

## 2009 North American Smart Cards Product Line Strategy of the Year Award

# ViVOtech

ViVOtech is a key player in the contactless, Near Field Communication (NFC) mobile payment and promotion market, specializing in software and hardware based solutions for next generation of payment systems. This company was founded in 2001, and is based out of Santa Clara, California. Their technology is designed to enable consumers to download their credit, debit, loyalty or prepaid cards as well as personalized coupons and location-based promotions to NFC mobile phones and use it to pay by just waving the phone at point of sale systems enabled with radio frequency (contactless) readers. ViVOtech is currently being used for contactless credit/debit cards, mobile phones, and key fobs payments in locations that vary from: stores and gas stations to vending machines and taxi cabs. ViVOtech's solutions are in wide use globally for monetary transaction situations (in over 33 countries). ViVOtech has worked with large names such as: Bank of America, MasterCard, Discover, Citibank, VISA, Chase, Sprint, AT&T, SingTel and Sony, and its products are used by a number of brand name merchants in various countries.



### Market Trends and ViVOtech's solutions

The current smart card scenario in the North American region demands more than just a routine solution to satisfy customers. Product lines that are able to gauge and create visibility into future needs and offer value-based solutions for retailers as well as card issuers are the most preferred. In that regard, ViVOtech product line offerings for the contactless payment and loyalty markets. Product lines from ViVOtech include: ViVOpay, ViVOnfc, ViVOplatform and ViVOTag. These products are capable of secure payment transactions, targeted coupons, and loyalty programs based on cards, mobile phones, or any other convenient form factors. This allows for advanced communication with consumers, data gathering and analytic analysis and an increased level of convenience for the consumer.

Integrating these systems is also a simple process and requires a relatively small initial investment by utilizing the network and resources that are already present. These platforms are able to be integrated into existing infrastructure by adding support for

contact-less technology (and without significantly altering existing systems). This level of integration leaves the original infrastructure intact without causing large scale changes or requiring extensive time and resources to complete. Thus, Total Cost of Ownership is considerably reduced while getting to market faster in the event that ViVOtech solutions are deployed. In the North American contactless smart card market, ViVOtech is the leading provider of contactless readers and NFC mobile payment systems, Over-the-Air (OTA) provisioning infrastructure software for cards and coupons and applications software to enable mobile prepaid, loyalty and promotion programs.

### **The product/solution line – A suite of proven success**

The following section provides an in-depth analysis of ViVOtech's solutions, product qualities and how they are relevant in the current industry scenario.

#### **ViVOpay**

The ViVOpay readers are some of the best selling secure contactless terminals available today. They are currently in use in movie theatres, fast food restaurants (QSR), casual dining establishments, convenience stores, petrol stations, grocery stores, buses, taxicabs, and vending machine locations. These devices are available for global contactless payment applications such as MasterCard PayPass and Visa payWave, as well as specialized closed-loop payment, loyalty and promotions applications. This allows ViVOtech the ability to reach a vast range of markets that can benefit from contactless convenience. The entire ViVOpay series is compatible with most POS and ECR systems assuring quick and easy integration into the merchant's existing legacy systems.

#### **Countertop / In-Store:**

The ViVOpay solutions consist of many general purpose solutions such as: ViVOpay 5000, ViVOpay 5000m, ViVOpay 4500, and ViVOpay 4500m. These solutions are well suited for general store/payment applications where versatility, scope and small footprint are required. The "M" series, ViVOpay 4500m and 5000m, is compatible with both contactless cards as well as magnetic stripe cards, allowing customers tap their contactless cards, key fobs and NFC mobile phones or swipe their magnetic-stripe cards on the readers to make a payment.. These customer-facing devices let consumers keep control of their payment devices at all times reducing chances for fraud. The 4500 device can also be physically integrated and mounted onto existing POS devices saving additional counter space.



