

New Security Features for New Security Challenges

ICAO MRTD Regional Seminar Uruguay July 7&8, 2010

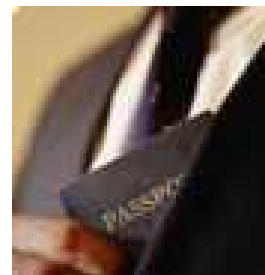
Corinne Murcia Giudicelli, Group Director Sales & Marketing

H O L O G R A M . I N D U S T R I E S

Innovative Optical Security Solutions

HOLOGRAM. INDUSTRIES GROUP

- **Worldwide leader in multi-technologies dedicated to anti-counterfeiting solutions**
- **Established in 1984 in France**
- **Turnover 2009: 28,3 M€ (40M\$), listed, 270 persons**
- **Delivering the best anti-counterfeiting and anti-piracy solutions for :**
 - ID documents for People and Vehicle
 - Security Labels for products
 - Fiduciary documents
 - Digital contents



HOLOGRAM. INDUSTRIES GROUP

A world leader in anti-counterfeiting technologies

H O L O G R A M ■ I N D U S T R I E S
GROUP

VISUAL SECURITY

H O L O G R A M ■ I N D U S T R I E S



RESEARCH
HOLOGRAM ■ INDUSTRIES

DIGITAL SECURITY



ADVESTIGO
Guarding your digital assets

KEESING FIGHT
Reference Systems FRAUD

FIDUCIARY DOCUMENTS

BRAND PROTECTION

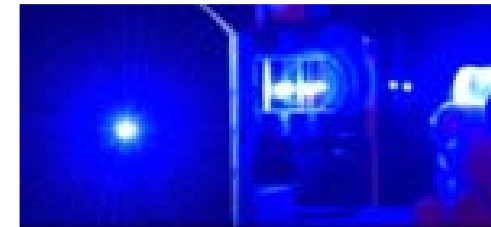
ID DOCUMENTS

DIGITAL CONTENTS

INNOVATION, QUALITY AND SECURITY

■ Innovation as a strategic driver

- 10% of the revenue dedicated to R&D
- Optical and Chemical laboratories
- System engineering



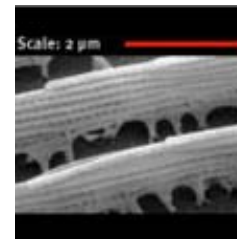
■ A certified & secure production site

- European Central Bank
- CWA / Intergraf: High security hologram manufacturer



■ Technology leader

- Micro and nano optical sciences
- Material and adhesives sciences
- Software and computer sciences



INTERNATIONAL REFERENCES

Governments

■ Fiduciary

- Euro, African countries, Brazil, Thailand, Lebanon ...



■ Passport, Visa

- Argentina, Belgium, Bangladesh, Bolivia, Brazil, Egypt, France, Georgia, Hungary, Indonesia, Kenya, Latvia, Lithuania, Philippines, Poland, Romania, Saudi Arabia, Senegal, Serbia, Slovakia, Sweden, Turkey...



■ ID Card, Driver license, Registration card

- Angola, British Columbia, France, Portugal, Canada, El Salvador, Ivory Coast, Guatemala, Korea, Morocco, Qatar, Romania, Sudan, Taiwan, Tunisia...



■ Web investigation

- France

NEW SECURITY CHALLENGES

■ Increased counterfeiting threat

- Attacks take many forms, at the borders:
 - Illegal immigration
 - Terrorism
- Companies, banks, insurances... are also confronted to growing threats:
 - Identity thefts
 - Opening of illegal accounts

■ Rising Cyber Crime

Internet is a new playing field for individual or organized crime



Documents security is critical to protect citizens, and prevent from serious financial and legal consequences

VISUAL SECURITY

A key feature : DOVID

- Key in visual authentication of the document
 - Easy visual control
 - High resistance to counterfeiting
- Key in protecting the personalized data
 - Any attempt to modify the data is visible
 - Tamper proof film



Hologram, Authentication & Protection are interlocked

EVOLUTION OF VISUAL SECURITY FEATURES

An ever increasing security

- 3rd generation
 - Color control
 - Color permutation
 - Achromatic
- 2nd generation
 - Animation control
 - 2D animated hologram
 - Rainbow images
 - High definition
- 1st generation
 - Relief control
 - 3D hologram
 - Rainbow images



