

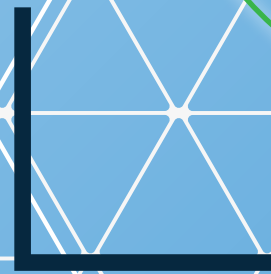
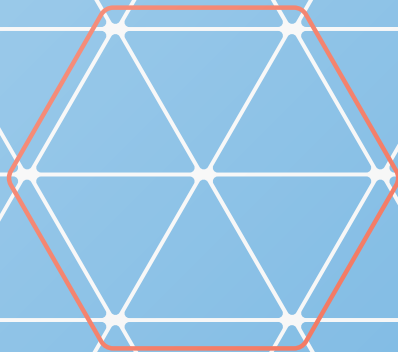
BioidTech

A red L-shaped graphic element consisting of a vertical line on the left and a horizontal line on the top, positioned to the right of the 'BioidTech' text.

BIOID-FINGER

Fingerprint Recognition Technology

TOP PERFORMANCE AT YOUR FINGERTIPS



BIOID-FINGER AT FOREFRONT OF INNOVATION

SCALABLE TECHNOLOGY DELIVERING HIGHLY ACCURATE SEARCH CAPABILITY

BIOID-Finger technology delivers rapid and accurate fingerprint identification in multi-million identity databases in seconds.

Quality of BIOID-Finger biometric technology is demonstrated by its accuracy, reliability, high speed matching, and scalability to identity systems with hundreds of millions of fingerprints. It seamlessly matches the most difficult patterns thanks to its high tolerance for fingerprint scaling and nonlinear deformation, as well as for fingerprint translations and rotations up to 180°.

Performance and competitiveness of BIOID's biometric offering have been confirmed in numerous International projects and core technology performance in NIST PFT II/III benchmarking. BIOID-Finger is fruit of researchers with 30 years of research and development experience in biometric fingerprint identification systems.

Core technology is ranked in the TOP-5 of most accurate fingerprint algorithm vendors in the world

NIST PFT III, Ongoing 2023

BIOID-FINGER DRIVES THE FOLLOWING USE CASES

The search algorithms have built in algorithmic search accelerators that increase the matching speed hundreds of times for ten-print to ten-print matching. This makes it possible to build real-time identification systems of citizens in multi-million databases with response times in seconds.

ACCESS CONTROL



Secure, accurate and user friendly access control & time attendance using fingerprint recognition

LAW ENFORCEMENT



Rapid person identification by Police officers on patrol. Investigation of crimes by palm and fingerprints collected from crime scenes

PRISON MANAGEMENT



Fast ID checking of prisoners as well as visitors

ID MANAGEMENT



Real-time verification and identification against millions of records in an enrollment database

IMMIGRATION AND PASSPORT CONTROL



Reliable identity verification for fast border crossing; entry prevention of unwanted visitors

VOTER REGISTRATION



Biometric Voter registration with fingerprint as the key to fair and orderly elections

eKYC FOR FINTECH AND SERVICES



Identity verification prior to opening a new Bank account or Phone contract

SOCIAL INCLUSION



Providing an identity such that Beneficiaries can access Government services welfare programs

VIP AND VISITOR MANAGEMENT



Real-time verification and identification against millions of records in an enrollment database

LIGHTNING FAST PERFORMANCE AND ACCURACY BENEFITS

Smallest Template size amount top 10 vendors: Less than 5KB per finger

Fastest Matching Time

Combine accuracy of Right Plus left index accuracy FNMR < 0.01 @ FMR 0.0001

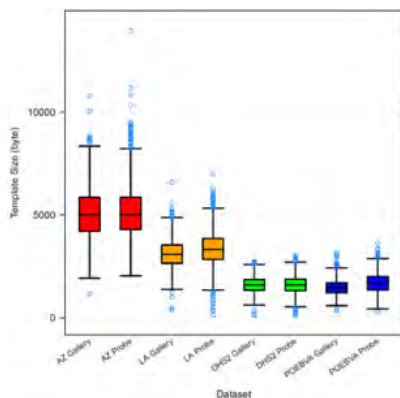
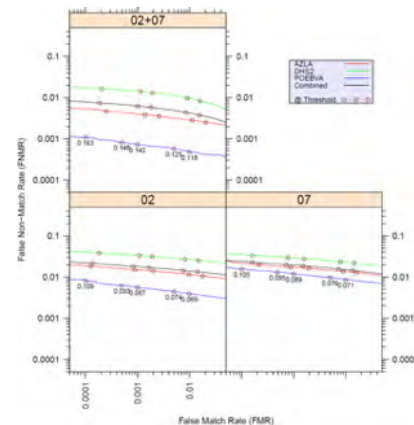
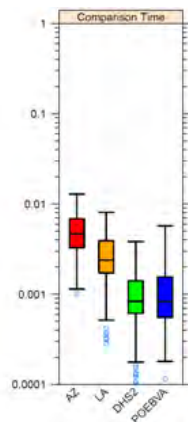
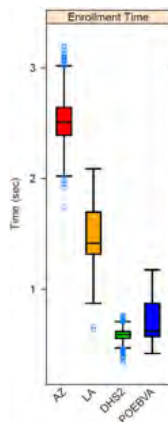


