

COMMON-USE SYSTEMS

PROGRAMME OF REQUIREMENTS

DOCUMENT DETAILS

Title	Common-Use Systems
Subtitle	Programme of Requirements
Status	Approved
Date	31 May 2019
Next revision date	N/A
Version	1.1
Classification	Public
Department	Finance, Procurement & IT

COPYRIGHT

© 2019 Eindhoven Airport N.V. No part of this publication may be reproduced, stored in an automatic database or published in any other form or way, be it electronically, mechanically, through photocopies, recordings or any other means, without the prior written consent of the author.

TABLE OF CONTENTS

1	Introduction.....	4
1.1	Methodology	4
1.2	Stakeholders.....	5
2	As-is situation	6
2.1	Relevant facts	6
2.2	Terminal layout	7
2.2.1	Conventional check-in desk.....	7
2.2.2	Self-service bag drop.....	9
2.2.3	Pre-security filter	10
2.2.4	Gate and boarding	12
2.2.5	Service desk	14
2.3	Software.....	15
2.3.1	Local DCS: AirDCS.....	15
2.3.2	Local DCS: iPort	15
2.3.3	SkyGuide (full client).....	16
2.3.4	SkyGuide (web application).....	17
2.3.5	Handler applications	18
2.3.6	Integration platform.....	19
2.3.7	Real-time passenger event data.....	19
2.4	Network infrastructure	21
3	Requirements.....	22
Appendix A.	Current terminal lay-out (Ground floor).....	27
Appendix B.	Current terminal lay-out (First floor).....	28
Appendix C.	List of peripherals in use	29

TABLE OF TABLES

Table 1. Expected figures 2019	6
Table 2. Scheduled operational hours (Amsterdam time zone)	6
Table 3: Check-in desk equipment and dimensions	7
Table 4. Pre-security equipment and dimensions	10
Table 5. Gate equipment and dimensions.....	12
Table 6. Current service desk position equipment and dimensions	14
Table 7. Software used at all handler locations.....	18
Table 8. Additional software used at service desks	18
Table 9. Requirements and questions.....	22
Table 10. List of peripherals in use and in under warranty	29

TABLE OF FIGURES

Figure 1. Schematic view of requirements engineering approach	4
Figure 2. Schematic example of requirements engineering approach	4
Figure 3. Primary stakeholders.....	5
Figure 4. Dimensions of a conventional check-in desk	8
Figure 5. Typical lay-out of a conventional check-in desk.....	8
Figure 6. Self-service bag drop unit	9
Figure 7. Schematic lay-out of Scan&Fly integration	9
Figure 8. Current pre-security filter lay-out.....	10
Figure 9. Current IT lay-out - Pre-security filter	11
Figure 10. Typical gate lay-out (2 adjacent gates)	12
Figure 11. Current gate desk & Vision-Box self-service boarding barriers	13
Figure 12. Current IT lay-out - Gate	13

1 INTRODUCTION

This 'Programme of Requirements' is part of the procurement of 'Common-use systems at Eindhoven Airport'. This document serves two goals:

1. Explaining the *as-is situation* at Eindhoven Airport in relation to common-use systems.
2. Explaining the *requirements* as applicable to the procurement.

1.1 METHODOLOGY

Throughout the requirements engineering activities, a structured approach has been applied. First, a collection of business problems were defined. From these business problems, the affected business processes were derived in order to involve the right stakeholders.

Structured workshops have been held with all stakeholders in order to collect user input on requirements towards common-use systems. These requirements are mapped to product concepts and subsequently grouped into lots. In Figure 1, a schematic view of this approach is shown. Figure 2 depicts a schematic example of the approach.

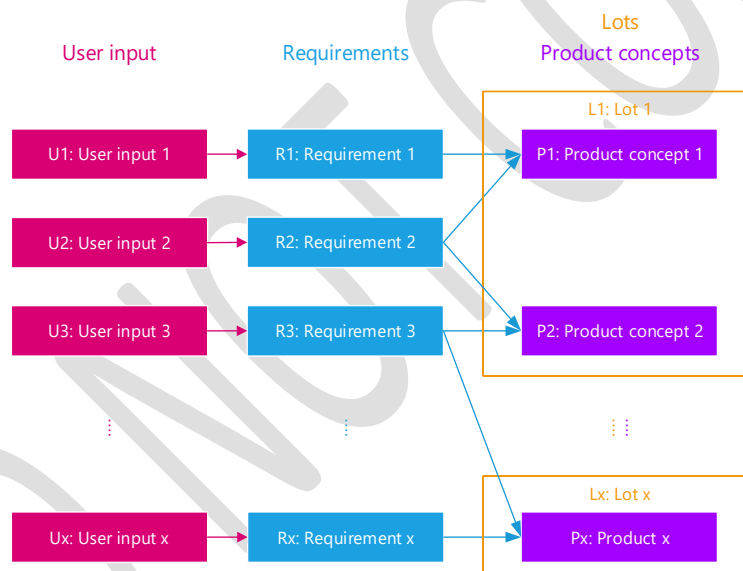


Figure 1. Schematic view of requirements engineering approach

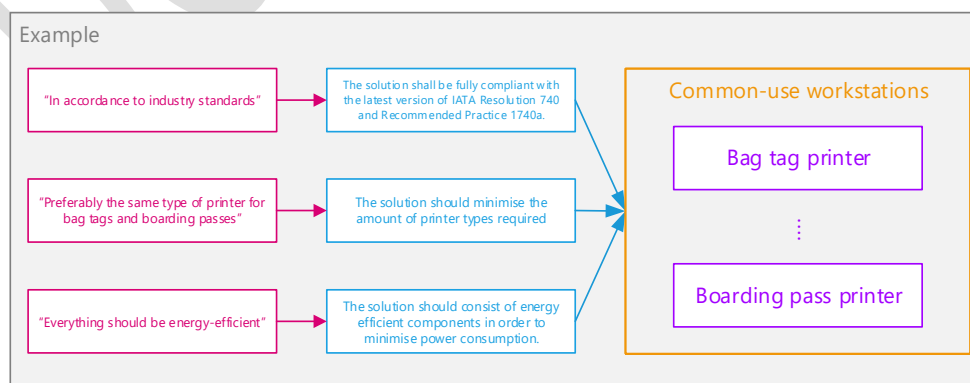


Figure 2. Schematic example of requirements engineering approach

1.2 STAKEHOLDERS

This project involves various stakeholders. In Figure 3 the primary stakeholders and their interrelations are depicted.

