



# VERIDOS MATSOUKIS

IDENTITY SOLUTIONS

**Site Security Target Lite**  
**Veridos Matsoukis S.A. Security**  
**Printing**

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## Table of Contents

|       |                                                          |    |
|-------|----------------------------------------------------------|----|
| 1.    | Document Information .....                               | 5  |
| 1.1   | Reference .....                                          | 5  |
| 1.2   | Overview .....                                           | 5  |
| 2.    | SST Introduction .....                                   | 6  |
| 2.1   | Identification of the Site .....                         | 6  |
| 2.2   | Site description .....                                   | 7  |
| 2.2.1 | Smart Card Production .....                              | 8  |
| 2.2.2 | Supporting Services .....                                | 8  |
| 2.2.3 | Life-Cycle Phases .....                                  | 9  |
| 2.2.4 | Secure Destruction of Smart Card Modules .....           | 9  |
| 3     | Conformance Claim .....                                  | 10 |
| 4     | Security Problem Definition .....                        | 11 |
| 4.1   | Assets .....                                             | 11 |
| 4.2   | Threats .....                                            | 11 |
| 4.3   | Organisational Security Policies .....                   | 13 |
| 4.4   | Assumptions .....                                        | 14 |
| 5     | Security Objectives .....                                | 16 |
| 5.1   | Security Objectives Rationale .....                      | 20 |
| 5.1.1 | Mapping of Security Objectives .....                     | 20 |
| 6     | Extended Assurance Components Definition .....           | 24 |
| 7     | Security Assurance Requirements .....                    | 25 |
| 7.1   | Application Notes and Refinements .....                  | 26 |
| 7.1.1 | Overview regarding CM capabilities (ALC_CMC) .....       | 26 |
| 7.1.2 | Overview regarding CM scope (ALC_CMS) .....              | 26 |
| 7.1.3 | Overview regarding Delivery procedure (ALC_DEL) .....    | 26 |
| 7.1.4 | Overview regarding Development Security (ALC_DVS) .....  | 27 |
| 7.1.5 | Overview regarding Life-cycle definition (ALC_LCD) ..... | 27 |
| 7.2   | Security Assurance Rationale .....                       | 27 |
| 7.2.1 | Rationale for ALC_CMC.4 .....                            | 28 |
| 7.2.2 | Rationale for ALC_CMS.5 .....                            | 30 |
| 7.2.3 | Rationale for ALC_DVS.2 .....                            | 30 |
| 7.2.4 | Rationale for ALC_DEL.1 .....                            | 31 |
| 7.2.5 | Rationale for ALC_LCD.1 .....                            | 32 |
| 8     | Site Summary Specification .....                         | 35 |
| 8.1   | Preconditions required by the site .....                 | 35 |
| 8.2   | Services of the site .....                               | 35 |
| 8.3   | Objectives rationale .....                               | 36 |
| 8.4   | SAR Rationale .....                                      | 42 |
| 8.4.1 | ALC_CMC .....                                            | 43 |
| 8.4.2 | ALC_CMS .....                                            | 44 |
| 8.4.3 | ALC_DVS .....                                            | 44 |
| 8.4.4 | ALC_LCD .....                                            | 45 |
| 8.4.5 | ALC_DEL .....                                            | 45 |
| 8.5   | Assurance Measures Rationale .....                       | 45 |
| 8.6   | Mapping of the Evaluation Documentation .....            | 50 |
| 8     | References .....                                         | 51 |
| 9.1   | Literature .....                                         | 51 |
| 9.2   | Terminology .....                                        | 51 |

|     |                    |    |
|-----|--------------------|----|
| 9.3 | Abbreviations..... | 52 |
|-----|--------------------|----|

## List of tables

|                 |                                                                  |    |
|-----------------|------------------------------------------------------------------|----|
| <b>Table 1:</b> | Security problem definition to security objectives mapping ..... | 23 |
| <b>Table 2:</b> | Rationale for ALC_CMC.4.....                                     | 29 |
| <b>Table 3:</b> | <b>Rationale for ALC_CMS.5</b> .....                             | 30 |
| <b>Table 4:</b> | <b>Rationale for ALC_DVS.2</b> .....                             | 31 |
| <b>Table 5:</b> | <b>Rationale for ALC_DEL.1</b> .....                             | 32 |
| <b>Table 6:</b> | <b>Rationale for ALC_LCD.1</b> .....                             | 32 |
| <b>Table 7:</b> | <b>Rationale for Security Objectives</b> .....                   | 34 |
| <b>Table 8:</b> | Relation between Security Objectives and Threats and OSPs .....  | 37 |

# 1. Document Information

## 1.1 Reference

Title: Site Security Target Lite Veridos Matsoukis S.A. Security Printing

Version/Date: Version 3.3/12.02.2024

Company: Veridos Matsoukis S.A. Security Printing

Name of the site: Veridos Matsoukis S.A. Security Printing

Product Type: Smart Card Production

## 1.2 Overview

This document is the Site Security Target Lite Veridos Matsoukis S.A. Security Printing. It is based on [5] with the modifications necessary to correctly describe the sites named above.

## 2. SST Introduction

This chapter is divided into the sections "Identification of the Site" and "Site description".

This security target refers to the following site:

Veridos Matsoukis S.A. Security Printing

The site is used for Smart Card Production.

### 2.1 Identification of the Site

Veridos Matsoukis S.A. Security Printing is located at

Dimocratias Ave. 69

13122 Ilion, Attica

Greece

Veridos Matsoukis S.A. Security Printing provides services for Smart Card Production and is abbreviated by 'VDMAT'.

The location consists of three buildings named A, B and C, with different subsections. The buildings are located on a fenced area only used by VDMAT. Inside of buildings A, B and C are the high security areas (HSA) as in the following list:

The HSA in **building A** consists of

- A server room in 2<sup>nd</sup> floor
- The security control room in 2<sup>nd</sup> floor
- The shredder room at ground floor
- The main vault in the basement where finished goods are stored. Not only CC relevant.
- Vault at ground floor

The HSA in **building B** consists of

- the production area in 1<sup>st</sup> floor,
- Vault 1 (Ground Floor),
- Vault 2 (First Floor),

The HSA in **building C** consists of

- Vault of Building C (Ground Floor),

When not in production, Smart Card modules are securely stored in one of the vaults in buildings A, B or C.

The server infrastructure is located inside of the high security area. Physical Security Management, IT and the local IT administrators are located at VDMAT

The supporting IT services are provided by GDM (Giesecke+Devrient München) located at a secure area with restricted access which has been audited.

The services provided by Giesecke+Devrient Mobile Security Development Center Germany listed in the document 'Services Used from other sites VDMAT' are covered by a valid certificate. As far as the certificate is valid, services can be used by Veridos Matsoukis S.A. Security Printing.

## 2.2 Site description

VDMAT is a Smart Card Production Site where Smart Card modules are initialized and embedded in inlays. For better understanding they are referred to as 'Smart Card modules' or 'Smart Card Products' throughout the rest of this document.

The following services and/or processes provided by VDMAT are in the scope of the site evaluation process:

- Secure reception, storage and delivery of Smart Card modules. Delivery includes delivery for secure destruction.
- Secure reception and storage of initialisation data for Smart Card Production
- Secure reception and storage of cryptographic keys, derivation of card specific keys.
- Smart Card Production comprising configuration, completion (i.e. finishing the Smart Card OS) and initialisation of Smart Card modules
- Secure inlay manufacturing
- Secure Destruction of Smart Card Modules

The site evaluation covers the handling and production (i.e. the services/processes listed above) of Smart Card Products (i.e. passports, ID cards, signature cards, etc.) based on

G+D's own products or provided by the client. The term 'handling' in this regard comprises secure reception, storage and delivery of Smart Card Products as well as secure reception and storage of data for Smart Card Production.

The reception of Smart Card modules comprises a verification of the correctness of the delivered items with respect to the delivery documents and - if applicable - the verification of integrity of seals used for secure transportation of items.

The storage of Smart Card modules is done in a specially secured vault at VDMAT with restricted access.

### 2.2.1 Smart Card Production

The Smart Card Production site hosts (beside others) secure storage areas for Smart Card Products as well as a secure production area for inlay production, configuration, completion and initialisation of Smart Card modules. Access to the security areas is restricted to authorised persons only. The security areas are secured by mantraps which can only be entered by successful authorisation by card (company staff or visitor badge). Access rights on access cards are granted and revoked by the Security Department. After the last production step is finished the Smart Card Products are delivered either to another site which performs further production steps, to the Card Issuer or the cardholder on behalf of the Card Issuer. Not all possible production steps have to be carried out at this site. Personalization, for example, is an optional step. A delivery of Smart Card Products to a different Smart Card Production facility prior to the end of the initialisation is possible.

