

# OMA

## Optical Machine Authentication (OMA) security features for automated verification



Public Security  
& Identity

With the number of passengers expected to double by 2037\*, the passport market is setting itself new goals to accommodate this increase: more security for document inspection at the borders, better passenger flow facilitation at airports and more convenience for citizens during their travel experience.



The number of situations in which the verification of an identity document is required is growing. The inspection party can be anyone having the obligation to verify the identity, nationality or age of a person according to the law.

However, bank employees, hotel staff or retailers have little experience in document inspection. Non-specialists would clearly benefit from a tool to easily verify an identity document.



### *Allowing secure and quick verification of documents with a smartphone camera or document scanner*

In response to these needs, the security features of identity documents must evolve to enable an inspection that moves from manual to faster and safer automated checking based on optical machine authentication.

Most of today's security features are designed for manual inspection such as tactile effect, inspection in transmission or holographic effects, which become irrelevant for OMA.

Because the photo is the most natural link with the document owner, it is subject to the majority of attacks by fraudsters. If the photo is forged, the fraudster will deactivate the chip to prevent access to the digital photo it contains, forcing

a manual inspection and increasing the chances of not being detected. IDEMIA has developed two solutions for automated inspection of ID documents without compromising on security:

## DocSeal

## LASINK™

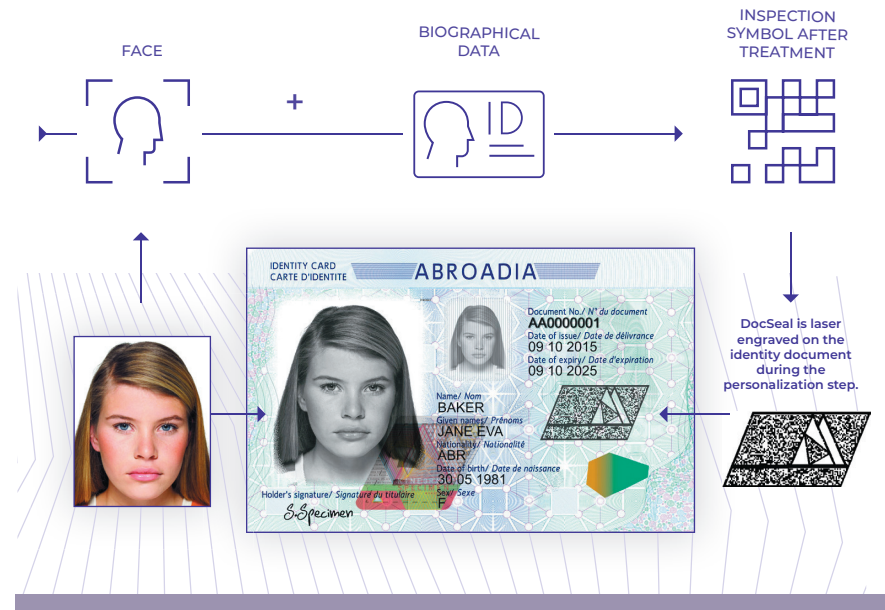
Both solutions comply with ICAO's best practice guidelines for optical machine authentication and offer various benefits to all stakeholders of the ecosystem.

\*Source: IATA press release 24/10/18

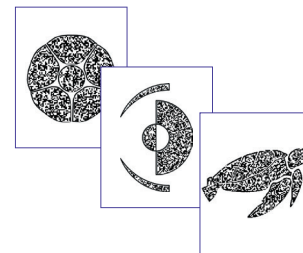
# DocSeal

A graphical seal to protect against photo substitution and forgery

DocSeal is a secure and artistic seal of the holder's data. DocSeal encodes a portrait descriptor, name, date of birth into an inspection symbol printed at the time of personalization. The data are signed with the issuer key before encoding in order to ensure their authenticity and integrity.