HIGH DEFINITION OPTICAL IMAGE

Alphagram®

■ Animated elements & advantages:

- A continuous animation when tilted up/down
- Morphing
 - When the optical image is tilted left/right, one image is transformed to the other in a continuous motion
- Very bright and high definition image
- Achromatic, positive/negative control based on a complex micro-structure



Metallized Alphagram®

■ Combining metal and transparent areas

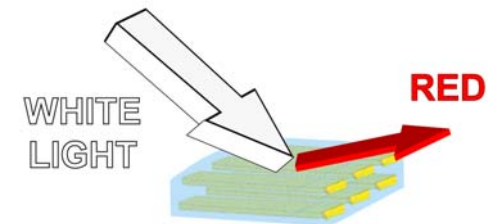
- Specific design highly recognizable
- High brightness
- High bonding to the substrate
- Resistant to harsh climatic environment



STATE OF THE ART

DID[®] Zero Order technology

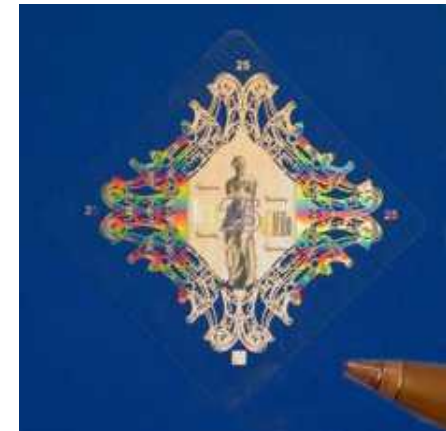
- **Specifications and advantages:**
 - Image in two diffractive colors visible at direct reflection angle
 - Spectacular 2 colors permutation when rotating 90°
 - Excellent visibility in diffuse light
 - Simple and easy to memorize and communicate
 - Impossible to copy with inks, metal varnishes, liquid crystals...
 - Impossible to copy with the traditional holographic techniques



COMBINATION OF SECURITY

Demetallization :a chemical technology

- **Combined with transparent Alphagram® and DID®**
 - Very bright metallized elements
 - Micro texts or micro lines
- **Additional security**
 - Combination with a non optical technology
 - Simple visual effect
 - High resistance to counterfeiting
 - Security element used for banknotes



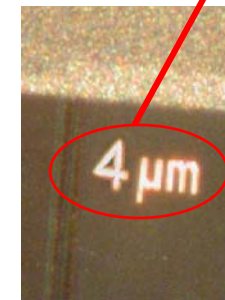
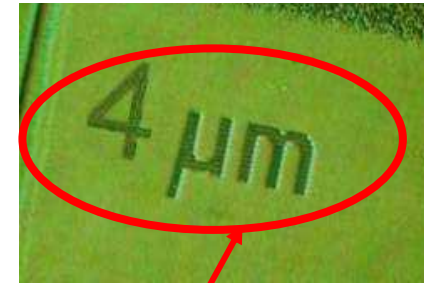
SECOND LEVEL SECURITY

- **Thread counter**
 - No pixel
 - Micro text (125 μ m)
- **Laser reader**
 - Holographic projection of a micro design
- **Scramblegraph® reader**
 - Coded image (Moiré)
- **Polarizing filter**
 - Polarigraph®



THIRD LEVEL SECURITY

- **Nanograph[®]**
 - Nano text (20 μm)
 - Nano image (line thickness = 4 μm)
- **Taggants**



TAMPER EVIDENT FILM

Tamper evidence features

- **Foil resistance against fraudulent attacks: scratching or chemical attempts**
 - The optical image immediately reveals any attempt to modify the data by scratching or chemical attacks
 - The optical effect disappears at the point of attack



