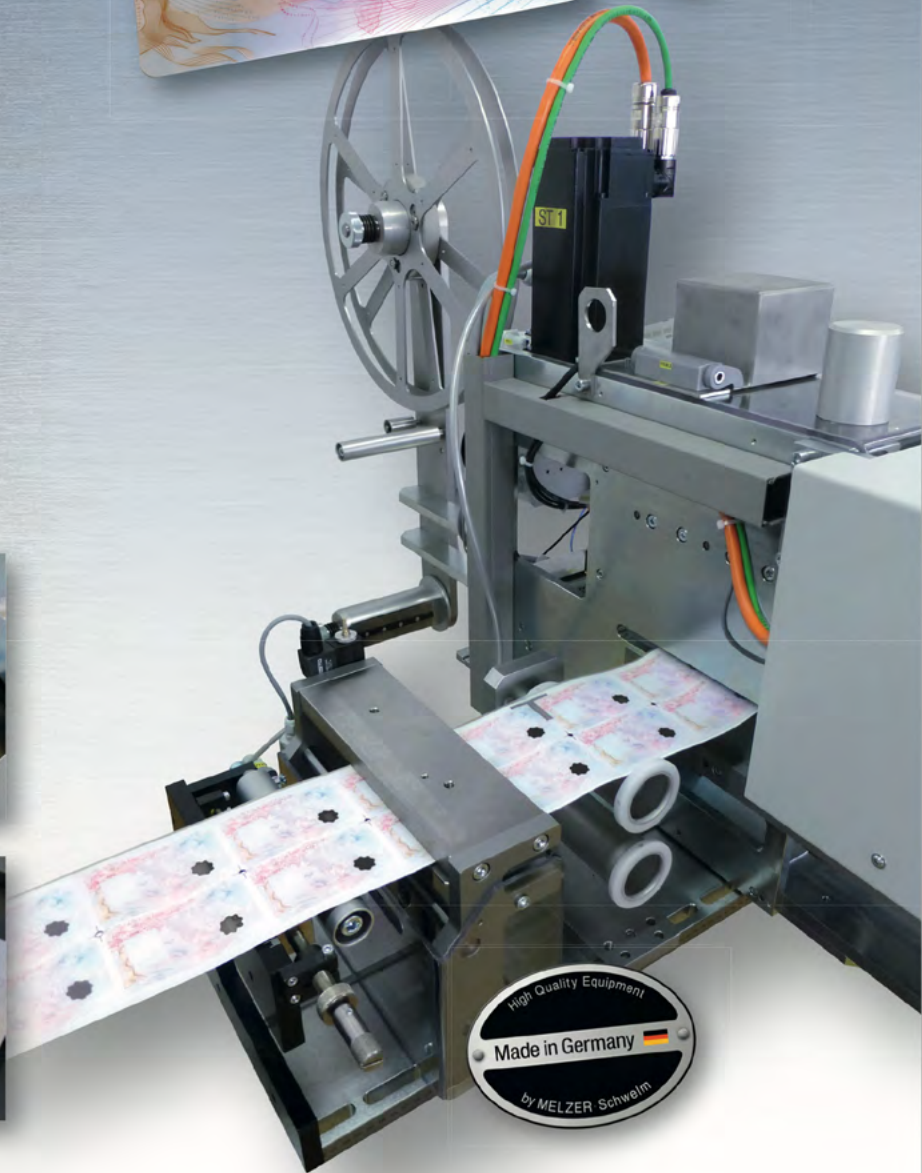
*Protocol (CTAP). This protocol enables the various FIDO2 tokens to interact with the browsers and also to act as an authenticator. Both the browser used and the desired hardware token must be able to communicate via CTAP in order to be able to use this security feature (including the password-free log-in). ☒*

# Inline Window Application

**IPS**

Inline Production System for ID Cards ·  
Data Pages · Driving Licenses ·  
Resident Permit Cards

- ▶ Fully automatic punching and inserting
- ▶ For cards and data pages
- ▶ Zero gap technology
- ▶ Full lamination for utmost durability



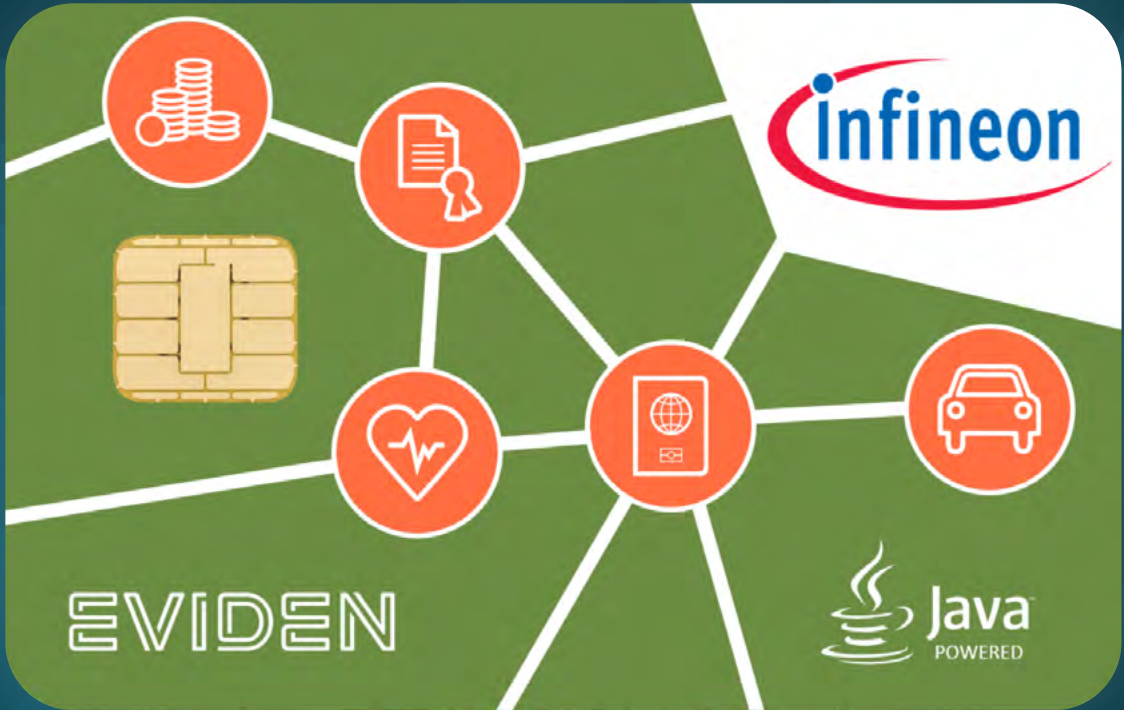
INNOVATIVE MACHINERY SOLUTIONS SINCE 1956

