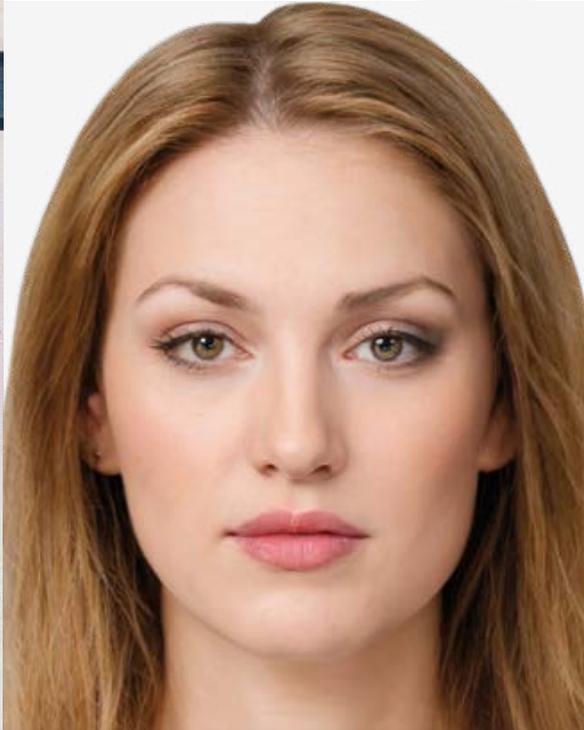
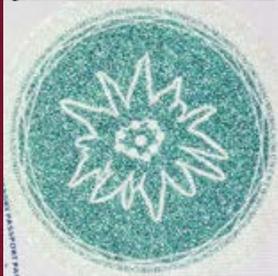


VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei

VERIDOS



Securing your identity

Advanced security features and

personalization techniques for passports





Everyone has the right to a secure ID

We employ cutting-edge security features and technologies to provide passports that meet the highest security and quality standards. Veridos develops and produces the entire value chain of passport production which includes paper, polycarbonate components, print, finishing, eCover production and the operating system.

Modern travel documents need to meet a variety of challenges. They need to combine security with efficiency, enabling modern travelers to seamlessly yet cross borders.

One of the main challenges that authorities face is preventing fraudsters from tampering with legitimate passports. Counterfeiters often target the all-important data page, as this includes most of the passport holder's picture and personal data. It's therefore critical to equip this essential data page with an array of sophisticated security features, building obstacles for any unauthorized person to tamper with the document.

Veridos responds to this challenge by employing cutting-edge security features and technologies to provide passports that meet the highest security and quality standards. Security features meet all three basic verification levels. Level 1 is for security

features that can be verified by human senses. Level 2 requires basic tools, such as a magnifying glass, to verify them. Level 3 features require specialized tools for verification. Level 1 and level 2 features are the most relevant for border control authorities.

All Veridos operating systems are 100% ICAO compliant, satisfying SAC, BAC, EAC and PACE authentication protocols. Moreover, Veridos uses high-security paper, which is restricted to high-security applications and not available to the public on the open market.

