Veridos solutions for eGovernment

Together with the cryptovision ePasslet Suite

VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei

VERIDOS

Who is Veridos

A strong joint venture

VERIDOS
IDENTITY SOLUTIONS
by Giesecke+Devrient
and Bundesdruckerei

Giesecke+Devrient

bdr.
BUNDESDRUCKEREI

60% shareholder

- **Employees:** > 12.000
- **Founded** in 1852

40% shareholder

- **Employees**: > 3.300
- **Founded** in 1879

Identification Documents

PASSPORTS & ID CARDS

COMPONENTS OF DOCUMENTS

"

Veridos offers turnkey solutions that cover the full value chain of security printing and identification documents.

Our products are always tailored to the customer's needs and designed to add value for both the ID issuer and ID holder.

Identity Management Systems (IDMS)

NATIONAL REGISTERS
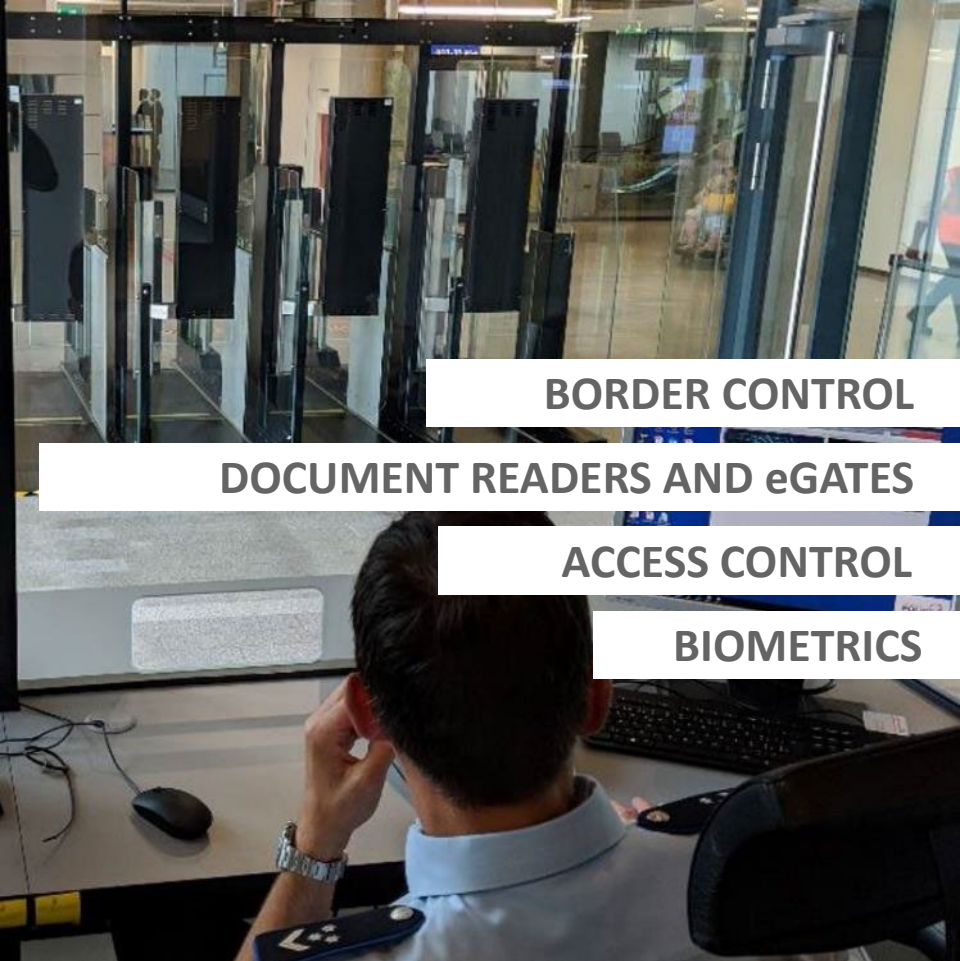
CITIZEN ENROLLMENT

PERSONALIZATION AND ISSUANCE

PLANT ENGINEERING

"

End-to-end document workflows that cover enrollment, personalization, and issuance; Veridos ensures secure management of citizen data at every stage.

