Finnish NCA policy

for

the Tachograph system

Finnish Transport and Communications Agency

(Liikenne- ja viestintävirasto, Traficom)

TRAFICOM
Finnish Transport and Communications Agency

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Version control		
version	date	description
3.0	26.2.2024	Approved by ERCA
3.01	15.5.2025	Changed organizational names in paragraphs 1.1. and 1.3.

Introduction

This document is the National CA policy for Finland for the Tachograph system.

This National CA policy is in accordance with:

- *Regulation (EU) 165/2014 on Tachographs in Road Transport, repealing Council Regulation (EEC) NO 3821/85 on Recording Equipment in Road Transport and amending Regulation (EC) NO 561/2006*
- *Commission Implementing Regulation (EU) 2016/799 of 18 March 2016 implementing Regulation (EU) No 165/2014 of the European Parliament and of the Council*
- *Commission Implementing Regulation (EU) 2018/502 of 28 February 2018 amending Implementing Regulation (EU) 2016/799the "Guideline and Template National Certification Authority policy" – Version 1.0*
- *the "Common Security Guidelines" – Version 1.0*
- *Digital Tachograph System European Root Policy, Version 2.1; European Commission Joint Research Center Publication 53429; 28th July 2009; published at http://dtc.ec.europa.eu.*

Abbreviations used in this document are specified at end of this document, in chapter 14.2.

1.1 Responsible organization

The responsible body for this National CA policy is the Finnish Transport and Communication Agency – TRAFICOM - Professional Transport Services as Member State Authority (**MSA**), further referred to as **FI-A**[1].

The appointed Card Issuing Authority (**CIA**) is the Finnish Transport and Communications Agency TRAFICOM – Licences and Qualifications, further referred to as **FI-CIA**[2]**.**

The appointed Certification Authority (**CA**) is the SK ID Solutions AS, further referred to as **FI-CA**[3]**.**

[1] **FI-A** – Finland Authority
[2] **FI-CIA** – Finland Card Issuing Authority
[3] **FI-CA** – Finland Certification Authority

The appointed Card Personalizing organization (**CP**) is the CardPlus Oy, further referred to as **FI-CP**[4].

FI-CIA and FI-CA may subcontract parts of its processes to subcontractors, called Service Agencies. The use of Service Agencies in no way diminishes its overall responsibilities as FI-CIA and FI-CA.

The appointed service agencies for FI-CIA, further referred to as **RA**[5], are:

Ajovarma, for Driver and Company cards

and

Traficom - Licences and Qualifications, for Workshop and Control cards.

The appointed service agency for FI-CA, further referred to as **CSP**[6], is:

SK ID Solutions AS
Pärnu mnt 141, 11314
Tallinn, Estonia
Email: info@skidsolutions.eu

CardPlus Oy may subcontract parts of its processes as FI-CP to subcontractors, called Service Agencies. The use of Service Agencies in no way diminishes its overall responsibilities as FI-CP.

The appointed service agency for FI-CP, further referred to as **PSP**[7], is:

CardPlus Oy
02920 Koskelontie 23 F
Espoo, Finland
Email: tkortit@cardplus.fi

[4] **FI-CP** – Finland Card Personalizing organization
[5] **RA** – Registration Authority
[6] **CSP** – Certification Service Provider
[7] **PSP** – Personalization Service Provider

1.2 Approval

This Policy is approved for the European Commission by the Digital Tachograph Root Certification Authority.

Digital Tachograph Root Certification Authority
Traceability and Vulnerability Assessment Unit
European Commission
Joint Research Centre, Ispra Establishment (TP.360)
Via E. Fermi, 1
I-21020 Ispra (VA)

On 26th of February 2024

Ares(2024)1906788 - 12/03/2019

1.3 Availability and contact details

The National CA policy is publicly available at www.traficom.fi.
Questions concerning this National CA policy should be addressed to:
Finnish Transport and Communications Agency TRAFICOM - Professional Transport Services
PB 320
FI-00059 TRAFICOM
Street address: Opastinsilta 12 A, FI-00520 Helsinki, Finland

Contact details for this National CA policy
Name of this document: Finnish NCA policy for the Tachograph system
Identity of this document: FinNCAPolicyv3

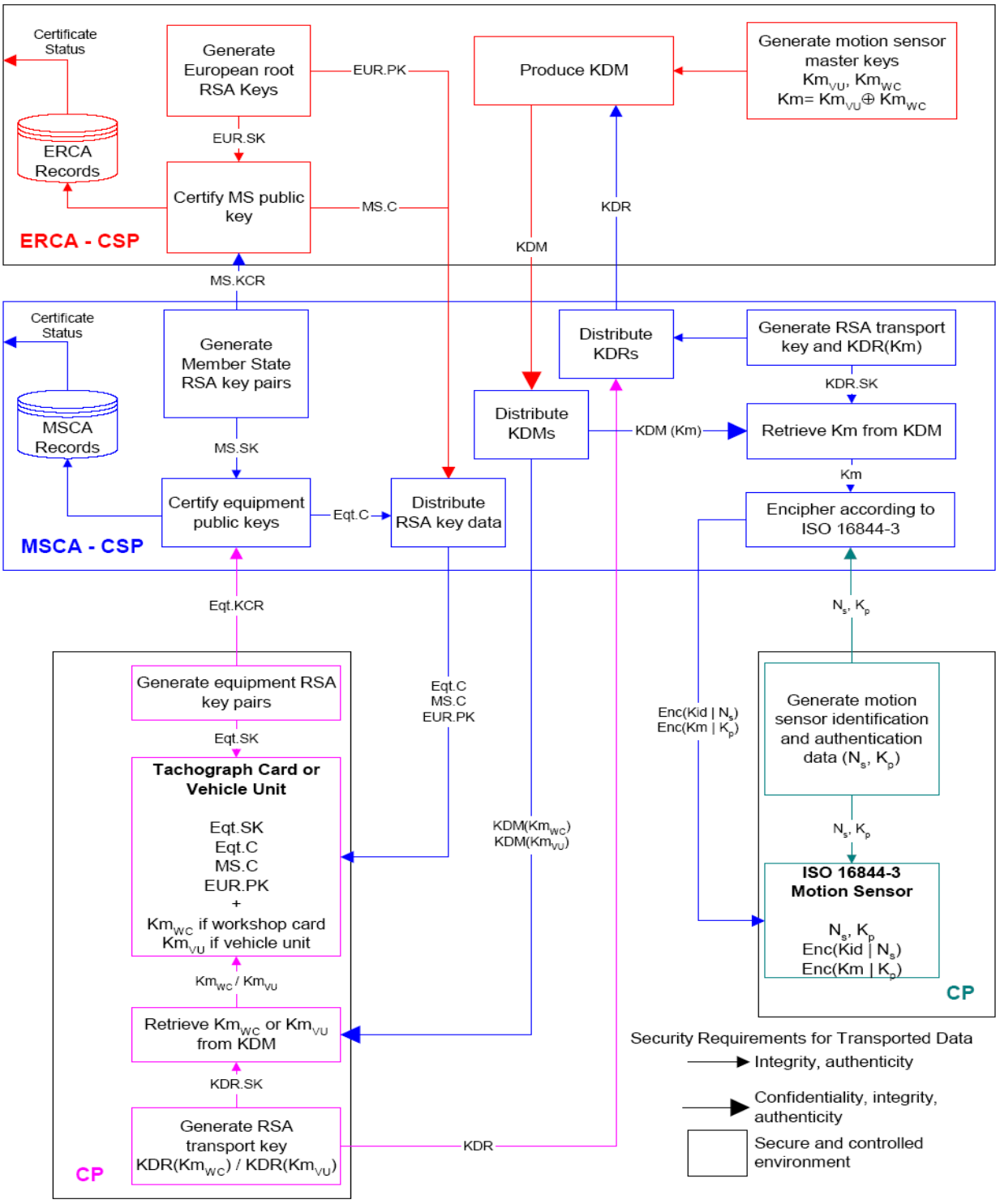
2 Scope and applicability

[r1] This Policy is valid for the Digital Tachograph system only.

[r2] The keys and certificates issued by the FI-CA are only for use within the Digital Tachograph system.

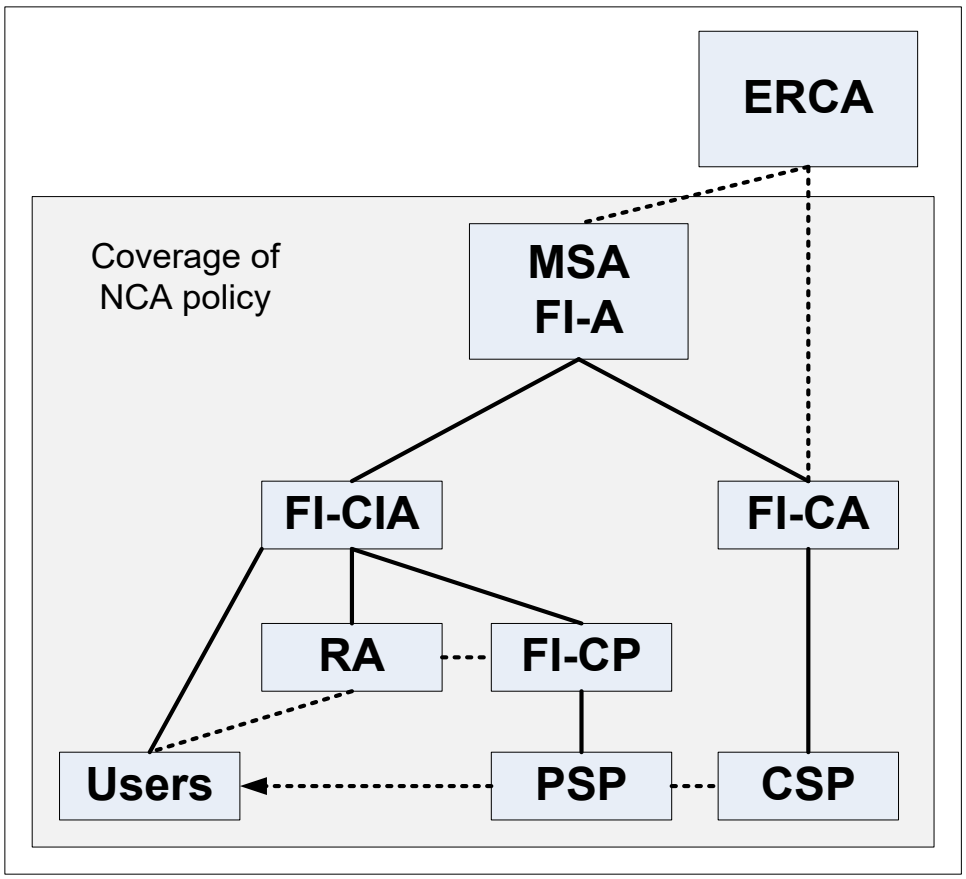
[r3] The cards issued by the system are only for use within the Digital Tachograph system.