PRINCIPLES OF ID DOCUMENT PROTECTION

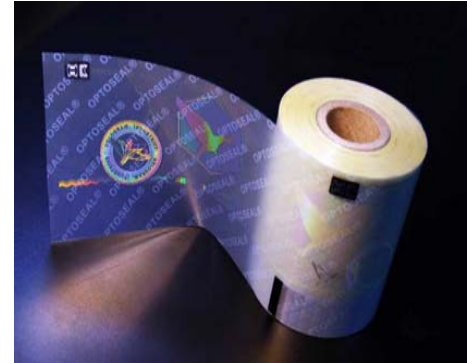
- **Protection of the data by optical laminate**
 - Data are printed on the surface of the document
 - Data are protected by a tamper evident optical film
- **Embedded data in polycarbonate**
 - Data are engraved under the surface of the document
 - The document is authenticated by an optical element



PASSPORT SECURITY

For Paper Data Page

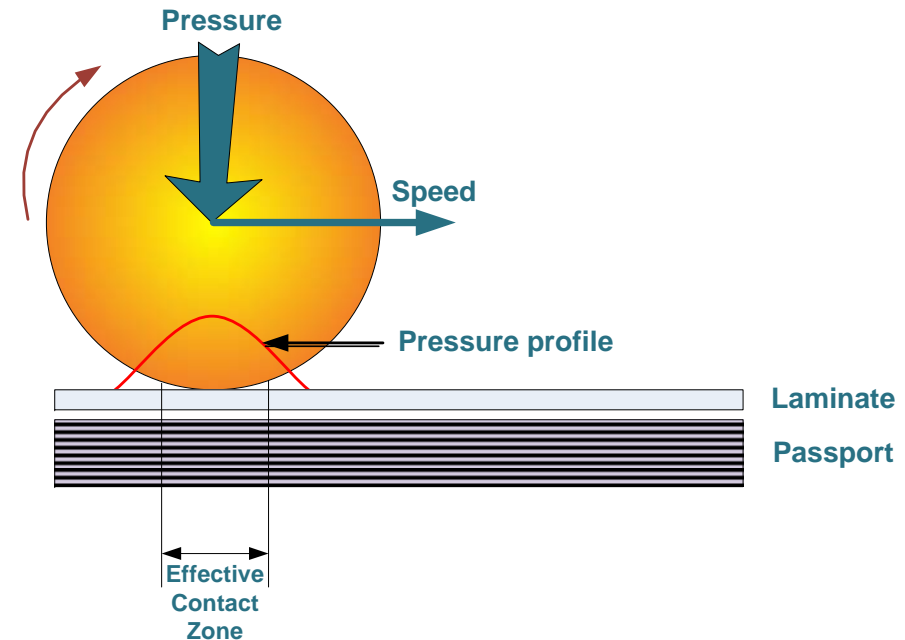
- A hot sealable transparent overlay for direct and reverse printing personalization system, in-line or modular
 - Alphagram®, DID®, demetallization
 - Whole page protection with an ultra-thin tamper evident laminate
 - Provided in rolls or sheets
 - Very high brightness and definition
 - Tracking (Laminate numbering system)
 - Tested on application machines from major manufacturers
 - ICAO compliant



HIGH PERFORMANCE LAMINATOR : HILAM®

Principle of traditional roll lamination

- **Small roll diameter:**
 - Small effective contact zone
 - Lower lamination efficiency
- **Insufficient roll pressure:**
 - Not optimal heat transfer
 - Not optimal lamination...
- **High roll speed:**
 - Not enough long contact for a good bonding



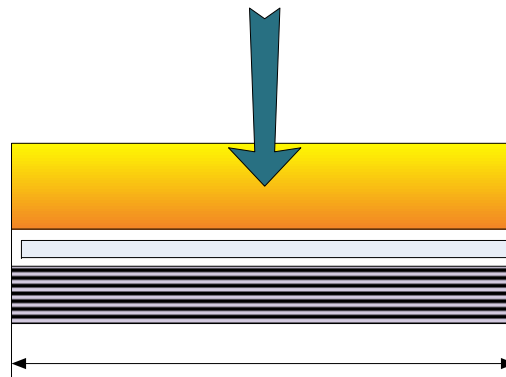
A roll laminator cannot achieve good bonding and high productivity

HIGH PERFORMANCE LAMINATOR : HILAM®

Principle of innovative press

- Pressure applied on the whole page surface (~ to 7 kg/cm²)
- All the page surface processed at the same time:
 - Shorter lamination time
 - No marking of the lamination roll

A press laminator geometry is the optimal solution for a perfect lamination with a high productivity demand



