# 3D PHOTO ID

the first line security feature

**ICAO/IACM MRTD Regional Seminar** 

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## Morpho is a member of the Safran group



is a high-technology group, organized in three branches:

#### **Aerospace**

- No. 1 worldwide\* for commercial aircraft engines (mainline jets with over 100 seats)
  - \* in partnership with General Electric
- No. 1 worldwide in helicopter engines
- No. 1 worldwide in landing gear
- No. 2 worldwide in liquid propulsion

#### **Security**

- No. 1 worldwide in fingerprint-based biometrics
- **No. 1** worldwide in secure biometric identification documents
- No. 1 worldwide in biometric terminals

#### **Defense**

- Optronics systems
  - No. 1 in Europe
- Inertial navigation
  - No. 1 in Europe
- UAV systems
  - No. 1 in Europe



#### Figures 2009:

- 54,900 employees in over 30 countries.
- Sales: 10,448 billion €



# Morpho

**Morpho** (Safran group) is the world leader in multibiometric technologies for fingerprint, iris and facial recognition, a global leader in the smart card industry and an acknowledged expert in identification and detection systems.

#### **Key facts**

- No. 1 in the world for biometrically secured ID documents
- No. 1 in the world for AFIS (Automated Fingerprint Identification System)
- No. 1 in the world for Explosive Detection Systems (EDS)
- No. 2 in the world for gaming and betting terminals
- No. 4 in the world for smart cards
- World leader for Trace Equipment

#### Figures 2009:

■ 5,600 employees in over 24 countries





## Company overview Morpho B.V.

- Established in 1994 as a joint-venture:
  - Sdu nv (The Hague, 1577)
  - Joh. Enschedé bv (Haarlem,1703)
- 2000: 100% Sdu
- 2005: Sdu Segenmark SSO Finland
- 2007: 100% AAC Capital Partners, Allianz Capital Partners
- 2008: 100% SAFRAN Group => Sagem Identification,
- 2010: name change: We are Morpho now!
- 340 fte employees
- Headquartered in Haarlem, The Netherlands



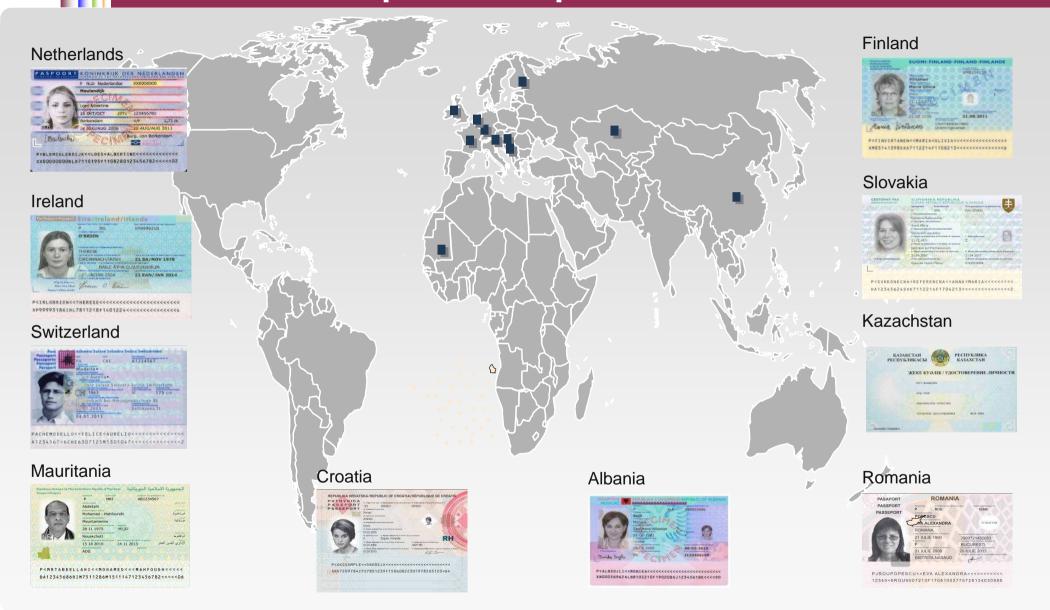


## Product range

- **ID Documents** 
  - Passports and National ID-cards
  - Driver licenses
  - Residence Permits/asylum seeker cards
- Electronic ID (smart)cards, banking cards, loyalty cards, health cards, digital tachograph cards
- Security printing
  - registration certificates, national examination papers, visas, gift vouchers, certificates, etc.
- Personalisation services
- **Logistical management**



