3M Security Systems

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Maintaining the Integrity of the Passport Biodata Page and ID Document

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Background in Secure ID Documents

- Technical Director, 3M Security Systems Global Laboratories

- Focus:
  - 3M's development and migration of anti-counterfeiting material products and hardware/software technologies for use in secure border management and document issuance solutions

- 12 U.S. and International patents, including security solutions for e-commerce, document authentication and inspection systems

- MA in computer science and robotics and BS in mathematics and physics

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Presentation Overview

- **The importance of a multi-layered approach to ID document security**

  - Biometric ePassport and high-quality document security features

  - Interlocking features for greater security

    - Panama National ID Card

    - Cambodia Driver's License and Voters Registration Card

    - Ecuador National Driver's License

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Need for High-Quality Security Features
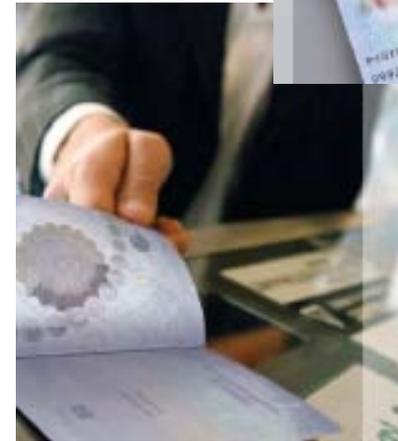
- Biometrics are an important and useful security tool within the machine-readable travel document

- Global adaptation – challenges*:
  - Costs associated with chip technology
  - Costs of installing and using machine readers for ePassports
  - Chip fails to read – need to rely on physical document security of Passport biodata page or ID card document
  - Although legislation is growing, still lacking global adaptation

- The ID document needs to be able to stand alone
  - physical security features remain important in detecting fraud

- *source: MRTD Report

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Rise of Polycarbonate
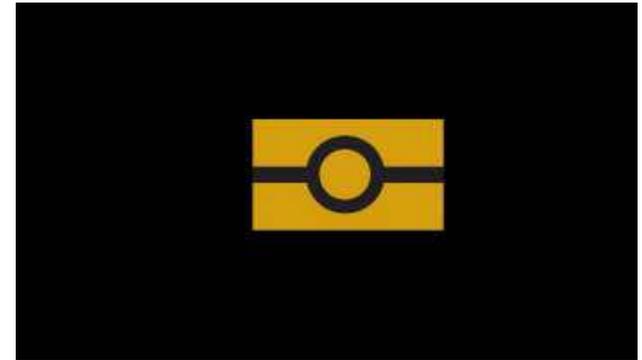
- Need to protect integrity of personal information found on passport Biodata pages and ID cards

  - Laser engraving (vs. inks) of personal information

  - Cost of lasers has declined dramatically – seeing re-lased documents

- Need to layer additional security features into polycarbonate film Biodata pages and ID cards

  - Features used alone create vulnerability

  - Multilayered technologies need to work together to reflect card alteration

  - Combination of overt and covert features

3M™ Polycarbonate
Sample
D123456789ABC
TIMKINS
SAMANTHA 1985-05-27
STREET ADDRESS
CITY, STATE, ZIP
1 2 4A 4B 4C 5 5A
2009-01-16
2014-01-16

Top layer (clear)
Laser-engraving layer (clear)

Core layer (white)

Laser-engraving layer (clear)
Top layer (clear)

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Panama National ID Card
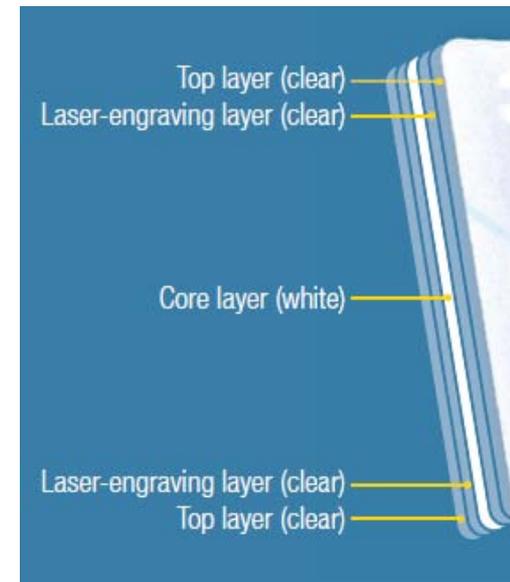
- 3M Color Floating Image Security Laminate – Optically variable device

- Additional overt, covert and forensic features were incorporated into the laminate

- Guilloche, rainbow print and microtext pre-printed

"Having brought the new Color Floating Image technology to our national ID cards, we are able to enhance the value and security of this credential for our citizens."

– Magistrate Vice President Eduardo Valdés Escoffery

PANAMA JUVENILE ID CARD 1_0

REPÚBLICA DE PANAMÁ
TE TRIBUNAL ELECTORAL

CÉDULA JUVENIL

Floating image laminate

PANAMA RESIDENTS ID CARD 1_2

REPÚBLICA DE PANAMÁ
CARNÉ DE RESIDENTE PERMANENTE

NOMBRE USUAL
FECHA DE NACIMIENTO:
LUGAR DE NACIMIENTO:
NACIONALIDAD:
SEXO: TIPO DE SANGRE:
EXPEDIDA: EXPIRA:

Floating image laminate

Ecuador National Driver's License

- Composite card with pre-printed Guilloche

- 3M Color Floating Image Security Laminate

  - Customized logo of the Comisión de Tránsito del Ecuador

- Covert features include retrochromatic effect and microtext within Color Floating Image

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Cambodia DL and Vehicle Registration

- **Kamtranship, Co., LTD**
  - Ministry of Public Works and Transport (MPWT)

- **3M Color Floating Image Security Laminate**
  - Blue wave and initials MPWT

- **3M Color Shifting Film Strip with Clear to Cyan Technology**
  - Strip on back of card

- **Covert features**
  - microtext stripe
  - kinetic microtext embedded in color floating image
  - UV images of Cambodia's Angkor Wat temple

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Conclusion

- The need to maintain security features within ID documents is paramount to fighting fraud and aiding inspection officers

- A layered-security approach to document security is paramount to maintaining the integrity of a secure ID document

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