We also supply our customers with the knowledge and expertise to build their own production site.

Verification

BORDER CONTROL

DOCUMENT READERS AND eGATES

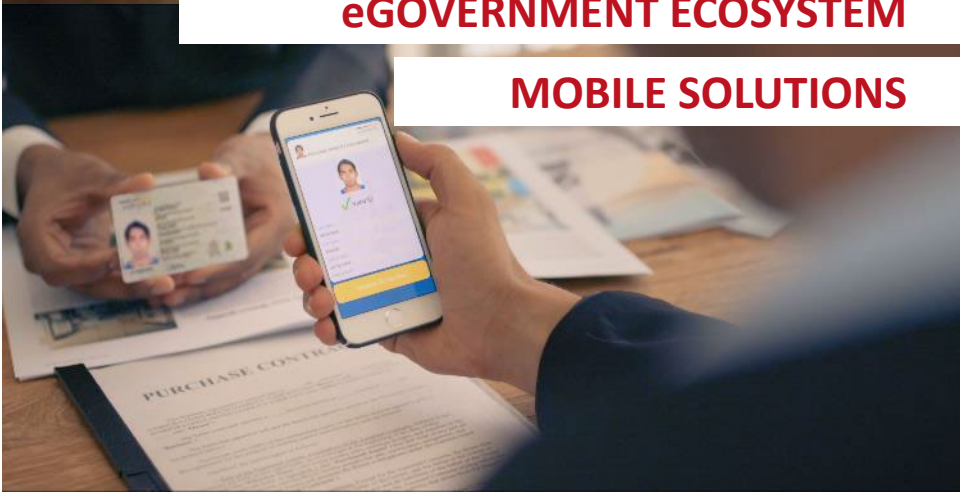**ACCESS CONTROL**

BIOMETRICS

"

From document verification hardware and software to holistic border and access control solutions, our portfolio emphasizes secure and reliable verification.

eGovernment

DIGITAL IDENTITIES

eGOVERNMENT ECOSYSTEM

MOBILE SOLUTIONS

"

Veridos enables the coexistence of physical and digital identities by helping governments with their digitization processes. Our solutions are geared towards granting access to the physical and virtual world.

Production Facilities

VDMAT - Athens

Production is mainly assured by Veridos Matsoukis S.A in Ilion, Athens, Greece:

- Founded in 1891, Leader in Security Printing Industry
- Part of Veridos GmbH since 2015
- Certified processes according to international standards
- Producing Polycarbonate structured cards, eCovers and Passports
- 30 Million ID1/ID3 polycarbonate cards capacity
- 10 Million eCover/Inlay capacity

Our references

Key figures

MORE THAN **50** countries have been provided with passport solutions

MORE THAN **50** countries have been provided with ID cards solutions

MORE THAN **20** countries have been provided with verification solutions

VERIDOS

Overview on Veridos ID1 Cards

Market-leading protection against security threats with a greater durability

- Tailored to the customer needs

- Offering a large variety of security features

- Highest standards in terms of forgery protection

- Adding value to both, government and citizen

- Compliant to international standards

Our references

MORE THAN **50** countries have been provided with ID card solutions

United States (Oregon, Ohio) Driving License

Canada (Manitoba, Ontario, Saskatchewan) Driving License

Iraq eID

North Macedonia ID

Mexican Voter ID

Macao eID

And many others
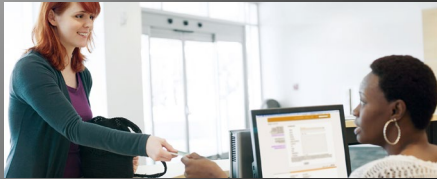
Utilisations of ID1 Cards

