MINDSHARE
2025 10-11 SEP
CYBERSECURITY LEADERSHIP FORUM
Securing Identity for our Digital Future

MINDSHARE AGENDA

GET APP

Physical versus Digital Security of eID Documents

EVIDEN

MINDSHARE
2025 10-11 SEP
CYBERSECURITY LEADERSHIP FORUM
Securing Identity for our Digital Future

Benjamin Drisch, Fermín Vázquez

The lecturers

Benjamin Drisch

Fermín Vázquez

Eviden Digital Identity

Home of cryptovision and IDnomic solutions

Secure digital identities and user-friendly encryption

Identity documents

Identity documents have been around for centuries

Many physical security features exist

Proven technology has made identity documents secure and user-friendly

Physical security

Intuitive

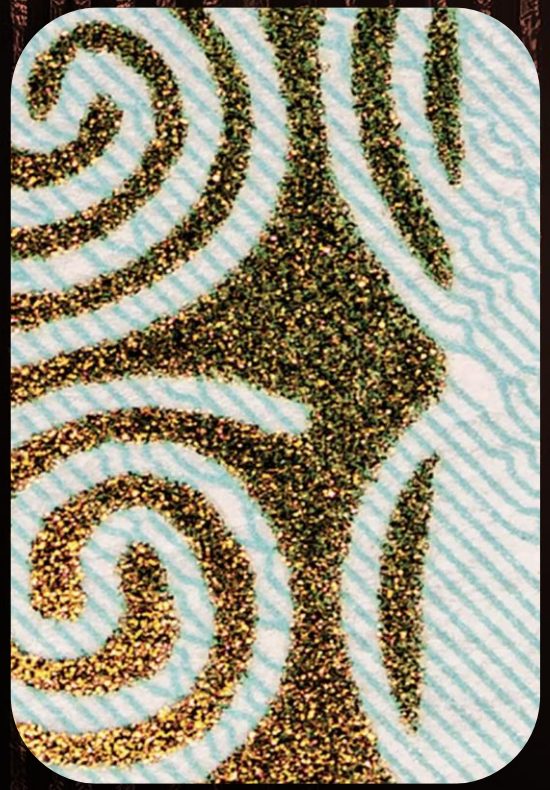


Image sources: https://www.sicpa.com/expertise/identity/security-inks-id-documents-and-passports/security-inks-for-id-documents-and-passports-protection-solution
https://regulaforensics.com/glossary/documents/optically-variable-magnetic-ink-spark-ovmi/

Physical security

Intuitive

Image sources: SICPA – SPARK Flow. The essence of light. HSP LATAM 2025. & https://regulaforensics.com/blog/rare-document-security-features/

Physical security

Robust

Image sources: SICPA – SPARK Flow. The essence of light. HSP LATAM 2025.

Physical security

Microparticles

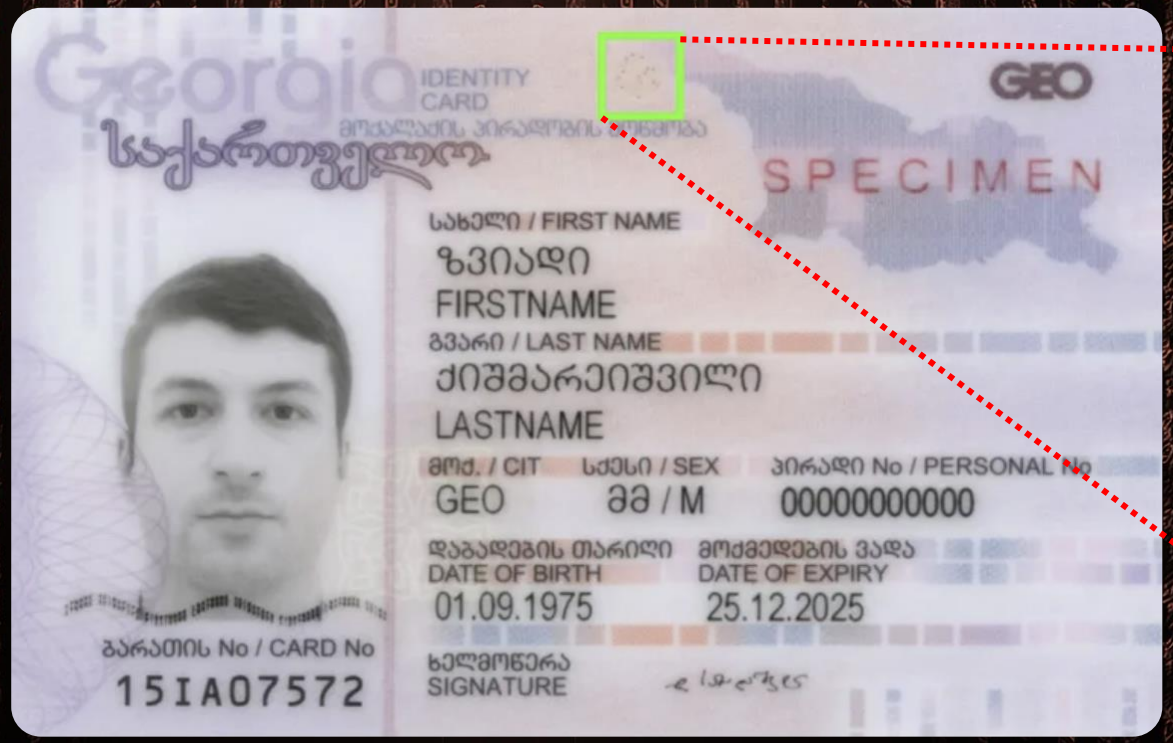
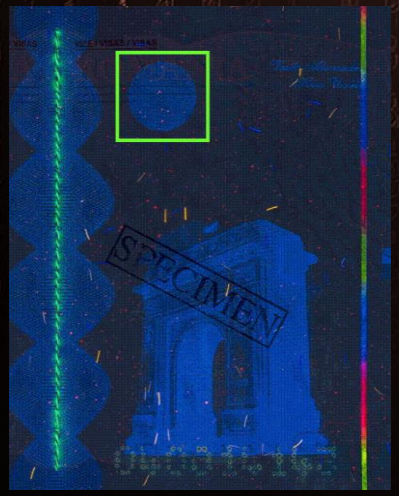