# References Morpho ePassports





# References Morpho ID cards

#### **ID Cards** Aruba IND APPLICATION REGISTRATION CARD Botswana REPUBLIC OF SOUTH AFRICA Brazil (Bahia state) Columbia Costa Rica **Resident Permit** Ghana /immigration/Voting Guatemala UK (Asylum seeker) Honduras Kosovo REPUBLIC OF GHANA Lebanon Mauritania Nigeria REPUBLIQUE DE CÔTE D'IVOIRE Philippines Perou



e-ID Card

Ivory Coast

Kazahstan

Guatemala

Malaysia

Netherlands

Mexico

Albania

UAE

Spain

### 3D Photo ID



## The first line security feature





## ICAO Doc 9303, part1, volume 1





7.1 Displayed portrait. A displayed portrait of the rightful holder shall be either a photograph or other faithful reproduction of the image of the holder securely affixed to or represented on/within the substrate of the MRP. See Appendix 11 to this section for examples of acceptable and unsatisfactory portraits. Necessary measures shall be taken by the issuing State or organization to ensure that the displayed portrait is resistant to forgery and substitution. The displayed portrait shall have been taken within the six months preceding the issue of the MRP. The portrait shall not be larger than 45.0 mm x 35.0 mm (1.77 in x 1.38 in) and no smaller than 32.0 mm x 26.0 mm (1.26 in x 1.02 in). Digital imaging is strongly recommended, as affixed photographs are prone to fraudulent photo substitution.

TECHNICAL ADVISORY GROUP ON MACHINE READABLE TRAVEL DOCUMENTS (TAG-MRTD)

EIGHTEENTH MEETING

Montréal, 5 to 8 May 2008

".... photo substitution, which remains the number one abuse of travel documents."





## 3D Photo ID

3D photos are much more difficult to substitute and are therefore much more suitable to protect an ID document against this type of fraud.



