

POWERING TRUSTED IDENTITIES WITH BIOMETRICS



WHITE PAPER



Identity Comes First

User Identity Essential as Physical and Digital Spaces Converge

Advances in mobile technology and wireless connectivity are rapidly driving the convergence of the physical and digital worlds, and caregivers, public officials, executives, volunteers, customers and employees must find new ways to transact with trust. The key to achieving assurance across the converged physical-digital world is an irrefutable identity which allows each authorized user to prove they are who they claim to be. Identity assurance is the necessary foundation of the modern, mobile life, and one that has brought into being a new paradigm which spans all of society.



Biometrics and Identity Today

Identity is Who You Are, Not What You Know

HID Global's biometric solutions portfolio enables trusted identities by providing the highest level of accuracy, efficiency and security afforded by years of innovation. No two individuals' biometric measurements are identical, so biometry can be applied to assert positive proof of identity for any number of transaction types, enabling convenient and secure access control to both physical and digital environments. And while physical and digital spaces may be fundamentally different, biometrics have the same function across all applications: they prove you are who you claim to be.

Today's best biometric solutions are inherently secure, convenient and privacy-enhancing. A single biometric scan takes milliseconds and offers an extremely high level of security assurance. While certain high-risk scenarios can mandate even higher levels of assurance through the addition of multiple security factors such as key cards or more biometric scans, modern trusted authentication starts with an easy to use, reliable single factor biometric solution like a fingerprint reader.

THE BIOMETRICS ARMS RACE

The primary threat facing any modern biometric system is a presentation attack or "spoof" — a type of hack in which a bad actor replicates a credentialed user's physical traits using methods like mask-making, fingerprint replicating or recording playback.

The challenge of addressing presentation attacks is being solved with liveness detection, a biometric technology that goes beyond simply matching superficial measurements by requiring additional irrefutable signs of life. When bolstered by machine learning and advanced optical capabilities like multi-spectral imaging (MSI), biometric liveness detection is integral to the proposition of trusted identity: your biometric identity is yours, and yours alone.

Lumidigm[®], DigitalPersona[®], TouchChip[®]

Fingerprint Biometrics for Every Scenario

With balanced best practices in mind, finding the best biometric technology to bring security, efficiency and privacy to your organization is crucial. HID Global's Lumidigm, DigitalPersona and TouchChip biometric product lines offer foundational building blocks for authentication in any setting.

Lumidigm Multispectral Imaging Technology (MSI)

Spoof-resistant, MINEX III Compliant Fingerprint Sensor Technology

Not all fingerprint scanning systems are created equal. HID Global's Lumidigm multispectral imaging technology (MSI) is designed to scan both the surface *and the subsurface* of a finger's skin. This is invaluable when protecting against increasingly common presentation attacks. MSI allows HID's biometric software to more accurately assess whether a finger is real or a fake, further boosting the security of authentication. What's more, this technology is effective across a range of conditions: even if a finger is wet or dirty, it can be scanned with a high level of accuracy. Lumidigm sensors even work under water.

HID's Lumidigm technology is compliant with the National Institute of Standards and Technology's MINEX III standard, meaning it's compatible with a range of government and commercial biometric databases – yet another reason it's a cut above other fingerprint biometrics solutions.

LUMIDIGM – READY FOR ANYTHING

The ISO/IEC 30107-3 Presentation Attack Detection (PAD) standard is the world's gold standard for the evaluation of liveness detection and anti-spoofing technology. HID's Lumidigm MSI solution attained a perfect score in PAD compliance testing performed by the NVLAP-accredited iBeta lab. MSI technology detected 100% of attempted presentation attacks. HID's V-Series sensors were the first in the world to attain Level 1 certification against this standard, with its M-Series sensors soon to follow in achieving another perfect score.



HID DigitalPersona 4500 Fingerprint Reader

Optical fingerprint reader for desktop office environments.

With its compact form factor and silicon-coated capture area, the DigitalPersona 4500 Fingerprint Reader can read a wide range of fingerprints quickly and accurately from any angle. Its USB connectivity makes it ideal for desktop workstations in private office spaces or shared work environments. The DigitalPersona 4500 works well with dry, moist or rough fingerprints, and has integrated counterfeit finger rejection technology, ensuring fraudsters and bad actors can't bypass your new user-friendly biometric security.