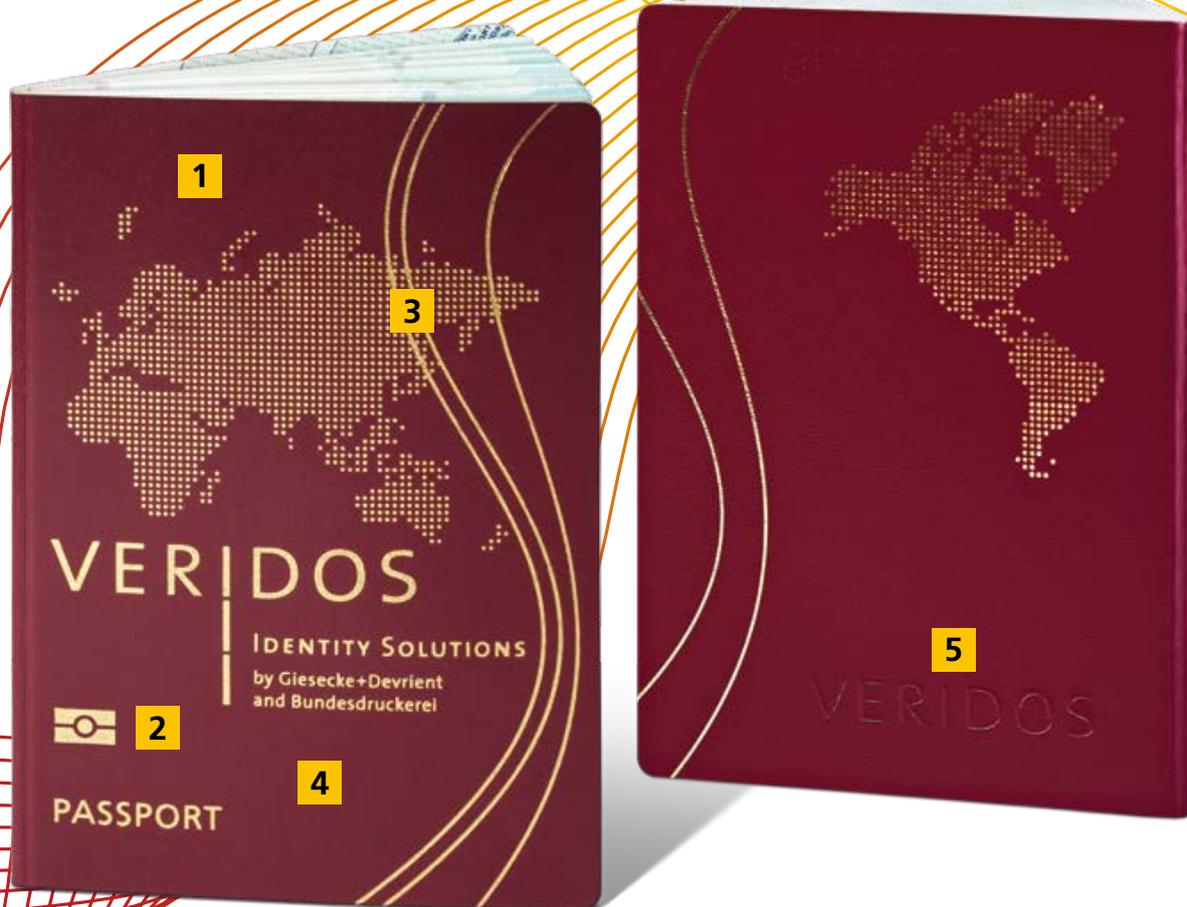
MORE INFORMATION



ePassports, jobs, infrastructure:
Bangladesh's route to the
future. Read our success story:
veridos.co/bdg-ss

Security features to stay ahead of forgers

Cover



1 Cover material

Our passport covers are made from material specially designed to be tear-proof and resistant to heat, sweat, moisture and chemicals. The high-quality covers are environmentally friendly and either comprised of woven textile or cellulose-based and acrylic-coated.

2 Symbol for electronic passport

The chip can be stored in the PC data page as well as in the e-cover in combination with a paper data page or thin PC data page.

3 Gold foil embossing

The front cover comprises gold foil that is heat embossed in accordance with EU regulations and ICAO recommendations.

4 UV imprint

The cover material can incorporate an imprint which is invisible to the human eye but appears bright yellow under UV light.

5 Blind embossing

The back cover includes blind embossing, with details such as the country's name. Also braille text or customized symbols can be used.

9 Guilloche Fine Line and Anti-Copy Pattern

A unique, intricate, interlaced pattern known as guilloche provides a security feature that is virtually impossible to imitate.



10 Micro text printing including deliberate errors

Microlettering in the intaglio printing is another feature that is hard to counterfeit. It can only be verified with the aid of a magnifying glass.



11 Holographic security thread

A country-specific security thread is incorporated into the data page. When tilted the image, for example the country's flag appear to change color and effects. A hidden INVISIO feature can be integrated and contains invisible information.