The scope of the Policy within the Tachograph system is shown in the figure below.


Certificate Status
Generate European root RSA Keys
EUR.PK
Produce KDM
Generate motion sensor master keys
Km_VU, Km_WC
Km= Km_VU ⊕ Km_WC
ERCA Records
EUR.SK
Certify MS public key
MS.C
KDR
KDM
ERCA - CSP
MS.KCR
Certificate Status
Generate Member State RSA key pairs
Distribute KDRs
Generate RSA transport key and KDR(Km)
KDR.SK
MSCA Records
MS.SK
Distribute KDMs
KDM (Km)
Retrieve Km from KDM
Km
Certify equipment public keys
Eqt.C
Distribute RSA key data
Encipher according to ISO 16844-3
MSCA - CSP
Eqt.KCR
N_s, K_p
Generate equipment RSA key pairs
Eqt.C
MS.C
EUR.PK
Enc(Kid | N_s)
Enc(Km | K_p)
Generate motion sensor identification and authentication data (N_s, K_p)
Eqt.SK
Tachograph Card or Vehicle Unit
Eqt.SK
Eqt.C
MS.C
EUR.PK
+
Km_WC if workshop card
Km_VU if vehicle unit
KDM(Km_WC)
KDM(Km_VU)
N_s, K_p
ISO 16844-3 Motion Sensor
N_s, K_p
Enc(Kid | N_s)
Enc(Km | K_p)
CP
Km_WC / Km_VU
Retrieve Km_WC or Km_VU from KDM
KDR.SK
Generate RSA transport key KDR(Km_WC) / KDR(Km_VU)
KDR
CP
Security Requirements for Transported Data
Integrity, authenticity
Confidentiality, integrity, authenticity
Secure and controlled environment

3 General provisions

This section contains provisions relating to the respective obligations of FI-A, FI-CIA, FI-CA, FI-CP, Service Agencies RA, CSP, PSP and users, and other issues pertaining to law and dispute resolution.



Hierarchy, relations and dataflow in the National Tachograph system

Abbreviations and symbols used in picture:

ERCA	European Root Certification Authority
MSA	Member State Authority
FI-A	Finland Authority (Finland MSA)
FI-CIA	Finland Card Issuing Authority
FI-CP	Finland Card Personalizing organization
FI-CA	Finland Certification Authority

RA	Registration Authority
PSP	Personalization Service provider
CSP	Certification Service Provider
_____	Responsibility hierarchy
_ _ _ _ _ _	Data, information or card flow

More abbreviations in section 14.2

3.1 Obligations

This section contains provisions relating to the respective obligations of:

- FI-A
- FI-CIA
- RA (FI-CIA Service Agencies)
- FI-CA
- CSP (FI-CA Service Agency)
- FI-CP
- PSP (FI-CP Service Agency)
- Users (Cardholders)

3.1.1 FI-A obligations

With regard to this NCA policy, the FI-A has the following obligations.

[r4] The FI-A shall:

a) Maintain the National CA policy;
b) Appoint an FI-CA, FI-CIA and FI-CP;
c) Audit the appointed FI-CA, FI-CIA and FI-CP including Service Agencies;
d) Approve the FI-CA, FI-CP and service agencies Practice Statements;
e) Inform the appointed parties and Service Agencies about this policy;
f) Let this policy be approved by the ERCA.

3.1.2 FI-CIA obligations

With regard to this NCA policy, the FI-CIA has the following obligations.

[r5] The FI-CIA shall:

a) Ensure that correct and relevant user information from the application process is input to the FI-CP;
b) inform the users of the requirements in this policy connected to the use of the system;
c) Maintain sufficient organizational and financial resources to operate in conformity with the requirements laid down in this National CA policy, in particular to bear the risk of liability damages as stated in chapter 3.2.

3.1.3 RA obligations

The appointed RAs shall:

a) Ensure that correct and relevant user information from the application process is passed to the FI-CIA and FI-CP;
b) Inform the users of the requirements in this policy related to the use of the Digital Tachograph system.

3.1.4 FI-CA obligations

[r6] The appointed FI-CA shall:

a) Follow this National CA policy;
b) Publish a FI-CA Practice Statement (FI-CA PS) that includes a reference to this National CA policy, to be approved by the FI-A;
c) Maintain sufficient organizational and financial resources to operate in conformity with the requirements laid down in this National CA policy, in particular to bear the risk of liability damages as stated in chapter 3.2.
d) Oversee that the ERCA Root Policy requirements will be implemented in FI-CA certification requests.

[r7] The FI-CA shall ensure that all requirements for the FI-CA, as detailed in this policy, are implemented.

[r8] The FI-CA has the responsibility for conformance with the procedures prescribed in this policy, even when the FI-CA's technical functionality is undertaken by a subcontractor, Service Agency (CSP). The FI-CA is

responsible for ensuring that the Service Agency provides all its services consistent with its Practice Statement (PS) and this National CA policy.

3.1.5 CSP obligations

The CSP shall:

a) Ensure that correct certificates are passed to the FI-CP;
b) Maintain confidentiality of FI-CA private keys;
c) Follow this National CA policy;
d) Publish a CSP Practice Statement (CSP PS) that includes reference to this National CA policy, to be approved by the FI-A.

3.1.6 FI-CP obligations

[r9] The appointed FI-CP (card personalization organization) shall:

a) Follow this National CA policy;
b) Publish a FI-CP Practice Statement (FI-CP PS) that includes reference to this National CA policy, to be approved by the FI-A;
c) Maintain sufficient organizational and financial resources to operate in conformity with the requirements laid down in this Policy, in particular to bear the risk of liability damages.

[r10] The FI-CP shall ensure that all requirements on it, as detailed in this policy, are implemented.

[r11] The FI-CP has the responsibility for conformance with the procedures prescribed in this policy, even when the FI-CP functionality is undertaken by subcontractor, Service Agency (**PSP**).

3.1.7 Service Agency obligations

[r12] Service Agencies, when used to operate services covered by this policy, have obligations towards the FI-A according to contractual agreements. Despite of such agreements, FI-A retains full responsibility for any Digital Tachograph services, covered in this document.

3.1.8 Cardholder obligations

[r13] The FI-CIA shall oblige, through agreement (see 5.1.2.2), the user (or user's organization) to fulfil the following obligations:

All card types

a) accurate and complete information is submitted to the RAs and FI-CIA in accordance with the requirements of this policy, particularly with regards to registration;
b) the keys and certificate are only used in the Tachograph system;
c) the card is only used in the Tachograph system;
d) reasonable care is exercised to avoid unauthorized use of the equipment private key and card;
e) a user may only under very special, and duly justified, circumstances have both a workshop card and a hauling company card (Annex 1B VI:1), or both a workshop card and a driver card, or several workshop cards;
f) a user shall not use a damaged or expired card (Regulation 14.4.a);
g) a user shall not tamper with or attempt to modify cards in any way;
h) the user shall notify the FI-CIA without any reasonable delay if any of the following occurs up to the end of the validity period indicated in the certificate:

- *the equipment private key or card has been lost, stolen or potentially compromised (Regulation15.1); or*
- *the certificate content is, or becomes, inaccurate.*

Driver card

a) a user may have only one valid driver card (Regulation 14.4.a);
b) the user may only use his/her own keys, certificate and card (Regulation14.4.a);

Workshop card

a) a user must protect his/her PIN-code
b) the card should not leave the premises of workshop unless required by installation, calibration and repair operations

3.1.9 VU manufacturers' obligations (role as personalization organization)

Not applicable in Finland for the time being or in the foreseeable future.

3.1.10 Motion Sensor manufacturers' obligations (role as personalization organization)

Not applicable in Finland for the time being or in the foreseeable future.

3.2 Liability

[r16] Tachograph cards, keys and certificates are only for use within the Tachograph system, any other certificates present on Tachograph cards are in violation of this policy, and hence neither the FI-A, the FI-CIA, the FI-CA nor the FI-CP carries any liability in respect to any such violation.

3.2.1 FI-A and FI-CIA liability towards end users and related parties

The FI-A is liable for correct implementation of Regulation (EU) 165/2014 on Tachographs in Road Transport, repealing Council Regulation (EEC) NO 3821/85 on Recording Equipment in Road Transport and amending Regulation (EC) NO 561/2006. This means particularly that the FI-A is liable for ensuring that:

a) the certificate is created in accordance with the provisions of the Regulation and this CA Policy;
b) the certificate contains all the information required for the Tachograph certificate at the time of issuance and in particular, that data of the cardholder corresponds to the information in the application.

FI-CIA is liable for verifying that in the certificate the data of the cardholder corresponds to the information in the application.

The FI-A or the FI-CIA is not liable for damages towards end users and related parties caused by:

1) false or incomplete information given by the applicant unless the FI-A or the FI-CIA is proven to have been negligent;
2) use of the certificate, either in or out of the scope of the Regulation;
3) revealing of PIN code unless it is directly caused by acts of the FI-A or the FI-CIA;
4) malfunctioning of the VU, telecommunications or similar, which hinders the use of certificate within the Tachograph system.

The FI-A or the FI-CIA is never liable for indirect financial loss or other indirect damages towards end users, related parties or their contracting parties.

[r17] The FI-A and FI-CIA are liable for damages resulting from failures to fulfill their obligations only if they have acted negligently. If the FI-A or FI-CIA has acted according to this NCA policy, and any other governing document, it shall not be considered to have been negligent.

3.2.2 FI-CA, FI-CP and RA liability towards the FI-A and the FI-CIA

The FI-CA, FI-CP and RA bear the responsibility for proper execution of their tasks, even if some or all of the tasks are outsourced to Service Agencies. If the FI-CA or FI-CP intends to subcontract to other parties, they shall inform beforehand of such intentions and provide the FI-A with all the extra resources necessary for the FI-A to meet its obligations. RAs are not allowed to subcontract their services.

[r18] The FI-CA, FI-CP or RA is liable for damages resulting from failures to fulfil these obligations only if it has acted negligently. If the organization has acted according to this National CA policy and the corresponding PS, it shall not be considered to have been negligent.

The FI-CA, FI-CP or RA does not carry any liability towards end users, only towards the FI-A and FI-CIA.

Any liability issues towards end users are the responsibility of the FI-A or FI-CIA.

3.2.3 Corresponding legislation

Liability of damages shall be decided in accordance with Finnish national Tort Liability Act (”Vahingonkorvauslaki” 412/1974).