Wide range of uses

National ID

Healthcare Cards

Residence Permit

Driver's License

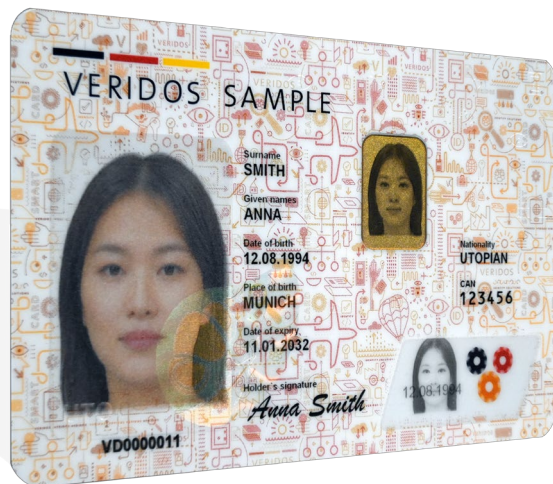electronic Vehicle Registration Cards (eVRC)

Voters' Registration Card

The use of eID will push for more governmental use cases like:

- PKI
- Digital signature
- Biometric authentication
- Data storage

Materials

Polycarbonate structure

- Polycarbonate (PC) cards developed by Veridos meet the highest security and quality requirements

- Veridos PC cards are composed of several layers of 100% polycarbonate films, all films being hot laminated into a mono block structure. Material and card compositions have been optimized to deliver the best results in combination with laser personalization techniques.

- Polycarbonate is superior to many other synthetic materials and offers very high resistance to mechanical, chemical and thermal stress. It is highly inert to environmental influences, ensuring long durability of all its features and a card lifetime up to 10 years or more.

- Enabling high resolution and high contrast laser engraving

Materials

Government business needs Polycarbonate products

- 10 years durability

- Layered Structure but a monobloc after lamination

- Laser engravable on front and rear side

- Can be with a contact-based chip, contactless chip, Dual Interface or without chip

Security Features

„Standard features"

There are a lot of security features in the market which are more or less the minimum standard on every ID card product:

- Security background printing with rainbow (iris) printing
- UV imprint with rainbow printing
- MLI, CLI or DLI
- Printed anti copy structures
- Possibility for laser personalization
- Possibility for tactile laser personalization

Additional there are many security features that should be standard on every ID card product:

- Printed IR split
- Transparent element such as a window
- Holographic element such as a DOVID or hologram stripe
- Embossed surface structures
- Photorealistic UV printed image

All these features are shown on our Veridos sample ID cards. Some of them described in the following chapters

Security Features

Advanced „Veridos features"

Please see here are list of the advanced „Veridos features":

- Fuse ID
- Magic ID
- MCD (in combination with the holographic thread)
- Holographic thread with integrated Invisio feature
- Spectre ID
- Amber ID
- Diamond ID
- Clip ID
- Clip ID Echo

All these features will be described on the following slides and they are all available on Veridos ID sample ID cards.

VERIDOS

Security Features

Front side Veridos sample documents

IR separation printing

Spectre ID - transparent, permanent moving window protection

Fluorescent imprint (UV) - with rainbow (iris)

VERIDOS SAMPLE

Surname
ERIKSSON

Given names
MARIO

Date of birth
12.08.1994

Place of birth
MUNICH

Date of expiry
11.01.2032

Holder's signature
Mario Eriksson

VD0000001

Nationality
UTOPIAN

CAN
123456

12.08.1994

Security background printing with rainbow (iris)

Magic ID - elements will show a movement when tilted

CLIP ID - coloured and laser protected main portrait

Tactile laserpersonalisation

VD0000

DOVID - protecting the main portrait and personal data

MLI - second holder's image combined with another information

Rear side Veridos sample documents

Amber ID - optical variable window with a color change from gold to green

Photorealistic UV image

Metallized holographic thread.

InVisio - latent information detctable by a laser beam.

