KOBRA VS storage devices

German VS-NfD / NATO RESTRICTED / EU RESTRICTED

Kobra
Infosec

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KOBRA DRIVE

Approved by
German Federal Office up to
**EU RESTRICTED /
NATO RESTRICTED**
and German VS-NfD

SecurITy
made in Germany
Trust Seal
www.teletrust.de/itsmig

DIGITTRADE GmbH

- Founded: 2005   headquarter: Teutschenthal

- Since 2005 development and production of external encrypted hard drives to protect business and personal data

- Since 2013 development of the communication platform Chiffry for tap-proof telephony and encrypted sending of pictures, videos, contacts as well as voice and text messages via smartphones

HS256S
ULD
2013

HS256 S3
BSI-DSZ-CC-0825-2017
2017

KOBRA Drive VS
VS-NfD approved (NATO / EU)
2020, 2023

KOBRA Stick VS
VS-NfD approved (NATO / EU)
2020, 2023

IT Security Made in Germany (TeleTrusT)

Trustmark „IT Security made in Germany" confirms that:

- The company headquarters is located in Germany

- The company offers trusted IT security solutions

- The products do not contain any hidden entrances

- IT security research and development of the company takes place in Germany

- The company meets the requirements of German data protection law

SecurITy

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![Kobra Infosec logo]

KOBRA VS storage devices: Security mechanisms

Encryption:

256-bit AES full-disk hardware encryption in XTS mode using two 256-bit crypto keys

Access control:

Two-factor authentication via smart card and 4 to 8-digit PIN according to the principle „having and knowing"
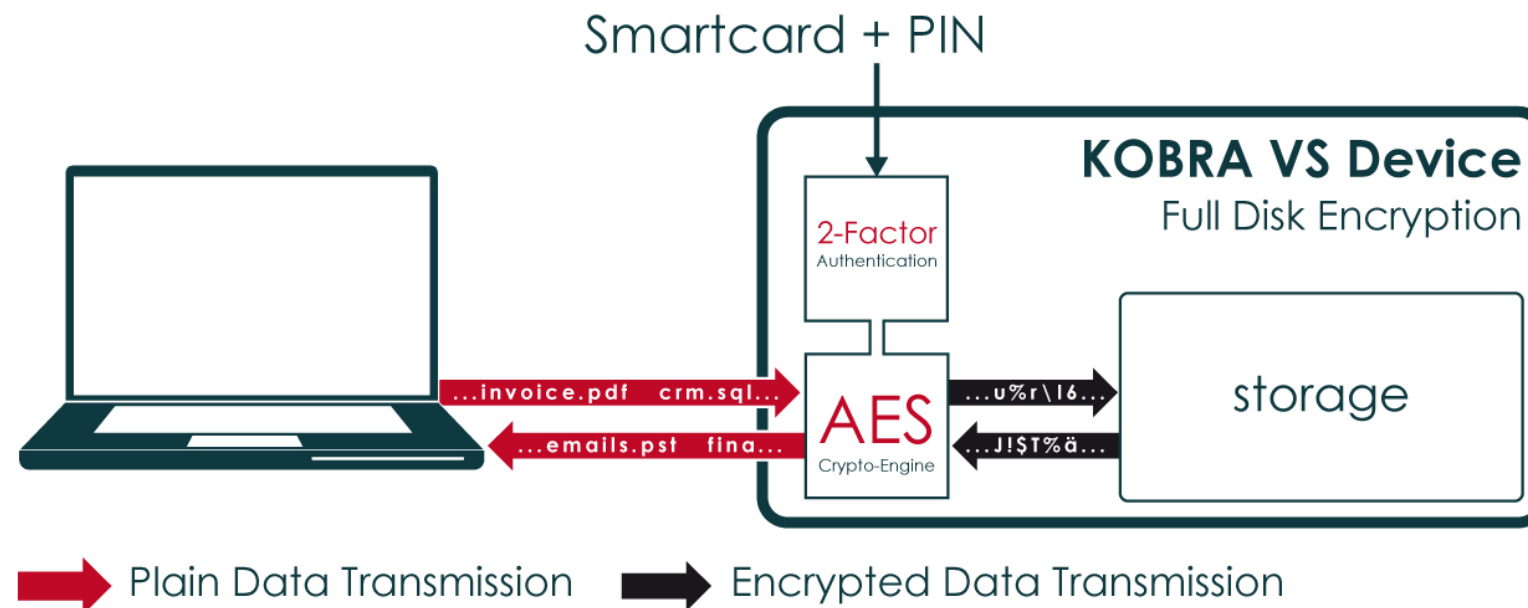
Management of the encryption key:

- Creation, modification and destruction by user
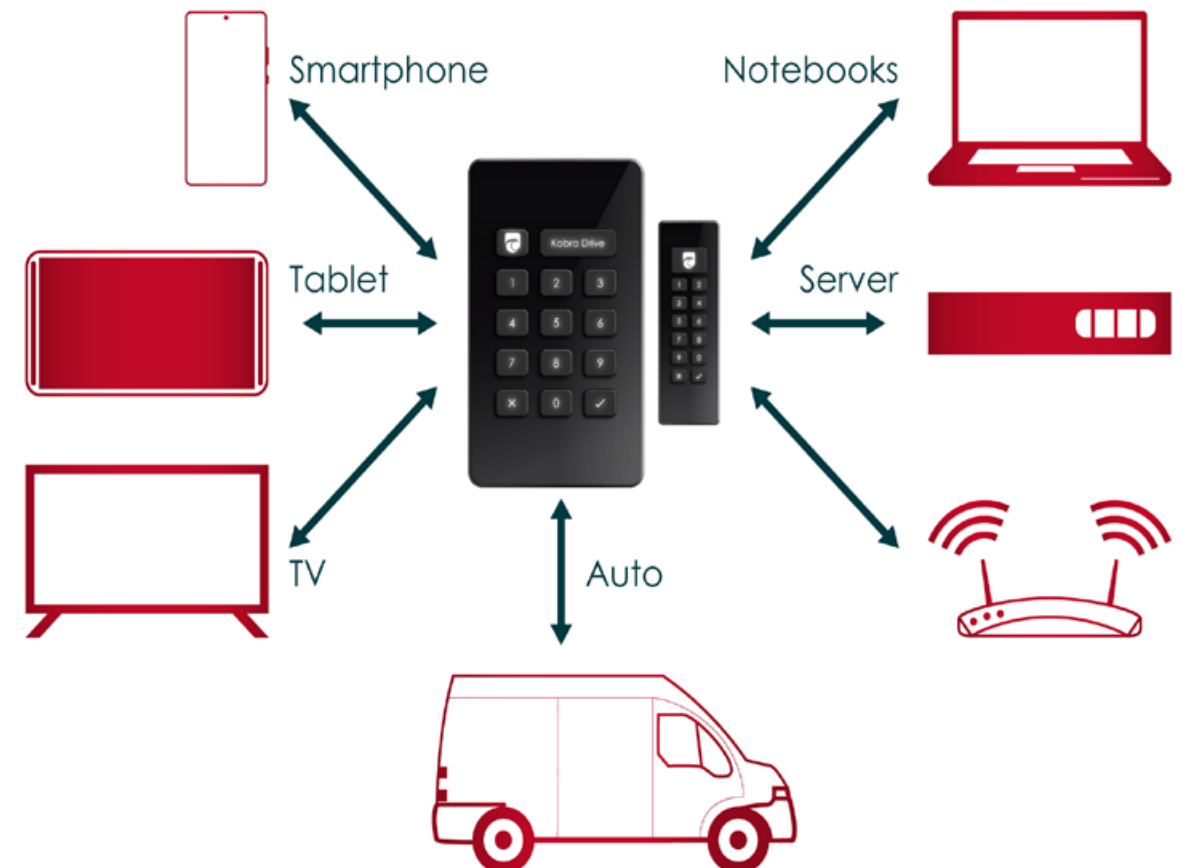- HW-based random number generator
- External generation and calculation

User management by administrator:

- Integrate and delete users
- Read / write authorisation
- Time-out, lock-out, number of failed attempts
- Locking the administrator functions

Zugelassen durch das BSI bis VS-NfD
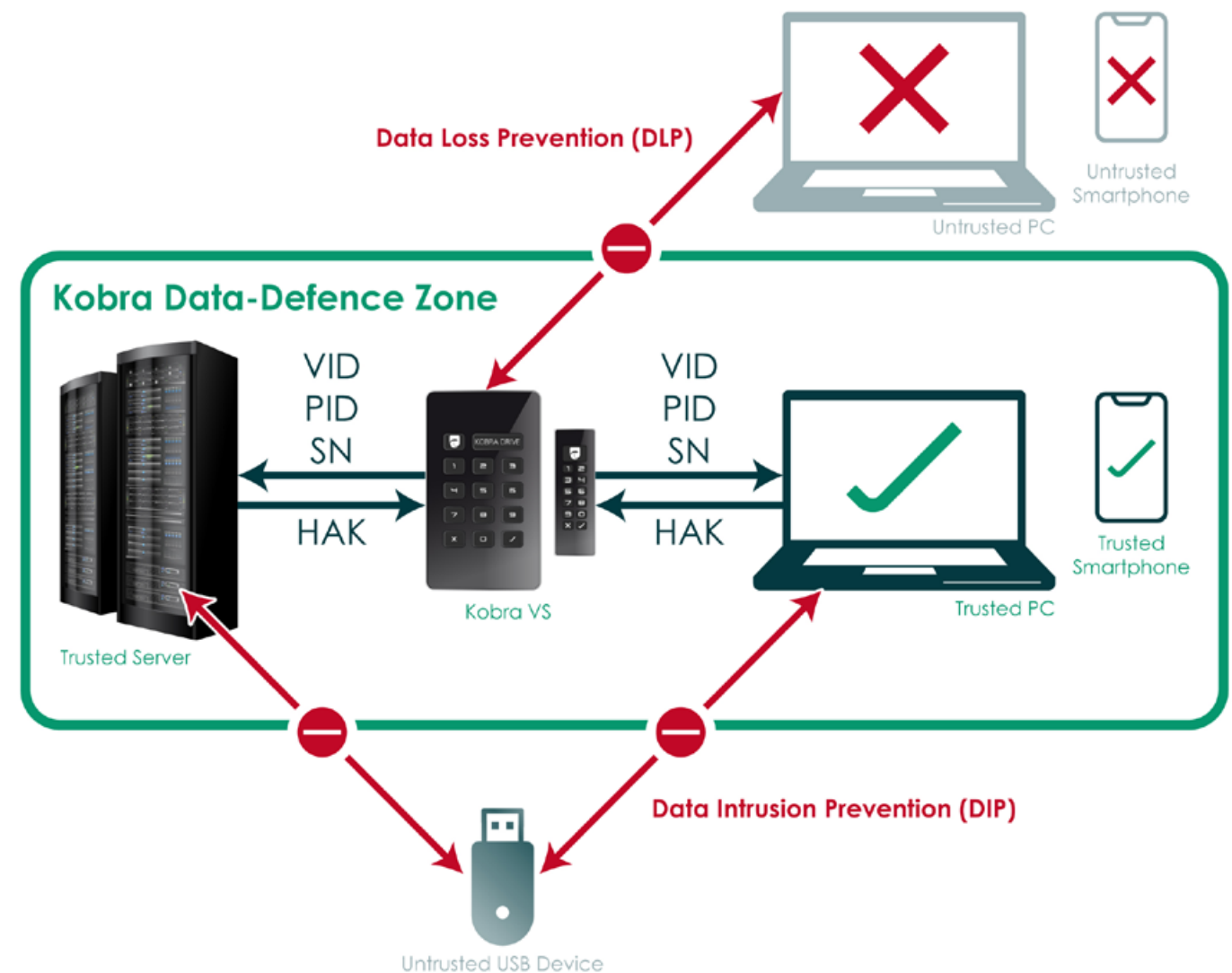RESTREINT UE / EU RESTRICTED
NATO RESTRICTED
BSI-VSA-10338
Gültig bis: 30.04.2023

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Mobile access to VS-NfD data

Smartcard + PIN

KOBRA VS Device
Full Disk Encryption

2-Factor
Authentication

AES
Crypto-Engine

storage

...invoice.pdf crm.sql...
...emails.pst fina...
...u%r\l6...
...J!$T%ä...