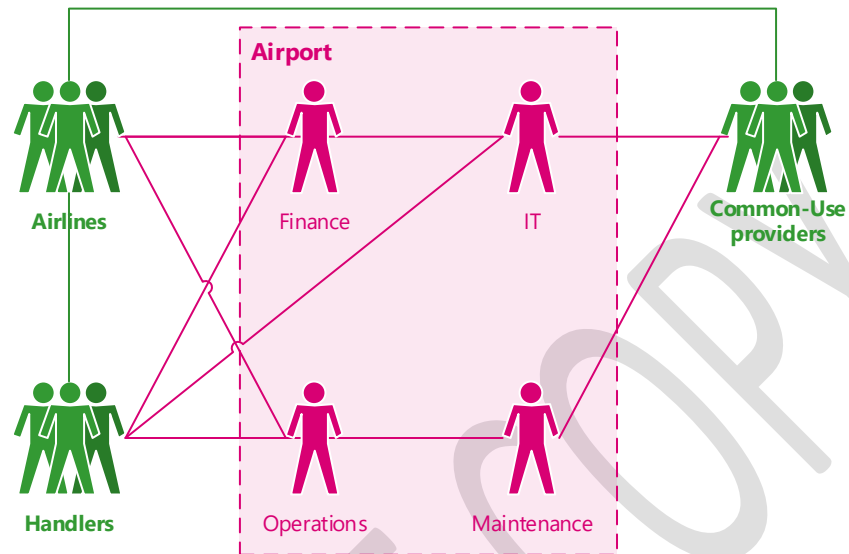


Figure 3. Primary stakeholders

2 AS-IS SITUATION

This chapter describes the current situation of Eindhoven Airport, from different points of view. First the relevant facts and figures of the current operation are given. Second the physical terminal lay-out, together with the asset details are listed. Third, all software currently used in relation to Common Use are listed, together with their requirements. Fourth and last, the network topology of Eindhoven Airport is given.

2.1 RELEVANT FACTS

A list of expected figures for the year 2019 can be found in Table 1.

Table 1. Expected figures 2019

PASSENGERS	6.5 million passengers
FLIGHTS	41.000 flights
AIRLINES	10 airlines
HANDLERS	1 handler
TERMINALS	1 terminal
CHECK-IN POSITIONS	22 positions
SERVICE DESK POSITIONS	6 positions landside 2 positions airside
SELF-SERVICE BAG DROP UNITS	16 retro-fit units installed at check-in positions 1-12 and 15-18
SECURITY FILTERS	1 security filter
SELF-SERVICE PRE-SECURITY FILTER BARRIERS	6 barriers
BOARDING GATES	11 gates
SELF-SERVICE BOARDING BARRIERS	2 barriers per gate

Eindhoven Airport's scheduled operational hours can be found in Table 2.

Table 2. Scheduled operational hours (Amsterdam time zone)

AIRPORT OPERATIONS	04:15h – 00:30h
AIRPORT MAINTENANCE (FIELD SERVICES)	06:00h – 21:00h
HANDLER OPERATIONS	04:30h – 00:30h
TERMINAL OPENING HOURS	04:30h – 00:00h
CHECK-IN	04:30h – 22:30h
SECURITY CHECK	05:00h – 00:00h
BOARDING	06:30h – 22:30h
DEPARTURE FLIGHTS	07:00h – 22:30h
ARRIVAL FLIGHTS	08:00h – 23:30h

2.2 TERMINAL LAYOUT

The current terminal layout can be found in Appendix A. This layout presents both airside and landside areas of the terminal in which five passenger touch points are marked; the characteristics of these touch points are further addressed in the remainder of this paragraph. In addition, a list of terminal equipment is provided in Appendix C that is currently still under warranty and can be considered for (optional) re-use in the scope of this tender.

2.2.1 CONVENTIONAL CHECK-IN DESK

In the current terminal lay-out a total of 22 check-in desks is provided, of which 6 are equipped with conventional check-in equipment and 8 are equipped with both conventional and self-service bag drop equipment. The latter can be used in a hybrid mode; either as conventional check-in desk or as self-service bag drop station (see 2.2.2).

In Table 3 the current available equipment and dimensions of a conventional desk are listed; a list of terminal equipment with warranties and purchase dates can be found in Appendix C. In Figure 5, an example of a typical check-in desk is given. In section 2.3.5 the used software is listed.

Table 3: Check-in desk equipment and dimensions

EQUIPMENT	BRAND	SIZE	REMARK
Desk	-	1200x650mm (WxD)	See Figure 4
Print drawer (2)	-	240 x 200 x 1000mm (WxHxD)	Currently holds: Bag tag printer Boarding pass printer
Consumable storage	-	240 x 320 x 1000mm (WxHxD)	
BGR Scanner	Access-IS BGR 135		Owned by Handler
Keyboard	Access-IS AKB500 OCR/MSR Keyboard		Owned by Handler
Desk phone	Avaya		Owned by EANV
Display / PC / Mouse	-		To be replaced
Bag Tag Printer	-		To be replaced
Boarding Pass printer	-		To be replaced

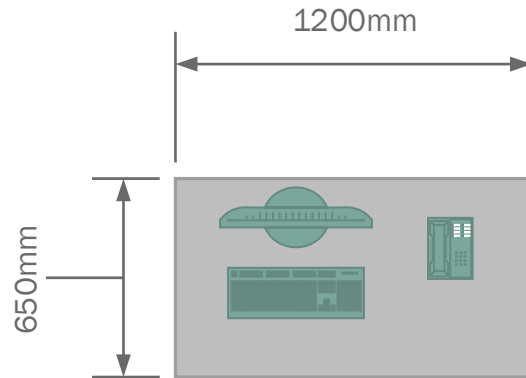


Figure 4. Dimensions of a conventional check-in desk

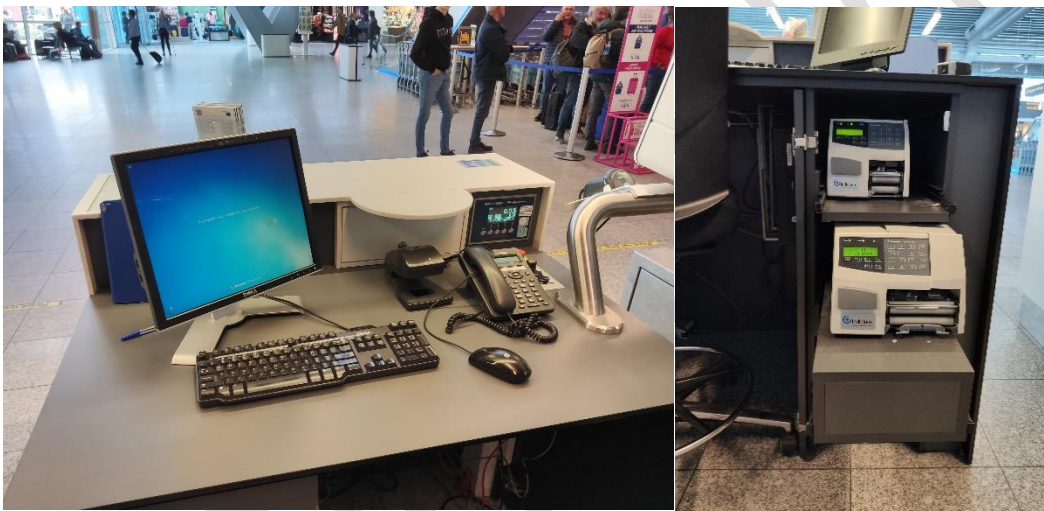


Figure 5. Typical lay-out of a conventional check-in desk

2.2.2 SELF-SERVICE BAG DROP

For baggage drop-off, 16 check-in positions are fitted with retro-fit self-service bag drop (SSBD) units. EANV uses SITA's Scan&Fly as a SSBD unit (former Type22). Please note that all 16 positions still have a desk position, however only 8 of these are equipped with conventional check-in equipment (see 2.2.1).



Figure 6. Self-service bag drop unit

Currently, the SSBD units are directly integrated with AirDCS, through a custom SOAP web service, as depicted in Figure 7. The DCS iPort is currently not integrated onto the SSBD units, making them unavailable to passengers traveling with airlines that are handled in iPort.