**MELZER**<sup>®</sup>

Please visit us at: Identity Week Europe, Amsterdam, The Netherlands, 13-14.06.2023, Booth Nr. 334 |  
Labelexpo Europe, Brussels, Belgium, 11-14.09.2023, Booth Nr. 11C37 | ICAO Trip Symposium, Montreal,  
Canada, 13-15.09.2023, Booth Nr. 50 | Intergraf, Bilbao, Spain, 18-20.10.2023, Booth Nr. 61 |

more ▶

[www.melzergmbh.com](http://www.melzergmbh.com)



**infineon**

**EVIDEN**

**Java**  
POWERED

# Eviden's *CRYPTOVISION* *ePasslet Suite* on SECORA™ ID

By Klaus Schmeh, Eviden (an atos business)

□ SECORA™ ID, Infineon's Java Card platform, is a solution for realizing electronic identity (eID) documents. To implement eID applications on a SECORA™ ID chip, the framework cryptovision ePasslet Suite by Eviden can be used. This product provides a set of applets for all popular usage scenarios – including authentication and digital signatures – and also allows for developing new applications. Version 4 of cryptovision ePasslet Suite, which will soon be launched, is going to further improve the use of this product on SECORA™ ID v2.

## Java Card

Java Card has become the leading technology for implementing electronic identity (eID) documents. It gives the operator of an eID system the chance to program integrated chips and to make them application specific. Java Card is not only used for identity cards and electronic passports, but also for telecommunication (SIM cards), banking, healthcare, and payment. Many operators of smart-card-based security

systems prefer Java Card to other integrated-chip technologies because it is mature, standardized and vendor-independent.

The security of Java Card is determined by mechanisms such as sandboxing and applet firewalls. Security has been a design goal from the beginning of this technology, and so far, no major security flaws have been discovered. It is therefore justified to say that Java Card provides sophisticated protection against attackers. In addition, the vendor-independent approach of Java Card makes security evaluations according to Common Criteria and other standards easier than with proprietary smart card technologies.

Among the disadvantages of Java Card is that the overheads of the language – such as the virtual machine and the APIs – lead to a relatively high memory consumption. For the same reason, a Java Card routine may be slower than a similar process on a different platform. However, as resource-consuming crypto operations are typically sourced out to sub-routines not implemented in Java, the performance penalty of Java Card is usually negligible.

Today, many calls for tenders in the eID world explicitly require the use of Java Card. The technology is especially popular in sophisticated eID projects that include multiple card applications. On the other hand, simpler identity documents, including electronic passports, are still often realized with proprietary (“native”) card technologies.

## SECORA™ ID

SECORA™ ID by Infineon is one of the leading Java Card implementations on the market. After Infineon had used OEM solutions provided by partners for years, in 2018 they started an elaborate project aiming to create their own Java Card offering. These efforts resulted in SECORA™ ID X, the multi-application version of the platform, and SECORA™ ID S, the single-application variant. Both versions are Common-Criteria certified.

SECORA™ ID is optimized for eID documents and FIDO tokens. It has become especially successful in this market segment in recent years. To allow for sophisticated eID applications, SECORA™ ID provides more memory than other solutions of this kind, which allows for more flexibility at a slightly higher price.



**KLAUS SCHMEIH** works as Chief Marketing Editor at Eviden (an atos business) in Gelsenkirchen, Germany. He has published 15 books, 300 articles, 1,500 blog posts and 25 research papers about cryptology (in German and English), which makes him the most-published cryptology author in the world. Klaus is an excellent speaker, often using self-drawn cartoons and Lego models for visualization. He has hosted presentations at more than 250 conferences in Europe, Asia and the U.S.



SECORA™ ID by Infineon is a Java Card platform that is especially popular for electronic identity documents and FIDO tokens.

## Cryptovision ePasslet Suite

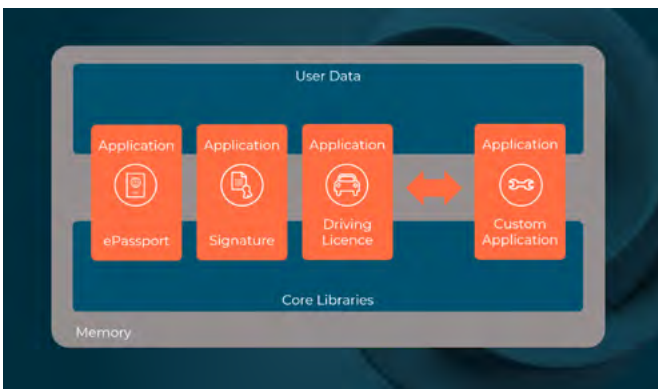
Many of the eID applications realized on Java Card platforms implement standard routines, such as authentication, digital signing, and secure access to cardholder data. Instead of re-inventing the wheel for each eID project, it makes sense to create reusable modules (applets) that provide such functionality in a customizable way.

Cryptovision ePasslet Suite by Eviden (an atos business) is a solution of this kind. It is a Java Card framework comprising over a dozen popular eID applications. Cryptovision ePasslet Suite supports MRTD protocols like Basic Access Control (BAC) and Password Authenticated Connection Establishment (PACE), as well as applications ranging from ISO Driving License via EU Residence Permit to European Citizen Card. The applets

“*Cryptovision ePasslet Suite’s highly customizable applets cover over 90 percent of the use cases required in eID projects. Additional applications can be developed.*”

– *Ben Drisch,  
Eviden (an atos business)*

of cryptovision ePasslet Suite use shared non-Java code implementing crypto algorithms, such as RSA and AES, which results in higher performance and lower memory consumption.