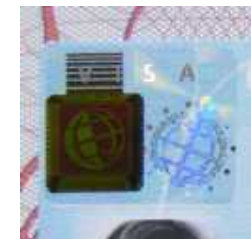
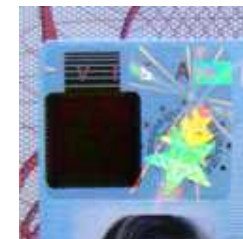
HILAM® INNOVATIVE PASSPORT LAMINATOR



VISA SECURITY

Patch solution

- **For authentication**
 - Same principle as Schengen's Visa DOVID
 - Higher security level:
 - DID[®] technology offer a simple effect for immediate and easy authentication
 - Transparent areas prevent cutting and reuse on a fake Visa
 - Combination of technologies:
 - Alphagram[®]
 - DID[®]
 - Demetallization



VISA SECURITY

Full surface solution : VISA TOP™

- Full solution set on a unique paper carrier:

- The printed Visa label
- The Visa Top laminate



- For authentication and data protection

- Authentication
 - DID®: advanced optical effect
- Data protection
 - The whole Visa is protected
 - Ultra-thin laminate
 - Tamper evident



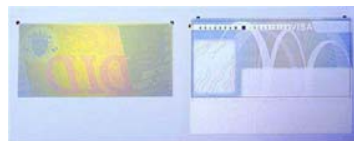
VISA SECURITY

Full surface solution : VISA TOP™

- **High effective Cost/Security ratio:**

- Personalization with a standard inkjet or color laser printer

- Standard laminator: OPTOSEAL® Visa Top is folded into two parts and heat laminated



CARD SECURITY

A new visual security concept

■ Personalized colour volume holograms

- Concept:
 - Holographic photography of the document holder is fully integrated in the security optical image laminate
 - Data are fully interlinked with the optical security elements
 - Optical security to protect all printed data
- Technologies:
 - Volume holography
 - Pioneered in the late 90's by Günther Dausmann team, the concept is used on the German ID and passports

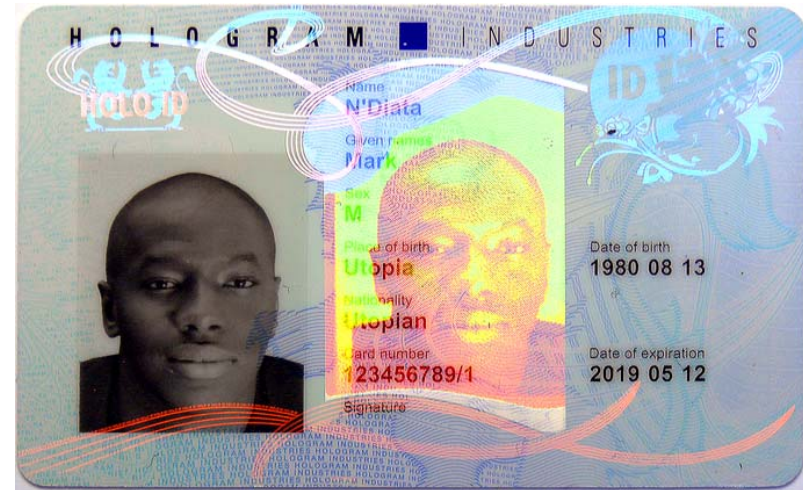


Hologram. Industries Research has developed a new technology for volume hologram personalization, the Holoid® unique performance

HoloID® : A NEW VISUAL SECURITY CONCEPT

Volume hologram for ID documents

- **A personalized hologram**
 - Photographic definition of the image
- **Very high brightness**
 - Far higher than embossed (HRI) holograms
 - Efficiency > 90%
- **Does not affect at all the readability of the printed data**
- **New optical security elements**
 - Colored animations
 - Very effective 3D image elements
 - Possible selection of the colors



