

VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei



VeriCHECK

Border management solutions

Ensure secure and effective border control

www.veridos.com



Veridos offers reliable solutions to keep your borders safe

International travel is more popular and easier than ever before. The challenge lies in keeping away unwanted visitors – such as terrorists, those without visas, and anyone illegally entering the country – while simultaneously keeping everything streamlined and secure for tourists, business people, and legal immigrants.

- In a connected and globalized world, increased air passenger traffic has put pressure on border control to ensure maximum security and efficiency.
- More than **100 countries** have introduced biometric ePassports to maximize security.
- According to INTERPOL, every year more than **289,000 cases** of stolen and lost travel documents are registered on INTERPOL's database worldwide.

Source: INTERPOL

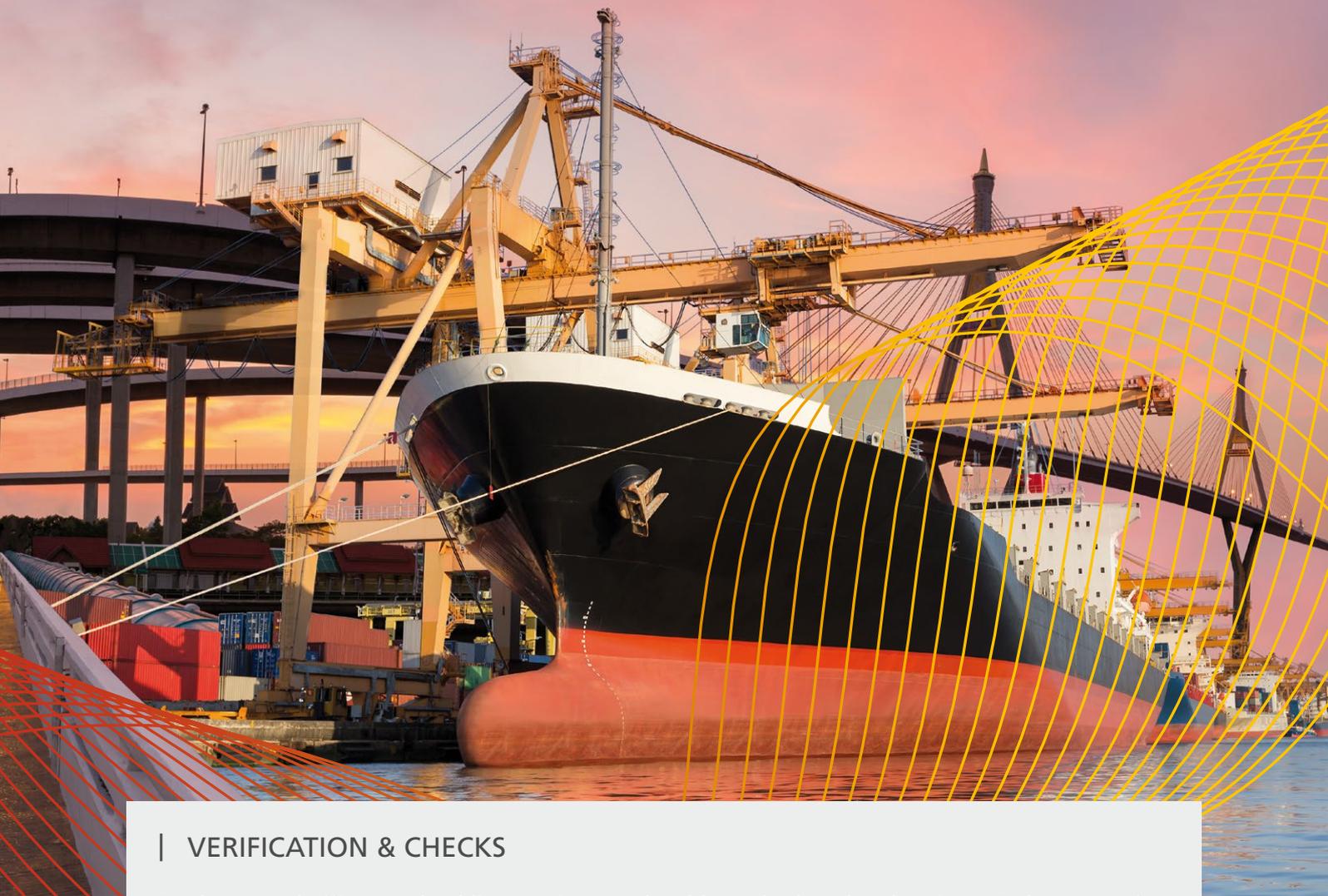
Now more than ever, governments and their citizens need to be able to trust the security of their borders. This is what Veridos provides.