Image sources: https://regulaforensics.com/blog/rare-document-security-features/

Physical security

Scrambled images



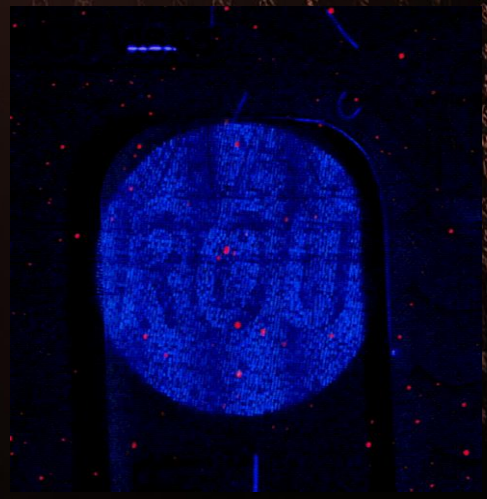
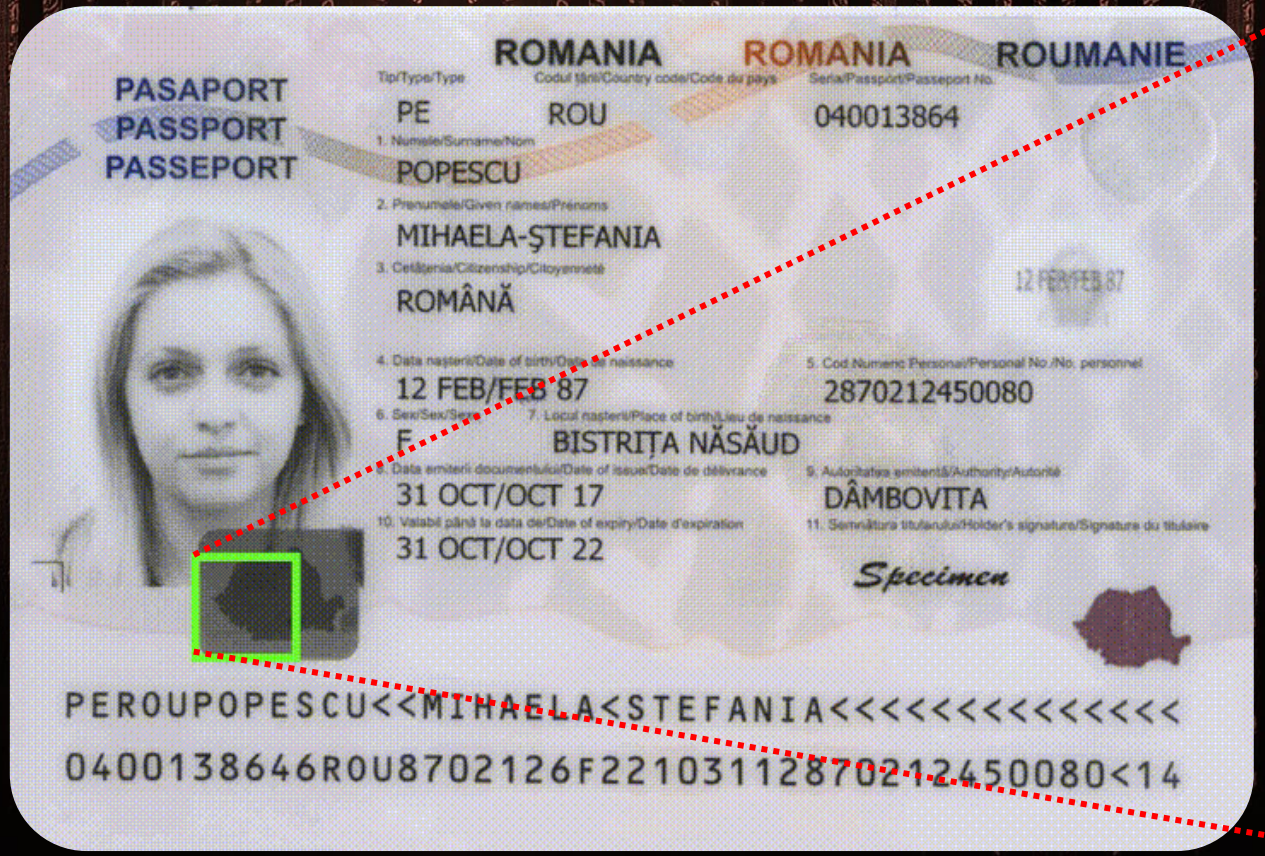