The design of the inspection symbol is customized to express a country's symbols and values. It will harmonize smoothly with the overall design of the ID document. Its very compact encoding allows it to fit easily into the artwork of the identity card or the passport data page.



## Quick authentication

Devices such as a smartphone (apps available on Android and iOS) or document scanner can immediately confirm whether the portrait and biographical data are genuine or if they have been altered or substituted.

## By a simple picture or scan

- › the DocSeal inspection symbol is decoded so that the digital signature is checked and the portrait descriptor and biographical data are extracted.
- › the photo descriptor is re-calculated from the main portrait and compared to the one extracted from the DocSeal inspection symbol.



*Any alteration in the main portrait or personal data will be easily detected*



*This verification is possible online or offline*



## DocSeal benefits

- › Strong protection of the photo and the biographic data from forgery
- › Secure and convenient document inspection even for non-specialists
- › No need for specific device: inspection done by smartphone app
- › Compatible with iOS and Android
- › Wide possibilities of inspection symbol design to harmonize smoothly with the document artwork
- › Less than 4cm<sup>2</sup> to ease integration into the document artwork

# LASINK™

An unmistakable and high-security color image

LASINK™ is a color portrait laser engraved in a polycarbonate (PC) structure. A LASINK™ image is resistant to counterfeiting due to three components:



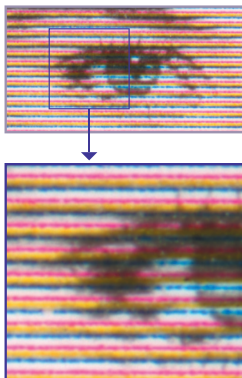
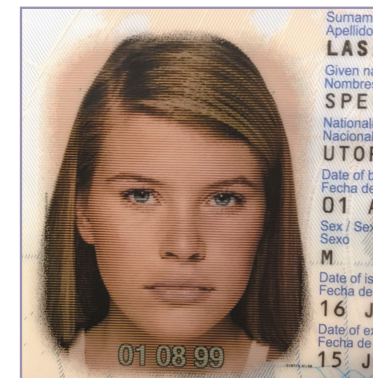
Unique color matrix impossible to print with a standard digital printer



Secret algorithm to laser-engrave the portrait

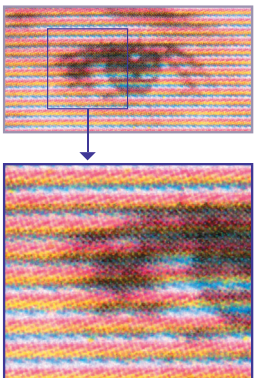


Close registration of matrix and personalization



Genuine LASINK™ image

The counterfeit image shows dots of different colors, whereas the LASINK™ matrix is made up of continuous lines. The difference between the images can be easily detected using OMA software or a magnifying glass.



Counterfeit printed with high-resolution color printer

## Quickly authenticated

A document scanner can immediately confirm if the portrait is genuine.



*In visible light the full document is captured including the unique fine-line pattern of the LASINK™ image*



*In infrared light the full document is also captured*



*Both images taken in visible and infrared light are filtered and can authenticate LASINK™'s unique properties*



## LASINK™ benefits

- › Resistant to counterfeiting and forgery thanks to its unique printing technique
- › Convenient for cards and passports
- › Personalized with a simple laser
- › Ideal for central or decentral personalization solution
- › Ten-year durability

# DocSeal

# LASINK™

## Benefits of automated document inspection

### FOR GOVERNMENTS: MORE SECURITY AT BORDERS

- › Back-up for failing chip
- › Quicker and safer than manual inspection

### FOR AIRPORTS: REDUCED QUEUE TIME

- › Flawless travel experience
- › More eligibility for eGates

### FOR CITIZENS: MORE CONVENIENCE

- › Bring more comfort and flow facilitation

### FOR PRIVATE INSPECTION PARTIES: FAST AND EASY CHECK

- › No need to be an expert in ID document check
- › No special device required
- › Available on any smartphone