

*inspiring IT*

GFT

TechReport

Issue November 2010

We make technology sound



Published 22 November 2010

Contact Person  
Erwin Selg – CTO Office

Address  
GFT Technologies AG  
Fildernauptstraße 142  
70599 Stuttgart  
GERMANY

T +49 711 62042-0  
F +49 711 62042-101

*mf*

## Table of contents

<b>1 Safe banking with biometric technology.....</b>	<b>3</b>
<b>2 CTO Comment Box.....</b>	<b>8</b>
<b>3 NewsWatch.....</b>	<b>9</b>

The TechReport is published on a monthly basis and wants to inform a broad audience about the latest trends and developments of the IT industry. The intention of the TechReport is to make trends transparent and understandable within their context and give the readers impulses for their business. The content has been created with the utmost diligence. Therefore, we are not liable for any possible mistakes.

**GFT Technologies AG**

Executive Board: Ulrich Dietz (CEO), Marika Lulay, Dr. Jochen Ruetz, Chairman of the Supervisory Board: Franz Niedermaier  
Commercial Register of the local court (Amtsgericht): Stuttgart, Register number: HRB 727178

Filderhauptstraße 142, 70599 Stuttgart, GERMANY  
T: +49 711 62042-0, F: +49 711 62042-101, M: ctio.office@gft.com

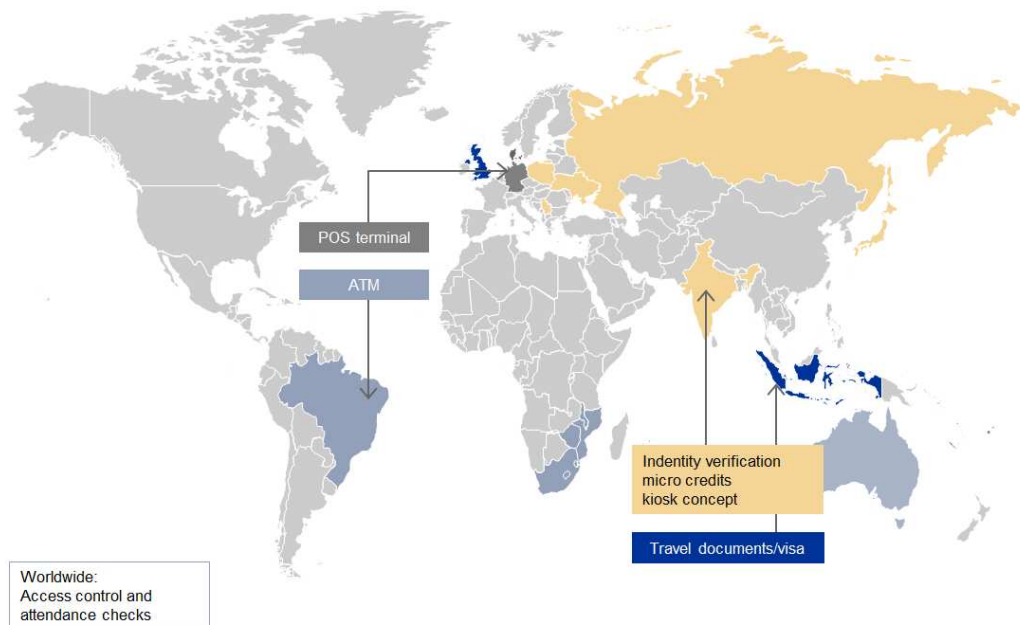
Copyright © 2010 GFT Technologies AG. All rights reserved.

# 1 Safe banking with biometric technology

Since the events of 11 September 2001, the global demand for identity verification using documents with biometric features has risen, driven particularly by the US. As a result, numerous countries around the world have taken steps to introduce biometric passports and ID cards. As well as improving security, these types of electronic, biometric personal documents also speed up entry procedures and the issuing of visas. So far, 26 countries worldwide have launched biometric passport systems, with a further 20 set to roll out this technology from 2010 onwards.