3.3 Interpretation and enforcement

3.3.1 Governing law

All matters related to the implementation and enforcement on the Digital Tachograph System in Finland will be resolved according to the European Union and Finland national legislation in force.

3.4 Confidentiality

Confidentiality is restricted according to EU General Data Protection Regulation 2016/679 adopted on 14 April 2016 and Finnish Vehicular and Driver Data Register Act (“Laki liikenteen palveluista” 24.5.2017/320) on the protection of individuals with regard to processing of personal data and movement of such data.

3.4.1 Types of information to be kept confidential

[r19] Any personal or corporate information held by the FI-CA, FI-CP, FI-CIA or Service Agencies that is not appearing on issued cards or certificates is considered confidential, and shall not be released without prior consent of the user, nor (where applicable) without prior consent of the user's employer or representative, unless required otherwise by law.

[r20] All private and secret keys used and handled within the FI-CA or FI-CP operation under this National CA policy are to be kept confidential.

[r23] Audit logs and records shall not be made available as a whole, except as required by law.

3.4.2 Types of information not considered confidential

[r24] Certificates are not considered to be confidential.

[r25] Identification information or other personal or corporate information appearing on cards and in certificates is not considered to be confidential, unless statutes or special agreements so dictate.

4 Practice Statement (PS)

[r26] The FI-CA, FI-CIA, FI-CP, CSP, PSP and RA shall have statements of the practices and procedures used to address all the requirements identified in this National CA policy, Practice Statements (PS). The FI-A shall approve the PSs. In particular:

a) The PS shall identify the obligations of all the external organizations supporting the FI-CA and FI-CIA services including the applicable policies and practices.
b) The Practice statement shall be made available to the FI-A, to users of the Tachograph system, and to relying parties (e.g. control bodies).

However, the FI-CA, FI-CIA and FI-CP are not generally required to make all the details of its practices public and available for the users;

c) The management of the FI-CA, FI-CIA and FI-CP has responsibility for ensuring that the PS is properly implemented;

d) The FI-CA, FI-CIA and FI-CP shall define a review process for the PS;

a) The FI-CA, FI-CIA, FI-CP, CSP, PSP and RA shall give due notice of changes it intends to make in its PS and shall, following approval, make the revised PS immediately available. Minor revisions that does not change the procedures may be released without FI-A approval.

5 Equipment management

The equipment in the Tachograph system is defined as:

- Tachograph cards
- Vehicle units
- Motion Sensors

Due to the fact that Vehicle units or Motion Sensors are not manufactured in Finland, this section of Policy only covers Tachograph cards.

The equipment is handled and managed by several roles:

- FI-CIA (cancellation of cards);
- RA (card registration, renewal, etc.);
- FI-CA (Motion Sensor keys);
- FI-CP (order processing);
- PSP (visual and electronic personalization, keys);
- CSP (certificates).

The following functions are carried out by the FI-A

- Quality control (type approval). The actual work will be carried out by Service Agency appointed to role of PSP;
- PS approvals.

The following functions are carried out by the FI-CIA:

- Applications for cards;
- Application approval registration;
- Data storage (DB) and status info for registered cards;
- Exchange of information with other Member States;
- Handling of lost and found cards.

The following functions are carried out by the FI-CA:

- Generation of FI-CA keys for Finland and managing interface with the ERCA certification process.

The following functions are carried out by the CSP

- Generation of certificates for cards upon requests from PSP;
- Storing the issued certificates in DB;
- Maintaining the security of the FI-CA keys.

The following functions are carried out by the PSP

- Quality control (test card samples);
- Maintaining the security of Motion Sensor key;
- Sending certificate requests to CSP;
- Key and certificate insertion;
- Personalization of cards;
- Card delivery to the appointed delivery agency;
- Distribution of cards and PINs for workshop cards to the appointed delivery agency.

The following functions are carried out by the RA

- User registration;
- Provision of personalization data to FI-CP;
- Card delivery to users;
- Capability to Card functionality verification.

5.1 Tachograph cards

5.1.1 Quality control – FI-A/PSP function

[r27] The FI-A/PSP shall ensure that only type approved cards, according to the Regulation, are personalized. See also 5.1.8.5.

5.1.2 Application for card – handled by the FI-CIA

[r28] The FI-CIA shall inform the user of the terms and conditions regarding use of the card. This information shall be available in Finnish, Swedish and English.

[r29] The user shall, by applying for a card, and accepting delivery of the card, accept the terms and conditions.

User application

[r30] Applicants for a Tachograph card shall submit an application in a form to be determined by the FI-CIA. As a minimum, the application shall include the data needed to ensure the correct identification of the user. For company, workshop and control cards, the necessary identity of the legal organization for which card is applied, shall be included.

The following information is required for issuing a card. Unless gathered from other sources, it should be included in the application:

- Full name;
- Place of residence;
- Postal address;
- Preferred language.

Driver card specific:

- Driving license number;
- Date and place of birth;
- Photo and signature;
- National registration number;
- Previous / current driver card number if any;
- Issuer of previous / current driver card.
- Prove his/her identity if a driver wants have his/her driver card to be delivered to his/her home address

Workshop card specific:

[r31] Workshop cards shall be issued only by physical persons associated with legal persons, and who can provide the following evidence:

- full name and legal status of the associated legal person or other organizational entity;
- optional full name (including surname, given names and national registration number) of the cardholder.

Control card specific:

[r32] Control cards shall be issued only to physical persons associated with legal persons, and who can provide the following evidence:

- full name and legal status of the associated legal person or other organizational entity;
- optional full name (including surname, given names and national registration number) of the cardholder, minimum is unit identification;

Hauling company card specific:

[r33] Hauling company cards shall be issued to individual representatives of companies owning or holding vehicles fitted with a Digital Tachograph and who can provide evidence of:

- full name and legal status of the associated legal person or other organizational entity;
- any relevant existing registration information (e.g. company registration) of the associated legal person or other organizational entity;
- the user's association with the legal person or other organizational entity;
- optional full name (including surname, given names and national registration number) of the cardholder.

Agreement

[r34] The applicant shall, by making an application for a card and accepting delivery of the card, make an agreement with the FI-A (or FI-CIA), stating as a minimum the following:

- the user agrees to the terms and conditions regarding use and handling of the Tachograph card;
- the user agrees to, and certifies, that from the time of card acceptance and throughout the operational period of the card, until FI-CIA is notified otherwise by the user:
    - user will not allow unauthorized person to have access to the user's card;
    - all information given by the user to the FI-CIA relevant for the information in the card is true;
    - the card is being conscientiously used in consistence with usage restrictions for the card.

FI-CIA terms of approval - Driver card specific

[r35] A Driver card shall only be issued to individuals having permanent residence in the country of application.

[r36] The FI-CIA shall ensure that the applicant does not have a valid Driver card issued in Finland, in another Member State or AETR Contracting Party.

[r37] The FI-CIA shall ensure that the applicant for a Driver card has a valid driving license of appropriate class.

FI-CIA terms of approval – Workshop card specific

Workshop card shall only be issued to a workshop having valid workshop permit for the Digital Tachograph.

FI-CIA terms of approval – Control card specific

Control card shall only be issued to a party that is nominated as an official control body.

FI-CIA terms of approval – Company card specific

Company card shall only be issued to a hauling company.

5.1.3 Validity period of cards

[r38] Workshop cards shall be valid for no more than **one** year from issuance.

[r39] Driver cards shall be valid no more than **five** years from issuance.

[r40] Company cards shall be valid no more than **five** years from issuance.

[r41] Control cards shall be valid no more than **two** years from issuance.

[r42] The FI-CIA shall establish routines to remind the user of a pending expiration.

5.1.4 Card renewal – handled by the FI-CIA

[r43] An application for renewal shall follow the procedures described in section 5.1.2.

[r44, r46, r48, r50] The user shall apply for a renewal card at least **15** days prior to card expiration.

[r45, r47, r49, r51] If the user complies with the above rule, the FI-CIA shall issue a new card before the current card expires.

5.1.5 Card update or exchange – handled by the FI-CIA

[r52] A user who changes country of residence may request to have his/her driver card exchanged. If the current card is valid, the user shall only show proof of Finnish residence in order to have the application granted.

[r53] The RA shall upon delivery of the new card take possession of the previous card and send it to the National Card Issuing Authority of origin. (Regulation article 14.4.c)

[r54] Card exchange due to changed country of residence shall otherwise follow the rules for new card issuing (section 5.1.2).

5.1.6 Replacement of lost, stolen, damaged and malfunctioning cards – handled by the FI-CIA

[r55] If a card is lost or stolen, the user shall report this to FI-CIA. Loss of card may be reported to FI-CIA by the user, or by the Police upon receiving a found card.

[r56] Stolen and lost card shall be put on a blacklist available to authorities in all Member States and AETR States.

[r57] Damaged and malfunctioning cards shall be delivered to the issuing CIA, by whom they shall be visually and electronically cancelled, and put on a blacklist.

[r58] If the card is lost, stolen, damaged or malfunctioning, the user shall apply for a replacement card within **7** days. (Regulation article 15.1)

[r59] Provided that the user follows the above requirements, the FI-CIA shall issue a replacement card with new keys and certificate within 5 working days from receiving a complete application. (Regulation article 14.4.a)

[r60] The replacement card shall inherit the time of validity from the original card (Regulation Annex 1B: VII). If the replaced card has less than three months remaining validity, the FI-CIA may issue a renewal card instead of a replacement card.

5.1.7 Application approval registration – handled by the FI-CIA

[r61] The FI-CIA shall register the approved applications in a database. This data shall be made available for the FI-CP, which uses the information as input to the certificate generation and card personalization processes.

5.1.8 Card personalization – handled by the FI-CP

Cards are personalized both visually and electronically. Even if this process will be carried out by Service Agent (PSP) this does not diminish the overall responsibility of the FI-A.

5.1.8.1 Visual personalization

[r62] Cards shall be visually personalized according to Regulation Annex 1B, section IV [REG-A]. Specifically, to note:

- A photograph of card holder must appear on a driver card

5.1.8.2 User data entry

[r63] Data shall be inserted in the card according to the structure in Regulation (EU) 165/2014 on Tachographs in Road Transport, repealing Council Regulation (EEC) NO 3821/85 on Recording Equipment in Road Transport and amending Regulation (EC) NO 561/2006, depending on card type.

5.1.8.3 Key entry

[r64] The private key shall be inserted in the card without ever having left the key generation environment. This environment must guarantee that no person, in any way what so ever, can get control of the generated private key without detection. It is intended that keys are generated on card or by HSM. See also equipment key management, section 7.2.

5.1.8.4 Certificate entry

[r65] The user certificate shall be inserted in the card before distribution to the user.