HID DigitalPersona 5300 Fingerprint Reader

FIPS 201/PIV, FAP 30 Certified USB Fingerprint Reader

When faced with high-volume enrollment and authentication applications, the DigitalPersona 5300 Fingerprint Reader is the perfect biometric peripheral for the job. Certified to both FIPS 201/PIV and Mobile ID FAP 30 standards, the DigitalPersona 5300 is designed specifically to meet the needs of civil ID deployments and the demands of the commercial sector. Ideal for voter registration, national ID, benefits entitlement, microfinance, healthcare and network/application access, the DigitalPersona 5300 can be used with any standards-compatible fingerprint extractor or matcher, including the formidable DigitalPersona FingerJet Biometric Engine, which can rapidly and accurately authenticate even the most difficult to read fingerprints.

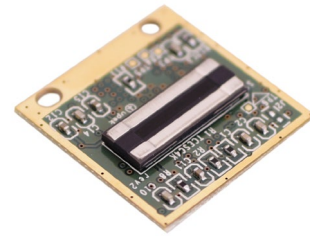


For more information on HID's single fingerprint readers, visit hidglobal.com/products/readers/single-finger-readers

HID TouchChip TCET

FIPS 201/PIV Certified Silicon Fingerprint Module

HID Global's TouchChip TCET solution is a thin, low power capacitive silicon fingerprint module offering a number of compelling advantages over other fingerprint module solutions. It can store a hundred different user templates and is highly energy efficient, using only 100mA for fingerprint capture and matching. Its top surface has IP65 water and dust resistance, and it's compatible with USB, SPI, and UART interfaces. And perhaps most importantly, it's compact and fully assembled, meaning it can be integrated into a range of devices easily and quickly.



VIDEO: Watch MSI Technology Address Nuanced User Experience Challenges

Biometrics in Action

Strong Identity Has No Borders

HID Global's biometric fingerprint readers are powerful and versatile technologies that enable strong, irrefutable identity to become the core of any market, especially when working in tandem with our versatile software solutions like DigitalPersona Active Directory. Around the globe, HID Global is helping clinics, retail stores, banks and governments participate in the trusted authentication paradigm.

Healthcare

Identity verification has long been a key concern in the world of healthcare, and as digital innovations have helped to revolutionize this sector, biometric technologies have also found new ways to make an impact. CareFusion's Pyxis Medstation 4000 is a case in point. It's an automated system for medication management, operating through modular terminals to help streamline medication distribution, enhance nursing and pharmacy collaboration, support regulatory compliance, and reduce error and inefficiency in patient care. And a key component of the Pyxis Medstation 4000 solution is the BioID fingerprint identification system.

Enabled through HID Global's Lumidigm multispectral imaging technology, the third-generation BioID system lets the Pyxis Medstation 4000 reliably and quickly identify authorized users. It doesn't matter if users' fingerprints are wet, dry or worn down — HID's technology ensures that identification is efficient and effective, helping to boost user satisfaction and enrollment in turn. At the Tomball Regional Medical Center in Texas, for example, upgrading to the Pyxis Medstation 4000 and its multispectral imaging technology brought the percentage of staff using BioID up from about 50% to

100%. This kind of enthusiastic response is a testament to Lumidigm's ease of use and its unique suitability for hospital environments.

Every Week, 1 Million Nurses Use HID Biometric Technology for Secure Access to Controlled Substances

Financial Services

Social subsidy distribution is ripe for fraud, and that's why Argentina's Banco Supervielle performed monthly authentication checks of the pensioners receiving benefits from the Administración Nacional de la Seguridad Social (or "ANSES"). But this process was cumbersome, as they served up to a million pensioners per month, so the bank started looking for technological solutions to speed the process up.

That's where HID Global's Lumidigm fingerprint authentication solution came in. After very successful lab testing and a pilot program, HID Global's V-Series fingerprint readers were deployed across most of Banco Supervielle's branches throughout Argentina and over a million retirees were enrolled into the system. Now, these end users need only to perform a simple fingerprint scan at the bank, saving them time and Banco Supervielle money while reducing fraud. Across the continent of South America, 8 million retirees rely on HID Global fingerprint biometrics for trusted pension payment.

Retail

McColl's Retail Group has 1,550 locations across the United Kingdom, staffed by approximately 18,000 employees. When looking for an efficient solution for tracking attendance, McColl's chose the durable and easy-to-use HID Digital Persona 4500 Fingerprint Readers. With biomet-

BIOMETRIC BANKING IN BRAZIL

Brazil has leapt to the forefront of financial innovation this decade thanks to HID Global's fingerprint biometric solutions.

