P06.06.02 De-icing V3 DIMT Technical Specification

Document information	
Project Title	Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM
Project Number	06.06.02
Project Manager	NORACON
Deliverable Name	P06.06.02 De-icing V3 DIMT Technical Specification
Deliverable ID	Del 32
Edition	00.01.02
Template Version	03.00.00
Task contributors	
NORACON	

Abstract

This document contains the system level technical requirements (functional and non functional requirements) regarding a De-icing Management Tool (DIMT). It shall guide the development and implementation of a prototype for a DIMT. The requirements are derived from OFA 05.01.01 documents – OSED Edition 3 and SPR Edition 2 - and from the VALR document for EXE-06.06.02-VP-513.

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Rational for rejection
None.

7 Document History

Edition	Date	Status	Author	Justification
00.00.01	14/12/2014	Draft	[redacted]	New Document
00.00.02	17/01/2015	Updated draft		Reworked due to updated SPR requirements
00.00.03	18/03/2015	Draft for review		
00.01.00	16/04/2015	Final document		Document to submit
00.01.01	22/07/2015	Updated document		Updated after SJU assessment
00.01.02	01/12/2016	Updated document		Updated requirements after execution of EXE-06.06.02-

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				VP-513

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Executive summary

This document presents the technical requirements (functional and non-functional) regarding a de-icing management tool (DIMT) to be used on airports with an A-CDM implementation during de-icing conditions.

Starting from CDM time stamps the DIMT will produce a de-icing plan for the upcoming three hours, which can be published to the AOP/CDM platform. The publication of a de-icing plan will make airport stakeholders aware of the ongoing de-icing activities. The information in the de-icing plan may, through the AOP, also be published to the NOP

The de-icing plan builds on weather forecasts. If the weather category is predicting de-icing, all flights with an EOBT in the time frame for the forecast will be adopted in the de-icing plan with an estimated de-icing time duration and an estimated commencement and end of de-icing. The allocation of de-icing resources, i.e. de-icing rigs for on stand and after push de-icing and de-icing pad tracks for remote de-icing, will be done to give an idea of the situation for the upcoming hours. The de-icing plan is updated as soon as there is a value change in any of the parameters.

Through the sharing of data with the AOP, de-icing will become a visible element in the Turnaround or Surface Out processes for concerned actors and, as such, will increase common situational awareness and predictability in the Airport Transit View.

The tool will support the following performance improvements:

- Increased predictability and flexibility of airport operations (integration of airport operations with the network)
- Better use of existing airport capacity
- Pro-active management of predicted impacts to normal operations

These improvements may also enhance, indirectly and to a lesser extent, safety (through better predictability and more accurate plans) and environment (through more efficient airport operations).

The prototype to be used in validation exercise VP-513 will have constraints compared to the envisaged product. The most important constraints is that the publication of the de-icing plan to the AOP will not developed in the prototype, the interface with the system used in the de-icing rigs will not be developed and the post operation analysis functionality will also not be developed. The participation of P11.02.02 in VP-513 means that the creation of weather categories from weather parameters will be done outside the DIMT prototype ODISS and instead published to ODISS from the MET system used by P11.02.02/FMI.

The Technical Specification has been updated after execution of VP-513. Five requirements have been changed (REQ-06.06.02-TS-CONF.0002, REQ-06.06.02-TS-INEX.0002, REQ-06.06.02-TS-EXCE.0001, REQ-06.06.02-TS-EXCP.0003 and REQ-06.06.02-TS-PRES.0022) and 15 requirements have been added (REQ-06.06.02-TS-CONF.0018, REQ-06.06.02-TS-CONF.0019, REQ-06.06.02-TS-INEX.0004, REQ-06.06.02-TS-INEX.0005, REQ-06.06.02-TS-INEX.0006, REQ-06.06.02-TS-EXCW.0004, REQ-06.06.02-TS-EXCP.0018, REQ-06.06.02-TS-EXCP.0019, REQ-06.06.02-TS-EXCP.0020, REQ-06.06.02-TS-EXCP.0021, REQ-06.06.02-TS-PRES.0034, REQ-06.06.02-TS-PRES.0035, REQ-06.06.02-TS-PRES.0036, REQ-06.06.02-TS-PRES.0037 and REQ-06.06.02-TS-PRES.0038).

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1 Introduction

1.1 Purpose of the document

This Technical Specification, TS, describes the requirements of the ODISS prototype, the de-icing management tool to be used in the V3 validation VP-513, and their traceability against the operational documents.

The Figure 1 below presents the place of the TS within the hierarchy of SESAR concept documents, together with the SESAR Work package or Project responsible for their maintenance.

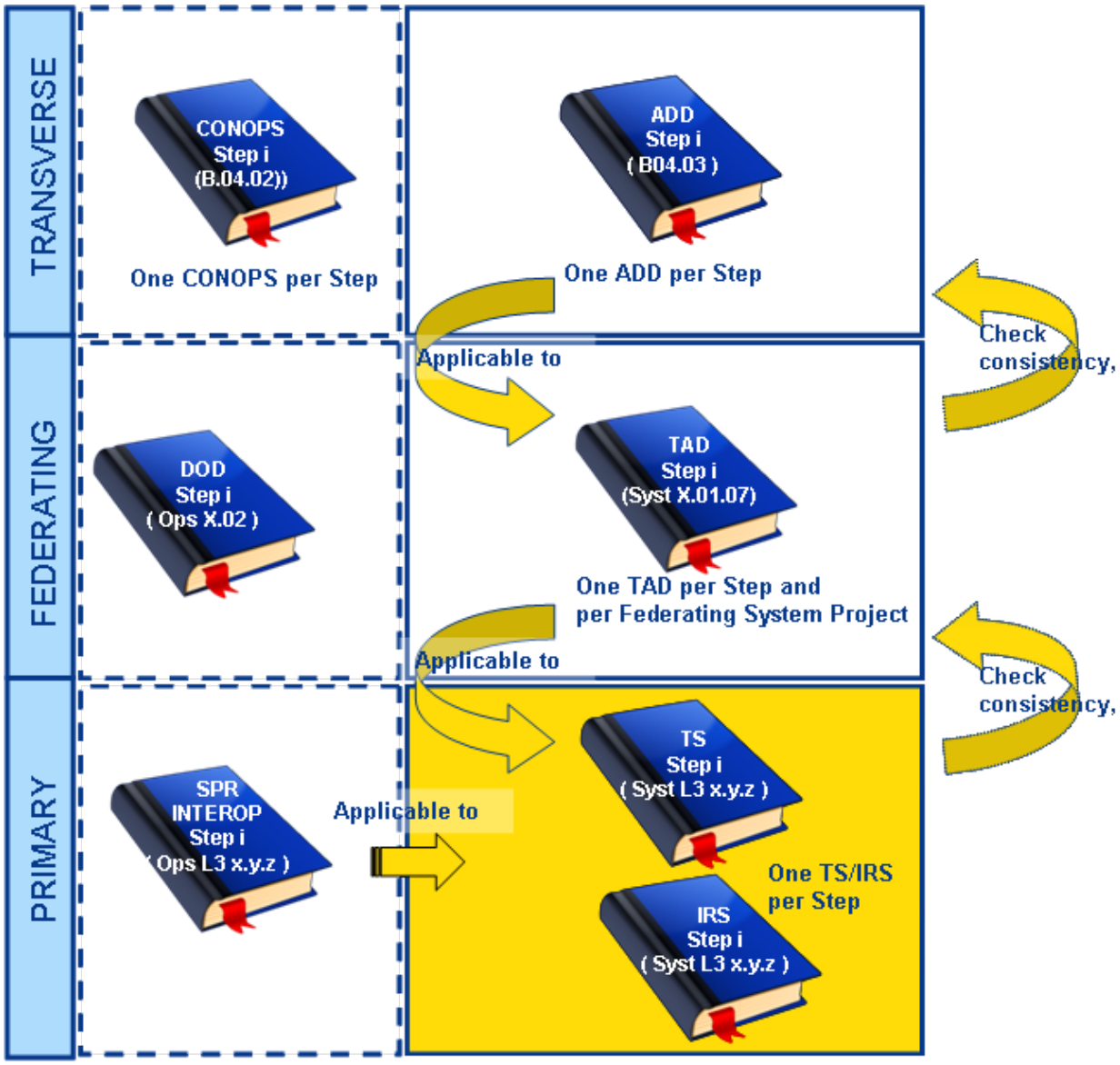

Figure 1: TS document with regards to the other SESAR deliverables

The aim of this document is to specify the system requirements which were allocated to P06.06.02 when the former de-icing thread in P12.06.02 was terminated. The ODISS, a prototype of the de-icing

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management tool envisaged in the de-icing concept, is developed by Telespazio VEGA Deutschland GmbH as a subcontractor to operational project 06.06.02.

The Technical Specification contains the functional, non-functional and interface requirements. They are addressing the "what" and partly the "how". They don't aim at specifying the physical design of the functional block, but the functional description and the necessary logical interfaces.

1.2 Intended readership

This document is intended for the following audience:

- Project **12.01.07** (Airport System Specification drafting and Maintenance) is interested in the documents to identify and maintain the consolidated list of requirements derived from each WP12 projects. As this system development was originally connected with P12.06.02 this remains as the federating project in this matter.
- Primary Project **06.05.04** (Airport Operations Centre (APOC) definition), as the source of the operational documents and requirements are interested in the document to check the consistency between the expected prototype and the operational requirements.
- Project **11.02.02** (MET Information System Development, Verification & Validation) as a supporting project to the V3 validation exercise VP-513 where the prototype shall be used.
- Project **12.06.02** (The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the airport) may be interested in the document as the DIMT shall be connected to the AOP eventually.

1.3 Inputs from other projects

The main sources of the input data are:

- OFA 5.1.1 OSED Ed. 3 (ref [7])
- OFA 5.1.1 SPR Ed. 2 (ref [8])

1.4 Structure of the document

This document is divided into four chapters.

Chapter 1 is the introduction. It describes the purpose and scope of the document and the methodology used to derive the requirements, including the purpose of the system under analysis.

Chapter 2 gives a general description of the ODISS/DIMT.

Chapter 3 describes the capabilities, conditions and constraints of the ODISS/DIMT. In particular it contains the functional and non-functional requirements.

Chapter 4 describes the assumptions used for writing the document.

Chapter 5 describes the referenced documents.

1.5 Requirements Definitions – General Guidance

Requirements are written according to the SESAR requirements and V&V Guidelines (ref. [2]) and SESAR template Toolbox (ref [3]).

The Requirements are produced to describe both functional and operational requirements at system level. The purpose of technical specification is to transform the operational requirements and safety recommendations identified through analysis of external input into a coherent description of ASN component and its capabilities.

Requirements are structured by Requirement type, and then:

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- Functional requirements
- Operational requirements
    - Performance Requirements
    - Safety Requirements
    - Interface Requirements

These requirements will address the “what” and not the “how”, therefore they don’t aim at specifying the physical design of the component, but the functional description and the necessary logical interfaces with other functional blocks.

The layout is illustrated below:
[REQ]

Identifier	
Requirement	
Title	
Status	
Rationale	
Category	
Validation Method	
Verification Method	

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<Enabler>	Enabler code	<Full>
<SATISFIES>	<ATMS Requirement>	INTEROP or SPR Requirement Identifier	<Full>
<ALLOCATED_TO>	<Functional block>	Functional block Identifier	N/A
<APPLIES_TO>	<Operational Focus Area>	Operational Focus Area Identifier	N/A
<CHANGED_BECAUSE_OF>	<Change Order>	Change reference	N/A
<ALLOCATED_TO>	<Project>	Project Identifier	N/A

Table 1: Requirements layout

1.6 Functional block Purpose

The De-icing Management Tool (DIMT) primarily falls into the Airport Airside Operations Domain system of Airport CC, but the DIMT also uses function blocks from the Airport Operations Centre Domain also of Airport CC and the Aerodrome ATC Domain of Tower CC.

The Airport Airside Operations represents the activities related to airside resources and activities management in the tactical phase taking into consideration only the information provided by other actors and the current situation of the airport. The Airport Operations Centre Domain represents the strategic and tactical management of the airport in coordination with the rest of the network being the system for negotiating with other stakeholders. The Aerodrome ATC Domain supports the ATS controllers at an aerodrome.

