NEXT GENERATION RISK MANAGEMENT

FINGER VEIN AUTHENTICATION

Instead of using a username and password to sign on at a SASSI® kiosk, people can register their finger vein scan and use that as a quick, simple and secure method of signing on. The registration process takes two or three minutes and can be done with the assistance of an authorised person on site.

THE TECHNOLOGY

The technology does not record a person's fingerprint or an image of their finger. The Hitachi finger vein system scans the veins in the finger and then matches the vein pattern of the person's pre-established finger vein pattern templates.

A near infrared light is generated by a bank of LEDs, penetrating the body tissue in the finger. It is then partly absorbed in the haemoglobin in the blood. A CCD camera captures an image of this pattern. This pattern is digitized so that it can be registered as a template that it compares to the stored template of the user, and determines whether there is a match, using pattern-matching algorithms.

Finger vein systems have won wide acceptance in banking, especially in Japan. It is also used in Australia, e.g. at Monash Council.

THE BENEFITS

- Finger vein systems have some very powerful advantages as outlined below.

- The vein patterns in fingers stay where they belong, and where no one can see them, inside the fingers.
- Vascular sensors are both durable and usable. The sensors are looking below the skin; and they do not have issues with finger cuts, moisture or dirt.
- Finger vein systems demonstrate very high accuracy rates, currently higher than fingerprint imaging and they are very difficult to falsify.
- The finger vein systems are near contactless. What that means is that only the very top and bottom of the finger make contact and that is just to align the finger for consistent imaging. The middle part of the finger from where the CCD camera captures its image has no surface contact with anything.
- Finger vein systems are extremely easy to use as they are fairly intuitive and require very little training on the part of the user.