

A1
B3
C1
D7
E1

SCANNING FOR MATCH

SEARCHING DATABASE
CONFIRMING IDENTITY

Scan, Set & Match

The biometric technologies business is getting a big boost as the government and companies see the benefits by **Abhinav Sharma**

IN 2008, Suniti Gupta's firm Lateral Praxis won a pilot project, e-Muster, in Madhya Pradesh's Ratnapur village. The aim was to plug leakages in the implementation of schemes under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in the area, using biometric technology. On a visit to a village, Gupta asked an elderly labourer what he thought of the new fingerprint-based identification drive. "I give my thumbprint (for attendance), and the day I get my wages on time, I would say it is a very good initiative," he replied. e-Muster has since been tried out in several other areas in the state and in Tumkur (Karnataka) and Villapuram (Tamil Nadu).

Biometrics, Gupta feels, is the only way to bridge the gap between disbursement of wages

under the various schemes and timely payment to the beneficiaries. "There is tremendous corruption (under MNREGA). One *sarpanch* did not allow us to test it. But many others welcomed us in the belief that this technology will help them get paid on time." Lateral Praxis's biometric counter captures the worker's thumb impression and a SIM card transfers this data on a real-time basis to e-Muster's website, which is also run by the company. Finally, a GPS coordinate of the site confirms the presence of the worker at the worksite.

"The main objective of using biometrics is that it is the least disputed and the most effective and convenient way of establishing an individual's identity," says Rajeev Asija, COO of enterprise business unit at HCL Infosystems. The technologies are the most fool-proof yet.



CORBIS

The Biometric Play

The use of biometrics in India dates back to 1896, when Sir Edward Henry, who, as the inspector general of Bengal, created a fingerprint database to nab criminals. More than a century later, it is being widely used in industries and organisations. Business research and consulting firm Frost & Sullivan estimates the fledgling biometrics market in India at about Rs 190 crore, and is expected to grow by more than 50 per cent every year for the next few years. "It is seen at Rs 1,458 crore by 2015," says Deepa Doraiswamy, industry manager for automation and electronics practice (South & Middle-east Asia) at Frost & Sullivan.

Biometrics is being seen by many as the long-awaited answer to many of India's administrative and governance woes. And with good reason. Two years ago, Municipal Corporation of Delhi used fingerprint readers to exorcise 22,800 ghosts — employees who were not on the rolls but were still getting paid.

Bangalore-based MeritTrac, which provides skills assessment services (including assessing applications and conducting examinations), realised that identity cards and signature verification were not enough to avoid impersonations. Recalls Daljeet Singh, general manager at MeritTrac: "During a counselling session, a

candidate's fingerprints did not match the ones taken during the written examination. She claimed that our device was faulty, but forensic tests of her thumb impression proved her wrong." MeritTrac has developed a hand-held device that has an in-built camera and a fingerprint scanner and can be used widely.

For example, "an examination invigilator can carry a hand-held device to record the fingerprints and photograph of a candidate," says Rajeev Menon, general manager of innovations and new product development at MeritTrac. "This will be verified when the selected candidates appear for the next round. We are in the process of patenting the technology," he adds. The company conducted examinations for GAIL in 2010, and an entrance examination for an international MBA programme for Pune-based management institute Symbiosis in May 2011, using the technology. The company has got positive feedback and hopes to add three or four new clients over the next six months.

The business of biometrics is picking up owing to demand from large public projects, increased public awareness and security concerns. The technology is being used to set right a leaky public distribution system in Andhra Pradesh, Tamil Nadu, Maharashtra, Punjab, Orissa and Assam; and also for Ministry of External Affairs' e-Passport project. But it is the government's Aadhar project under the Unique Identification Authority of India that is expected to give biometrics a leg-up. Aadhar is the single-largest identity management project in the world.

"Once UID enrolment goes up, demand for devices to verify and authenticate will grow. This market is up for huge numbers," says Rangaprasad Magadi, business development officer at Bangalore-based AqTronics Technologies, which distributes hand-held biometric devices, for US-based firm AuthenTec.

Terry Hartmann, vice-president and global solutions lead for Unisys Identification & Credentialing Solutions, says, "UID will be a catalyst for adoption of biometrics. We see opportunity in the government services that will be developed to leverage UID's infrastructure."

Unisys India recently integrated the security systems for Terminal-3 at the New Delhi international airport. As the master systems integrator for T3, it developed detailed operational procedures for various control centres, tested IT systems and verified an integrated IT platform.

