

brightsight®



your  
partner  
in security  
approval



Smart Card Product  
Approval Services

## Smart Card Product Approval Services

Brightsight has 20 years of experience in performing security evaluations of smart card products, including secure micro controllers, smart card operating systems and applications. We have managed to achieve accreditations from the Dutch and German Common Criteria schemes and from international payment schemes. Furthermore Brightsight has vast experience in offering security approval services to support proprietary approval schemes from the payment, telecom, ID and transport markets.

### Security approval services for the Payment industry

**Visa International** has implemented a process, mandatory for all chip card products that carry the Visa brand, whose objective it is to ensure that these products have been developed to Visa specifications and requirements. This process does not approve vendors but is limited to the approval of chip card products submitted by chip card manufacturers or chip suppliers who are eligible to submit products to Visa for testing and approval.

Brightsight offers **Visa Risk Testing and Visa functional and/or Global Platform testing** in alliance with its Visa certified partner labs, hence providing one single point of contact for the card manufacturers.

Brightsight has evaluated more than hundred and fifty smart card products aiming for VISA approval in the past 6 years.

**MasterCard International's CAST** program is a global program, mandatory for all smart card implementations on a MasterCard branded card, whose major objective is to ensure that smart card products conform to MasterCard security requirements. CAST for smart card products considers Operating System and Application developers, and ensures that the applications have been developed according to the relevant security guidelines of the chip and the OS designers.

### CAST looks at this from the following perspective:

- > Implementation reviews are conducted for financial applications, including **M/Chip 2, 4 and PayPass**, to ensure a high level of assurance. This testing includes code reviews and penetration testing.
- > When there is more than one application on the card assurance is sought to validate the firewalls between the applications, the lack of object sharing, or both.

Brightsight has performed more than thirty CAST evaluations of smart card products since 2004.

Under the umbrella of **EMVCo**, JCB, MasterCard and Visa have developed a security approval scheme for ICs and smart cards carrying Common Payment Applications. **EMVCO approval for Integrated Circuits** (ICs) considers the security of the actual integrated circuit used in the smart card, and is aimed at providing high assurance in the security functions that are designed to effectively deal with known attack methods. Attack methods include reverse engineering, Focused Ion Beam modification, information leakage and fault induction. The security of the design, development, and delivery processes are also taken into account.

Furthermore, Brightsight offers EMVCo security approval services for smart cards carrying a **Common Payment Application**. The EMVCo approval scheme can take advantage of evaluation work already performed by the vendor, for example Common Criteria, which may need to be supplemented by additional evaluation work.

### Security approval services for the e-government market

Governments all over the world have started to issue electronic travel and identification products. Brightsight has vast experience in performing security evaluations of these products including

**Common Criteria evaluations of e-Passports** for the European and Asian market. These evaluations included chip evaluations and composite evaluations of Operating Systems and **ICAO applications** according to the Protection Profiles for Machine Readable Travel Documents from BSI.

In alliance with our partners we also offer functional testing of e-passports.

### Security approval services for the telecom market

Telecom operators make use of smart card products in the form of Subscriber Identification Modules used in mobile phones to get authenticated to the operator's network. Brightsight offers **security evaluations of (U)SIMs** according to both proprietary schemes and Common Criteria.

Together with a customer Brightsight has developed a method, which can be described as **Common Criteria Light**, in order to deliver independent, high assurance about the security level of (U)SIMs, which may be required by telecom operators issuing these products.

Brightsight has vast experience in security analysis of proprietary cryptographic algorithms often used in the telecom industry.

### Security approval services for transport market

Contactless smart cards are rapidly being deployed in ticketing applications such as road pricing or public transport within the transport market. Brightsight has performed several security evaluations of **contactless smart cards**, as well as other components, used in these systems in Asia and Europe.

#### Our analysis methods and techniques include:

- > Hardware analysis including design analysis, microscopy, reverse engineering, etching, probing, Focused Ion Beam manipulation, and more.
- > Side-channel analysis (power and EM)
- > Perturbation analysis (voltage and light/laser)
- > Software analysis, including design and code review, of native, Java Card and MULTOS platforms
- > Common criteria
- > Contactless smart card and RFID security analysis

#### Re-usability

Security approval schemes may allow use of previous evaluation results performed by Brightsight. We offer you our support for optimal re-use of evaluation results in case:

- > your product is part of a product family that has been partly evaluated previously
- > your product requires approval regarding multiple schemes. In this way you can save time and money by getting all your product approvals achieved at a one-stop shop.

Brightsight also offers its support to strengthen the vendor's case of re-usability.

### Developer support services

Brightsight can assist you to achieve compliance to your customer's specifications and security requirements by offering guidance with our security evaluations, pre-evaluations, dedicated training and analysis tools. This time- and cost-saving approach will bring you one step closer to an approved product. Of course we can extend our developer support service to multiple approval schemes that you may require.

#### Security training courses

Brightsight offers a wide range of training courses to assist customers obtaining security approvals of their products. In these workshops it is explained what is required or can be expected during an evaluation under one of the schemes as well as the various pitfalls and 'do's and don'ts'

We are ready to answer any questions you might have regarding our smart card product approval services. Please contact us at [info@brightsight.com](mailto:info@brightsight.com) or +31 15 269 2500 for more information.

Brightsight is your globally recognized partner in security approval of IT products.

Our services include:

**Security evaluation**

**Developer support**

**Tools**

**Training**

Our customers range from international financial institutions to telecom operators, IT product manufacturers and governments. We offer them a completely independent expert view tailored to their specific requirements.

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