



Committed to crafting exceptional passports

We help our customers deliver unique travel documents that become works of art and symbols of pride in the hands of millions.

We're proud to have succeeded in designing some of the most secure and attractive passports to appear in recent years.



Creating the new face of travel documents

Technology that is initially highly sophisticated and exclusive can become mainstream over a period of only a few years. This enables counterfeiters to gain access to high-resolution printing equipment and some basic security inks by purchasing them over the Internet.

Passport forgery is constantly evolving and techniques now include grinding to access the core of the document or adding laser engraved personalization to an existing document.

The main kinds of document fraud are:

- Copying or imitating the visual appearance of a document, i.e. counterfeiting an entire ID document, sometimes using materials from legitimate documents.
- Changing the data on a legitimate document by substituting the displayed photo and altering or deleting information.
- Stealing a blank genuine document and personalizing it with fake data.

This guide aims to set out our thinking process when we design a secure document and to explain, step by step, how some of the features used in the Gemalto Utopia passport make the process of verifying documents easier in the field.

Gemalto has a background of secure government printing dating back to 1886 with the acquisition of Setec, formerly Finland's National Printing House in 2005. Printing expertise includes banknotes, stamps and identity documents with a long track-record in innovation.

Today, Gemalto is contributing to more than 30 ePassport programs with specific expertise in border and visa management projects. Our expert teams are working closely with national polices and printers on aspects of security features and document design.



As pioneers in polycarbonate technology, Gemalto and Trüb are now joining forces to offer unparalleled experience and expert knowledge in this area.

Created in 1859, Trüb is synonymous with quality, precision and security for high-end polycarbonate documents. Trüb is also known for its innovation in unique security elements, designed in Switzerland by its talented engineers.

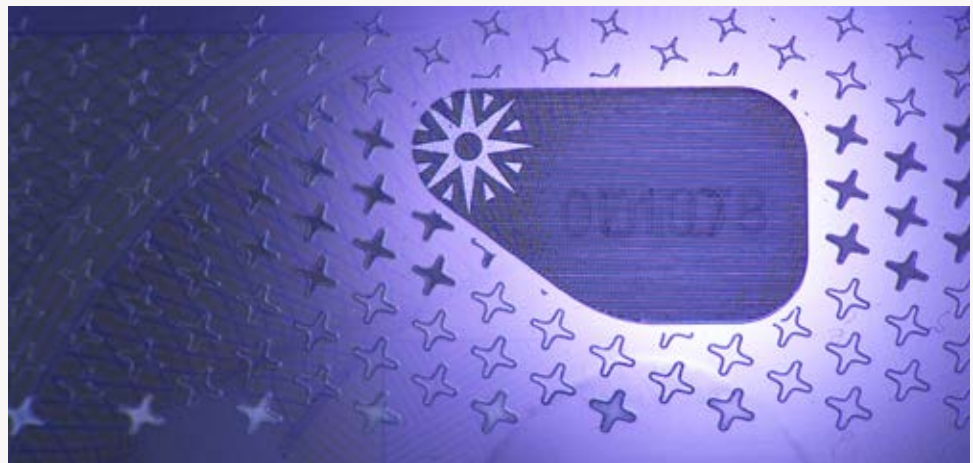
Security features: Raising the bar

When designing secure documents like e-Passports, it's critical to make it extremely difficult to either create the document or change the data on the document.

The selected combination of features must provide protection against all types of attacks – from copying, reproducing, data manipulation or attempts to personalize a blank document. Some essential security safeguards include:

- Using feature technologies that are difficult to copy (clear window, rainbow printing or CLI/MLI: Multiple Laser Image/Changeable Laser Image)
- Combining several security features to make it highly problematic for a counterfeiter to master all the various techniques (printing, lamination, laser engraving)
- Using materials and technologies that are difficult to source
- Employing specific inks and components that are only sold to secure printers

Here tactile details and the new generation of CLI/MLI lens of Sealys Secure Surface.



The perceived quality and security of documents also send strong messages to citizens and form a tangible element of trust.

2005: First electronic polycarbonate data page

2007: A transparent window in the polycarbonate data page

2013: High resolution UV images

2013: Laser ablation personalization process creating ghost image

2014: Color photo with laser personalization in the polycarbonate data page

A holistic approach to security design

Our goal is to design a document so that its authenticity can be indisputably trusted.



We implement each technology at its highest quality and level, and use means and materials with limited availability. In a nutshell, we use technologies and materials that are extremely difficult to copy, to use, and to come by.

When designing a high secure Passport, the primary task is to identify potential threats. Then the necessary security measures are selected to counter these potential threats.

The selection of a security feature is based on its ability to protect a specific part of the document (datapage, personalized data) and to increase or reinforce other security features.

Polycarbonate enables optimum use of each security feature: datapage security features can be used to protect personalization and personalized features can protect datapages.

All design motives and security features we integrate in documents are fully compliant with the ICAO doc 9303 specifications and supplements. They also integrate the best practices to secure and protect the document from forgery and counterfeit.

Our design approach is based on years of experience of documents in the field, feedback received from professionals and end users using the documents, from the cooperation with security experts and forensic laboratories, as well as the expertise of our dedicated engineers.



Verification of documents

Security features can help in verification by providing intuitive and easy to verify elements that are visible with the naked eye or by touch (tactile effects) and which protect both the document structure and personal data.

The objective is to help an Immigration or Border Control Officer to answer two main questions. A third one can be answered by fingerprint matching or facial recognition.

Is the document genuine?

Is the citizen's personal data authentic?

Is the person present the true owner of this document?



For more information on our security features
and in order to receive samples please contact:
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