**ViVOpay 5000m**



**ViVOpay 5000**



**ViVOpay 4500m**



**ViVOpay 4500**



**ViVOpay 4500  
Integrated with POS**

**Unattended / Self-Service:**

ViVOtech also has a line of products for the unattended and self-service vertical markets in the ViVOpay Vend, ViVOpay DTc Drive-Thru, and ViVOpay Kiosk I and Kiosk II. These solutions are well suited for vending machine, drive through, kiosk, transit/turnstile, ticketing machine and parking meter type applications. All are ruggedized readers able to stand the environment in outdoor and self-service locations and are also easily integrated with host systems - without requiring the host system to go through lengthy re-certification. All of these specialized devices include support for contact-less cards, key fobs, and mobile phones. This range of specialized products allows ViVOtech to reach unique markets that will benefit from contactless technology, but require their own set of specialized features. This also creates a solution that requires less customization rather than offering a general purpose solution for every circumstance.



**ViVOpay DTc/Vend**



**ViVOpay Kiosk I for existing systems**



**ViVOpay Kiosk II for new systems**

**ViVOnfc**

The ViVOnfc infrastructure software solution from ViVOtech allows companies to enable cell phones for use in mobile payment, marketing, and loyalty programs. This implements the use of near field communication technology (NFC) for payments, promotions and advertisements directly to close proximity cell phones (at the point of sale). This allows marketing to take place in locations where it is relevant, and forego the use of cumbersome paper advertisements. All ViVOnfc solutions are managed using a two server architecture (patented) which allows in-depth control over marketing and payment data from cell phones. This solution places control of sensitive issuer data used in the transaction in the hands of the ViVOnfc issuer server; while the mobile network service provider's server, ViVOnfc control server, is responsible for the security of the customer's personal information. Payment with cell phone devices is capable via ViVOtech's ViVOWallet solution. This is a niche offering that ViVOtech is specializing in, and in a scenario where the push for NFC implementation is lacking in North America, ViVOtech's NFC offering and push will provide the momentum to the industry at a much needed time. ViVOtech has done close



to 30 NFC mobile payments and promotion pilots in United States, Canada, Asia, Europe and Latin America.

### **ViVOnfc - ViVOWallet**

The ViVOWallet is a software application that runs on NFC mobile phones and allows consumers to securely download multiple soft-cards for credit/debit cards, coupons, and loyalty cards into their cell phones. This application allows cellular devices to make contactless payments, or redeem digital coupons via a contactless near field communication payment terminal. This solution also allows for cell phones to make near field transactions regardless of if the device is able to connect to the cellular network or not. This is possible because the ViVOWallet stores the user's important information securely directly on the device (eliminating the need for a cellular connection at the time of the transaction). This is important, as it allows companies the freedom to implement this technology with the confidence that it will work regardless of location and coverage. The ViVOWallet compliments the ViVOnfc, in that it goes hand in hand with the readers, and offers a truly portable package for companies looking to bring convenience and security to their transactions. This is an extremely useful software application that can currently help many network operators partner with ViVOTech and ensure that the "top of wallet" factor ties in with the contactless and softcard issuance trends in the North American region.



### **ViVOnfc™ - Issuer Server**

The Issuer Server is the standalone server that allows a card issuer to provision a soft card to a ViVOWallet application running on an NFC-enabled phone. The Issuer Server, which is hosted in the card issuer network or a trusted party, holds all the personalization algorithms, features, functions, procedures, and interfaces for a card issuer. Additionally, it provides all the personalization data from the issuer back-office and is responsible for personalizing the ViVOWallet with all the required information for users to download the issuer's cards, coupons, or tickets.

### **ViVOnfc™ - Control Server**

The Control Server provides the Over-the-Air (OTA) provisioning control function for the Mobile Network Operator. Mobile Operators use the Control Server to manage ViVOWallet applications residing on their NFC-enabled phones and connect to the Issuer Server supporting the card issuer backoffice systems.