As of 2010, the following countries are actively creating and issue biometric travel documents: Algeria, Australia, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, the Czech Republic, France, Germany, Georgia, Hungary, Iraq, Israel, Italy, Macedonia, Montenegro, New Zealand, Poland, Saudi Arabia, Serbia, Slovenia, South Africa, Spain, Switzerland, Togo and the UK.

## Biometric techniques Fields of applications and regions



Generally, the biometric features used in passports are a photograph, two fingerprints and an electronic signature. European standards and solutions for implementing this technology are in widespread use.

As well as issuing biometric identity documents, certain countries (Algeria, India, Israel, Spain and Iraq) are taking more extensive identity verification measures by assigning citizens with a unique national identifying number (NIN, in Spain DNI), by storing an electronic signature on the ID card (Documento Nacional de Identidad in Spain) or by storing their biometric data in a central database.

Although India now operates at an international level in industries like IT, high levels of illiteracy and poor infrastructure – especially in rural areas – mean a large proportion of the population are unable to play a role in business.

In recent years, public authorities and banks have taken a number of measures to open up the world of banking to the broader population. One of the main methods employed in this approach is personal identification and authentication using biometric techniques.

In 2009, the Unique Identification Authority of India (UIDAI) was set up to prepare and execute the institutional, technical and legal changes required to assign every citizen with a unique ID number. Biometric registration of over a billion people – certainly a challenge!

There are many different areas in which biometric technology may come into use in India: population registration, travel documents, combating crime, proof of shipment, access control and attendance checks, drug testing, confirming receipt of goods, awarding trade credit, ration cards, access rights, opening a bank account, online banking, payment transactions, granting of credit, credit cards, ATMs and POS terminals.

Over the past 20 years, biometric methods have also become more commonly used in industrialised countries for identity verification in all kinds of areas, such as:

- Access control
- Payment transactions
- Time recording and attendance checks
- Purchase logging
- Activating security systems
- Automatic password reset
- Border control
- Identity verification
- Using the EU Visa Information System
- Working from home securely
- Controlling access to applications and data warehouses
- Billing private telephone calls
- Secure transactions

Depending on security requirements, biometric methods can be used individually, in combination with each other, or together with other methods. These biometric methods include:

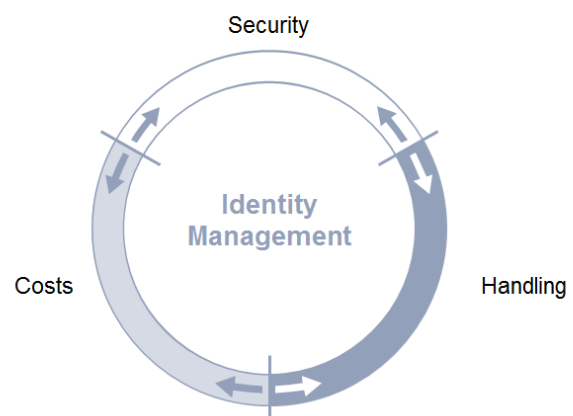
- Fingerprinting (ranging from 1 to 10 fingers)
- Simple face recognition and 3D face recognition
- Signature recognition
- Voice recognition
- Iris scanning
- Palm scans and vein scans

Biometric methods are also increasingly used in banking to allow people to access services. In some cases, banks can only enter a certain market by using biometric technology. One example is Microfinance Bank, a global bank which already uses biometric methods in Kenya, Bangladesh, India and Nigeria, and plans to roll out the technology in further countries. Microfinance Bank currently operates in 17 countries, and this is set to grow to more than 25 countries by 2015.