12 Fuse ID Vision

FUSE ID allows a negative laser personalization on a printed OVI patch. Fuse ID Vision is the same principle feature but placed in a window. That allows different lasered information on front and rear side of the window. Under transmitted light both information will disappear.



13 Multiple Laser Image

MLI consists of numerous, tiny horizontal lenses, incorporated into the surface of the card with special laminating plates. Depending on the viewing angle, the holder sees different information, e.g. date of birth. Reproduction of engraved data of the MLI, e.g. by photocopying and overprinting, is not possible, making it the most effective feature against copying and counterfeiting.



MAGIC ID 14

MAGIC ID is an advanced multiple image technology. Preprinted and specifically arranged pixels combined with sophisticated lens structures allow for a new dimension of dynamical and continuous moving effects.



15 Laser engraving

Using laser engraving, an electronic passport holder's images as well as textual data are personalized on the security document in black.

16 Tactile Laser engraving

Tactile laser engraving is an effective security feature incorporating raised information, e.g. numbering and can be used on both sides of the document card. The tactile properties easily identify any manipulation attempt.



CAN
123456
Personal No./ Code d'ide

17 UV printing / UV rainbow printing

The background design patterns include invisible imprints that are fluorescent and then become visible under UV light in different colors, such as yellow, blue, red and green. There is also a possibility to add multi color UV and or bi-fluor colours.

18 Ghost image

A ghost image is a special repetition of a photograph already personalized on the document using reduced contrast, intensity or size. Comparing the "ghost image" with the original photo is an excellent anti-counterfeit measure.



19 Transparent window

A transparent window in the data page reduces the risk of forgery by punching out and replacing the feature. In the window, there is the possibility to add Fuse ID vision or other features which protect the window.

LOOK ID 20

LOOK ID is a transparent stripe protecting the data page completely horizontal from the left to the right side. Usually LOOK ID is placed between the holder's image and the machine readable zone. LOOK ID is a transparent feature which can be used instead of the transparent window but the real interesting opportunities arise from a combination of these two transparent protection features.



21 Laminated tactile structure

Embossed surface elements can be implemented on the document. The depth of the embossing depends on the line width of the embossing structure. This surface feature is clearly tactile and visible when the page is tilted. Perfect protection against alteration and counterfeiting.



Inner cover and title page

WATCH OUR VIDEO



What are the security features that make our IDs secure?
Watch our video:
veridos.co/id-security

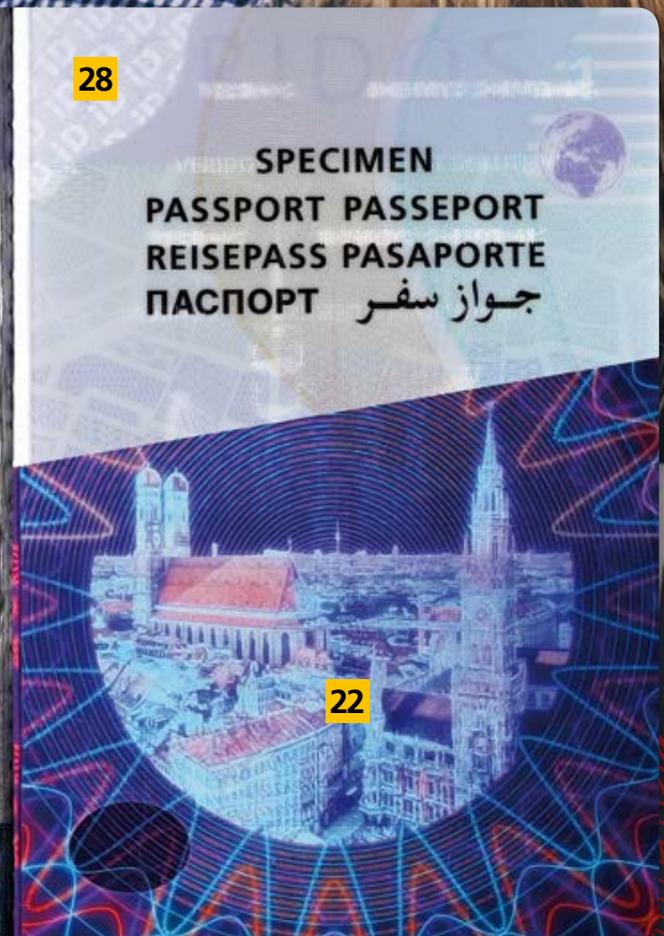


Photo realistic UV image 22

Photo realistic UV images can be combined with UV rainbow or other UV printed elements. With these customized and hard to copy UV elements the data page could be protected from rear side against counterfeiting.