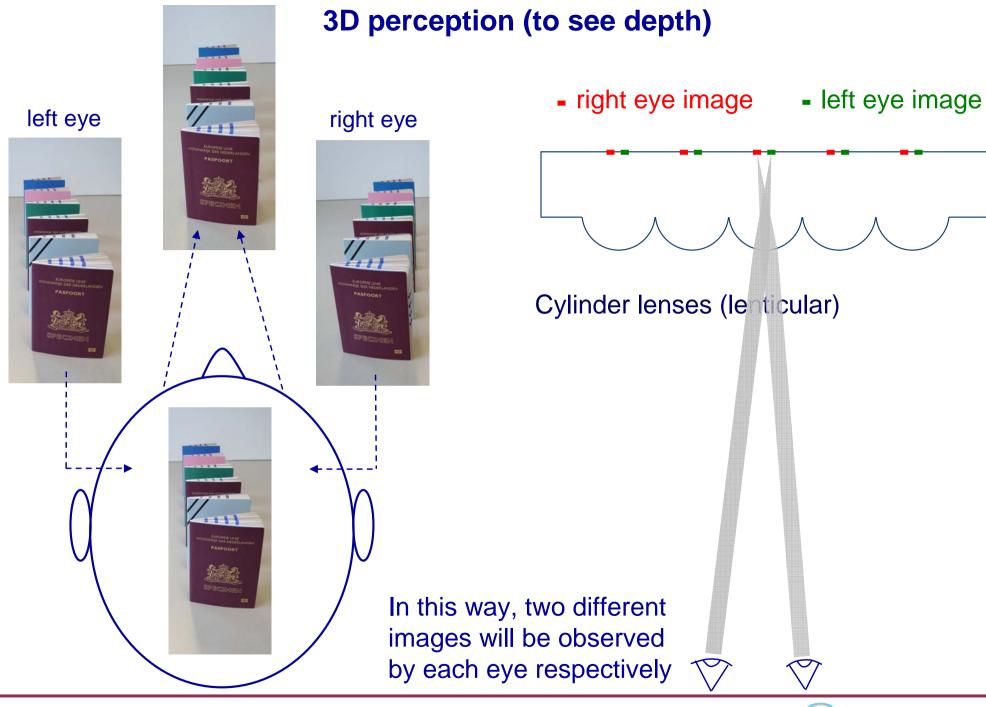


ID card

passport data page

**3D Photo ID** is a three-dimensional portrait in the document, clearly visible without any tool or training



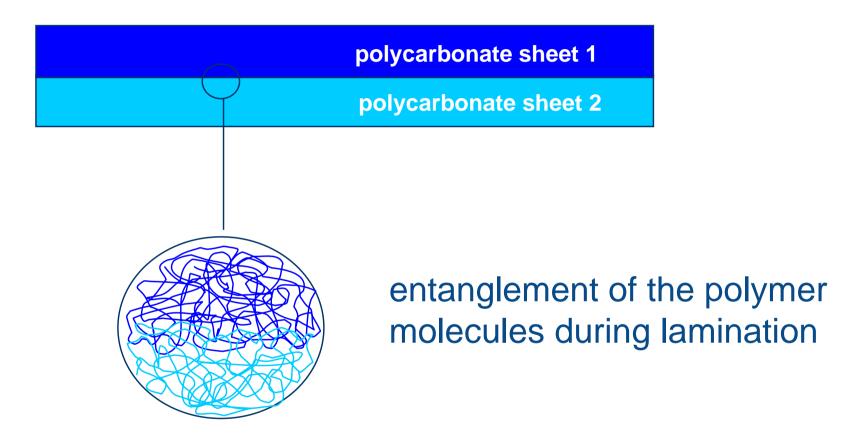






## Polycarbonate data pages

### Polymer sheets melt together during lamination



Result: a solid polycarbonate card body



# Ш

## Personalisation techniques

# with polycarbonate

Laser engraving (IN)





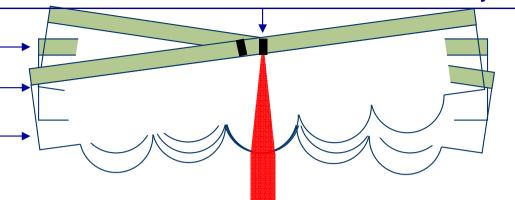
#### **Lenses and laser engraving**

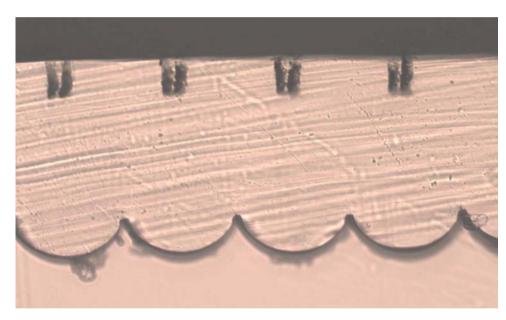
Black carbonization of the laser sensitive layer

Laser sensitive polycarbonate

Transparent polycarbonate

Polycarbonate lenses





Cross section of laser engraved images through polycarbonate lenses at different angles







## **Creating 3D Photo ID images**

Normally one photo is needed for passport enrolment

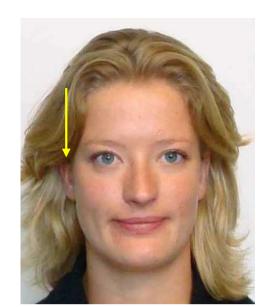


3D Photo ID needs at least two photos, made from different angles.