- Users cannot bypass encryption
- Simple and safe
- Transparent and operating system independent

→ Plain Data Transmission   → Encrypted Data Transmission

Smartphone   Notebooks
Tablet   Kobra Drive   Server
TV   Auto

Kobra Defence Zone

- Secure exchange of data between protected systems

- To achieve this, interface control software (e.g. Microsoft group policies, itWess, ivanti, DriveLock, DeviceLock etc.) on all host systems is used to authorise only Kobra VS data storage devices for connection and data exchange by means of the USB parameters VID and PID

- In addition, access to only predefined Kobra VS data storage devices can be restricted via the USB parameter serial number. These measures already protect the systems in the KDZ.

Data Loss Prevention (DLP)

Untrusted Smartphone

Untrusted PC

Kobra Data-Defence Zone

VID
PID
SN

HAK

VID
PID
SN

HAK

Trusted Server

Kobra VS

Trusted PC

Trusted Smartphone

Untrusted USB Device

Data Intrusion Prevention (DIP)

1. Interface control:
VID: USB Vendor-ID
PID: Produkt-ID
SN: Serial number

2. Host authentication:
HAK: Host authentication key

Secure Mobile Workspace

Client: German machine builder

- Integrated power supply enables pre-boot authentication

- Encrypted installation of operating systems on Kobra VS storage devices

- Flexible change of purpose from laptop/PC

- pSLC memory recommended to ensure longest possible lifetime

- When the storage device is disconnected from the PC, the data remains encrypted and is stored only on the Kobra VS storage device.

connect with system

VS-NfD

Authentication

Booting from VS storage device
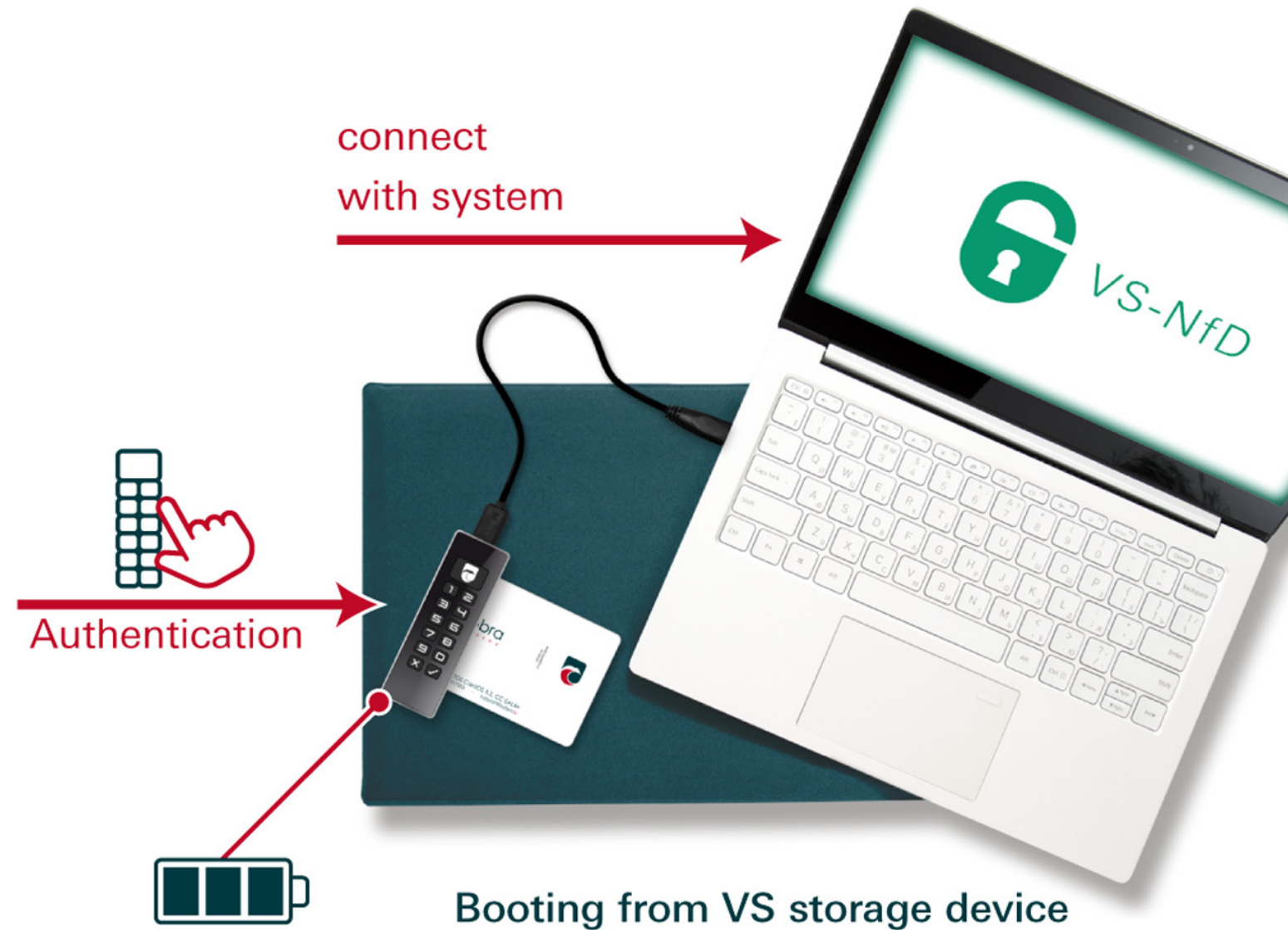
Geo-Redundant Backups