5.1.8.5 Quality Control

[r66] Documented routines shall exist to ensure that the visual information on users' cards and the electronic information in issued cards and certificates matches each other and also matches the validated owner. The routines shall be described in the FI-CP PS.

5.1.8.6 Cancellation (destruction) of non-distributed cards

[r67] All cards that are damaged or destroyed (or for other reasons are not finalized and distributed) during personalization shall be physically and electronically destroyed (cancelled).

[r68] All destroyed cards shall be registered in a cancellation database.

5.1.9 Card registration and data storage (DB) – handled by the FI-CP and the FI-CIA

[r69] The FI-CP and FI-CIA are responsible for keeping track of which card and card number is given to which user. Data shall be transferred from the FI-CP to the FI-CIA database.

5.1.10 Card distribution to the user – handled by the FI-CP and RA

[r70]

a) The personalization shall be scheduled so as to minimize the time that the personalized card require safekeeping before delivery to the user. Storage overnight requires secure safekeeping. Documented routines shall exist for exception handling, including disturbances in the production process, failure of delivery, and loss of or damage to cards.
b) Personalized cards shall be immediately transferred to the place where they are to be delivered or distributed to the user, i.e. a controlled area.
c) Personalized cards shall always be kept separated from non-personalized cards.
d) The Tachograph card shall be distributed in a manner so as to minimize the risk of loss.

e) At the point of delivery of the card to the user, who has not been authenticated at the time of card application, evidence of the user's identity (e.g. name) shall be checked against a physical person.

f) The user shall present valid means of identification if user has not proved his/her identity when leaving an application for a card.

5.1.11 Authentication codes (PIN) – generated by the PSP

This section applies only to Workshop cards.

[r71] Workshop cards shall have a PIN code, used for authenticating the card to the Vehicle unit (Regulation Annex 1B, App 10 [REG-A]: Tachograph cards: 4.2.2)

[r72] PIN codes shall consist of at least **4** digits (Regulation Annex 1B, App 10 [REG-A]: Vehicle Units: 4.1.2).

5.1.10.1 PIN generation

[r73] PIN codes shall be generated in a secure system, securely transferred to workshop cards, and direct-printed to PIN-envelopes. PIN codes shall never be stored on a computer system in a manner that allows connection between PIN and user. The PIN generation system shall meet the requirements of ITSEC E3, CC EAL4 or equivalent security criteria.

5.1.10.2 PIN distribution

[r74] PIN codes may be distributed by regular mail.

[r75] PIN codes shall not be distributed in connection with the corresponding cards.

5.1.12 Card deactivation – handled by FI-CIA

[r76] It shall be possible to permanently deactivate a card and any keys residing thereon. A decision of deactivation shall be taken by the FI-A or FI-CIA; the actual operation should be carried out by the FI-CIA or its Service Agencies.

Cards returned to FI-CIA shall be deactivated.

[r77] Deactivation of cards shall take place in equipment suitable for the operation and it shall be verified that card functions and keys are destroyed. The card shall also be visually cancelled.

[r78] Deactivation of cards shall be registered in the card database and the card number shall be put on the blacklist.

5.2 Vehicle Units and Motion Sensors

Not applicable in Finland for the time being or in the foreseeable future, except case of damaged or defective vehicle units. Workshop shall if possible extract data from the Vehicle unit and deliver it to the hauling company. In case, where this can not be done, workshop shall write statement to the hauling company.

6 Root keys and transport keys management: European Root key, Finland keys, Motion Sensor keys, transport keys

This section contains provisions for the management of:

- European Root key - the ERCA public key (EUR.PK)
- Finland keys, i.e. the Finland signing key pair(s) (MS.SK, MS.PK)
- the Motion Sensor keys (KmWC)
- the transport keys (for communication between the ERCA and the FI-CA)

The **ERCA public key** is used for verifying the Member State certificates. The ERCA private key is not dealt with here, since it never leaves the ERCA.
The **Finland keys** are the Finland signing keys and may also be called Finland root keys.
The **Motion Sensor keys** are the symmetric keys to be placed in the workshop card, VU and Motion Sensor for mutual recognition. The FI-CA receives the Motion Sensor keys from the ERCA, stores them and distributes them to PSP.
The **transport keys** are asymmetric key pairs to be used in secure transfer of Motions Sensor keys between ERCA and FI-CA.
If the FI-CA has a need for other cryptographic keys than the above, these shall not be considered part of the Tachograph system, and is not dealt within this policy.

The CSP ensures within its domain the confidentiality and integrity of all non-public keys generated, used and/or stored with it and effectively prevents any misuse of these keys. For this purpose, it has to employ suitable technical systems, which fulfill one of the following requirements:

- FIPS 140-2 (or 140-1) level 3 or higher [FIPS],
- certification according to EAL 4 or higher in accordance with ISO 15408 [CC] to level E3 or higher [ITSEC] based on a protection profile or security instructions ("Security Targets"), which encompasses the requirements of this NCA Policy – based on a comprehensive risk analysis – as well as structural and non-technical security measures,
- security criteria, which provide an equivalent level of security.

In the same way, it has to be proved that these systems are operated in an adequately secured operating environment at the CSP. No copies of non-public keys exist outside the secured environment.

The CSP will sign equipment certificates exclusively within the same device used to store the Finland Private Keys.
The Finland keys and transport keys are generated and stored in physically highly secured environment, with 24/7 organized security by human control. All access to the environment is protected by electronic locks. Premises shall have a recording video control system.

6.1 ERCA public key

[r98] The FI-CA shall keep the ERCA public key (EUR.PK) in such a way as to maintain its integrity and availability at all times. If the EUR.PK is stored in the CSP or FI-CP or PSP, the same rule applies.
[r99] The FI-CP shall ensure that EUR.PK is inserted in all Tachograph cards and vehicle units.

6.2 Finland keys

The Finland keys are the FI-CA signing key pair(s), which is used to sign all Tachograph card certificates. The FI-CA does not produce vehicle unit certificates.

The key pair consists of a public key (MS.PK) and a private key (MS.SK).

The FI-CA public key is certified by the ERCA, but it is always generated by the FI-CA itself.

[r100] The Finland keys must not be used for any other purposes than

a) signing the Tachograph card certificates;
b) signing the ERCA key certification request, KCR, as describer in Annex A [ERCA].

6.2.1 Finland keys generation

[r101] Finland key pair generation shall be carried out within a device which either:

- *meets the requirements identified in FIPS 140-2 (or 140-1) level 3 or higher [FIPS]; or*
- *is a trustworthy system, which is assured to EAL 4 or higher in accordance with ISO 15408 [CC], to E3 or higher in ITSEC, or equivalent security criteria. This shall be to a security target or protection profile that meets the requirements of the current document, based on risk analysis and taking into account physical and other non-technical security measures.*

[r103] The requirements met shall be stated in the CSP PS.

[r104] FI-CA key-pair generation shall require the active participation of at least three separate individuals, who have trusted roles within FI-CA or CSP. At least one of these individuals shall have role of CAA, who is responsible for FI-CA operations.

[r105] Keys shall be generated using the RSA algorithm with a key length of modulus n=1024 bits (Regulation Annex 1B, app 11:2.1/3.2).[r106] The FI-CA shall have at least two (2) and maximum five (5) Finland key pairs with associated signing certificates to ensure continuity, since the ERCA cannot issue replacement Member State certificates rapidly.

6.2.2 Finland keys period of validity

[r107] Each FI-CA private key usage period is 2 years from the date of issuance of the corresponding public key's certificate, and shall not be used after its validity period for any purpose.

[r108] The corresponding public key shall have no end of validity. Actual validity for Finland public key certificates is defined and decided by the ERCA Root Policy.

6.2.3 Finland private key storage

[r109] The private keys shall be contained in and operated from inside a specific tamper resistant device (HSM), which:

- meets the requirements identified in FIPS 140-2 (or 140-1) level 3 or higher [FIPS]; or
- is a trustworthy system which is assured to EAL 4 or higher in accordance with ISO 15408 [CC], to E3 or higher in ITSEC, or equivalent security criteria. This shall be to a security target or protection profile that meets the requirements of the current document, based on risk analysis and taking into account physical and other non-technical security measures.

[r110] For access to the FI-CA private signing keys, dual control is required. This means that no single person shall possess the means required to access the environment where the private key is stored. It does not mean that signing of equipment certificates must be performed under dual control.

6.2.4 Finland private key backup

[r111] The Finland private signing keys may be backed up, using a key recovery procedure requiring at least dual control. The procedure used shall be stated in the CSP PS. It is allowed to backup private signing keys in encrypted format; if decrypting requires HSM and at least dual control and requirements in section 6.2.3 is fulfilled. However, if FI-CA has multiple key pairs according to section 6.2.1, no backup is really needed.

6.2.5 Finland private key escrow

[r112] The Finland private signing keys shall not be escrowed.

6.2.6 Finland keys compromise

[r113] A written instruction shall exist, included in the CSP PS, which states the measures to be taken by users and security responsible persons at the FI-CA and/or Service Agencies (CSP), if the Finland private keys has become exposed, or is otherwise considered or suspected to be compromised.

[r114] In such case the FI-CA shall as a minimum:

- inform without delay the FI-A, the ERCA and all other MSCAs.

6.2.7 Finland keys end of life

[r115] The FI-CA shall have routines to ensure that it always has a valid, certified Finland signing key pair.

[r116] Upon termination of use of a Finland signing key pair, the public key shall be archived, and the private key has to be destroyed by the FI-CA in such a manner that no feature its use, misuse or recovering is possible.

6.3 Motion Sensor keys

[r117] The FI-CA shall, as needed, request motion sensor keys Km, Km_{VU} and Km_{WC} from the ERCA (Regulation Annex 1B [REG-A]: app 11:3.1.3). The FI-CA shall not handle with motion sensor master key Km or vehicle unit motion sensor key KmVU.

[r120] The FI-CA shall only forward the workshop key Km_{WC} to the PSP for insertion into Workshop cards. The workshop Km_{WC} shall be transported to PSP in encrypted format using means and media defined by the ERCA Root Policy annex C [ERCA].

[r121] The PSP shall undertake the FI-CA's task to ensure that the workshop key Km_{WC} is inserted into all issued Workshop cards (Regulation Annex 1B [REG-A]: app 11:3.1.3).

[r122] The FI-CA and/or PSP shall, during storage, use and distribution, protect the motion sensor key with high assurance physical and logical security controls. The keys should be contained in and operated from a specific tamper resistant device which:

- meets the requirements identified in FIPS 140-2 (or 140-1) level 3 or higher [FIPS]; or

- is a trustworthy system which is assured to EAL 4 or higher in accordance with ISO 15408 [CC], to E3 or higher in ITSEC, or equivalent security criteria. This shall be to a security target or protection profile that meets the requirements of the current document, based on risk analysis and taking into account physical and other non-technical security measures.