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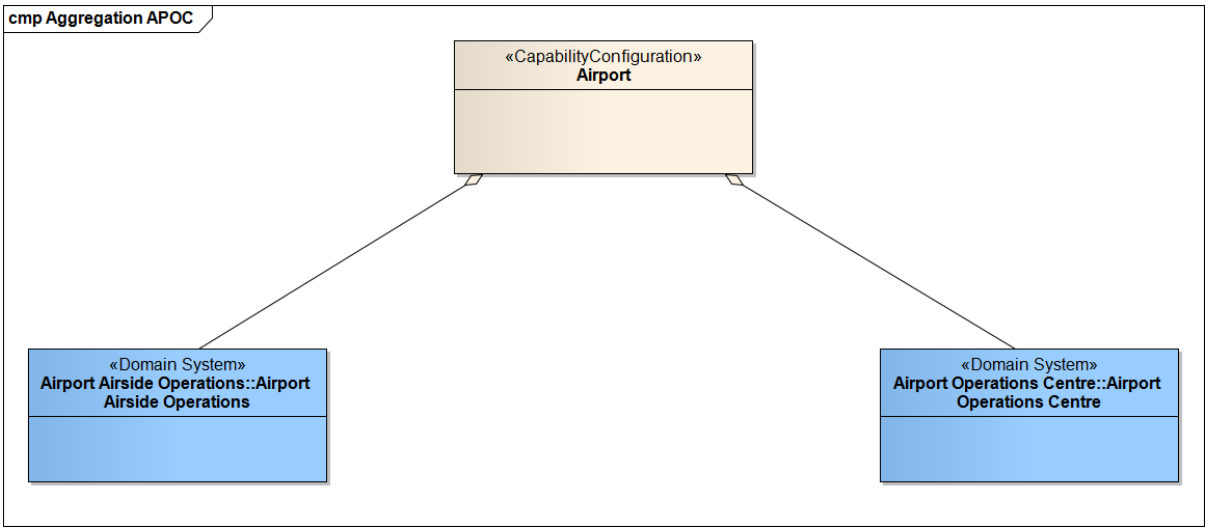

Figure 2: Airport CC – Domain Systems

1.7 Functional block Overview

Within the, in 1.6 mentioned, domains the DIMT addresses the following functional blocks.

Airport Airside Operations

- **Airport Resources and Facilities Tactical Management**

Wise allocation, assignment and monitoring of airport resources involved in airside operations acting in real-time including demand and capacity. These resources can be either fixed or mobile and are assigned to each operation according to pre-defined rules and constraints (such as: each resource can only be used by one aircraft at any one time) and optimizing the airport capacity (e.g. minimizing non-operating displacements).

This function provides resource and facility assignments/allocation, resource and facility status information, resource and facility capacity/availability, resource and facility capacity alerts, resource and facility conflict alerts.

The DIMT is focused on managing both mobile and fixed de-icing resources, e.g. de-icing rigs (mobile resources) and de-icing pads (fixed resources).

- **Airport Resources and Facilities Planning**

Monitors current airport demand and capacity and predicts future demand and capacity with regard to operational information and the current weather situation and other disruptions. Unlike Airport Resources and Facilities Management which operates in real time, this function mainly uses scheduled flight information giving a short and midterm planning to the operators.

This function provides resource and facility assignments/allocation, resource and facility capacity as well as resource and facility capacity alerts.

The DIMT is producing a short-term plan for the usage of the de-icing resources.

- **Turn-Round Management**

Supports turn-round operations. Estimates and predicts accurate throughput times and entry and leaving times, coordinated with Arrival, Departure, Surface and Airport Resources and Facilities Management. Turn-round Management only contributes to time estimation for the RBT concept, but not to Resource Allocation and Planning. This function has a strong inter-dependency with the Departure Management and Surface Guidance Management functions from the Aerodrome ATC system.

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The DIMT is producing estimated de-icing times durations (EDIT) and de-icing time stamps (ECZT and EEZT) for on stand de-icing of aircraft.

- **Performance Management**

Function in charge of assessing the airport's performance and improving it. Its main function is to extract, either in real-time or from historic data, commonly agreed key performance indicators from the airport's operational data and to monitor the whole airport's productive process.

The DIMT supports this functional block by providing historical data for the de-icing process.

Airport Operations Centre

- **Airport Operations Plan Management**

This functional block collects all data relevant for the AOP. Based on the collected data long, medium and short term AOPs are created and distributed. The AOP Management also ensures integration of AOP and NOP.

The DIMT depends on interaction with the AOP. The DIMT subscribes on flight information in order to produce a de-icing plan and publishes de-icing time stamps for other airport actors as information or for action.

- **Airport Operations Plan Performance**

Its main function is to extract, either in real-time or from historical data, commonly agreed key performance indicators from the airport's operational data and to monitor the whole airport's productivity process. It also predicts possible productivity or quality hazards and tracks the incidents that appear. This functional block collects all data relevant for the AOP. Based on the collected data long, medium and short term AOPs are created and distributed.

The DIMT depends on interaction with the AOP. The DIMT subscribes on flight information in order to produce a de-icing plan and publishes de-icing time stamps for other airport actors as information or for action. The DIMT also supports this functional block by providing historical data from the de-icing process.

Aerodrome ATC

- **Departure Management**

This functional block calculates the departure sequence of the flights improving departure flows at airports, taking multiple constraints and preferences into account.

The DIMT may support this functional block by providing accurate information about the on-going and planned de-icing operations.

1.8 Glossary of terms

N/A

1.9 Acronyms and Terminology

Term	Definition
A/C	Aircraft
A-CDM	Airport Collaborative Decision Making

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Term	Definition
ACZT	Actual Commencement of De-icing
ADD	Architecture Definition Document
ADIT	Actual De-icing Time
AEZT	Actual End of De-icing
AOBT	Actual Off Block Time
AOP	Airport Operations Plan
APZT	Actual Positioned for De-icing Time
ASAT	Actual Start up Approval Time
ATM	Air Traffic Management
ATOT	Actual Take Off Time
ATV	Airport Transit View
CC	Capability Configuration
CTOT	Calculated Take Off Time
DI	De-Icing
DIMT	De-icing Management Tool
DOD	Detailed Operational Description
E-ATMS	European Air Traffic Management System
ECZT	Estimated Commencement of De-icing
EDIT	Estimated De-icing Time
EEZT	Estimated End of De-icing
EOBT	Estimated Off Block Time
ETOT	Estimated Take Off Time
FMI	Finnish Meteorological Institute
HCI	Human Computer Interface
HMI	Human Machine Interface
IRS	Interface Requirements Specification

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Term	Definition
INTEROP	Interoperability Requirements
OBT	Off Block Time
ODISS	Optimal De-Icing Sequence Support
OSED	Operational Service and Environment Definition
SESAR	Single European Sky ATM Research Programme
SJU	SESAR Joint Undertaking (Agency of the European Commission)
SJU Work Programme	The programme which addresses all activities of the SESAR Joint Undertaking Agency.
SESAR Programme	The programme which defines the Research and Development activities and Projects for the SJU.
SOBT	Scheduled Off Block Time
SPR	Safety and Performance Requirements
TAD	Technical Architecture Description
TOBT	Target Off Block Time
TS	Technical Specification
TSAT	Target Start up Approval Time
TTOT	Target Take Off Time
VTT	Variable Taxi Time

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2 General Functional block Description

2.1 Context

During the winter season, snowy conditions places, according to the A-CDM manual, an airport in a continuous disrupted state as most departing flights will need to be de-iced. However there are situations related to de-icing that are either expected and/or can be foreseen with more or less accuracy. Both their scope and likely effects are predictable. De-icing, whether on stand, after push or remote, is part of the ATV and the process of handling a flight. The time duration required for the de-icing of aircraft as well as estimated start and end times will become visible to the airport actors and it can also be accounted for in the calculation of the various target times.

The A-CDM Manual (ref [5]) places the de-icing process within the A-CDM context. The processes involved in de-icing are described in the OFA 5.1.1 OSED Edition 3 (ref [7]). Both these references contribute to the understanding of the issues involved in planning for predictability and performance of the management of de-icing.

The above referenced OSED describes the need for a De-Icing Management Tool to calculate the expected de-icing time (EDIT) for all aircrafts that need to be de-iced and that this information shall be shared with all stakeholders. The OSED describes four primary use cases that define the operational requirements on the de-icing process. Three of these use-cases handle the actual de-icing process being on stand, after push or remote. The fourth use-case handles the situation where the aircraft needs to be de-iced again due to expired hold-over time.

The de-icing concept will be supported by a De-Icing Management Tool, DIMT, which is designed to be a planning tool for de-icing agents while at the same time supply some A-CDM platform functionalities with necessary data for airport performance monitoring (service “Monitor Airport Performance”).

The main functionalities of the De-Icing Management Tool (DIMT) are:

- An assessment of the weather (current and forecasted) in four de-icing conditions: no de-icing, low, medium and severe.
- Determination of *Estimated De-Icing Time* (EDIT) for departing flights (flights with EOBT).
- Planning of de-icing operations on flights expected to be de-iced.
- Allocation of de-icing resources to flights planned to be de-iced.
- Publishing of de-icing timestamps (ECZT, EDIT and EEZT) to the A-CDM platform.

The De-icing Management Tool is a tool that follows the general operating method as outlined in section 3.2 of the OSED (ref [7]).This document refers to the term AOP as the A-CDM platform for sharing information with other components/systems.

2.2 Functional block Modes and States

The DIMT prototype (when running) is a permanent support for the de-icing agent for the planning and monitoring of the de-icing resources.

The ODISS consists of three main components: A database (open source, off the shelf product), the ODISS server, and the DIMT HMI. Each of these components can be in an “on” and an “off” state. It is a necessary precondition for the server to become “on” that the database is “on”. It is a necessary precondition for the HMI to become “on” that the server is “on”.

For the maintenance or update of each component, the corresponding component has to be “off”.

There are no software-defined modes of operation.

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2.3 Major Functional block Capabilities

The DIMT technical requirements have been clustered into groups of requirements, see figure 3 below. The requirements have been grouped taking into account functionalities.

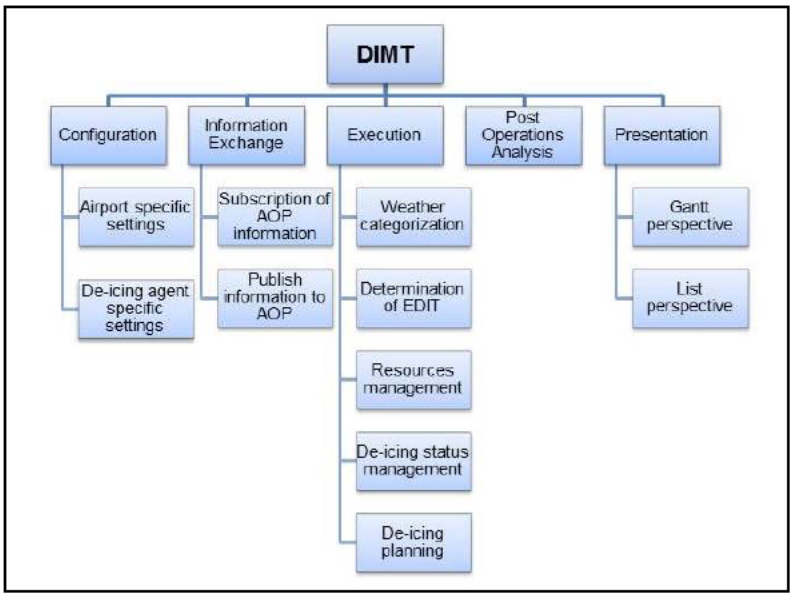

Figure 3: Grouping of DIMT requirements

The table below (Table 2: Breakdown of TAD Functional blocks) describes how the capabilities of the functional blocks are connected to the groups of requirements for the system and gives examples to illustrate the connection.

TAD Functional Block	DIMT Grouping of requirements	Examples
Airport Resources and Facilities Tactical Management	Configuration Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*De-icing planning:* The DIMT will produce an optimized de-icing plan, taking weather forecasts, available resources and flight information into account. The update of A-CDM platform results in update of the de-icing plan. The HMI allows for manual reallocation of resources when necessary.
Airport Resources and Facilities Planning	Configuration Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation:	*De-icing planning:* The DIMT will produce an optimized de-icing plan, taking weather forecasts, available resources and flight information into account. The update of A-CDM platform results in update of the de-icing plan. The HMI allows for manual reallocation of resources when necessary.

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	Gantt perspective HMI	
Turn-Round Management	Configuration Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*De-icing on stand/parking position:* The DIMT will produce a de-icing plan with time stamps in accordance with A-CDM platform flight information
Performance Management	Post-Operations Analysis	*De-icing operations analysis:* The DIMT may support performance management by collecting and providing historical data concerning the de-icing operations
Airport Operations Plan Management	Information exchange: Subscription of AOP information Publish de-icing information to AOP	*Revise/Update AOP during day of operation:* The DIMT interacts with A-CDM platform by using flight information to produce a de-icing plan which, in turn, could be published to the AOP. Update of flight information mean recalculating the de-icing plan.
Airport Operations Plan Performance	Information exchange: Subscription of AOP information Publish de-icing information to AOP	*Revise/Update AOP during day of operation:* The DIMT interacts with A-CDM platform by using flight information to produce a de-icing plan which, in turn, could be published to the AOP. Update of flight information mean recalculating the de-icing plan.
Departure Management	Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*Remote de-icing:* The DIMT support departure management by providing accurate time stamps about the on-going and planned de-icing operations.

