VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei

VeriDNA: The next generation of biometric identification

A DNA ID solution to safeguard your identity

www.veridos.com

VeriDNA protects citizens' identity from misuse

Throughout one's life, a person has several passports due to the change of biographic features. Integration of biometrics into a secure document is just one of the use cases of this new solution. VeriDNA is a new identification solution provided by Veridos based on the biometric pattern of human DNA. Veridos is a pioneer in the field of DNA-based biometrics for human identification and verification purposes and is the first to offer this one-of-a-kind solution to the government sector.

Drawing on techniques previously confined to forensics and sophisticated labs, VeriDNA employs human DNA to create a person's individual and unique genetic fingerprint, commonly referred to as a DNA profile or DNA ID. This DNA ID is distinctive to each individual and allows each person to be uniquely identified. This process fully protects the privacy of an individual, since only DNA regions without information about human characteristics are used for this DNA ID creation. In fact, a passport photo reveals more about a person than their DNA ID. As well as providing the highest level of accuracy and privacy, a DNA ID remains unchanged for life and therefore needs to be enrolled only once in a lifetime.

A DNA ID is tamper-proof, and can't be falsified nor manipulated, so that the identity of a citizen can be securely and reliably protected.

The only such DNA ID integrator worldwide

Veridos is the first to enable the integration DNA IDs into ID lifecycle management. As the first of its kind, VeriDNA is a comprehensive identity solution based on the biometrics of human DNA available to governments. VeriDNA comprises of customized products and services that are necessary for a holistic national identity scheme, from the fully automatic generation of an individual DNA ID, through its enrollment and application, to the verification of a DNA ID at designated checkpoints.

What is the VeriDNA process?

VeriDNA uses unique "Rapid DNA Technology" from the US American Company, ANDE Corporation (ANDE RDNA) to generate a specific DNA ID. Thanks to ANDE RDNA technology, it is possible to create a human DNA ID using only three components and in just three working steps – fully automatically and without further human intervention and specialist knowledge. This means that ANDE RDNA can work independently from a laboratory and be operated anywhere, anytime by anyone, e.g. at border entry, in a government office or at the police station. Its high integration, robust manufacturing and wide application conditions enables ANDE RDNA to also be used outdoors for mobile applications precisely where required, such as at a disaster or crime scene or a rural border point.

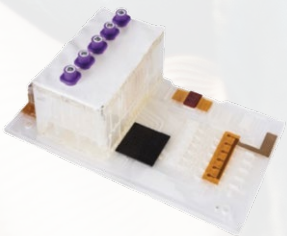
COMPARISON OF CURRENT BIOMETRIC ID VERIFICATION METHODS

	Biometric Methods	Accuracy Discrimination Power	Immutability Lifetime Stability	Resistance Fraud Security	Reliability Result Trustworthiness
Level-3 Biometrics verifying **protected** traits	DNA PATTERN	High to very high			
Level-2 Biometrics verifying **hidden** traits	RETINA STRUCTURE, IRIS PATTERN, VEIN PATTERNS	Medium to high			
Level-1 Biometrics verifying **accessible** traits	EAR SHAPE, FINGER-PRINT, HAND GEOMETRY, FACIAL RECOGNITION	Low to medium			

A DNA ID solution that protects citizen's privacy

Thanks to ANDE RDNA technology, it is possible to create a human DNA ID using only three components and in just three working steps in under two hours with 100% privacy protection.

ANDE® SWAB



ANDE® A-CHIP

ANDE® INSTRUMENT

A DNA ID can be exported to databases and eID chips

Once created, the DNA identifiers can be integrated and stored securely in Veridos' VeriCORE data management system. With VeriCORE, DNA identifiers can be imported into various applications, including national DNA databases from civil registries, registries or criminal police databases, or in civil biometric identification systems, such as the ABIS system from our partner Innovatrics, a leader in the field of biometrics. For "real-time" verification in national ID schemes, DNA IDs can also be transferred to the smart chip of an eID. This makes identity verification, for example at border control, extremely reliable and secure.

A safe ID to accompany you throughout your life

Forensics has successfully established the technique of using certain areas of DNA to create a person's "genetic fingerprint" – its DNA ID. The introduction of VeriDNA now makes this process available in civil-related applications. As DNA never changes throughout a person's life, governments can reliably use DNA IDs to prove a person's identity from birth until death and beyond.

Low data volume equals small size

A DNA ID is just a unique number code and therefore only a few kilobytes in size – ten times lower than the data storage volume of a single fingerprint. This means it can easily fit into the smart chip of an eID, such as a passport or an ID card.

Non-coded DNA means complete privacy

The technology detects the lengths of DNA from so called "non-coding" regions, which don't contain any information about a person's physical or ethnical characteristics, and therefore 100% guarantee a person's privacy. A DNA ID generated from non-coded DNA is basically the DNA version of an individual and meaningless numerical code used to verify online transactions. In fact, each passport image reveals more personal information than a DNA ID.

How can you use VeriDNA

The process of creating a DNA ID is identical to the one used in a forensic lab – just smaller, faster and a whole lot easier. The embedded ANDE RDNA in VeriDNA can securely generate an individual DNA ID in just a few fast and easy steps. While only experts and scientific engineers could previously use such sophisticated technology, this new process is fully automated and so straightforward that every authorized person is now able to generate a DNA ID without any technical or scientific knowledge. VeriDNA therefore completely protects the privacy of a person – always and forever.

