

2007 Frost & Sullivan European Product Innovation Award (Mobile Contactless Technologies)
Award Recipient - Gemalto N.V, The Netherlands

2007

FROST & SULLIVAN

European Product Innovation Award

AWARD DESCRIPTION

The Frost & Sullivan Award for Product Innovation is presented each year to the company that has demonstrated excellence in new products and technologies within their industry. The recipient company has shown innovation by launching a broad line of emerging products and technologies.

RESEARCH METHODOLOGY

To choose a recipient of this award, the analyst team tracks all new product launches, R&D spending, products in development, and new product features and modifications. This is accomplished through interviews with all the market participants, and extensive secondary and technology research. All new product launches and new products in development in each company are compared and evaluated based on the degree of innovation and customer satisfaction. Companies are then ranked by number of new product launches and new products in development.

MEASUREMENT CRITERIA

In addition to the methodology describe above, there are specific criteria used to determine final competitor rankings in this industry. The recipient of this award has excelled based on one or more of the following criteria:

- Significance of new product(s) in their industry
- Competitive advantage of new product(s) in their industry
- Product innovation in terms of unique or revolutionary technology
- Product acceptance in the marketplace
- New product value-added services provided to customers



The 2007 Frost & Sullivan European Product Innovation Award in the field of mobile contactless technologies goes to Gemalto N.V. of the Netherlands for its Smart Card Web Server (SCWS) technology. The SCWS offers a common platform for all mobile operators to organize and present their services to the subscriber, irrespective of location (network or local). While payment companies such as Visa and MasterCard spend millions of dollars each year in advertising their brand, their brand logo cannot be made visible while making a payment transaction with the near field communication (NFC) phone as the mobile phone does not itself contain the logo of the bank. This problem has been overcome by an innovative 'Web server on the SIM' (Subscriber Identity Module) developed by Gemalto. So every time a transaction occurs, the color logo of the financial service provider is displayed.

Innovative smart card technologies such as Gemalto's Smart Card Web Server underscore the urgency of keeping pace in an increasingly networked world where IT networks converge and data speeds grow ever faster. Developers such as Gemalto are enabling smart cards with the same kind of protocols and interfaces as mobile phones and personal computers, so as to facilitate seamless communications with the latter and permit an increasing number of Web applications to be written onto the card. This is the biggest innovation to SIM card technology since the introduction of the first Java smart cards. With this new technology, Gemalto is making another breakthrough, one that makes the SIM a full-fledged member of the World Wide Web.

INTRODUCTION

Gemalto is a fairly new entity by itself, having been born as a result of the merger of Axalto and Gemplus in June 2006. But deriving from the strengths of its two progenitors, Gemalto is one of the world leaders in digital security and has an impressive portfolio of end-to-end security solutions such as smart cards, SIMs, e-Passports, and tokens. It is a solutions provider to users in diverse sectors from telecommunications to financial services, e-

**2007 Frost & Sullivan European Product Innovation
Award (Mobile Contactless Technologies)
Award Recipient - Gemalto N.V, The Netherlands**

2007

FROST & SULLIVAN

European Product Innovation Award

Government, mass transit, and IT security; in addition, it also develops associated software, middleware, and server-based solutions.

Each year, Gemalto produces approximately one billion SIM cards and counts over 500 mobile operators across the world as its customers. The company also offers about 170 remote management services, including phonebook back-up, based on its over-the-air (OTA) personalization platform and these platforms manage about 700 million SIM cards on a daily basis. Besides all these, the company also manufactures smart cards and banking cards at roughly 450 million banking cards a year.

In the NFC ecosystem, Gemalto is not positioned solely as a SIM supplier but rather as a mediator between mobile operators, banks, and transport companies. With several key NFC pilots in transportation and payments to its credit, Gemalto offers "operated services" to service providers such as Transport Co & Banks for an efficient deployment and management of their m-contactless applications. These services are leveraging Gemalto's unique installed base of OTA personalization platform and data personalization centers.

TECHNOLOGY OVERVIEW AND DESCRIPTION OF INNOVATION

NFC technologies in a mobile environment bring opportunities for many new applications for end-users and services providers. Getting a screen, a keypad and a connection opens up opportunities for value-added services such as topping up your card for travel and being able to consult your more recent transactions or your account balance.

These services will only take off if the user interface is easy to use.