Table 2: Breakdown of TAD Functional blocks

The most important constraints on the V3 prototype are the exclusion of Post Operations Analysis and the publishing of information to the AOP (in the case of VP-513 that is the CDM-platform).

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2.4 User Characteristics

The De-icing Management Tool is used by the following user roles:

- De-icing Coordinator: The role that is responsible for planning and coordinating the de-icing operations performed by the de-icing agent/s and for which the DIMT is a working tool.
- De-icing Administrator: The role that administers the de-icing and airport related settings.
- System Administrator: The role that administers system related configurations, including the operating system settings.

The principal user role is the de-icing coordinator. There is typically one (1) de-icing coordinator per de-icing agent, but there may also be cases where one de-icing coordinator handles de-icing resources belonging to several de-icing agents.

The de-icing administrator and the system administrator roles would typically be assigned to one (1) user.

2.5 Operational Scenarios

The DIMT shall support the operational scenarios "Medium / Short Term Planning Phases" and "Airport Operations Management during the Execution Phase", described in the OFA 5.1.1 OSED Edition 2 (ref [7]). In the system this is done by de-icing planning made possible due to resources management and data exchange with the A-CDM platform. Examples of how this is done is shown in table.

Operational Scenario from OSED	Functional Decomposition in the DIMT	Examples
Medium to Short-term planning Execution phase	Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*De-icing planning:* The DIMT will produce an optimized de-icing plan, taking weather forecasts, available resources and flight information into account. The update of AOP results in update of the de-icing plan. The HMI allows for manual reallocation of resources when necessary.
Execution Phase: Turn-round, *Pre-departure*	Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*De-icing on stand/parking position:* The DIMT will produce a de-icing plan with time stamps in accordance with A-CDM platform flight information
Post-Operations Analysis Phase	Post-Operations Analysis	*De-icing operations analysis:* The DIMT may support performance management by collecting and providing historical data concerning the de-icing operations
Medium to Short-term	Information exchange:	*Revise/Update AOP during day of operation:*

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planning	Subscription of AOP information Publish de-icing information to AOP	The DIMT interacts with A-CDM platform by using flight information to produce a de-icing plan which, in turn, could be published to the AOP. Update of flight information mean recalculating the de-icing plan.
Execution Phase: Departure, *Taxi-out*	Execution: Determination of EDIT Resources management De-icing status management De-icing planning Presentation: Gantt perspective HMI	*Remote de-icing:* The DIMT support departure management by providing accurate time stamps about the on-going and planned de-icing operations.

Table 3: Supporting of the operational scenarios through the DIMT

The most important constraints on the V3 prototype are the exclusion of Post Operations Analysis and the publishing of information to the AOP (in the case of VP-513 that would be the CDM-platform). Also the foreseen weather categorization will not be done in the DIMT prototype, but the prototype will receive weather categories from an 11.02.02 tool (see [11], sections 3.2.1.4 and 3.2.3.4).

2.6 Functional

This chapter describes the DIMT impacted functional blocks inside Airport CC and Tower CC, which are shown below in Figure 4, Figure 5, and Figure 6.

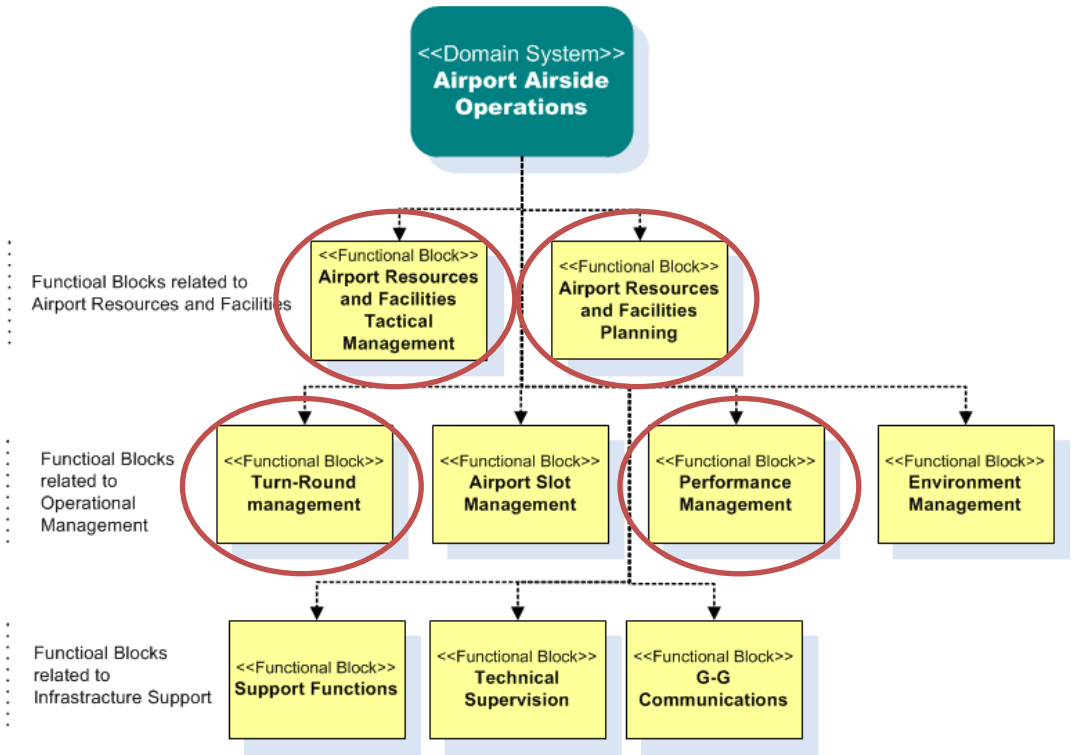

Figure 4: DIMT impacted functional blocks inside Airport Airside Operations domain

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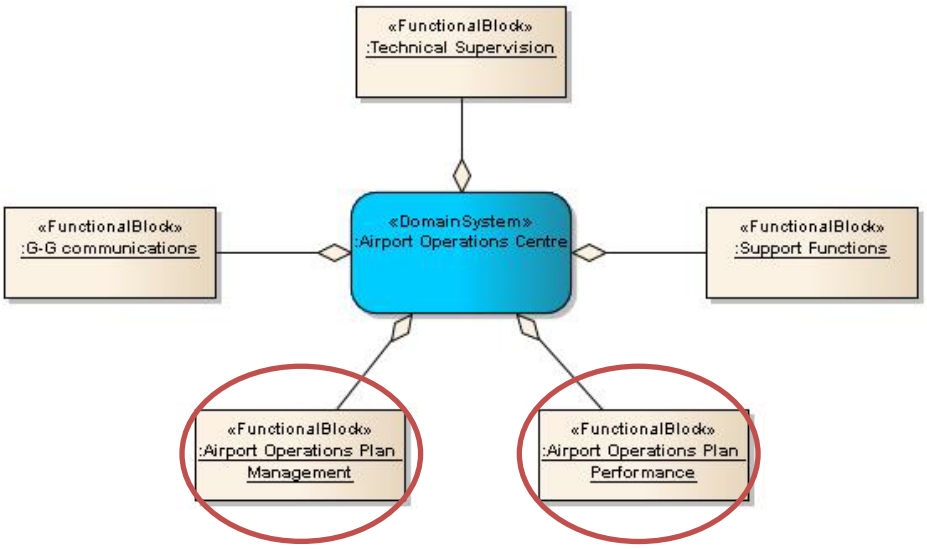

Figure 5: DIMT impacted functional blocks inside Airport Operations Centre domain

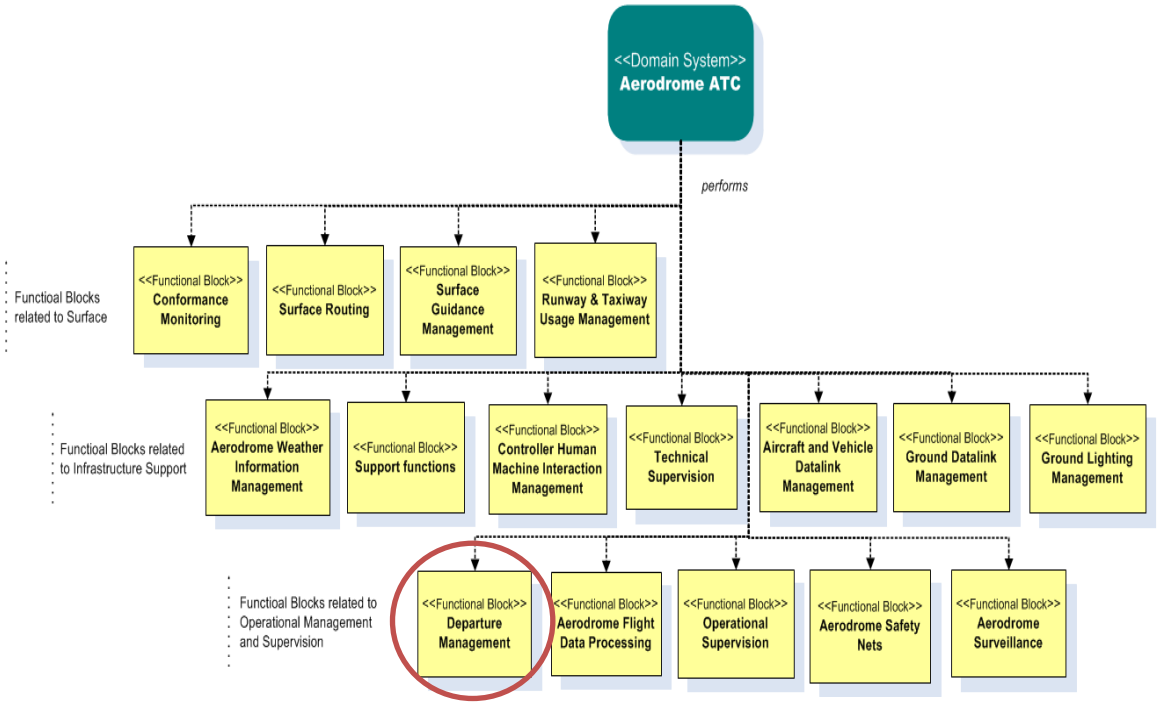

Figure 6: DIMT impacted functional block inside Aerodrome ATC domain

2.6.1 Functional decomposition

The major functional block capabilities are shown in Figure 7: Major functional decomposition capabilities of the DIMT" below.

