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# Security Features in Travel Documents to Prevent Fraud

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ICAO TRIP: Making the Air Travel more Secure and Efficient

TOWARDS A BETTER TRAVELLER IDENTIFICATION MANAGEMENT

FOR ENHANCED BORDER CONTROL INTEGRITY





# Identification Management Systems

## THREAT

- The use of fraudulent travel documents is a threat impacting the identity management apparatus of States.
- This threat environment feeds the clandestine trans-national movement of criminals & facilitates organized crime and terrorism.

## VULNERABILITY

The integrity of identity management systems maybe /are challenged by weaknesses in

- legitimate evidence of identity,
- Inadequate traveller identification management, issuance & border controls
- Limited or no globally interoperable applications & protocols

# Traveller Identification Programme

Regional Seminar Montego Bay



Exchange of  
information  
between state /  
state entities

Requires an over-arching  
strategy to make the issue of  
documents used as EOI more  
secure & credible – B/C;  
citizenship certificates deed  
polls...

Countering  
Identity  
Fraud

High quality  
end-products

Interconnectivity with  
entitlement & identity  
management data  
bases

Secure & controlled  
application & production  
processes

Tackling one element will not yield effective and significant dividends



## Types of Fraud

### False Documents

**Counterfeit** – an unauthorized reproduction of a genuine document. These documents are not legitimately manufactured, nor issued or recognized by an official authority.

**Forgery** – an unofficially altered genuine document, added to or amended in order to give misleading information about the person who presents it.

**Pseudo document** – a document produced with no authority and which is not officially recognized. They can occur in various forms and may have the physical appearance of a passport or an ID card.

### Genuine Documents

**Fraudulently obtained genuine document** – an authentic identity or travel document obtained through deception by submission of either false or counterfeit documents, cooperation of a corrupt official or impersonation of the rightful holder of a genuine document.

**Misuse of a genuine document through deception** - by a person who knowingly misrepresents himself or herself by using someone else's identity or travel document. Often, the biographical details and photograph resemble the impostor, helping him or her to pass as the rightful bearer.

# STRATEGY MAP-SECURE MRTD' S



Impact

**I1. Safe & Secure Identity Management Systems, Processes and travel/identity documents.**

Out Put

**O1. Vital Statistics Document**

**O2. MRTD's- MRP's; e-Passports; MRV's; BCC's**

Processes

**P1. Data exchange  
(DVS;APIS;PNR; Watchlists)**

**P2. Automation of  
Procedures (Civil Reg; PPT;  
BMS;).**

**P3. Smart Security – Bio-  
metrics; embedded  
security features**

Enablers

**Entitlement System /Process**

**Secure and robust where the evidence of one's existence and identity is evaluated,  
authenticated & established / assigned– B/C's; Deed Polls...**

**E1. Collection of  
reliable data**

**E2. Standardized  
& harmonized  
data records**

**E3. Interoperable  
secure access to  
registries**

**E4. Regulated  
breeder  
documents**

**E5. International  
standards for  
civil registries  
& vital statistics**



## Security Features -Prevent Travel Document Fraud

As the threat environment surrounding identity management changes, so does the need to constantly enhance the security features of the documents produced

### Security Features – combatting falsification & Counterfeiting

The Use of:

1. Watermarks,
2. Inks
3. Printing techniques  
to identify and reduce  
document fraud



### Security Features – combatting falsification & Counterfeiting

- 1.. The use of chemical reactive paper & ink
- 2.. Mixed security design in printed data
3. Complexed UV printing over data
4. Tactile lamination over data
5. Data tactile engraving

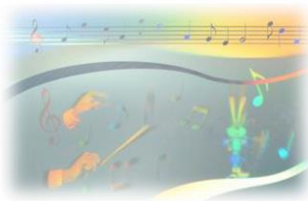




## Security Features

### Crystagram

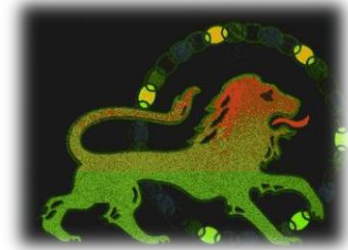
A product containing one or more holographic images including those that appear to move or shift position.



Often contains more detail and brighter colours than colour shifting inks.

### Hologram

Appears 3 dimensional when the document is moved.