Image sources: https://regulaforensics.com/blog/rare-document-security-features/

Physical security

Covert Laser Readable



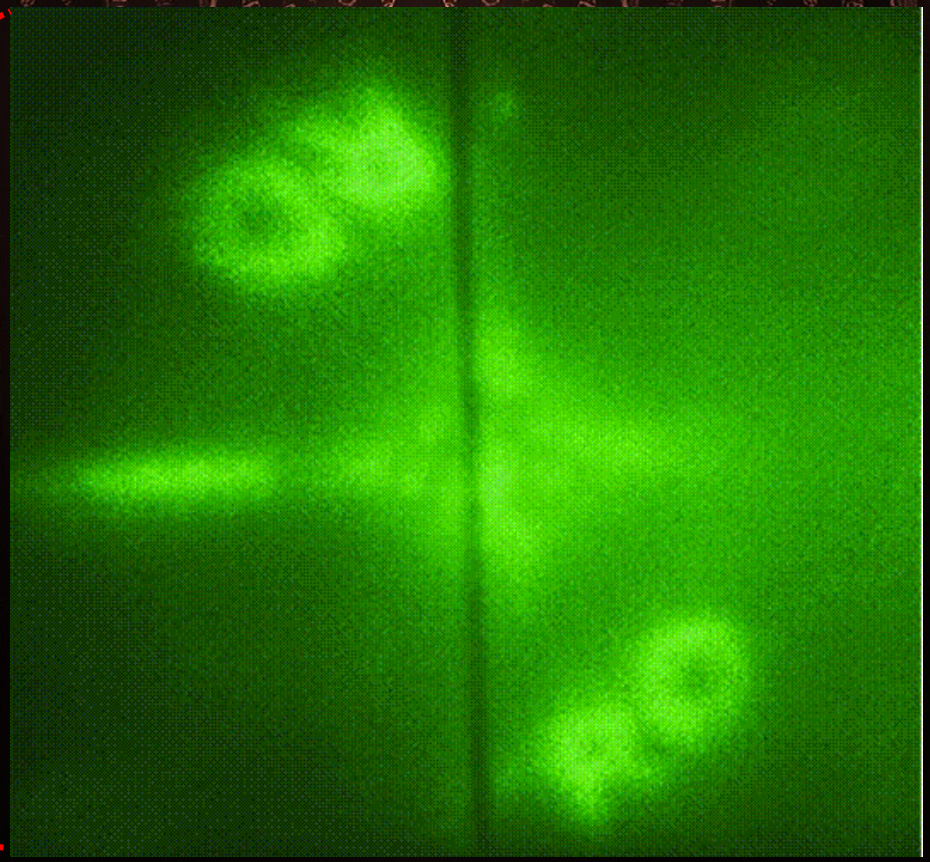


Image sources: https://regulaforensics.com/blog/rare-document-security-features/

Physical security

Anti-Stokes inks

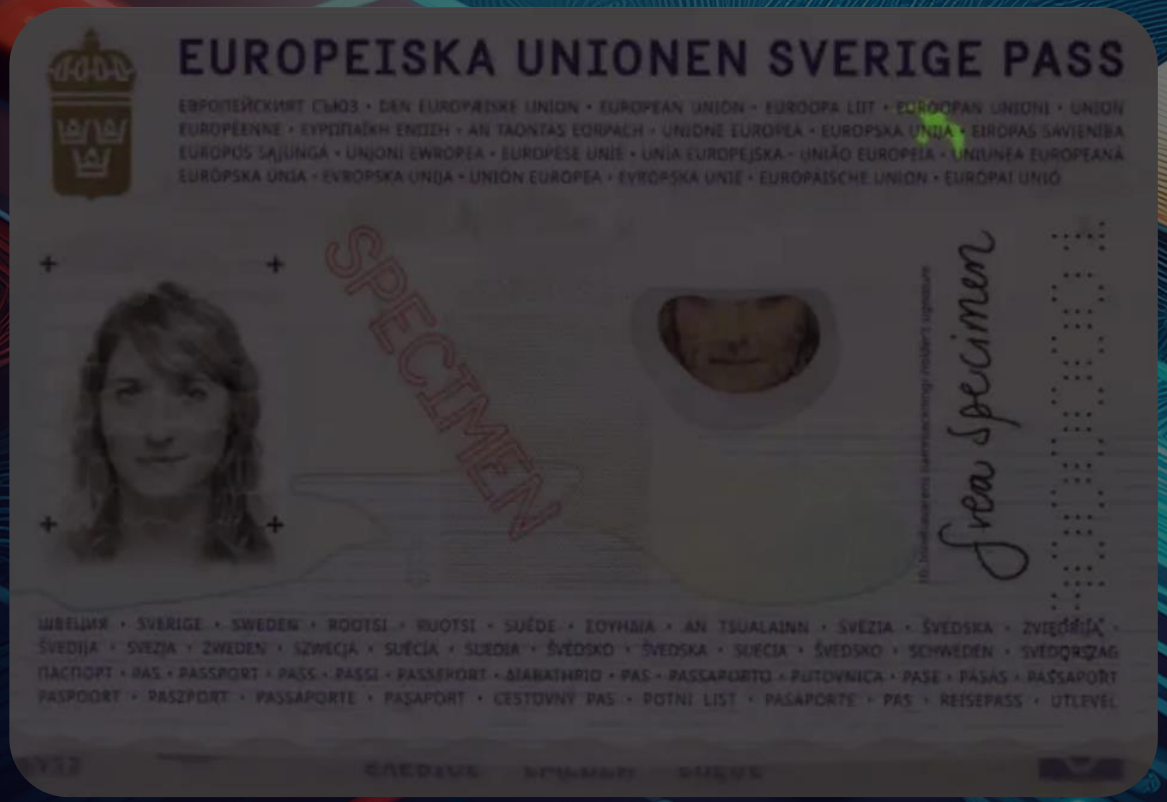


Image sources: https://regulaforensics.com/blog/rare-document-security-features/

Physical security

Thermochromic ink

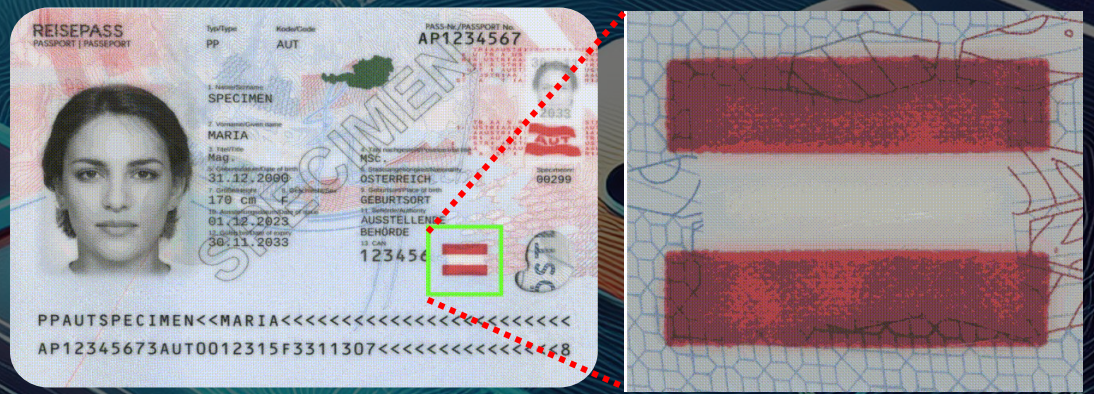


Image sources: https://regulaforensics.com/blog/rare-document-security-features/

Physical security

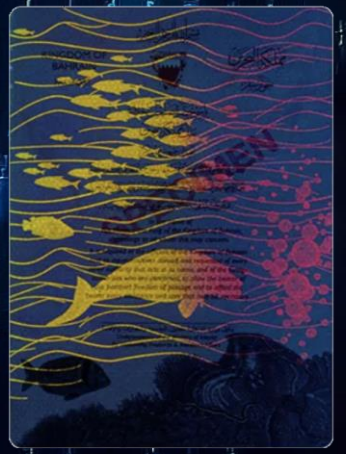


Image sources: https://regulaforensics.com/blog/most-beautiful-passports/

Physical security

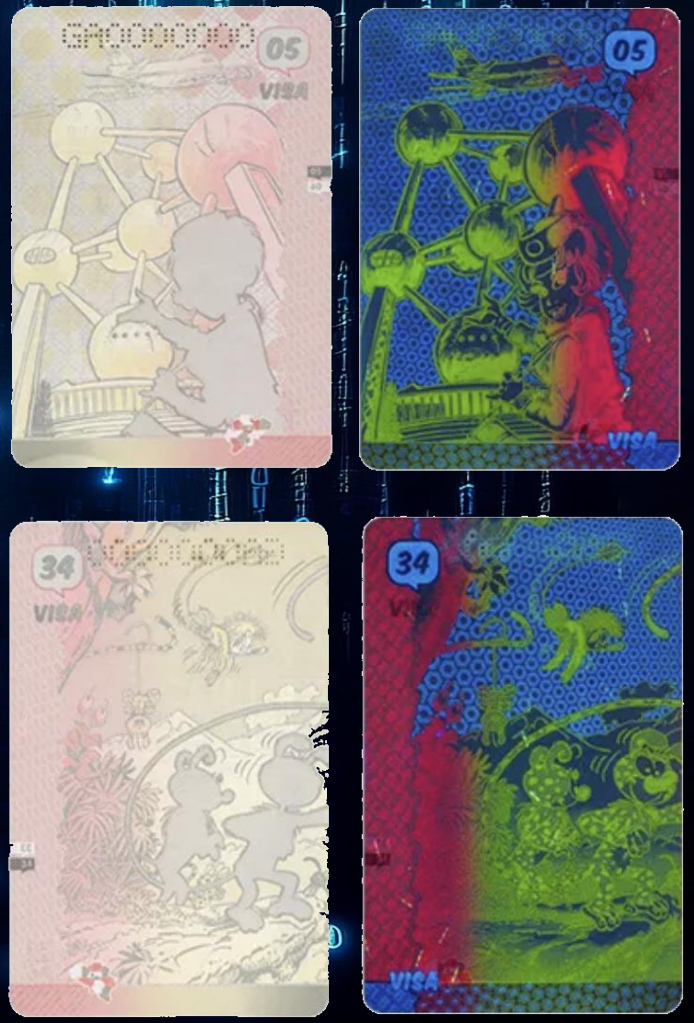


Image sources: https://regulaforensics.com/blog/most-beautiful-passports/

Physical security

Physical security features have fundamental weaknesses

Appearance falsification is possible

Security of physical documents is limited