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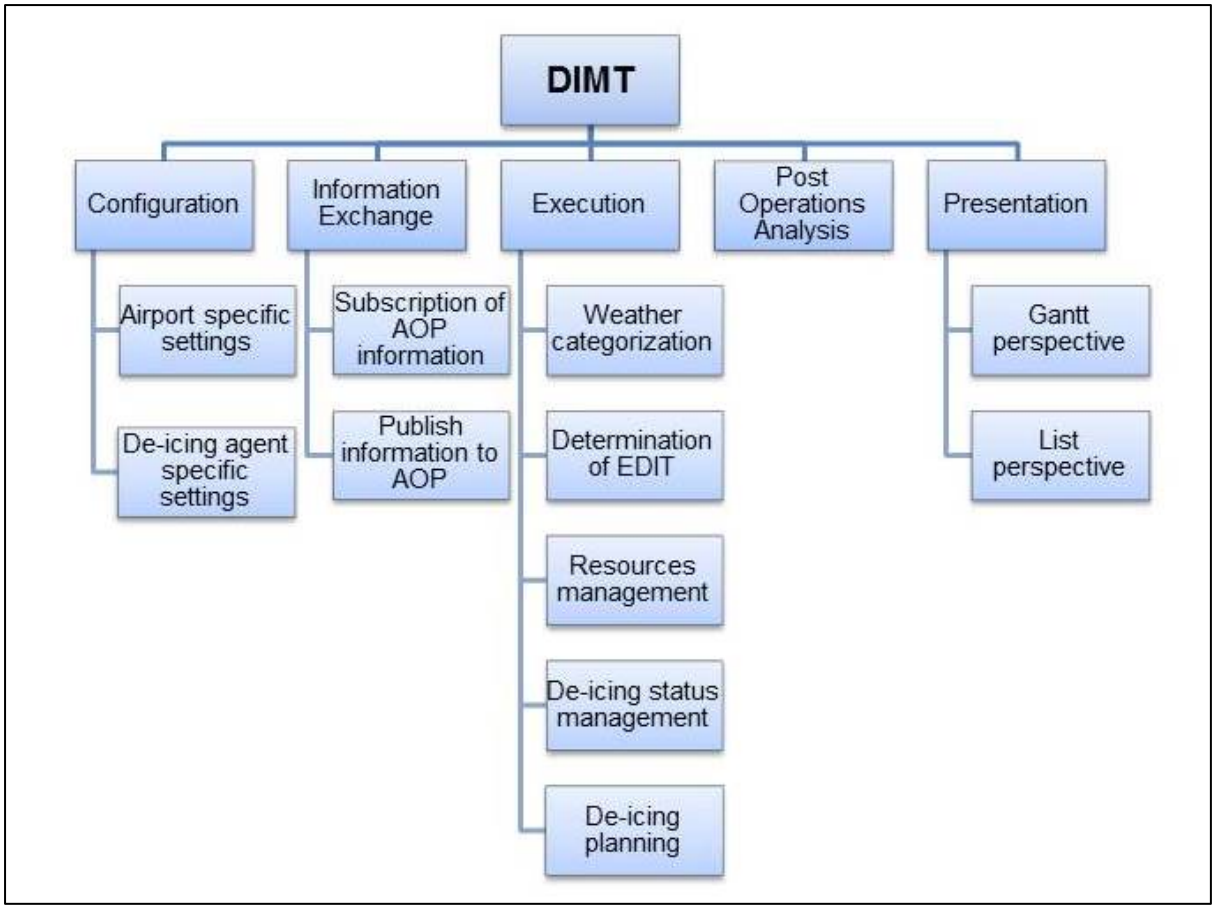

Figure 7: Major functional decomposition capabilities of the DIMT

2.6.2 Functional analysis

2.6.2.1 Configuration

The configuration is meant to allow for configuration of parameters necessary to the DIMT. It will also handle the user roles and authorizations as well as the allocation algorithms for de-icing resources. The figure below (Figure 8: DIMT function "Configuration" use cases) is a sketch of the use cases defined for the system. These are:

- UC Package UC01 DIMT Administration
  - UC01.01 Manage Airports
  - UC01.02 Manage De-icing Agents
  - UC01.03 Manage Users
  - UC01.05 Manage Calendar
  - UC01.06 Manage Roles
  - UC01.07 Manage Authorization
  - UC01.08 Manage De-icing Unit Allocation Algorithms
  - UC01.09 Manage De-icing Unit Sequence
  - UC01.10 Manage GUI Configuration
- UC Package UC02 Global

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- UC02.03 Manage Weather Categories
- UC02.05 Manage De-icing methods

- UC Package UC03 Airport
  - UC03.01 Manage Airport Structure
  - UC03.04 Manage Stand Information
  - UC03.05 Manage De-icing Pad Information
  - UC03.06 Manage Drive Up Time Table
  - UC03.08 Manage Weather Mapping Table
  - UC03.09 Manage Time Events
  - UC03.10 Manage Airport De-icing Coordinator
- UC Package UC04 De-icing Agent
  - UC04.01 Manage De-icing Agent Units
  - UC04.02 Manage De-icing Agent Methods
  - UC04.05 Manage De-icing Time Table
  - UC04.06 Select De-icing Unit Allocation Algorithm
  - UC04.08 Manage De-icing Agent Configuration

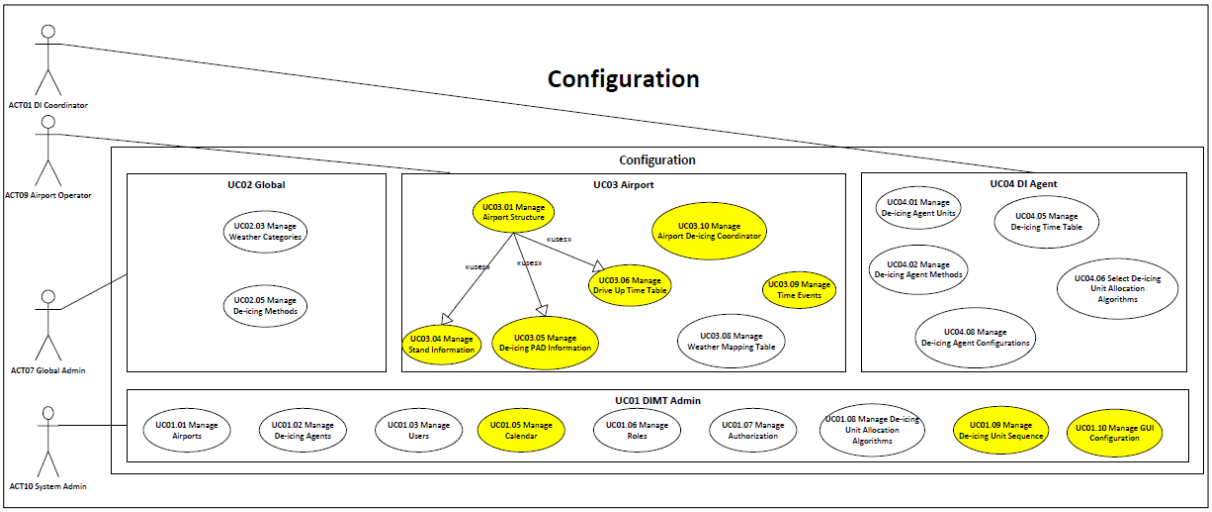

Figure 8: DIMT function "Configuration" use cases

The roles of ACT01 (DI Coordinator), ACT09 (Airport Operator), and ACT07 (Global Admin) is performed by the De-Icing Administrator user role. The De-Icing Coordinator user role is not involved in the configuration of the system, but it only gains access to the DIMT by using the Presentation function. The role of ACT10 (System Admin) is performed by the System Administrator user role.

The main purpose of the Configuration function is the preparation and maintenance of the DIMT configuration in the DIMT database. It is the necessary function to be executed before any of the further functions can be run. For instance, the Information Exchange function relies on the configured value ranges for data consistency checks. The Execution function relies on the configured system resources. The Presentation function depends on the configuration of data ranges and presentation layouts.

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2.6.2.2 Information Exchange

The information exchange will to the largest part be with the A-CDM platform. This is illustrated in "Figure 9: DIMT function "Information Exchange" use cases". The following use cases have been defined:

- UC Package UC05 Subscribe and base load
  - UC05.01 Receive General Flight Information
  - UC05.02 Receive Flight Schedules
  - UC05.03 Receive Flight Estimates
  - UC05.04 Receive Flight Targets
  - UC05.05 Receive Flight Actuals
  - UC05.07 Receive Weather Information
  - UC05.11 Receive De-icing Agents Information 16
  - UC05.12 Base Load Flight Information
  - UC05.13 Base Load De-icing Agent information
  - UC05.14 Base Load ICAO Codes
  - UC05.15 Base Load IATA Codes
  - UC05.16 Base Load A/C Types
  - UC05.17 Base Load Weather information
  - UC05.18 Receive ICAO Codes
  - UC05.19 Receive IATA Codes
  - UC05.20 Receive A/C Types
- UC Package UC 06 Publish
  - UC06.01 Publish De-icing Values for Flight Information
  - UC06.02 Publish De-icing Unit Sequence
  - UC06.03 Base Load A-CDM platform

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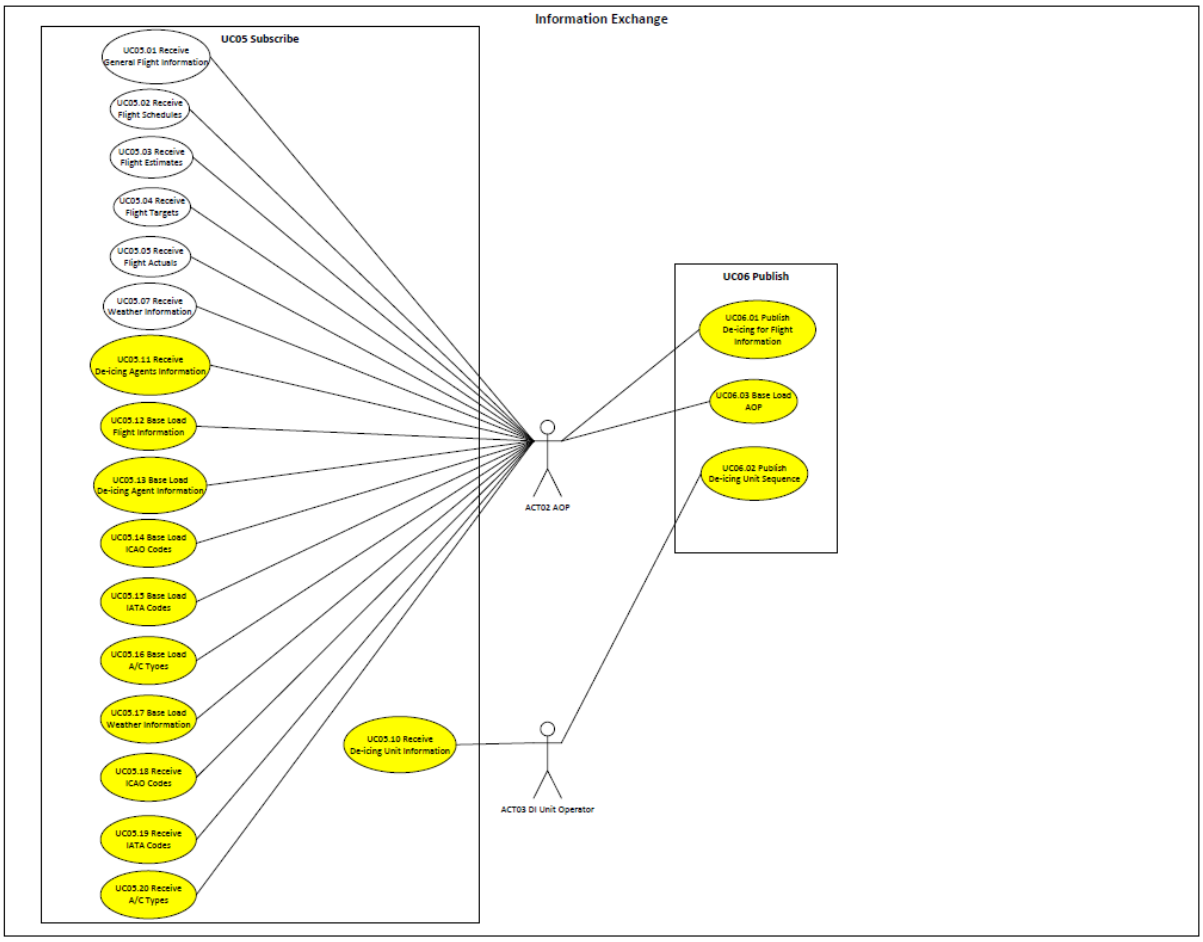

Figure 9: DIMT function “Information Exchange” use cases

The role of ACT03 (DI Unit Operator) is not used, because there is no direct interaction between ODISS and any de-icing unit operator in the prototype. This is managed by the De-Icing Coordinator for the purpose of the prototype. The ACT02 (A-CDM) is a technical role that is fulfilled by the A-CDM implementation via the data interface.

The use cases from UC06 are responsible for publishing the information back to AOP. This is not in scope of the ODISS prototype. The data receiving functionality of UC05 is the central data source the gathers all flight data information and the status of de-icing units (by means of unavailabilities). It prepares the input data (and stores it in the DIMT database) for the processing that is performed in the Execution function.

The data reception relies on the correct configuration of the ODISS that is performed in the Configuration function. Data consistency checks (by means of database constraints and programmatic checks) are applied based on the configured values.

2.6.2.3 Execution

The sub function “Execution” is the core of the ODISS. This is where all the calculations are made which results in the de-icing plan. It consists of estimated commencement of de-icing (ECZT) and estimated end of de-icing (EEZT) for each flight to be de-iced. The planning algorithm takes into account the upcoming weather, the size of the aircraft, the allocation of either mobile (for on stand and after push de-icing) de-icing resources, i.e. de-icing rigs, or fixed (for remote de-icing) de-icing resources, i.e. de-icing pads. The de-icing plan would be published to the AOP in the form of de-icing time stamps. The planning phase will allow for visualisation of constrained situations in advance. The de-icing time stamps made available to the AOP will be possible to send on to the NOP in order to elucidate the final steps in the ATV.

