



The benefits of BioSec's palm vein recognition technology compared to finger vein recognition

The Client:

- Valuable storage services provider
- Experienced difficulties (misidentification, etc.) with finger vein recognition

The Client:

Safebank provides unique valuables storage services for companies, individuals, organizations and associations. In 2014, Safebank has introduced Morpho's finger vein technology for the protection of valuables then changed to BioSec's palm vein recognition solution after two years.

The Challenge:

- Convince the client that biometric solutions are not the same
- Providing the highest security level without compromising convenience

The Difficulty:

Safebank installed a finger vein recognition solution for the authentication of clients as the company's first biometric solution. The technology was provided by Morpho and operated for two years with a database of 2000 people with 1:n identification. During this time, with the growing database false authentications incurred repeatedly, mixing up users and therefore wrong safes were handed out. The continuous misidentification of users led to further difficulties, such as client dissatisfaction, therefore Safebank has decided to replace the system and introduce another biometric solution, which provides the required security level.

Benefits of palm vein recognition compared to finger vein recognition

- The palm provides a larger surface with more reference points (measuring: 5 000 000)
- Veins are closer to the skin in one's palm, therefore easier to recognize and larger surface to create more reference points

The Solution:

For the new biometric solution, the BioSec GateKeeper system was chosen. Customers are identified based on their vein template, without the need for ID cards or other intrusive authentication methods. Since the implementation of the technology, SafeBank can provide a convenient and discrete solution for their customers. The system enables a fast (1 second) authentication and the highest security level (FAR: 0,00008%, FRR: 0,01%) even in case of large number of people.

Comparing the two systems:

Category	Palm vein	Finger vein*
FAR	0,00008%	Worse
FRR	0,01%	Worse
Speed	~1 second	~1-2 second
Measured points	5 000 000	Max. 500 000
External effects	gloves, hand surgery	injuries, damages

*May vary, depending on solution provider

Differences between Palm Vein and Finger Vein Recognition:

The veins are deeper below the skin in the fingers as in the palm, therefore the number of reference points is far less in the case of finger vein recognition, also because of the smaller surface. The number of reference points is largely important concerning accuracy and preventing misidentification. Compared to finger vein recognition's, the BioSec system measures the vein structure in 5 000 000 points, providing a highly accurate solution.