**Biometric techniques**  
**Latest research results**

The worldwide financial industry has opened up new fields of operation, taking account the different framework conditions:

- Access and attendance checks (buildings, premises)
- Rights to access applications and data
- Workplace security
- Approval of processes
- Check-out/Consulting/Backoffice
- Facilitation of legitimacy check
- POS terminals
- Online banking
- Credit cards
- Payment transactions
- ATMs/SB terminals

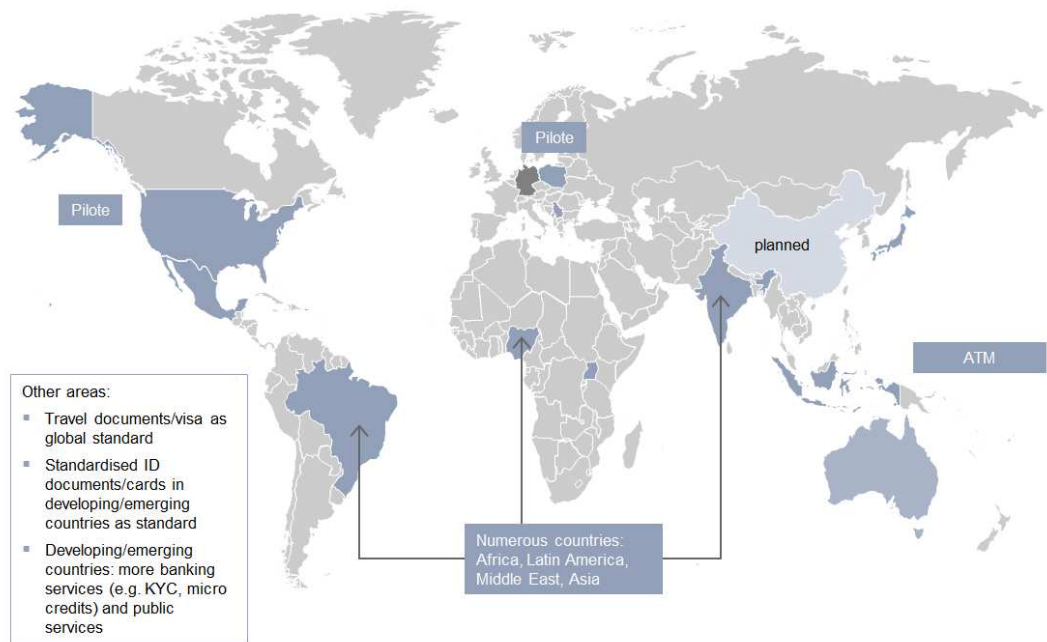


India is undoubtedly an important country for biometric technology. But elsewhere in Asia, the large scale rollout of ATMs with biometric sensors was set underway in Japan in 2005. In 2003, the Japanese finance industry found itself increasingly confronted by the problem of card fraud and identity theft.

To combat this, Japanese banks introduced chip cards and biometric ATMs. Another major factor in this development was the reversal of the burden of proof – banks were made liable for money lost through ATM fraud and tampering. Now, out of around 180,000 ATMs in Japan, around 18 percent (32,400) use vein detection (palm or finger). ATMs featuring vein detection are also becoming more and more widespread in Brazil.

**Biometric techniques**

**Fields of applications and regions – The ATM as an example**



Taking a global view, biometric technology has potential applications in conjunction with the following financial services:

- Access control and attendance checks
- Access rights
- Working from home securely
- Secure transactions (counter, foyer, risk assessment, two-man rule)
- Opening a bank account
- Online banking
- Payment transactions
- Granting credit
- Credit cards
- ATMs
- POS terminals
- Telephone banking (NAB with voice biometrics)

In general, it is fair to say that the use of biometric methods in ATMs, commercial POS terminals and online banking is most widespread in Japan, India and Brazil, compared to other countries.

To allow customers to participate in business transaction, banks in these regions use a specially adapted business model that takes customers' lack of expertise into account.

In Germany, biometric methods are predominantly used in access control and attendance checks, and in the granting and management of access rights. Verifying someone's presence using biometric features ensures that the right person is present, something not possible using card/PIN systems (due to theft or people handing their card/PIN to others). This system can be used to retroactively verify that the people at a bank counter really are who they say they are. Telecommuters can also be identified using a webcam with face recognition to prove they're really there and that no unauthorised persons are present.