Client: German aviation company

- Protects data against unauthorised access

- Offers full control over sensitive and personal data

- Several Kobra VS storage devices can be operated with one smartcard

- Secure backups of e.g. project-based developer laptops with NATO Restricted and EU Restricted content

- Cost-effective secure geo-redundant storage of backups for disaster recovery

Server system migration
Client: Federal authority

Windows Server 2008 → KOBRA DRIVE → Windows Server 2022

- Kobra Drive VS with up to 16TB storage on one storage device
- Protects data against unauthorised access
- Offers full control over sensitive and personal data
- Several Kobra VS storage devices can be operated with one smart card
- Secure transport of data to new location

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Simplified data transport

Client: Federal authority

Kobra Client VS - Database management

Suche

Devices | Smartcards

▷ KS-V16-2101-24E2	Kobra Stick VS...
▷ KS-V16-21012-1B7C	Kobra Stick VS...
▲ KD-VBS-2204-5853	Kobra DriveVS...
0200561200113204	Mrs. Smith...
020846ED00123418	Mr. Miller...

- Storage device is prepared by admin for access by sender and recipient.

- Cost-effective transport by parcel service provider instead of own staff

Shipping the Kobra VS storage device
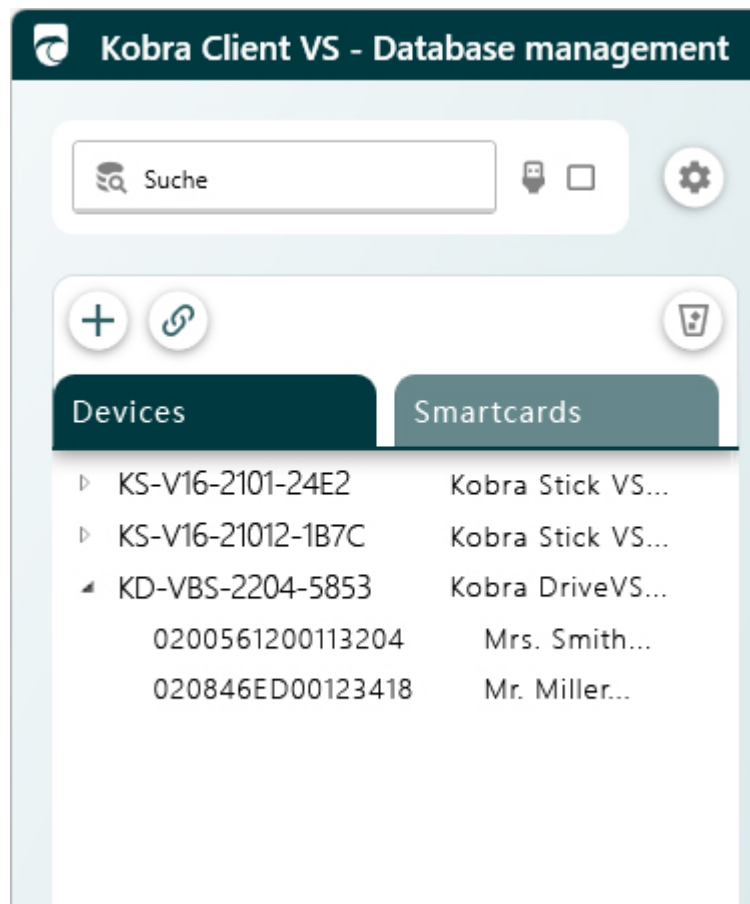
Serial number	Public key	Write permission	Status	State	Label	Open	Delete
0200561200113204	DDCA7A670C53CBFFF3305A5C4...	⬤ (off)	✓	✓	Mrs. Smith - Berlin	⊡	🗑
020846ED00123418	B5F440AB675845C705E13E022D...	⬤ (on)	✓	✓	Mr. Miller - Munich	⊡	🗑

Airgap bypass

Client: Federal authority

- Activated write protection against unwanted leakage of information
- Administrator can define two smartcards: Smartcard 1 for work in the NATO Restricted Area (read and write) and Smartcard 2 for VS-NfD Area (read only).