Online market for eID forgers

Recommended for You

Blank UV Card ID Window Card

Ovi Laminate Sheet Pet Laminate Sheet

New Raise Letter Machine for Ny Card Signature UV Print

New Ovi Overlay Hologram UV State Hologram

Holo Total 16 Holo Products

Az ID Hologram ID Overlay Sticker

Min. Order: 20 Pieces

Dl Hologram Overlay Ca ID Hologram Sticker

Min. Order: 20 Pieces

CT Ovi Sticker Hologram State Overlay

Min. Order: 20 Pieces

De State Hologram Sticker ID Hologram of Delaware

Min. Order: 20 Pieces

All major physical security measures can be forged

eID Counterfeiting is a major threat

Types of Fraud

Counterfeit	Unauthorized reproduction of a genuine document
Forgery	Falsification of a genuine document
Impersonation	Usurper using a genuine document and claiming to be the holder

Fundamental Weakness

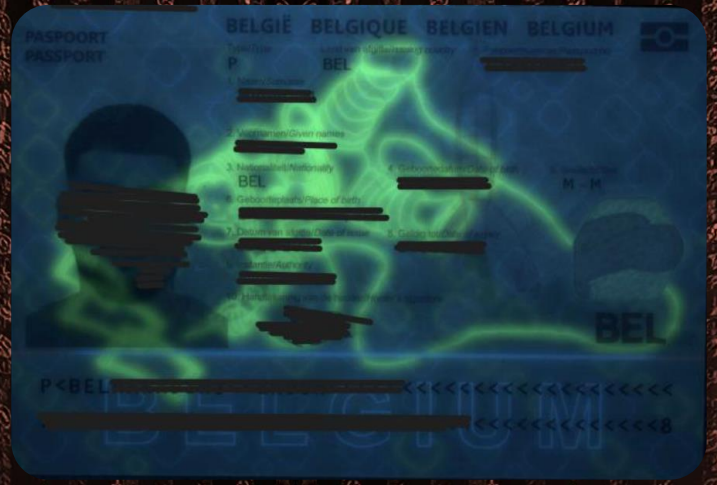


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

Fooling untrained eyes

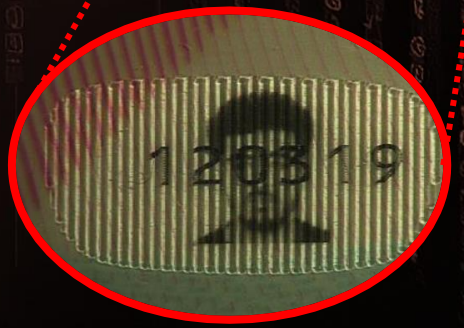
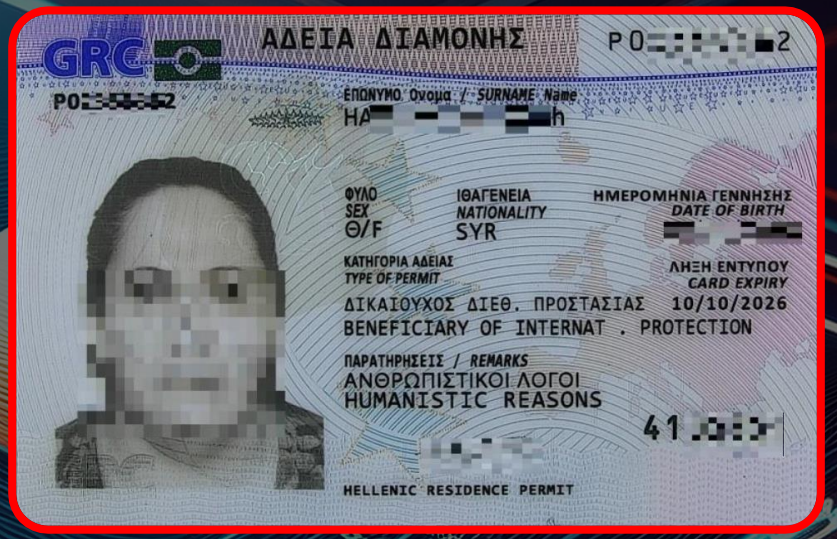