Standard Security Features

Card under normal, UV and IR light

Visible light
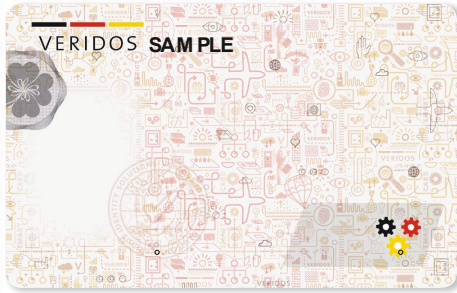
Photorealistic UV printing

- Fluorescent and IR effects for different control devices
- UV print also suitable for rainbow printing (iris)
- Anti-Stoke colors can also be used
- Boosts protection against forgery
- Photorealistic color UV pictures can be created

IR light

01 Introduction of Veridos

02 ID Card Solution

03 Passport Solution with Datapage

04 Passport Solution with eCover

05 Card Operating System and Application

VERIDOS

Overview on Veridos PC Data Pages

Market-leading protection against security threats with a greater durability

- Tailored to the customer needs

- Offering a large variety of security features

- Highest standards in terms of forgery protection

- Adding value to both, government and citizen

- Compliant to international standards

Our references

🇩🇰 **Denmark**

🇦🇿 **Azerbaijan**

🇧🇩 **Bangladesh**

🇹🇲 **Turkmenistan**

🇨🇷 **Costa Rica**

🇻🇪 **Venezuela**

🇱🇻 **Latvia**

🇲🇰 **North Macedonia**

And many others

Utilisations of PC Data Pages

Veridos offers two different versions of polycarbonate-based data pages:

- ➤ **Thin data page** which offers high flexibility, chip is in the cover.
- ➤ **Thick data page** which includes the chip and offers an integrated solution against counterfeits.

Utilisations of Polycarbonate Data Pages

Government business needs Polycarbonate products

- 10 years durability

- Layered Structure but a monobloc after lamination

- Laser engravable on front and rear side

- Perfect hinge solution

- Available with integrated chip (thick version) and without chip (thin version)

Security Features

„Standard features"

There are a lot of security features in the market which are more or less the minimum standard on every PC data- / title page:

- Security background printing with rainbow (iris) printing
- UV imprint with rainbow printing
- MLI, CLI or DLI
- Printed anti copy structures
- Possibility for laser personalization
- Possibility for tactile laser personalization

Additional there are many security features that should be standard on every PC data- / title page:

- Printed IR split
- Transparent element such as a window
- Holographic element such as a DOVID or hologram stripe
- Embossed surface structures
- Photorealistic UV printed image

All these features are shown on our Veridos sample PC data page. Some of them described in the following chapters

Advanced „Veridos features"

Please see here are list of the advanced „Veridos features":

- Fuse ID

- Magic ID

- Perfect Hinge solution with visible and UV fluorescent imprint

- MCD (in combination with the holographic thread)

- Holographic thread with integrated InVisio feature

- Spectre ID

- Amber ID

- Diamond ID

- Look ID (instead or in a combination with a „normal" window)

All these features will be described on the following slides and they are all available on Veridos ID sample PC

data pages..