To Catch A Print

The availability of inexpensive biometric devices and demand for higher levels of security by multinational clients are propelling businesses

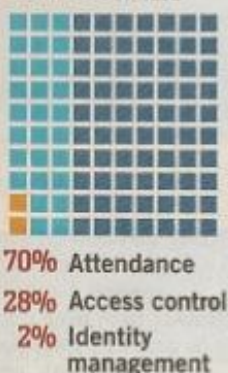
THUMBS-UP

Technology share in Indian market



TIMEKEEPER

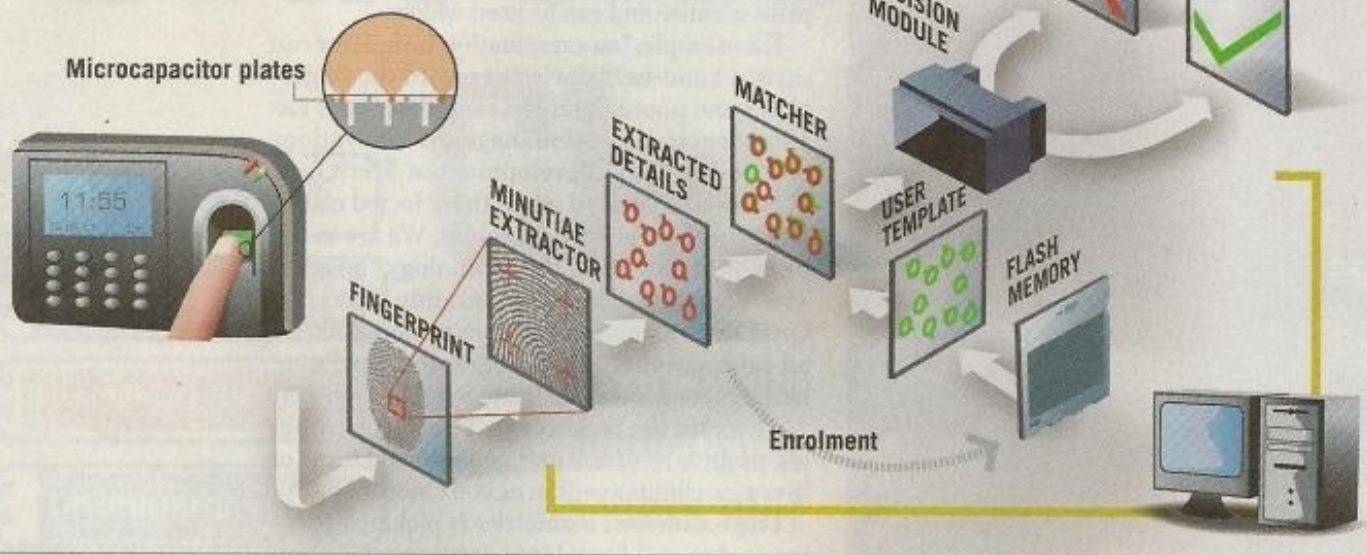
Major application areas of readers



Source: Frost & Sullivan

ACCESS ON YOUR FINGERTIP

Fingerprint systems are the most popular biometric devices. They have an accuracy of 98 per cent. This is how the technology manages access control



BLOOMBERG

to adopt such technologies faster, says Pradeep Udhas, executive director and head of IT and BPO at KPMG. Fingerprint-readers cost Rs 15,000-30,000, but an iris-reader can cost up to Rs 2 lakh. The price of low-end fingerprint readers has crashed to about Rs 3,000 thanks to Chinese players and local manufacturers such as Mumbai-based Smart I Electronics. Some large multinationals and state-run units — Oracle, Philips, Reserve Bank of India and Electronics Corporation of India — too, have gone in for biometric access systems.

Of the five basic ways of biometric identification — fingerprint, voice, retina and iris scan, hand geometry and facial recognition — the first is the most popular. In India, fingerprint scores over other technologies due to its ease of use and lower cost. It has 98 per cent accuracy. Most government-run enterprises use fingerprint

readers, though there has been a steady increase in usage of iris-driven biometric devices as these are more reliable. "It is the high cost of an iris device, at Rs 1-1.25 lakh, that acts as a barrier. This restricts its use to areas where dual authentication is required," says Doraiswamy.

According to Frost & Sullivan, biometric technologies are most used to ensure that you land up in office on time — attendance accounts for 70 per cent of the usage, while access control is at 28 per cent. Relatively unheard of firms are selling biometrics to most unlikely buyers.