After delivery of Smart Card Products to the Smart Card Production Site the products are either processed immediately or securely stored in the secure storage area. They are only kept outside the secure storage area for the purpose of production or delivery.

The clients data for Smart Card Production can be received in different ways according to the technical and security needs of the client.

### 2.2.2 Supporting Services

The location for Supporting Services is GDM in Munich, a security area with restricted access. A company badge or visitor badge has to be presented for access to this area. Access rights on access cards in Munich, are granted and revoked by the responsible for physical site security. At the site for supporting services no Smart Card Software

Development is performed. Therefore no configuration management system is necessary for these sites. The supporting services comprise Corporate Security Office, IT security, IT services, etc. for details see [11] `Services_Used_From_Other_Sites_VDMAT`.

### **2.2.3 Life-Cycle Phases**

It is assumed that product certifications which refer to this Site Security Target are related to a TOE that follows a TOE life-cycle according to [10], chap. 1.2.3. VDMAT covers Phase 5 (Composite Product Integration) by providing the services of configuration, completion and initialisation.

### **2.2.4 Secure Destruction of Smart Card Modules**

Veridos Matsoukis S.A. Security Printing follows an internal process whenever such type of secure destruction should take place.

### 3 Conformance Claim

The evaluation is based on Common Criteria Version 3.1, Revision 5 [1], [2]. For the evaluation the methodology in [3] will be used. The SST is CC Part 3 conformant.

This Site Security Target covers the following CC assurance components:

ALC\_CMC.4, ALC\_CMS.5, ALC\_DEL.1, ALC\_DVS.2 and ALC\_LCD.1.

The assurance components chosen for the Site Security Target are taken from the definition of the EAL5 package defined in [2], because this is the level usually applied in smart card chip evaluations. Since some protection profiles refer to EAL5 augmented by ALC\_DVS.2 instead of ALC\_DVS.1 as in the original package definition of EAL5, for this Site Security Target also ALC\_DVS.2 has been selected instead of ALC\_DVS.1.

ALC\_DEL.1 is included because in contrast to PP0084, which states delivery of composite product only after phase 6 (Personalization) not covered by this ST, other PP's for example PP0055b (ICAO Application Basic Access Control) define delivery after composite product integration.

Note that the site does not provide services that are covered by ALC\_TAT.2. This component is rejected because development activities as those defined in PP0084 are out of scope of the certification of this site..

For the assessment of the security measures attackers with high attack potential are assumed. This allows an evaluation of products using this site according to the assurance component AVA\_VAN.5.

## 4 Security Problem Definition

The Security Problem Definition comprises security problems derived from threats against the assets handled by the site and security problems derived from the configuration management requirements. The configuration management covers the integrity of the products and the security management of the site.

The Security Problem Definition comprises two major so called security problems. The first set of security problems comprises all kind of attacks regarding theft (e.g. samples) or disclosure (e.g. design data) or manipulation of assets. For simplification the term 'get access' covers all three before mentioned security problems. These security problems are described in terms of threats. The second set of security problems comprises the requirements for the configuration management (e.g. controlled modification) and the control of security measures. These security problems are described in terms of Organisational Security Policies (OSP).

### 4.1 Assets

The following section describes the assets handled at the site:

- sensitive products: unfinished as chip modules  
finished chip modules  
defective or rejected chip modules
- sensitive production systems or configuration systems
- security relevant production processes
- sensitive configuration data or items
- cryptographic keys to secure initialization
- derived cryptographic keys

### 4.2 Threats

All threats endanger the integrity and confidentiality of the products and the representation of parts of the products. The products protect themselves after conclusion of the initialisation phase. However, during the development and production the products and the representation of parts of the products are vulnerable to such attacks.

Remark: The term sensitive configuration item has been amended by 'sensitive configuration data or items', because not only the theft or modification of sensitive configuration items but also of other data kept outside the configuration management system (e.g. cryptographic keys) might compromise the security of a product.

**T.Smart-Theft:** An attacker tries to access sensitive areas of the site for manipulation or theft of sensitive configuration data or items. The attacker has sufficient time to investigate the site outside the controlled boundary. For the attack the use of standard equipment for burglary is considered. In addition, the attacker may be able to use specific working clothes of the site to camouflage the intention.

**T.Rugged-Theft:** An experienced thief with specialised equipment for burglary, who may be paid to perform the attack tries to access sensitive areas and manipulate or steal sensitive configuration data or items.

**T.Computer-Net:** A hacker with substantial expertise, standard equipment, who may be paid to attempt to remotely access sensitive network segments to get access to sensitive configuration data or items or modify security relevant production processes.

**T.Accident-Change:** An employee, or freelancer of VDMAT may exchange products of different production lots or different clients during production by accident.

**T.Unauthorised-Staff:** Employees, freelancer of VDMAT or non VDMAT employee not authorised to get access to products or systems used for production get access to sensitive configuration data or items or products or affect production systems or configuration systems, so that the confidentiality and/or the integrity of the product is violated. This can apply to completion or initialisation and any sensitive configuration data or item of the finished product as well as to the finished product, its configuration data or other sensitive data (e.g cryptographic keys).

**T.Staff-Collusion:** An attacker tries to get access to sensitive configuration data or items stored or processed at the site. The attacker tries to get support from one or more employees through an attempted extortion or an attempt at bribery.

**T.Attack-Transport:** An attacker might try to get sensitive configuration data or items, specifications or products during the internal shipment or the external delivery. The target is to compromise confidential information or violate the integrity of the products during the

stated internal shipment or the external delivery process to allow a modification, cloning or the retrieval of confidential information. Confidential information comprises design data, client or consumer data like code and data (including cryptographic keys) stored in the ROM, Flash or EEPROM or classified product specifications.

## 4.3 Organisational Security Policies

The following policies are introduced by the requirements of the assurance components of ALC for the assurance level EAL5+ (augmented by ALC\_DVS.2). The chosen policies shall support the understanding of the production flow and the security measures of the site. In addition, they shall allow an appropriate mapping to the Security Assurance Requirements (SAR).

**P.Config-Items:** The configuration management system shall be able to uniquely identify sensitive configuration data or items. This includes the unique identification of sensitive configuration data or items that are created, generated, developed or used at a site as well as the received and transferred and provided sensitive configuration data or items.

**P.Config-Control:** The procedures for setting up the production process for a new product as well as the procedure that allows changes of the initial setup for a product shall only be applied by authorised personnel. Automated systems shall support the configuration management and ensure access control or interactive acceptance measures for set up and changes. The procedure for the initial set up of a development or production process ensures that sufficient information is provided by the client.

**P.Config-Process:** The services and processes provided by the site are controlled in the configuration management plan. This comprises tools used for the production of the product, the management of flaws and optimisations of the process flow as well as the documentation that describes the services and processes provided by the site.

**P.Reception-Control:** The inspection of incoming sensitive configuration data or items done at the site ensures that the received sensitive configuration data or items comply with the properties stated by the client.

**P.Accept-Product:** If required by the client, release tests are performed to ensure the compliance with the specification of the client.

**P.Zero-Balance:** For each hand over of sensitive configuration data or items, either an automated or an organisational “two-employees-acknowledgement” (four-eyes principle) is applied for functional and defective products. According to the released production process the defective products are either sent back to the client and/or consumer or to another Smart Card Production facility (depending on the production-setup).

**P.Organise-Product:** The configuration, completion or initialisation process is applied as specified by the client. Performing the initialisation is an optional production step. If the data includes sensitive items like cryptographic keys relevant for the life-cycle or sensitive configuration data that affect the security of the product, appropriate measures must be in place. This includes the requirement that the knowledge of cryptographic keys shall be split to at least two different persons. Furthermore, technical measures like crypto-boxes, separation of network, split access permission and secure storage shall be implemented for this kind of sensitive configuration data.

**P.Product-Transport:** Technical and organisational measures shall ensure the correct labelling of the product. A controlled internal shipment and/or the external delivery shall be applied. The transport supports traceability up to the acceptor. If applicable or required this policy shall include measures for packing if required to protect the product during transport.

In case the product is protecting itself after conclusion of a specific production step – i.e. after initialisation – no specific protection during transport might be necessary.

## 4.4 Assumptions

Each site operating in a production flow must rely on preconditions provided by the previous site. Each site has to rely on the information received by the previous site/client. This is reflected by the assumptions that must be defined for the interface.

The following assumptions are considered to be applicable to all sites.

