Enabling shoppers to ‘wave and pay’ in Japan

Japan has the world’s largest contactless infrastructure. Its consumers are used to making payments with a wave of their phone, and they’re hungry for more services – from mobile payments to loyalty programs, and e-Ticketing to access control. So Gemalto is the natural mobile near-field communication (NFC) partner for the country’s number one mobile operator, NTT DOCOMO. Our end-to-end solution, selected in 2014, offers its 63 million subscribers the highest levels of convenience and security.
Our purpose is to create trust in the digital world

Trust is vital to a digital world witnessing an ever-increasing value in dematerialized exchanges.

The roots of trust lie in ensuring their integrity and confidentiality. It can be enabled by using cryptography to secure network assets and a reliable identification process to access them.
Our business model generates value across the trust chain

The trust chain comprises two essential, interlocking elements at the edge and core of digital security.

These are the focus of our two main activities: Embedded software & Products, and Platforms & Services.

**EMBEDDED SOFTWARE & PRODUCTS (E&P)**

Secure devices with our embedded software.

<table>
<thead>
<tr>
<th>Sell products</th>
<th>Sell licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software and hardware bundles</td>
<td>Software only</td>
</tr>
</tbody>
</table>

Increasingly advanced software content

Drawing on our expertise in security and cryptography, we develop and embed secure software in a wide range of smart electronic products. We personalize these devices with the credentials of our clients and the identities of their customers across hundreds of networks.

**PLATFORMS & SERVICES (P&S)**

Platforms protecting customer data in the field and management systems running on secure servers in our data centers.

<table>
<thead>
<tr>
<th>Sell licenses</th>
<th>Operate Platforms &amp; Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay per user</td>
<td>Pay per usage</td>
</tr>
</tbody>
</table>

Increasing demand for trusted services

We ensure these digital devices are continuously monitored and properly managed while they are in the field. We verify the identities that are presented and perform the transactions required. And we protect the data at rest and in motion within the network.
We are addressing **key segments** and customer needs

Our solutions address fundamental needs in the digital security market:

These needs underpin our performance across all segments and activities.

<table>
<thead>
<tr>
<th>Trust</th>
<th>Reach</th>
<th>Simplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Trust Icon" /></td>
<td><img src="image2" alt="Reach Icon" /></td>
<td><img src="image3" alt="Simplicity Icon" /></td>
</tr>
</tbody>
</table>

### Embedded Software & Products (E&P)

**MOBILE**

- MOBILE COMMUNICATION
- MACHINE-TO-MACHINE

- **Revenue 2014**: €1,031m (Growth: +0%)

**PAYMENT & IDENTITY**

- ELECTRONIC PAYMENT
- E-GOVERNMENT
- ENTERPRISE SECURITY

- **Revenue 2014**: €915m (Growth: +8%)

### Platforms & Services (P&S)

- **Revenue 2014**: €259m (Growth: +7%)

- **Revenue 2014**: €243m (Growth: +14%)
We are making tangible progress towards our 2017 targets

Our financial performance is showing constant improvement due to three main factors:

**TEN STRONG PILLARS OF REVENUE GROWTH**

- Opportunities spread in Mobile and Payment & Identity, across geographic regions, and evenly split between E&P and P&S.
- Large, addressable, under-penetrated markets with rapidly growing and recurring demand.

**REVENUE MIX**

- More platforms usage and users
- Richer embedded software
- Lower proportion of hardware

**SCALE EFFECT**

- Replication of projects and higher utilization of infrastructure
- Wider distribution of products
- Better absorption of G&A

By 2017 we target...

**Mid single-digit**

2013-2017 revenue CAGR

2012 → 2017

**Low twenties**

2013-2017 revenue CAGR

2012 → 2017

Over €660m
profit from operations (double 2012)

€1bn revenue in Platforms & Services
Mobile: services and subscriptions multiply as machines also get connected

**Mobile connectivity** is bringing consumers a convenient digital life, wherever they go. Services are proliferating on the devices they carry every day. And machines are increasingly connected, too, in the rapidly expanding ‘Internet of Things’.

**Mobile: market trends**

The market continues to expand as more and more business sectors and services converge on mobile communication. Half of visits to UK eRetail sites are now being made via mobile\(^1\), and in the period 2013-2018 data traffic is forecast to grow three times faster on mobiles than fixed line internet traffic\(^2\).

The mobile market has broadened from voice, through data – delivering ever-expanding entertainment and eCommerce opportunities – to today’s proliferation of payment options, so that every business now needs a mobile strategy.