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

© Keesing

Appearance has a Threshold



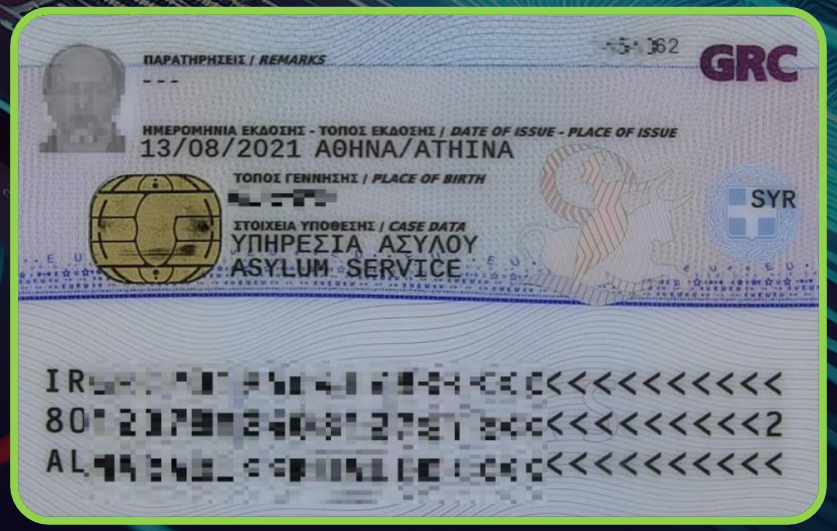


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

Appearance has a Threshold

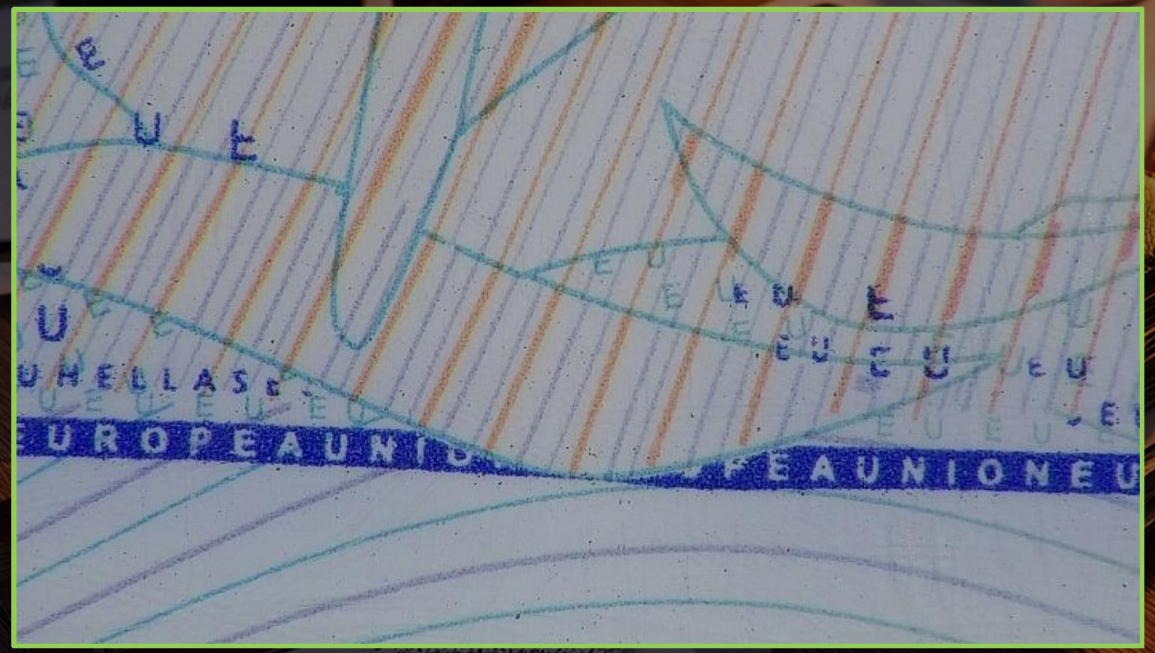
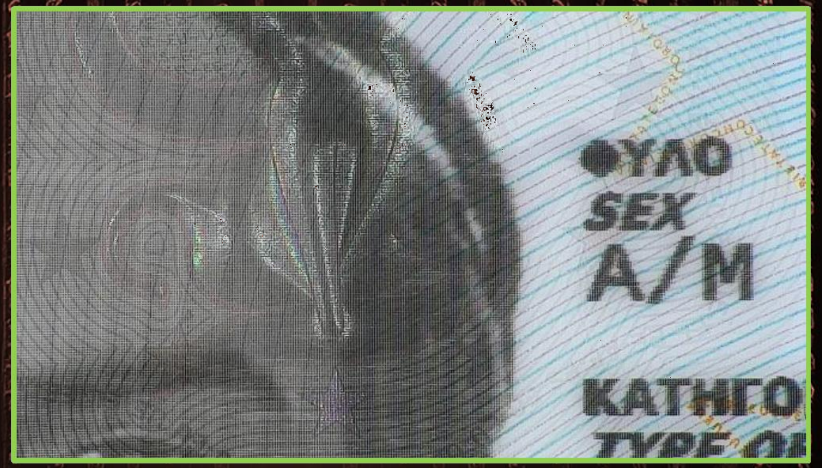
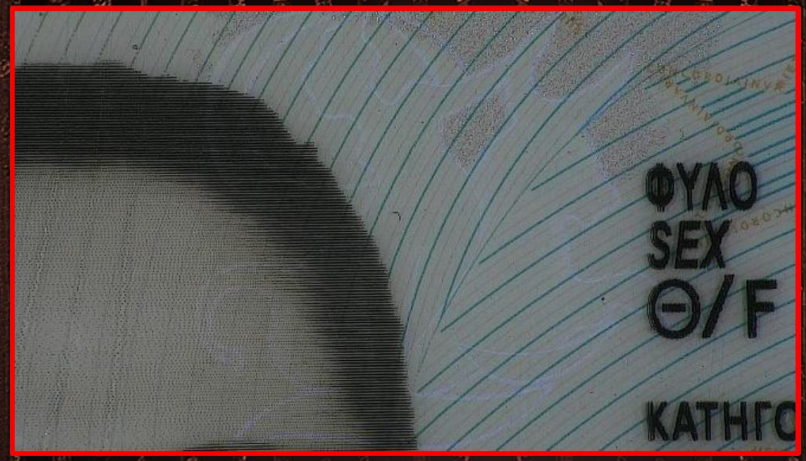