Visa pages

Rainbow printing 29

The background design patterns on each page of the document include fine color gradients that are impossible to reproduce on conventional scanners and color printers.



30 Pagination



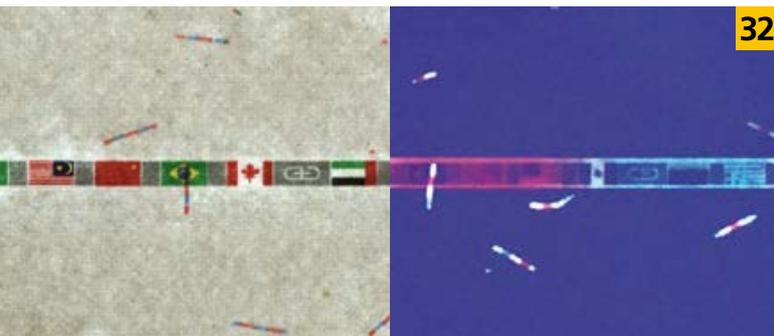
The pagination on each page is fully integrated into the guilloche pattern, thereby minimizing the risk of manipulation. In addition, the size and position of the page numbers can be varied from page to page.

Multitone watermark 31

Every visa page is protected by a multitone watermark produced with a cylinder mould. Very detailed and high contrast images are possible. Additionally, a highlight watermark e.g. showing the page number can be added.



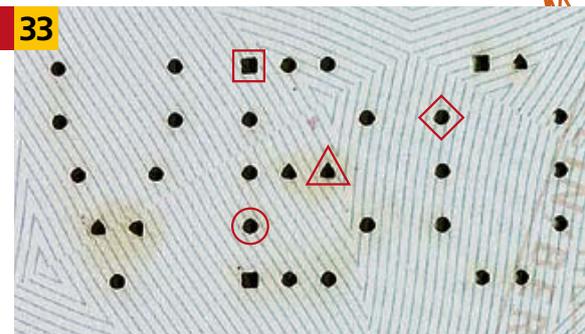
32 Country Code Security Thread



More than a standard text security thread. The Country Code Security Thread depicts the colored national flag and the name of the country or another customized text. This thread is fully embedded into the paper for the inner pages, which can be easily recognized by the human eye. The thread also includes rainbow fluorescence under UV light.

Laser-perforated numbering 33

Laser perforation makes it possible to create extremely small holes that decrease in diameter with each ascending page number. This allows the location of each page within the document to be verified with accuracy. Laser perforation holes could also be made in other shapes, such as triangles and squares.