6.4 Transport Keys

[r123] For secure data communication, FI-CP shall issue special, asymmetric, transport keys. The FI-CP shall, during generation, storage, use and distribution, protect these keys with high assurance physical and logical security controls. The keys should be contained in and operated from a specific tamper resistant device which:

- meets the requirements identified in FIPS 140-2 (or 140-1) level 3 or higher [FIPS]; or
- is a trustworthy system which is assured to EAL 4 or higher in accordance with ISO 15408 [CC], to E3 or higher in ITSEC, or equivalent security criteria. This shall be to a security target or protection profile that meets the requirements of the current document, based on risk analysis and taking into account physical and other nontechnical security measures.

6.5 Key Certification Requests and Motion Sensor Key Distribution Request

All key transport between FI-CA and ERCA shall use the means, media and protocols defined by the ERCA Root Policy annex C [ERCA]. If physical media is used for key transport, FI-A will appoint the authorized person to carry the media that contains the messages between FI-CA and ERCA.

[r123.1] The FI-CA submits their public keys (MS.PK) for certification by the ERCA using the key certification request (KCR) protocol described in Annex A of the Digital Tachograph System European Root Policy [ERCA].

[r123.2] The FI-CA recognizes the ERCA public key (EUR.PK) in the distribution format described in Annex B of the Digital Tachograph System European Root Policy [ERCA].

[r123.3] The FI-CA requests motion sensor master keys from the ERCA using the key distribution request (KDR) protocol described in Annex D of the Digital Tachograph System European Root Policy [ERCA].

[r123.4] The FI-CA uses the physical media for key and certificate transport described in Annex C of the Digital Tachograph System European Root Policy [ERCA].

[r123.5] The FI-CA and FI-CP ensures that the Key Identifier (KID) and modulus (n) of keys submitted to the ERCA for certification and for motion sensor key distribution are unique within the domain of the FI-CA and FI-CP.

[r123.6] FI-CA ensures that private keys will remain in HSM and will not be transported during key certification operations.

[r123.7] FI-CP ensures that transport private keys will remain in HSM and will not be transported during symmetric key distribution operations.

7 Equipment keys (asymmetric)

Equipment keys are asymmetric keys generated somewhere in the issuing/manufacturing process, and certified by the FI-CA for the equipment in the Tachograph system:

- Tachograph cards;
- Vehicle Units (Not applicable for Finland for the time being or in the foreseeable future).

The symmetric Motion Sensor keys are not handled here.

7.1 General aspects FI-CP/FI-CA incl. Service Agencies and VU manufacturers

[r124] Equipment (Card) initialization, key loading and personalization shall be performed in a physically secure and controlled environment. Entry to this area shall be strictly regulated, controllable at the individual level, and requiring a minimum of two persons to be present to operate the system. A log shall be kept of all the entries and actions in the system.

[r125] No sensitive information contained in the key generation systems may leave the system in a way that violates this policy.

[r126] Tachograph cards: No sensitive information in the card personalization system may leave the system in a way that violates this policy.

[r128] **Organizations (Subcontractors, Service Agencies)** that perform key generation and card personalization on behalf of more than one Member State shall do this in a clearly separate process for each of these. A log shall be kept of each individual process and the relevant National Authority shall have access to the log on request.

[r130] **FI-CA/FI-CP/Service Agencies/VU manufacturers:** The log of the personalization system shall contain a reference to the order, and list the corresponding equipment numbers and certificates. The FI-A shall have access to the logs on request.

7.2 Equipment key generation

[r131] Keys may be generated either by the equipment manufacturer or by the PSP. (Annex 1B [REG-A], Appendix 11:3.1.1)

[r132] The entity that performs the key generation shall make sure that equipment keys are generated in a secure manner and that the equipment private key is kept secret.

[r133] Key generation shall be carried out within a device which either:

- *meets the requirements identified in FIPS 140-2 (or 140-1) level 3 or higher [FIPS]; or*
- *is a trustworthy system which is assured to EAL 4 or higher in accordance with ISO 15408 [CC], to E3 or higher in ITSEC, or equivalent security criteria. This shall be to a security target or protection profile that*

meets the requirements of the current document, based on risk analysis and taking into account physical and other non-technical security measures.

[r134] Keys shall be generated using the RSA algorithm having a key length of modulus *n* 1024 bits. (Annex 1B [REG-A]: Appendix 11:2.1/3.2)

[r135] The generation procedure and storage of the private key shall prevent it from being exposed outside of the system that created it. Furthermore, it shall be erased from the system immediately after having been inserted in the device.

[r136] It is the responsibility of the key generation entity to undertake adequate measures to ensure that the public key identifier is unique within its domain before the certificate request is sent the CSP. (This is presumably done by making sure that the actual card serial number is used as part of Key Identifier and ensuring that the manufacturing process keeps card serial numbers unique.)

7.2.1 Batch key generation

[r137] Cryptographic key generation may be performed by batch processing in advance of certificate request, or in direct connection with certificate request.

[r138] Batch processing must be performed in stand-alone equipment meeting the security requirements stated above. Key integrity has to be protected until the certificate issuing is performed.

7.2.2 Equipment key validity

7.2.1.1 Keys on cards

[r139] Usage of an equipment private key in connection with certificates issued under this policy shall never exceed the end of validity of the certificate.

7.2.2.2 Vehicle units

[r140] Not applicable in Finland for the time being or in the foreseeable future.

7.2.3 Equipment private key protection and storage - Cards

[r141] The PSP shall ensure that the card private key is protected by, and restricted to, a card that has been delivered to the user according to the procedures stated in this policy.

[r142] Copies of the private key are not to be kept anywhere except in the Tachograph card, unless required during key generation and device personalization.

[r143] In no case may the card private key be exposed or stored outside the card.

7.2.4 Equipment private key protection and storage – VUs

Not applicable in Finland for the time being or in the foreseeable future.

7.2.5 Equipment private key escrow and archival

[r147] Equipment private keys shall be neither escrowed nor archived.

7.2.6 Equipment public key archival

[r148] All certified public keys shall be archived by CSP on behalf of the certifying FI-CA.

7.2.7 Equipment keys end of life

[r149] Upon termination of use of a Tachograph card, the public key shall be archived, and the private key shall be:

- destroyed such that the private key cannot be retrieved, if it is within ability of FI-CIA to do so; or
- retained in a manner such that it is protected against being put back into use.

[r150] Upon termination of use of a Vehicle Unit, the public key shall be archived, and the private key shall be:

- destroyed such that the private key cannot be retrieved; or
- retained in a manner such that it is protected against being put back into use.

8 Equipment certificate management

This section describes the certificate life cycle, containing registration function, certificate issuing, distribution, use, renewal, revocation (if applicable) and end of life.

8.1 Data input

8.1.1 Tachograph cards

Card holders do not apply for certificates, their certificates are issued based on the information given in the application for a Tachograph card (section 5.1.2) and captured from the CIA register. The public key to be certified is extracted from the key generation process.

[r151] The FI-CIA shall ensure that the input data contains information which renders the Certificate Holder Reference (CHR) unique.

[r151.1] The certificate request process shall ensure that the PSP has possession of the private key associated with the public key presented for certification. At this time the private key shall not leave the secured environment of key generation.

8.3.2 Vehicle units

Not applicable in Finland for the time being or in the foreseeable future.

8.2 Tachograph card certificates

8.2.1 Driver certificates

[r154] Driver certificates are issued only to valid applicants for a Driver card.

8.2.2 Workshop certificates

[r155] Workshop certificates are issued only to valid applicants for a Workshop card.

8.2.3 Control body certificates

[r156] Control body certificates are issued only to valid applicants for a Control card.

8.2.4 Hauling company certificates

[r157] Hauling company certificates are issued only to valid applicants for a Company card.

8.3 Vehicle unit certificates

Not applicable in Finland for the time being or in the foreseeable future.

8.4 Equipment certificate time of validity

[r160] Certificates shall not be valid longer than the corresponding equipment

- Driver certificates shall not be valid more than **5** years.
- Workshop certificates shall not be valid for more than **1** year.
- Control body certificates shall not be valid more than **2** years.
- Hauling company certificates shall not be valid more than **5** years.

8.5 Equipment certificate issuing

[r161] The FI-CA shall ensure that it issues certificates so that their authenticity and integrity is maintained. Certificate contents are defined by Regulation Annex 1B [REG-A], appendix 11.

8.6 Equipment certificate renewal and update

See Equipment management (section 5). Since certificates and cards have the same time of validity, they are dealt with together. VU certificates have either no end of, or a very long time of validity, it is assumed that the lifetime of the equipment is shorter than that of the certificate.

8.7 Dissemination of equipment certificates and information

[r163] The FI-CIA shall ensure that certificates are made available as necessary to users and relying parties.

[r164] The FI-CIA shall ensure that all terms and conditions, as well as relevant parts of the CSP PS, and other relevant information, are made readily available to all users, relying parties and other relevant groups.

[r164.1] The FI-CA shall maintain and make certificate status information available on request for relevant parties, such as:

- MSAs and Control authorities of Member states
- The EU-Comission.

8.8 Equipment certificate use

[r165] The Tachograph certificates are only for use within the Tachograph system.

8.9 Equipment certificate revocation

[r166] Certificates are not revoked (rather than revoking certificates, non-valid Tachograph equipment is put on a "black list" which may be checked at roadside controls).

9 FI-CA, FI-CP and FI-CIA, including Service Agencies, Information Security management

This section describes the Information Security measures imposed by this policy.

Note: This section may, at least in part, be substituted by Information Security policies for the relevant entities.

9.1 Information security management of the FI-CA and FI-CP

[r167] The FI-CA/FI-CP shall ensure that administrative and management procedures are applied which are adequate and correspond to recognized standards.

[r168] The FI-CA/FI-CP shall retain responsibility for all aspects of the provision of key certification services, even if some functions are outsourced to subcontractors. Responsibilities of third parties shall be clearly defined by the FI-CA/FI-CP and appropriate arrangements made to ensure that third parties are bound to implement any controls required by the FI-CA/FI-CP. The FI-CA/FI-CP shall retain responsibility for the disclosure of relevant practices of all parties.

[r169] The information security infrastructure necessary to manage the security within the FI-CA/FI-CP shall be maintained at all times. Any changes that will impact on the level of security provided shall be approved by the FI-A.

[r170] The FI-CA/FI-CP shall adopt a security management system equivalent to ISO 27001:2013 [ISO 27001]. Formal certification is not required.

