

# Case Study

## Bharat Petroleum

“Speed is of the essence because we need to process up to 18,000 people per hour during peak times. We had tried fingerprint recognition but its failure rate leaps during monsoon season. Fujitsu PalmSecure was the best solution to our access problems.”

M Haridas, Chief Security Officer, Bharat Petroleum



### The customer

Bharat Petroleum Corporation Limited (BPCL) is an Indian state-controlled oil and gas company headquartered in Mumbai, Maharashtra. The corporation operates two large refineries at Mumbai and Kochi, and its key businesses include Fuel and Services, LPG Gas, Automotive Lubricants and Aviation fuel services. BPCL ranked in the top 250 Fortune Global survey of the world’s biggest corporations in 2014.

### The challenge

BPCL employs over 20,000 people, many of whom are contract workers. Keeping track of everyone and providing secure access to the refineries is critical and has not always been easy. The company looked at several different identification methods but couldn’t find one that worked quickly and reliably. ID cards with biometric data proved expensive and easily lost, while also taking too much time to process each employee – a major factor when thousands of people are entering through 48 turnstiles every hour. At the same time, fingerprint recognition had a high failure rate, especially because of weather conditions and the accumulated dust the workers pick up on the job.

“Speed is of the essence because we need to process up to 18,000 people per hour during peak times. We had tried fingerprint recognition but its failure rate leaps during monsoon season,” explains Mr. M Haridas, Chief Security Officer, Bharat Petroleum. “I did considerable research into the alternatives, including iris recognition and hand geometry, but there was always the possibility of cloning or duplication.”

Another concern was ensuring that previously blacklisted employees could not have access to other sites. The ability to link the biometric data to a company-wide database so entry could be automatically barred was therefore a key driver behind the project. Eventually, Haridas’ research led him and his team to Fujitsu PalmSecure. Following visits to several existing Fujitsu PalmSecure customers, Haridas was convinced that he had finally found the right solution. “We wanted an integrated system that would provide access control with added information to precisely manage who can come and go,” adds Haridas. “Our visits to Fujitsu reference sites along with a rigorous pilot confirmed that it met all our criteria.”

### The customer

Country: India  
Industry: Energy  
Founded: 1977  
Employees: 14,000  
Website: [www.bharatpetroleum.in](http://www.bharatpetroleum.in)



### The challenge

BPCL wanted to find a secure, reliable way to ease congestion at its refineries’ access points. Traditional methods such as ID cards or fingerprint recognition were either too slow or not accurate enough.

### The solution

After a considerable amount of research and proof of concept testing, the company selected Fujitsu PalmSecure. This authentication system uses biometric technology to verify users based on vein pattern recognition.

### The benefit

- Fujitsu PalmSecure provides ID authentication based on vein pattern recognition, making it practically impossible to forge an ID
- 48 BPCL turnstiles process thousands of employees every hour, each taking just three seconds to verify their ID
- Streamlined access makes the business more productive and minimizes opportunities for fraudulent activity
- An integrated database tracks entry and exit data for each employee and ensures that previously blacklisted workers are barred from every site

### The solution

Fujitsu PalmSecure is a leading-edge authentication system that uses biometric technology to verify users based on vein pattern recognition rather than iris scanners or fingerprint readers. As veins are internal and have a wealth of differentiating features, attempts to forge an identity are extremely difficult, thereby enabling a high level of security.

The palm vein device works by capturing a person's vein pattern image while radiating it with near-infrared rays. The deoxygenated hemoglobin in the palm vein absorbs these rays, reducing the reflection rate and causing the veins to appear as a black pattern. This vein pattern is then verified against a pre-registered pattern to authenticate the individual.

"The palm vein technology is a contactless identification method based on blood circulation – that means you can't duplicate it," says Haridas. "We also wanted to add another ID factor for extra security. PIN control is not suitable for some of our workforce so we have combined it with a barcode card for the ultimate in two-factor security."

BPCL, with active support from Fujitsu local team, assigned the contract to Tata Consultancy Services (TCS) and worked closely with Fujitsu PalmSecure Solution partner Palmsure Solutions Private Limited (PSPL), to fine-tune and implement the solution as well as integrate it with the wider IT environment. The ID process is therefore supported by a back-end database that has information on over 9,000 employees and where they can go. Each of the 48 turnstiles equipped with Fujitsu PalmSecure connects to the database for instant and accurate user identification, enabling over 1,000 people to pass through each turnstile every hour.

### The benefit

The new system of using Barcode and PalmSecure ensures that only the correct employees can enter the refineries at the right time. Each worker takes just three seconds to verify and authenticate their access, streamlining the process for thousands of people.

### Products and services

- Fujitsu PalmSecure

By eliminating bottlenecks, Fujitsu PalmSecure also boosts productivity on site and makes the business more efficient. In addition, it can be configured to define limits on how many workers from each contractor can enter. "We have agreements in place to take on a set amount of employees from each contractor. Now when that limit is reached, other workers will not be granted access," says Haridas. "At the same time, if a worker has been blacklisted at another location, it will be noted on the system and access will automatically be blocked at every site."

The turnstiles also lock down if they have not been accessed for a set period of time, minimizing the potential for them to be compromised: "The whole system is more intelligent and efficient, which means we can ensure the utmost security onsite," remarks Haridas.

### Conclusion

With the turnstiles now equipped with Fujitsu PalmSecure, BPCL is looking at other areas where it might prove useful, such as the canteens and healthcare clinics. Linking the back-end database to relevant medical issues or a canteen account balance would help ease congestion in these high traffic areas. BPCL is preparing to issue an order for additional procurement for a new gate and has also proposed to its HQ to replicate at its other locations.

"Fujitsu PalmSecure was the best solution to our access problems," concludes Haridas. "It gives us a flexible, integrated ID platform that can manage access for thousands of people quickly and reliably."

**"Now there's no delay in getting our workforce efficiently and securely onsite. Fujitsu PalmSecure provides an effective and unforgeable method of managing access."**

Mr. M Haridas, Chief Security Officer, Bharat Petroleum

In collaboration with



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