Biometric credit and debit cards are also becoming more and more popular. With these, cardholders' biometric features are managed securely by an external company and are not reproducibly stored in the chip. This helps strike the right balance between security, usability and convenience.

A variety of biometric methods using different technologies can be used for identity verification. These include:

- Payment by mobile phone
- Contact-free payment
- Barclaycard OnePulse and Visa Paywave (for smaller amounts)
- Users can manage multiple accounts on one SIM card
- Card-to-card payment
- Code-protected cards with an integrated 12-digit keypad
- Saving fingerprints to a USB stick for use in online banking
- A one-time password token with integrated fingerprint data on a credit card-sized device – only the user's reading device can read the fingerprint
- Voice biometrics

The three most important trends:

- Biometric debit cards – are they the next generation of security? Large organisations could have a major impact on the market with these cards, especially in Europe and the US. Only minor adjustments would need to be made to existing infrastructure. Due to the large number of cards, rollout would take around 5 years.
- Mobile phones – a mass market. Countries with poor infrastructure use mobile phones in a different way to Europe and the US, and for different applications. This field holds potential for strong growth, especially in emerging markets. Contact-free biometric features like barcodes could also be used. The mass-market nature of mobile phones means that large investments will pay off.
- National ID documents and passports with chips that store biometric features are used by governments for identity authentication. At present, there are differences from country to country; many countries have yet to launch biometric documents at all. For business use, further infrastructure is needed, such as a trust centre for registered users and providers.

Moreover, data protection and the acceptance of citizens play a major role in this context. Users must either be convinced by a central infrastructure or non-central solutions must be developed.



## CTO Comment Box

Certainly, biometrics companies are still doing most of their business – by far – in the field of eGovernment. But with the advent of Web 2.0, social networks, mobile computing, digital customers and ‘everywhere consumers’, businesses and banks will increasingly need to introduce new user identification methods which are more reliable yet still practical.

Of course, it’s important not to underestimate the initial effort required to enter biometrics – some companies will certainly be asking themselves whether they’ve backed the right horse, so to speak. Do we really need biometric methods – isn’t an ID card and a mobile phone enough, or even just a mobile phone? Shouldn’t biometric methods be left to the government – and shouldn’t we wait until they’ve become more widely established? But how long can we wait? After all: in 2009 alone, identity fraud in the USA resulted in losses of over \$ 54 bn according to financial services researcher Javelin Strategy & Research.

As with mobile payment, the critical success factor is the mainstream acceptance of a particular process or uniform standard. After all, how many pilot projects never made it past a regional level? To establish a practical, secure and profitable solution across the board, companies need to do more than look to the government. All interested parties and industries need to join forces to tackle these challenges. Instead of treating online data protection and identity management as a necessary evil, it’s time to realise that these issues are the key to boosting online business. Because without them, many types of transactions are impossible.

### 3 NewsWatch

The GFT NewsWatch will henceforth follow the professional article on a monthly basis, covering major events, vendor announcements, service and products launches, important mergers and acquisitions, etc. related to the IT industry. Thereby, the NewsWatch is based on international releases of the past month.

#### Millions of bank card customers caught in data scandal

Source: <http://www.thelocal.de/money/20101014-30487.html>

Broadcaster NDR reported that Germany's biggest electronic bank card handler, Easycash, has matched information on account numbers and the use of cards at supermarkets or petrol stations with customer data and discount cards.

#### Microsoft could sell 5 million Kinects by the end of the year

Source: <http://popwatch.ew.com/2010/11/16/kinect-microsoft/>

Microsoft has officially sold over 1 million Kinects since the device's release 10 days ago, and the company says that it's on track to sell 5 million worldwide by the end of the year.