9.2 Asset classification and management of the FI-CA/FI-CP

[r171] The FI-CA/FI-CP shall ensure that its assets and information receive an appropriate level of protection. In particular:

a) The FI-CA/FI-CP shall carry out a risk assessment to evaluate business risks and determine the necessary security requirements and operational procedures.
b) The FI-CA/FI-CP shall maintain an inventory of all information assets and shall assign a classification for the protection requirements to those assets consistent with the risk analysis.

9.3 Personnel security controls of the FI-CA/FI-CP

9.3.1 Trusted Roles

[r172] A FI-CA/FI-CP, supporting this Policy, should recognize at least three distinct roles, as outlined below. Different arrangements of separation of duties may be acceptable, provided the resilience to insider attack is at least as strong as with the recommended model and provided the roles are described in the FI-CA/FI-CP PS.

[r173] To ensure that one person acting alone cannot circumvent safeguards, responsibilities in FI-CA/FI-CP systems need to be attended by multiple roles and individuals. Each account on the systems shall have limited capabilities, commensurate with the role of the account holder.

[r174] The recommended roles are:

a) Certification Authority Administrator or Personalization Administrator (CAA/PA)
b) System Administrator (SA)
c) Information System Security Officer (ISSO)

[r175] The CAA/PA role includes:

a) Key generation;
b) Certificate generation; (Generating signed certificate requests to be processed and executed by the FI-CA/FI-CP equipment according to defined rules)
c) Personalization and secure distribution of equipment;
d) Administrative functions associated with maintaining the FI-CA/FI-CP database and assisting in compromise investigations.

[r176] The SA role includes:

a) Performing initial configuration of the system including secure boot start-up and shut down of the system;
b) Initial set up of all new accounts;
c) Setting the initial network configuration;

d) Creating emergency system restart media to recover from catastrophic system loss;
e) Performing system backups, software upgrades and recovery, including the secure storage and distribution of the backups and upgrades to an off-site location. Backups shall be performed at least once per week, and the system shall be powered on/off after a backup is performed, so that hardware integrity checks are performed.
f) Changing of the host name and/or network address.

[r177] The ISSO role includes:

a) Assigning security privileges and access controls of CAA/PAs.
b) Assigning passwords to all new accounts.
c) Performing archiving of required system records
d) Review of the audit log to detect CAA/PA compliance with system security policy. Review of the audit log shall be done at least once per week.
e) Personally, conducting or supervising an annual inventory of the FI-CA/FI-CP's records.
f) Participating in Finland key generation

The ISSO, who is not directly involved in issuing certificates, performs a supervisory function in examining system records or audit logs to ensure that other persons are acting within the realms of their responsibilities and within the stated security policy.

9.3.2 Separation of roles

[r178] For a FI-CA/FI-CP, different individuals shall fill each of the three roles described above and **at least one individual** shall be appointed per task.

9.3.3 Identification and Authentication for Each Role

[r179] Identification and authentication of CAA/PA, SA and ISSO shall be appropriate and consistent with practices, procedures and conditions stated in this policy.

9.3.4 Background, qualifications, experience, and clearance requirements

[r180] The CAA/PA (Certification Authority / Personalization Administrator), which involves creating and managing certificate and key information, is a critical position. The individual assuming the CAA/PA role should be of unquestionable loyalty, trustworthiness and integrity, and should have demonstrated a security consciousness and awareness in his or her daily activities.

[r181] All FI-CA/FI-CP personnel in sensitive positions, including, at least, all CAA/PA and ISSO (Information System Security Officer) positions, shall:

a) not be assigned other duties that may conflict with their duties and responsibilities as CAA/PA and ISSO;
b) not as far known have been previously relieved of a past assignment for reasons of negligence or non-performance of duties;
c) have received proper training in the performance of their duties.

[r182] The FI-CA/FI-CP organizations shall ensure that they will all the time have personnel which have been checked for their qualification, rank, absence of a criminal record, absence of credit risks. These requirements should be stated in the applicable PS.

9.3.5 Training requirements

[r183] Personnel shall have adequate training for the role and job.

9.4 System security controls of the CA and personalization systems

[r184] The FI-CA/FI-CP shall ensure that the systems are secure and correctly operated, with minimal risk of failure. In particular:

a) the integrity of systems and information shall be protected against viruses, malicious and unauthorized software;
b) damage from security incidents and malfunctions shall be minimized through the use of incident reporting and response procedures;

[r185] The Certification Authority System (CAS) and Personalization system shall provide sufficient system security controls for enforcing the separation of roles described in this policy or the relevant PS.

[r186] The security controls shall provide access control and traceability down to an individual level on all transactions and functions affecting the use of FI-CA's private issuing keys.

[r187] System security controls imposed on computer systems used by Service Agencies depend on the role assigned to the agency. Agencies that undertake CAA/PA (certification authority/personalization administrator) roles, load certificates onto cards, or initialize such cards, shall meet the requirements imposed upon FI-CA/CPs.

9.4.1 Specific computer security technical requirements

[r188] Initialization of the system operating FI-CA's private certification keys shall require co-operation of at least two operators, both of which are securely authenticated by the system.

9.4.2 Computer security rating

[r189] The certification authority and personalization systems do not require formal rating as long as they fulfill all requirements in this section.

9.4.3 System development controls

[r190] The FI-CA/FI-CP shall use trustworthy systems and products that are protected against modification.

[r191] An analysis of security requirements shall be carried out at the design and requirements specification stage of any systems development project undertaken by the FI-CA/FI-CP or on behalf of the FI-CA/FI-CP to ensure that security is built into IT systems.

[r192] Change control procedures shall exist for releases, modifications and emergency software fixes for any operational software.

9.4.4 Security management controls

[r193] The system roles (section 9.3.1) shall be implemented and enforced.

9.4.5 Network security controls

[r194] Controls (e.g., firewalls) shall be implemented to protect the FI-CA / FI-CP's internal network domains from external network domains accessible by third parties.

[r195] Sensitive data shall be protected when exchanged over networks which are not secure.

9.5 Security audit procedures

The security audit procedures in this section are valid for all computer and system components which affect the outcome of keys, certificates and equipment issuing processes under this policy.

9.5.1 Types of event recorded

[r196] The security audit functions related to the FI-CA/FI-CP computer/system shall log, for audit purposes:

a) The creation of accounts (privileged or not).
b) Transaction requests together with record of the requesting account, type of request, indication of whether the transaction was completed or not and eventual cause of uncompleted transaction.
c) Installation of new software or software updates.
d) Time and date and other descriptive information about all backups.
e) Shutdowns and restarts of the system.
f) Time and date of all hardware upgrades.
g) Time and date of audit log dumps.
h) Time and date of transaction archive dumps.

9.5.2 Frequency of processing audit log

[r197] The log shall be processed regularly and analyzed against malicious behavior. Log procedures shall be described in the PS.

9.5.3 Retention period for audit log

[r198] Audit log shall be retained for at least 7 years.

9.5.4 Protection of audit log

[r199] Audit logs shall be appropriately integrity protected. All entries shall be individually time stamped (system time is sufficient).

[r200] Audit logs shall be verified and consolidated at least monthly. At least two people in SA or ISSO roles (see section 9.3.1) shall be present for such verification and consolidation.

9.5.5 Audit log backup procedures

[r201] Two copies of the consolidated log shall be made and stored in separate physically secured locations.

[r202] The audit log shall be stored in a way that makes it possible to examine the log during its retention period.

[r203] The audit log shall be protected from unauthorized access.

9.5.6 Audit collection system (internal vs. external)

[r204] Only internal audit collection system is required.

9.6 Record archiving

9.6.1 Types of event recorded by the FI-CIA

[r205] The records shall include all relevant evidence in the FI-CIA's possession including, but not limited to:

a) Certificate requests and all related messages exchanged with the FI-CA/FI-CP, users, and the directory.
b) Signed registration agreements from user's applications for certificates and cards, including the identity of the person responsible for accepting the application.
c) Signed acceptance of the delivery of cards.
d) Contractual agreements regarding certificates and associated cards.
e) Certificate renewals and all messages exchanged with the user.
f) Revocation requests and all recorded messages exchanged with the originator of the request and/or the user.
g) Currently and previously implemented policy documents

9.6.2 Types of event recorded by the FI-CA/FI-CP

[r206] The records shall include all relevant evidence in the FI-CA/FI-CP's possession including, but not limited to:

a) Contents of issued certificates.

b) Audit journals including records of periodic auditing of FI-CA/FI-CP's compliance with its PS.
c) Currently and previously implemented certificate policy documents and their related PSs.

[r207] Records of all digitally signed electronic requests made by FI-CA/FI-CP or Service Agency personnel (CAA/PA) shall include the identity of the administrator responsible for each request together with all information required for non-repudiation checking of the request for as long as the record is retained.

9.6.3 Retention period for archive

[r208] Archives shall be retained and protected against modification or destruction for a period as specified in the PS.

9.6.4 Procedures to obtain and verify archive information

[r209] The FI-CA/FI-CP shall act in compliance with requirements regarding confidentiality as stated in section 3.4.

[r210] Records of individual transactions may be released upon request by any of the entities involved in the transaction, or their recognized representatives.

[r211] FI-CA/FI-CP shall make available on request, produced documentation of the FI-CA/FI-CP's compliance with the applicable PS according to section 11.5.

[r213] The FI-CA/FI-CP shall ensure availability of the archive and that archived information is stored in a readable format during its retention period, even if the FI-CA/FI-CP's operations are interrupted, suspended or terminated.

[r214] In the event that FI-CA/FI-CP services are to be interrupted, suspended or terminated, the FI-CA/FI-CP shall send notification to all customer organizations to ensure the continued availability of the archive. All requests for access to archived information shall be sent to the FI-CA/FI-CP or to the entity identified by the FI-CA/FI-CP prior to terminating its service.

9.7 FI-CA/FI-CP continuity planning

[r215] FI-CA/FI-CP shall have a business continuity plan (BCP). This shall include (but is not limited to) events such as:

- Key compromise
- Catastrophic data loss due to e.g. theft, fire, failure of hardware or software
- System failure of other kinds

9.7.1 Finland keys compromise

Finland keys compromise is dealt with in section 6.

9.7.2 Other disaster recovery

[r216] FI-CA/FI-CP and subcontractors shall have routines established to prevent and minimize the effects of system disasters. These routines include secure and remote backup data storage, functioning data restoration procedures etc., to be detailed in the BCP.

9.8 Physical security control of the CA and personalization systems

[r217] Physical security controls shall be implemented to control access to the FI-CA and FI-CP hardware and software. This includes the workstations and other parts of the CA and personalization hardware and any external cryptographic hardware module or card. A log shall be kept over all physical entries to this area (or areas).

[r218] The Finland keys for signing certificates shall be kept physically and logically protected as described in the PS.