CARD SECURITY

Combination to card structure

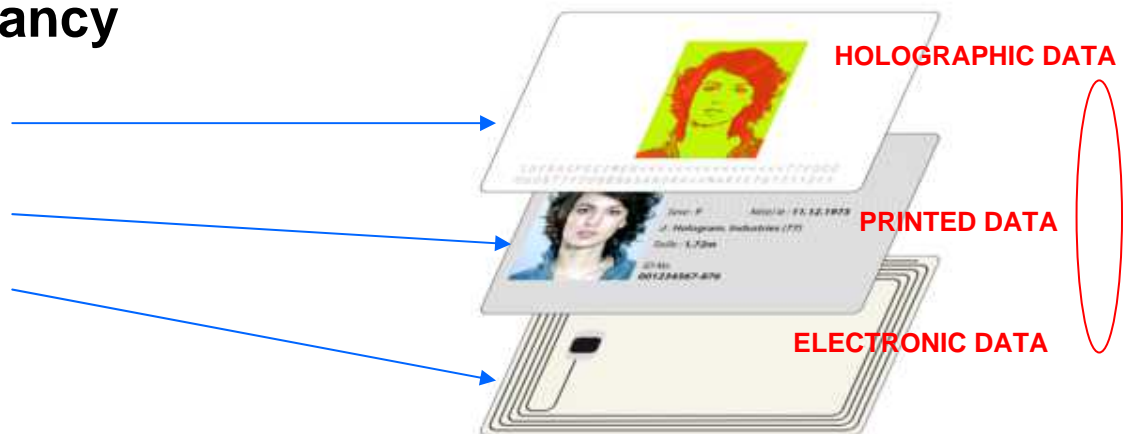
■ Card layers:

- Protective anti-abrasion varnish (10 to 15 μ) or polyester layer
- Photopolymer holographic film (10 microns)
- Swelling and adhesive layer (around 10 μ)
- Card body (PC, PET,...) integrating the chip



■ Full information redundancy

- Holographic information
- Printed data
- Electronic data



CARD SECURITY

Solution for Dye Sublimation

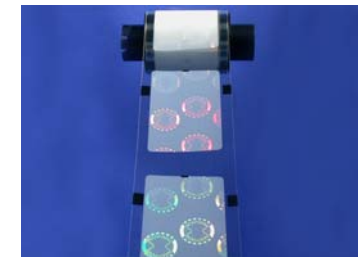
■ Substrate

- Polyester with PVC overlay (Melinex)
- Composite cards (polycarbonate and polyester combination)



■ Security Foil

- Full face and Patch laminate, 8 to 12µm
- Very resistant to abrasion
- Available in reels or sheets
- Alphagram®, DID®, Demetallization,



■ HoloID®

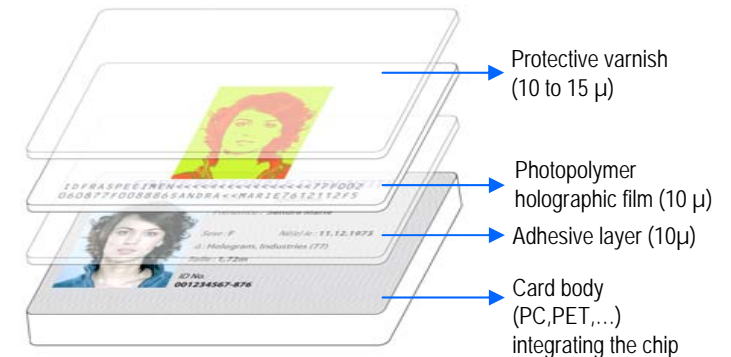
- Full face laminate
- Provided in reels
- Holographic photo fully integrated in the security optical image laminate: impossible to falsify



CARD SECURITY

Solution for Laser Engraving

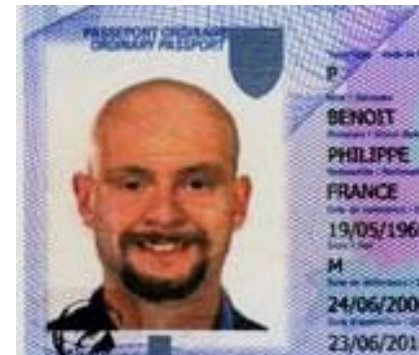
- Substrate
 - Polycarbonate
- Patch Embedded
 - DID[®] color effect and brightness is not altered once embedded
 - Protection feature included by integrating a ghost image in the hologram
 - Best resistance to heat
- HoloID[®]
 - Full face laminate
 - Provided in reels
 - Holographic photo fully integrated in the security optical image laminate: impossible to falsify



