

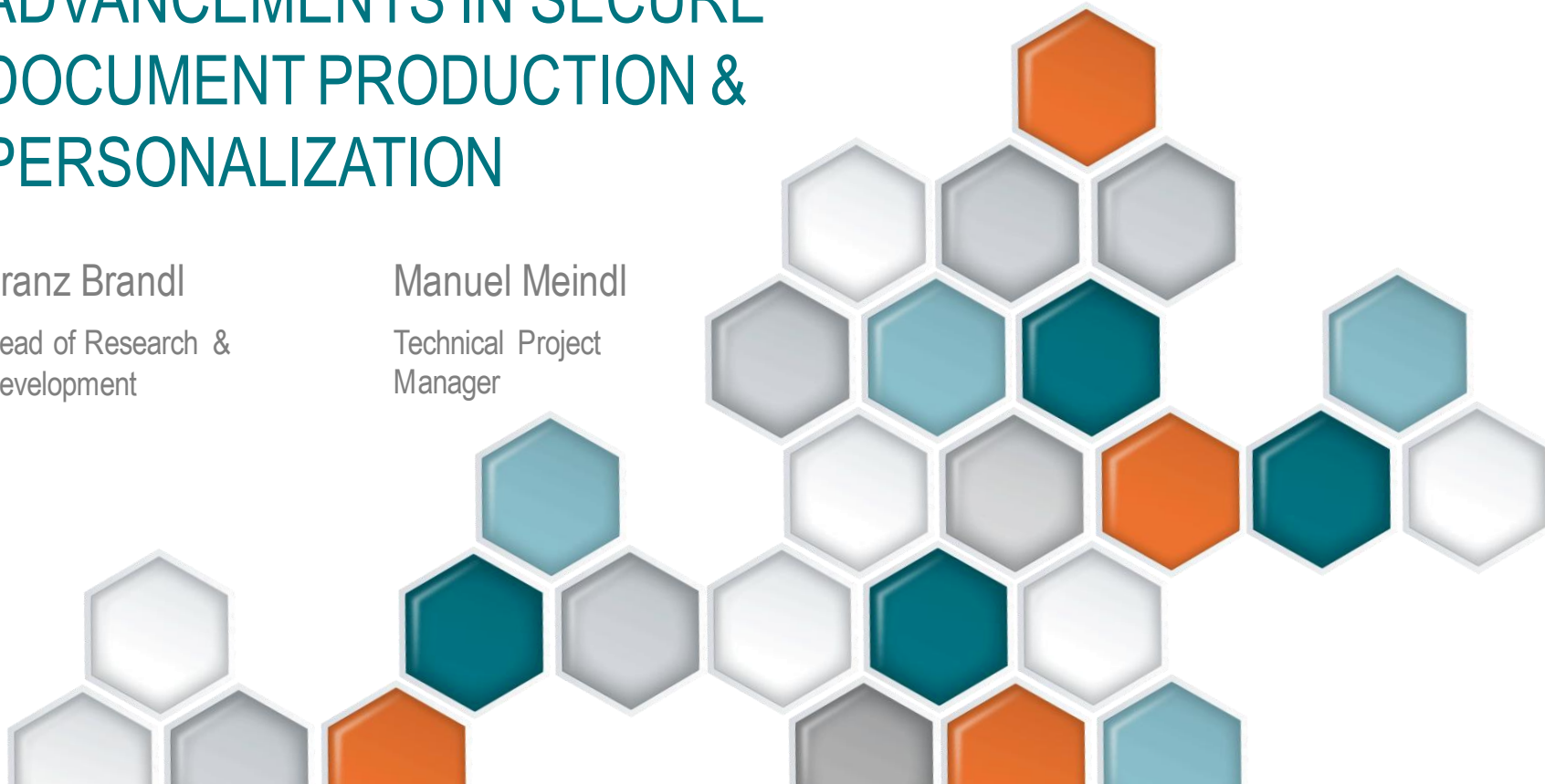
# ADVANCEMENTS IN SECURE DOCUMENT PRODUCTION & PERSONALIZATION

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Manager



- Security Concept
- Advancements Secure Document Production / Personalization





# SECURITY CONCEPT



## How to make documents forgery-proof?

Put as **much security features** in the documents as possible!



high document costs

can be hard to verify authenticity

Do it the smart way and create a **security concept** for the document!



best cost – value rate

easy to verify authenticity on the basis of key features



## BASICS



### ICAO: International **C**ivil **A**viation **O**rganization of United Nations

- Definition of standards and best practices related to **M**achine **R**eadable **T**ravel **D**ocuments MRTD (Doc 9303)
- Recommendations for security design and features (Doc 9303)