[r219] The FI-CA/FI-CP's facility shall also have a place to store backup and distribution media in a manner sufficient to prevent loss, tampering, or unauthorized use of the stored information. Backups shall be kept both for data recovery and for the archival of important information. Backup media shall also be stored at a site different from where the FI-CA/FI-CP system resides, to permit restoration in the event of a natural disaster to the primary facility.

[r220] A security check of the facility housing the FI-CA/FI-CP's central equipment shall be made at least once every 24 hours. If it is a continuously attended facility, this may be a visual check once per shift to ensure that the systems are securely stored if not in use, that the physical security systems (e.g., door locks and alarms) are functioning properly, and that there have been no attempts at forceful entry or unauthorized access.

9.8.1 Physical access

[r221] Access to the physical area housing the Finland keys and the means for their usage, shall require simultaneously presence of at least 2 persons which have been individually appointed the right to enter the area.

[r222] Access to other FI-CA/FI-CP facilities shall be limited to those personnel performing one of the roles described in section 9.3.1. Access may be controlled through the use of an access control list to the room housing the systems. Anyone not on the access control list shall be escorted by a person on the list. If an access control list is not feasible for a particular site, it may be acceptable to make sure that the CA and personalization related material is locked in a secure room or storage area when it is not being used.

10 FI-CA or FI-CP Termination

10.1 Final termination – FI-A responsibility

Final termination of FI-CA or FI-CP is regarded as the situation where all service associated with FI-CA or FI-CP are terminated permanently. It is not the case where the service is transferred from one organization to another or when the FI-CA service is passed over from an old Finland key pair to a new Finland key pair or the ERCA key. It implies the situation where the Finland withdraws from the Tachograph system or termination of the entire Tachograph system.

[r223] The FI-A shall ensure that the tasks outlined below are carried out.

[r224] Before the FI-CA/FI-CP terminates its services the following procedures has to be completed as a minimum:

a) Inform all users and parties with whom the FI-CA/FI-CP has agreements or other form of established relations;
b) Make publicly available information of its termination at least **3** month prior to termination;
c) The FI-CA/FI-CP shall terminate all authorization of subcontractors to act on behalf of the FI-CA/FI-CP in the process of issuing certificates;
d) The FI-CA/FI-CP shall perform necessary undertakings to maintain and provide continuous access to record archives.

10.2 Transfer of CSP or FI-CP responsibility

Transfer of CSP or FI-CP responsibility occurs when the FI-A chooses to appoint a new CSP or FI-CP in place of the former entity.

[r225] The FI-A shall ensure that transfer of responsibilities and assets is carried out orderly.

[r226] The old CSP shall transfer all root keys to the new CSP if requested by the FI-A in the manner decided by the FI-A.

[r227] The old CSP shall destroy any copies of FI-CA keys that are not transferred.

11 Audit

[r228] The FI-A is responsible for ensuring that audits of the FI-CP and CSP take place. Audit reports shall also be available in English.

11.1 Frequency of entity compliance audit

[r229] The FI-CP and CSP operating under this National CA policy shall be audited for the first time within 12 months of the start of the operations covered by the approved policy. When an audit finds no evidence of non-conformity, the next audit shall be performed within 24 months. When an audit finds evidence of nonconformity, the next audit shall be performed within 12 months.

11.2 Topics covered by audit

[r230] The audit shall cover the FI-CP/CSP/RA´s practices (according to their PSs).

[r231] The audit shall cover the FI-CP/CSP/RA´s compliance with this National CA policy.

[r231.1] The audit shall cover the requirements defined in ERCA-CP §5.3 [ERCA]

[r232] The audit shall also consider the operations of any Service Agencies.

The audit shall produce the Audit report, which defines the corrective actions, with the implementation schedule, needed to fulfil requirements in this policy.

11.3 Who should do the audit

[r233] The FI-A may consult an external certification or accreditation organization for approval of the FI-CP/PSP/CSP/RA PS in order to increase relying parties' trust in the implementation. Otherwise the FI-A shall undertake the auditing.

11.4 Actions taken as a result of deficiency

[r234] If irregularities are found in the audit the FI-A shall take appropriate action depending on its severity.

11.5 Communication of results

[r235] Results of the audits, on a security status level, shall be available upon request. Actual audit reports shall not be available, except on need-to-know basis.

[r235.1] The FI-A includes the results of the audit in a report that defines corrective actions including an implementation schedule, required to fulfill the FI-A obligations. The report will be provided, in English, to the ERCA.

12 National CA policy change procedures

12.1 Items that may change without notification

[r236] The only changes that may be made to this specification without notification are

a) Editorial or typographical corrections

b) Changes to the contact details.

12.2 Changes with notification

12.2.1 Notice

[r237] Any item in this certificate policy may be changed with **90** days notice.

[r238] Changes to items, which in the judgement of the policy responsible organization (the FI-A), **will not** materially impact a substantial majority of the users or related parties using this policy, may be changed with **30** days notice.

12.2.2 Comment period

[r239] Impacted users may file comments with the policy administration organization within **15** days of original notice.

12.2.3 Whom to inform

[r240] Information about changes to this policy shall be sent to:

- the ERCA
- FI-CA, FI-CIA and FI-CP including Service Agencies
- All other MSAs

12.2.4 Period for final change notice

[r241] If the proposed change is modified as a result of comments, notice of the modified proposed change shall be given at least **30** days prior to the change taking effect.

12.3 Changes requiring a new National CA policy approval

[r242] If a policy change is determined by the FI-A organization to have a material impact on a significant number of users of the policy, the FI-A shall submit the revised National CA policy to the **ERCA** for approval.

13 References

[REG] Regulation (EU) 165/2014 on Tachographs in Road Transport, repealing Council Regulation (EEC) NO 3821/85 on Recording Equipment in Road Transport and amending Regulation (EC) NO 561/2006
Commission Implementing Regulation (EU) 2016/799 of 18 March 2016 implementing Regulation (EU) No 165/2014 of the European Parliament and of the Council
Commission Implementing Regulation (EU) 2018/502 of 28 February 2018 amending Implementing Regulation (EU) 2016/799

[REG-A] Annex I(B) to Council Regulation 2135/98 *Requirements for construction, testing, installation and inspection*

[CC] Common Criteria. ISO/IEC 15408 (1999): "Information technology - Security techniques - Evaluation criteria for IT security (parts 1 to 3)".

[ETSI 102 042] ETSI TS 102 042. Policy requirements for certification authorities issuing public key certificates

[FIPS] FIPS PUB 140-2 (May 25, 2001): "Security Requirements for Cryptographic Modules". Information Technology Laboratory, National Institute of Standards and Technology (NIST)

[ISO 27001] ISO/IEC 27001: 2013. Information technology - Security Techniques - Information security management systems — Requirements. [ERCA] Digital Tachograph System European Root Policy version 2.1
(JRC53429_ERCA_CP_v2_1.pdf)

14 Glossary/Definitions and abbreviations

14.1 Glossary/Definitions

CA Policy: A named set of rules that indicates the applicability of keys, certificates and equipment to a particular community and/or class of application with common security requirements.

Card/Tachograph cards: Integrated Circuit equipped card, in this policy this is equivalent to the use of the terms ”**IC-Card**” and ”**Smart Card**”.

Card holder: A person or an organization that is a holder and user of a Tachograph card. Included are drivers, company representatives, workshop workers and control body staff.

Certificate: In a general context a certificate is a message structure involving a binding signature by the issuer verifying that the information within the certificate is correct and that the holder of the certified public key can prove possession of the associated private key.

Certification Authority System (CAS): A computer system in which certificates are issued by signing certificate (user) data with the CA private signing key.

Certification Practice Statement (CPS): A statement of the practices that a certification authority employs in issuing certificates and is connected to the actual CA policy. The CPS is in this National CA policy replaced by a Practice Statement, because it has a broader view and connects to keys, certificates and equipment.

Equipment: In the Tachograph system the following equipment exists: Tachograph cards, VU (vehicle units) and Motion Sensors.

Manufacturer/Equipment manufacturer: Manufacturers of Tachograph equipment. In this policy most often used for VU and Motion Sensor manufacturers, since these have distinct roles in the System.

Motion Sensor key: A symmetric key used for the Motion Sensor and VU to ensure the mutual recognition.

Practice Statement (PS). A statement of the security practices employed in the Tachograph processes. A PS is comparable to the standard PKI document CPS.

Private key: The private part of an asymmetric key pair used for public key encryption techniques. The private key is typically used for signing digital signatures or decrypting messages. Also called a Secret key.

Public key: The public part of an asymmetric key pair used for public key encryption techniques. The public key is typically used for verifying digital signatures or to encrypt messages to the owner of the private key.

RSA keys: RSA is the cryptographic algorithm used for asymmetric (PKI) keys in the Tachograph system.

Service Agency: An entity that undertakes to tasks on behalf of an MSCA or CPO, a subcontractor.

Tachograph cards/Cards: Four different type of smart cards for use in the Tachograph system: Driver card, Company card, Workshop card, Control card.

User: Users are equipment users and are either **Card Holders** for card or **manufacturers** for Vehicle units/Motion Sensors. All users shall be uniquely identifiable entities.

In this document:

Signed: Where this policy requires a signature, the requirement is met by a secure and verifiable digital signature.

Written: Where this policy requires information to be in writing, that requirement is met by a data message if the information contained therein is accessible so as to be usable for the parties concerned.

14.2 List of abbreviations

CA Certification Authority

CAA/PA Certification Authority Administrator/ Personalization Administrator

CAS Certification Authority System

CIA Card Issuing Authority

CC	Common Criteria
CP	Card Personalizing organization
CPS	Certification Practice Statement
CSP	Certificate Service Provider
DB	Database
ERCA	European Root CA
HSM	Hardware Security Module
ISSO	Information System Security Officer
ITSEC	Information Technology Security Evaluation Criteria
KG	Key Generation
MS	Member State of Tachograph system
MSA	Member State Authority
MSCA	Member State CA
PSP	Personalization Service Provider
PIN	Personal Identification Number
PKI	Public Key Infrastructure
RA	Registration Authority
RSA	A specific Public key algorithm
SA	System Administrator
PS	Practice Statement
VU	Vehicle Unit
VUP	VU Personalizing organization

15 Correspondence table with the ERCA Policy

The requirements for the Finland CA Policy are formulated in the ERCA Policy § 5.3. The table below provides the rationale between the requirements as formulated in the ERCA Policy [ERCA] and the requirements in the Finland CA Policy.