Security Features

Veridos sample PC data page

Hinge with Imprint

OVI Printing

Positive and Negative Surface Embossing Structures

Structure for CLIP ID

Holographic Thread with Invisio®

Guilloche Fine Line and Anti-Copy Pattern

Hidden Anti-Piracy Technology Feature

Standard Transparent Window

MLI area

Magic ID

MRZ

Security Features

Veridos sample title page

ID optics

IR split

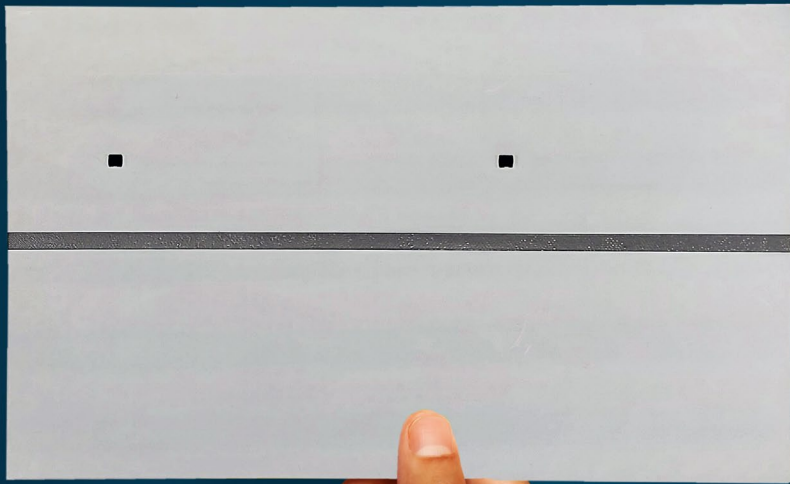Step imprint

Positive and Negative Surface Embossing Structures

Anti stoke (upconverting) imprint

Guilloche Fine Line and Anti-Copy Pattern

SPECIMEN
PASSPORT PASSEPORT
REISEPASS PASAPORTE
ПАСПОРТ جواز سفر

UV rainbow (iris) imprint

Photorealistic UV imprint

Overview on Veridos eCovers

Market-leading solution for ePassports with a greater durability

- Tailored to the customer needs

- Highest standards in terms of durability

- Adding value to both, government and citizen

- Compliant to international standards

Our references

ePPs with eCover

Haiti

Botsuana

Costa Rica

Kosovo

Arabic Emirates

eCovers

Uzbekistan

Bulgaria

Namibia

Portugal

And many others

Why eCover?

- An alternative solution for the thick data page with chip to get a biometric passport.

- Easy and effective upgrade for existing Passport booklets with paper data pages.

- Perfect combination with a thin polycarbonate data page.

- Easy integration into the manufacturing process of customers to update the standard passport.
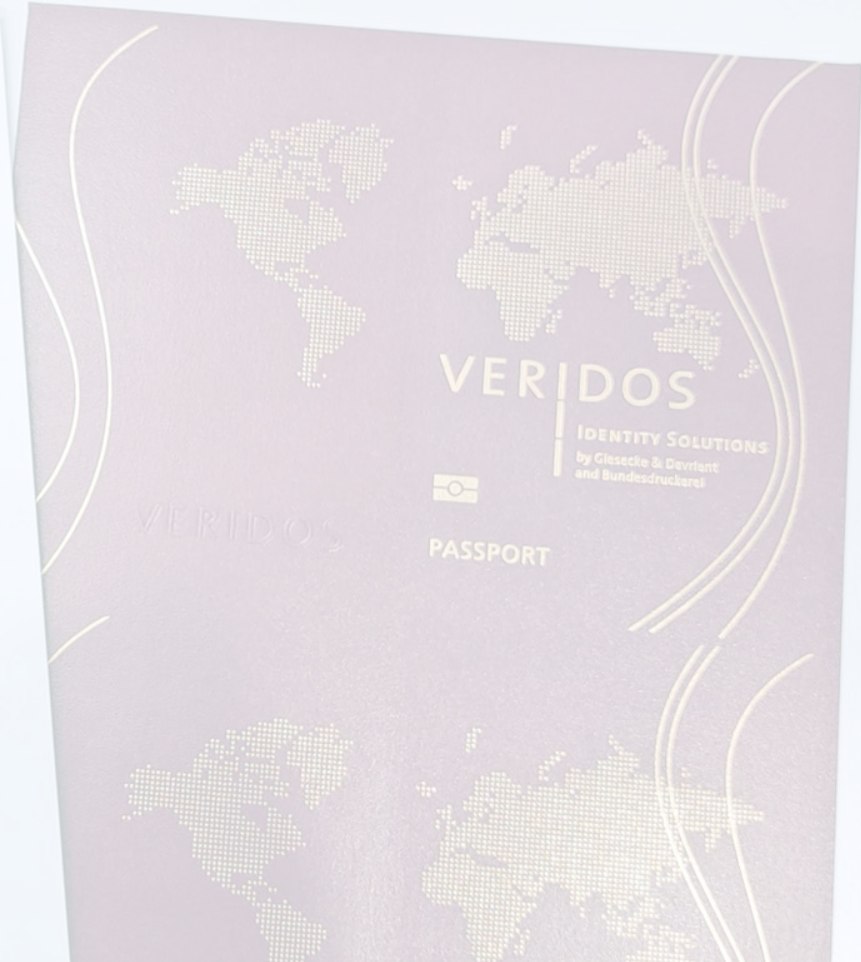
Inlay or eCover?