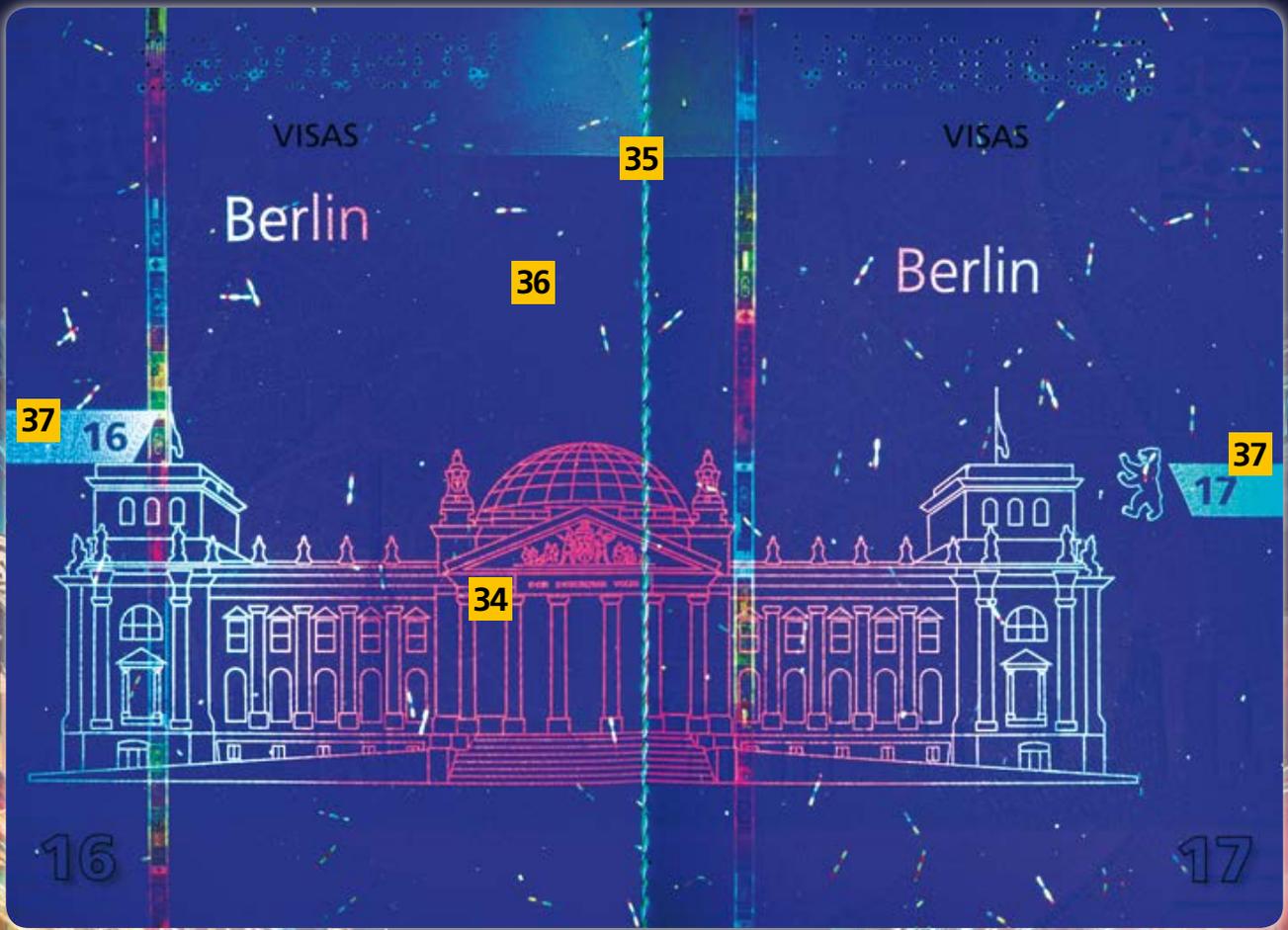


WATCH OUR VIDEO



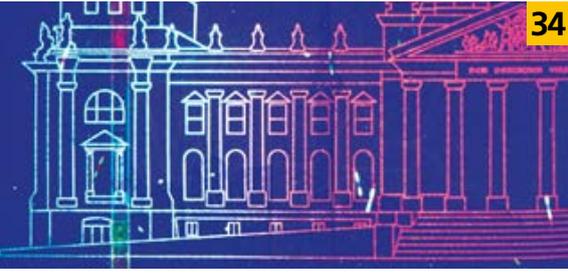
How do we produce an identity document?
Watch our video:
veridos.co/id-process





34 Fluorescent printing

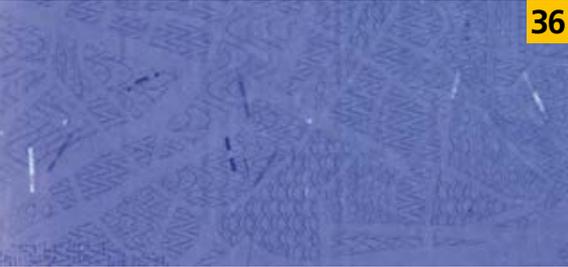
All inner pages contain elements that are invisible under natural light but fluorescent under ultra-violet light. Also elements in rainbow (iris) printing, photo realistic elements and bi-fluor elements are possible.