*Cryptovision ePasslet Suite is a Java Card framework implementing over a dozen standard eID applications.*

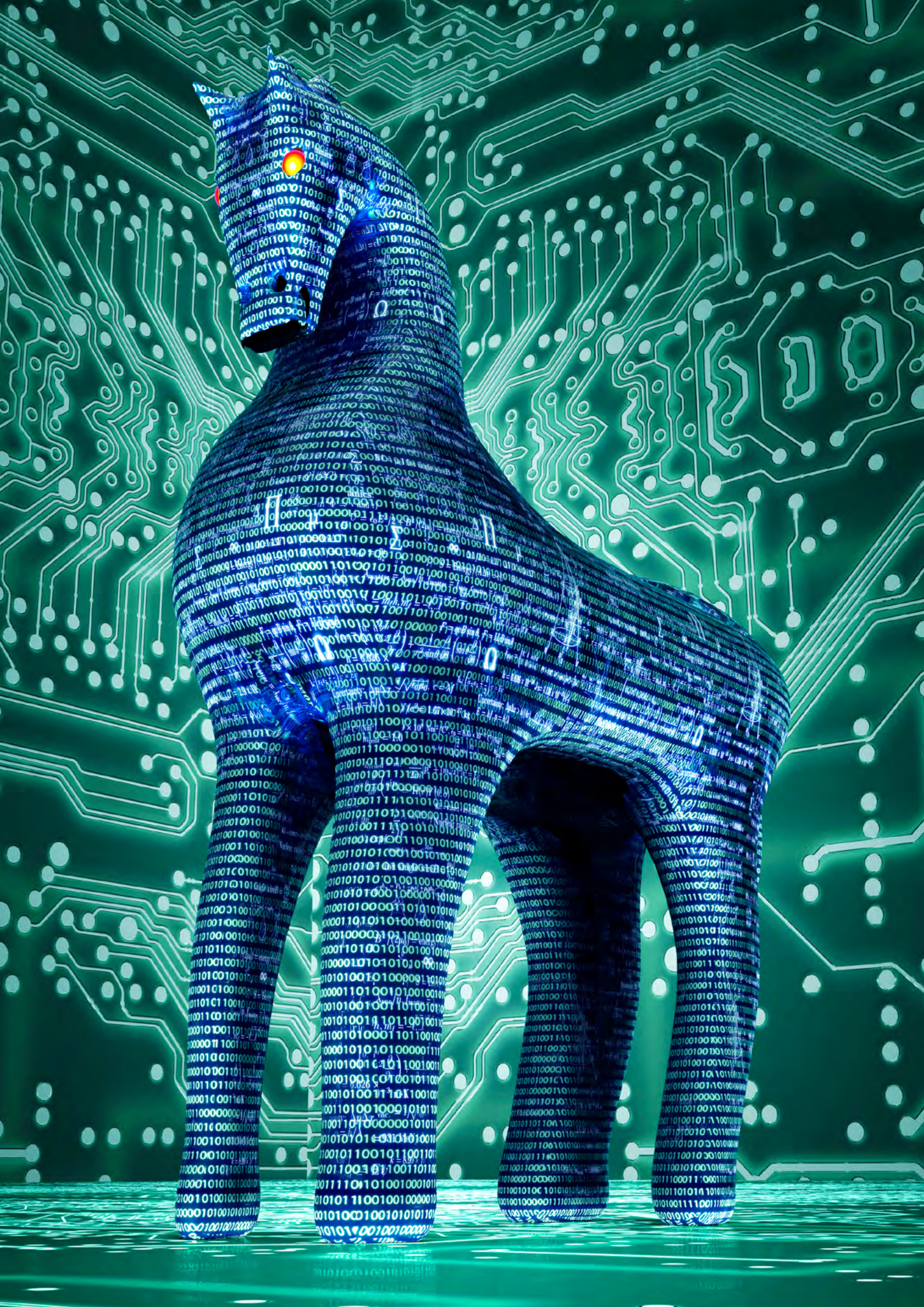
Eviden’s Ben Drisch explains: “Our highly customizable applets cover over 90 percent of use cases required in our eID projects. Additional applications can be developed easily re-using existing ePasslet Suite functionality. The applets of cryptovision ePasslet Suite can also be combined with other Java Card applets, for instance proprietary payment applications.” cryptovision ePasslet Suite is a proven solution, which is available on several Java Card platforms. It is in use in numerous eID projects worldwide, for instance in Nigeria, Ghana, and

Ecuador. While cryptovision ePasslet Suite is especially useful when it comes to multi-application eID documents, it is also well suited for electronic passports.

### **ePasslet Suite on SECORA™ ID**

Already in 2021, cryptovision (which is now a part of Eviden) made cryptovision ePasslet Suite available for SECORA™ ID. The combination of SECORA™ ID and cryptovision ePasslet Suite was the first solution on the market implementing LDS v2.0, the new version of the ICAO Logical Data Structure (LDS). The LDS is the data structure used to store personal data, such as the name and the birth date of the card holder, on a machine-readable travel document. In the second version, the LDS allows for post-issuance write access on some of the data, for instance on visas and entry/exit stamps. The Infineon decision to build upon an advanced chip with generous memory supply, makes SECORA™ ID especially suited for this purpose, as it provides enough space for many visas, stamps and other data, such as additional biometrics.

Currently, the new version of cryptovision ePasslet Suite (4.0) is migrated to the latest edition of SECORA™ ID (v2). This update comes with a few enhancements, including improved support for biometric identification. Says Ben Drisch: “cryptovision ePasslet Suite and SECORA™ ID form an ideal combination for realizing eID systems. We are delighted about the success of this offering and are looking forward to future projects.” ☒





# HORSES for *COURSES*: Picking the *Right LICENSE* CONTAINER

By Daniela Previtali, Wibu-Systems

□ Creating the perfect licensing and protection system is not easy. Or is it? With Wibu-Systems' CodeMeter, it becomes perfectly simple to pick and mix the right tools for the job, from different encryption tools for various languages and development environments, to multiple license delivery and management means or a choice of licensing models to suit every business model.

In the equestrian world, there is a saying: There are horses for courses. Do you need a trusty old pack horse, a heavysset, but strong Shire horse, a full-blooded Arab racehorse, a stable full of fresh and rested nimble little ponies, or – let your fancy fly – a winged Pegasus soaring up to the sky? The answer lies in a simple question: What are you trying to do? Are you going

for speed? Do you need to cover a lot of ground? Is there heavy lifting involved? And what on earth are you doing up in the clouds?