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

Fooling trained eyes





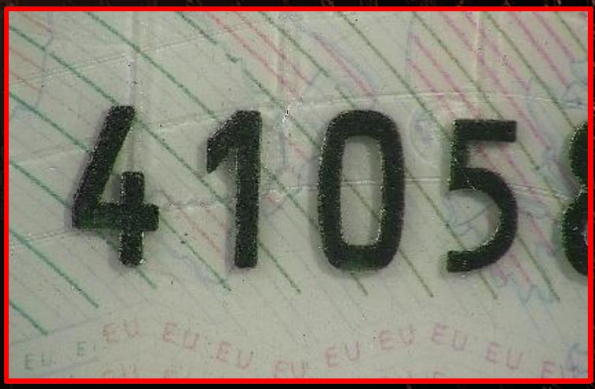
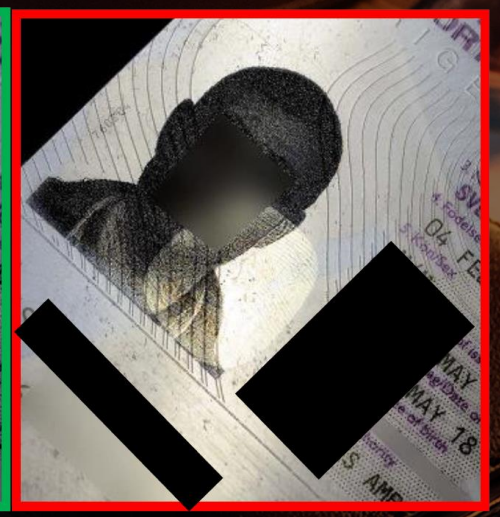


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

Forgery



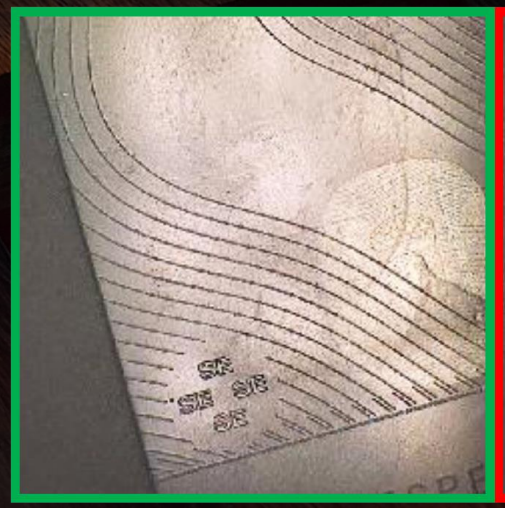


Image sources: SECURE IDENTITY ALLIANCE – Passport Fraud Trends. HSP LATAM 2025.

The trend is towards electronic/digital security

Mobile ID reinforces this trend

Crypto plays important role

Electronic/digital security relies on cryptography

Additional crypto-based applications

- Online authentication
- Digital signatures
- Proof of ID attributes
- Payment
- Biometric authentication
- Age verification
- ...

Cryptography-based security measures

Digital signatures for data stored

Private key for authentication, signatures, key exchange

Controlled Access based on proper Authentication

Encryption for communication

Conventional eID applications become more secure
New applications become possible

Why is crypto secure?

RSA as an example

RSA

Brute-forcing a key takes billions of billions of years

Used billions of times every day

Analyzed by hundreds of crypto experts

Reduction proofs for RSA & ECC increase trust

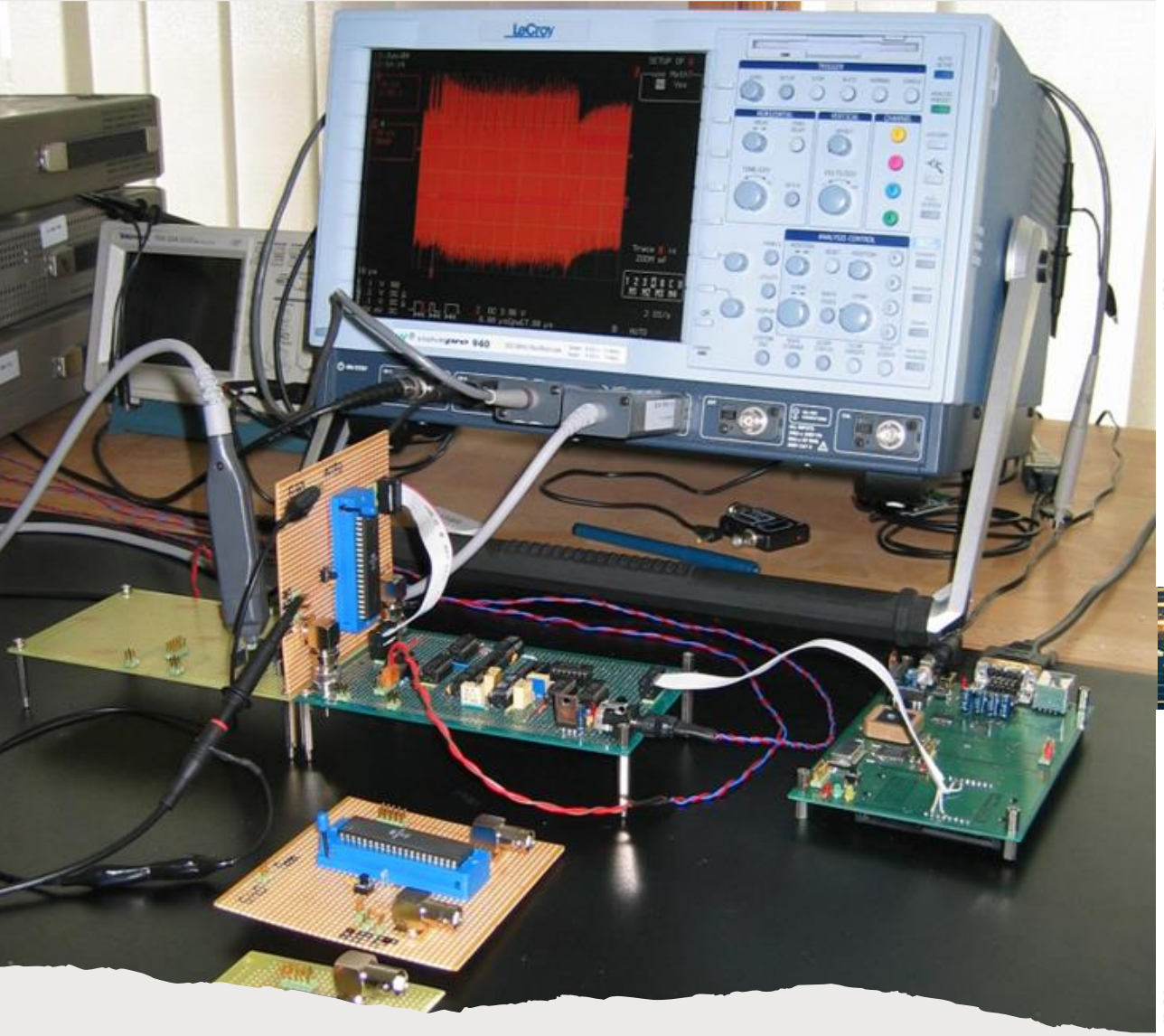
Migration to post quantum will be necessary, but this won‘t change the concept