Mobile payment plays to our expertise in both hardware and software as well as services. We have progressively added different payment technologies to our portfolio, including carrier billing for digital content such as games, music and movies. We have also seen surging demand for payment solutions in developing markets, where unbanked customers can use their mobile phones to pay bills. Yet this payment revolution is only just beginning, as devices become mobile wallets, replacing cash, loyalty cards and more at retail checkouts. The underlying NFC technology has expanded significantly in recent years such that users can also take public transport with just a wave. The launch of Apple Pay in 2014 further reinforces our position in this thriving environment, since it supports the global move to mobile contactless payment using standard NFC with a secure element for storing credentials.

**OPPORTUNITIES**

**Mobile connectivity**

Mobile penetration continues to grow in developing countries, and in the developed world people now often have several mobile devices using our secure technology. Multi-tenant SIMs, carrying multiple IDs and shared by multiple service providers, as well as built-in secure elements, mean more embedded software and multiple opportunities per device. Rapid innovation encourages regular upgrades.

**Trust infrastructure**

A new shared and trusted global infrastructure, the Trusted Services Hub (TSH), is enabling consumers to connect securely to all sorts of online services – and we are at the heart of it. Already, some 1.5 billion mobile users are covered by Gemalto-contracted platforms worldwide\(^3\). TSH is also the backbone for dynamic management of cellular subscriptions, supported by new generations of SIMs tailored to an extensive range of electronic devices.

**Core back-end services**

Our secure management services to mobile network operators continue to grow, boosted by new capabilities such as activating 4G subscriptions and enabling consumers to pay for online purchases via their phone bill – particularly valuable in developing countries, where many subscribers lack bank accounts.

**Machine-to-Machine (M2M)**

A huge upsurge is under way in machines using mobile connections in sectors such as health, energy and automobiles. Between 2014 and 2017, mobile M2M connections are forecast to triple\(^4\) reaching 98 million in the auto market by 2018\(^5\). We have market-leading solutions for both ends of the connection.

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\(^1\) Source: Capgemini
\(^2\) Source: Cisco
\(^3\) Source: Gemalto
\(^4\) Source: IHS
\(^5\) Source: IHS
Trust. Every day

Putting contactless onboard China’s mobiles

China is going contactless in a big way. Its banking systems are moving to EMV cards, mostly contactless, and most mega-cities now have contactless transport infrastructures. With smartphone penetration now over 66%¹, mobiles are going contactless too. China Telecom, with over 183 million subscribers, is using a specially customized version of our UpTeq Multi-Tenant NFC SIM card. Combining NFC with the speed of mobile broadband, this will facilitate future applications such as contactless airport check-ins.

At Gemalto, we are not only providing these secure elements but also addressing the diversity of devices and the needs of multiple service providers. Our Allynis™ TSH delivers the secure interoperability on which they all depend.

Another growth opportunity is the need for authentication to combat online fraud. Gemalto is a partner in the GSMA Mobile Connect initiative, enabling users to verify their identity with their mobile device. This is destined to become a standard feature in future SIM cards.

The breadth of uses for M2M is also driving rapid market expansion, bringing new customers and brands such as auto makers onto mobile platforms. Hence the market for M2M modules again grew strongly in 2014, for applications ranging from utility meters to vending machines, and is forecast to continue rising such that by 2020 there will be close to 1 billion M2M cellular subscriptions². Despite some price erosion, this market’s surging value has been shored up by customers’ migration from 2G to higher-value 3G and 4G/Long Term Evolution (LTE) technology.

Mobile: our solutions

In the mobile market, our wide range of solutions includes an increasing number of 4G subscription activation services, mobile payment services and 4G SIMs across all regions. Multi-tenant SIMs, used to secure third-party services such as mobile payment, are generating increasing traction around the world.

As devices multiply in non-secure environments, there is also strong demand for our M2M platform, which simplifies security and subscription management. Diverse industries are attracted to our M2M products which include higher-value modules, as well as secure elements carrying machine subscriptions and protecting data exchanges.

Trust. Every day

Helping monitor patient medication in the US

MedMinder’s smart pill dispensers keep an eye on patients’ medication when doctors and carers aren’t there. If the patient misses a dose, they issue reminders – a beep, then a phone call. Still no response? They’ll phone or text to let a carer know. Doctors can monitor medication usage by accessing data on a secure server, and even manage changes remotely. In an emergency, a built-in voice channel lets the patient ask a monitoring center for help. And it’s all made possible by Gemalto’s advanced M2M module.

¹ Source: Nielsen Mobile Consumer Report
² Source: GSMA
Payment & Identity: widespread demand for secure solutions drives growth

The digital age is creating seemingly limitless opportunities to deliver services more conveniently and efficiently. At the same time it also creates ever-greater demand for the protection of data and identities, to provide trust, authenticate people and combat fraud.

**Payment: market trends**

In the payment market, one of the principal drivers is the migration to the chip-based EMV standard. This helps to combat fraud and security concerns, and also creates the potential for launching new services such as those available via contactless technology.