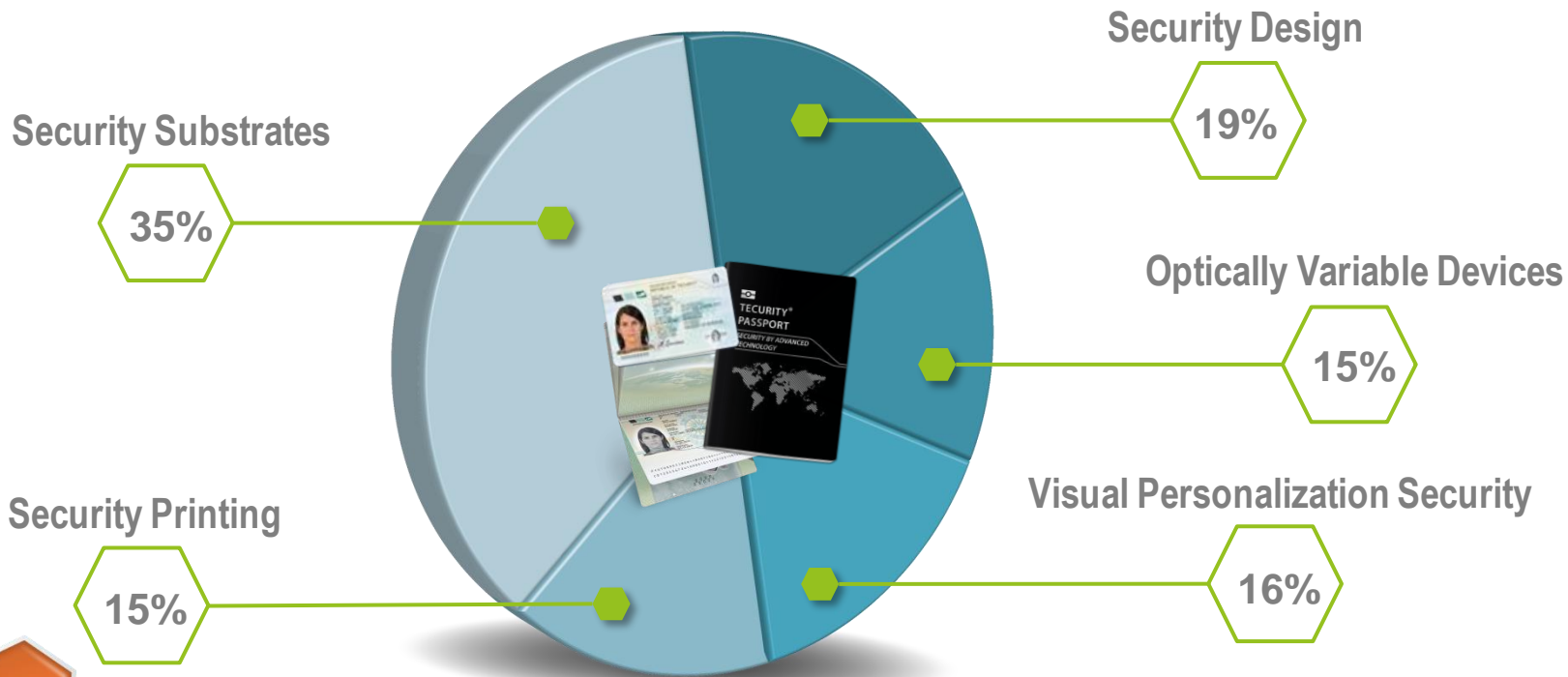
### ISO: International **O**rganization for **S**tandardization

- Definition of standards for the physical characteristics of Identification Documents (also Driving Licenses) with and without chip technology
- Standardized test models for life-time simulations



## APPLICATION OF A SPECIFIC SECURITY CONCEPT





## SECURITY ON DIFFERENT LEVELS



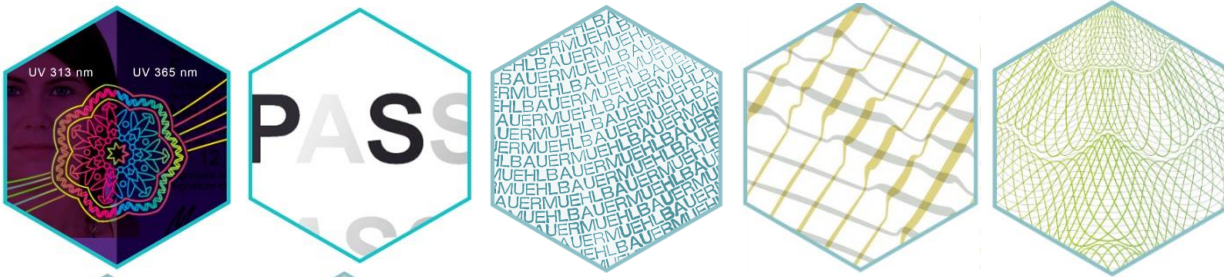


# Security Concept

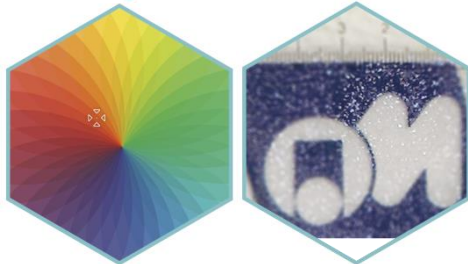
## Security Level 1:



## Security Level 2:



## Security Level 3:



**One sophisticated security feature alone  
does not make a document secure!**



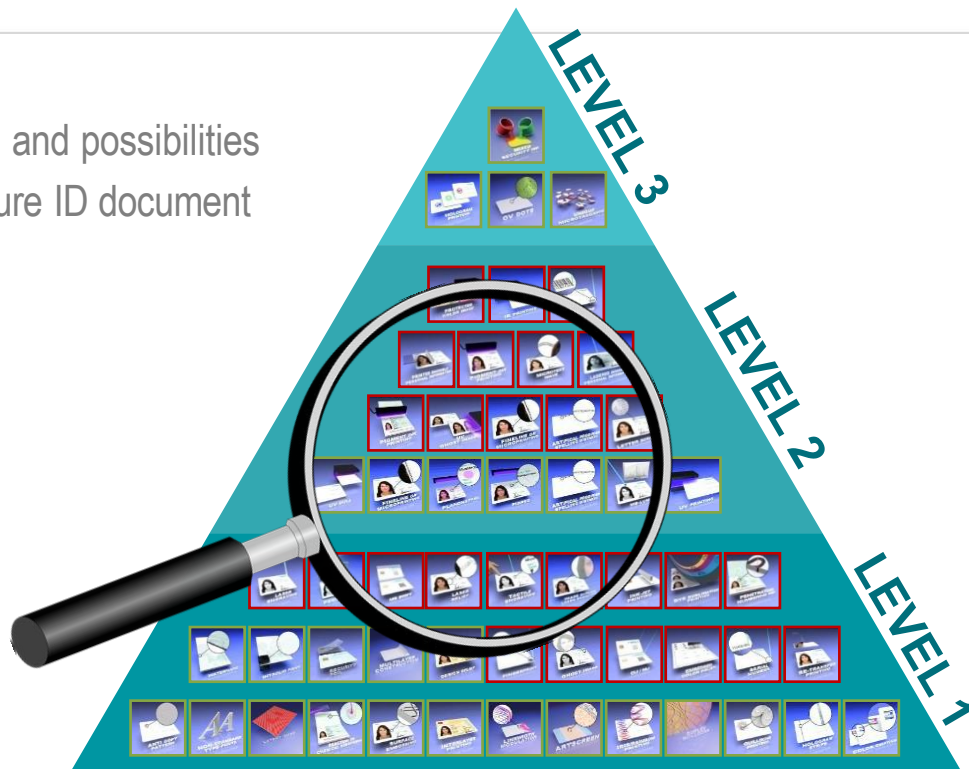
**A comprehensive security concept  
ensures the integrity of a document!**



## CORNERSTONES



Wide range of features and possibilities  
for creating a high secure ID document





Protective (Holo-) Patch  
Laser engraving inside card  
Print on card surface  
Card Body



# MB Alfresco Color Picture: with Partial Patch

Partial Holo-  
Patch





Laser Engraving Inside Card  
Liquid Coating  
Print on Card Surface  
Card Body



1. DOD Print: CMY
  2. DOD Print: Liquid Coating
  3. Laser Engraving
- => **Secure Color Picture**



MB Alfresco® with Liquid Coating







1. Print Protection

2. Security Concept

3. Design Feature





## Print Protection



MB Test procedure	Status
Adhesion or Blocking	PASSED
Resistance to chemicals	PASSED
Dynamic bending stress	PASSED
Dynamic torsional stress	PASSED
Xenon arc light exposure	PASSED
Surface Abrasion	PASSED
Plasticized vinyl storage	PASSED
Wear and soil test	PASSED
Temperature shock	PASSED
Temp and humidity cycling	PASSED
Cross-cutting test	PASSED



**ID Card Laboratory**  
 Test laboratory accredited by DAKS Deutsche Akkreditierungsstelle GmbH in accordance with the standard DIN EN ISO/IEC 17025 (2005). The accreditation is valid for the tests listed in the certificate.



Contact:  
 Manuel Böhm  
 Tel. +49 89 43 182 - 473  
 Fax +49 89 43 182 - 260  
 boehm@fogra.org  
 2019-03-20

## Test report

Digital copy of a test report by Fogra. In case of doubt, only the original written test report is binding.

Order No. (Fogra): 32715  
 Issued: 2019-03-20  
 Fogra Expert: Manuel Böhm  
 No. of pages : 9 pages  
 Client: Mühlbauer ID Services GmbH  
 Mr. Martin Ederer  
 Josef-Mühlbauer-Platz 1  
 93426 Roding  
 Germany  
 Date of order: 2019-02-20

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 Forschungsinstitut für  
 Medientechnologien e.V.  
 Erntestraße 1a  
 85609 Aschheim b. München  
 Germany  
 Tel +49 89 431 82 - 0  
 Fax +48 89 431 82 - 100  
 www.fogra.de



## Smithers Pira

### Test Certificate: ID Card Testing

This is to certify that the following sample ID cards have been tested at Smithers Pira laboratories and have met the requirements for the following tests conducted according to ISO/IEC 24789-1 and ISO 10373-1 using test methods described in ISO/IEC 24789-2, ISO 7810 and ISO 10373-1.