The crypto dilemma

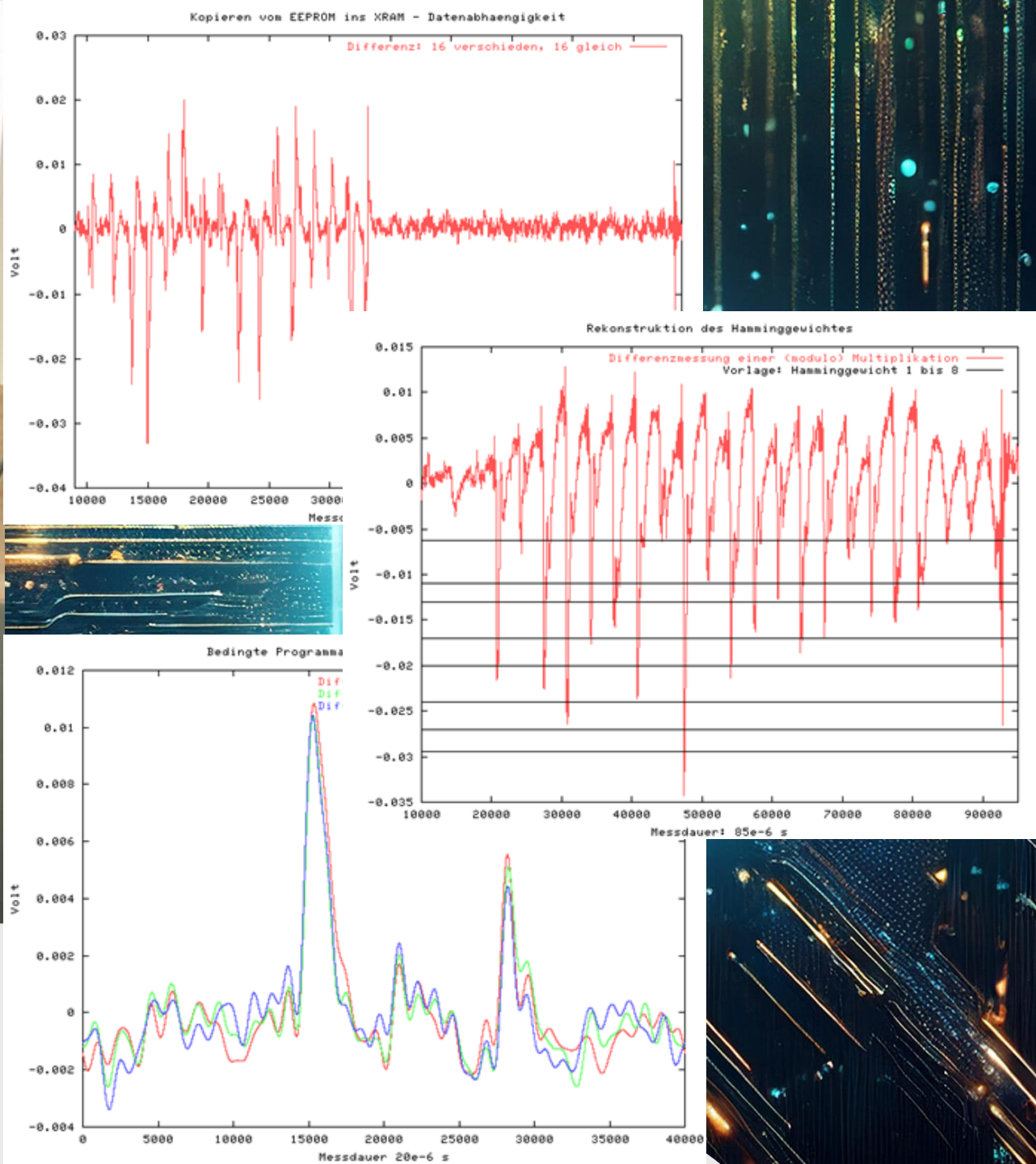
Cryptography is mathematically secure, but needs to be implemented on computers, phones, eID cards, ...