**35** Sewing thread

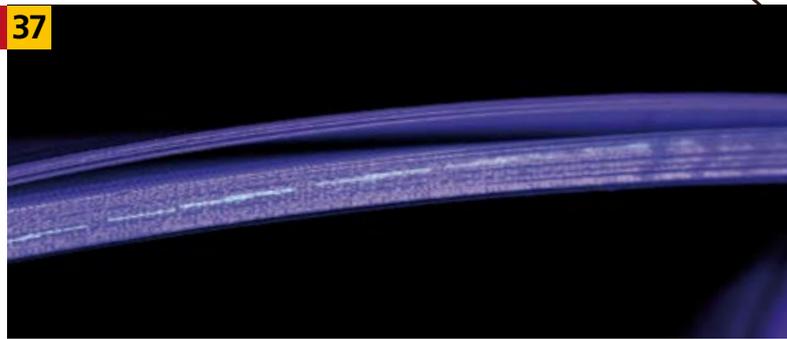
Sewing thread consists of one or more different colored plies, which may fluoresce under ultra-violet light. The Veridos sample booklet contains blue, green and yellow plies in the visible range and blue and yellow as fluorescent colors. The thread is applied to all the end pages, inner pages and the data page, and can be seen in the middle of the booklet.

**36** Multi-color security fibers

Protective fibers that are partly visible and partly invisible in the paper, which become visible in bright colors when the paper is exposed to ultra-violet light. Fiber colors can be agreed with the customer. This feature is not available for ordinary office paper.

**37** UV index

The inner pages contain an invisible, UV-fluorescent page number. The position of the invisible numbering is transposed vertically by the height of one square from one page to the next. If the edge of a closed e-passport is viewed under UV light, a stepped line becomes visible which can reveal substituted or missing pages.



CLIP ID

Personalization techniques

CLIP ID is short for Color Laser Image Protected ID. This combines laser engraving and color printing within a customized lenticular structure. The result is a lifelike image of the holder of the ID – in true, vivid colors.

Advantages include the utmost security, long-lasting product lifetime and no need for additional protection layers, making it very cost-effective. The solution is also suitable for both centralized and decentralized personalization processes.

The CLIP ID personalization splits a single photo source. Firstly, a grey scale version is laser-engraved, then the color photo is printed on top. This produces a photo that is joined with the document material and can't be separated from it. By touching it with a finger or viewing it under an infrared light, it is easy to detect manipulated IDs.



Veridos' CLIP ID personalization method uses two photo sources in combination with this special structure. First, a black-and-white version of the image is laser-engraved, then the color photo version is printed on top.

WATCH OUR VIDEO



Watch our video on color personalization technologies:
veridos.co/CLIPID

CLIP ID Echo

CLIP ID Echo is an enhanced version of our well-known CLIP ID security feature. It provides visual means of verifying document authenticity. Simple yet highly efficient, CLIP ID Echo is a repeated portrait and biographical data, such as a birth date or an ID number, of the cardholder and that is only visible from certain angles.

The additional information within CLIP ID Echo is personalized by Laser engraving and provides enhanced protection. Reproduction of engraved data by photocopying, for example is simply impossible, making CLIP ID Echo the most effective feature available against forgery.



What about verification?

Detect forgeries like a forensic expert

Our expertise in developing advanced security features for identity documents also affords us exceptional knowhow in document checks and forgery detection.

There are two key objectives at the heart of every piece of technology we develop: to deliver a reliable, efficient high level of performance and to ensure ease of use for its operators.