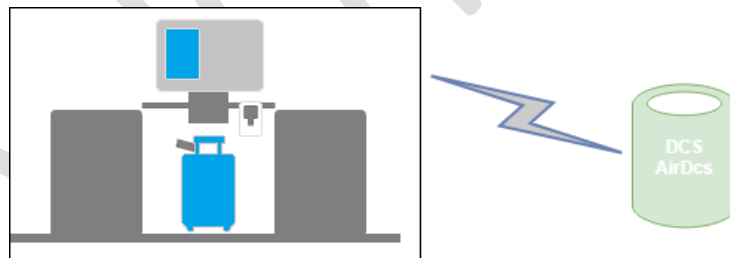


Figure 7. Schematic lay-out of Scan&Fly integration

2.2.3 PRE-SECURITY FILTER

The pre-security filter of EANV serves as an access control point to the security check. It currently consists of one manual desk and six self-service barriers. The manual desk is always staffed with at least one agent, which has DCS access at that location, and is described in Table 4. The six self-service barriers are gates delivered by the company Vision-Box.

Table 4. Pre-security equipment and dimensions

EQUIPMENT	BRAND	SIZE	REMARK
Desk	-	800x800mm (WxD)	-
Consumable storage	-	800 x 380 x 800mm (WxHxD)	-
Barcode reader (2)	Access-IS BGR 135		Owned by Handler
Desk phone	Avaya		Owned by EANV
Microphone	-		Owned by EANV
Display / PC / Mouse / Keyboard	-		Owned by Handler, to be replaced.
Self-service barriers (6)	Vision-Box		

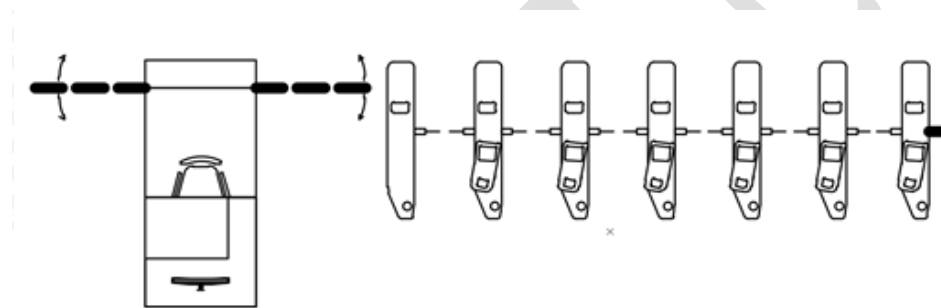


Figure 8. Current pre-security filter lay-out

At the pre-security filter, passengers are validated, based on their boarding pass, via one of the following two options. The option is selected based on the boarding pass offered. The airline code, contained in the boarding pass barcode, is checked against a configuration file present in the barrier gates.

- 1) Airline is handled in AirDCS: The passenger information is validated against AirDCS. Passengers can be denied access to the security area based on e.g. due to an open payments. The validation is done via a custom SOAP web service of AirDCS. Furthermore, the passenger is flagged a 'Passed Security' in AirDCS.
- 2) Airline is not handled in AirDCS: The flight number on the boarding pass is checked against the AODB.

The current integration (Figure 9) is planned to be revised in 2019, in order to remove business logic from the barrier gates. A single, standardized interface will be implemented within EANV's integration platform (see 2.3.6), that subsequently connects to the correct underlying system (DCS or AODB).

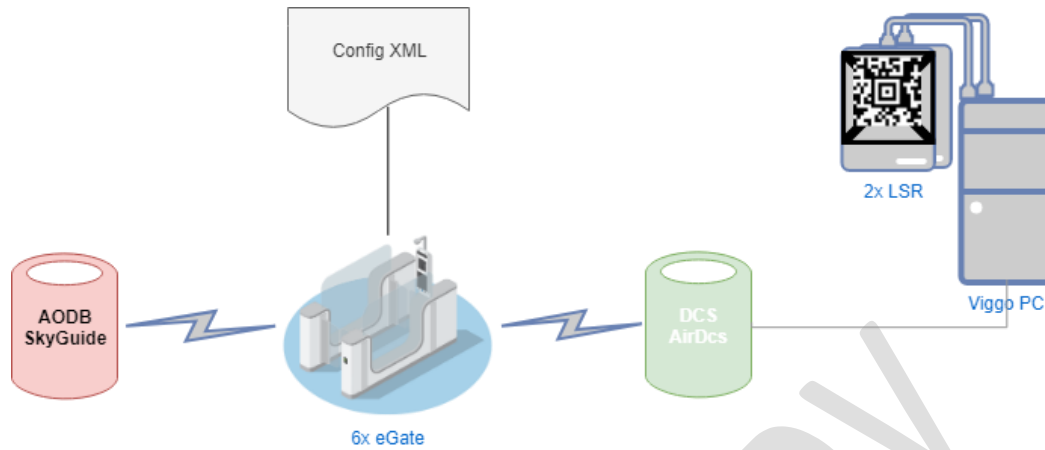


Figure 9. Current IT lay-out - Pre-security filter

2.2.4 GATE AND BOARDING

In the current terminal lay-out 11 gates are fully equipped for boarding passengers; 8 gates within Schengen area and 3 gates within Non-Schengen area. In addition, one gate is used to handle PRM passengers; this gate has limited equipment.

A typical gate layout for EANV is given in Figure 10. Please note that adjacent gates can share equipment for a flight.

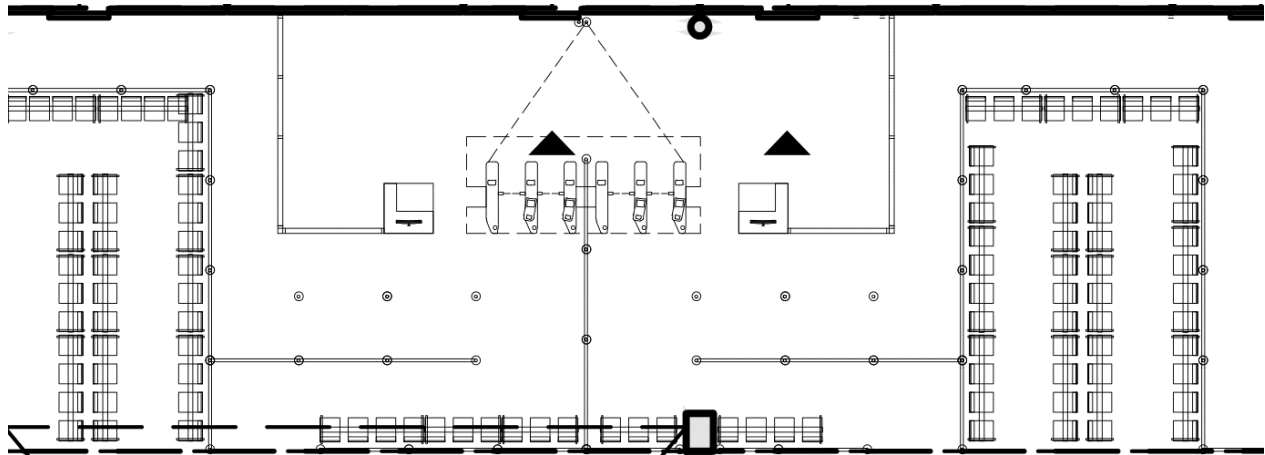


Figure 10. Typical gate lay-out (2 adjacent gates)

In Table 5 the current available equipment and dimensions of a gate are listed. In Figure 11 an example of a typical gate desk is given. In section 2.3.5 the software used at the gate is listed.