Smithers Pira Report Reference: 18-14903  
 Date of report: 22<sup>nd</sup> May 2018  
 Sample Reference: 'MB Alfresco color image with liquid coating'

Adhesion or blocking*	✓	Plasticized vinyl storage*	✓
Resistance to chemicals*	✓	Wear and soil test*	✓
Dynamic bending stress*	✓	Temperature and humidity ageing*	✓
Dynamic torsional stress*	✓	Temperature shock*	✓
Resistance to heat*	✓	Temperature and humidity cycling*	✓
Light exposure plus dynamic	✓	Cross cut adhesion*	✓



Highest durability



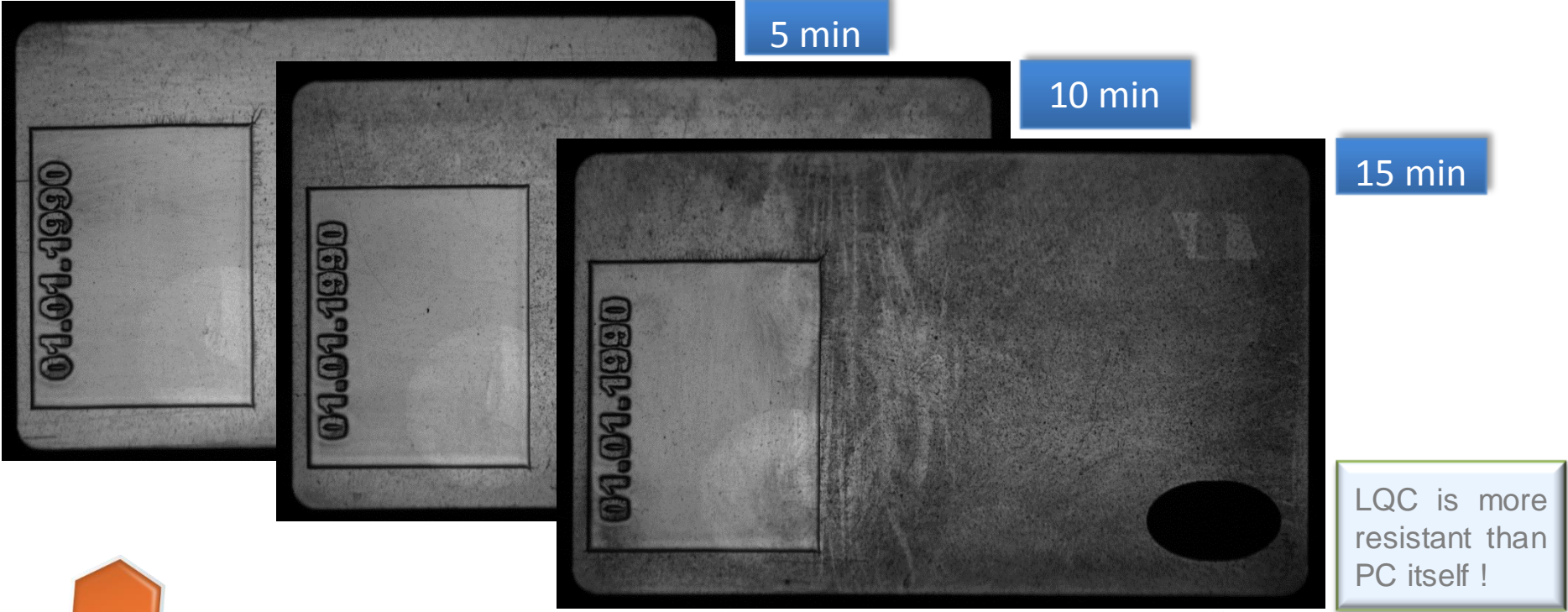
Perfect light fastness



Color picture combined laser engraving