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The use cases are quite extensive and contain a lot of data processing. The use cases are:

- UC Package UC08 Execution
  - UC08.01 Manage De-icing Plan
  - UC08.02 Receive Flight Information
  - UC08.03 Manage De-icing Status
  - UC08.04 Receive De-icing Request
  - UC08.05 Cancel De-icing Request
  - UC08.06 Cancel Expected De-icing Flag due to Final Confirmation of TOBT
  - UC08.07 Approve De-icing Plan
  - UC08.08 Manually Register Flights
  - UC08.11 Do Unit Allocation
  - UC08.12 Manage Units in Use
  - UC08.13 Apply Calculation De-icing Unit Allocation
  - UC08.15 Manage De-icing Unit Sequence
  - UC08.18 Retrieve EDIT
  - UC08.19 Manage Weather Categories
  - UC08.27 Monitor Events
  - UC08.28 Time
  - UC08.29 Manage De-icing Method
  - UC08.30 Manage Default De-icing Method
  - UC08.31 Register Override of De-icing Method
  - UC08.32 Manage Units in Use per De-icing assignment
  - UC08.33 Register Override Units in Use per De-icing assignment

The below picture (Figure 10: DIMT function “Execution” uses cases) is showed in a bigger version in Appendix A, page 74.

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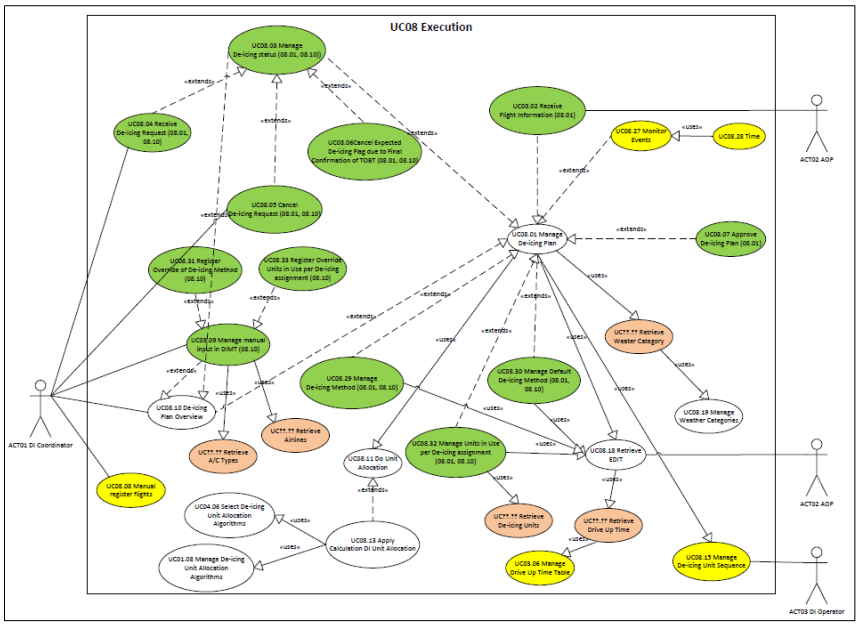

Figure 10: DIMT function “Execution” uses cases

The role of the ACT01 (DI Coordinator) is performed by the De-Icing Coordinator user role. The role of ACT03 (DI Unit Operator) is not used, because there is no direct interaction between ODISS and any de-icing unit operator in the prototype. This is managed by the De-Icing Coordinator. The ACT02 (AOP/A-CDM) is a technical role that is fulfilled by the A-CDM implementation via the data interface.

The Execution function provides all the planning and data processing capabilities of the DIMT. It is controlled by the values set in the Configuration function, data received by the Information Exchange function, and control exerted by the De-Icing Coordinator via the Presentation function.

2.6.2.4 Post Operations Analysis

The post operations analysis will support analysis of de-icing performance, either seen as a solitary function or as an integrated activity in the ATV.

- UC Package UC09 Post Flight Analysis
  - UC09.01 Manage Post Flight Analysis
  - UC09.02 Manage Reports
  - UC09.03 Season Follow Up Report
  - UC 09.04 Daily Follow Up Report
  - UC 09.05 Assignment Follow Up Report
  - UC 09.06 Export Information
  - UC 09.07 Comparison Reports

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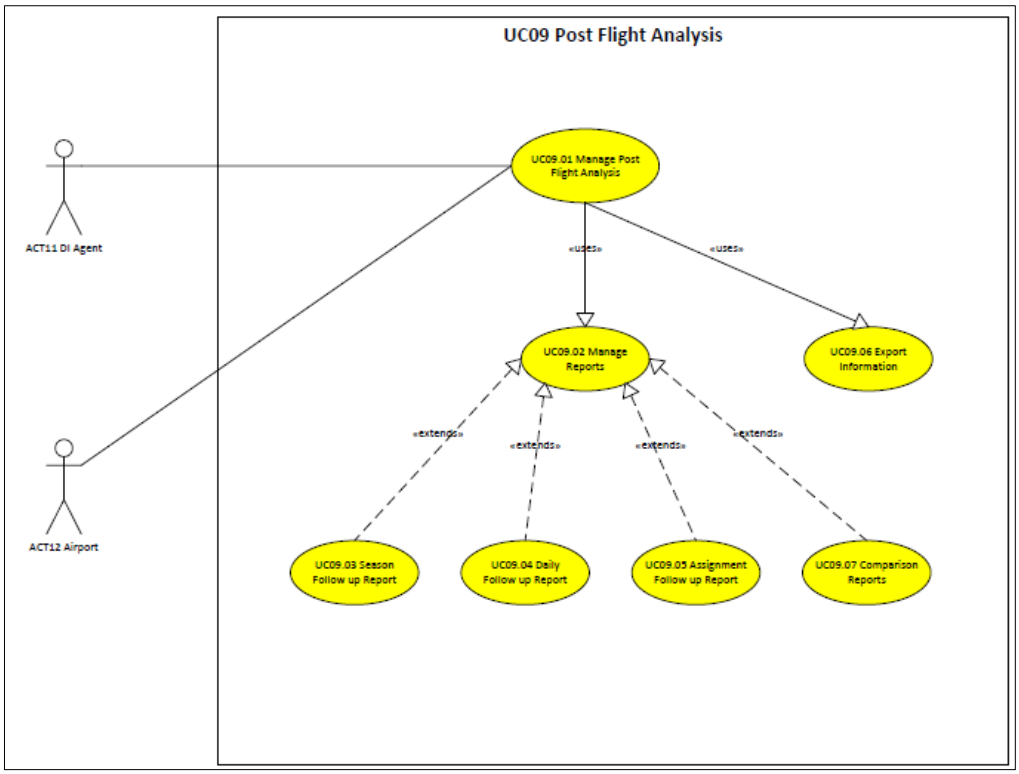

Figure 11: DIMT function "Post Operations Analysis" use cases

The whole Post Operational Analysis function is not in scope of the DIMT prototype, ODISS.

2.6.2.5 Presentation

The user interface will be in two fashions, one list view and one Gantt chart for visualization of the de-icing plan. The de-icing coordinator user interaction with the system will primarily be through the Gantt chart. The use cases for the presentation and manual management of the de-icing plan are:

- UC08.09 Manage manual input in DIMT
- UC08.10 Manage De-icing Plan Overview

It is the De-Icing Coordinator user role that interacts with the presentation layer.

The Presentation function is in charge of providing the main control (as far as user interaction is concerned) and view for the Execution function.

2.7 Service View

N/A

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3 Functional block Functional and non-Functional Requirements

3.1 Capabilities

3.1.1 Configuration Requirements

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0001
Requirement	The DIMT shall contain a lookup table where estimated de-icing times can be retrieved.
Title	EDIT table
Status	<In Progress>
Rationale	Core function of the system
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Turn-round management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0002
Requirement	The estimated de-icing times in the lookup table shall be differentiated depending on weather category, aircraft type and the number of de-icing rigs to be used.
Title	Differentiation of EDIT
Status	<In Progress>
Rationale	Core feature
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Turn-round management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0003
Requirement	The DIMT shall allow the user to update the lookup table with estimated de-icing times through a dedicated user interface.
Title	EDIT table interface
Status	<In Progress>
Rationale	User friendliness for changes
Category	<Functional>

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Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
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<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Turn-round management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0004
Requirement	The DIMT shall allow the de-icing coordinator user role to define the start and end times of both the fixed planning window and the flexible planning window.
Title	Definition of planning windows
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0002	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0003	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0005
Requirement	The DIMT shall, by an on/off functionality, allow for the use of a flexible planning window only.
Title	Only flexible planning window
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0004	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-CONF.0006
Requirement	The DIMT shall allow for a definition of a temporary fixed planning window

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	within the flexible planning window in the Gantt view.
Title	Temporary fixed planning window
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

559
560 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

561
562 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0007
Requirement	The DIMT shall allow for user configuration of the x-axis (time scale) in the Gantt chart view.
Title	X-axis configuration
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

563
564 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
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<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0005	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

565
566 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0008
Requirement	The DIMT shall allow for user configuration of the y-axis in the Gantt chart view.
Title	Y-axis configuration
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

567
568 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
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<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0008	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A

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<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

569
570 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0009
Requirement	The DIMT shall contain a lookup table where de-icing rigs are defined with regard to identification, the de-icing methods that can be executed with the rig and the aircraft types that can be served by the rig.
Title	De-icing rig lookup table
Status	<In Progress>
Rationale	Core function of the system
Category	<Functional>
Validation Method	
Verification Method	<Test>

571
572 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
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<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

573
574 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0010
Requirement	The DIMT shall allow the user to update the de-icing rig lookup table through a dedicated user interface.
Title	De-icing rig table interface
Status	<In Progress>
Rationale	User friendliness for changes
Category	<Functional>
Validation Method	
Verification Method	<Test>

575
576 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0009	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

577
578 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0011
Requirement	The DIMT shall contain a lookup table where de-icing pad tracks are defined with regard to identification and what aircraft that can use the tracks.
Title	De-icing pad configuration
Status	<In Progress>
Rationale	Core function of the system
Category	<Functional>
Validation Method	
Verification Method	<Test>

579
580 [REQ Trace]

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Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0010	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

581
582 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0012
Requirement	The DIMT shall allow the user to update the de-icing pad track lookup table through a dedicated user interface.
Title	De-icing pad configuration changes
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

583
584 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0010	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

585
586 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0013
Requirement	The DIMT shall allow for configuration of a parameter “Tpush”, of order one (1) minute, which shall be defined for each stand where after push de-icing is performed.
Title	After push parameter
Status	<In Progress>
Rationale	Pivotal parameter for after push de-icing
Category	<Functional>
Validation Method	
Verification Method	<Test>

587
588 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0304.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

589
590 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0014
Requirement	The DIMT shall contain a lookup table where the drive up time durations (in minutes) from stands/de-icing positions to another stand/de-icing position for the de-icing rigs are defined.
Title	Drive up time lookup table
Status	<In Progress>

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Rationale	Drive up time lookup table
Category	<Functional>
Validation Method	
Verification Method	<Test>

591
592 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0306.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

593
594 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0015
Requirement	The DIMT shall allow for configuration of drive up times through a dedicated user interface.
Title	Drive up time table interface
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

595
596 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0306.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

597
598 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0016
Requirement	The DIMT shall allow for the DIMT administrator user role to set a configurable parameter “t” (in minutes) as a locally agreed parameter for Final Confirmation of TOBT.
Title	TOBT-t
Status	<In Progress>
Rationale	Important planning parameter
Category	<Functional>
Validation Method	
Verification Method	<Test>

599
600 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0309.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

601
602 [REQ]

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Identifier	REQ-06.06.02-TS-CONF.0017
Requirement	The DIMT configuration shall include built-in checks of the configuration data consistency by means of database constraints.
Title	Data consistency
Status	<In Progress>
Rationale	Ensure the data consistency before it is used.
Category	<Functional>
Validation Method	
Verification Method	<Test>

603
604 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0002	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

605
606 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0018
Requirement	The DIMT shall provide configuration parameters to allow a modification of the calculation to predict the weather category for each flight.
Title	Weather category for each flight
Status	<In Progress>
Rationale	Important planning parameters
Category	<Functional>
Validation Method	
Verification Method	<Test>

607
608 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0007	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

609
610 [REQ]

Identifier	REQ-06.06.02-TS-CONF.0019
Requirement	The DIMT shall provide a configuration parameter to allow a modification of the de-icing plan time range. The default value shall be 120 minutes.
Title	De-icing plan time range
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

611
612 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0015	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0007	<Partial>

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<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0807.0003	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.2 Information Exchange Requirements

The DIMT prototype will be part of the VP-513 V3 validation, which is a live trial. As the influence and effect of de-icing time stamps on other A-CDM time stamps have not been secured, the information exchange from the DIMT to the AOP/A-CDM platform will not take place. Instead all output from the DIMT will be logged and afterwards analysed. This means that requirement REQ-06.06.02-SPR-0104.0001, REQ-06.06.02-SPR-0601.0001 and REQ-06.06.02-SPR-0807.0003 will not be adopted in the technical specification.