Four images is better

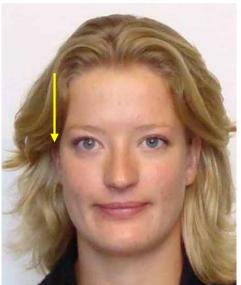




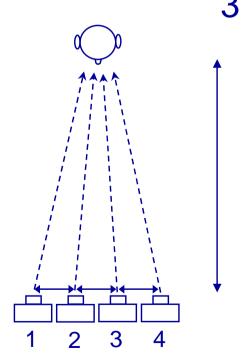




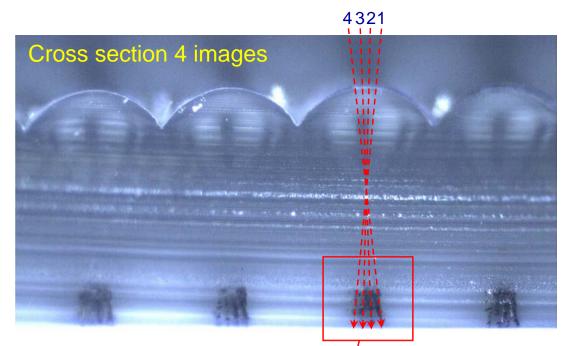






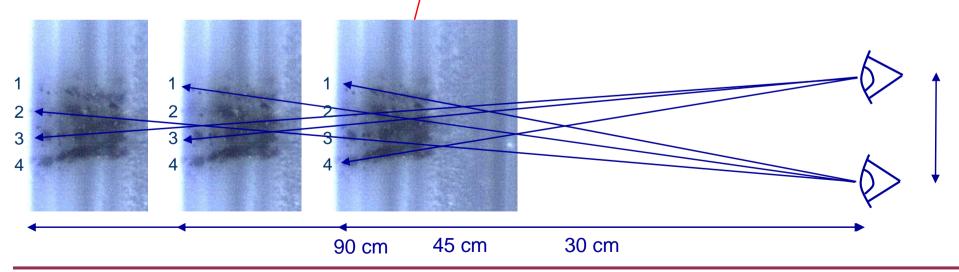






Advantage of using four images in stead of two,

resulting in a sharp 3D image from 30 to 90 cm from the passport or ID card



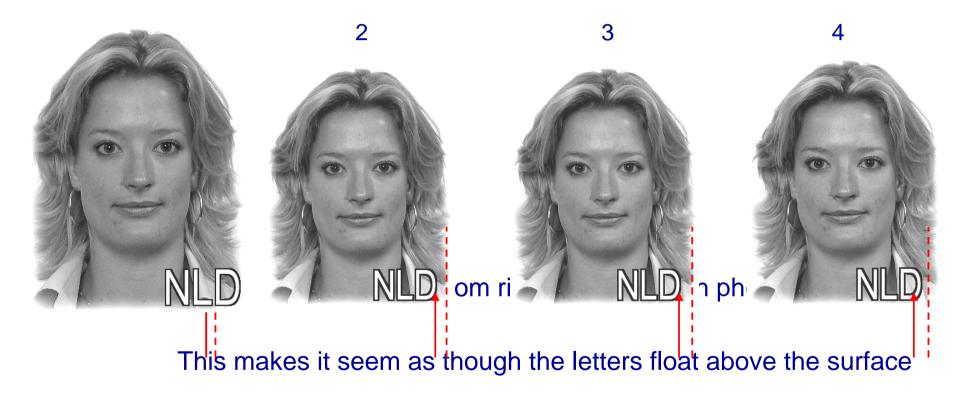


# Ш

## Applying a country code

Applying a country code (example 'NLD')

Could also be 'MOZ' ...





## Reality of document checking

The importance of strong first line security features





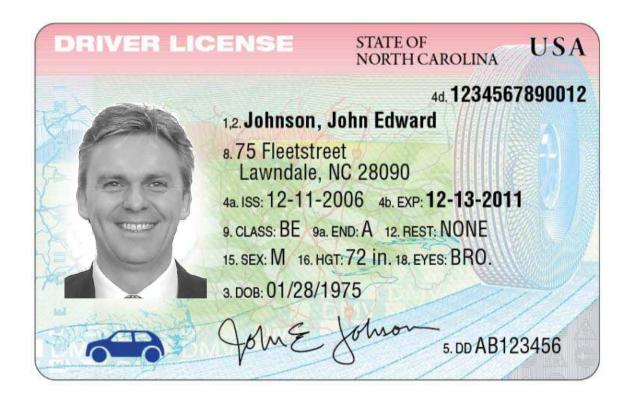
3D Photo ID will be authenticated intuitively by anyone without being aware of it.

- √ no training
- √ no special equipment
- √ no special lights



# **NEWSFLASH**

Morpho has been awarded a contract in the USA for the North Carolina Driver License with 3D Photo ID





### Come and see 3D Photo ID demo-passports at our booth