Several parts of the image consist of varying colours or images that become visible depending on the viewing angle

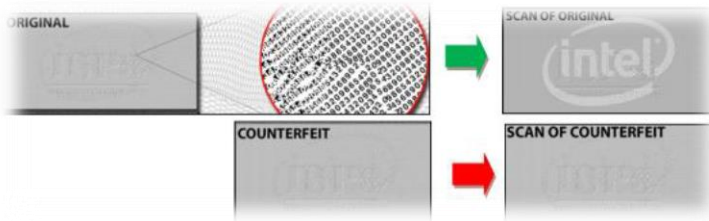




# Images

## Latent Images

- An image within another feature.  
Usually a letter, number or an symbol.
- Loses variability when copied.



## Variable Laser Images

- A special laser engraving that reveals different images and/or text when the document is tilted.



## Changeable Laser Image

- A laser engraved image or text that changes depending on the angle viewed.





## Intaglio Printing

- Raised area of print in background, or borders. The image is etched or engraved below the surface of the print site.



## Rainbow Printing

- Gradual blending of colours printed using offset lithography



## Micro-line Printing

- Appears as a broken line but is visible as an image or text message when magnified.





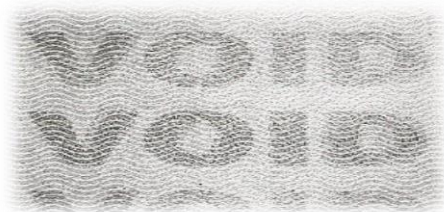
## Anti-copy Line work

- Design made up of small lines usually placed on the background of documents. It becomes blurred, fades or disappears when copied



## Pantographs

- Design or text printed to be visible when photocopied.



## Water Marks

- An image that is in the paper that serves as a unique identifier of the issuing authority.



METALIZED WATERMARK







# Inks

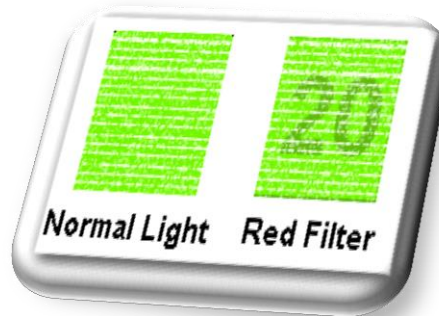
## Photochromic Ink

Images printed with photochromic ink, after being exposed to UV light will darken and stay dark for up to several minutes. The ink then will fade back to the original colour.



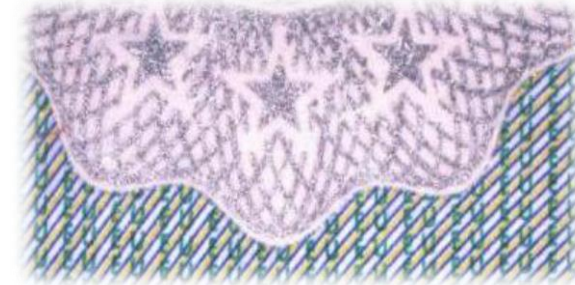
## Metameric Ink

- Images applied using metameric ink are only visible when viewed with a special filter.



## Metallic Ink

- Aluminium and bronze, pigment metal printing inks are used on surfaces to produce a metallic sheen.







### Security Fibre & Threads

- Clear & coloured fibres embedded in the paper
- Thread is in a fixed location
- Fibres are multiple & randomly placed



### Schablon (stencil) multiple colouring process

- Enables more than one colour to be printed simultaneously and accurately on one printing area

### Guilloche

- Detailed decorative image formed by interlacing curved lines



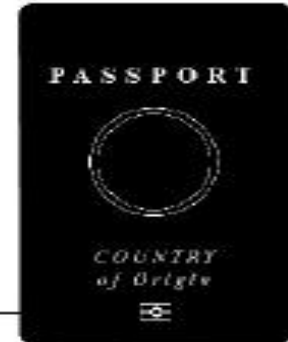
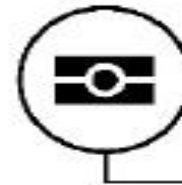


## eMRTDs - ePassports

- Enhance Security
- Biometrics for identity confirmation



e-Passport  
symbol





# The Way Forward

Interoperability  
of systems – PKD;  
entity systems

Standardization -  
Homogenization of  
documents/processes  
Adherence to ICAO  
standards &  
specifications

Automation of  
procedures –  
systems; 360  
profile of  
individual

Establish and  
maintain MRTD  
& e-MRTD  
standards &  
specifications

Implementing &  
Refreshing  
Security features  
for counterfeiting  
& falsification







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## Traveller Identification Programme

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