## ViVOplatform

The ViVOplatform software is composed of 2 modules that leverage contactless, NFC and mobile technologies to deliver new services and tools to merchants:

### Gift and Loyalty Application

The ViVOplatform Gift and Loyalty Application is the application software platform ViVOtech offers in order to process prepaid, loyalty, and promotion transactions, manage functionality, and gather customer statistics. This platform is browser-based for all users, including administrators, merchants, and consumers. This allows a simplistic approach to be used for all parties accessing the platform. This can decrease the amount of training necessary for employees and increase customer retention due to ease of use. The ViVOplatform is also designed to seamlessly integrate with existing loyalty and payment infrastructure, resulting in minimal deployment time and necessary resources. This system is also internet enabled, which makes it possible for customers to be able to check their transaction history online and for the company (the owner of the system) to be able to electronically manage customers and loyalty programs. This allows for a system that is highly dynamic and conveniently accessible for all parties.

### Smart Poster Management Software Application

ViVOplatform Smart Poster Management Software Application is a one-on-one mobile marketing software system that enables merchants to drive business through the creation, management, and delivery of personalized and context-sensitive information to consumers' mobile phones. Smart posters are similar to traditional posters or billboards but contain one or more embedded NFC tags. By tapping a NFC enabled mobile phone on a smart poster a consumer is automatically connected to a backend content server over the wireless data network. The content server sends personalized and location based information back to the user based on the mobile phone number and NFC tag ID. Consumers can then view the content and redeem the promotions at participating merchants.



## **ViVOTag**

The ViVOTag is offered in form of a sticker that can be attached to any convenient form factors such as card, key fobs, mobile phones or 3D images for efficient contactless payment transactions. These stickers can be used for prepaid transactions, credit, or loyalty products; which adds flexibility for a variety of paying styles for a diverse range of users. This is made possible through the ViVOWallet software technology that is included on these devices, making them suitable for store and restaurant use. Through this flexible technology and wealth of features, ViVOTag are able to offer increased speed over cash transactions, multiple form factors for multiple uses, and allow the user to only use one card for different retailers.

## **Industry Influence and Market Pointers – Summary**

ViVOTech offers a host of infrastructure and applications software for all levels of contactless and mobile phone implementations; from the readers and devices to the servers. These applications are available for both general deployments as well as unique situations. This allows for customers to have fully streamlined software integration from a single vendor, thus ensuring the interoperability between devices (through the same software). ViVOTech has a commanding market lead and first mover advantage in the contactless readers market – with over 75% market share. ViVOTech has shipped about 460,000 readers to more than 30 countries globally. These systems also integrate seamlessly with existing hardware and infrastructure, thus decreasing the cost of deployment and training. It is this combination of an all-encompassing/user friendly suite of software and a simple/low cost integration that makes ViVOTech the popular choice that it is, among a wide variety of different businesses.

## **Conclusion**

In a payment market punctuated time to time with doubts and concerns over security and the vulnerability of the solutions in a highly sensitive ecosystem, ViVOTech's solutions have attained the confidence of a number of top notch partners and customers who form the backbone of the company's external affiliations. Prominent financial investors and market leading strategic investors and partners include Citi, FDC, NCR, Miven, Motorola, Nokia, Alloy Ventures, and Draper Fisher Jurvetson (DFJ). Hence, with a prominent impact on the payment and smart card industry, and by revolutionizing the product line on offer, ViVOTech is a worthy recipient of the 2009 Frost & Sullivan Product Line Strategy of the year Award.

### Award Description

The Frost & Sullivan Product Line Strategy of the Year Award is presented each year to the company that has demonstrated the most insight into the needs and product demands of its customers. The recipient company has optimized its product line by leveraging products with the various price, performance, and feature points required by one or more market segments.

### Research Methodology

To select the Award recipient, the analyst team tracks end-user requirements and market dynamics within the industry. This process includes interviews with suppliers, end-users, and industry experts. The product lines are compared with customer base demands, and the top-ranking provider is then presented the Award.

### Measurement Criteria

In addition to the methodology described below, there are additional criteria used to determine the final competitor rankings in this industry. The recipient of this Award will have excelled in one or more of the following criteria:

- Introduction of new products, strategically positioned to balance the product line
- Ability to accommodate different market segments, or different markets within an industry, by repurposing technology
- Enhancement of product offerings through optimization of packaging, service, delivery, financing, and/or other value-added services
- Strategic technology or marketing acquisitions or alliances