Know your visitors

The DNA-based biometric solution uses 21st century technology for smooth migration management and secure border control. And of course, it can easily identify visitors to ensure that they're safely welcomed in.

VeriDNA makes it possible to quickly and easily check an individual's alleged or an unknown relationship and therefore, support immigration to fight human trafficking or ID morphing.

VeriDNA uses a automated and straightforward procedure that anyone can use.

Preservation of law and order

VeriDNA is a fast and easy way to identify the guilty and protect the innocent. It can strengthen criminal investigations at crime scenes and law enforcement by identifying suspects anywhere, such as at police stations, as well as exonerating the innocent. Special forces can use VeriDNA during mobile investigations to quickly profile suspects, the deceased victims of accidents or natural disasters, and crime scene evidence.

Faster turnaround time means law enforcement can more efficiently catch offenders, exonerate the innocent, reduce costs to the criminal justice system and make communities safer.

VeriDNA can securely generate an individual DNA ID in just a few fast and easy steps.

Following the forensic trail

In forensic medicine, VeriDNA can identify unknown or missing persons, as well as human remains of victims of accidents or natural disasters.

Additionally, VeriDNA can provide legal evidence of people's alleged or unknown relationships to assist the judicial authorities in legal disputes.

Identification

With VeriDNA, governments can for the first time embed unique and immutable DNA IDs into their national ID scheme to provide authorities with a 100% privacy protected means for the ultimate verification of civilians.

As it's so readily mobile, VeriDNA can check a civilian's identity wherever required, such as at rural border points or migration camps – quickly, accurately and easily.

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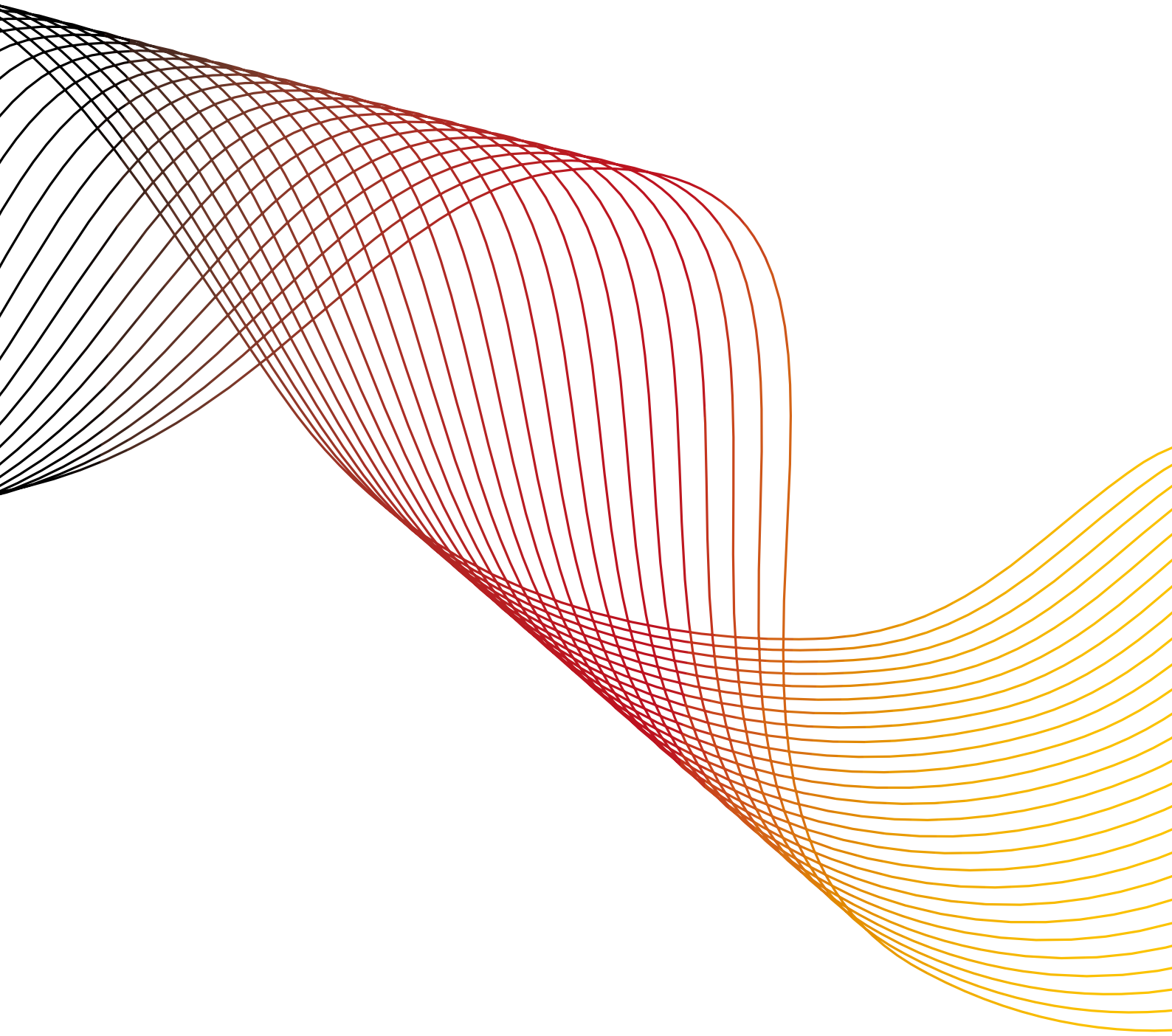

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