Veridos unites the combined expertise of its two parent companies, Giesecke+Devrient and Bundesdruckerei, in one first-class offering. A joint venture based on the long-standing ID expertise of its two parent companies, Veridos specializes in providing secure government solutions both at the identity document and supporting technology level. With extensive experience in both identity document creation and verification, this bundled expertise makes Veridos the obvious choice for intelligent border management systems that are fit for today's political climate.

The VeriCHECK solution supports your immigration processes at Points of Entry (PoE) such as airports, seaports, and land borders. It allows users to reliably identify travelers as they arrive or

depart by capturing and verifying biometric data, while authenticating data in travel documents.

Traveler data, incl. optional biometric data, can be efficiently stored in a separate entry/exit data management system that easily adapts to national data privacy protection legislation and regulations. This comprehensive database can be used to check for visa violations (overstaying), generate reports, and perform statistical analyses. This highly configurable solution supports the full range of identification and travel documents such as MRTDs, ePassports, residence permits and eID cards. It incorporates our verification platform, enabling a smooth integration into different environments while ensuring maximum data protection and privacy. Combine this with our experienced project management system, which works both as an effective full-service solution and integration tool for different systems, and the result is an effective and reliable border control solution.



| VERIFICATION & CHECKS

Border control officers and public agencies must be able to check and authenticate ID documents fast and reliably. Veridos offers several solutions here to make the task as simple as possible.

Optical Verification

- Verifies optical machine readable zone (MRZ)
- Verifies basic physical security features
- Verifies enhanced security features in white light, UV and IR

Electronic Verification

- Verifies chip content, authenticity and integrity (full ICAO compliant)
- Integrates your Public Key Directory (PKD) systems

Consistency Checks

- Compares optical MRZ with chip MRZ data
- Compares visual inspection zone (VIZ) data with MRZ and chip data

Database Checks

- Checks national documents against national databases
- Checks document data against national watch lists
- Optional: Check document data against international databases such as INTERPOL, VIS

National PKD Support

- Integrates existing Public Key Infrastructures
- Sets up national PKD infrastructure for ePassport certificate chain verification and validation
- Integrates perfectly with the ICAO PKD system

Secure borders with our solutions

THE VeriCHECK SOLUTION AT A GLANCE

- Accurate ID checks with increased security at all PoE (airports, seaports, land borders)
- Modular, scalable, and secure architecture
- Efficient online operation
- Reliable offline operation (for disconnected border control sites)
- Highly configurable and customizable to match national requirements and regulations
- Secure data processing and storage
- Privacy by design for information security

Our solution can be used to capture and compare biometric data from eDocument holders with the information stored on the electronic chip in their document:

- 1:1 fingerprint, IRIS and ISO facial image matching.
- 1:n check against an Automated Fingerprint Identification System (AFIS) or an Automated Biometric Identification System (ABIS).
- Comparison and validation of optical document information against a database of optical security features.
- Automatic verification against background information systems, including international (e.g. INTERPOL) and national databases (e.g. a watch list or a national ID document production system).
- Communication with each of these systems using a flexible, dedicated adapter.