EMV is already well established in Europe and Latin America, and the huge China and US markets are also starting adoption. In the latter, for example, 75 million EMV cards were shipped in 2012. However, driven by the impact of security concerns, including major breaches at retailers, this number had leapt to 208 million by the end of 2014 and is expected to reach over 450 million by 2017.

The adoption of contactless payment cards is also growing fast, particularly in China and South East Asia, with shipments forecast to rise from 300 million in 2012 to close to a billion in 2015.

Payments using mobile devices are also taking off and by 2018 it is predicted that over 30% of all handsets, and up to 90% in the US, will be capable of making NFC transactions. Gemalto is well placed to benefit, particularly as mobile payment and banking solutions converge.

**OPPORTUNITIES**

**EMBEDDED SOFTWARE & PRODUCTS**

**Electronic payment cards**

**Card payment is still growing**

The number of payment cards in circulation will continue to grow, up from 15.8 billion in 2013 to over 23 billion in 2018. The switch to chip-based EMV cards still has a long way to go, with major countries still in the first stages of a migration that typically takes five to six years.

And by 2017 we expect half of all cards issued to include contactless technology.

**Online access for users**

**More and more customers bank by mobile**

In the period 2015-2019, the number of people banking online will rise 22% to 1.7 billion, and those using mobile banking will jump 80% to 1.8 billion. We are leaders in online banking security.

**State documents**

**Public administration goes digital too**

The adoption of state-issued credentials is growing fast, with government eID systems increasing security, cutting fraud and red tape, and improving services to citizens. 108 countries are also incorporating contactless chip technology in travel documents, while the International Civil Aviation Organization’s global Traveler Identification Program is another digital driving force.

**PLATFORMS & SERVICES**

**Payment platforms and services**

**Consumers want more ways to pay**

Today there are 9 billion card-based payment accounts. And increasingly, consumers want more ways to pay using at least two other connected devices. Potentially that’s 27 billion payment credentials to issue, secure and manage, with contactless and NFC technologies as further growth drivers.

**Accessing online services**

**We’re taking our own devices to work**

While businesses move more and more of their data to the cloud, employees are accessing corporate networks from their own personal devices. In this context, the multiplication of security breaches and theft of sensitive information demands a stronger protection of information systems. In ten years we foresee a tenfold increase in demand for cloud authentication services.

**eGovernment platforms and services**

**eID and ePassports enable new citizen services**

Behind eDocuments we build systems allowing people to complete and digitally sign forms as well as access government services online conveniently and securely. With ePassports, travelers can automatically open border gates, for example, and access fast-track immigration clearance.
In this context we are helping banks implement both in-device and cloud-based payment using our universal Trusted Service Hub. We are also providing full solutions for implementing secure mobile banking applications and other mobile-related services, such as card activation via SMS. Our ability to provide trust will be crucial: consumers’ willingness to adopt new services will depend on their confidence in the systems’ security.

**Payment: our solutions**

Our deployment of EMV technology is growing strongly in the US and China as migration gets under way. For EMV deployments around the world we provide both personalization and card services to financial institutions.

EMV creates opportunities for banks and retailers to add new services. This standard also supports NFC, allowing contactless payment.

Our deliveries comprise an increasing number of dual-interface (contact and contactless) as well as Dynamic Data Authentication (DDA) products featuring more sophisticated software.

The Gemalto Trusted Service Hub brings the most complete and yet modular solution for enabling real-time enrollment of payment cards, homogeneous distribution to diverse devices and simplified on-boarding of business partners. The hub service offers simplicity and choice with regards to available security models, covering management of credentials on Secure Elements, Trusted Execution Environment (TEE), HCE-enabled handsets or a combination of these. For banks and payment service providers seeking to create a seamless mobile payment experience, we offer an integrated solution, from the mobile tokenization gateway all the way to the client-server architecture for provisioning and processing payment security.

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1. EMV: Europay, MasterCard, Visa
2. Source: ABI
3. Source: Eurosmart, November 2014
4. Source: Juniper research
5. Source: Nilson Report
6. Source: Gemalto
7. Source: Nilson Report, National Gold Card Foundation, EMVCo
8. Source: Cisco VNI
9. Source: Nilson Report, National Gold Card Foundation, EMVCo
10. Source: ICAO
Payment & Identity
Widespread demand for secure solutions drives growth

Identity: market trends
Today, there are an estimated 7.8 billion government-issued IDs in
circulation worldwide, including driving licenses and passports1. A
growing proportion of these documents is electronic, with
onboard microprocessors to enhance security and enable
added services. This allows more citizen-centered governance
and applications: the system we developed for Qatar offers 500
government services online through a single sign-on.