**A.Prod-Specification:** The client must provide appropriate information in order to ensure an appropriate production process. This includes the delivery of correct data for production, secured by appropriate means against modification and/or disclosure, if necessary.

**A.Prod-Release:** The client is responsible for the release of the products to be produced.

**A.Item-Identification:** Each sensitive configuration data or item received by the site can be uniquely identified.

**A.External-Delivery:** The recipient (consumer) of the product is identified by the address provided by the client. The address of the consumer is part of the product setup. Alternatively, deliveries to the client (Card Issuer) or other Smart Card Production facilities are possible. Every recipient of the product is identified by the address provided by the client.

**A.Internal-Shipment:** The recipient (client) of the product is identified by the address of the client site for physical items and by corresponding information (e.g. email address) for electronic items.

**A.Init-Data:** The requirements on the scripts for the configuration and initialisation process are specified or provided by the client of the product.

**A.Product-Integrity:** The self-protecting features of the Smart Card modules in production are fully operational and it is not possible to influence the configuration and behaviour of the devices based on insufficient operational conditions or any command sequence generated by an attacker or by accident.

**A.Destruct-Scrap:** In case the scrap are not destructed within VDMAT, scrap configuration items are stored securely in a vault till end of life of the product (e.g. ePassport) in the field or transferred to another site and they are securely destroyed at the receiving site so that they are useless for an attacker.

## 5 Security Objectives

The Security Objectives are related to physical, technical and organisational security measures, the configuration management as well as the internal shipment and the external delivery.

**O.Security-Documentation:** The security of the site is maintained according to the sites security documentation covering all physical and logical measures to ensure the security of the site.

**O.Physical-Access:** The combination of physical partitioning between the different access control levels together with technical and organisational security measures allows a sufficient separation of employees to enforce the “need to know” principle. The access control shall support the limitation for the access to these areas including the identification and rejection of unauthorised people. The site shall enforce two levels (level 1 and level 2) of access control to sensitive areas of the site. The access control measures ensure that only registered employees can access restricted areas. Sensitive products are handled in restricted areas only.

**O.Security-Control:** Assigned personnel of the site operate the systems for access control and surveillance and respond to alarms. Technical security measures like video control, motion sensors and similar kind of sensors support the enforcement of the access control. These personnel are also responsible for registering and ensuring escort of visitors, contractors and suppliers.

**O.Alarm-Response:** The technical and organisational security measures ensure that an alarm is generated before an unauthorised person gets access to any sensitive configuration data or item. After the alarm is triggered the unauthorised person still has to overcome further security measures. The reaction time of the employees or guards is short enough to prevent a successful attack.

**O.Internal-Monitor:** The site performs security management meetings on a regular basis. The security management meetings are used to review security incidences, to verify that maintenance measures are applied and to reconsider the assessment of risks and security measures. Furthermore, an internal audit is performed at least every year to verify the

application of the security measures. Sensitive processes may be controlled within a shorter time frame to ensure a sufficient protection.

**O.Maintain-Security:** Technical security measures are maintained regularly to ensure correct operation. The logging of sensitive systems is checked regularly. This comprises the access control system to ensure that only authorised employees have access to sensitive areas as well as computer/network systems to ensure that they are configured as required to ensure the protection of the networks and computer systems.

**O.Logical-Access:** The site enforces a logical separation between the internal network and the internet by a firewall. The firewall ensures that only defined services and defined connections are accepted. Furthermore, the internal network is separated into a production network and an office network. Additional specific networks for production and configuration are physically or logically separated from any internal network to enforce access control. Access to the production network and related systems is restricted to authorised employees that work in the related area or that are involved in the configuration tasks or the production systems. Production network is an isolated network with no internet access. Every user of an IT system has its own user account and password. All computer systems with access to sensitive data require successful authentication by user name and password.

**O.Logical-Operation:** All network segments and the computer systems are kept up-to-date (software updates, security patches, virus protection). The backup of sensitive data and security relevant logs is applied according to the classification of the stored data.

**O.Config-Items:** The site has a configuration management system that assigns a unique internal identification to each product to uniquely identify products.

**O.Config-Control:** The site applies a release procedure for the setup of the production process for each new product. In addition, the site has a process to classify and introduce changes for services and/or processes of released products. A designated team is responsible for integration of new products into the configuration management system.

**O.Config-Process:** The site controls its services and/or processes using a configuration management plan. The configuration management is supported by tools and procedures for the production of the product, for the management of flaws and optimisations of the

process flow as well as for the documentation that describes the services and/or processes provided by the site.

**O.Accept-Product:** Upon request of the client, release tests are performed to ensure the compliance with the specification of the client.

**O.Organise-Product:** For the configuration, completion or initialisation process it is ensured that the specified process is applied. Performing the initialisation is an optional production step. The data integrity is either ensured by technical means, cryptographic means or is verified at the site. Security relevant cryptographic keys can only be constructed in plaintext or used for cryptographic operations by at least two employees. Other sensitive data can only be constructed in plaintext by at least two employees. Use of security relevant cryptographic keys is restricted to crypto-boxes (e.g. Hardware Security Modules, HSM) or similar devices (e.g. smartcards). The update of already released products is done according to a controlled process.

**O.Staff-Engagement:** All employees who have access to sensitive configuration data or items and who can move parts of the product out of the defined production flow are checked regarding security concerns and have to sign a non-disclosure agreement. Furthermore, all employees are trained and qualified for their job.

**O.Zero-Balance:** Automated control and/or two employees acknowledgement during hand over of sensitive items is applied for functional and defective products. According to the agreed production flow the defect products are either destroyed at the site or another production site or sent to the client or the consumer.

**O.Reception-Control:** Upon reception of a physical product an incoming inspection is performed. The inspection comprises the received amount of products and the identification according to the documentation of the supplier. For electronic items that require authenticity, the authenticity is verified upon reception.

**O.Internal-Shipment:** The recipient of a physical configuration item is identified by the assigned client address. The recipient(s) of an electronic configuration item (e.g. source code) can be identified in different ways. The specific way is defined in the internal shipment procedure. The internal shipment procedure is applied to all shipped configuration data or items. The recipient for shipment can only be changed by a controlled process. The packaging (if any) is part of the defined process and applied as agreed with

the client. The forwarder supports the tracing of configuration data or items during internal shipment. For every sensitive configuration data or item, the protection measures against manipulation are defined (e.g. sealed boxes, encryption, integrity protection, electronic signature).

**O.External-Delivery:** The recipient of a physical configuration item is identified by the assigned consumer address. The recipient(s) of an electronic configuration item (e.g. initialisation data, response data) can be identified in different ways. The specific way is defined in the external delivery procedure. The external delivery procedure is applied to all sensitive configuration data or items. The recipient for shipment can only be changed by a controlled process. The packaging (if any) is also part of the defined process and applied as agreed with the client or the consumer. The forwarder supports the tracing of sensitive configuration data or items during external delivery. For every configuration data or item, the protection measures against manipulation are defined (if necessary).

**O.Transfer-Data:** Sensitive electronic configuration items (data or documents in electronic form) are protected by applying cryptographic algorithms to ensure confidentiality and/or integrity (whatever is required) during internal shipment and external delivery. In case asymmetric cryptographic algorithms are applied, the associated cryptographic keys must be assigned to individuals to ensure that only authorised employees are able to extract the sensitive electronic configuration items. Alternatively, symmetric key or password based exchanges methods might be used (e.g. symmetric key encrypted files, password encrypted archives) which do't allow assignment of individuals. In the latter case it has to be ensured that only authorised users have access to the cryptographic keys or passwords. The cryptographic keys and/or passwords are exchanged based on secure measures and they are sufficiently protected.

**O.Control-Scrap:** The site has measures in place to destroy sensitive documentation and erase electronic media. Scrap (Smart Card modules) are stored in the vault till end of life of the product (e.g. ePassport) in the field, securely destructed within VDMAT or securely transferred to another site of Giesecke+Devrient capable of secure destruction of scrap or securely shipped to the client for destruction.

## 5.1 Security Objectives Rationale

The SST includes a tracing which shows how the threats and OSPs for a development site are covered by the Security Objectives.