Gemalto's SCWS residing on the SIM stores HTML Web pages and servlets, which subscribers can view through the

handset browser, thereby reducing the time taken to access their operator's mobile services and content. Delivering content and services right into the hands of the end-user really improves the user-experience and therefore boosts the adoption of new services promoted by mobile operators.

Updating web pages can be performed over-the-air as desired by the subscriber. SCWS also comes equipped with software called 'Service Portal,' which is designed to make the home screen and menus more consistent across different phone models and subscriber segments. It is also possible to segment offers with targeted service menus which respond to the needs of each user.

The 'Service Portal' software could spell the difference in how the market responds to developers' efforts in integrating main Internet protocols and TCP/IP on prototype cards, because loading the software onto personal computers to communicate with smart card readers as well as programming Web servers to recognize the smart cards has until now been a major limitation.

Gemalto's SCWS requires just 300 to 600 Kbytes {KB} of SIM memory and uses the existing ISO interface with a bearer-independent protocol network connection and related link between card and terminal. Such features will ultimately pave the way for higher speed USB (Universal Serial Bus) interfaces with heavier content being stored on the SIMs. Furthermore, the SCWS extends IP (Internet Protocol) connectivity to the SIM card for a more enriched user experience.

On the field, Gemalto is rapidly gaining experience in this domain. In Asia, Gemalto is partnering with Taiwan's FarEastTone Telecommunications Ltd. to launch the first trial for SIM-based NFC in Asia as part of the GSM Association initiative "Pay-buy mobile". FarEastTone subscribers involved in the pilot will be able to make purchases at any FarEastTone trial partner merchant with the same ease of

**2007 Frost & Sullivan European Product Innovation
Award (Mobile Contactless Technologies)
Award Recipient - Gemalto N.V, The Netherlands**

2007

FROST & SULLIVAN

European Product Innovation Award



use as an ordinary contactless card. This is a significant step in using NFC technology to link mobile devices with payment and contactless systems. The user interface for these services will rely on the Smart Card Web Server technology.

BEST PRACTICES

Active in over 85 countries worldwide, Gemalto is the world's largest public entity in terms of market share as far as smart card technology is concerned. It is a leading supplier of microprocessor cards and related services, and holds nearly half of the worldwide smart card market. Gemalto's size and scale confer upon it a number of competitive advantages, not least of which is its position as a leading innovator in this dynamic market. Gemalto is one of the few providers capable of developing end-to-end security and authentication solutions spanning all market segments and leveraging its close relationships with mobile operators and financial service providers worldwide.

In 2006 Gemalto generated revenues of 1.7 billion (\$2.3 billion) from its two main business lines: cards (chip card products, software and services for mobile communications, financial services, network access, and so on); and point-of-sale terminals, which includes PoS, software, services, and solutions sold to banks for their retail market. Gemalto dedicates approximately 7% of its annual revenue to research and engineering. This budget supports numerous research and development initiatives.

Gemalto's intellectual property portfolio gathers more than 5000 patents. It is actively managed to encourage growth in the use of microprocessor cards and one of its key competitive strengths lies in its ability to produce and

deliver chip card-based products and services at a local level, while operating on a global scale, that is, the 'virtual factory' production concept and production and logistics expertise. Some of the company's key strategies for include the development and commercialization of high-end products such as multimedia cards and mobile television, SIM-, USIM (Universal SIM)-, and RUIM (Re-Usable Identification Module)-based solutions as well as banking chip cards.

Not only is Gemalto well positioned as a smart cards and digital security vendor, but also its smart card products and services provide the required operational platform to develop identity and access management solutions against a backdrop of the convergence of physical and logical access control solutions across industries such as banking, government, and healthcare. Gemalto's recent agreement with Microsoft only highlights this commitment. The Gemalto .NET technology can be directly incorporated into the Windows Vista operating system without additional software or middleware, resulting in a better-integrated smart card technology for consistent security provision both on and off the card.

CONCLUSION

With its proven expertise in developing innovative and cost-effective solutions in contactless and digital security for numerous industry verticals, Gemalto is well poised for robust growth, especially in view of the growing momentum driving the third phase of mobile telephony that is proximity services. Because of its consistent contributions to product development and innovation in mobile contactless technologies and solutions, Gemalto is recognized with the Frost & Sullivan Award for Product Innovation.