Increasingly, governments are creating national frameworks of trust
on the internet and using chip-enabled eID cards to open access
to public services and payments. In the EU, for example, one in
citizens already holds an electronic ID card2 and there are
concrete plans to use them to access cross-border health services.
And since there are already some 640 million smartphones with
NFC capability1, there are increasing opportunities to deliver IDs via
the mobile.

Border agencies face fast-growing traveler numbers and the
challenge of facilitating swift and secure transits within tight
budget constraints. We are helping them to achieve this, exploiting
technological convergence to deliver online visa applications,
prevent illegal immigration and improve border intelligence.

In the corporate world, interest in enhancing ID and access control
has been heightened by a number of high-profile security breaches.
Our range of security offerings includes Protiva ExecProtect, which
addresses the need for privileged access, highlighted by leaks
of classified information in the US. A major trend now is to use
employees’ smartphones and tablets for authentication, removing
the need for them to carry separate ID devices.

Identity: our solutions
Today, one in three travelers with ePassports is carrying Gemalto
technology and we are working on travel documents for more
than 25 countries. We also offer our Coesys automated border
control systems.

In the enterprise market, two major drivers are employees’ need
to access corporate resources online wherever they are, and their
desire to do this using their own devices. This is now a requirement
for businesses of all sizes.

Our portfolio in cloud access security is further boosted by demand
for securing internet banking services. Here, our expertise in strong
authentication is enabling our clients to offer secure, cost-efficient
eBanking to a rapidly increasing usership.

SafeNet – a perfect fit in access security
Our acquisition of SafeNet, announced in August 2014 and
concluded in January 2015, makes us world leader in cloud data,
software and transaction security. SafeNet serves more than
25,000 corporate and government customers in over 100 countries,
protecting access to sensitive data and high-value applications
including more than 80% of the world’s intra-bank fund transfers.

Together, we combine the best technologies, expertise and services
available for securing a complete infrastructure – network, users,
data and software. This will accelerate delivery of Gemalto’s security
solutions to enterprises and SafeNet’s data protection solutions to
the banking and telecom sectors. For more information visit our

1 Source: ABI
2 Source: Eurosmart

Trust. Every day
Speeding ePassport
delivery in Algeria

The world is switching fast to e-Passports.
Our leading role in this development is due
to our reliable and innovative technology – as
well as our advanced production and delivery
capability. Our ability to increase speed
and reduce costs were key criteria when
Algeria selected us in 2014 to support their
ambitious e-Passport program.
SECURING CLOUD DATA, SOFTWARE AND TRANSACTIONS

SECURITY AT THE edge
AUTHENTICATING USERS
Gemalto’s expertise is in user authentication and management solutions...

DIRECT CHANNEL
...and has trusted relationships with mobile operators, original equipment manufacturers, financial institutions, governments and large enterprises.

ISSUE AND PROTECT IDs

MANAGE IDs AND GRANT ACCESS

SECURITY AT THE core
PROTECTING DATA
SafeNet’s expertise is in data encryption and security key management...

INDIRECT CHANNEL
...and has a large skilled partner and reseller network for enterprises of all sizes, internet service providers and software editors.

CREATING A COMPREHENSIVE SECURITY CHAIN FOR BILLIONS OF PEOPLE
We operate **globally** where our clients need us

We are a truly international company with clients from over 180 countries. They are served by our employees of 116 nationalities operating from a worldwide network of research and software development (R&D) centers, sales offices, personalization and data centers and production facilities. And we systematically share our expertise through a series of client-focused forums addressing the opportunities in growth markets on different continents.
We have strong assets and sharp customer focus

Our success is founded on our dedication to satisfying our customers, our attention to developing our people, and on two unique assets: our technological expertise and our market neutrality.

**TECHNOLOGICAL EXPERTISE**

Our technology to secure digital identities and access services has proven to be an unmatched combination of security, scalability and cost efficiency.

**MARKET NEUTRALITY**

We operate behind the scenes so that our clients can preserve a direct and trusted relationship with their customers.

**CUSTOMER SATISFACTION**

We work in partnership with our clients to shape our development. In 2014, in our annual customer survey, 84% of them said they were satisfied or very satisfied with Gemalto – a world-class rating.

**EMPLOYEE ENGAGEMENT**

Our annual employee survey shows a remarkably high level of commitment to Gemalto, with 82% saying they were satisfied with the company in 2014.

**R&D LEADERSHIP**

We get award-winning results with our proactive innovation program and business incubation structure. In 2014 we filed patents for 114 new inventions.

**ESTABLISHED REPUTATION**

Trust is one of our main assets and fundamental to the way we do business. Ever since Gemalto was created we have been progressively enhancing the service we deliver to our clients – and so developing the company’s brand recognition and reputation.