The information exchange with the De-icing Unit Operator and De-Icing Units will not be part of VP-513. This means that requirement REQ-06.06.02-SPR-0002.0013, REQ-06.06.02-SPR-0104.0002, REQ-06.06.02-SPR-0501.0003, REQ-06.06.02-SPR-0510.0001, REQ-06.06.02-SPR-0602.0001 and REQ-06.06.02-SPR-0816.0001 will not be adopted in the technical specification.

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0001
Requirement	The DIMT shall receive the following Flight Information: Flight number, aircraft registration, aircraft code, aircraft ID, ICAO aircraft type, de-icing position, flight prioritization tag, SOBT, EOBT, TOBT, AOBT, TSAT, ASAT, EXOT, ETOT, TTOT, CTOT, ATOT from the A-CDM-platform
Title	Reception of Flight Information
Status	<In Progress>
Rationale	Necessary flight information
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0501.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0002
Requirement	The DIMT shall receive pre-defined weather categories and probability of weather categories in minimum 15 minutes intervals for a time range between the actual time and minimum three (3) hours into the future.
Title	Reception of weather category
Status	<In Progress>
Rationale	The weather category is essential for EDIT determination
Category	<Functional>
Validation Method	
Verification Method	<Test>

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[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0507.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0003
Requirement	The DIMT shall receive cancellation of de-icing for a flight from A-CDM platform.
Title	AOP cancellation of de-icing
Status	<In Progress>
Rationale	Necessary functionality for de-icing planning
Category	<Interoperability>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0004	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0004
Requirement	The DIMT shall provide an interface to automatically read or retrieve ACZT, AEZT, ADIT and APZT from the de-icing agent's system(s). This interface shall be optionally switched on or off.
Title	Integration to de-icing agent's system
Status	<In Progress>
Rationale	Retrieval of actual time stamps
Category	<Interoperability>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0501.0003	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0601.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0008	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0005
Requirement	The DIMT shall provide an interface to automatically read or retrieve de-icing rig allocation for a flight. This interface shall be optionally switched on or off.

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Title	Integration to de-icing agent's system
Status	<In Progress>
Rationale	Facilitation of de-icing rig allocation
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-INEX.0006
Requirement	The DIMT shall be able to read the additional weather data dew point temperature, outside air temperature and precipitation.
Title	Additional weather data
Status	<In Progress>
Rationale	Refined weather information
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0011	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.3 Execution Requirements

Preparation of procedures for DIMT execution, post-flight analysis, and training are not part of this technical specification, because they are to be prepared at an operational level. This means that requirement REQ-06.06.02-SPR-0001.0003, REQ-06.06.02-SPR-0001.0004, REQ-06.06.02-SPR-0001.0006, REQ-06.06.02-SPR-0002.0009 and REQ-06.06.02-SPR-0002.0017 will not be adopted in the technical specification.

3.1.3.1 Weather information Requirements

[REQ]

Identifier	REQ-06.06.02-TS-EXCW.0001
Requirement	The DIMT shall use four different weather categories: "Low", "Medium", "Severe" and "No De-icing"
Title	Weather categories
Status	<In Progress>
Rationale	The values of defined weather parameters are clustered to be categorized in different weather categories for easier management of weather influence on estimated de-icing times.

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Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0507.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCW.0002
Requirement	On reception of a weather category forecast change for a flight, the DIMT shall set the de-icing flag to “N” for flights with new predicated weather category “no de-icing” and de-icing flag “E”, in case the previous weather forecast for this flight was “low”.
Title	Weather category change Low → No de-icing
Status	<In Progress>
Rationale	In low weather category, dropping the forecast to “no de-icing” likely implies that really no de-icing is needed.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCW.0003
Requirement	On reception of a weather category forecast change for a flight, the DIMT shall keep the de-icing flag “E” (for a specified duration after the change) for flights with new predicated weather category “no de-icing” and de-icing flag “E”, in case the previous weather forecast for this flight was “medium” or “severe”.
Title	Weather category change Medium/Severe → No de-icing
Status	<In Progress>
Rationale	After having been standing in Medium/Severe weather for a while, it is very probable that the aircraft will need de-icing even though the weather has changed to no de-icing weather.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0007	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0008	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A

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<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCW.0004
Requirement	The weather data that will be read by the DIMT shall be configurable.
Title	Configurable weather
Status	<In Progress>
Rationale	Refined weather information
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.3.2 Determination of EDIT Requirements

[REQ]

Identifier	REQ-06.06.02-TS-EXCE.0001
Requirement	The DIMT shall retrieve an estimated de-icing time (EDIT) depending on predicted weather category, aircraft type and number of de-icing rigs to be used from the EDIT lookup table.
Title	EDIT parameters
Status	<In Progress>
Rationale	EDIT depends heavily on weather conditions, size of the aircraft, extent of de-icing (de-icing method) and the number of de-icing rigs used to execute de-icing.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0004	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<ALLOCATED_TO>	<Functional block>	Turn-round management	N/A
<ALLOCATED_TO>	<Functional block>	Performance Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Performance	N/A
<ALLOCATED_TO>	<Functional block>	Departure Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCE.0002

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Requirement	The DIMT shall retrieve a default EDIT time when the only known parameters are EOBT, weather category and aircraft type.
Title	Default EDIT
Status	<In Progress>
Rationale	It should be possible to retrieve an EDIT even if the de-icing method and number of de-icing rigs to be used are unknown.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<ALLOCATED_TO>	<Functional block>	Turn-round management	N/A
<ALLOCATED_TO>	<Functional block>	Performance Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Management	N/A
<ALLOCATED_TO>	<Functional block>	Airport Operations Plan Performance	N/A
<ALLOCATED_TO>	<Functional block>	Departure Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.3.3 Resources Management Requirements

De-icing resources mean two different things depending on the kind of de-icing that is performed. When remote de-icing is performed, the critical de-icing resource is the tracks on the de-icing pad. When on stand de-icing and after push de-icing are performed, the critical de-icing resource is the de-icing rigs. The DIMT shall handle both cases.

[REQ]

Identifier	REQ-06.06.02-TS-EXCR.0001
Requirement	The DIMT shall allocate available de-icing resources to each flight with a de-icing flag set to “E” or “R”.
Title	Allocation of de-icing resources
Status	<In Progress>
Rationale	This is the core of the DIMT and the concept.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0804.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0819.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCR.0002
Requirement	The DIMT shall allocate de-icing resources to flights using allocation algorithms which take all necessary parameters into account, e.g.

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	TOBT/TTOT, availability of de-icing resources, aircraft size and driving times between stands.
Title	Allocation algorithms
Status	<In Progress>
Rationale	Without allocation algorithms it is not possible to make a sophisticated planning.
Category	<Functional>
Validation Method	
Verification Method	<Test>

696
697 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

698
699 [REQ]

Identifier	REQ-06.06.02-TS-EXCR.0003
Requirement	The DIMT shall allow for the use of minimum three (3) allocation algorithms.
Title	Multiple algorithms
Status	<In Progress>
Rationale	There may be need to allocate de-icing resources in different ways.
Category	<Functional>
Validation Method	
Verification Method	<Test>

700
701 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

702
703 [REQ]

Identifier	REQ-06.06.02-TS-EXCR.0004
Requirement	The DIMT shall provide functionality to select which allocation algorithm that shall be used.
Title	Choose algorithms
Status	<In Progress>
Rationale	Different situations may require different allocation algorithms.
Category	<Functional>
Validation Method	
Verification Method	<Test>

704
705 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0811.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A

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<ALLOCATED_TO>	<Project>	06.06.02	N/A

706
707 [REQ]

Identifier	REQ-06.06.02-TS-EXCR.0005
Requirement	The DIMT shall contain an allocation algorithm that allocates resources with the purpose of using as few de-icing rigs as possible. This is achieved by selecting appropriate “default” settings in the EDIT lookup table.
Title	Minimize de-icing rigs
Status	<In Progress>
Rationale	A probable allocation purpose
Category	<Functional>
Validation Method	
Verification Method	<Test>

708
709 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0002	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

710
711 [REQ]

Identifier	REQ-06.06.02-TS-EXCR.0006
Requirement	The DIMT shall contain functionality to keep track of to which flight each de-icing rig is allocated to in the de-icing planning.
Title	Differentiation of EDIT
Status	<In Progress>
Rationale	Core function of the system
Category	<Functional>
Validation Method	
Verification Method	<Test>

712
713 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0009	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

714

715 3.1.3.4 De-icing Status Management Requirements

716 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0001
Requirement	The DIMT shall attribute a de-icing flag to each flight.
Title	Attribute de-icing flag
Status	<In Progress>
Rationale	The de-icing flag is pivotal for the de-icing planning in the DIMT
Category	<Functional>
Validation Method	
Verification Method	<Test>

717
718 [REQ Trace]

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Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCS.0002
Requirement	The de-icing flag shall have one of four values: “E” for estimated de-icing “R” for requested de-icing “C” for cancelled de-icing “N”, no value, during weather category “No De-icing”
Title	De-icing flag values
Status	<In Progress>
Rationale	The value of the de-icing flag will decide if the flight shall be included in or excluded from the de-icing planning.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCS.0003
Requirement	The DIMT shall set the de-icing flag to “E” for flights with an EOBT within the time span where the valid weather category value is “Low”, “Medium” or “Severe”.
Title	De-icing flag E
Status	<In Progress>
Rationale	The E-value to the de-icing flag will show that it is a flight selected by the DIMT as a potential candidate for de-icing.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0819.0002	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCS.0004

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Requirement	The DIMT shall set the de-icing flag to “R” for a flight when an actual request of de-icing is received for that flight.
Title	De-icing flag R
Status	<In Progress>
Rationale	The R-value to the de-icing flag will show that the flight has requested de-icing and shall not be deleted from the de-icing planning.
Category	<Functional>
Validation Method	
Verification Method	<Test>

730
731 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0804.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

732
733 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0005
Requirement	The DIMT shall set the de-icing flag to “C” for a flight when an actual cancellation of de-icing is received for that flight.
Title	De-icing flag C
Status	<In Progress>
Rationale	The C-value to the de-icing flag will show that the flight has cancelled de-icing and shall be deleted from the de-icing planning.
Category	<Functional>
Validation Method	
Verification Method	<Test>

734
735 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0805.0001	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0002	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

736
737 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0006
Requirement	The DIMT shall set the de-icing flag to “N” for flights with an EOBT within the time span where the valid weather category value is “No De-icing”.
Title	De-icing flag N
Status	<In Progress>
Rationale	When the weather category indicates that there is no need for de-icing, i.e. weather category “No De-icing”, the flights within that time span shall not be considered as a candidate for de-icing.
Category	<Functional>
Validation Method	
Verification Method	<Test>

738
739 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>

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<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

740
741 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0007
Requirement	The DIMT shall allow the user to cancel de-icing for a flight.
Title	Manual cancellation of de-icing
Status	<In Progress>
Rationale	Necessary functionality for de-icing coordinator
Category	<Functional>
Validation Method	
Verification Method	<Test>

742
743 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0003	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

744
745 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0008
Requirement	The DIMT shall consider every change of value to the de-icing flag as a need for re-calculation of the de-icing plan and start re-calculating.
Title	De-icing flag change
Status	<In Progress>
Rationale	A change in the de-icing flag indicates that the status of potential or planned de-icing has changed, and that a new de-icing plan needs to be calculated.
Category	<Functional>
Validation Method	
Verification Method	<Test>

746
747 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0803.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

748
749 [REQ]

Identifier	REQ-06.06.02-TS-EXCS.0009
Requirement	The DIMT shall produce notifications to the user of the DIMT for all changes of value in the de-icing flag that are within the fixed planning window.
Title	De-icing flag notifications to user
Status	<In Progress>
Rationale	In order to have an overview of the situation, the user (de-icing coordinator) shall be notified when something changes close to execution.
Category	<Functional>
Validation Method	
Verification Method	<Test>

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[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0803.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0805.0002	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0006	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCS.0010
Requirement	The DIMT shall set the de-icing flag to “C” for a flight when an actual request of de-icing hasn’t been received at the time for TOBT-t (final confirmation of TOBT) for that flight.
Title	De-icing flag at TOBT-t
Status	<In Progress>
Rationale	In order to manage the situation in de-icing conditions, requests for de-icing need to be done as early as possible. The time limit is set to the A-CDM milestone #9, Final confirmation of TOBT, i.e. TOBT-t.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.3.5 De-icing Planning Requirements

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0001
Requirement	The DIMT shall perform planning with a one (1) minute granularity.
Title	Planning accuracy
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