Comprehensive range of features

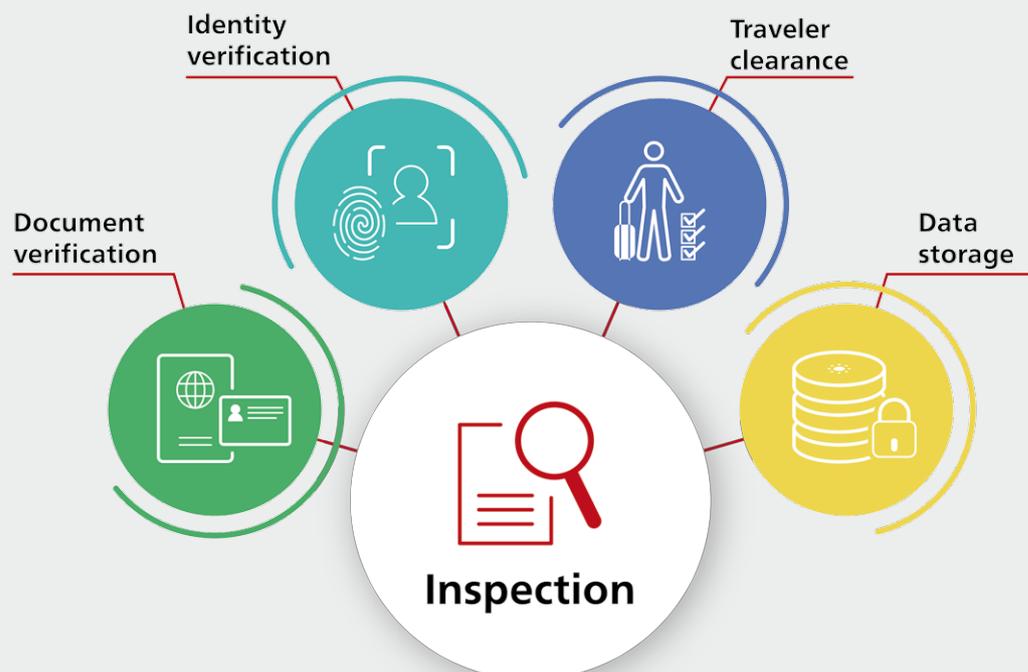
The VeriCHECK solution is modular, flexible and scalable. Its performance and functionality can be extended as needed, for example when passenger transit rates increase, while processes can easily be adjusted as requirements change.

Our solution employs a three-tiered architecture that consists of rich clients, web clients, central database servers, application servers, and system management tools. Our package includes the initial setup of all the checkpoint equipment needed to perform primary and secondary inspections, and all back office and administrative processes.

Hardware components are chosen based on each customer's needs. We support all types of ID document scanners, biometric enrolment devices, fingerprint scanners, iris scanners, cameras, and related devices. Standard office equipment (printers, scanners) can also be easily integrated into our solution.

We will take care of everything to implement a flexible, scalable solution that supports faster, safer, and more efficient border control processes.