Serial number	Public key	Write permission	Status	State	Label	Open	Delete
0200561200114337	ACFCB593D10C57F0AE6251A98B...	⬤	✓	✓	Nato-Restricted	⬆	🗑
020056120011100D	9E9B5DB30CA47491719C58E35F...	◯	✓	✓	VS-NfD	⬆	🗑

Use as data diode
Client: Federal authority

- Activated write protection against unwanted leakage of information from higher classified systems to lower classified systems.

- Administrator can define two smartcards: Smartcard 1 for work in the NATO Restricted and EU Restricted area (read and write) and Smartcard 2 for secret area (read only).

Serial number	Public key	Write permission	Status	State	Label	Open	Delete
0200561200114337	ACFCB593D10C57F0AE6251A98B...	⬤→	✓	✓	VS-NfD	⬆	🗑
020056120011100D	9E9B5DB30CA47491719C58E35F...	←⬤	✓	✓	Secret	⬆	🗑

Deposit of source code

- Instead of depositing mountains of papers full of source code at the notary (which is not possible in many cases), it is stored on the Kobra VS storage device.

- The smartcard can be deposited at the notary under certain conditions

- The client can demand access to the smartcard

- Mountains of paper stacks no longer have to be exchanged or updated, but source code is updated on the Kobra VS storage device.

- This application option saves a lot of space, energy and is very sustainable as well as environmentally friendly

Log data from vehicles

- Log data from emergency vehicles (aircraft, helicopters, utility vehicles, ships) are stored on Kobra VS storage devices after use and transported for evaluation.

Secure Software Deployment

- Software is copied from the source system to the Kobra VS storage device and transported to the place of use/vehicle.

- The software/firmware is then transferred/installed/updated on the target system.

- Protection of the integrity and confidentiality of software systems and configurations during transport, especially in the case of larger physical distances.