### 5.1.1 Mapping of Security Objectives

| Threat and OSP    | Security Objective                                                                                                                     | Note                                                                                                                                               |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| T.Smart-Theft     | O.Security-Documentation<br>O.Physical-Access<br>O.Security-Control<br>O.Alarm-Response<br>O.Internal-Monitor<br>O.Maintain-Security   | The combination of structural, technical and organisational measures detects unauthorised access and allow for appropriate response on any threat. |
| T.Rugged-Theft    | O.Security-Documentation<br>O.Physical-Access<br>O.Security-Control<br>O.Alarm-Response<br>O.Internal-Monitor<br>O.Maintain-Security   | The combination of structural, technical and organisational measures detects unauthorised access and allow for appropriate response on any threat. |
| T.Computer-Net    | O.Security-Documentation<br>O.Internal-Monitor<br>O.Maintain-Security<br>O.Logical-Access<br>O.Logical-Operation<br>O.Staff-Engagement | The technical and organisational measures prevent unauthorised access to the internal network.                                                     |
| T.Accident-Change | O.Config-Items<br>O.Accept-Product<br>O.Config-Control                                                                                 | The automated measures and the control and verification procedures                                                                                 |

|                      |                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | O.Config-Process                                                                                                                                                                                                        | avoid accidental changes of sensitive items.                                                                                                                                                                                                                                                                      |
| T.Unauthorised-Staff | O.Security-Documentation<br>O.Physical-Access<br>O.Security-Control<br>O.Alarm-Response<br>O.Internal-Monitor<br>O.Maintain-Security<br>O.Logical-Access<br>O.Logical-Operation<br>O.Staff-Engagement<br>O.Zero-Balance | Physical and logical access control limits the access to sensitive data to authorised persons. In addition, organisational measures prevent uncontrolled access to products or product related items.                                                                                                             |
| T.Staff-Collusion    | O.Security-Documentation<br>O.Internal-Monitor<br>O.Maintain-Security<br>O.Staff-Engagement<br>O.Transfer-Data<br>O.Control-Scrap                                                                                       | The application of internal security measures combined with the hiring policies that restrict hiring to trustworthy employees prevent unauthorised access to sensitive data or items.                                                                                                                             |
| T.Attack-Transport   | O.Internal-Shipment<br>O.External-Delivery<br>O.Transfer-Data                                                                                                                                                           | The applied security measures on sensitive data during internal shipment and external delivery prevent modification or disclosure of any sensitive data during transport.<br>The applied security measures on physical items during internal shipment and external delivery allow detection of attempted attacks. |

|                     |                                                                                                       |                                                                                                                                                                                                            |
|---------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P.Config-Items      | O.Reception-Control<br>O.Config-Items                                                                 | All relevant items are covered by the control.                                                                                                                                                             |
| P.Config-Control    | O.Config-Items<br>O.Config-Control<br>O.Logical-Access<br>O.Reception-Control<br>O.Config-Process     | The scope of the configuration control comprises the production process.                                                                                                                                   |
| P.Config-Process    | O.Config-Process                                                                                      | The scope comprises the production process.                                                                                                                                                                |
| P.Reception-Control | O.Reception-Control                                                                                   | The incoming control on physical items ensures that only authentic items of correct quantity are accepted.<br><br>The incoming control on electronic items ensures that only authentic items are accepted. |
| P.Accept-Product    | O.Accept-Product<br>O.Config-Process<br>O.Config-Control                                              | On request of the client release tests are performed.                                                                                                                                                      |
| P.Zero-Balance      | O.Zero-Balance<br>O.Control-Scrap                                                                     | The handling of correct and defective products ensure that no unexpected missing items or left-over items occur.                                                                                           |
| P.Organise-Product  | O.Logical-Operation<br>O.Logical-Access<br>O.Config-Control<br>O.Config-Process<br>O.Organise-Product | The application of the production processes is ensured by O.Organise-Product supported by technical and organisational means.                                                                              |

|                         |                                                                                 |                                                                                                      |
|-------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| P.Product-<br>Transport | O.Config-Items<br>O.Internal-Shipment<br>O.External-Delivery<br>O.Transfer-Data | The controlled shipment and<br>delivery procedures ensure correct<br>shipment and delivery of items. |
|-------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|

**Table 1:** Security problem definition to security objectives mapping

## 6 Extended Assurance Components Definition

No extended components are defined in this Site Security Target.

## 7 Security Assurance Requirements

The security assurance requirements for this Site Security Target shall support an evaluation according to the assurance level EAL4+ and EAL5+ . In some cases, this evaluation assurance level is augmented by the security assurance requirement ALC\_DVS.2. Therefore this security assurance requirement is also used in this Site Security Target instead of ALC\_DVS.1 as defined for the package EAL4 and EAL5 in [2]. Because ALC\_DVS.2 is the hierarchically higher component to ALC\_DVS.1 this Site Security Target is also suitable for EAL4 and EAL 5 evaluations using ALC\_DVS.1.

The assurance requirements for the Life-Cycle support are:

ALC\_CMC.4 (CM capabilities)

ALC\_CMS.5 (CM scope)

ALC\_DEL.1 (Delivery)

ALC\_DVS.2 (Development security)

ALC\_LCD.1 (Life-cycle definition)

The assurance requirements listed above fulfil the requirements of [4] because hierarchically higher components are used in this Site Security Target compared to the Minimum Requirements in [4]. In addition, the minimum set of assurance requirements is extended by assurance requirements of the assurance component for delivery ALC\_DEL.1 (see also 3.).

The dependencies for the assurance requirements named above are as follows:

ALC\_CMC.4: ALC\_CMS.1, ALC\_DVS.1, ALC\_LCD.1

ALC\_CMS.5: None

ALC\_DEL.1: None

ALC\_DVS.2: None

ALC\_LCD.1: None

The following dependencies are not fulfilled or not completely fulfilled:

ALC\_LCD.1: ALC\_LCD.1 is part of this Site Security Target but doesn't cover product specific information of the life-cycle definition.

## 7.1 Application Notes and Refinements

The description of the site certification process [4] includes specific application notes. The main item is that a product that is considered as 'intended TOE' is not available during the evaluation. Since the term "TOE" is not applicable in the SST the associated processes for the handling of products are in the focus and described in this SST. These processes are subject of the evaluation of the site.

Refinements regarding Security Assurance Requirements as defined in CC Part 3 [2] are written in *italic*. The term 'TOE' is replaced by 'product' or 'configuration item'.

### 7.1.1 Overview regarding CM capabilities (ALC\_CMC)

All Smart Card based products that can be completed and initialised at VDMAT are defined in the CM tool Business Central. Each product is defined as a combination of materials which are also defined in Business Central. Each material and each product can be uniquely identified in the Business Central system.

### 7.1.2 Overview regarding CM scope (ALC\_CMS)

The configuration list contains all evaluation documentation for the certification of this site as well as the development tools used for production.

### 7.1.3 Overview regarding Delivery procedure (ALC\_DEL)

The delivery aspect refers to the delivery of Smart Card ICs, Smart Card modules and related data and documentation to the Smart Card Production site as well as all deliveries of Smart Card related products, related data and documentation from the Smart Card

Production site to the consumer, client (i.e. the Card Issuer) or other Smart Card Production facilities.

#### 7.1.4 Overview regarding Development Security (ALC\_DVS)

The site must ensure that the handling and storage of Smart Card related products is secure so that no information is unintentionally made available for the operational phase and no unauthorised modifications of security relevant parameters is possible. The confidentiality and integrity of configuration data and initialisation data must be guaranteed, access to any kind of Smart Card related products and related data and documentation must be restricted to authorised persons only.

Based on these requirements the physical security as well as the logical security of the site are in the focus of the evaluation. Beside the pure implementation of the security measures also the control and the maintenance of the security measures must be considered.

In addition, internal shipment within the Smart Card Production site has to be covered by ALC\_DVS.

#### 7.1.5 Overview regarding Life-cycle definition (ALC\_LCD)

The Life Cycle Phase covered by Veridos Matsoukis S.A. Security Printing is the Composite Product Integration Phase' in the sense of the Common Criteria.

### 7.2 Security Assurance Rationale

The security assurance requirements rationale maps the content elements of the selected assurance components of [2] to the security objectives defined in this Site Security Target. The refinements described above are considered.

The site has a process in place to ensure an appropriate and consistent identification of the products.

Note: The content elements that are changed from the original CEM [3] according to the application notes in the process description [4] are written in *italic*. The term TOE can be replaced by configuration items or product.