Table 5. Gate equipment and dimensions

EQUIPMENT	BRAND	SIZE	REMARK
Desk	-	800x800mm (WxD)	
Consumable storage	-	800 x 380 x 800mm (WxHxD)	
BGR Scanner (2)	Access-IS BGR 135		Owned by Handler
Desk phone	Avaya		Owned by EANV
Microphone			Owned by EANV
Display / PC / Mouse / Keyboard			Owned by Handler, to be replaced
Self-service boarding barrier (2)	Vision-Box		Owned by EANV

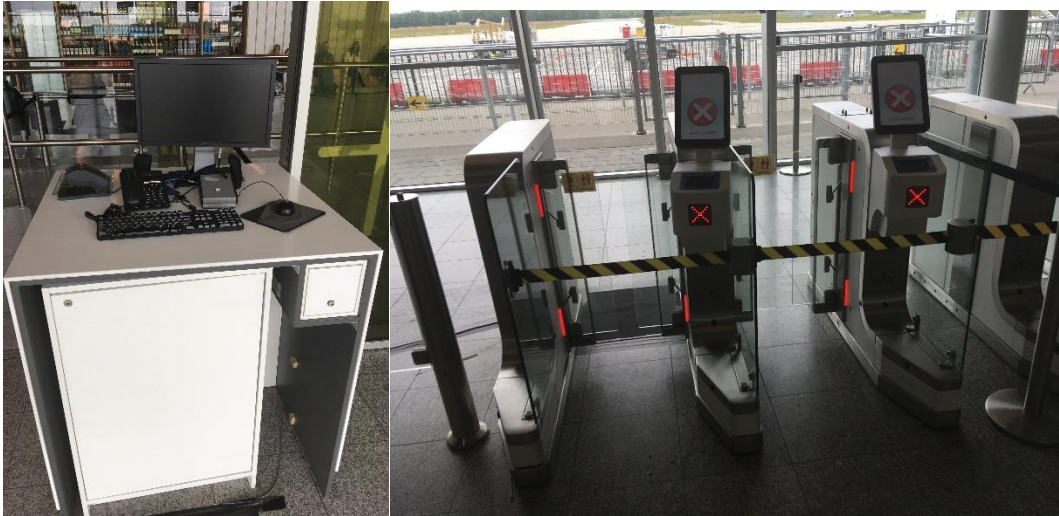


Figure 11. Current gate desk & Vision-Box self-service boarding barriers

All gates are equipped with two boarding pass scanners for manual boarding and two Vision-Box self-service boarding barriers for self-service boarding. This equipment can be used simultaneously, e.g. in theory four passengers can board at the same time. Currently, the barriers are directly integrated with AirDCS, through a custom SOAP web service, as depicted in Figure 12. The DCS iPort is currently not integrated onto the self-service boarding barriers, making them unavailable to airlines that are handled iPort.

Note that:

- EANV aims to replace the custom integration between the barriers and AirDCS by an industry standard integration to a DCS, namely based on serial communication, e.g. AEA protocol.
- EANV is not using any form of biometrics.

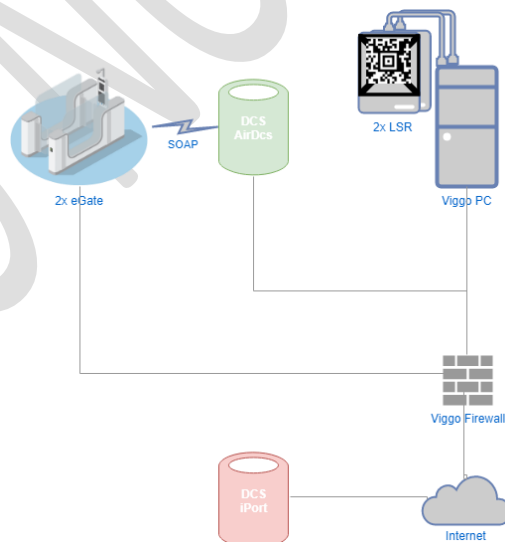


Figure 12. Current IT lay-out - Gate

2.2.5 SERVICE DESK

EANV has two service desks that are operated by the handler, one landside and one airside. Currently there are 6 positions at the landside service desk and 2 positions at the airside service desk. The typical components of the service desk position is described in Table 6. The software used at the service desk is listed in section 2.3.5. Please note that this software is additional to the software that is used at the Check-in / Gate desks.

Table 6. Current service desk position equipment and dimensions

EQUIPMENT	BRAND	SIZE	REMARK
Desk	-	1200x 650mm (WxD)	
Consumable storage	-		
Desk phone	Avaya		Owned by EANV
Display / PC / Mouse / Keyboard	-		To be replaced
Boarding pass printer	-		To be replaced
Boarding pass scanner	-		Airside only
Card payment terminal	-		Owned by Handler
Receipt printer	-		Owned by Handler
Document printer	-		Owned by Handler

Note that all payments are currently handled through an isolated process, e.g. an agent manually enters the amount to be charged on the payment terminal.

2.3 SOFTWARE

In this paragraph, all software is listed that can be considered relevant with respect to common-use.

2.3.1 LOCAL DCS: AIRDCS

The DCS that is used to handle the majority of all passenger is AirDCS (formerly called 'AirCute') by Tisys (part of Ultra Electronics), version 3.5.10.2. The contracts with the supplier are owned by the handler (Viggo); the system is run locally at the airport's premises by the handler.

AirDCS can be considered as the default DCS at Eindhoven Airport. Over 95% of the passengers are processed through AirDCS, making it our primary passenger processing system. This DCS has therefore been fully integrated into all our facilities, e.g.:

- Self-service bag drop units
- Pre-security barrier gates
- Self-service boarding gates

Currently AirDCS is used for handling flights of:

- FR Ryanair
- HV Transavia
- W6 Wizz Air
- CAI Corendon Airlines
- CND Corendon Dutch Airlines
- OE Laudamotion

Please note that various custom integrations and interfaces have been built into AirDCS, e.g. real-time passenger event data streams (see section 2.3.7).

2.3.2 LOCAL DCS: IPORT

The second DCS that is used at Eindhoven Airport is iPort by RES2. This DCS is used for a minority of all the passengers and is only used in case the functionality of AirDCS does not suffice, e.g. transfer passengers. The contract with the RES2 is owned by the handler (Viggo). The DCS is hosted by the DCS provider.

Currently iPort is used for handling flights of:

- KK AtlasGlobal
- FH Freebird Airlines
- FHM Freebird Airlines Europe
- PC Pegasus Airlines
- DP Pobeda Airlines
- XQ SunExpress
- TB TUI Belgium
- OR TUI Netherlands

2.3.3 SKYGUIDE (FULL CLIENT)

SkyGuide is AODB used at Eindhoven Airport. SkyGuide is an in-house developed system and is maintained by Eindhoven Airport. The system is in continuous development and new versions are released every few months. The client software is a Windows x86 application and is used across various locations within the airport.

SOFTWARE PREREQUISITES

REQUIREMENT	VALUE	REMARK
ARCHITECTURE	32 bit	
OPERATING SYSTEM	Windows 7 or 10	
.NET FRAMEWORK	3.5 SP1	
DOMAIN	EA-domain	The application can currently only be used on a PC that is in the EANV domain.
NETWORK COMMUNICATION	TCP/IP 1433	Port 1433 is used for communicating with the database from the SkyGuide application.
NETWORK COMMUNICATION	TCP/IP 443	Reporting Services will run on this port when IIS is not installed. The SkyGuide application retrieves its reports from Reporting Services over this port.