Lifetime of more than 10 years\*

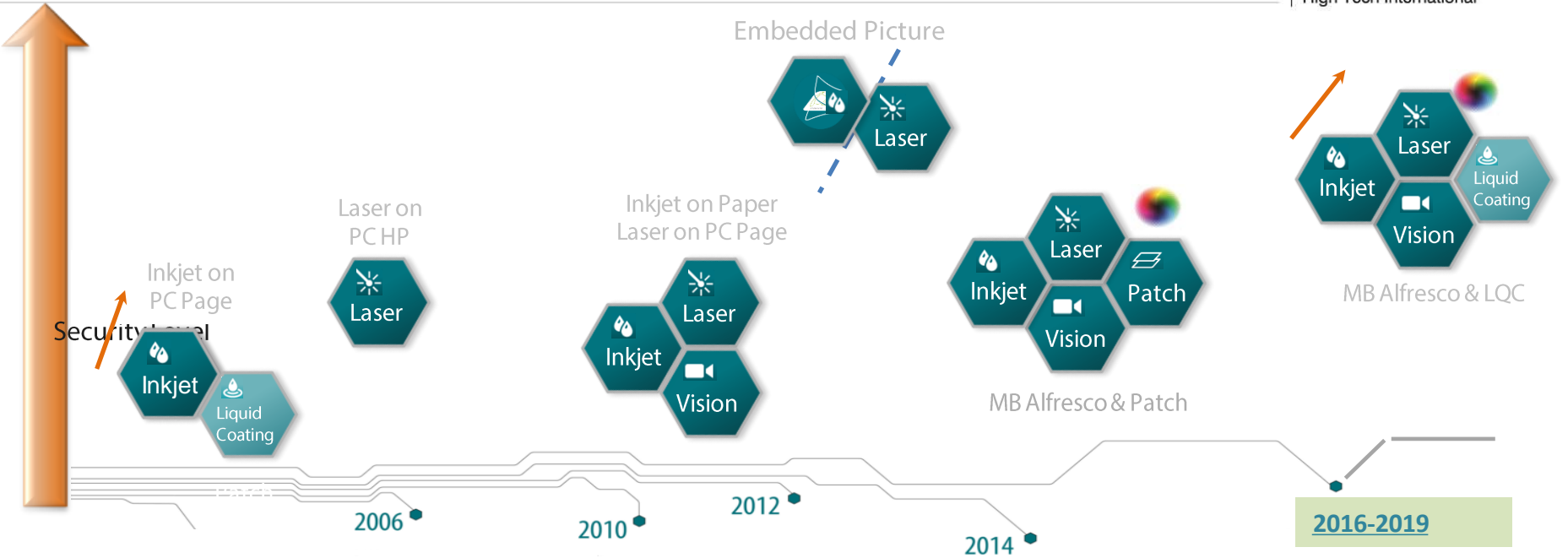


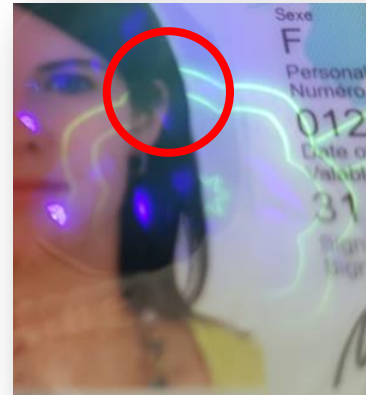


LQC  
part of the **security concept**

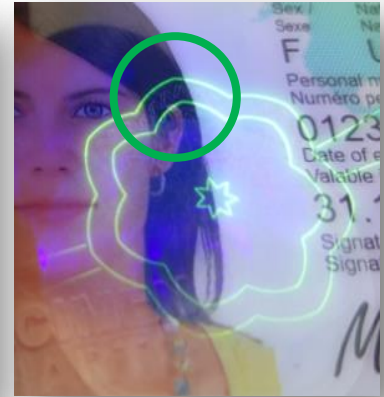


# LQC: Enhanced Security Concept





Standard ink



MB Alfresco Ink

MB Alfresco Ink & LQC is **translucent!**

Security Background Printing stays visible!





Reliefs & tactile engravings are visible & verifiable when covered with LQC

Microtext still is visible after coating!

Attack of the Liquid coating by abrasion to manipulate the color picture below would lead to destruction of the relief structure







