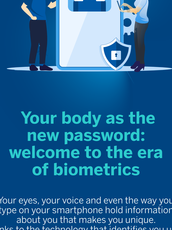
BBVA
Open Innovation



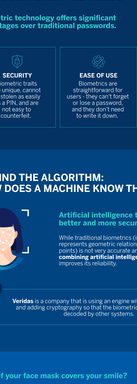
Your body as the new password: welcome to the era of biometrics

Your eyes, your voice and even the way you type on your smartphone hold information about you that makes you unique. Thanks to the technology that identifies you using that data, financial transactions are more convenient and secure. **Biometrics opens the door to the banking of the future.**

WHAT IS BIOMETRICS?

It is **the analysis** of a person's **biological and behavioural characteristics** to verify their identity.

FROM YOUR FACE TO THE WAY YOU WALK: TYPES OF BIOMETRICS



Facial recognition

The study of facial features (distance between the eyes, nose length, jaw shape, etc.) using photos or videos.

Eye recognition

Scanning the iris using an infra-red or retinal camera based on blood vessel analysis.

Voice recognition

Vocal pattern identification to distinguish pre-recorded voices. This method stands out for its convenience - all that is needed is a microphone.

Fingerprint

The oldest of the biometric techniques. It uses the minutiae (identifiable features of the finger) or the overall pattern to identify people.

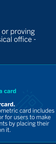
Hand recognition

Analysis of the geometric features of a person's hand, such as the length of the fingers or the width of the palm.

Behavioural biometrics

Determining identity through a user's behaviour (signature, how you type on your mobile, gait).

BIOMETRIC DATA VERSUS ALPHANUMERIC PASSWORDS



Biometric technology offers significant advantages over traditional passwords.

SECURITY
Biometric traits are unique, cannot be stolen as easily as a PIN, and are not easy to counterfeit.

EASE OF USE
Biometrics are straightforward for users - they can't forget or lose a password, and they don't need to write it down.

CONTACTLESS
Most biometric technologies avoid any physical interaction with a device, a feature that is more in demand due to the pandemic.

BEHIND THE ALGORITHM: HOW DOES A MACHINE KNOW THAT YOU ARE YOU?

Artificial intelligence to recognise you better and more securely

While traditional biometrics (in which a vector represents geometric relations between reference points) is not very accurate and is less secure, **combining artificial intelligence and cryptography** improves its reliability.

Veridas is a company that is using an engine with neural networks and adding cryptography so that the biometric result cannot be decoded by other systems.

What if your face mask covers your smile?

By hiding part of a person's face, masks make it difficult for facial recognition systems to identify users.

Companies are working to:

- **Improve the accuracy of software** when users are wearing a face mask to reduce the error rate.
- **Provide alternatives:** iPhone users can now unlock their phone with their Apple Watch if the Face ID system detects that they are wearing a mask or sunglasses.

BIOMETRICS AND FINANCE, A SUCCESSFUL PARTNERSHIP

Paying using your face, creating an account with a selfie or proving your identity with your voice - all without going to a physical office - are some of the applications in the world of finances.

Making in-person payments to businesses

· With the palm of your hand

Amazon One.
Identification of papillary ridges for contactless payments at Amazon Go stores.

· With your mobile

Apple Pay.
Face payments using Face ID or via finger prints with Touch ID.

· With a card

Mastercard.
The biometric card includes a sensor for users to make payments by placing their finger on it.

Signing operations from anywhere

BBVA in Spain.
Signing bank transactions and authorising payments with facial and fingerprint biometrics in their app.

Remote authentication

BBVA in Mexico.
Elderly customers can use their voice to prove they are in good health over the phone, in order to collect their pensions.

Opening an account with your smartphone

BBVA in Spain and Peru.
gital account opening via facial recognition.

Fraud prevention

FacePhi and Revelock.
A partnership to offer fraud protection with continuous biometric verification.

5 INNOVATIVE COMPANIES MAKING THEIR MARK

Constant technological innovation is helping to perfect biometric systems.

Trulioo
A unicorn that offers **online verification** systems through the analysis of over 400 data sources: it has integral face recognition.

FacePhi
They offer **biometric solutions** (face, eye and voice) and specialise in digital onboarding and secure working environments.

Veridas
A joint venture between BBVA and DAS Nano dedicated to **facial and voice biometrics** and to verifying ID documents.

Keynua
A tech firm that has developed a **video signature system** using smartphones with facial biometrics.

Typing DNA
Specialising in **behavioural biometrics**, this company identifies users based on how they type.

A FUTURE OF BIOMETRIC PATTERNS

More and more customers are asking for biometric solutions, and their application in the financial sector is expected to grow in the coming years.

Greater demand due to COVID-19

Latin America and the Caribbean

78% users
plan to use new payment technologies for purchases in future.

42% users
want to make payments with biometric technology.

Global

60% users
feel safer using biometrics than entering a PIN.

The growth of mobile payments with biometrics

$404 billion
2020

$3 trillion
2025

642% ↑
YTY GROWTH

Accessing a store, paying with a gesture, giving instructions to smart devices in the home and looking after your health with wearables is easier and safer than ever thanks to biometrics.

Sources: BBVA, Biometric Institute, Incibe, Payment Innovation Hub, Veridas, National Institute of Standards and Technology, Apple, Amazon, Mastercard, FacePhi, Trulioo, Keynua, Typing DNA, Visa, Juniper Research