## 7.2.1 Rationale for ALC\_CMC.4

| Security Assurance Requirement                                                                                                      | Security Objective                    | Rationale                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALC_CMC.4.1C: <i>The CM documentation shall show that a process is in place to ensure an appropriate and consistent labelling.</i>  | O.Reception-Control<br>O.Config-Items | Upon reception of an item from another site O.Reception-Control ensures that authenticity is verified for the shipped item. With this it is ensured that the item has been labelled before delivery. After integration into the CM system O.Config-Items ensures appropriate and consistent labelling as well as unique identification of the item. |
| ALC_CMC.4.2C: The CM documentation shall describe the method used to uniquely identify the configuration items.                     | O.Config-Items                        | see ALC_CMC.4.1C                                                                                                                                                                                                                                                                                                                                    |
| ALC_CMC.4.3C: The CM system shall uniquely identify all configuration items.                                                        | O.Config-Items                        | see ALC_CMC.4.1C                                                                                                                                                                                                                                                                                                                                    |
| ALC_CMC.4.4C: The CM system shall provide automated measures such that only authorised changes are made to the configuration items. | O.Config-Control<br>O.Logical-Access  | All configuration items are kept under configuration control according to O.Config-Control.<br><br>O.Config-Control is supported by O.Logical-Access that requires the authentication of each user before any change can be applied to a configuration item.                                                                                        |

|                                                                                                                                                      |                                      |                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALC_CMC.4.5C: The CM system shall support the production of the <i>product</i> by automated means.                                                   | O.Config-Process                     | The CM system supports automated production of products.                                                                                                                                                   |
| ALC_CMC.4.6C: The CM documentation shall include a CM plan.                                                                                          | O.Config-Process                     | CM process documentation is available and maintained according to O.Config-Process.                                                                                                                        |
| ALC_CMC.4.7C: The CM plan shall describe how the CM system is used for the development of the <i>product</i> .                                       | O.Config-Process                     | CM process documentation is available and maintained according to O.Config-Process.                                                                                                                        |
| ALC_CMC.4.8C: The CM plan shall describe the procedures used to accept modified or newly created configuration items as part of the <i>product</i> . | O.Config-Control<br>O.Config-Process | Process descriptions are covered by O.Config-Process, including modification or new generation of configuration items. Handling of change management for released products is covered by O.Config-Control. |
| ALC_CMC.4.9C: The evidence shall demonstrate that all configuration items are being maintained under the CM system.                                  | O.Config-Items<br>O.Config-Control   | All configuration items are kept under configuration control according to O.Config-Items and O.Config-Control.                                                                                             |
| ALC_CMC.4.10C: The evidence shall demonstrate that the CM system is being operated in accordance with the CM plan.                                   | O.Config-Process                     | The operation of the CM system in accordance to the CM plan is ensured by O.Config-Process.                                                                                                                |

Table 2: Rationale for ALC\_CMC.4

## 7.2.2 Rationale for ALC\_CMS.5

| Security Assurance Requirement                                                                                                                                                                                                                   | Security Objective                 | Rationale                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALC_CMS.5.1C: The configuration list shall include the following: <i>clear instructions how to consider these items in the list</i> ; the evaluation evidence required by the SARs of the life-cycle; development tools and related information. | O.Config-Items<br>O.Config-Process | The unique identification of all configuration items is ensured by O.Config-Items. O.Config-Process contains the CM documentation including clear instructions how to consider the configuration items in the configuration list. |
| ALC_CMS.5.2C: The configuration list shall uniquely identify the configuration items.                                                                                                                                                            | O.Config-Items<br>O.Config-Process | The unique identification of all configuration items is ensured by O.Config-Items. O.Config-Process contains the CM documentation.                                                                                                |
| ALC_CMS.5.3C: For each <i>configuration item</i> , the configuration list shall indicate the developer of the item.                                                                                                                              | O.Config-Process                   | O.Config-Process contains the CM documentation including clear instructions how to consider the configuration items in the configuration list (including developer information - no subcontractors are used).                     |

Table 3: Rationale for ALC\_CMS.5

## 7.2.3 Rationale for ALC\_DVS.2

| Security Assurance Requirement                                                        | Security Objective                                                  | Rationale                                                                                                                     |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| ALC_DVS.2.1C: The development security documentation shall describe all the physical, | O.Security-Documentation<br>O.Physical-Access<br>O.Security-Control | The development security documentation from O.Security-Documentation describes all physical measures according to O.Physical- |

|                                                                                                                                                                                                               |                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| procedural, personnel, and other security measures that are necessary to protect the confidentiality and integrity of the <i>product</i> design and implementation in its development environment.            | O.Alarm-Response<br>O.Logical-Access<br>O.Logical-Operation<br>O.Staff-Engagement<br>O.Zero-Balance<br>O.Maintain-Security<br>O.Internal-Shipment<br>O.Transfer-Data<br>O.Control-Scrap | Access supported by O.Security-Control and O.Alarm-Response. In addition, all logical measures are described according to O.Logical-Access and O.Logical-Operation. These measures are supported by the security awareness of the staff according to O.Staff-Engagement and the measures that ensure the functionality of the technical security measures of the site according to O.Maintain-Security. Security during internal shipment is ensured by O.Internal-Shipment and O.Transfer-Data. O.Control-Scrap and O.Zero-Balance ensure that no unauthorised access to products is possible for an attacker. |
| ALC_DVS.2.2C: The development security documentation shall justify that the security measures provide the necessary level of protection to maintain the confidentiality and integrity of the <i>product</i> . | O. Security-Documentation<br>O.Internal-Monitor<br>O.Internal-Shipment<br>O.Transfer-Data                                                                                               | The security measures of the site are in agreement with the security documentation of O.Security-Documentation. Sufficiency of the security measures is verified according to O.Internal-Monitor. Security during internal shipment is ensured by O.Internal-Shipment and O.Transfer-Data.                                                                                                                                                                                                                                                                                                                      |

Table 4: Rationale for ALC\_DVS.2

## 7.2.4 Rationale for ALC\_DEL.1

| Security Assurance Requirement | Security Objective | Rationale |
|--------------------------------|--------------------|-----------|
|--------------------------------|--------------------|-----------|

|                                                                                                                                                                                  |                                        |                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------|
| ALC_DEL.1.1C: The delivery documentation shall describe all procedures that are necessary to maintain security when distributing versions of the <i>product</i> to the consumer. | O.External-Delivery<br>O.Transfer-Data | All external deliveries are according to O.External-Delivery and O.Transfer-Data. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------|

Table 5: Rationale for ALC\_DEL.1

## 7.2.5 Rationale for ALC\_LCD.1

| Security Assurance Requirement                                                                                                          | Security Objective                                                             | Rationale                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALC_LCD.1.1C: The life-cycle definition documentation shall describe the model used to develop and maintain the <i>product</i> .        | O.Config-Control<br>O.Config-Process<br>O.Accept-Product<br>O.Organise-Product | During production no development takes place. Therefore only the maintenance of products is relevant for this site. Maintenance is done according to O.Config-Control, O.Config-Process and O.Organise-Product. On request of the client, release tests are performed according to O.Accept-Product. |
| ALC_LCD.1.2C: The life-cycle model shall provide for the necessary control over the development and maintenance of the <i>product</i> . | O.Config-Control<br>O.Config-Process<br>O.Accept-Product<br>O.Organise-Product | see ALC_LCD.1.1C                                                                                                                                                                                                                                                                                     |

Table 6: Rationale for ALC\_LCD.1

The guidance on Site Certification [4], chap. 4.8 requires that this rationale shows that all security objectives are effectively addressed by the SARs. The results are summarised in the following table.

| Security Objective       | Security Assurance Requirements                                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| O.Security-Documentation | ALC_DVS.2.1C, ALC_DVS.2.2C                                                                                                                        |
| O.Physical-Access        | ALC_DVS.2.1C                                                                                                                                      |
| O.Security-Control       | ALC_DVS.2.1C                                                                                                                                      |
| O.Alarm-Response         | ALC_DVS.2.1C                                                                                                                                      |
| O.Internal-Monitor       | ALC_DVS.2.2C                                                                                                                                      |
| O.Maintain-Security      | ALC_DVS.2.1C                                                                                                                                      |
| O.Logical-Access         | ALC_CMC.4.4C, ALC_DVS.2.1C                                                                                                                        |
| O.Logical-Operation      | ALC_DVS.2.1C                                                                                                                                      |
| O.Config-Items           | ALC_CMC.4.1C, ALC_CMC.4.2C, ALC_CMC.4.3C,<br>ALC_CMC.4.9C, ALC_CMS.5.1C, ALC_CMS.5.2C                                                             |
| O.Config-Control         | ALC_CMC.4.4C, ALC_CMC.4.8C, ALC_CMC.4.9C,<br>ALC_LCD.1.1C, ALC_LCD.1.2C                                                                           |
| O.Config-Process         | ALC_CMC.4.5C, ALC_CMC.4.6C, ALC_CMC.4.7C,<br>ALC_CMC.4.8C, ALC_CMC.4.10C, ALC_CMS.5.1C,<br>ALC_CMS.5.2C, ALC_CMS.5.3C, ALC_LCD.1.1C, ALC_LCD.1.2C |
| O.Accept-Product         | ALC_LCD.1.1C, ALC_LCD.1.2C                                                                                                                        |
| O.Organise-Product       | ALC_LCD.1.1C, ALC_LCD.1.2C,                                                                                                                       |
| O.Staff-Engagement       | ALC_DVS.2.1C                                                                                                                                      |
| O.Zero-Balance           | ALC_DVS.2.1C                                                                                                                                      |
| O.Reception-Control      | ALC_CMC.4.1C                                                                                                                                      |

|                     |                                          |
|---------------------|------------------------------------------|
| O.Internal-Shipment | ALC_DVS.2.1C, ALC_DVS.2.2C               |
| O.External-Delivery | ALC_DEL.1.1C                             |
| O.Transfer-Data     | ALC_DVS.2.1C, ALC_DVS.2.2C, ALC_DEL.1.1C |
| O.Control-Scrap     | ALC_DVS.2.1C                             |

Table 7: Rationale for Security Objectives

## 8 Site Summary Specification

### 8.1 Preconditions required by the site

This section provides background information on the assumptions defined in chap. 4.4.

