Tashkent, April 8th, 2014

HOLOGRAM INDUSTRIES
Innovative Optical Security Solutions
Corporate Profile

A strong company background

- More than 30 years of expertise
- 300+ staff
- Turnover 2013: over 50 millions Euro, double digit growth rate
- Headquarters in France
- High Security factories in France and USA
- Subsidiaries in USA, Germany, Poland, Mexico, Netherlands
- 100 countries clients

Corporate Organization

A world leader in anti-counterfeiting technologies

- Optical Division
- Digital Division

- Branded Products
- Fiduciary Documents
- People ID
- Digital Contents
- Vehicle ID
International References ID & Travel Documents

100 Countries trust us …
Optical Technologies

Optical and holographic sciences

- Surface relief microstructures and buried nanostructures
  - Holographic gratings
    - Rainbow and animated elements
  - Non sinusoidal gratings
    - Achromatic images
    - Contrast inversion effects
  - Buried nanostructures
    - Color permutation

- Volume holograms
  - Mastering and duplication
  - Plasmon based holograms

- Plasmon based holograms
Traditional Hologram: Alphagram

**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

**Metallized Alphagram™**

- Combining metal and transparent areas
  - Specific design highly recognizable
  - High brightness
  - High bonding to the substrate
  - Resistant to water immersion
Zero Order Device: DID

**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
HoloID™: Photopolymer volume hologram

- A personalized hologram
  - Photographic definition of the image
- Very high brightness
  - Brighter than embossed (HRI) holograms
  - Efficiency > 90%
  - Do not affect at all the data readability
- New optical security elements available
  - Colored animations
  - Very effective 3D image elements
  - Possibility of selecting the colors
Transmission & Reflexion: Plasmogram™

Creating images using different plasmonic structures

- **View by transmission**
  - Transparent / 2 colors image

- **View by reflection**
  - Metallic aspect
  - Deam pastel reflected color
  - Diffractive rainbow image
Two main personalization systems

- Direct printing
  - Variable data directly printed on the passport
  - Inkjet printing
  - In line or modular personalization unit
  - Also adapted to stitched-in Kugler or Uno

- Retransfer
  - Variable data printed on the holographic laminate
  - Reverse laser printing
  - Modular personalization unit
Passport & Data Page

OPTOSEAL™ Inlay

For polycarbonate data page

- An embedded hologram for laser engraving personalization system
  - DID® hologram
  - Very high brightness and definition
  - Provided in rolls or applied on sheet
  - ICAO compliant

OPTOSEAL™ InDID™

For polycarbonate data page

- A purposefully dispersed DID® for a full surface protection

- Increase the resistance against the delamination while using most of the card surface

- Fully compatible with laser engraving personalization systems
OPTOSEAL™

For polycarbonate data page

- A hot sealable transparent overlay for laser engraving personalization system
  - Whole page protection with tamper evident laminate
  - Provided in sheets
  - Very high brightness and definition
  - Tracking (Laminate numbering system)
  - ICAO compliant

The concept of visual control tool

HoloID™

- Supplied as Kugler ready to assemble sheets
- Personalization of the HoloID™ feature is done at the same time as the personalization of the Data page
Thank you for your attention

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