Verification and identification – general process overview



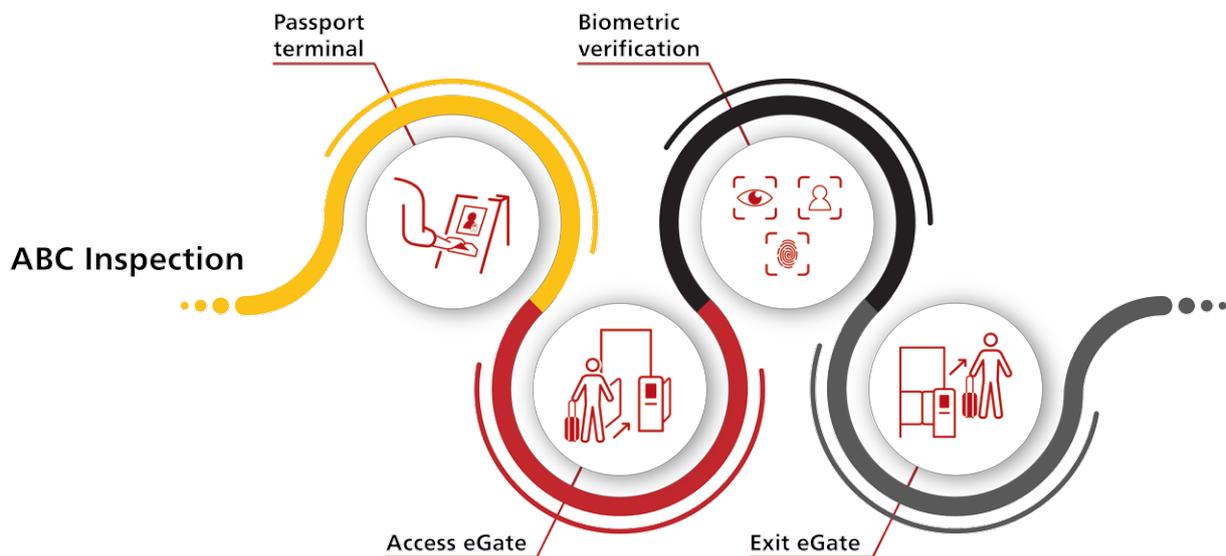
Automated border control

The VeriCHECK Automated Border Control solution allows efficient implementation of immigration processes at a country's points of entry (PoE) with high volumes of travelers.

Customers define their own risk profiles, allowing optimal concentration of staff resources at the PoE. The fast and professional verification of travel documents and captured biometric data ensures low-risk travelers are processed as quickly and reliably as possible. This allows border guards to concentrate on checking high-risk passengers more thoroughly, while low-risk passengers are pleased to benefit from quicker processing times.

Veridos provides flexible Automated Border Control (ABC) eGate / kiosk solutions based on our platform:

- Using ePassports and eIDs
- Integrated verification of physical security features
- Verification of biometric features
- Fast, secure and automated border crossing
- Optional combination with a pre-registration program



Veridos eGates at the Luxembourg Airport



Watch an animation on how the Veridos eGate works:
veridos.co/eGate

Luxembourg's contemporary, fast and safe border control solution

Less than a year after the contract was signed, the Site Acceptance Test (SAT) was successfully passed by the Veridos eGates at the airport.

With the intuitive structure, the system is designed to attract the attention of the traveler immediately. In most cases, the complete border control procedure can take less than 14 seconds!

Passport control in this area is much faster for all passengers. The infrastructure and design are easily adaptable and reusable can be installed in line with the needs of future customers. After extensive testing during a four-week rollout phase, hardware and software are able to speed up immigration and emigration processes at the Non-Schengen area of the airport.



Watch a video on Veridos' automated border control solution for Luxembourg: veridos.co/ABCinLuxembourg

We provide our Public Key Directory (PKD) system expertise to ICAO and our valued customers

- **Veridos is the overall project manager for the new ICAO PKD system.**

Veridos has implemented a highly transparent, reliable and secure process for the provision and verification of ICAO certificates needed for proper validation of ePassports.

- **Our expertise in ICAO PKD systems means we can guarantee efficient, smooth and customized implementation of a country's nPKD. Combination with National PKD systems (nPKD) allows secure and fully automated distribution of certificates to the nationwide border control stations.**

OUR INNOVATIVE RESEARCH PROJECTS ON BORDER CONTROL

We recognize our customers' need for future-proof solutions, which is why we connect with key decision-makers and technology partners. Veridos takes an active role in the following Border control solution research projects:

PROTECT was a project funded by the European Commission and coordinated between Veridos and 9 other partners across the EU concluded in 2019. The PROTECT no-gate crossing solution reduces waiting times while maintaining security and integrity of the control. PROTECT demonstrated how border crossing solutions can be optimized and streamlined across the EU.