Veridos can offer an Inlay only to implement in the eCover as well as a complete eCover solution for its customers.
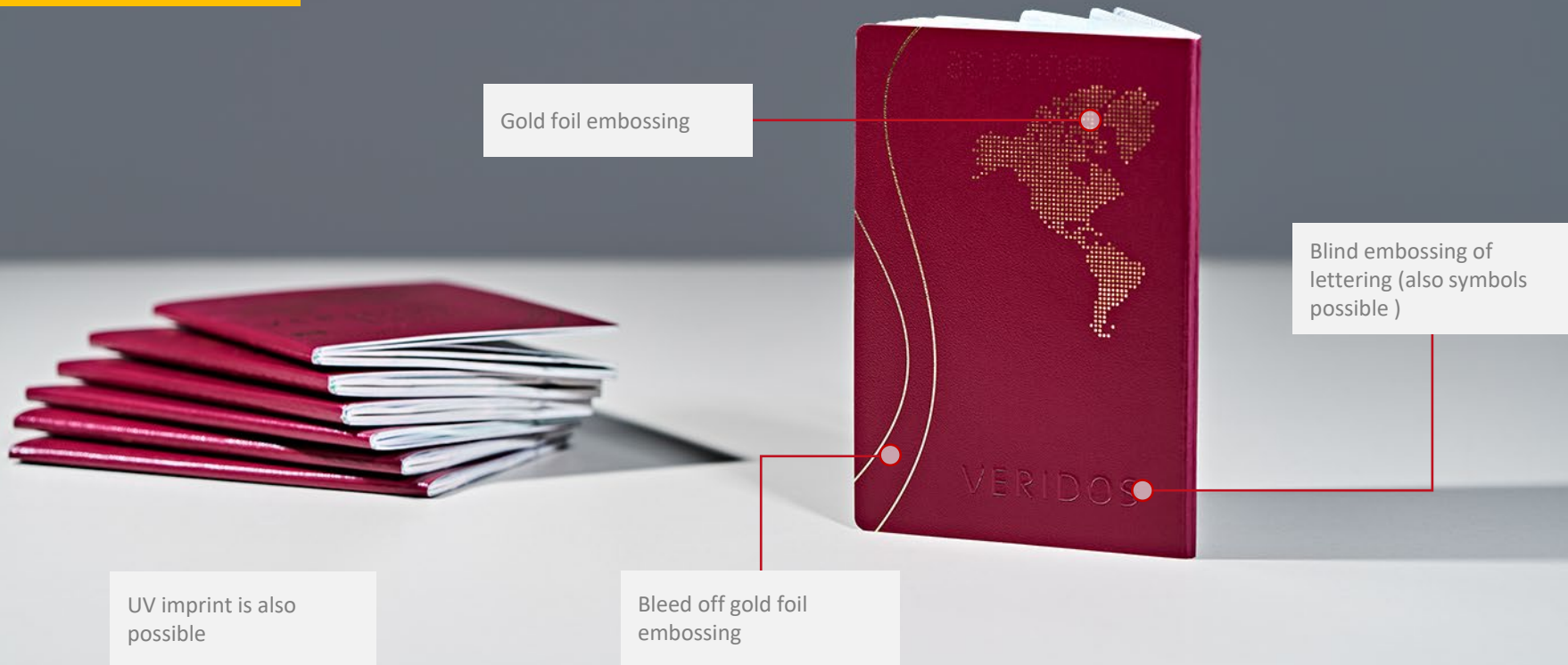
The Cover

- meets all the document's security requirements.