The client must provide appropriate information for the secure production (including required information for the configuration and initialisation) of ordered products. The client is responsible for the release of the products (e.g. by buying released products). The client provides a method of unique identification for all items shipped to the site. The client provides appropriate information for the delivery of produced goods as well as electronic data to be delivered. This information shall at least comprise address data for physical items. This address or corresponding information (e.g. email address) for electronic items is used to identify the recipient of the product.

The client is responsible for providing the address of the consumer, which is part of the product setup, the product is to be delivered to. Deliveries are also possible to the client (Card issuer) or other Smart Card Production facilities. Every recipient of the product is identified by the address provided by the client.

The self-protection features of the Smart Card modules to be produced are fully operational during production.

When scrap parts are stored securely in the vault till end of life of the product (e.g. ePassport) in the field or delivered to the client or another production site for secure destruction, the client or the other production site is responsible for the secure destruction of scrap parts.

Details on the requirements for the secure exchange of physical and electronic items are summarised in the confidential document [12] 'Confidential\_Preconditions\_VDMAT'.

### 8.2 Services of the site

This site provides the service of secure reception, storage, delivery and destruction of Smart Card modules as well as secure reception and storage of data for Smart Card Production. The site also provides the secure manufacturing of inlays. Furthermore, the

site provides the service of secure reception and storage of cryptographic keys and derivation of card specific keys.

The reception of Smart Card modules comprises a verification of the correctness of the delivered items with respect to the delivery documents and - if applicable - the verification of integrity of seals used for secure transportation of items.

The storage of Smart Card related items is done in a specially secured environment on VDMAT premises with restricted access. The number of items is tracked from reception of the items until the delivery of the items. The destruction of Smart Cards is done on VDMAT premises in a tracked way.

The services of secure reception, storage and delivery of Smart Card products and related items not only covers VDMAT own products but also third party products.

In addition, this site provides the service of configuration, completion and initialisation of Smart Card Products based on own operating systems or other third party products as well as additional services for them which are out of scope for this Site Security Target (e.g. personalisation services).

## 8.3 Objectives rationale

The following rationale provides a justification that shows that all threats and organisational security policies are effectively addressed by the security objectives.

The following table shows which security objectives cover which threats and OSPs.

| Security Objective       | Threats and OSPs                                                                       |
|--------------------------|----------------------------------------------------------------------------------------|
| O.Security-Documentation | T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion |
| O.Physical-Access        | T.Smart-Theft, T.Rugged-Theft, T.Unauthorised-Staff                                    |
| O.Security-Control       | T.Smart-Theft, T.Rugged-Theft, T.Unauthorised-Staff                                    |
| O.Alarm-Response         | T.Smart-Theft, T.Rugged-Theft, T.Unauthorised-Staff                                    |
| O.Internal-Monitor       | T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion |
| O.Maintain-Security      | T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion |

|                     |                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------|
| O.Logical-Access    | T.Computer-Net, T.Unauthorised-Staff, P.Config-Control, P.Organise-Product                  |
| O.Logical-Operation | T.Computer-Net, T.Unauthorised-Staff, P.Organise-Product                                    |
| O.Config-Items      | T.Accident-Change, P.Config-Items, P.Config-Control, P.Product-Transport                    |
| O.Config-Control    | T.Accident-Change, P.Organise-Product, P.Config-Control, P.Accept-Product                   |
| O.Config-Process    | T.Accident-Change, P.Config-Process, P.Organise-Product, P.Config-Control, P.Accept-Product |
| O.Accept-Product    | T.Accident-Change, P.Accept-Product                                                         |
| O.Organise-Product  | P.Organise-Product                                                                          |
| O.Staff-Engagement  | T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion                                     |
| O.Zero-Balance      | P.Zero-Balance, T.Unauthorised-Staff                                                        |
| O.Reception-Control | P.Config-Items, P.Reception-Control, P.Config-Control                                       |
| O.Internal-Shipment | T.Attack-Transport, P.Product-Transport                                                     |
| O.External-Delivery | T.Attack-Transport, P.Product-Transport                                                     |
| O.Transfer-Data     | T.Staff-Collusion, T.Attack-Transport, P.Product-Transport                                  |
| O.Control-Scrap     | T.Staff-Collusion, P.Zero-Balance                                                           |

**Table 8: Relation between Security Objectives and Threats and OSPs**

### O.Security-Documentation

The security of the site is maintained according to the sites security documentation covering all physical and logical measures to ensure the security of the site.

These security measures are necessary to prevent the threats T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff and T.Staff-Collusion.

### O.Physical-Access

The production site is operated by VDMAT. The site is separated into different security levels. The production site is monitored by security staff on duty and surveillance cameras 24x7.

The building can only be entered presenting a company badge or visitor's badge to the card readers at the entrance. All employees and visitors have to wear their badges visible at any time.

All access attempts at any mantrap at all locations named above will be recorded by the security staff.

All other measures are internal to the site and are therefore not provided in the lite version of the SST.

These measures prevent access to sensitive areas for any unauthorised person and therefore prevent the threats T.Smart-Theft, T.Rugged-Theft, T.Unauthorised-Staff.

### **O.Security-Control**

Trained security staff is in charge of operating all security related systems. This especially holds granting access rights, etc. Visitors are escorted by the security staff or collected by company internal staff from the security staff.

Therefore the threats T.Smart-Theft, T.Rugged-Theft and T.Unauthorised-Staff are addressed by management of the security related systems like the access control system.

### **O.Alarm-Response**

Several alarm and detection sensors are installed to provide a warning system for entering the premises by T.Smart-Theft, T.Rugged-Theft and T.Unauthorised-Staff. Security staff will start to investigate any alarm immediately.

### **O.Internal-Monitor**

The security manager performs meetings with all security staff on a regular basis. During this meeting security procedures are reviewed and corrective actions are initiated (if necessary). In case security related incident occurred since the last security meeting, they will be addressed. In addition, internal audits are performed on a daily basis to ensure the application of the security measures.

The monitoring and protection of the IT system (including network) is handled by the IT department under supervision of the security manager.

These measures prevent T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion.

### **O.Maintain-Security**

All security related alarm and detection systems are checked on a regular basis. Logs for building access or site access as well as access to especially secured areas are stored and checked on a regular basis. Network security is monitored permanently by the IT-department.

These measures prevent T.Smart-Theft, T.Rugged-Theft, T.Computer-Net, T.Unauthorised-Staff, T.Staff-Collusion.

### **O.Logical-Access**

The IT network is logically separated from the outside world by a firewall system consisting of several firewalls which ensures that only authorised connections from and to the IT network are possible. At least two firewalls (i.e. outer firewall and inner firewall) are present between the outside world and any internal network.

Each user has an individual account. To access data on the company's network every user has to authenticate himself by login name and password. Multiple successive failed authentication attempts lead to a blocked account. The number of retries depend on the authentication method.

Access rights to all network resources are set according to a need-to-know or need-to-have basis, respectively. Access rights of users who do not need access to a network share any longer (e.g. change of jobs) are revoked. In particular, all accounts of employees who leave the company are deactivated.

The production network is additionally separated from the rest of VDMAT's internal network.

These measures prevent T.Computer-Net and T.Unauthorised-Staff and support the OSPs P.Config-Control and P.Organise-Product.