DIGITAL SECURITY

GLOBALCHECKER®

- Automatic control of ID documents authenticity by detection of fraudulent attacks
- Applicable to:
 - Passports, Visas
 - ID Cards
 - Driver licenses...
- Detection of fraudulent operations
 - Tampering of the variable data, photography
 - Falsification of stolen blank documents
 - Fake documents, imitations
 - Photocopies



Fake Document

DIGITAL SECURITY

GLOBALCHECKER®

- Control of document authenticity
 - A digital fingerprint of the original document is acquired and stored in a centralized database at the issuing center
 - At control point, the controller scans the suspect document and the country code written on the document
 - A digital fingerprint of the holder's document is calculated and compared to the fingerprint stored in the central database



DIGITAL SECURITY

ADVESTISEARCH®

- **Internet is a new playing field for individual or organized crime**
 - Identity theft
 - Grey/black market for illicit or counterfeited products
 - Terrorism
 - Racial hatred
 - Child pornography

- **Internet is a multi-facet universe**
 - Referenced or non referenced web
 - Peer-to-Peer
 - Newsgroups, blogs, auction sites...

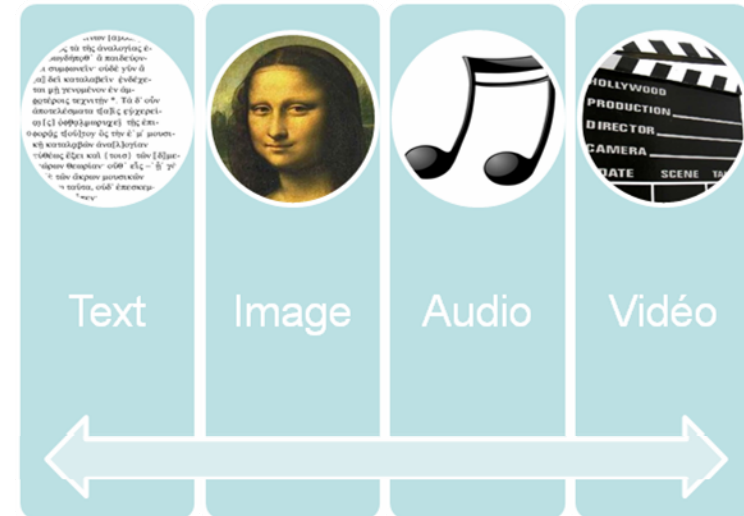


DIGITAL SECURITY

ADVESTISEARCH®

■ CONCEPT

- Are there illegal or illicit contents : videos, text or audio message, photo, distributed on the Internet?
- AdvestiSEARCH® can help you :
 - Exploring the Net
 - Using copyrighted fingerprinting technology to automatically detect infringements
 - Take a fingerprint of the original document
 - Identify suspect content on the Internet
 - Calculate the suspect fingerprint and compare it to the original fingerprint
 - Analyzing the infringements and assisting in taking actions:
 - Legal response preparation
 - Producing Web Reports



Bombe fumigène grande capacité

Matériel :

- Une grande casserole (dia. 30cm)
- Une grande boîte de café en mét-
- 5 kilos de salpêtre
- 5 kilos de sucre
- Eau

آخر تحد

المغرب

فيلا ماجوريل المغربية كانت مصدر الهام لاييف سان

مراكش (المغرب) (ا ف ب) - فيلا ماجوريل الزرقاء
الفرنسي الذي توفي الاحد عن 71 عاما.

وقال الامين العام لـ "جمعية حماية حديقة ماجوريل" ك

DIGITAL SECURITY

ADVESTISEARCH®

- **Zoom on an incident**
 - Content comparison
 - Full content (image or text) can be identified but also part of it, embedded in another content
 - Additional information
 - URL cache and source
 - Date of online availability
 - Whois cache and source
 - Number of views
 - Date of incident

Reference document



Internet document



Internet

Cache

Found: 2010-04-15 09:06:14
Document URL: <http://www.detecteurderadar.net/assets/img/BTST1a.gif>
Whois?
Source Pages: <http://www.bing.com/images/search?FORM=BIFD&filt=custom&q=detecteur+radar+BTST> Cache
Geolocalization: www.detecteurderadar.net
208.101.56.106



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Thank you for your attention!