ACCESS PREREQUISITES

PERMISSION	REMARK
Read permissions on the Windows file share that hosts the SkyGuide application.	In order to check for the latest version and download the SkyGuide application locally, the users need read permissions on the share hosting the application.
Write access to the event log of the database server.	In order to write error information to a central event log (of the database server) all domain users need write permissions on it.

2.3.4 SKYGUIDE (WEB APPLICATION)

In addition to the full client of SkyGuide, as described in section SkyGuide (full client), SkyGuide also offers a Microsoft Silverlight web application for read-only purposes.

SOFTWARE PREREQUISITES

REQUIREMENT	VALUE	REMARK
OPERATION SYSTEM WINDOWS	7 or 10	
MS SILVERLIGHT	V3 or higher	
ADOBE READER	V9 or higher	For viewing PDF reports
INTERNET EXPLORER	V11	
NETWORK COMMUNICATION	TCP/IP 443	

2.3.5 HANDLER APPLICATIONS

The following applications are used by the handler on various workstations. In Table 7 the software used on the Gate and Check-in desks is listed. In Table 8 the additional software that is currently used on the service desk is listed, note that the software of the check-in / gate desks is also accessible at the service desk.

Table 7. Software used at all handler locations

APPLICATION	TYPE	REMARKS
AirDCS	Windows application (x86)	DCS, hosted locally. Server communication via ports 139 / 445 / 1521.
iPort	Windows application (x86)	DCS, hosted in the cloud. Client-server traffic is web based.
SkyGuide	Windows application (x86)	See 2.3.3
SkyGuide	Silverlight	See 2.3.4
Timatic	Web application (HTML)	Visa / passport / health checking
Vicom	Web application (HTML)	Workforce management system
Edison	Web application (HTML)	Document authenticity validation
InPlanning	Web application (HTML)	Resource planning
MMS	Web application (HTML)	Document system for working procedures and employee manuals
Webmail	Web application (HTML)	

Table 8. Additional software used at service desks

APPLICATION	TYPE	REMARKS
AFAS Online	Web application (HTML)	Financial application, hosted in the cloud.
iLost	HTML web application	
DigiAcces MMX	Windows application (x86)	Point of Sale software. Used for cash payments registration, linked to a physical cashier system.
Parkbase	Web application (HTML)	Parking Management System
SITA WorldTracer	Web application (HTML)	
Handler Citrix Receiver	Windows application (x86)	
Airline Citrix Receiver	Windows application (x86)	Used for Transavia / Ryanair
Cisco AnyConnect	Windows application (x86)	Client VPN software for Wizz Air and Pobeda
Wizz Air Baggage Calculator	Web application (HTML)	Airline application. Connecting via client VPN.
Wizz Air BoardingGUI	Windows application (x86)	Airline application. Connecting via client VPN.

Wizz Air Navitaire	Windows application (x86)	Airline application. Connecting via client VPN.
Wizz Air SkyFare	Windows application (x86)	Airline application. Connecting via client VPN.
Wizz Air SkySchedule	Windows application (x86)	Airline application. Connecting via client VPN.
Wizz Air SkySpeed	Windows application (x86)	Airline application. Connecting via client VPN.
Pobeda Navitaire	Windows application (x86)	Airline application. Connecting via client VPN.
Pobeda SkySpeed	Windows application (x86)	Airline application. Connecting via client VPN.
TUI Handling Agent	Web application (HTML)	
MS Office	Windows application (x86)	
Windows file share		On handler network.

2.3.6 INTEGRATION PLATFORM

EANV pursues an API-driven approach towards integrating IT systems. Therefore EANV runs an integration platform that exposes various Application Programming Interfaces (APIs) and acts as an Enterprise Service Bus. The integration platform is based on Red Hat JBoss Fuse.

The goal of this approach is to couple systems loosely and to realise standardised, scalable integrations that allow for rapid development. The platform currently exposes three APIs:

- Operational flight API (AODB data)
- Public flight API (public AODB data)
- Passenger event API (see section 2.3.7)

As described earlier, EANV aims to also implement its self-service bag drop facilities and its self-service pre-security filter facilities onto this integration platform.

2.3.7 REAL-TIME PASSENGER EVENT DATA

For flow management purposes, EANV collects passenger event data in real-time. This data originates from AirDCS and is pushed to an API exposed on EANV's integration platform. The following event data is received:

- Passenger creation (upon receiving PNL/ADL messages)
 - o Flight date and number
 - o Check-in status
 - o Baggage allowance
- Passenger check-in
- Passenger baggage drop-off
- Passenger pre-security filter entry
- Passenger boarded
- Passenger de-boarded

The data is received and processed in real-time in subsequent systems in order to provide real-time operational insights to the Operations department. The data is owned and stored by EANV. No personal data is involved (all data relates to a DCS identifier, not to any name).

DO NOT COPY

2.4 NETWORK INFRASTRUCTURE

On the premises of EANV, all network connectivity is provided and maintained by EANV. The network is provided through secured core rooms. Core room access is managed by the IT Team of EANV. The core rooms are interconnected in a redundant setup. The network is available on the full premises of EANV, including car parks, apron, etc. EANV can provide rack space when needed.

The network provided is a Layer 3 managed network, with a maximum bandwidth of 1 Gbit/s. Please note that some network connections, e.g. check-in desks and gates, are used by both a PC and phone which limits the bandwidth to max. 100Mbit/s.

Two core rooms are equipped with an entry point for external connections (e.g. internet connection). One core room only allows copper connections (provider: KPN¹). The other core room allows for both copper (provider: KPN²) and glass-fibre (provider: Glasvezel Eindhoven³).

Although not yet actively promoted, EANV also has SITA AirportHub⁴ installed that may provide easy connectivity to airline systems. When possible, EANV prefers the use of SITA AirportHub over installing new dedicated pipes into its core rooms in order to reduce complexity and the amount of network components.

EANV also provides and manages wireless network connectivity (Wi-Fi) in the terminal. In the current situation, the landside area of the terminal is not fully covered however expansion of the Wi-Fi connectivity in this area is taken into consideration. The Wi-Fi connectivity is provided as follows:

- 2.4 GHz. Protocols: 802.11N
- 5 GHz. Protocols: 802.11N and 802.11AC

EANV intends to deliver network connectivity to all parties that operate at EANV's premises in order to reduce complexity and the amount of network components. A monthly fee can be charged for the use of network connectivity.

¹ More information: <https://www.kpn.com/zakelijk/connectivity.htm>

² More information: <https://www.kpn.com/zakelijk/connectivity.htm>

³ More information: <http://www.glasvezeleindhoven.nl/>

⁴ More information: <https://www.sita.aero/solutions-and-services/solutions/airportHub>

3 REQUIREMENTS

For the procurement 'Common-use at Eindhoven Airport' and the three lots described within this procurement, requirements have been composed. Furthermore questions have been defined in order to request additional information. For clarity reasons, questions are listed together with the requirements.