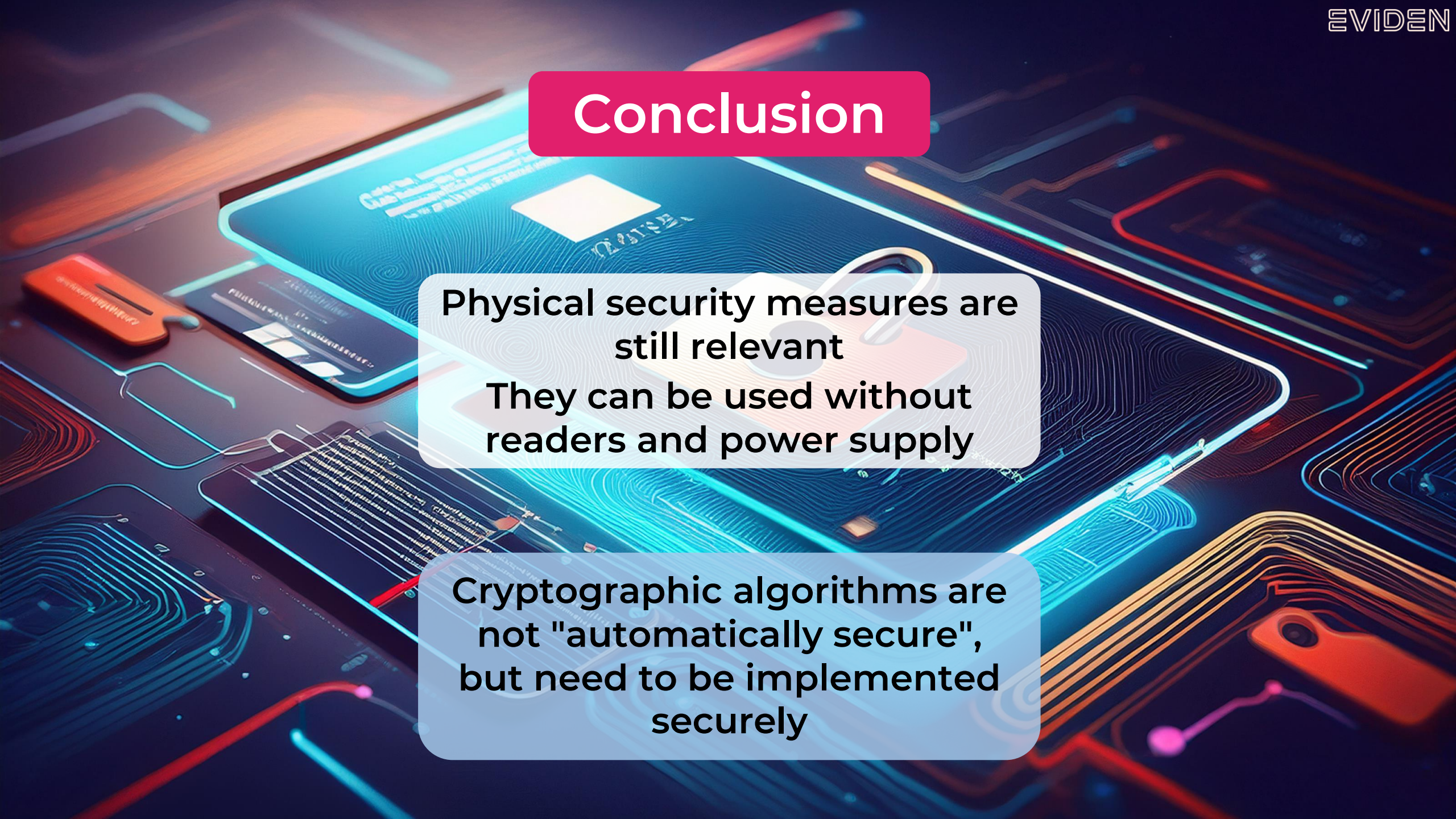
Crypto implementations are prone to side-channel attacks

Everything is "physical" in the end



Non-cryptographic Attacks





Conclusion

Physical security measures are still relevant

They can be used without readers and power supply

Cryptographic algorithms are not "automatically secure", but need to be implemented securely

Thank you!

Benjamin Drisch

Eviden Digital Identity

benjamin.drisch@atos.net

Fermín Vázquez

Eviden Digital Identity

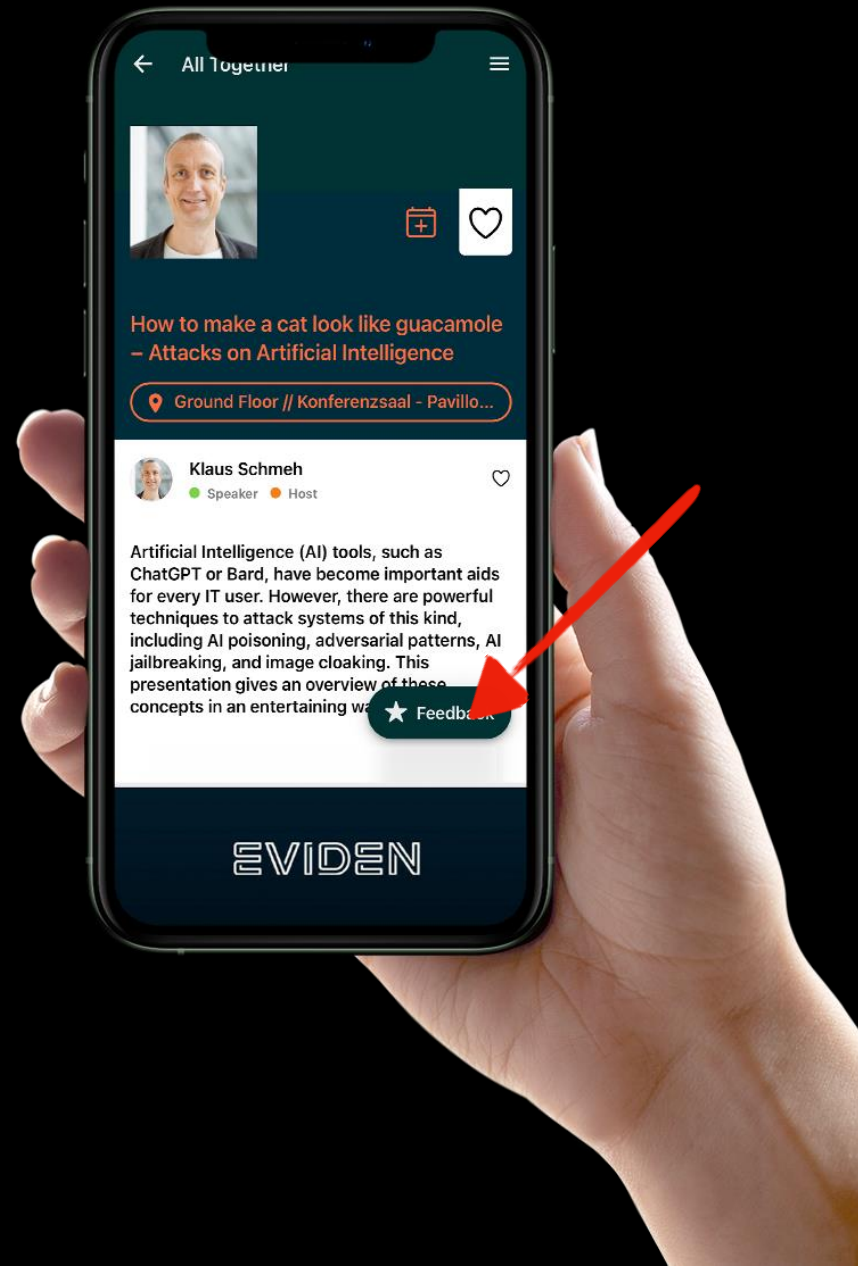
fermin-teuctzintli.vazquez@atos.net

Questions?

MINDSHARE

2025 10–11 SEP

CYBERSECURITY LEADERSHIP FORUM

Securing Identity for our Digital Future

TAKE A MINUTE AND GIVE US FEEDBACK