The same rule applies to the right choice of license container. There is not one ideal license container, and no container is inherently better than the other. Each container has its unique advantages and limitations, depending on the job it is used for. CodeMeter gives you a fundamental choice of four categories, each filled again with different types, models, and flavors to suit your tastes. There are software-only CmActLicense containers, the newly introduced hybrid CmReady™ containers, the popular hardware CmDongle containers, and the Pegasus option: CmCloudContainers.

## Lean and economical, but is it portable?

Use case 1: Tom is a maintenance engineer charged with keeping the shop floor workstations of his employer, a car parts manufacturer with factories across the continent, running. It is quite complicated work, because many of the workstations he will come across, are a jumble of legacy equipment that he needs to update regularly to keep the software landscape as uniform as possible. His work is made even more complicated by the fact that operational security reasons mean that the machines are not connected to the Internet, and he has only USB ports or memory card slots to work with.



As unlikely as the scenario sounds in today's hyperconnected world, licensing systems cannot automatically assume that there will be a steady and reliable Internet connection at all times. This means that a cloud-based solution like CmCloud is often not an option.

In this hypothetical scenario, both software and hardware containers are a viable choice. CmActLicenses, Wibu-Systems' leanest software-only container type, would represent the economical option: The license is kept in a signed and encrypted file that keeps the necessary cryptographic keys safe on the endpoint. Compared to simplistic and readily beaten software license containers, that rely on easily manipulated means like serial numbers to tie the license to the device in question, the magic of CmActLicenses lies in Wibu-Systems' patented

SmartBind® technology: A digital fingerprint is created out of a whole host of properties of the target device, even allowing for a – freely configurable – degree of tolerance when individual factors, like the hard drive or CPU, is replaced. In our scenario, with CmActLicenses, the license container could be securely bound to the many different workstations, and CodeMeter's versatile means of delivering licenses make it possible to deliver license updates even without an Internet connection. The service technician could simply carry the update file to the workstation and copy it over into the container.

Lean and economical as this option is, creating software license containers for every single workstation in this scenario is a headache for our hypothetical technician Tom. It is certainly doable and even easily automated and centrally organized with CodeMeter License Central and its user-friendly license management capabilities. But a more portable option, instead of potentially hundreds of separate license update files for hundreds of software license containers out in the field, is the new CmReady solution.

CmReady strikes the perfect middle ground between a pure software solution like CmActLicense and the high-end hardware container CmDongle. CmReady are license containers on mass storage devices, with Swissbit Data Protection (DP) cards available as the first incarnation of CmReady SD and microSD cards. Beyond the storage space they offer, these cards include security features that the CmActLicense software license container on them can be bound to. Instead of using a digital fingerprint of the target device, the binding technology is thus tied directly to the card itself.

For our scenario, the advantage is obvious: Instead of configuring and keeping track of numerous CmActLicense containers, Tom only has to have his CmReady card with the licenses on board to take out to the many workstations he has been entrusted with. And since CodeMeter containers can cope with several license tickets, update files etc., he can even handle multiple jobs on the machines without having to swap out his CmReady card.

## Mobile and agile, but is it smart enough?

Use case 2: Richard is a civil engineering consultant specializing in load monitoring for railroad bridges. His company has developed and sold a special sensor and data processing package to rail operators across the country that tracks temperature, vibration, and torsion on bridges and feeds the sensor data wirelessly to the local control center. He regularly visits the operators on site to run cyclical calculations on the highly specialized software. Concerns about hacker attacks on rail infrastructure mean that he, as an outside service agent, is not allowed to connect online to the system, but instead has to physically plug into the system.



This scenario seems closely related to the first, but there is one particular factor that sets it apart: In this case, special emphasis is placed on the invaluable IP contained in the civil engineering software. In this hypothetical situation, but also in many real-life scenarios, the software developer has created a very unique application, investing considerable time and money for a very limited user base. Any IP theft would be catastrophic for his business. For this reason, even the regular and, as yet, unbeaten CodeMeter encryption might not seem secure enough for developers concerned about their critical IP

being exposed to malfeasance, even if it be only during that brief moment of execution.

CmReady cards offer portability and offline capabilities at a more affordable price point than their bigger siblings, CmDongles. Both CmReady cards and CmDongles with flash memory also include storage space for both uncritical and sensitive data, such as the load profiles that this scenario's engineer would want to take back home for further analysis. But in this scenario, it is the big brother that wins out for one unique reason: CodeMoving.

CodeMoving is CodeMeter's ability to move protected code from the potentially compromised environs of an end user's device into a safe haven for execution, in this case the Infineon smart card chip that all CmDongles are equipped with. This Infineon chip is not only the hardware container's cryptographic powerhouse for all essential security operations, like binding the license to the dongle. It also has enough computing power to run sensitive code within the safe confines of the dongle. When protecting a software application, the tools in CodeMeter Protection Suite can not only encrypt code by individual functions, but also flag particularly sensitive functions for CodeMoving.

During runtime, the code is decrypted on the fly and normally executed on the target device, but as soon as CodeMeter comes across the flagged function, it never sees the light of day, but is instead executed on the dongle: Input parameters are fed into a black box, and output parameters come out. Despite some impact on performance, this is the optimum protection for sensitive software.

And it is the option of choice for civil engineer Richard. In our hypothetical scenario, his company opted for a CmStick, a dongle for USB interfaces, from the vast range of CmDongle form factors that include everything from memory cards to ASICs. All of the particularly critical engineering formulas and calculations that constitute the company's unique IP are flagged for CodeMoving, so they stay on Richard's CmDongle at every train yard he visits.

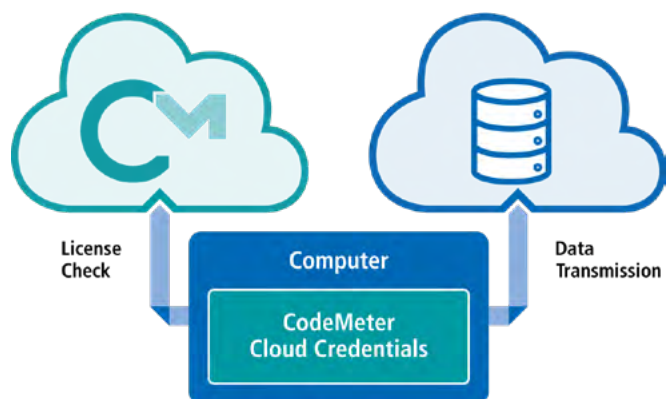
## Smart and secure, but does it scale?