#### Speed-Link unveils the CUE wireless multitouch mouse

Source: <http://www.tcmagazine.com/tcm/news/hardware/30914/speed-link-unveils-cue-wireless-multitouch-mouse>

Speed-Link will be taking on Apple's Magic Mouse next month by releasing its own multitouch-enabled wireless mouse. The new touchy rodent features a smooth surface and an ambidextrous design, has gesture support, scroll capabilities, 2.4 GHz wireless connectivity and a 1000 dpi optical sensor.

#### Apple App Store now has more than 300,000 apps

Source: <http://www.appletell.com/apple/comment/apple-app-store-now-has-more-than-300000-apps/>

There are now more than 300,000 apps in the Apple App Store. This includes apps for iPhone and iPad, as well as those that work with both (or what are more popularly known as universal iOS apps).

#### Mark Zuckerberg dismisses the Facebook cellphone

Source: <http://zedomax.com/blog/2010/11/04/mark-zuckerberg-dismisses-the-facebook-cellphone/>

All those rumors surrounding the Facebook mobile phone can finally be put to rest. At the Facebook Mobile Event, Facebook founder Mark Zuckerberg answered a resounding "No" when questioned about the speculated mobile device.

### Oracle to buy retail software company ATG

Source: <http://www.reuters.com/article/idUSTRE6A12KC20101102>

Oracle Corp plans to buy e-commerce software company Art Technology Group Inc for \$1 billion in cash to compete with other large technology vendors like IBM which have been expanding their software lineups.

### Microsoft Corporation embellishes Azure

Source: <http://www.stockbriefings.com/microsoft-corporation-nasdaqmsft-embellishes-azure/3176207>

Microsoft Corporation (NASDAQ:MSFT) has seen fit to beef up its Azure cloud-based platform to fend off the competition. Azure, the cloud computing platform of Microsoft Corporation, is in close competition with its rivals.

### RTL to offer 24 hour live mobile TV stream on iPhone

Source: <http://www.rapidtvnews.com/index.php/201011018580/rtl-to-offer-24-hour-live-mobile-tv-stream-on-iphone.html>

The owners of the iPhone or iPod touch from Apple will have the opportunity from 2 November to watch the full schedule of Germany's most-watched commercial general interest channel RTL using an app running on Apple's devices. The Cologne-based broadcaster will be the first German TV channel to offer its regular programmes 24 hours per day in real-time over such a mobile TV and video service.

### Deutsche Telekom begins selling Microsoft's Windows Phone 7 smartphone

Source: <http://news.reportlinker.com/n04022819/Deutsche-Telekom-begins-selling-Microsoft-s-Windows-Phone-7-smartphone.html>

German telecoms operator Deutsche Telekom (ETR:DTK) will start selling on 3 November 2010 its first smartphone powered by Microsoft's new operating system for cell phones, Windows 7.

### Dell to buy cloud computing company Boomi

Source: <http://www.reuters.com/article/idUSTRE6A116Q20101102>

Dell Inc will buy U.S. cloud-computing services company Boomi to shore up its ability to provide software over computer networks.

The world's No. 2 PC maker did not disclose terms of the deal for Boomi, which counts Salesforce.com among its clients and helps integrate so-called cloud-based applications and smooth data transfers between programs.

### Apple overtakes RIM as runner-up to Nokia in smartphones

Source: <http://www.glggroup.com/News/Apple-overtakes-RIM-as-runner-up-to-Nokia-in-smartphones.-Does-volume-matter--51118.html>

Strategy Analytics' latest report confirmed Apple is now the second biggest smartphone manufacturer globally. Apple revealed on October 18 that shipments of iPhone reached the record peak of 14.1 million in the 3 months ended September 26, over 90% growth on a year-on-year basis.

### Adobe completes Day Software acquisition

Source: [http://news.cnet.com/8301-1001\\_3-20021165-92.html](http://news.cnet.com/8301-1001_3-20021165-92.html)

Adobe completed its \$240 million takeover of content management system vendor Day Software. With the acquisition now a done deal, Day will operate as a new product line within Adobe's Digital Enterprise Solutions Business Unit.