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Identifier	REQ-06.06.02-TS-EXCP.0002
Requirement	The DIMT shall process the following Flight Information when creating and updating the de-icing plan: Flight number, SOBT Aircraft registration, Aircraft ID, Aircraft type, Flight Prioritization Tag, EOBT, TOBT, AOBT, ETOT, TTOT, CTOT, ATOT, TSAT, ASAT and De-icing position.
Title	Flight information as input to the de-icing plan
Status	<In Progress>
Rationale	Pivotal data for de-icing planning
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0501.0002	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0003
Requirement	The de-icing plan shall include all flights that have an xOBT within the configured planning horizon until they get an ATOT assigned.
Title	De-icing plan content
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0004
Requirement	The DIMT shall select the flights to be planned for de-icing among the flights with an xOBT and a de-icing flag with value “E” or “R” within the next three hours.
Title	Selection of flights for de-icing planning
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0001	<Partial>

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<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

773
774 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0005
Requirement	The DIMT shall handle the planning in two perspectives: 1. The Fixed planning window, where the updated planning results shall be presented in the form of notifications 2. The Flexible planning window, where the updated planning results shall directly replace the old de-icing plan.
Title	Planning windows
Status	<In Progress>
Rationale	The planning windows will allow the de-icing coordinator user role adapt his/her working situation and as all changes have to be acknowledged by the de-icing coordinator user role this is a way of avoiding unnecessary fluctuations in the data.
Category	<Functional>
Validation Method	
Verification Method	<Test>

775
776 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0015	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0409.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

777
778 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0006
Requirement	The DIMT shall in the planning use the latest update of the A-CDM timestamps, meaning that if an actual time is available it should be used, the next choice is target times and estimated times are used as a fall-back if no actual and target times are available.
Title	Latest time stamp update
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

779
780 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0002	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0003	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

781
782 [REQ]

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Identifier	REQ-06.06.02-TS-EXCP.0007
Requirement	The DIMT shall – for on stand de-icing - calculate the earliest possible ECZT as xOBT-EDIT.
Title	Earliest ECZT for on stand de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

783
784 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

785
786 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0008
Requirement	The DIMT shall – for on stand de-icing - calculate the latest possible ECZT as xSAT-EDIT.
Title	Latest ECZT for on stand de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

787
788 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

789
790 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0009
Requirement	The DIMT shall – for after push de-icing - calculate the earliest possible ECZT as xOBT+Tpush, where Tpush is configurable margin of 1 minute.
Title	Earliest ECZT for after push de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

791
792 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0003	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A

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<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0010
Requirement	The DIMT shall – for after push de-icing - calculate the latest possible ECZT as xTOT-VTT-EDIT.
Title	Latest ECZT for after push de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0003	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0011
Requirement	The DIMT shall – for remote de-icing - calculate the earliest possible ECZT as xSAT+VTT, where VTT is the taxi time from stand to de-icing pad.
Title	Earliest ECZT for remote de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0004	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0012
Requirement	The DIMT shall – for remote de-icing - calculate the latest possible ECZT as xTOT+Trunway-EDIT, where Trunway is configurable to move from pad to runway of order 2 minutes.
Title	Latest ECZT for remote de-icing
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0004	<Partial>

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<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0013
Requirement	The DIMT shall aim to calculate ECZT with the latest possible time.
Title	Latest ECZT calculated
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0002	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0003	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0004	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0014
Requirement	The DIMT shall offer the possibility to switch to calculation of ECZT with the earliest possible time, an “as soon as possible” mode, by means of a dedicated preference page.
Title	“As soon as possible” mode
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0002	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0003	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0004	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0015
Requirement	The DIMT shall optimise the de-icing plan on the following two criteria: 1. As much as possible de-icing requests shall be fulfilled in a consistent manner 2. In case of equal quality on criterion 1, the accumulated distance to latest possible ECZT (or to earliest possible, if selected) shall be

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	minimised.
Title	Optimization criteria
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0016
Requirement	The DIMT shall create a de-icing plan for a mix between on stand, after push and remote de-icing or a subset of these.
Title	Mixed mode de-icing
Status	<In Progress>
Rationale	Airports may use more than one type of de-icing.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0017
Requirement	If the calculated ECZT cannot be met for a flight, the new assigned ECZT shall be as soon as possible when the required resources (de-icing units or tracks) become available.
Title	Conflict resolution
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0006	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0008	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A

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<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

825
826 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0018
Requirement	The DIMT shall calculate a predicted weather category for each flight based on the weather conditions during the whole ATV.
Title	Weather category
Status	<In Progress>
Rationale	Planning constraint
Category	<Functional>
Validation Method	
Verification Method	<Test>

827
828 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0007	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

829
830 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0019
Requirement	In determining the predicted weather category the DIMT shall use a parameter for the maximum age of weather information before EOBT to be considered during the ATV.
Title	Determination of weather category
Status	<In Progress>
Rationale	Refinement of weather category
Category	<Functional>
Validation Method	
Verification Method	<Test>

831
832 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0007	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

833
834 [REQ]

Identifier	REQ-06.06.02-TS-EXCP.0020
Requirement	In determining the predicted weather category for a flight the DIMT shall use a parameter for the deviation in weather category between the most severe category during the ATV and the resulting prediction.
Title	Determination of weather category
Status	<In Progress>

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Rationale	Refinement of weather category
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0005	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0007	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0806.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0818.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-EXCP.0021
Requirement	The DIMT shall use the ACZT, AEZT and ADIT to refine the planning results of subsequent flights.
Title	Actual values for planning de-icing sequence
Status	<In Progress>
Rationale	Correctness in planning
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0006	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0008	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0003	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.1.4 Post Operations Analysis Requirements

The operational documents, OSED, SPR and INTEROP do not contain requirements on the post operations analysis. Regarding the generation of reports for post operational analysis, it is assumed that it can be generated by a commercial off-the-shelf platform. The DIMT prototype will not include this functionality, and therefore, will not publish, send, store, etc. reports.

3.1.5 Presentation Requirements

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0001
Requirement	The DIMT shall present the de-icing plan in two formats, a flight list view and a Gantt chart like presentation.
Title	Two presentation formats
Status	<In Progress>
Rationale	The two formats will serve different purposes for the de-icing coordinator

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	user role.
Category	<Functional>
Validation Method	
Verification Method	<Test>

850
851 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0007	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

852
853 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0002
Requirement	The DIMT shall always display date and time to the user.
Title	Time and date visible
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

854
855 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

856
857 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0003
Requirement	The flight list view shall contain the following information about a flight: • Flight number • A/C registration • A/C type • Stand number • EOBT/TOBT/AOBT • APZT • ECZT/ACZT • EDIT/ADIT • TTOT/ATOT • Weather category • Rig/track assignment
Title	Content flight list view
Status	<In Progress>
Rationale	The content of the flight list view
Category	<Functional>
Validation Method	
Verification Method	<Test>

858
859 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0008	<Full>

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<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0004
Requirement	The DIMT shall provide functionality to sort the flight list view on the different columns.
Title	Sorting of flight list view
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0005
Requirement	The DIMT shall provide functionality to make a simultaneous change of EDIT for multiple flights in the flight list view.
Title	Change of EDIT for multiple flights
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0004	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0006
Requirement	The DIMT shall provide a de-icing rig/de-icing pad track list view that focus on the use of de-icing rigs/de-icing pad tracks.
Title	Rig/track list view
Status	<In Progress>
Rationale	Overview of the use of rigs/tracks.
Category	<Functional>
Validation Method	

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Verification Method	<Test>

871
872 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

873
874 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0007
Requirement	The rig/track list view shall contain the following information: • Rig/track name • Flight number • De-icing position • EOBT/TOBT/AOBT • APZT • ECZT/ACZT • EDIT/ADIT • TTOT/ATOT • De-icing method
Title	Rig/track list view
Status	<In Progress>
Rationale	Overview of the use of rigs/tracks
Category	<Functional>
Validation Method	
Verification Method	<Test>

875
876 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0109.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

877
878 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0008
Requirement	The DIMT shall provide functionality to sort the rig/track list view on the different columns.
Title	Sorting of flight list view
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

879
880 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A

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<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0009
Requirement	The Gantt chart view shall present the de-icing plan with time on the x-axis and de-icing rigs on the y-axis for on stand and after push de-icing.
Title	Gantt with rigs
Status	<In Progress>
Rationale	Design of the Gantt chart view
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0010	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0010
Requirement	The Gantt chart view shall present the de-icing plan with time on the x-axis and de-icing pad tracks on the y-axis for remote de-icing.
Title	Gantt with tracks
Status	<In Progress>
Rationale	Design of the Gantt chart view
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0001	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0011
Requirement	The Gantt chart view shall show current time as a vertical line, indicating whether it is Local Time or UTC.
Title	Current time in Gantt view
Status	<In Progress>
Rationale	Situational awareness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>

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<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0002	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0012
Requirement	The Gantt chart view shall be horizontally scrollable and clearly display the overview the past time window and active planning windows.
Title	Time period of the Gantt chart view
Status	<In Progress>
Rationale	Situational awareness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0013
Requirement	The Gantt chart view shall display the colour coded weather category in the upper part of the view along the x-axis.
Title	Weather category in the Gantt chart view
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0023	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0014
Requirement	The DIMT shall include functionality for making one or more resources, shown on the y-axis, unavailable/available in the valid allocation algorithm for a certain time span by user actions in the Gantt chart view.
Title	Unavailability of de-icing resources
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	

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Verification Method	<Test>

903
904 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0009	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0032	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

905
906 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0015
Requirement	The DIMT shall contain functionality to show detailed information about a de-icing resource, at least possible de-icing methods (for de-icing rigs), configuration (for de-icing tracks) present assignment, EDIT, ECZT, EEZT, de-icing position as well as possible collaborating de-icing rigs/simultaneously used tracks by one aircraft in a tooltip window when hovering the mouse over a de-icing resource.
Title	Detailed information about de-icing resources
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

907
908 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0029	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0031	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

909
910 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0016
Requirement	The DIMT shall present the fixed planning window with a background.
Title	Grey fixed planning window
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

911
912 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

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913
914 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0017
Requirement	The DIMT shall in the Gantt chart view upper part show: • Flights with de-icing flag “E” or “R”; represented as a rectangular area displaying the flight number with the x-coordinates (ECZT; ECZT+EDIT) and the y-coordinates corresponding to the resource/-s to be used • Drive-up time for the de-icing rig to the next stand (for on stand and after push de-icing) • “Toffpad”, i.e. time for the aircraft to leave the de-icing pad (for remote de-icing)
Title	Gantt chart view content upper part
Status	<In Progress>
Rationale	Core feature of the DIMT
Category	<Functional>
Validation Method	
Verification Method	<Test>

915
916 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0011	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0013	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

917
918 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0018
Requirement	The DIMT shall in the Gantt chart view lower part show without overlap: • Scheduled flights for which no estimated times are known with de-icing flag “E” or “R”; represented as a rectangular area displaying the flight number with the x-coordinates (SOBT; SOBT+OBTmargin) • Flights with de-icing flag “N” or “C”, represented as a rectangular area with x-coordinates (xOBT;xOBT+OBT margin) with OBTmargin configurable and nominally 5 minutes.
Title	Gantt chart view content lower part
Status	<In Progress>
Rationale	Core feature of the DIMT
Category	<Functional>
Validation Method	
Verification Method	<Test>

919
920 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0017	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0018	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0020	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

921
922 [REQ]

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Identifier	REQ-06.06.02-TS-PRES.0019
Requirement	The DIMT shall contain functionality to show detailed information about a flight, at least registration number, EDIT, ECZT, EEZT, de-icing position as well as possible collaborating de-icing rigs (for on stand and after push de-icing) in a tooltip window when hovering the mouse over a rectangular area representing a flight.
Title	Tooltip window
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0012	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0031	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0020
Requirement	The DIMT shall contain functionality to open a properties window for a flight when clicking the right mouse button where changes can be made concerning actual assignment of de-icing rigs/tracks and EDIT (when ECZT is within the fixed planning window) or de-icing method, number of de-icing rigs and EDIT (when ECZT is outside the fixed planning window).
Title	Properties window for a flight
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0010	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0034	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0021
Requirement	The DIMT shall provide functionality to change the de-icing flag for a flight to “R” or “C” in the Gantt chart view.
Title	Change of de-icing flag in the Gantt chart view
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>

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Validation Method	
Verification Method	<Test>

931
932 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

933
934 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0022
Requirement	The DIMT shall provide functionality to manually change the ECZT for a flight. It shall be available in the fixed planning window, by the use of “drag and drop” in the Gantt chart view.
Title	Change of ECZT
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

935
936 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0007	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0009	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

