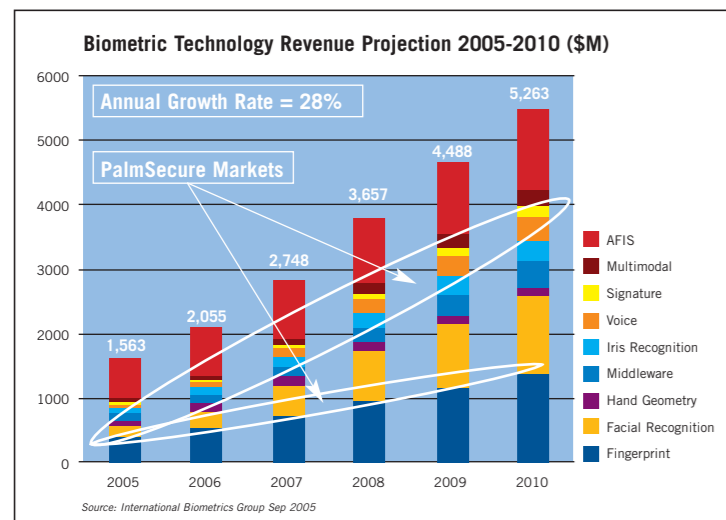




Biometrics – A Technology of the Future

Our day-to-day life is becoming increasingly digitized and electronic communication is advancing at a fast pace. This brings about a general requirement for increased security and with it an urgent need for trustworthy methods of identifying people – for example state authorities, organizations, companies and private users. With its state of the art biometric authentication technology, Fujitsu can meet these requirements, setting a de facto standard in high security markets with PalmSecure.



Features of the PalmSecure system:

Maximum security

Each individual person's vein pattern is different and does not change throughout their life. Assuming a false identity by manipulating the vein pattern is impossible as the required information is located inside the human body.

Maximum precision

Fujitsu laboratory tests showed a 'False Acceptance Rate' of less than 0.00008% and a 'False Rejection Rate' of just 0.01%.

Hygienic handling

Using the device does not require any direct contact.



Items	Specification	Reference
Dimensions	W35 x D35 x H27 mm	
Weight	Below 50g	
Supply Voltage	4.4 to 5.4V	
Power Requirement	Below 2.5W	Powered by USB
Interface	USB2.0/1.1(Hi speed/Full Speed)	Bus Power
Interface Connector	* In case of using USB1.1, the host device must be UHCI.	USB2.0 recommended
Interface Cable	USB mini-B (5 pins)	
Operating Temperature	Maximum 4m (USB2.0)	
Electrostatic Withstand Voltage	USB compliant cable connector must be used.	
Operating luminance	0 to 60 degree centigrade	No direct sun light to sensors. No halogen/incandescent light to sensors.
Photography Distance	Ambient light (Sun light): below 2000 lux	
Supported OS	Fluorescent light: below 2000 lux	
	Halogen/incandescent lamp: below 500 lux	
	From sensor to palm: 50mm (+/- 10mm)	
	Windows (client side)	
	: Windows2000 Pro (SP4 or above)	
	: Windows XP Pro (SP2 or above)	
	Windows (server side)	
	: Windows Server 2003	
	Linux (both client & server side)	
	: Redhat Linux Ver.3	
	: Redhat Linux Ver.4	
Encryption Method	AES (Key Length higher than 128bit)	
Enrolment	Requires 2 scans	
FRR/FAR	Note: Excluding testing	Measurement methods recommended by JIS
	FRR: Below 0.01% (Allowing 1 time re-scan)	
	FAR: If meeting the above condition, Below 0.00008%	

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FUJITSU

THE POSSIBILITIES ARE INFINITE

PalmSecure™

Biometric Authentication System

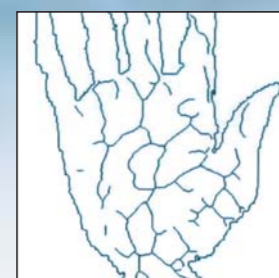
Your hand is the key



Contactless detection of hand vein patterns



Generating near-infrared image



Conversion of image data for encrypted database archiving

Added Security with PalmSecure

The PalmSecure sensor developed by Fujitsu is a biometric authentication solution offering optimum levels of security. PalmSecure detects the structure of the pattern of veins on the palm of the human hand with the utmost precision. The sensor emits a near-infrared beam towards the palm of the hand and the blood flowing through these back to the heart with reduced oxygen absorbs this radiation, causing the veins to appear as a black pattern. This pattern is recorded by the sensor and is stored in encrypted form in a database, on a token or on a smart card.

To verify or identify a person who is already registered, the detected vein pattern is compared with the pattern stored in the database for that person. Every person has a unique structure and position of veins in the palm of the hand and this does not change throughout the person's life even twins have a unique vein

pattern. As the biometric information detected is located inside the human body and the vein pattern is extremely complex, it is impossible to manipulate or falsify it using current knowledge. The PalmSecure technology is designed in such a way that it can only detect the vein pattern of living people. The scanning process is extremely fast and does not involve any contact meaning that PalmSecure meets the stringent hygienic requirements that are normally necessary for use in public environments.

PalmSecure has a wide range of possible applications, including:

- Clocking in and out and monitoring attendance
- Access control for buildings and rooms
- Terminal login
- System login
- PC/Web login



Building Security

In the future, biometrics will play a major role in securing both public and private buildings and facilities. Unlike passwords, codes, chip cards or keys, a person's biometric characteristics cannot be forgotten, lost, tapped, passed on or stolen. The applications include:

- Access control for protected or high-security areas
- Personnel registration and clocking in/out
- Staff access authorisation profiles for different areas



Health Care

Investment in biometric authentication solutions provides an increased level of security with ease of operation, allowing patient services to be improved and working methods to be made more cost effective. The main applications in health care are:

- Access control for stations, laboratories, pharmacies and operating theatres
- Protection of patient data using access control
- Clocking in/out for clinic staff
- In E-health sector, e.g. authentication for electronic health cards



Banking and Finance

The number of cases of fraud resulting from manipulated cash machines, stolen or manipulated credit cards and in online banking is increasing rapidly throughout the world. Guaranteeing higher standards of security, particularly for customers, represents a crucial challenge in the banking and finance sector. This is another issue that can be resolved by the use of PalmSecure biometric solutions. The main applications are:

- Authentication of customers at ATMs
- Access control for deposit boxes and safes
- Biometric authentication in online banking as a convenient alternative to PIN numbers and passwords
- Login authentication for staff in banking/finance when accessing highly sensitive data
- Cash-free payment in internal facilities such as canteens, fitness centres, shops, libraries etc.



State Authorities and E-Government

Incorporating biometric characteristics into travel and identity documents ensures that people can be authenticated securely and quickly. Meanwhile, the use of biometric methods makes identity fraud using forged or foreign documents and multiple visa or asylum applications under false names much more difficult. Applications of PalmSecure in this area include:

- Improving identity checks when entering a country
- Reliable identification of people using automated border control systems with document and biometric scanners
- Protection against passports being used by persons other than the rightful holder



Public Transport, Air Travel, Cruises

Constantly rising passenger numbers bring about a need to process travellers quickly while maintaining the highest possible security standards. In addition, staff at airports, on cruises or on public transport need to be monitored when entering high-security areas. Possible applications include:

- Passport and document checks at border crossings
- Access and transit control at airports, stations or on flights
- Identification of passengers on cruise ships
- Access control for staff in high-security areas

PalmSecureTM