- Over 85 Million Brazilians are biometrically enrolled for financial services using HID multispectral fingerprint sensors
- 4 of the top 5 Brazilian banks use HID fingerprint readers
- Over 130,000 biometric ATMs featuring HID fingerprint sensors are deployed in Brazil processing over 4 billion transactions per year

That's the power of trusted identities in banking.

rics at the point of sale, McColl's Retail Group reaped all the benefits of next generation attendance management:

- The risk of buddy punching and other types of time fraud was eliminated
- Transaction time was sped up
- IT and admin costs dropped
- Employee accountability and trust increased
- Payroll was streamlined

“We have found fingerprint biometrics to be a straightforward and reliable solution to our business needs.”

**– MARK AYLWARD, Systems Analyst
at McColl's Retail Group**

HID Biometrics are integrated into over 90% of biometrically enabled POS solutions. Trusted by the world's most recognized brands including McDonalds, Patagonia, American Apparel, Rite Aid and more, HID Global is making retail more accountable, more efficient and protecting the bottom line.

Government

Government authorities need to know who they are dealing with, and citizens need to be able to reliably and accurately identify themselves in order to access the services they need. India's Aadhaar program is particularly illustrative of this dual demand.

Aadhaar is one of the most ambitious national ID programs in the world, linking Indian citizens' biographic and biometric data to a national ID number. This means

FIGHTING EMPLOYEE THEFT WITH BIOMETRICS

In the **\$700 billion** Restaurant Industry, **\$27 billion is lost to employee theft.**

Unchecked employees are granting unauthorized discounts, unauthorized voids and unauthorized comps. Some are even stealing right from the till. HospitalityNet claims 6 of 10 failed businesses can be attributed to internal theft, while the U.S. Chamber of Commerce estimates **75% of all employees steal from employers.**

Biometrics at Point of Sale prevent internal theft by holding employees accountable to every transaction and eliminating time theft, which is responsible for up to 15% of all employee fraud. Restaurants make more money with trusted identities.

that citizens can access a growing number of government services through a simple fingerprint scan, even if they don't have physical identity documents at hand. But the right biometric tools need to be in place; in many cases, government authorities need biometric scanners that can reliably operate outdoors, with efficient power consumption required on mobile handheld devices. And to fight fraud and reliably authenticate citizens, they need a biometric solution that delivers anti-spoofing capabilities and can identify citizens even when their fingerprints are worn down or otherwise difficult to read.

HID Global is a proven supplier of Aadhaar solutions. The DigitalPersona TCS1 fingerprint sensor has been widely used in India for over ten years — predating the launch and expansion of Aadhaar — and over 800,000 units have now been deployed in the field. The TCS1 solutions, as well as HID's U.are.U and Touch-Chip biometric readers, are certified to the 500 ppi imaging standard required by India's Standardization Testing and Quality Certification authority. Naturally, all HID Global solutions in India have come into play in government projects, with most deployments pertaining to the sensitive area of public distribution programs, helping government authorities to eliminate fraud while performing vital government services.

The Biometric Mandate

Biometrics Are Crucial for Our Connected, Trusted Identity Future

The world of trusted identity and authentication is evolving right in front of us, and not only in healthcare, finance and retail. The education sector must manage identities of students, researchers, faculty and staff across expansive campus facilities and networks. Enterprises big and small need to adapt to ID-centric changes in the workforce, with roaming workers, contract hires, remote employees and shared workstations. Governments have to meet the demands of an increasingly connected digital world, providing trusted services and empowering democracy in accordance with the information age. Fingerprint biometrics from HID Global are the cost effective, easy-to-implement solution that will put identity first in your organization, protecting your assets, employees and your bottom line.

Take the Next Step

To ensure you are making the right decisions while bringing your organization into the biometrics-powered future of trusted authentication, or to learn more about how biometrics can transform your industry, visit HID Biometrics today at hidglobal.com/products/readers/single-finger-readers.

About HID Global

HID Global powers the trusted identities of the world's people, places and things. We make it possible for people to transact safely, work productively and travel freely. Our trusted identity solutions give people convenient access to physical and digital places and connect things that can be identified, verified and tracked digitally. Millions of people around the world use HID products and services to navigate their everyday lives, and over 2 billion things are connected through HID technology. We work with governments, educational institutions, hospitals, financial institutions, industrial businesses and some of the most innovative companies on the planet. Headquartered in Austin, Texas, HID Global has over 3,000 employees worldwide and operates international offices that support more than 100 countries. HID Global® is an ASSA ABLOY Group brand. For more information, visit www.hidglobal.com.