- withstands wear, tear and abrasions.

- has tamper evident features.

- can be decorated with all the ICAO relevant techniques.

eCover - Features

Gold foil embossing

Blind embossing of lettering (also symbols possible)

UV imprint is also possible

Bleed off gold foil embossing

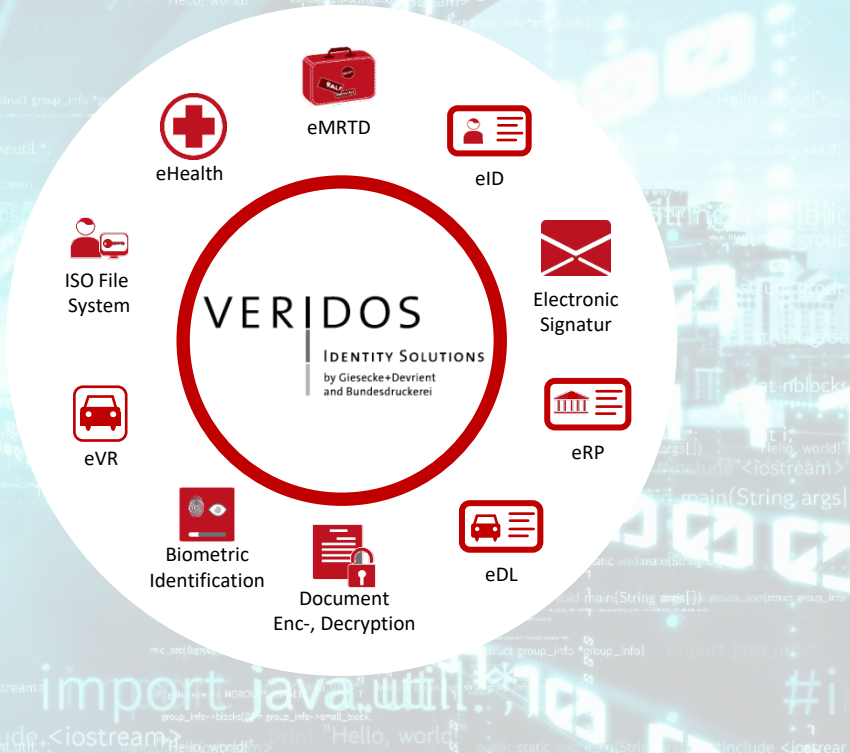| 01	Introduction of Veridos
02	ID Card Solution
03	Passport Solution with Datapage
04	Passport Solution with eCover
05	Card Operating System and Application

Veridos ID Documents, ID1 – ID Card Solutions
Q2 2023

VERIDOS

Possible Use Cases

use cases for ePassports and/or eID cards

- eMRTD (ePP) - **e**lectronic **M**achine-**R**eadable-**T**ravel-**D**ocuments

- eID - **e**lectronic **I**dentification **D**ocuments

- Electronic Signature

- eRP - **e**lectronic **R**esidence **P**ermit

- eDL - **e**lectronic **D**river **L**icense

- Biometric Identification

- Document Enc-, Decryption

- eVR - **e**lectronic **V**ehicle **R**egistration

- ISO File System

- eHealth

Card operating System

Sm@rtcafé Expert 8.0

Veridos offer **Sm@rtcafé Expert 8.0**

- Successor of Sm@rtCafé 7.1
- Joint development by Veridos and G+D
- Certified according to CC EAL 6+
- Containing of own Crypto Lib
- Compliant to
  - Java Card 3.1
  - Global Platform 2.3.1
- Easy integration into chip hardware
- Fast maintenance of any component