Read Only Windows / OS

- Activated write protection against unwanted leakage of information from higher-rated systems to lower-rated systems

- Faster booting due to flash me-mory

- No modification of system data possible

- Processed information is not per-sistently stored on the Kobra VS storage device at any time

- Easy update of the software sys-tems by exchanging the data carriers via simple postal dis-patch
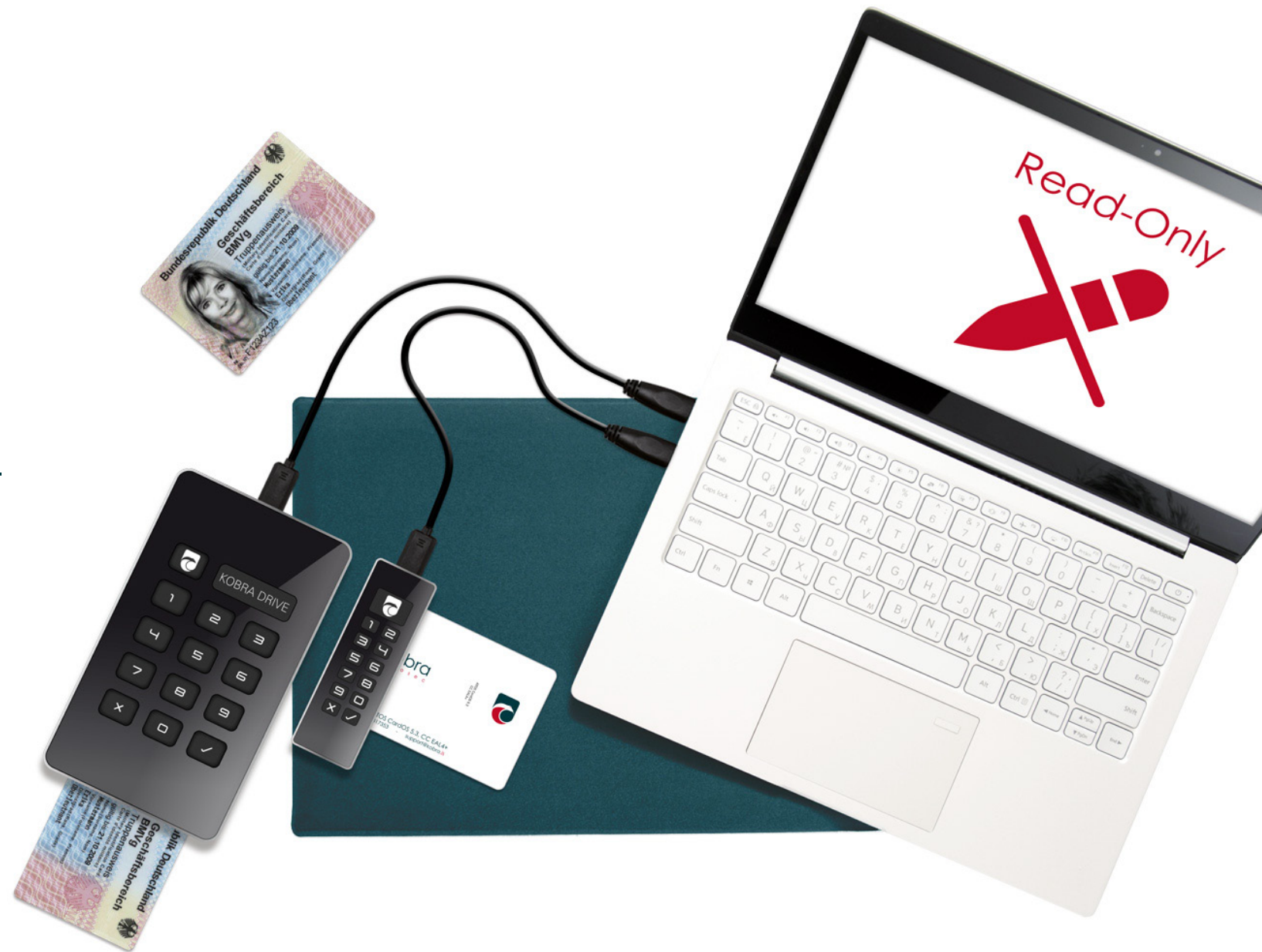
Two-factor authentication for:

- E-mail encryption
- VPN access
- Cloud access
- Windows or Linux login
- Digital signing of documents and files

KOBRA Client VS

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Thank you for your attention

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