LQC Negative „Embossed“



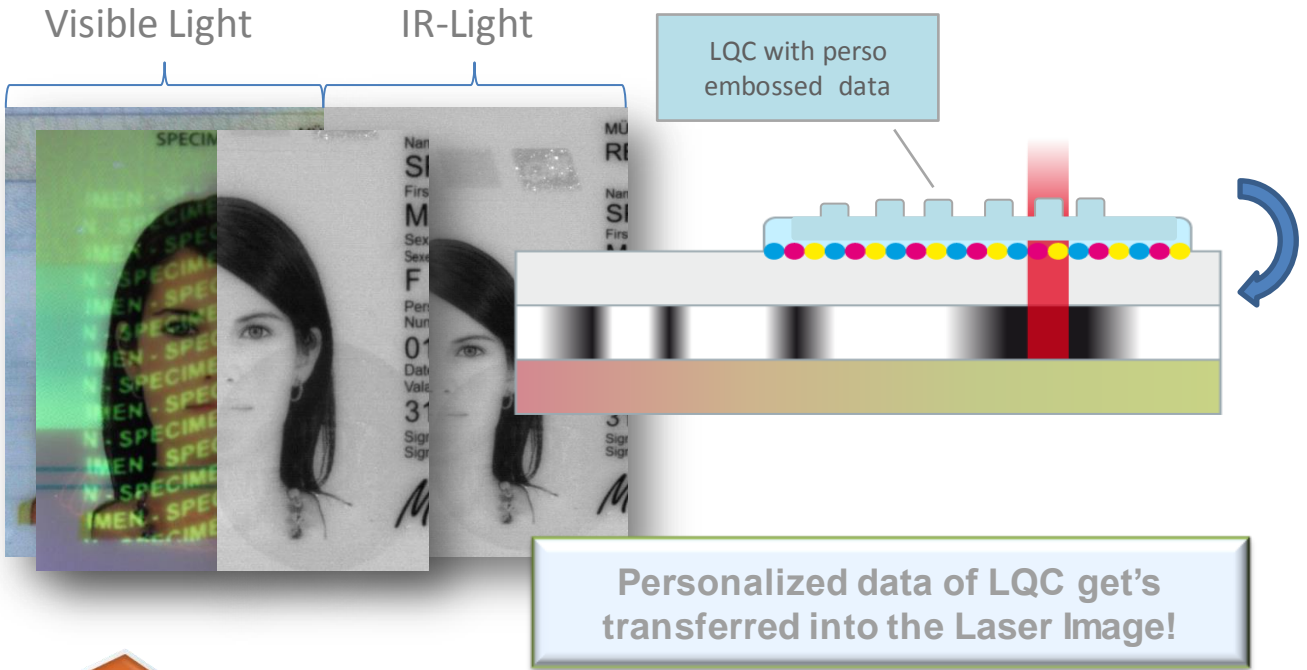
LQC Negative „Embossed“ & UV



LQC Positive „Embossed“



# LQC / Security Concept: Data transition into Laser Image



INVISIBLE FLUORESCENT GREEN



Invisible Fluor Red



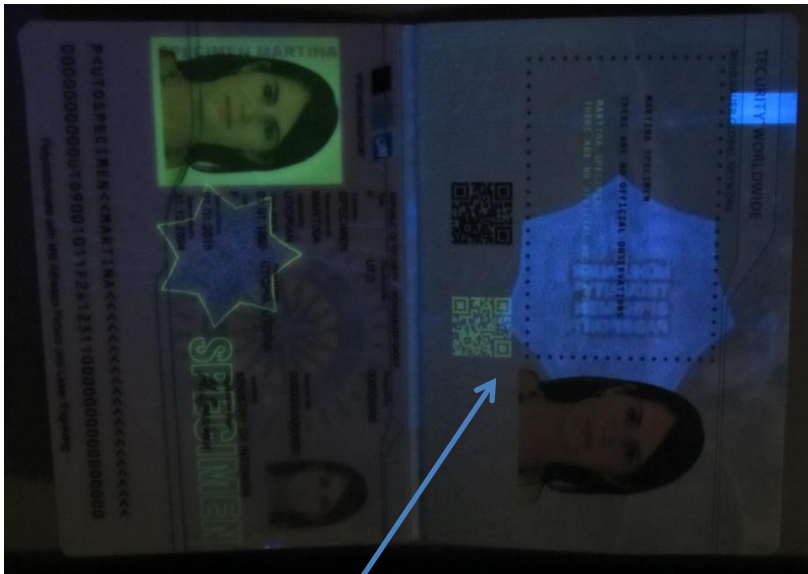
INVISIBLE FLUORESCENT BLUE



LQC as invisible fluorescent ink by DOD Printer



# LQC / Security Concept: extended to Visa Page



Multi Color UV on Paper

DOD Print Heads:



# LQC as Design Element



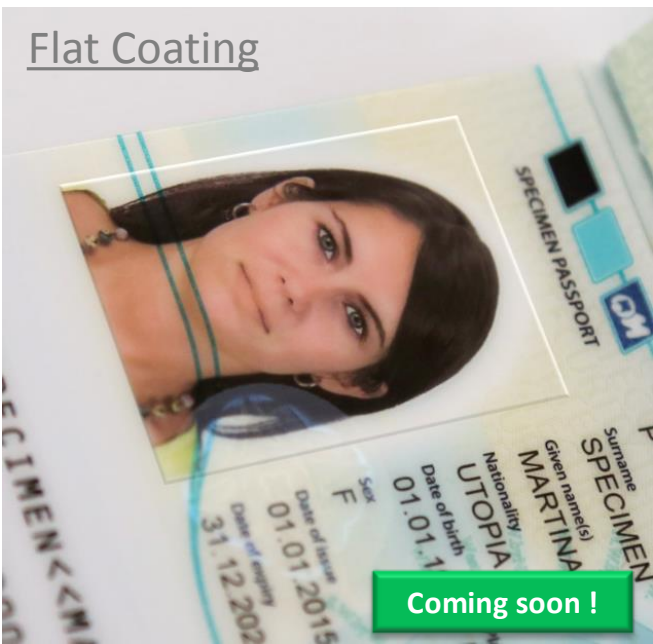
Partial Coating



Contour Coating



Flat Coating



Coming soon !