Item	Reference ERCA Policy	Requirement	Reference Finland NCA Policy
1	§ 5.3.1	The MSA Policy shall identify the entities in charge of operations.	§1.1 Responsible organization
2	§ 5.3.2	The MSCA key pairs for equipment key certification and for motion sensor key distribution shall be generated and stored within a device which either: • is certified to meet the requirements identified in FIPS 140-2 (or FIPS 140-1) level 3 or higher [10];]; • is a trustworthy system which is assured to EAL4 or higher in accordance with ISO 15408 [12]; to level E3 or higher in ITSEC [13]; or equivalent security criteria. These evaluations shall be to a protection profile or security target, • is demonstrated to provide an equivalent level of security.	§6.2.1 Finland keys generation §6.3 Motion Sensor Keys §6.4 Transport keys §6.5 Key Certification Requests and Motion Sensor Key Distribution Request
3	§ 5.3.3	Member State Key Pair generation shall take place in a physically secured environment by personnel in trusted roles under, at least dual control.	§6 Root keys and transport keys management: European Root key, Finland keys, Motion Sensor keys, transport keys

			§6.2.1 Finland keys generation [r104]
4	§ 5.3.4	The Member State Key Pairs shall be used for a period of at most two years starting from certification by the ERCA.	§6.2.2 Finland keys period of validity [r107]
5	§ 5.3.5	The generation of new Member State Key Pairs shall take into account the one month turnaround time required for certification by the ERCA	§6.2.1 Finland keys generation [r106]
6	§ 5.3.6	The MSA shall submit MSCA public keys for certification by the ERCA using the key certification request (KCR) protocol described in Annex A.	§6.5 Key Certification Requests and Motion Sensor Key Distribution Requests [r123.1]
7	§ 5.3.7	The MSA shall request motion sensor master keys from the ERCA using the key distribution request (KDR) protocol described in Annex D.	§6.5 Key Certification Requests and Motion Sensor Key Distribution Requests [r123.3]
8	§ 5.3.8	The MSA shall recognize the ERCA public key in the distribution format described in Annex B	§6.5 Key Certification Requests and Motion Sensor Key Distribution Requests [r123.2]
9	§ 5.3.9	The MSA shall use the physical media for key and certificate transport described in Annex C	§6.5 Key Certification Requests and Motion Sensor Key Distribution Requests [r123.4]
10	§ 5.3.10	The MSA shall ensure that the Key Identifier (KID) and modulus (n) of keys submitted to the ERCA for certification are unique within the domain of the MSCA.	§6.5 Key Certification Requests and Motion Sensor Key Distribution Requests [r123.5]
11	§ 5.3.11	The MSA shall ensure that expired keys are not used for any purpose. The Member State private key shall be either: destroyed so that the private key cannot be	§6.2.7 Finland keys end of life [r116]

		recovered; or retained in a manner preventing its use.	
12	§ 5.3.12	The MSA shall ensure that an equipment RSA key is generated, transported, and inserted into the equipment, in such a way as to preserve its confidentiality and integrity. For this purpose, the MSA shall • ensure that any relevant prescription mandated by security certification of the equipment is met. • ensure that both generation and insertion (if not onboard) takes place in a physically secured environment; • unless key generation was covered by the security certification of the equipment, ensure that specified and appropriate cryptographic key generation algorithms are used; The last two of these requirements on generation shall be met by generating equipment keys within a device which either: a) is certified to meet the requirements identified in FIPS 140-2 (or FIPS 140-1) level 3 or higher [9]; b) is a trustworthy system which is assured to EAL4 or higher in accordance with ISO 15408 [11]; to level E3 or higher in ITSEC [12]; or equivalent security criteria. These evaluations shall be to a protection profile or security target.	§5.1.1 Quality control – FI-A/ PSP function [r27] §7.1 General aspects FI-CP/FI-CA incl. Service Agencies and VU manufacturers [r124] to [r126] §7.2 Equipment key generation

		c) is demonstrated to provide an equivalent level of security.	
13	§ 5.3.13	The MSA shall ensure confidentiality, integrity, and availability of the private keys generated, stored and used under control of the MSA Policy.	§3.4.1 Types of information to be kept confidential [r20] §6.2.1 Finland keys generation §6.2.3 Finland private key storage §6.4 Transport keys §7.2 Equipment key generation
14	§ 5.3.14	The MSA shall prevent unauthorized use of the private keys generated, stored and used under control of the MSA Policy.	§6.2.3 Finland private key storage §6.4 Transport keys §7.2 Equipment key generation §7.2.3 Equipment private key protection and storage – Cards
15	§ 5.3.15	The Member State private keys may be backed up using a key recovery procedure requiring at least dual control.	§6.2.1 Finland keys generation [r106] §6.2.4 Finland private key backup [r111]
16	§ 5.3.16	Key certification requests that rely on transportation of private keys are not allowed.	§6.5 Key Certification Requests and Motion Sensor Key Distribution Request [r123.6] §7.2.3 Equipment private key protection and storage – Cards [r143]
17	§ 5.3.17	Key escrow is strictly forbidden.	§6.2.5 Finland private key escrow [r112] §7.2.5 Equipment private key escrow and archival [r147]

18	§ 5.3.18	The MSA shall prevent unauthorized use of its motion sensor keys.	§6.3 Motion Sensor keys [r120], [r122]
19	§ 5.3.19	The MSA shall ensure that the motion sensor master key (Km) is used only to encrypt motion sensor data for the purposes of motion sensor manufacturers. The data to be encrypted is defined in the ISO / IEC 16844-3 standard [7].	Not applicable
20	§ 5.3.20	The motion sensor master key (Km) shall never leave the secure and controlled environment of the MSA.	Not applicable
21	§ 5.3.21	The MSA shall forward the workshop card motion sensor key (KmWC) to the component personaliser (in this case, the card personalisation service), by appropriately secured means, for the sole purpose of insertion into workshop cards.	§6.3 Motion Sensor keys [r120]
22	§ 5.3.22	The MSA shall forward the vehicle unit motion sensor key (KmVU) to the component personaliser (in this case, a vehicle unit manufacturer), by appropriately secured means, for the sole purpose of insertion into vehicle units.	Not applicable
23	§ 5.3.23	The MSA shall maintain the confidentiality, integrity, and availability of its motion sensor key copies.	§6.3 Motion Sensor keys [r122]
24	§ 5.3.24	The MSA shall ensure that its motion sensor key copies are stored within a device which either: a) is certified to meet the requirements identified in FIPS 140-2 (or FIPS 140-1) level 3 or higher [9]; b) is a trustworthy system which is assured to EAL4 or higher in	§6.3 Motion Sensor keys [r122]

		accordance with ISO 15408 [11]; to level E3 or higher in ITSEC [12]; or equivalent security criteria. These evaluations shall be to a protection profile or security target.	
25	§ 5.3.25	The MSA shall possess different Member State Key Pairs for the production of vehicle unit and tachograph card equipment public key certificates	Not applicable
26	§ 5.3.26	The MSA shall ensure availability of its equipment public key certification service.	§6.2.1 Finland keys generation [r106]
27	§ 5.3.27	The MSA shall only use the Member State Private Keys for: a) the production of Annex I(B) equipment key certificates using the ISO / IEC 9796-2 digital signature algorithm as described in Annex I(B) Appendix 11 Common Security Mechanisms [6]; b) production of the ERCA key certification request as described in Annex A. c) issuing Certificate Revocation Lists if this method is used for providing certificate status information (see 5.3.30).	§6.2 Finland keys [r100]
28	§ 5.3.28	The MSA shall sign equipment certificates within the same device used to store the Member State Private Keys (see 5.3.2).	§6.2.3 Finland private key storage [r109]
29	§ 5.3.29	Within its domain, the MSA shall ensure that equipment public keys are identified by a unique key identifier which follows the prescriptions of Annex 1(B) [6].	§7.2 Equipment key generation [r136] §8.1.1 Tachograph cards [r151]

30	§ 5.3.30	Unless key generation and certification is performed in the same physically secured Environment, the key certification request protocol shall provide proof of origin and integrity of certification requests, without revealing the private key.	§8.1.1 Tachograph cards [r151.1]
31	§ 5.3.31	The MSA shall maintain and make certificate status information available	§8.7 Dissemination of equipment certificates and information [r164.1] §8.9 Equipment certificate revocation [r166]
32	§ 5.3.32	The validity of a tachograph card certificate shall equal the validity of the tachograph card.	§8.4 Equipment certificate time of validity [r160]
33	§ 5.3.33	The MSA shall prevent the insertion of undefined validity certificates into tachograph cards.	§8.4 Equipment certificate time of validity [r160]
34	§ 5.3.34	The MSA may allow the insertion of undefined validity Member State certificates into vehicle units.	Not applicable
35	§ 5.3.35	The MSA shall ensure that users of cards are identified at some stage of the card issuing process.	§5.1.2.1 User application [r30] to [r33] §5.1.10 Card distribution to the user – handled by the FI-CP and RA [r70]
36	§ 5.3.36	The MSA shall ensure that ERCA is notified without delay of loss, theft, or potential compromise of any MSA keys.	§6.2.6 Finland keys compromise [r113], [r114]
37	§ 5.3.37	The MSA shall implement appropriate disaster recovery mechanisms which do not depend on the ERCA response time.	§6.2.1 Finland keys generation [r106] §9.7 FI-CA/FI-CP continuity planning [r215]

38	§ 5.3.38	The MSA shall establish an information security management system (ISMS) based on a risk assessment for all the operations involved.	§9.1 Information security management of the FI-CA and FI-CP [r170]
39	§ 5.3.39	The MSA shall ensure that the policies address personnel training, clearance and roles.	§9.3 Personnel security controls of the FI-CA/FI-CP
40	§ 5.3.40	The MSA shall ensure that appropriate records of certification operations are maintained.	§9.6.1 Types of event recorded by the FI-CIA [r205] §9.6.2 Types of event recorded by the FI-CA/FI-CP [r206]
41	§ 5.3.41	The MSA shall include provisions for MSCA termination in the MSA Policy.	§10 FI-CA or FI-CP Termination
42	§ 5.3.42	The MSA Policy shall include change procedures.	§12 National CA policy change procedures
43	§ 5.3.43	The MSA audit shall establish whether the Requirements of this Section are being maintained.	§11.2 Topics covered by audit [r230] to [r232]
44	§ 5.3.44	The MSA shall perform the first audit within 12 months of the start of the operations covered by the approved policy. When an audit finds no evidence of non-conformity, the next audit may be performed within 24 months. When an audit finds evidence of nonconformity, the next audit shall be performed within 12 months.	§11.1 Frequency of entity compliance audit [r229]
45	§ 5.3.45	The MSA shall report the results of the audit as mentioned in 5.3.43 and provide the audit report, in English, to ERCA.	§11.5 Communication of results [r235.1]
46	§ 5.3.46	The audit report shall define any corrective actions, including an implementation	§11.5 Communication of results [r235.1]

		schedule, required to fulfil the MSA obligations.	