Bell Securitech Systems has installed a dual-authentication system (thumb impression and smart card) at Lalit Kala Akademi in New Delhi, and at Broadcast Engineering Consultants India, a unit under the Ministry of Information and Broadcasting. "The company uses a standalone device called Biosingle, manufactured by Smart I Electronics, for enrolment and verification," says Sanjay Kumar, sales manager at Bell Securitech, which is now bidding to install biometric systems at the Comptroller and Auditor General of India's office in New Delhi.

It is not surprising that there are now over 50 firms that vend biometric hardware, develop related algorithms and software or offer connectivity and support. There are device manufacturers and suppliers such as AuthenTec, SagemMorpho and HID; system integrators such as HCL Infosystems, Mahindra Satyam and LI Identity Solutions; and end-to-end biometric solution providers (hardware, applications, connectivity and support) such as

NEXT LEVEL: The biometrics business is growing thanks to demand from large public projects, increased public awareness, and security concerns

BIOMETRIC TRENDS

PHYSIOLOGICAL



Face



Fingerprint



Palm



Iris



DNA

BEHAVIOURAL



Typing rhythm



Signature



Voice

NEW TECH: In India, fingerprint readers are more popular because of their low cost

Visiontek and Bell Securitech Solutions. "We see the potential for our devices at 50,000-60,000 units this year, and at about 100,000 units by the end of fiscal 2013," says C. Ramesh, general manager of marketing at Visiontek.

"During the past one year, the market for biometrics in India has suddenly grown from infancy to being defined as 'the next big thing,'" says Asija of HCL Infosystems. "The various opportunities that have emerged vary from manufacturing and trading of basic biometric devices to high-end software solutions, and in replacement of user ID or password-based solutions."

While state-run entities and public projects are seen as big deployers of biometric devices, "banking, insurance and healthcare companies will also influence it", says Kishore Garimella, senior programme director for government and biometric solutions for Middle-east, Africa and India at Mahindra Satyam, which also integrates and provides support across platforms and databases for UID. "There is ample scope for new business," feels Garimella.

All Eyes And Ears

The first wave of everyday biometrics came a few years ago, in laptops with fingerprint sensors. Upek (which later merged with AuthenTec) provided Microsoft Windows-compatible fingerprint sensors to Dell, Sony Vaio and Lenovo. It now sells such sensors for USB flash drives and mobile phones. Given the scope for telecom and technology penetration, there is a ready and huge consumer base for biometric vendors.

In the US, increased cyber-security threats have pushed makers of laptops, flash drives, PDAs and mobile phones to integrate biometrics for access control. In 2009, Motorola introduced MC70 Enterprise Digital Assistant — a handheld device that has a biometric fingerprint reader, contact and contact-less card reader, mobile phone, PDA, computer, scanner and imager, all rolled into one. Motorola's latest smart-phone, Atrix, also comes with a fingerprint reader.

The financial services industry has also woken up to the biometric charm. Take the Sequoia Capital-backed Prism Payment Services, which provides payment solutions across electronic channels to financial institutions and retailers. The company has undertaken a pilot project that will allow a user to transact at a point-of-sale (PoS) without having to swipe plastic, thanks to fingerprint scanning. "Because this project is linked to Aadhar, and also because it is being routed through National Payment Corporation (NPC), it will be interoperable. It means many can actually deploy these kinds of terminals," says Prism's managing di-



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rector, Loney Antony. The same technology is being tested out in ATMs, too. State Bank of India (SBI) has installed over 300 such ATMs; and Corporation Bank and Union Bank of India have set up 40 machines, says Antony.

Ingenico, a payment process device maker and services provider, has Bio930G — a series of wireless PoS units with built-in fingerprint readers and GPRS connectivity, which connects the units to the main server to authenticate an individual's details. "The device is being widely used for micro-credit activities and as micro-ATMs in remote areas," says CEO Vivek Sagar. It recently deployed biometric systems for Central Bank of India in eastern Uttar Pradesh. "Given the targets set for financial inclusion and opening of no-frills accounts, we believe that banks would need about 50,000 units (PoS) per annum for the next few years," adds Sagar. In fact, SBI has placed a tender for 500,000 machines to be bought over three years.

You may say that biometrics is intrusive; that it infringes on civil liberties. The truth is that you cannot duck it anymore. Laws in the US, for example, establish that there be "a framework to ensure Federal departments and agencies use compatible methods and procedures in the collection, storage, use, analysis, and sharing of biometric and associated biographic and contextual information of individuals in a lawful and appropriate manner". India does not have such laws governing the use of biometrics. Yet from the humble fingerprint to iris-reading, biometrics is going futuristic. US-based Sarnoff Corporation has unveiled its 'Iris on the Move' identification system, which can capture an iris image at a distance even when the subject is in motion. You are being watched.

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