### India calls off BlackBerry ban

Source: [http://news.cnet.com/8301-1035\\_3-20021328-94.html](http://news.cnet.com/8301-1035_3-20021328-94.html)

India has canceled a ban of BlackBerry services that was scheduled to occur at the end of October. A press release from India's Ministry of Home Affairs on Friday confirmed the news, saying that discussions with RIM had led to an interim agreement under which BlackBerry Messenger services could continue.

### LimeWire shut down by federal court

Source: <http://www.guardian.co.uk/technology/2010/oct/27/limewire-shut-down>

LimeWire, one of the world's most popular peer-to-peer filesharing websites, has been shut down after a four-year legal battle with the US music industry. A federal court in New York issued a "permanent injunction" against LimeWire late on Tuesday, ruling that the platform intentionally caused a "massive scale of infringement" by permitting the sharing of thousands of copyrighted works by its 50 million monthly users.

### IBM Claims Record Q3 Competitive Replacement Wins from Oracle, HP

Source: [http://www.itchannelplanet.com/business\\_news/article.php/3912806/IBM-Claims-Record-Q3-Competitive-Replacement-Wins-from-Oracle-HP.htm](http://www.itchannelplanet.com/business_news/article.php/3912806/IBM-Claims-Record-Q3-Competitive-Replacement-Wins-from-Oracle-HP.htm)

IBM Corp. said that during the third quarter of this year it lured some 400 new customers from Oracle Corp. and Hewlett-Packard Co. to its servers and storage solutions, the largest such conversion it has recorded since beginning to keep track in 2006.

### Apple, Google interested in mobile payment startup BOKU and its vast carrier partnerships

Source: <http://www.mobilemarketingwatch.com/apple-google-interested-in-mobile-payment-startup-boku-and-its-vast-carrier-partnerships-10764/>

TechCrunch is reporting that both Google and Apple are expressing early interest in mobile payments startup BOKU, indicating both companies are interested in a potential acquisition or wide-reaching partnerships of some kind.

### Google sues the United States of America over Microsoft favoritism

Source: <http://www.downloadsquad.com/2010/11/01/google-sues-the-us-government-over-microsoft-favoritism/>

Google filed a complaint against the US government, accusing the government of anti-competitive practices because only Microsoft products were considered for the Department of the Interior's new all-in-one hosted email and messaging solution.

### Google's market cap could soon pass Microsoft's

Source: <http://www.businessinsider.com/could-googles-market-cap-pass-microsofts-soon-2010-10>

Microsoft suffered a blow to its prominence and collective ego earlier this year when Apple surpassed it in market capitalization, making Apple the most valuable technology company in the world. Google could be next in line to leapfrog Microsoft.

### China rocks Top 500 supercomputer list

Source: [http://www.computerworld.com/s/article/9196438/China\\_rocks\\_Top\\_500\\_supercomputer\\_list](http://www.computerworld.com/s/article/9196438/China_rocks_Top_500_supercomputer_list)

A new supercomputer installation in China has rocketed to the top of the twice-annual ranking of the world's most powerful supercomputers.

In the latest ranking, released Sunday, the Tianjin National Supercomputer Center's Tianhe-1A system benchmarked a performance of 2.67 petaflops (quadrillion floating-point calculations per second), surpassing the former top achiever, the U.S. Department of Energy (DOE) Oak Ridge Leadership Computing Facility's Cray XT5 Jaguar system, which clocked in at 1.75 petaflops in this round.

### Manipulated card terminals at US ALDI branches

Source: <http://www.h-online.com/security/news/item/Manipulated-card-terminals-at-US-ALDI-branches-1105272.html>

In the US, criminals have caused considerable damage via manipulated credit and debit card terminals at numerous branches of the ALDI supermarket chain. The criminals copied the names and account numbers as well as the PINs on payment cards and used this information to clone customers' cards