Use case 3: Harriet runs the IT department of a major automobile insurer's "young drivers" startup unit. Her company offers a special insurance service for younger drivers that bills them on the basis of a complicated equation, taking not only the miles driven into account, but also factors like the speed and consistency of their driving, the time of day of their journey, and the postal code area they are driving in. Her clients' cars are fitted with special modules that track these factors and are equipped with software that already preprocesses some of the data before transferring it to the insurer. She needs that software and data to be safe from tampering and readily updated when premiums and conditions change.

In this scenario, connectivity rules: The hypothetical sensor modules are connected into the car's on-board bus system, but they intentionally lack any user-accessible ports. All external communication is handled by wireless Internet connections. This rules out CmReady cards and most CmDongles beyond built-in CmASICs. As the scenario again requires advanced protection capabilities, including CodeMoving for the critical data pre-processing operations, the straightforward option of preinstalled CmActLicense containers that CodeMeter License Central supplies with license updates and everything else over the ether, are out of the question.

### This is where Pegasus comes into play again:

CmCloudContainers, the highfliers among CodeMeter license containers. These are kept in the cloud, specifically in secure data centers run by Wibu-Systems, and are bound not to a fingerprint of the target device or to an Infineon smart card chip on a dongle, but to a specific user. All that is needed to access them is an Internet connection and a credential file.



### Scalability is key when it comes to CmCloud:

The number of containers can be easily ramped up or cut down depending on user numbers, with a variety of licensing and service contracts available from Wibu-Systems. This can be essential for a scenario like Harriet's: Clients can easily switch insurers, and having to organize a dongle switch-out every time a young driver moves to a different insurance provider (or indeed crashes their car) can soon become a logistical nightmare.






**DANIELA PREVITALI** is a marketing veteran who has dedicated more than twenty-five years of her career to the service of world-leading IT security vendors. Throughout her journey in this field, she has covered executive positions in international sales, product marketing, and product management and acquired comprehensive knowledge of both digital rights management solutions and authentication technologies. Working from the German headquarters of Wibu-Systems, she is currently leading both corporate and channel marketing activities, innovating penetration strategies, and infusing her multinational team with a holistic mindset.

The flexibility of CmCloud license solutions extends beyond this scalability: As licenses are bound to a user and not a single device, they can be easily “carried around” from computer to computer, making CmCloud a perfect choice e.g. in educational landscapes or in reseller arrangements, where the reseller acquires a number of licenses to pass on to a known number of users without having to worry about which device the actual software is eventually run on.

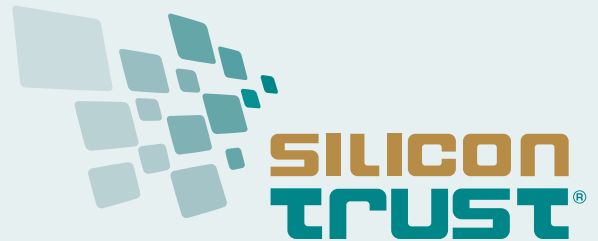
In terms of security, a properly set up CmCloud infrastructure rivals CmDongles in the level of protection, including the unique CodeMoving ability. The sensitive code is, in this case, not executed on the dongle, but far away in the data center and only the input and output parameters are shared through the ether. Updating CmCloud licenses is even easier than the already smart updating and forced update mechanisms of other CodeMeter containers, as necessary updates can be pushed through immediately in the cloud. All of these capabilities make CmCloudContainers the natural choice for our hypothetical scenario and many others of a similar nature.

## Lean, economical, portable, smart and scalable: A CodeMeter container for everyone

	CmActLicense	CmReady device	CmDongle
			
Time / Feature / Usage-based Licensing	✓/✓/✓	✓/✓/✓	✓/✓/✓
IP Protection	✓	✓	✓
Virtual Clock	✓	✓	✓
Mass Storage		✓	✓
Mobile Usage		✓	✓
Easy Offline Replacement of a broken Device/Computer		✓	✓
Hardware Clock			✓
Strong Authentication			✓
Key and Counter Storage in the Smart Card Chip			✓
Form Factors		Memory card	USB stick, memory card or ASIC

As these three scenarios, all hypothetical, but all very near to Wibu-Systems’ real clients, show, CodeMeter license containers offer the right options for every purpose, from economical CmActLicenses or CmReady cards, to the whole gamut of CmDongles in a range of styles and form factors and all the way to the cloud. And even better: Everything in CodeMeter is built to work with everything else. With interoperability a key design feature, different containers can be used side by side in a single licensing solution, and everything managed with CodeMeter License Central as the one place from where to manage one’s entire stable of license containers. ☒

# SILICON TRUST DIRECTORY 2023



## THE SILICON TRUST

### THE INDUSTRY'S PREMIER SILICON BASED SECURITY PARTNER PROGRAM

The Silicon Trust is a well-established marketing program for smart card solutions with high visibility in the worldwide government and identification (ID) markets. With over 30 companies along the value chain, the Silicon Trust forms a strong community of like-minded companies.

### THE SILICON TRUST PROGRAM FOCUSES PRIMARILY ON:

- Educating government decision makers about technical possibilities of ID systems and solutions
- Development and implementation of marketing material and educational events
- Bringing together leading players from the public and private sectors with industry and government decision makers
- Identifying the latest ID projects, programs and technical trends

## EXECUTIVE COUNCIL

The Executive Council has been the steering committee of the Silicon Trust since 2008. It drives the Silicon Trust by defining the topics and directions of the program's publications, workshops and meetings.

### INFINEON TECHNOLOGIES



Infineon Technologies AG is a world leader in semiconductors. Infineon offers products and system solutions addressing three central challenges to modern society: energy efficiency, mobility, and security. In the 2016 fiscal year (ending September 30), the company reported sales of Euro 6,5 billion with about 36,000 employees worldwide. Infineon is the world's leading vendor of secure chip card ICs used for passports, ID cards, payment cards, mobile subscriber authentication (SIM cards), access cards and trusted-computing solutions as well as being a technology driver in the hardware-based security field.