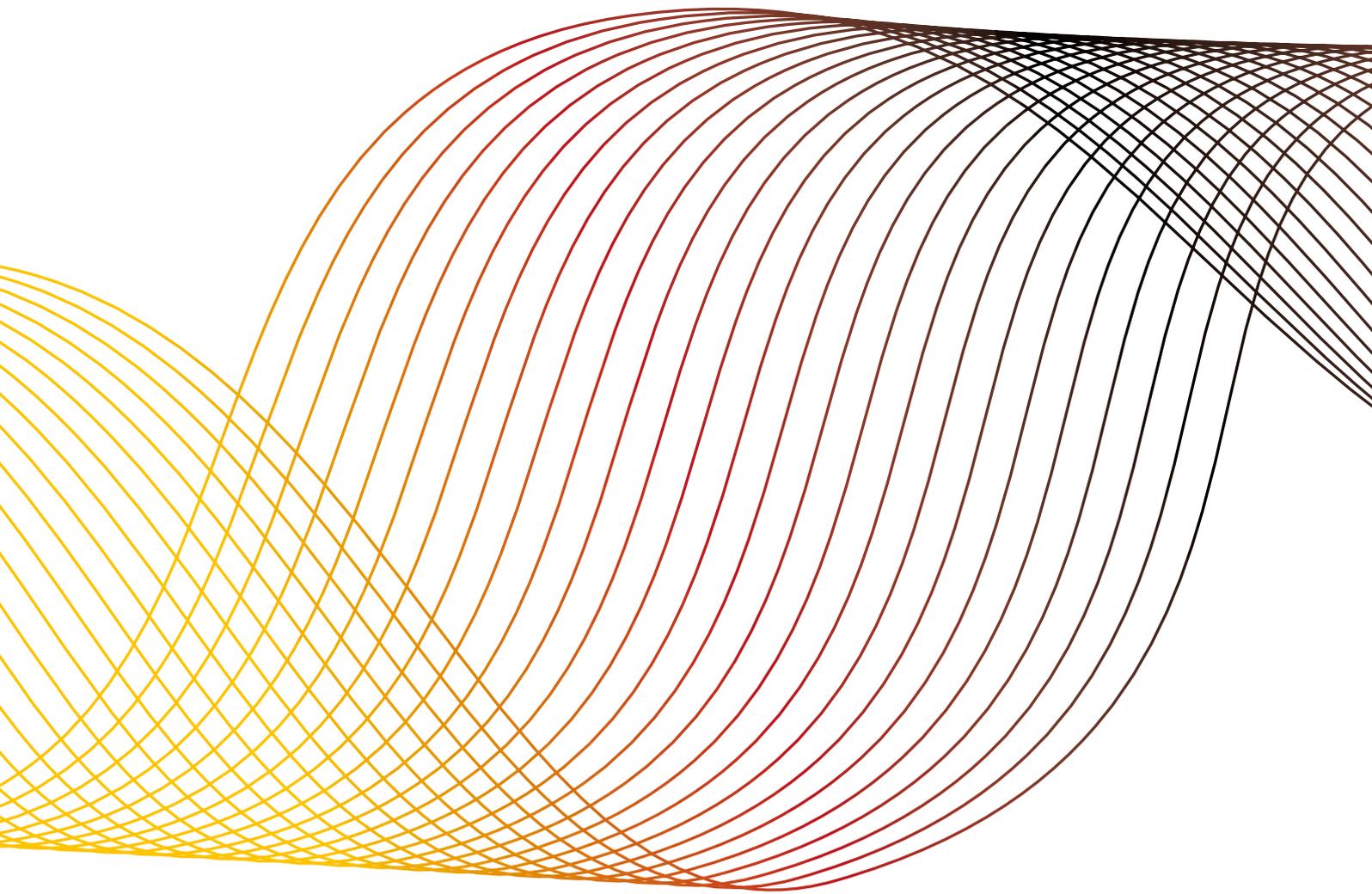
Watch a video on the PROTECT project: veridos.co/PROTECT

The Veridos-led project, called **D4Fly**, focuses on the authentication of travelers on the move and document verification with the primary goal of making border control faster and more secure. Research topics will include 3D face recognition, the use of smartphones as a means of identification, document forgery detection, and anti-spoofing. The potential benefit of blockchain technology in identity verification will also be investigated.

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All technical data subject to change.