Using comprehensive reference databases, our verification devices can:

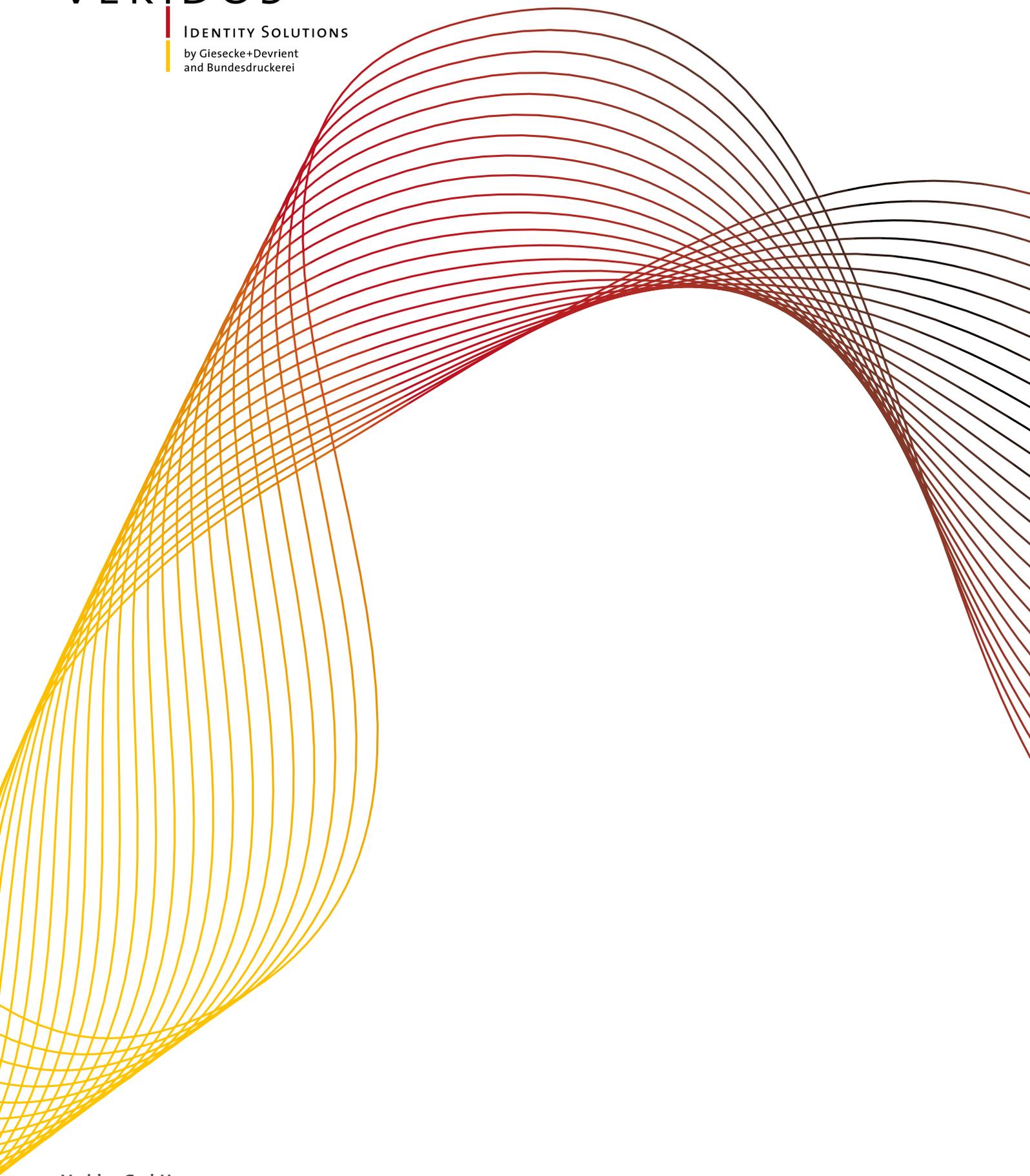
- Check and validate data within the Machine Readable Zone
- Optically verify security features under white light, UV and infra-red
- Read electronic information while cryptographically checking chip authenticity
- Perform consistency checks of printed data against a document's electronic data

Veridos provides reliable solutions for consistent and secure document verification. These solutions cover everything you need to verify identity documents, either standalone, mobile or as fully-integrated automated border control solutions.



VERIDOS

IDENTITY SOLUTIONS
by Giesecke+Devrient
and Bundesdruckerei



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