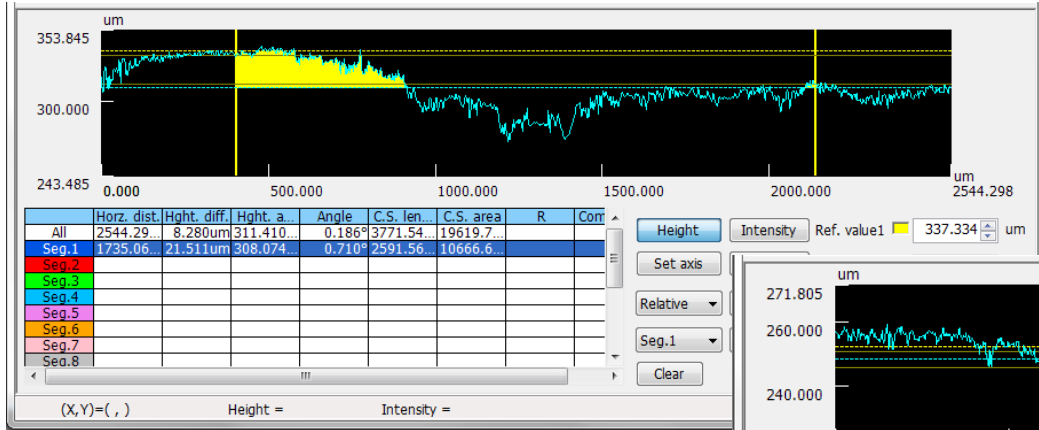


1. Card Body with Cavity
2. Print into Cavity (C M Y)
3. Fill up cavity with liquid coating
4. Laser Engraving

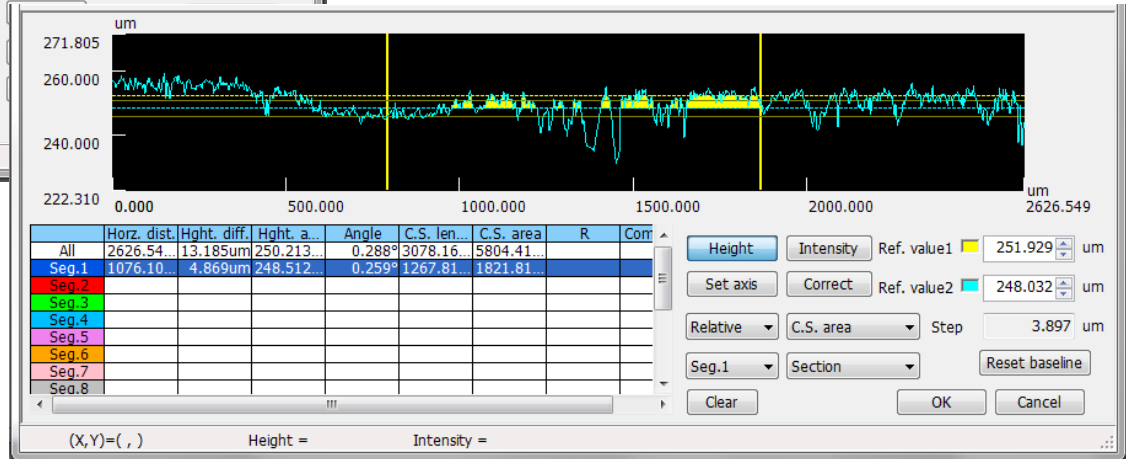
=> Flat LQC



# LQC: Dome or Flat



LQC as „Dome“: ~ 30µm

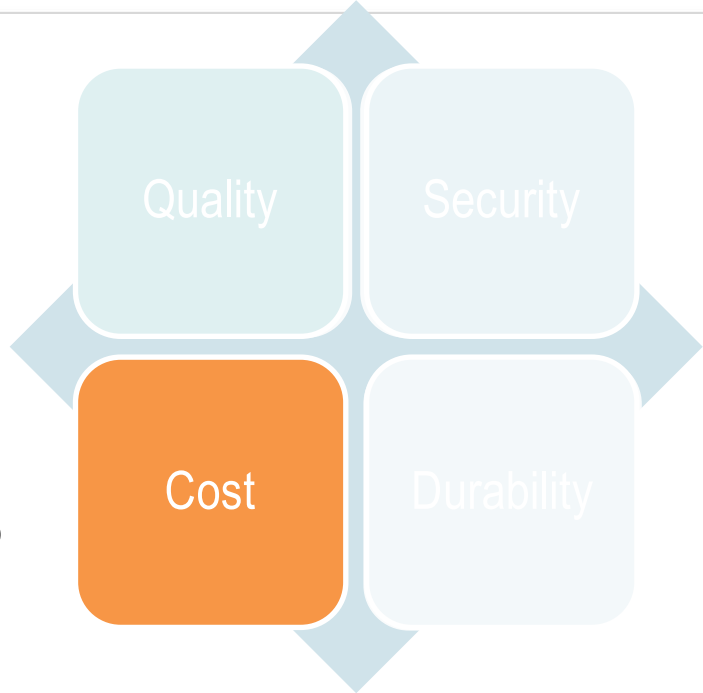


LQC-Flat: ~ +/- 5µm



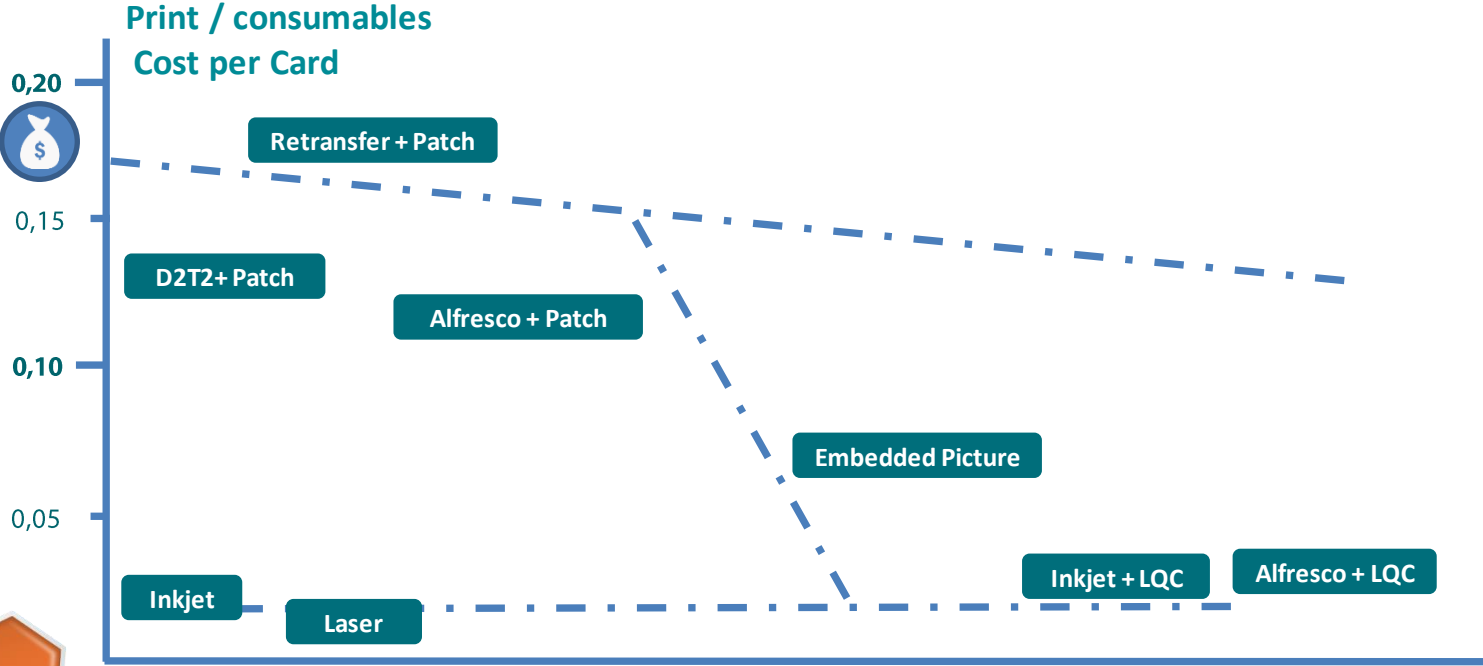






MB Alfresco with LQC  
