

**2005 Electronic Payment Enabling Technology of the Year
Award Recipient: VIVOtech Inc.**

Award Description

The Frost & Sullivan Electronic Payment Enabling Technology of the Year Award is presented to a company that has developed technology that can benefit or revolutionize the electronic payment industry. The Award recipient has developed a system or enabling component of a system that removes a significant stumbling block in the convergence of contactless payment technology. In addition, the technology assists in the integration of contactless payments through radio frequency (RF) enabled credit cards, access cards and mobile devices at existing electronic fund transfer point-of-sale (EFT-POS) systems, than was previously possible. The utilization of this enabling technology ultimately translates into better consumer experience and loyalty through faster, convenient, secure and cost effective payment solution for retailers, ISO's, acquirers, banks and m-commerce players.

Research Methodology

Before considering the recipient of this Award, the analyst team tracks payment market participants' technology innovations through ongoing market research, market interviews, and extensive secondary and technology research.

Measurement and Judging Criteria

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

- Degree of technology adoption in payment industry product lines or strategies
- Potential of technology to become a payment industry standard or degree of acceptance in the market place
- Impact of technology in terms of shifting payment market R & D focus
- Recognition by payment industry participants as to the leadership of a company in this technology.
- Established capabilities of the Company to deliver this technology to the market as an innovator
- Market share growth through the successful introduction of information to market
- Dissemination of information of benefits, and potential to the end users for quick acceptance by the payment market
- Transition of end users to this technological advancement

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Introduction

The 2005 Frost & Sullivan Electronic Payment Enabling Technology of the Year Award is presented to VIVOTech, Inc. for enabling much needed momentum in contactless smart card payments through their innovative contactless payment solution. This is likely to have an impact of global proportions. Currently, after successful pilots in 2003-04, the U.S. and parts of Asia appear to be moving into the commercial roll out mode. This will not only provide tangible results for the consumer payment experience but also deliver concrete value proposition for other payment industry stakeholders.

The Contactless Contact

When Target Corporation's smart card based loyalty program did not take off, it served as a big set back to smart card based payment adoption in the U.S. The market pressure increased on payment vendors to provide a solution that allowed merchants to connect more dynamically with consumers. In particular, the consumer checkout experience became vital to differentiation in the quick service or low value high volume payment transaction environments.

VIVOTech plugged the gap through their innovative technology, that assists in the integration of contactless payments through radio frequency (RF) enabled credit cards, access cards, cell phones, and mobile devices at existing electronic fund transfer point-of-sale (EFT-POS) systems. It is based on the ISO standard 14443B and can operate over multiple frequencies. Consumers can make a payment by merely tapping their contactless payment instrument (key fob, credit card, debit card, cell phone, PDA etc.) on contactless readers interfaced with EFT-POS terminals. Retailers, in addition to the American Express, MasterCard and VISA contactless programs, can open up new possibilities for their loyalty and gift card programs. The VIVOTech end-to-end solution comprises of the contactless instrument and reader hardware as well as software in the contactless instrument, reader and back end. This makes it possible to dynamically engage with contactless instrument enabled consumers across multi device (POS, kiosks, shopping buddies, etc.) touch points.

Degree of Acceptance

VIVOTech's solution offering is designed to address the systemic intangible inefficiencies like speed, convenience and wallet share for improving transaction value and transaction volume in payment. Today an IP enabled EFT-POS terminal interfaced with a VIVOTech reader can complete a contactless payment transaction in 2-5 seconds versus 9-12 seconds with cash and higher for credit card. Thus, the focus is on replacing cash transactions by making it simpler, faster and easier for consumers to pay. The outcome reported is approximately a 20 percent increase in

transaction value (shift) and 20 percent increase in transaction volume (lift). This is the strongest value proposition for deploying contactless payment solutions reiterated by successful trial partnerships with card associations like Visa, MasterCard and American Express.

VIVOTech has been partnering with American Express and MasterCard International for deploying contactless payment terminals for the ExpressPay and the MasterCard PayPass™ programs. Other financial institution partners in the program include: Chase, CitiBank and MBNA. For convergence in secure access and payment, VIVOTech has integrated its contactless payment products with HID's proximity and iCLASS technologies. As to convergence in cell phone or mobile device and payment, VIVOTech is partnering with players like Royal Phillips Electronics, Symbian and MontaVista. VIVOTech has also been partnering successful contactless payment trials with retailers like Boater's World, Carl's Jr., Chevron, Corner Bakery, CVS/pharmacy, Eckerd Drugs, Friendly's, Fry's, Jamba Juice, Jason's Deli, Keva Juice, Mail Boxes Etc, McDonald's, Quiznos Sub, Rockfish Seafood Grill, Shell Canada, and Wolf Camera.

Impact of VIVOTech(*nology*)

The QPS (Quick Payment Service) and EPS (Express payment Service) from MasterCard and Visa respectively are targeted at replacing below \$25 cash transactions. VIVOTech through its innovative contactless payment technology is enabling just that, allowing card issuers, acquirers, ISO's, payment vendors and retailers to benefit from the 20 percent shift and 20 percent lift. VIVOTech has positioned its technology solution for aiding legacy or existing systems by offering a platform that will allow acquirers and processors to offer value added services without having to completely re-engineer their environments.

Enabling POS terminals to accept contactless payment is the first step. VIVOTech is transforming e-payment to an enriched payment environment. Payment is at the core with customized features, functions, and services built around it. This would not only allow retailers, card issuers, and payment vendors to differentiate their offerings, but also enable focused services for consumers at dynamic touch points. VIVOTech's end-to-end solution is scalable and capable of supporting multi applications like prepaid, gift card, and loyalty promotion. The applications are driven by software on the contactless reader (VIVOpay), card or key fob form factor and the back end platform (VIVOplatform). Thus, creating a software driven environment with a multitude of possibilities.

The Innovative Advantage

VIVOTech's strategy has been to productize their solution for easy deployment by acquirers, ISOs, and service providers on the backend side as well as on the POS consumer side by card issuers and retailers. VIVOTech is equipped and capable of large-scale deployments of readers, cards & key fobs as well as playing a role in the

personalization and differentiation of the software built into these contactless instruments.

VIVOftech has positioned itself to support a large number of e-payment stakeholders in realizing benefits from the shift and lift. The outcome is a majority market share for VIVOftech in the total number of POS terminals being enabled with contactless payment. Even retailers who have not joined the card associations contactless programs are trying to take their loyalty / gift card program to the next level by partnering with VIVOftech.

All of this has resulted in an exponential growth for VIVOftech's unit shipments year on year.

Conclusion

Card associations continue to drive baseline adoption from successful pilots to commercial rollouts in contactless payment. VIVOftech has positioned its solution capabilities to enable change, through very strong ties with industry players. They have clearly demonstrated leadership in facilitating convergence in electronic payment through contactless technology.

Thus, VIVOftech Inc. is the deserving recipient of the coveted 2005 Frost & Sullivan Electronic Payment Enabling Technology of the Year Award.