All requirements and questions can be found in Table 9. The applicability of a requirement of question to a particular lot is indicated by the last three columns provided that:

- Lot 1: Common-use workstations
- Lot 2: Common-use full-service kiosks
- Lot 3: Common-use bag tag kiosks

Table 9. Requirements and questions

ID	PRIORITY	TITLE	DESCRIPTION
#1	Critical	Compliance and Standards	The solution shall be fully CUPPS compliant (CUPPS compliance v1.0 to 1.04, IATA RP1797 / ACI RP500A7 / A4A RP30.201).
#2	Critical	Compliance and Standards	The solution shall be fully CUSS compliant (IATA RP 1701f and RP 1706c).
#3	High	Compliance and Standards	The solution should be fully CUWS compliant (IATA RP 1741 and 1701f).
#4	High	Compliance and Standards	The solution should be fully compliant to IATA Technical Peripheral Specifications 2018 (formerly known as AEA).
#5	Critical	Compliance and Standards	The solution shall be fully compliant with the latest version of IATA Resolution 740 (Form of Interline Baggage Tag) and Recommended Practice 1740a (Baggage Tag Media Quality Guidelines).
#6	Critical	Compliance and Standards	The solution shall be fully compliant with the latest version of IATA Resolution 792 (IATA Bar Coded Boarding Passes).
#7	Critical	Passenger Processing Systems	The solution shall be certified to support, but not limited to, the Passenger Processing Systems of the following airlines: FR Ryanair HV Transavia TB TUI Belgium OR TUI Netherlands W6 Wizz Air
#8	High	Passenger Processing Systems	The solution should be certified to support a comprehensive list of Passenger Processing Systems. It should support, but is not limited to, the PPSs of the following airlines: KK AtlasGlobal CAI Corendon Airlines CND Corendon Dutch Airlines FH Freebird Airlines FHM Freebird Airlines Europe OE Laudamotion PC Pegasus Airlines DP Pobeda Airlines XQ SunExpress
#9	Critical	Passenger Processing Systems	The solution shall support the DCS iPort developed by Res2.
#10	High	Passenger Processing Systems	The solution should support the DCS AirDCS developed by Tisys.
#11	Critical	Passenger Processing Systems	The solution shall be able to support Passenger Processing Systems that are not yet CUTE/CUPPS/CUSS compliant.
#12	Question	Passenger Processing Systems	Please describe which Passenger Processing Systems are supported on your solution. Include details like whether the system is already connected to your solution, the type of connection used and method of access, e.g. Terminal Emulation (including versions).
#13	Critical	Connectivity	The solution shall be able to connect to both local Passenger Processing Systems and PPSs that are in cloud or in private airline LANs.
#14	Medium	Connectivity	The solution should provide an architecture that allows for efficiently connecting to the various PPSs.
#15	Question	Connectivity	Describe how PPSs are connected to the proposed solution and how that connection is managed. Please provide a network architecture diagram of your proposed solution.
#16	Critical	Compliance and Standards	The solution shall comply to the latest GDPR legislation (Currently General Data Protection Regulation 2016/679). Please describe how the solution conforms to the latest GDPR legislation.
#17	High	Compliance and Standards	Any personal data, which potentially is stored in debug files, log files or other data sources, should be automatically deleted 1 month after storage at the latest.
#18	Critical	Workstations	The workstations used at a check-in desk shall support: - Identity document scanning, including passports - Boarding pass printing - Bag tag printing - Boarding pass scanning

ID	PRIORITY	TITLE	DESCRIPTION
#19	Critical	Workstations	The workstations used at a service desk shall support: - Identity document scanning, including passports - Boarding pass printing - Bag tag printing - Boarding pass scanning
#20	Critical	Workstations	The workstations used at the gate shall support: - at least 4 peripherals for simultaneous passenger identification (2x boarding pass scanner, 2x self-service boarding gates) - Receipt printing, e.g. seat change receipt
#21	Critical	Workstations	The solution shall allow users to have multiple PPSs open on a workstation at any time and be able to switch instantly between these applications. All peripherals will be linked to the application that has focus.
#22	High	Workstations	The workstations, as part of the solution, should run the SkyGuide client application (AODB).
#23	High	Workstations	The workstations, as part of the solution, should permit users to access additional local applications that are required for daily operation.
#24	High	Workstations	The solution should allow for upgrading local applications without the need for the Participant's intervention or re-certification.
#25	High	Workstations	EANV should have administrator/elevated permissions on all machines and computers.
#26	Critical	Kiosks	Full-service kiosks shall at least support: - Touchscreen user input - Document scanning, including passports, paper documents and digital documents - Boarding pass printing - Bag tag printing - Payments
#27	Critical	Kiosks	Bag tag kiosks shall at least support: - Boarding pass scanning - Bag tag printing
#28	Critical	Kiosks	The full-service kiosk shall not require more than 0.25 m ² of floor space, including a baseplate (if applicable).
#29	Critical	Kiosks	The bag-tag kiosk shall not require more than 0.2 m ² of floor space, including a baseplate (if applicable).
#30	High	Kiosks	The full-service kiosk should support NFC/RFID card payments.
#31	Question	Compliance and Standards	Please describe what PCI compliant functionality is available within the system to allow easy processing of card payments for customers excess baggage charges or other ancillaries.
#32	High	Kiosks	The kiosks should not require hard fastening and should be semi-permanent, to enable repositioning as floor space lay-outs may change.
#33	High	Kiosks	The kiosks should be capable of being "hardened" as some kiosks may be located in semi-covered areas, e.g. car parks. Although these areas are covered, there should be an option to have a "hardened" kiosk to support these environments.
#34	High	Kiosks	The kiosks should support both wired and wireless network connectivity.
#35	Medium	Kiosks	The kiosks should provide a light or visual indicator to indicator the operational status. For example, orange when the kiosk is being occupied and/or red for kiosk with a problem.
#36	Question	Kiosks	Describe whether the kiosks can be optionally be powered by battery. Provide any specifications if applicable.
#37	High	Kiosks	The kiosks' exterior should be customizable. It should at least be possible to customize the kiosk's colour and to brand the kiosk.
#38	High	Kiosks	The kiosk should at least be available with a white-coloured exterior as a standard. A choice of colours is preferable.
#39	Question	Kiosks	Describe the customization options regarding the exterior/look-and-feel/design of the kiosk together. Describe in which colours the kiosk is available.
#40	High	Kiosks	It should be permitted to EANV to add visual modifications or adjustments to the exterior of the kiosks.
#41	Critical	Peripherals (identification)	The solution shall provide integrated devices required for speedy and accurate identification of passengers. This shall include a barcode scanner.
#42	Critical	Peripherals (identification)	The solution shall provide integrated devices required for speedy and accurate identification of passengers. This shall include a document (passport / identity card) reader and barcode scanner.
#43	Medium	Peripherals (identification)	The solution should allow ergonomic scanning of a barcode from a smart watch that is being worn on a person's wrist.
#44	Critical	Peripherals (printing)	The solution shall provide integrated printers required to print boarding passes.
#45	Critical	Peripherals (printing)	The solution shall provide integrated printers required to print bag tags.
#46	Medium	Peripherals (printing)	The solution shall provide integrated printers required to print seat change receipts at the gate.
#47	High	Peripherals (printing)	The solution should minimise the amount of printer types required. The printers should be capable of both printing boarding passes and bag tags and can thus be configured to print either boarding passes or bag tags.
#48	Question	Peripherals (printing)	Describe how the provided printing solution is reliable and economical. This is a necessity as the printer is used in a high-volume, operational environment.
#49	Medium	Peripherals (printing)	The solution should include printers that support the ability for several workstations to share the same printer.
#50	High	Peripherals	All peripherals should be compact and easily replaceable in case of a failure or upgrade.
#51	High	Power consumption	The solution should consist of energy efficient components in order to minimise power consumption.
#52	High	Power consumption	The solution components should automatically switch to a low-power/standby mode when being idle for a configurable amount of time.
#53	Critical	Back office	The solution shall allow to access Passenger Processing Systems from back-office workstations, i.e. a workstation which does not require access to common-use peripherals such as boarding pass printers, bag tag printers, document readers, etcetera.