### **O.Logical-Operation**

Virus protection and patch management for operating systems and applications shall ensure the correct operation of the systems and prevent the systems from malfunction. They ensure that protective measures of the IT workplaces are up-to-date (virus definitions, security patches of operating system, security patches of programs, etc.). In addition, regular backups are applied to prevent loss of data. Backup tapes are securely stored protected against unauthorised modification and disclosure.

These measures prevent T.Computer-Net and T.Unauthorised-Staff and support the OSP P.Organise-Product.

### **O.Config-Items**

All configuration items are identified by a unique version number by the configuration management system. By this different products can be identified. By this the threat T.Accident-Change is countered and the OSPs P.Config-Items, P.Config-Control and P.Product-Transport are addressed.

### **O.Config-Control**

The application of released procedures for the setup of the production process for each product and the controlled introduction of changes ensures a production according to clients' specifications. Procedures for setting up the production process as well as changes to the initial setup are done only by authorised personnel. The production process is supported by automated systems. By this the OSPs P.Organise-Product, P.Accept-Product and P.Config-Control are addressed. In addition, the threat T.Accident-Change is covered.

### **O.Config-Process**

Configuration items are stored in the configuration management system according to the site's configuration management plan. By this the OSPs P.Config-Process, P.Accept-Product, P,Config-Control and P.Organise-Product are addressed. The management of flaws and optimisations of the process flow defined by O.Config-Process encounters the threat T.Accident-Change.

### **O.Accept-Product**

On request of the client release tests are performed for the corresponding products. By this the threat T.Accident-Change is countered and the OSP P.Accept-Product is addressed.

### **O.Organise-Product**

The development processes are defined and applied according to the site's quality management system. By this the OSP P.Organise-Product is addressed.

### **O.Staff-Engagement**

All employees working at the site and having access to sensitive information or data have to sign a non-disclosure agreement to provide legal liability to protect sensitive information against disclosure. In addition, all employees are trained regarding security to support the security awareness. All employees have to pass a security background check before they are hired. These measures prevent T.Computer-Net, T.Unauthorised-Staff and T.Staff-Collusion.

### **O.Zero-Balance**

Automated means and/or the application of a 4-eyes-principle ensures a continuous tracking of Smart Card Products during the whole production process. By this the OSP P.Zero-Balance is addressed and in addition, the threat T.Unauthorised-Staff is covered.

### **O.Reception-Control**

Upon reception of an electronic item relevant to security from a different site, authenticity of this item is verified (e.g. verification of a PGP signature when sent via email). Identification is performed if necessary (i.e. requested by the client; the client has to provide information how to identify the item). In case items are shared by a shared configuration management system between different sites or shared network drives, authenticity is implicitly assumed. By this the OSPs P.Config-Items, P.Config-Control and P.Reception-Control are addressed.

### **O.Internal-Shipment**

Security relevant physical items are internally shipped either by security transport (e.g. sealed boxes) or in person by company's internal staff. Security relevant electronic items are internally shipped using secure communication measures. This might be signed and/or

encrypted emails or similar (e.g. SSL secured web portals) or shared network systems (e.g. shared configuration management system). This prevents T.Attack-Transport and covers also P.Product-Transport.

#### **O.External-Delivery**

Security relevant physical items are externally delivered either by security transport (e.g. sealed boxes), in person by company's internal staff or collected by the client or the consumer as long as the security functions of the item are not sufficient to protect itself. Security relevant electronic items are externally shipped using secure communication measures. This might be signed and/or encrypted emails or similar (e.g. SSL secured webportals). This prevents T.Attack-Transport and covers also P.Product-Transport.

#### **O.Transfer-Data**

Sensitive electronic configuration items are protected against modification and/or disclosure by cryptographic means during transfer. Either symmetric means, asymmetric means or password protection are applied (as appropriate). Cryptographic keys and password used for secure communication are sufficiently protected against unauthorised access and disclosure. This prevents T.Staff-Collusion, T.Attack-Transport and covers also P.Product-Transport.

#### **O.Control-Scrap**

At this site sensitive documentation is destroyed and electronic media is erased. Scrap (Smart Card modules) is securely stored in a vault till end of life of the product (e.g. ePassport) in the field, securely destructed within VDMAT or securely transferred to another site of Giesecke+Devrient capable of secure destruction of scrap or securely shipped to the client for destruction. By this no employee could get uncontrolled access to scrap which might be helpful to support an attack. This prevents T.Staff-Collusion and covers P.Zero-Balance.

## **8.4 SAR Rationale**

The Security Assurance Requirements rationale does not explicitly address the developer action elements defined in [2] because they are implicitly included in the content elements. This comprises the provision of the documentation to support the evaluation and the

preparation for the site visit. In addition, this includes that the procedures are applied as written and explained in the documentation.

### 8.4.1 ALC\_CMC

ALC\_CMC.4.1C: *The CM documentation shall show that a process is in place to ensure an appropriate and consistent labelling.*

ALC\_CMC.4.2C: The CM documentation shall describe the method used to uniquely identify the configuration items.

ALC\_CMC.4.3C: The CM system shall uniquely identify all configuration items.

ALC\_CMC.4.4C: The CM system shall provide automated measures such that only authorised changes are made to the configuration items.

ALC\_CMC.4.5C: The CM system shall support the production of the *product* by automated means.

ALC\_CMC.4.6C: The CM documentation shall include a CM plan.

ALC\_CMC.4.7C: The CM plan shall describe how the CM system is used for the development of the *product*.

ALC\_CMC.4.8C: The CM plan shall describe the procedures used to accept modified or newly created configuration items as part of the *product*.

ALC\_CMC.4.9C: The evidence shall demonstrate that all configuration items are being maintained under the CM system.

ALC\_CMC.4.10C: The evidence shall demonstrate that the CM system is being operated in accordance with the CM plan.

The security assurance requirements of the assurance class "CM capabilities" listed above are suitable to support the production of high volumes due to the automated support. The identification of all configuration items allows a parallel production of several products. The requirement for authorized changes support the integrity and confidentiality required for the products. Therefore this assurance level meets the requirements for the configuration management.

## 8.4.2 ALC\_CMS

ALC\_CMS.5.1C: The configuration list shall include the following: *clear instructions how to consider these items in the list*; the evaluation evidence required by the SARs of *the life-cycle*; development tools and related information.

ALC\_CMS.5.2C: The configuration list shall uniquely identify the configuration items.

ALC\_CMS.5.3C: For each *configuration item*, the configuration list shall indicate the developer of the item.

## 8.4.3 ALC\_DVS

ALC\_DVS.2.1C: The development security documentation shall describe all the physical, procedural, personnel, and other security measures that are necessary to protect the confidentiality and integrity of the *product* design and implementation in its development environment.

ALC\_DVS.2.2C: The development security documentation shall justify that the security measures provide the necessary level of protection to maintain the confidentiality and integrity of the *product*.

The security assurance requirements of the assurance class "Development security" listed above are required since a high attack potential is assumed for potential attackers. The information used at the site during the production and initialization of the product can be used by potential attackers during the development of attacks. Based on the assumed self-protection of the products the information is needed to apply an attack within considerable time and effort. The keys used during the initialization process also support the security during the shipment or delivery. Therefore the handling is applied to split keys and a special storage of electronic keys is implemented.

#### 8.4.4 ALC\_LCD

ALC\_LCD.1.1C: The life-cycle definition documentation shall describe the model used to develop and maintain the *product*.

ALC\_LCD.1.2C: The life-cycle model shall provide for the necessary control over the development and maintenance of the *product*.

The security assurance requirements of the assurance class "Life-cycle definition" listed above are suitable to support the controlled production maintenance and development process. This includes the documentation of these processes and the procedures for the configuration management. The site supports only one phase of the described life cycle for the category of products. However the assurance requirements are considered to be suitable for this site.

#### 8.4.5 ALC\_DEL

ALC\_DEL.1.1C: The delivery documentation shall describe all procedures that are necessary to maintain security when distributing versions of the *product* to the consumer.

The security assurance requirement of the assurance class " Delivery" listed above is suitable to define a controlled environment and controlled processes for shipping procedures. The confidentiality and integrity of the product is addressed by this assurance class.

### 8.5 Assurance Measures Rationale

#### O.Security-Documentation

ALC\_DVS.2.1C, requires that the developer shall have a security documentation and ALC\_DVS2.2C requires the justification that the described measures are appropriate to provide the necessary level of protection. Therefore this objective contributes to meet the Security Assurance Requirements.

#### O.Physical-Access

ALC\_DVS.2.1C requires that the developer shall describe all physical security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. Thereby this objective contributes to meet the Security Assurance Requirement.