937
938 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0023
Requirement	The DIMT shall provide colour coding functionality to differentiate “estimated”, “target” and “actual” times in the different views.
Title	Differentiation of status of time stamps
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

939
940 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0016	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0014	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

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941
942 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0025
Requirement	The DIMT shall allow the user to choose which colour to use when colour coding functionality is available.
Title	Configurable colours
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

943
944 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0014	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0023	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

945
946 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0027
Requirement	The DIMT shall notify the de-icing coordinator user role when the de-icing plan shows that ECZT for a flight can not be met.
Title	Notification of not met ECZT
Status	<In Progress>
Rationale	When the de-icing plan can not meet time stamps the de-icing coordinator needs to be made aware of that.
Category	<Functional>
Validation Method	
Verification Method	<Test>

947
948 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0005	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0108.0007	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

949
950 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0028
Requirement	It shall be possible for the de-icing coordinator role to manually update data in the fixed planning window in the DIMT, i.e. de-icing position, EDIT, ECZT, EEZT and de-icing flag that results from the weather category.
Title	Manual updates in fixed planning window
Status	<In Progress>
Rationale	Soon to be activities might be necessary to update and in that case involved actors need to be made aware of that.
Category	<Functional>
Validation Method	
Verification Method	<Test>

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952 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0004	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0005	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0007	<Full>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0009	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0011	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0018	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

953

954 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0029
Requirement	The DIMT shall – instead of automatically updating the de-icing plan in the fixed planning window – create notifications of the data that have changed in the latest update of the de-icing plan and highlight any resulting conflicts in the planning sequence.
Title	No automatic updates in fixed planning window
Status	<In Progress>
Rationale	Soon to be activities might be necessary to update and in that case involved actors need to be made aware of that.
Category	<Functional>
Validation Method	
Verification Method	<Test>

955

956 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

957

958 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0030
Requirement	The DIMT shall produce notifications when conflicts occur in the de-icing plan, e.g. when ECZT can not be met, when flights with manually set ECZT have moved out of nominal range, when updates of xOBT, TSAT and xTOT occur in the fixed planning window.
Title	Notifications of conflict in the de-icing planning
Status	<In Progress>
Rationale	Situational awareness
Category	<Functional>
Validation Method	
Verification Method	<Test>

959

960 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0039	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A

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<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0031
Requirement	The DIMT shall produce notifications in the following cases: when a cancellation of a requested de-icing is made, when the weather category changes and when flights close to TOBT-t still have de-icing flag as “E”.
Title	Notifications
Status	<In Progress>
Rationale	User friendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0805.0002	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0032
Requirement	The DIMT shall use a specific colour coding in the Gantt chart when conflicts arise from manual changes applied to the de-icing details.
Title	Conflicts after manual updates in fixed planning window
Status	<In Progress>
Rationale	Improving situational awareness after manual changes.
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0018	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0033
Requirement	The DIMT presentation of the de-icing plan shall show the current status for the purpose of verification by the coordinator and adjustment (if necessary) by means of the modification capabilities on the HMI.
Title	Verification of the current de-icing plan
Status	<In Progress>
Rationale	The shown de-icing plan should be up to date
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance

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<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0807.0001	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

973
974 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0034
Requirement	The DIMT HMI shall provide the functionality to make manual assignments of de-icing rigs for the on stand de-icing, after push de-icing as well as remote de-icing. This functionality shall be optionally switched on or off.
Title	Manual assignments of de-icing rigs
Status	<In Progress>
Rationale	Flexibility in planning
Category	<Functional>
Validation Method	
Verification Method	<Test>

975
976 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0010	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED TO>	<Project>	06.06.02	N/A

977
978 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0035
Requirement	The DIMT HMI shall display weather information other than de-icing weather category as a tool tip information on the Gantt chart view.
Title	Visualization of weather information
Status	<In Progress>
Rationale	Visualization of weather information
Category	<Functional>
Validation Method	
Verification Method	<Test>

979
980 [REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0023	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

981
982 [REQ]

Identifier	REQ-06.06.02-TS-PRES.0036
Requirement	The DIMT HMI shall graphically indicate the probability of the weather category forecast.
Title	Visualization of weather information
Status	<In Progress>
Rationale	Userfriendliness
Category	<Functional>
Validation Method	

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Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0810.0023	
<SATISFIES>	<Enabler>	AIRPORT-04	
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0037
Requirement	The DIMT HMI shall support drag and drop to move de-icing assignments between tracks (for remote de-icing) and de-icing rigs (for on stand de-icing and after push de-icing) in the Gantt chart view.
Title	Facilitated management of de-icing assignments
Status	<In Progress>
Rationale	Userfriendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0010	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PRES.0038
Requirement	The DIMT HMI shall support drag and drop to make assignments of de-icing rigs to flight for remote de-icing.
Title	Assign rigs in remote de-icing
Status	<In Progress>
Rationale	Userfriendliness
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0809.0010	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.2 Adaptability

Currently there are no applicable requirements.

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3.3 Performance Characteristics

[REQ]

Identifier	REQ-06.06.02-TS-PERF.0001
Requirement	The de-icing plan update shall follow a configurable periodicity.
Title	Update periodicity
Status	<In Progress>
Rationale	De-icing plan corresponding to airport activities
Category	<Performance>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0802.0001	<Partial>
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0801.0006	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-PERF.0002
Requirement	Modifications via the DIMT HMI shall take effect in less than 5 seconds.
Title	Adjustment of the de-icing plan
Status	<In Progress>
Rationale	Fast response improves the operability
Category	<Functional>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0807.0002	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.4 Safety & Security

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0001
Requirement	The DIMT shall be configured with user roles with different access levels. The user roles shall be - De-icing coordinator (access to DIMT HMI only) - De-icing administrator (access to DIMT detailed configuration and database) - System administrator (full access to DIMT server and underlying operating system)
Title	User roles
Status	<In Progress>
Rationale	DIMT functions shall only be accessed by users with the appropriate level.

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Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0011	<Full>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0002
Requirement	The DIMT shall restrict usage to authorized users.
Title	Authorized users
Status	<In Progress>
Rationale	Base function of the system
Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0012	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0003
Requirement	The DIMT shall support multiple user accounts
Title	Multiple user accounts
Status	<In Progress>
Rationale	Base function of the system
Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0012	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0004
Requirement	The DIMT shall enable each user of the DIMT to possess unique user details for authentication.
Title	Unique user details
Status	<In Progress>

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Rationale	Base function of the system
Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0012	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0005
Requirement	The DIMT shall be configured with users where each user belongs to one or several user roles.
Title	User – user roles
Status	<In Progress>
Rationale	Base function of the system
Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0012	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

[REQ]

Identifier	REQ-06.06.02-TS-SASE.0006
Requirement	The DIMT shall demand that each user identify themselves to the DIMT.
Title	User identification
Status	<In Progress>
Rationale	Base function of the system
Category	<Security>
Validation Method	
Verification Method	<Test>

[REQ Trace]

Relationship	Linked Element Type	Identifier	Compliance
<SATISFIES>	<ATMS Requirement>	REQ-06.06.02-SPR-0002.0012	<Partial>
<SATISFIES>	<Enabler>	AIRPORT-04	<Partial>
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Planning	N/A
<ALLOCATED_TO>	<Functional block>	Airport Resources and Facilities Tactical Management	N/A
<APPLIES_TO>	<Operational Focus Area>	OFA05.01.01	N/A
<ALLOCATED_TO>	<Project>	06.06.02	N/A

3.5 Maintainability

Currently there are no applicable requirements.

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3.6 Reliability

Currently there are no applicable requirements.

3.7 Functional block Internal Data Requirements

Currently there are no applicable requirements.

3.8 Design and Construction Constraints

Currently there are no applicable requirements.

3.9 Functional block Interface Requirements

Currently there are no applicable requirements. The prototype will not publish information to the A-CDM platform or the system used by the de-icing operator in the de-icing rigs, but will solely subscribe on flight information from the AOP/CDM platform and on weather category information from the MET system in Finnish Meteorological Institute.

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4 Assumptions

1. It should be noted that there are dedicated sections of the document reserved for non-functional requirements, focused on Safety, Security and Performance Characteristics, However due to the nature of the development (prototype), the implementation of these requirements are not mandatory and will be under each industry consideration. These requirements can be considered as recommendations during the industrialization phase being the parameters indicating only a suggestion for implementation since the feasibility of each requirement need to be analysed.

2. The operational documents, OSED, SPR and INTEROP do not contain requirements on the post operations analysis. Regarding the generation of reports for post operational analysis, it is assumed that it can be generated by a commercial off-the-shelf platform. The DIMT prototype will not include this functionality, and therefore, will not publish, send, store, etc. reports.

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5.1 Use of copyright / patent material /classified material

5.1.1 Classified Material

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Appendix A Large version of Figure 10

DIMT function “Execution” use cases

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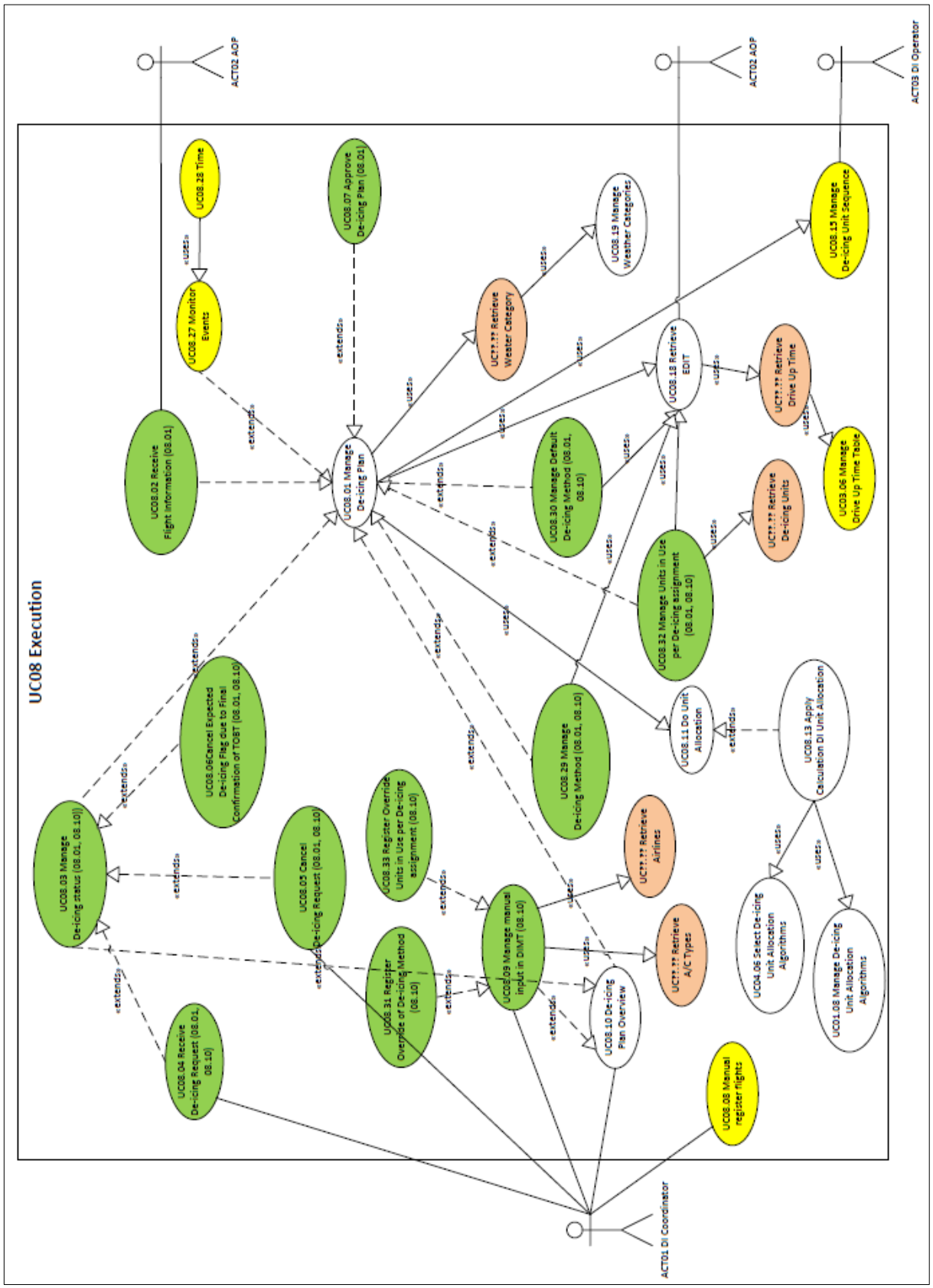

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1104 **-END OF DOCUMENT-**

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