[www.infineon.com](http://www.infineon.com)

## ADVISORY BOARD

The Silicon Trust Advisory Board supports the Executive Council in defining the direction of the program in terms of public policy and scientific relevance.

### BSI

Bundesamt für Sicherheit in der Informationstechnik – The German Federal Office for Information Security (BSI) is an independent and neutral authority for IT security. It has been established in 1991 as a high level federal public agency within the area of

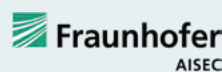


responsibility of the Ministry of the Interior. The BSI's ultimate ambition is the protection of information and communication.

Especially in the area of smart card technology, BSI is responsible for the design and definition of secure solution requirements for governmental identification documents. The German ePassport has been introduced in 2005, the second ePassport generation followed 2007, and starting in 2010 the all-new German eID card has opened a new trustworthy approach to Internet authentication for all German citizens. Security of all these documents is based on BSI specifications, developed in close collaboration with European/international standardization bodies and leading industry partners.

[www.bsi.bund.de](http://www.bsi.bund.de)

### FRAUNHOFER AISEC



Fraunhofer AISEC supports firms from all industries and service sectors in securing their systems, infrastructures, products and offerings. The institution develops qualitatively high-value security technologies, which increase the reliability, trustworthiness and tamper-resistance of IT-based systems and products. The approximately 80 members of the Fraunhofer AISEC scientific and technical staff balance economic needs, user-friendliness, and security requirements to develop optimally tailored concepts and solutions.

The security test labs are equipped with state-of-the-art equipment, and highly qualified security experts evaluate and analyze the security of products and hardware components as well as software products and applications. In our laboratories, functionality, interoperability and compliance are tested to give clients targeted, effective advice. Strategic partnerships with global corporations as well as with internationally recognized universities guarantee scientific excellence as well as its market-driven implementation.

[www.aisec.fraunhofer.de](http://www.aisec.fraunhofer.de)

## SILICON TRUST PARTNERS

Partners of the Silicon Trust are a vital element of the program. The partners represent all aspects of the value chain and are international representatives of the ID industry. They all share one common goal – to create awareness, to educate and to promote the need for silicon-based security technologies.

### AdvanIDe



Advanced ID Electronics – is one of the leading silicon distributors, focused on components for RFID transponders, chip cards and RFID readers and terminals. Thanks to its optimized semiconductor supply chain, AdvanIDe can guarantee manufacturers of smart cards, RFID transponders and readers the most efficient access to the latest semiconductors.

[www.advanide.com](http://www.advanide.com)

### AUSTRIACARD



AUSTRIACARD AG is a holding company of businesses providing end-to-end solutions and products in the field of Digital Security and Information Management. The Group brings together the century-long heritage in printing services and state-of-the-art digital data solutions (Information Management division) with the well-established production and personalization of smart cards and the offer of cutting-edge digital payment solutions (Digital Security division). The combination of well-established industrial roots with an expanding services portfolio that meets the needs of the increasingly digital and mobile economy is at the very core of the Group's confidence in its future.

[www.austriacardag.com](http://www.austriacardag.com)

### AUTHENTON



authenton (a EU + CH + UK registered Trademark and authenton GmbH) is a new (2022) Sales & Marketing arm of AIXecutive, which was founded in 2012. AIXecutive's management and its technology-partners have been an integral part of the global Smart Card industry since the mid 1990s. Since 2012 AIXecutive provides and supports global players with customer specific developments.

The company helps to manage high security Identification & Authentication solutions for Government eID, Mobile-, Payment-, and high secure IoT (IoT SAFE) as well as security certified Web-Authentication solutions (incl. FIDO2.1). The authenton#1 Token is a result of AIXecutive & its technology partners' latest security

certified developments for Government eID and Mobile Security. Munich based authenton GmbH represents all Marketing & Sales-activities for the registered authenton brand, its first product -the authenton#1 FIDO2.1 Token – as well as subsequent products. [www.authenton.com](http://www.authenton.com)

### AVATOR



AVTOR LLC is an integrator of cybersecurity solutions and the leading Ukrainian developer in the field of cryptographic protection of confidential information. The AVTOR's hardware secure tokens and HSMs are based on smartcard technology and own smartcard operating system "UkrCOS" are compliant for operations with qualified digital signatures and classified information.

AVTOR provides services for development and integration of complex cybersecurity systems for automated systems for different purposes and any level of complexity and predominantly deals with: protection of data transfer (IP-traffic); secure electronic document management; developing corporate and public certifying authorities (CA) in public key infrastructure (PKI); integration of complex information security systems; development of special secure communications systems.

<http://www.avtor.ua>

### CARDLAB



CardLab is a world leading data and privacy protection and Cyber security company by use of its biometric card technology provided to the powered smart card industry having developed and commercialized ISO 7810 compliant secure card products including:

- Full "System on Card" biometric authentication solution based on Fingerprints™ FPC1300 T-shape™ touch sensor", for payment, ID, Access control, blockchain and Cyber Security.
- Communication controlled RFID cards (Jammer & MuteCards),
- "All In One" card solution platform and other card solutions customized to customer specifications for secure and sustainable card production.

CardLab is a Denmark based card development and manufacturing company with manufacturing partners in Asia and USA and own card lamination factory in Thailand. CardLab offers unparalleled technical design and manufacturing support for card solutions including scalable security levels and existing infrastructure compatibility making implementation cost affordable for end users.

[www.cardlab.com](http://www.cardlab.com)

## COGNITEC



Cognitec develops market-leading face recognition technology and applications for industry customers and government agencies around the world. In various independent evaluation tests, our FaceVACS® software has proven to be the premier technology available on the market. Cognitec's portfolio includes products for facial database search, video screening, and biometric portrait capturing.

[www.cognitec-systems.de](http://www.cognitec-systems.de)

## EVIDEN



Eviden designs the scope composed of Atos' digital, cloud, big data and security business lines. It will be a global leader in data-driven, trusted and sustainable digital transformation. As a next generation digital business with worldwide leading positions in digital, cloud, data, advanced computing and security, it brings deep expertise for all industries in more than 53 countries. By uniting unique high-end technologies across the full digital continuum with 57,000 world-class talents, Eviden expands the possibilities of technologies for enterprises and public authorities, helping them to build their digital future. Eviden is an Atos Group business with an annual revenue of c. € 5 billion.