#### O.Security-Control

ALC\_DVS.2.1C requires that the developer shall describe all personnel, procedural and other security measures that are necessary to protect the confidentiality and integrity of the product design and implementation including the initialization in its development and production environment. Thereby this objective contributes to meet the Security Assurance Requirement.

#### O.Alarm-Response

ALC\_DVS.2.1C requires that the developer shall describe all personnel, procedural and other security measures that are necessary to protect the confidentiality and integrity of the product design and in its development environment. Thereby this objective contributes to meet the Security Assurance Requirement.

#### O.Internal-Monitor

ALC\_DVS.2.2C: The development security documentation shall justify that the security measures provide the necessary level of protection to maintain the confidentiality and integrity of the product. Thereby this objective contributes to meet the Security Assurance Requirement.

#### O.Maintain-Security

ALC\_DVS.2.1C: The development security documentation shall describe the security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. Thereby this objective contributes to meet the Security Assurance Requirement.

#### O.Logical-Access

ALC\_DVS.2.1C requires that the developer shall describe all personnel, procedural and other security measures that are necessary to protect the confidentiality and integrity of the product design and implementation including the initialization in its development and production environment. ALC\_CMC.4.4C requires that only authorised changes are made to the configuration items. Thereby this objective is suitable to meet the Security Assurance Requirements.

#### O.Logical-Operation

ALC\_DVS.2.1C: The development security documentation shall describe the security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. Thereby this objective is suitable to meet the Security Assurance Requirement.

#### O.Config-Items

ALC\_CMC.4.1C requires a documented process ensuring an appropriate and consistent labelling of the products and ALC\_CMC.4.2C requires a documentation describing the method used to uniquely identify configuration items. In addition, ALC\_CMC.4.3C requires that the CM system uniquely identifies all configuration items. ALC\_CMC.4.9C requires that the evidence demonstrates that all configuration items are being maintained under the CM system. The configuration list required by ALC\_CMS.5.1C shall include the evaluation evidence for the fulfilment of the SARs of the life-cycle, development tools. ALC\_CMS.5.2C requires that all configuration items are identified uniquely. The objective meets the set of Security Assurance Requirements.

#### O.Config-Control

A controlled setup is necessary to ensure that the resulting products are compliant with the client's specifications which supports the maintenance of products according to ALC\_LCD.1.1C and ALC\_LCD.1.2C. ALC\_CMC.4.4C requires that the CM system shall provide automated measures that only authorised changes are made to the configuration items and ALC\_CMC.4.8C requires that a CM plan exists describing the procedures used to accept modified or newly created configuration items. Both must give

evidence that all configuration items are being maintained under the CM system according to ALC\_CMC.4.9C.

#### O.Config-Process

The provision of automated measures is required by ALC\_CMC.4.5C. ALC\_CMC.4.6C requires that the CM documentation includes a CM plan. ALC\_CMC.4.7C requires that the CM plan describes how the CM system is used for the development of the product. ALC\_CMC.4.8C requires the description of the procedures used to accept modified or newly created configuration items as part of the product. ALC\_CMC.4.10C requires that the evidence demonstrates that the CM system is being operated in accordance with the CM plan. The configuration list required by ALC\_CMS.5.1C shall include the evaluation evidence for the fulfilment of the SARs of the life-cycle, development tools and related information. ALC\_CMS.5.2C requires that all configuration items are identified uniquely. ALC\_CMS.5.3C requires that for each configuration item the developer is indicated in the configuration list.

ALC\_LCD1.1C requires a description of the model used to develop and maintain the product. ALC\_LCD.1.2C requires that the life-cycle model provides the necessary control over the development and maintenance of the product. The objective meets the set of Security Assurance Requirements.

#### O.Accept-Product

ALC\_LCD1.1C requires a description of the model used to develop and maintain the product. ALC\_LCD.1.2C requires that the life-cycle model provides the necessary control over the development and maintenance of the product.

#### O.Organise-Product

ALC\_LCD1.1C requires a description of the model used to develop and maintain the product. ALC\_LCD.1.2C requires that the life-cycle model provides the necessary control over the development and maintenance of the product.

Thereby the objective fulfils this combination of Security Assurance Requirements.

#### O.Staff-Engagement

ALC\_DVS.2.1C requires the description of personnel security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. Thereby the objective fulfils this combination of Security Assurance Requirements.

#### O.Zero-Balance

Ensuring that no unidentified losses of Smart Card modules can occur, prevents an attacker from getting access to samples of products to investigate potential vulnerabilities. This is necessary to ensure the confidentiality and integrity of products as required by ALC\_DVS.2.1C.

#### O.Reception-Control

ALC\_CMC.4.1C requires that the CM documentation shall show that a process is in place to ensure an appropriate and consistent labelling. Newly created configuration items are also items that are received by another development site which have to be integrated into the site's CM system. Thereby this objective is suitable to meet this Security Assurance Requirement.

#### O.Internal-Shipment

ALC\_DVS.2.1C requires that the development security documentation shall describe all the physical, procedural, personnel, and other security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. ALC\_DVS2.2C requires the justification that the described measures are appropriate to provide the necessary level of protection. This protection also includes internal shipments. Thereby the objective is suitable to meet this combination of Security Assurance Requirements.

#### O.External-Delivery

ALC\_DEL.1.1C: The delivery documentation shall describe all procedures that are necessary to maintain security when distributing versions of the product to the consumer. Thereby this objective is suitable to meet the Security Assurance Requirement.

#### O.Transfer-Data

ALC\_DVS.2.1C: The development security documentation shall describe all the physical, procedural, personnel, and other security measures that are necessary to protect the confidentiality and integrity of the product design and implementation in its development environment. ALC\_DVS2.2C requires the justification that the described measures are appropriate to provide the necessary level of protection. This protection also includes internal shipments. ALC\_DEL.1.1C requires that the delivery documentation shall describe all procedures that are necessary to maintain security when distributing versions of the product to the consumer (external delivery). Thereby this objective is suitable to meet the combination of Security Assurance Requirements.

#### O.Control-Scrap

The controlled destruction of scrap is necessary to ensure the confidentiality and integrity of products as required by ALC\_DVS.2.1C.

## **8.6 Mapping of the Evaluation Documentation**

The mapping between the internal site documentation and the Security Assurance Requirements is only available within the full version of the Site Security Target.

Therefore the following part is removed for the Site Security Target Lite.

## 8 References

### 9.1 Literature

- [1] Common Criteria for Information Technology Security Evaluation, Part 1: Introduction and General Model; Version 3.1, Revision 5, CCMB-2017-04-001, April 2017
- [2] Common Criteria for Information Technology Security Evaluation, Part 3: Security assurance components; Version 3.1, Revision 5, CCMB-2017-04-003, April 2017
- [3] Common Methodology for Information Technology Security Evaluation: Evaluation methodology; Version 3.1, Revision 5, CCMB-2017-04-004, April 2017
- [4] Supporting Document, Site Certification, October 2007, Version 1.0, Revision 1, CCDB-2007-11-001
- [5] Site Security Target Template, Eurosmart, Version 1.0, 21.06.2009
- [6] Configuration System and Management Documentation for Veridos Matsoukis S.A. Security Printing, Version 2.4, 12.02.2024
- [7] Delivery Documentation for VDMAT, Version 2.2, 16.11.2023
- [8] Development Security Documentation for VDMAT , Version 2.1, 13.11.2023
- [9] Life Cycle Definition for VDMAT, Version 2.3, 12.02.2024
- [10] Common Criteria Protection Profile Security IC Platform with Augmentation Packages, BSI-CC-PP-0084-2014, Version 1.0, February 2014
- [11] Services\_Used\_From\_Other\_Sites\_VDMAT, Version 1.7, 23.11.2023
- [12] Confidential\_Preconditions\_VDMAT, Version 1.1, 01.03.2019
- [13] Configuration List Site Certification VDMAT, Version 1.2, 12.02.2024

### 9.2 Terminology

client      The word 'client' is used if the site operates as development site on request of another development site. The ordering development site is denoted as 'client'. The word client is used here instead of 'customer' , because the words 'customer' and 'consumer' are reserved in Common Criteria.

## 9.3 Abbreviations

|     |                             |
|-----|-----------------------------|
| CC  | Common Criteria.            |
| EAL | Evaluation Assurance Level. |
| IC  | Integrated circuit.         |
| IT  | Information Technology.     |
| SST | Site Security Target        |
| ST  | Security Target.            |
| TOE | Target of Evaluation.       |
| TSF | TOE Security functions.     |
| TSP | TOE Security Policy.        |
| CM  | Configuration Management    |