ID	PRIORITY	TITLE	DESCRIPTION
#54	High	Back office	The solution should allow to access to back office functionality of PPSs from third party workstations, e.g. a handler's computer.
#55	Critical	Back office	The solution shall allow for regular document printing from the Passenger Processing System to a printer connected to the host work station, e.g. load sheets or other files.
#56	Critical	Reporting and integration	The solution shall include the functionality to allow EANV to produce detailed reports grouped by airline and time for billing and statistical purposes.
#57	Question	Reporting and integration	Describe the information available through the standard reports that provide usage and describe the mechanism(s) for producing them.
#58	Question	Reporting and integration	EANV would like to gather usage and statistical data associated to each node. Describe how this can be achieved.
#59	Question	Reporting and integration	Describe how reporting data is stored within the system. Include details of how long the data is kept and how archived/historical data can be accessed/reported on.
#60	High	Reporting and integration	The solution should provide access to raw usage data in near real-time and the ability to extract this in an automated fashion for automation and analytics purposes.
#61	Question	Reporting and integration	Describe the raw data available through the extract functionality and describe the mechanism(s) for retrieving this usage data.
#62	High	Reporting and integration	The solution should provide access to raw passenger flow data in near real-time and the ability to extract this in an automated fashion for flow management purposes. This data includes, but is not limited to: Flight date, flight number, booking reference, check-in sequence number.
#63	Question	Reporting and integration	Describe the raw data available through the extract functionality and describe the mechanism(s) for retrieving this flow passenger flow data.
#64	Question	Reporting and integration	Describe the frequency of how usage data and passenger flow data is available for extraction. Describe how often the data can be retrieved, e.g. the time elapsed from the most recent event.
#65	Critical	Solution	The solution shall be a commercial off-the-shelf (COTS) system that is regularly updated and upgraded by the Participant to ensure that the solution adequately performs.
#66	Critical	Solution	The solution shall have an appropriate, proven, reliable and manageable architecture.
#67	Critical	Solution	The solution shall be adequate and proportional to Eindhoven Airport's passenger numbers, flight numbers and operational peaks.
#68	Question	Solution	Describe an operating plan that details the operational processes proposed to ensure effective operation of the solution.
#69	Question	Solution	Describe any resource requirements and dependencies required from EANV and handlers to operate the solution.
#70	Question	Solution	Describe all of the hardware and infrastructure required for the proposed solution, including all engineering design work and integration design work, required to make the solution fully functional and meet all performance requirements.
#71	Question	Solution	Provide detailed information and specifications of the hardware you propose, including images, photos and technical specifications.
#72	Question	Solution	Describe the technical performance of the proposed solution. At least describe response times, boot times, barcode reading speeds, document reading speeds, print speeds.
#73	Question	Solution	Describe what equipment will be located within EANV's core rooms and what cabinet/rack space is necessary to accommodate the system installation, operation, testing and maintenance.
#74	High	Solution	The solution should incorporate a proven disaster recovery architecture.
#75	Question	Solution	Describe a disaster recovery plan that outlines the various processes that will be put in place should a disaster happen.
#76	Question	Performance	Describe expected response times for the solution, including but not limited to, print delay, scanning delay and user input delay.
#77	Question	Performance	Describe the expected/estimated capacity of the offered solution in terms of passenger throughput.
#78	High	Scalability and flexibility	The solution should be scalable and flexible in order to be able to respond to a changing environment.
#79	Question	Scalability and flexibility	Describe how the system can be easily scaled, e.g. to support an increase of passenger numbers. Describe any limits of the proposed solution.
#80	High	Scalability and flexibility	The solution should support new PPSs to be added with minimal effort. A new PPS should be added without the need for programmatic changes or a new software release.
#81	Question	Scalability and flexibility	Describe your process of on-boarding a new PPS and the typical lead times.
#82	Question	Scalability and flexibility	Describe your process for how a new PPS can be connected to the solution. Highlight any costs associated with this process.
#83	Medium	Scalability and flexibility	The solution should be capable of responding rapidly and easily to any unusual operations and peaks in passenger flow.
#84	Question	Scalability and flexibility	Describe what mobile functionality is available to both speed up and provide a more flexible approach to the check-in and boarding processes. Explain how the proposed solution can do this.
#85	Question	Scalability and flexibility	Describe what functionality is available to allow rapid off-site implementation of the solution, e.g. at a hotel, car park or public transport station. Explain how the proposed solution can do this.
#86	Critical	Security	Work stations shall have an automatic, configurable time-out function to ensure an agent is automatically logout after a period of time.
#87	Critical	Security	Kiosks shall have an automatic, configurable time-out function to ensure a passenger's session and details are not accidentally shared with the next user.
#88	High	Security	The solution should incorporate modern security levels and standards and not rely on outdated or inappropriate security measures.
#89	Question	Security	Please describe how you continuously ensure that the solution has appropriate security levels and in accordance to standards.
#90	High	Security	The solution should allow for creating multiple user roles that have different access levels.
#91	Medium	Security	The solution should allow for support the integration of a handler's identity provider, based on common standards like LDAP, OAuth and SAML2.0. This should enable every handler's agent to reuse their corporate credentials.

