



Financial Services Smart Cards and Systems

An independent assessment service for the Finance Industry

The implementation of EMV payment using smart card chip technology represents a substantial investment for the financial industry. Critical to business success is **maximising** the commercial **return** from existing and future investments and **minimising** the **risks** associated with procuring, implementing and operating the technology.

SiVenture provides Smart Card Security Test and Evaluation Services to some of the world's top companies in the creation and development of secure smart card chip technologies. SiVenture does not produce hardware or software solutions and is therefore able to take an **independent** view of the range of solutions and products being offered to the financial card industry.

With a background in the financial industry, SiVenture offers its Test and Evaluation Services to financial card issuers and acquirers, working on a consultative basis to provide **support** in understanding and managing the risks of using smart card technology for the delivery of EMV/Chip & PIN payment and other applications to the marketplace.

In Short...

Benefits

- > Enhance product confidence
- > Improve time to market
- > Maximise return on investment
- > Minimise risks -
reputation, business, operational

Service Features

- > Independent review
- > Flexible approach
- > Pre-procurement analysis
- > Card/chip lifetime monitor
- > Security and fault analysis

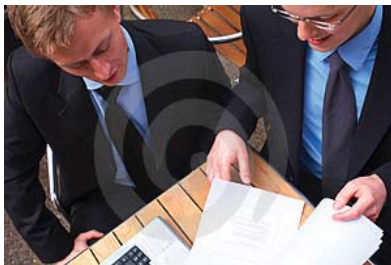
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Avoiding reputational damage and business losses is paramount

The Service

1. SiVenture works with issuers during the technology procurement phase to:
 - > review and refine the request for proposal to the chip and/or card supplier
 - > review the proposal from the supplier
 - > support the issuer in negotiations
 - > analyse chip samples to provide the issuer with confidence that the recommended technology is fit for purpose
 - > assess the technology offering to judge value for money

The service is designed to enhance the issuer's decision-making process by identifying any potential weaknesses and vulnerabilities in technology proposals upfront.



2. Issued smart cards will remain in a hostile environment for many years. New attacks on the business and the technology will materialise during that time. Maximising the time that cards can safely remain in the field will optimise the commercial return. Regular checks need to be carried out to assess that smart card chips continue to be resistant to the latest known attacks. This will enable the issuer to:
 - > understand vulnerabilities in an existing card base and take retrospective action to manage the risk
 - > benefit from the latest industry knowledge of threats and attacks
 - > build a risk profile for each type of smart card chip issued
 - > pro-actively assess those risks and manage issued card bases
 - > plan and implement card replacement programmes to mitigate risks in the event of discovered vulnerabilities

As an accredited evaluator, SiVenture is able to apply the latest thinking and techniques to the analysis and support the issuer in maintaining a balanced approach to assessing risks and updating appropriate contingency plans.

The issuer will be able to assess the threats to their business and, with SiVenture, design countermeasures or put appropriate contingency plans in place.



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3. SiVenture has a background in multi-application operating systems and can review and evaluate technologies and applications to give confidence to the issuer that the selected platform is fit for purpose. SiVenture:

- > reviews system and application product specifications to identify any potential issues that might affect testing, implementation and issuance
- > works with the issuer and their suppliers to assist in the resolution of queries
- > creates a test plan to give confidence that the multi-application environment can be trusted, e.g. no unauthorised sharing of data

The issuer will benefit from an independent review of the operational and security implications of hosting two or more applications on a single chip.

4. SiVenture advises on a range of issues associated with smart card chip technology and will adopt a flexible approach to meet an individual client's needs. SiVenture has:

- > provided advice and guidance on key management
- > carried out specific testing programmes to establish susceptibility of the technology, cards and terminals, to external and operational influences, e.g. electrostatic damage
- > carried out failure analysis on cards returned from the field to determine the cause of failure, including elemental analysis to examine the quality and the state of the materials, e.g. metal corrosion can cause poor connectivity and failure.

Components of the SiVenture Service

By adopting a **flexible approach**, SiVenture can tailor the service to meet the specific needs of each issuer and their approach to chip, card and application management, taking into account aspects such as:

- > In-house personalisation and issuing of cards
- > Use of a third-party bureau for supply and personalisation
- > Use of third-party processor
- > Single or multiple chip technologies in use
- > Single or multiple chip suppliers
- > Evaluation of an existing card base/stock
- > Evaluation as part of a procurement process
- > Periodic reviews and health checks

Working with the issuer, SiVenture will undertake the assessments having first understood the specific nature of the issuer's use of the technology, applications, processes, and card base.

SiVenture's analysts will take into account the specific circumstances of the issuer including current and/or planned uses of the technology in order to create and carry out a range of tests on the chip technology (in use or being procured). We will prepare confidential reports on the security, robustness and any weaknesses and vulnerabilities identified.

Based on these findings, SiVenture will support the issuer in assessing the potential impact on the business. We will identify any appropriate changes and/or additions to software, processes and operations, and design countermeasures or create appropriate contingency plans.

Supporting Your Business

The SiVenture Service applies the skill, experience, innovation and tenacity of the SiVenture analysts to provide support to the issuer. This includes:

- › The efficient implementation, procurement and integration, of smart card chips, and associated software
- › Direct improvements in the smart card's ability to resist hostile attacks by third-parties - both physical and logical
- › Improvements in the time-to-market of smart card products by early analysis to reveal weaknesses before the final stages of production or implementation
- › Development of new defences based on real methods used by attackers
- › A risk assessment based on balancing technical risks and diverse countermeasures in appropriate parts of the operational system

SiVenture understands both the business and technology and can work in a flexible way to support the financial card industry.

About SiVenture

For more details about SiVenture and our complete portfolio of consulting and laboratory services, please contact us at: www.siventure.com

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