Card operating System

Sm@rtcafé Expert 8.0

Key facts

- Available on SLC37GxA512 and SLC37GxA448
- Free memory for customer data between 60 KByte and 160 KByte. Depends on configuration
- Extended length APDU with max 32 Kbyte
- Crypto
    - Asymmetric: RSA (up to 4096), ECC (up to 521)
    - Symmetric: AES (up to 256), TDES
    - Key Generation on Board
- Interfaces:
    - CB (ISO 7816 T=0 / T=1),
    - CL (ISO 14443 Type A/B),
    - DI
- Optional Match on Card from Neurotechnology
- Optional GP-Switch off / delete
- CC certification EAL 6+ against BSI-CC-PP-0099-V2-2020

VERIDOS

Veridos' Application
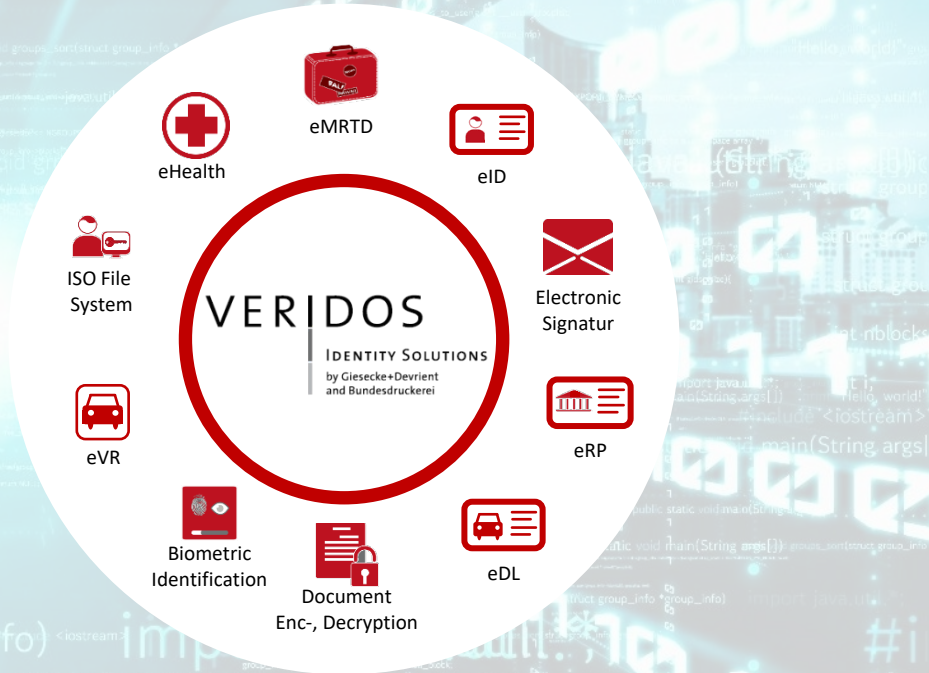
VD Applet Suite 4.0

Key Facts

- VD Applet Suite 4.0 is the product name of the ePasslet Suite on Veridos Site

- Development together with cryptovision, G+D and Veridos

- Same functionality as known from the existing ePasslet Suite

- Up to 130 Kbyte for Customer Data, depends on Chip type and configuration

- LDS 1.8 and LDS 2.0 support

- Common Criteria certification (Coming soon in Q4 / 2023)

  - MRTD traveler documents with EAC, SAC and backward compatibility with BAC

  - SSCD Common Criteria certification with Key Import and with key Generation on Card

  - EIDAS conform

  - QSCD conformity

Veridos' Application

VD Applet Suite 4.0 (special version)

eMRTD

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and Bundesdruckerei

Key Facts

- Part of the VD Applet Suite 4.0

- Standalone application for eMRTD support

- ICAO compliant

- Up to 90 Kbyte for Customer Data on the SLC37GxA448

- LDS 1.8 and LDS 2.0 support

- Common Criteria certification (Coming soon in Q4 / 2023)
  - MRTD traveler documents with EAC, SAC and backward compatibility with BAC

Our references

VERIDOS
IDENTITY SOLUTIONS
by Giesecke+Devrient
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Product and Portfolio Management

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Thank you very much for your attention.
... Questions and Answers!