[www.eviden.com](http://www.eviden.com)

## HBPC



Pénzjegynyomda Zrt. (Hungarian Banknote Printing Shareholding Company) is the exclusive producer of 'Forint' banknotes, and is one of the leading security printers in Hungary, specializing in the production of documents and other products for protection against counterfeiting. Currently, HBPC produces passports, visa, ID documents, driving licenses, securities, duty and post stamps, tax stamps and banderols, paper- and plastic-based cards, with or without chip, and is aiming to provide complex system solutions.

[www.penzjegynyomda.hu](http://www.penzjegynyomda.hu)

## HID GLOBAL



HID Global Government ID Solutions is dedicated to delivering highly secure, custom government-to-citizen ID programs worldwide. HID Global Government ID Solutions offers government customers an end-to-end source for their most demanding state and national ID projects. With Genuine HID™, customers benefit from the industry's broadest portfolio of trusted, interoperable secure identity solutions across all aspects of the government identification market. Government ID Solutions offerings include expert consulting services, data capture, credential management and issuance solutions, world-leading credentials and e-documents, readers, inlays, prelaminates, LaserCard® optical security media technology, and FARGO® card printers.

[www.hidglobal.com](http://www.hidglobal.com)

## MASKTECH



MaskTech is the leading independent provider of high secure system on chip designs, embedded ROM masked products, security middleware, certification and integration services focused on human credential applications. MTCOS – MaskTech Chip Operating System – is a high performance and high security operating system, especially designed for secure semiconductors with powerful crypto co-processor and RFID, dual interface or contact interface. MTCOS is available on a unique variety of microcontrollers of different silicon vendors. MTCOS is a fully open standard (ISO/IEC) compliant multiapplications OS, used in more than 40 eID projects worldwide.

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

## MELZER



For decades, MELZER has been internationally known as the leading production equipment supplier for cutting-edge ID Documents, Smart Cards, DIF Cards, RFID Inlays and e-Covers for Passports. Customised solutions in combination with the unique modular inline production processes ensure the highest productivity, flexibility and security, leading to maximum yield and the lowest per unit costs. Numerous governmental institutions, as well as private companies, rely on industrial solutions supplied by MELZER. The Melzer product portfolio also includes advanced RFID converting equipment for the production of Smart Labels/Tickets and Luggage Tags.

[www.micropross.com](http://www.micropross.com)

## MK SMART



Established in 1999 in Vietnam, MK Group is the leading company in Southeast Asia with years of experience in providing Digital security solutions and Smart card products for the following industries: Government, Banking and Fintech, Transport, Telecom, IoT, Enterprises, and the Consumer market. With production capacity of over 300 mio. card per annum and more than 700 employees, MK Smart (a member of MK Group) is ranked under the Top 10 largest card manufacturers globally. The companies production facilities and products are security certified by GSMA, Visa, Mastercard, Unionpay, ISO 9001 and FIDO.

[www.mksmart.com](http://www.mksmart.com)

## MÜHLBAUER ID SERVICES GMBH



Founded in 1981, the Mühlbauer Group has grown to a proven one-stop-shop technology partner for the smart card, ePassport, RFID and solar back-end industry. Further business fields are the areas of micro-chip die sorting, carrier tape



equipment, as well as automation, marking and traceability systems. Mühlbauer's Parts&Systems segment produces high precision components.

The Mühlbauer Group is the only one-stop-shop technology partner for the production and personalization of cards, passports and RFID applications worldwide. With around 2,800 employees, technology centers in Germany, Malaysia, China, Slovakia, the U.S. and Serbia, and a global sales and service network, we are the world's market leader in innovative equipment- and software solutions, supporting our customers in project planning, technology transfer and production ramp up.

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

#### OVD KINEGRAM

##### OVD KINEGRAM

Member of the KURTZ Group

OVD Kinegram protect government documents and banknotes. More than 100 countries have placed their trust in the KINEGRAM® security device to protect their high security documents. OVD Kinegram is a Swiss company and a member of the German Kurz group. The company has accumulated over three decades of experience in the protection against counterfeiting and maintains close contacts with police forces, customs authorities and internationally reputed security specialists. OVD Kinegram offers a full range of services: consulting, design, engineering, in-house production, application machines and support as well as after-sales service.

[www.kinegram.com](http://www.kinegram.com)

#### PARAGON ID

##### PARAGON ID

Paragon ID is a leader in identification solutions, in the e-ID, transport, smart cities, traceability, brand protection and payment sectors. The company, which employs more than 600 staff, designs and provides innovative identification solutions based on the latest technologies such as RFID and NFC to serve a wide range of clients worldwide in diverse markets. Paragon ID launched its eID activity in 2005. Since then, we have delivered 100 million RFID inlays and covers for ePassports. 24 countries have already chosen to rely on the silver ink technology developed and patented by Paragon ID for the deployment of their biometric electronic passport programs. Today, Paragon ID delivers nearly 1 million inlays each month to the world's leading digital security companies and national printing houses, including some of the most prestigious references in the industry. Through 3 secure and certified manufacturing sites located in France (Argent sur Sauldre), USA (Burlington, Vermont) and Romania (Bucharest), Paragon ID ensures a continuous supply to its local and global clients. Visit our website for more information and our latest news.

[www.paragon-id.com](http://www.paragon-id.com)

#### PAV



PAV Card is a German, family-run business and one of the leading manufacturers for smart cards and RFID solutions. PAV products are used in many applications, ranging from hotel access, airport and stadium technology to the use in retail outlets and smart card applications, such as payment and health insurance. PAV's product range includes special heat resistant and tamper-proof ID cards as well as smart cards using the latest contactless technology for secure access solutions suitable for corporate buildings or sensitive access areas, such as airports.

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

#### POLYGRAPH COMBINE UKRAINA



State Enterprise "Polygraph Combine "Ukraine" for securities' production" is a state company that has more than 40 years of experience in providing printing solutions.