Figure 1: 1K Sample Evaluation - Template Size Distribution



FOR THE NEEDS OF THE REAL WORLD

BIOID-Finger has proven its efficiency in real-world projects working with databases including hundreds of millions fingerprints.

AT THE SPEED OF REAL TIME

BIOID-Finger has been employed in highly demanding nation wide projects, processing millions of operations in real time.

BIOID FINGER

OVERCOMING THE CHALLENGES OF REAL LIFE

BIOID-Finger has been designed keeping real world requirements in mind achieving best results with smaller total cost of ownership.

AMONGST NIST TOP 5 REAL BEST IN CLASS

In the latest PFT II evaluation BioID-Finger proves to be the top technology based on usability index.

TECHNOLOGY DIFFERENTIATORS AND BENEFITS



SCALABLE BIOID-FINGER

technology scales from searching tens of thousands of ten-prints on a regional system to matching of hundreds of millions at national level.



INCLUSIVE

Thanks to adaptive image processing, the algorithm can easily define the integral characteristics and minutiae, and as a result performs equally well with fingerprints of poor-quality. It also operates seamlessly with fingerprints of either very small children or elderly persons who may have fingerprints with numerous folds.



COTS BASED

Implementation of all functional modules run on commercially off-the-shelf hardware (COTS). No special equipment required. Works on Windows and Linux OS and supports 32-bit and 64-bit hardware.



VERSATILE

High tolerance for fingerprints scaling and nonlinear deformation, and tolerance for fingerprints translations and rotations up to 180°.



ACCURATE AND RELIABLE

Finger templates are based on patented technology of using topology information. This means that each minutia keeps information about its neighbors. This renders the technology more stable and selective than a classical ridge count used in many other systems.



STANDARDS COMPLIANT

Operates with templates of ANSI/INCIST 378, ISO 19794-2 international standards and in-house formats.

Ability to exchange data with other systems through ANSI/NIST exchange protocols. WSQ compression method certified by FBI used for fingerprint processing.

TECHNICAL SPECIFICATIONS

All biometric data is transferred as encrypted templates. The **BIOID-Finger SDK supports third-party encryption libraries**

SUPPORTED OS	SUPPORTED HW	SDK LANGUAGES
<ul style="list-style-type: none">- Linux- Windows- Android- iOS- 64bit & 32bit where applicable	<ul style="list-style-type: none">- COTS Hardware- Any type of GPU with CUDA support- Any type of CPU- Mobile CPU with ARM architecture	<ul style="list-style-type: none">- C++- .net- Java

ADDITIONAL SPECIFICATIONS

- Standard images ANSI/NIST ITL-1-2000, ISO/IEC 19794
- Supports 500 dpi and 1000 dpi grayscale images.
- WSQ images up to 1:15 compression recommended and supported.
- Multi-threaded template creation and multi-threaded matcher.
- 1 until 10 fingerprints per person/identity can be enrolled in matcher and match returns one combine score from all the fingers enrolled per person.
- During Identification 1 until 10 fingers can be used for searching.
- 100-300K tenprint matches per core per second due to accelerating search engine
- Rotation and translation tolerant and can be configured to tolerate 360 rotation. - -
- Support accelerated searches: LP-TP, TP-LP, LP-LP, TP-TP, PP-LP, LP-PP.
- Both 10-print and 20-print systems (10 flat and 10 rolled fingerprints) supported
- TP - TP matching accuracy exceeds 99%
- Search can be executed by the minimum number of points: 5-8.

ABOUT BIOID

BIOID is a Swiss Technology company in the business of design, development and distribution of Identity Management solutions



Corporate Headquarters:
Geneva, Switzerland



R&D: US and Europe



Software Engineering: India
and US



Regional/Partner Sales offices:
USA, Switzerland, India, Indonesia

FOR MORE INFORMATION
PLEASE CONTACT US

info@bioidtech.ch

LEARN MORE
ABOUT US

www.bioidtech.ch