an affordable Feature?







**CLP60**



**SCP60**

Coming soon !



**SCP 300**



**SCP 501...**

Coming soon !



**SCP 2000**



**SCP6000 DOD**



**MB Alfresco ®**

**Full Color High Speed**





ID6 Print



ID60 NOVUS



ID60 plus



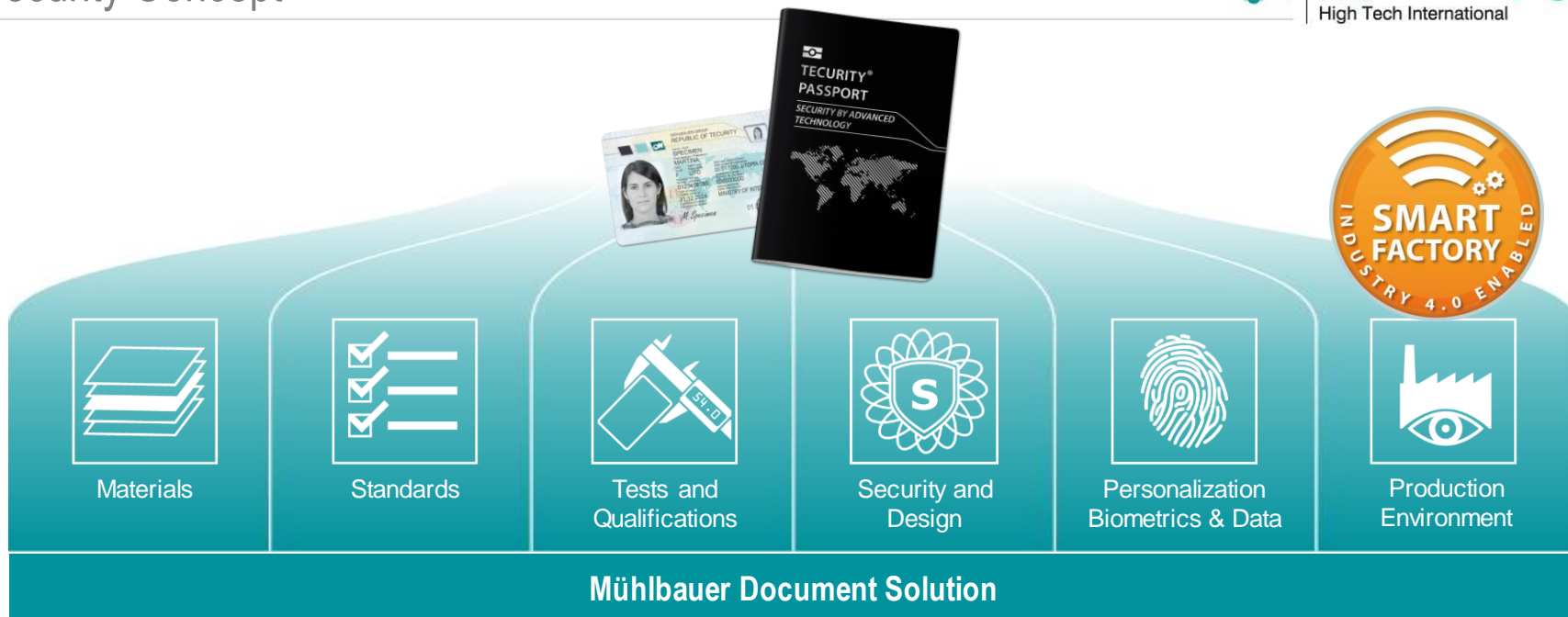
ID 6000



MB Alfresco®

High Speed





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