Polygraph Combine "Ukraine" has built up its reputation in developing unique and customized solutions that exceed the expectations of customers and partners. Moreover, the enterprise offers the full cycle of production: from prepress (design) processes to shipment of the finished products to customers. It offers the wide range of products: passports, ID documents, bank cards, all types of stamps (including excise duty and postage stamps), diplomas, certificates and other security documents. Find more information at:

[www.pk-ukraine.gov.ua](http://www.pk-ukraine.gov.ua)

#### PRECISE BIOMETRICS



Precise Biometrics is an innovative company offering technology and expertise for easy, secure, and accurate authentication using smart cards and fingerprint recognition. Founded in 1997, Precise Biometrics today has solutions used by U.S. government agencies, national ID card programs, global enterprises, and other organizations requiring multi-factor strong authentication. Precise Biometrics offers the Tactivo™ solution, a smart card and fingerprint reader for mobile devices.

[www.precisebiometrics.com](http://www.precisebiometrics.com)

#### PWPW



PWPW is a commercial company, entirely owned by the Polish Treasury, with a long tradition and extensive experience in providing security printing solutions. The company offers modern, secure products and solutions as well as highest quality services which ensure the reliability of transactions and identification processes. It is also a supplier of state-of-the-art IT solutions.

[www.pwpw.pl](http://www.pwpw.pl)

## SECOIA EXECUTIVE CONSULTANTS



SECOIA Executive Consultants is an independent consultancy practice, supported by an extensive global network of experts with highly specialized knowledge and skill set. We work internationally with senior leaders from government, intergovernmental organizations and industry to inspire new thinking, drive change and transform operations in border, aviation, transportation and homeland security. SECOIA provides review and analysis services for governments in the field of Civil Registry, Evidence of Identity, Security Document issuance and border management. Also, SECOIA specialises in forming and grouping companies for sustainable, ethical sales success. Adding to the consulting and coaching activities, SECOIA offers Bidmanagement-Coaching and RFP preparation / Procurement assistance for Government offices and NGOs. Try us, and join the growing family of customers.

[www.secoia.ltd](http://www.secoia.ltd)

## SIPUA CONSULTING



SIPUA CONSULTING® is a leading and well-established consultancy company, focusing on customized e-ID solutions for government agencies and institutions around the world. Based on detailed market intelligence and long-lasting relationships within the e-ID ecosystem, SIPUA CONSULTING is in the strategic position to conceptualize, promote and implement various projects along the value chain.

[www.sipua-consulting.com](http://www.sipua-consulting.com)

## THALES



Thales is a global leader in advanced technologies within three domains: Defence & Security, Aeronautics & Space, and Digital Identity & Security. It develops products and solutions that help make the world safer, greener and more inclusive. The Group invests close to €4 billion a year in Research & Development, particularly in key areas such as quantum technologies, Edge computing, 6G and cybersecurity. Thales has 77,000 employees in 68 countries. In 2022, the Group generated sales of €17.6 billion.

[www.thalesgroup.com](http://www.thalesgroup.com)

## TRUSTSEC



TrustSec is a Polish information security company, founded by internationally recognized information security and cryptography experts. Through TrustSec's pool of experts and its business-driven innovative solutions, TrustSec offers its unique, in-house developed operating system for smart cards – SLCOS. The company also delivers a variety of products and solutions, that cover software protection, data encryption, OTP, and security hardware

(namely PKI tokens and FIDO2 tokens). In addition to its latest fintech innovation CPA and its unique panel of professional services; of consultation, integration, testing, and outsourcing, to help the other companies benefit from the latest available advances in cryptography to improve their products and services.

[www.trustsec.net](http://www.trustsec.net)

## WCC



Founded in 1996, WCC Smart Search & Match specializes in the development of enterprise level search and match software for identity matching. Its software platform ELISE delivers meaningful identity matches using multiple biometrics and/or biographic data from a wide range of sources at sub second response times. ELISE is highly scalable and extremely robust, and is used by large health insurance companies and government agencies for immigration, border security and customs control. The company is headquartered in the Netherlands and has offices in the USA and the Middle-East.

[www.wcc-group.com](http://www.wcc-group.com)

## WIBU-SYSTEMS



Wibu-Systems, a privately held company founded by Oliver Winzenried and Marcellus Buchheit in 1989, is an innovative security technology leader in the global software licensing market. Wibu-Systems' comprehensive and award-winning solutions offer unique and internationally patented processes for protection, licensing and security of digital assets and know-how to software publishers and intelligent device manufacturers who distribute their applications through computers, PLC, embedded-, mobile- and cloud-based models.

[www.wibu.com](http://www.wibu.com)

## X INFOTECH



X INFOTECH, a leading systems integrator and a developer of software suite Smarteo, delivers premium solutions for issuing, managing and verification of electronic ID documents and smart cards. The company's turnkey solutions are fully independent and flexible, and in combination with unrivalled team expertise, allow smart card and eID programs to be implemented easily, adapting to any environment by supporting any equipment and chip type. With successfully implemented projects in 45 countries already, X INFOTECH is now a trusted business partner and preferred solutions and services provider for hundreds of customers.

[www.x-infotech.com](http://www.x-infotech.com)



**MASKTECH**  
DNA for ID solutions

# MTCOS<sup>®</sup> - DNA for ID solutions

**MTCOS<sup>®</sup>, MaskTech Card Operating System, protects more than 400 million eDocuments around the globe.**

Like the coding system of DNA, MTCOS<sup>®</sup> secures the personal data of the document holder for an encrypted, wireless transmission and guarantees a unique and swift identification.

**MaskTech GmbH**  
Nordostpark 45  
90411 Nuernberg · Germany

**Phone** +49 911 95 51 49-0  
**Fax** +49 911 95 51 49-7  
**E-Mail** info@masktech.de

SecurITy  
made  
in  
Germany  
TeleTrust Quality Seal  
www.teletrust.de/tsmg



- Compose your original code
- Orchestrate your license strategy
- Fine tune your IP protection
- Distribute your work of art

Sounds easy, right?  
And it is with CodeMeter

CM  
Certificate  
Vault

CM  
Embedded

CM  
Cloud

CM  
Dongle

CM  
LC



Start now and  
request your  
CodeMeter SDK  
[wibu.com/sdk](http://wibu.com/sdk)



+49 721 931720  
sales@wibu.com  
[www.wibu.com](http://www.wibu.com)



SECURITY  
LICENSING  
PERFECTION IN PROTECTION