ID	PRIORITY	TITLE	DESCRIPTION
#92	Question	Security	Describe how user security is managed in the proposed solution and how security differs depending on the user role.
#93	Critical	Implementation	The Participant shall appoint a capable project manager to take responsibility for delivering the solution. This Project Manager shall also have overall responsibility for the detailed planning, phasing and coordination of the entirety of the on-site works, including logistics, site-coordination and all associated permits.
#94	Critical	Implementation	The Participant shall assemble a capable project team that shall have the right set of competences for delivering the solution.
#95	Critical	Implementation	The Participant's project manager and teams shall collaborate with the EANV appointed project manager, all other consultants, sub-contractors and suppliers as necessary to ensure an integrated approach to the planning and implementation of the works. They shall deliver, install, commission and test the solution in accordance with the EANV project manager's overall accepted schedule.
#96	Question	Implementation	Describe the implementation plan, including key milestones, timescales, assumptions and risks.
#97	Question	Implementation	Describe the organisational structure that will be in place throughout implementation, including a description of the competences of all people involved throughout the implementation.
#98	Question	Implementation	Describe any resource requirements and dependencies required from EANV and/or its handlers to deliver the solution.
#99	Question	Implementation	Describe the equipment and tools, if any, required to deliver the solution.
#100	Critical	Acceptance and go-live	The Participant shall develop an acceptance plan that is approved by EANV at least 14 days prior to the test date. The plan shall at least address all requirements identified in the Programme of Requirements and test all Participant supplied hardware and software components. The plan shall follow accepted industry testing practices and have a method of independent verification described.
#101	Critical	Acceptance and go-live	The Participant will provide all materials and test equipment for carrying out the acceptance plan.
#102	Critical	Acceptance and go-live	Any specified item that does not satisfy the requirements of the tender shall be replaced, upgraded, or added by the Participant as necessary to correct the noted deficiencies. After correction of a noted deficiency, re-testing shall be performed to verify the effectiveness of the corrective action.
#103	Critical	Acceptance and go-live	The Participant shall ensure a focused period of support in the first 10 days of operation, in order to address and resolve any question and/or issue promptly and adequately.
#104	Question	Acceptance and go-live	Describe how you would ensure this focused period of support during the first 10 days of operation.
#105	Question	Acceptance and go-live	Describe the process for testing and accepting new applications and upgrades on the solution prior to deploying it to the live environment.
#106	Question	Acceptance and go-live	Describe the process for testing new and replacement hardware on the solution prior to deploying it to the live environment.
#107	Critical	Training, materials and manuals	The proposed solution shall include adequate training of key personnel. This should include but not be limited to, field service engineers, system administrators and operational staff.
#108	Question	Training, materials and manuals	Describe a training plan for the training of all key personnel.
#109	Critical	Training, materials and manuals	The solution shall include initial on-site training prior to system acceptance testing for system administrators and end users.
#110	Critical	Training, materials and manuals	The Participant shall provide training materials required to operate and maintain the solution prior to acceptance.
#111	Critical	Training, materials and manuals	The Participant shall provide copies of all operational and maintenance manuals free of charge. These manuals shall be in electronic format.
#112	Critical	Training, materials and manuals	The Participant shall provide training to key personnel at the premises of EANV on dates to be agreed by the airport's project team.
#113	Critical	Support and maintenance	The Participant shall provide their own software in the latest software version at the time of installation.
#114	Critical	Support and maintenance	The proposed Service Level Agreement (SLA), as part of the solution, shall include clearly defined, measurable service levels and key performance indicators (KPIs) covering the proposed maintenance and support contract.
#115	High	Support and maintenance	The proposed SLA should be defined in proportion to EANV's operational processes and operational hours.
#116	High	Support and maintenance	The proposed SLA, as part of the solution, should include service credits for the occasion that the Participant is not performing in accordance to the service level.
#117	Question	Support and maintenance	The Participant shall describe the support process and the organisational structure of the support (2nd & 3rd line) supplied, incorporating the level of support and field services that EANV plans to provide itself.
#118	High	Support and maintenance	When the Participant releases a new version of its software during the contract term (including extensions), this new version should be made available to EANV as part of on-going support.
#119	High	Support and maintenance	The Participant should actively support all proposed hardware and peripherals for the full contract period (including extensions).
#120	High	Support and maintenance	All components of the solution (software & hardware) should be actively supported by its manufacturer, e.g. the solution must run a fully supported operating system.
#121	Question	Support and maintenance	The Participant shall provide details of how they engage and manage their customer base to input and develop the products included in their solution.
#122	Question	Support and maintenance	Describe any formal mechanisms you organize regarding governance, meetings and input as part of product development lifecycle, e.g. user groups.
#123	Question	Support and maintenance	Describe the process for warranty and non-warranty replacements and repairs throughout the contract period (including extensions).
#124	Critical	Support and maintenance	Any scheduled downtime of the solution shall be fully planned and approved by EANV in advance.

ID	PRIORITY	TITLE	DESCRIPTION
#125	High	Support and maintenance	The proposed solution should include real-time, remote monitoring tooling that provide insight in the state of the system, including but not limited to, peripheral connection state, paper levels etcetera. This monitoring tooling should be available to EANV and its field support staff.
#126	Question	Support and maintenance	Describe how support personnel access this monitoring information.
#127	Medium	Support and maintenance	The solution should be capable of actively sending notifications for a configurable set of alerts. It should at least be possible to send these notifications via e-mail.
#128	Medium	Support and maintenance	The real-time, remote monitoring tooling should be available on a mobile device, such that field support staff can monitor the solution on the go.
#129	Medium	Support and maintenance	The proposed solution can be monitored through standard monitoring interfaces, e.g. SNMP or an API, in order to include the solution into EANV's central monitoring and alerting system.
#130	Question	Support and maintenance	Describe what components of the solution can be monitored through monitoring interfaces like SNMP.
#131	Medium	Support and maintenance	All technical texts, e.g. error messages, log texts etcetera, should be in the (British or American) English language and non-generic, i.e. properly describing the actual occurrence.
#132	High	Product life-cycle	The solution, including all its components, should be actively developed through the entire contract period (including extensions).
#133	Question	Product life-cycle	Provide details of the planned life-cycle of the proposed solution and its components, including when it was launched, when its obsolescence is planned, and what the plans are for its replacement.
#134	Question	Product life-cycle	Describe the plans to develop the solution over the next 5 years and provide a clearly defined roadmap. This shall include details of how the Participant will guarantee the product has support and does not become obsolete.
#135	High	Product life-cycle	New generations of the solution hardware should be made available to EANV. EANV should not be limited to the initially provided hardware throughout the contract period (including extensions). EANV should be able to take advantage of new technology innovations.
#136	High	Product life-cycle	New hardware, which becomes available throughout the contract period (including extensions) should be backwards compatible to the initially proposed solution. For example, new generation kiosks must be compatible with the originally supplied kiosks and related (software) systems.
#137	Question	Product life-cycle	Describe how your proposed solution could be extended in the future for the possible use of biometric passenger enrolment and identification.
#138	Critical	Account Management	The Participant shall appoint a capable account manager that remains engaged throughout the contract period (including extensions), who is responsible for following up on any matter that may require escalation and joint resolution.
#139	Question	Account Management	Describe the on-going account management, support and service delivery management for the solution.
#140	Critical	Offering	The solution shall include all the necessary licenses and any third party licenses that are required to make the solution fully operational.
#141	High	Offering	Back-office CUTE/CUPPS should be licensed concurrently, e.g. via a license pool. This should minimize the amount of required licenses as not all back-office workstations are in use at the same time.
#142	Question	Offering	Provide a detailed breakdown of all options supported by the solution, e.g. peripheral options, and their associated costs. This is to ensure that EANV is able to select the most cost effective configuration of the solution.
#143	Question	Offering	Describe any additional costs that may occur with respect to using your proposed solution that are outside of your commercial proposal.

APPENDIX A. CURRENT TERMINAL LAY-OUT (GROUND FLOOR)

The schematic drawing of the terminal (ground floor) is enclosed separately with this Programme of Requirements. File: Appendix_A_Terminal_Layout_Ground_Floor.pdf

DO NOT COPY

APPENDIX B. CURRENT TERMINAL LAY-OUT (FIRST FLOOR)

The schematic drawing of the terminal (ground floor) is enclosed separately with this Programme of Requirements. File: Appendix_B_Terminal_Layout_First_Floor.pdf

DO NOT COPY

APPENDIX C. LIST OF PERIPHERALS IN USE

The following peripherals (Table 10) are currently in use and still under warranty. This equipment is, optionally, available for reuse.

Table 10. List of peripherals in use and in under warranty

MANUFACTURER	TYPE	QUANTITY	PURCHASE DATE	WARRANTY DATE
Access-IS	BGR-135	4	7 April 2017	7 April 2020
Access-IS	BGR-135	2	30 June 2017	30 June 2020
Access-IS	BGR-135	6	8 October 2018	8 October 2021
Access-IS	AKB500 OCR/MSR Keyboard	4	15 December 2016	15 December 2019
Access-IS	AKB500 OCR/MSR Keyboard	2	29 September 2017	29 September 2020
Access-IS	AKB500 OCR/MSR Keyboard	4	10 April 2019	10 April 2022