Preliminary Deployment Programme Version 1 (PDP v1)

FPA MOVE/E2/2014-717/SESAR FPA

SGA MOVE/E2/2014-717/SI2-699519

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Executive Summary

This document is the version 1 of the Preliminary Deployment Programme (PDP v1). It has been unanimously endorsed by the Supervisory Board (SB) of the SESAR Deployment Alliance (SDA) acting as the SESAR Deployment Manager (SDM) and delivered to the European Commission (EC) on 31st March 2015 for information. PDP v1 builds on the version 0 (PDP v0) currently annexed to the SESAR Deployment Framework Partnership Agreement (FPA) with the objective to set **the most up to date basis for first full Deployment Programme (DP v1) development.**

PDP v1 initialises **the project view of the Pilot Common Project (PCP)**, recording in a structured and harmonised manner the 110 projects submitted to Innovation and Networks Executive Agency (INEA) under SDM's coordination (chapter 3 and annexes A and B).

All together, the 110 projects amount 836M€ of investment and would require 409M€ co-funding, therefore significantly over booking the target envelope of 240M€ co-funding. In this context, PDP v1 develops **SDM's strategic implementation view**, highlighting and justifying those implementation projects amongst the 110 that SDM considers as being the **foundations for immediate start of PCP implementation (2014-2016)**, as well as the initial gaps and risks stemming from state of play by call's deadline(chapter 2 and annex C). **SDM's strategic implementation view concludes with recommendations to EC and INEA and further actions for SDM towards DP v1. In particular, whilst the sum of the short term "foundation" implementation projects (2014-2016) amounts around 304M€ co-funding request, SDM recommends that first priority should be given to those projects when awarding co-funding as result from 2014 CEF Transport calls for proposals.**

In its final part, PDP v1 paves the way forward, already **preparing for DP v1 to be delivered to EC on 30th June 2015**, introducing DP V1's main objectives and added value compared to PDP v1 as well as DP V1's development process that will involve all SESAR stakeholders either through SDM's Cooperation Arrangements or through SDM's Stakeholders' Consultation Platform (chapter 4).

1. Introduction

This document is the version 1 of the Preliminary Deployment Programme (PDP v1). It has been unanimously endorsed by the Supervisory Board (SB) of the SESAR Deployment Alliance (SDA) acting as the SESAR Deployment Manager (SDM) and delivered to the European Commission (EC) on 31st March 2015 for information. PDP v1 builds on the version 0 (PDP v0) currently annexed to the SESAR Deployment Framework Partnership Agreement (FPA) with the objective to set **the most up to date basis for first full Deployment Programme (DP v1) development** to be delivered to EC for approval in June 2015.

PDP v0's objective was to support the EC by providing a **preliminary project view of the most mature ATM Functionalities** included within Pilot Common Project (as defined by Regulation (EU) no. 716/2014), developing **sound and comprehensive families of implementation priorities** – the Fast-Tracks - to be considered within the 2014 CEF Transport calls for proposals. Accordingly, PDP v0 has been valued by the EC and the INEA as guidance material for 2014 CEF Transport calls for proposals and further used by the SESAR Deployment Manager (SDM) to identify those candidate projects that complied both with PCP scope and PDP v0 priorities and cluster them into proposals then submitted to INEA.

Whilst PDP v1 derives from PDP v0, it pursues more ambitious objectives:

- **To deliver a strategic vision of PCP implementation** for consideration by EC and INEA whilst providing the basis for SDM to evolve PDP v1 into a full version of the Deployment Programme;
- **To initialise a project view of PCP,** recording in a structured and harmonised manner the 110 projects submitted to INEA under SDM's coordination as a result from the 2014 CEF Transport calls for proposals, consolidating and then expanding PDP v0's structure down to projects levels;
- **To pave the way forward,** already preparing for first full Deployment Programme (DP v1).

Chapters 2, 3 and 4 below respectively address those objectives.

PDP v1 expresses SDM's strategic vision of PCP implementation, building on SDM experts 'assessment of the facts laid down in the initial project view. As PDP v0 and contrary to future DP v1, PDP v1 does not result from formal activation of SDM's Cooperative Arrangements and stakeholders consultation beyond SDM's membership yet. However, as a test run for future cooperation, **the Network Manager (NM) and the European Defence Agency (EDA) have provided** SDM with their assessment of the initial project view against their respective competencies for consideration when developing SDM's strategic implementation vision, in particular for gaps and risks analysis. Also, when developing the project view, **most of the implementing partners have contributed** delivering additional information about their projects, in particular with regards to performance. Whilst these inputs have been considered, it should be underlined that PDP v1's very short development time has not provided for a second loop with external contributors. Therefore, those inputs have been reflected and incorporated under sole SDM's responsibility.

2. Strategic implementation view

First major feature of the Preliminary Deployment Programme v1 (PDP v1) is SDM's strategic implementation view.

Since its selection on 5th December 2014, SDM has played a central role in assessing and clustering more than 143 candidate implementation projects. This has resulted into 5 proposals submitted to INEA by 26 February totalising 110 implementation projects considered by SDM as being "within its scope" so "flagged green". All together, these projects amount about 836M€ of investment and would require about 409M€ co-funding.

Considering that:

- This results significantly overshoot the available envelope of 240M€ co-funding for the PCP part of the call (part A), thus delivering an overall positive message about industry's readiness to implement to deliver; and
- SDM is accountable for managing timely, synchronised and coordinated PCP implementation, which includes in particular maximising the available co-funding for PCP implementation and optimising its use throughout the series of 2014 CEF Transport calls for proposals specified by the Deployment Program and its future updates;

SDM considered as an essential part of its role to develop a strategic implementation view that highlights those implementation projects amongst the 110 that SDM considers as being the foundations for a timely start of PCP implementation.

Identification of "foundation" implementation projects has been performed in accordance with the methodology and the criteria laid down in this chapter. The result is delivered without prejudice to "not foundation" implementation projects relevance to SDM's scope: it has been and remains confirmed by SDM. Therefore, in the case where CEF budget would allow co-funding to be awarded in excess to those "foundation" implementation projects, SDM would strongly recommend EC and INEA to do so.

2.1 Ensuring PCP's foundations

Identification of PCP's foundations results from a dedicated methodology through which SDM has further analysed the 110 implementation projects submitted to INEA with the objective to highlight projects (or part of projects) that SDM, in the light of its ATM expertise and industrial know-how, considers as the foundations of timely PCP implementation.

The following sections explain step by step the methodology applied. For the sake of completeness, fairness and end to end transparency, the methodology explained below re-incorporate the earliest steps achieved by SDM prior to 2014 CEF Transport calls for proposals deadline.

2.1.1 Methodology overview

SDM methodology has been based on two parallel macro-phases, as the picture below represents:

1. The macro-phase on the top of the picture built on the two rounds of analysis ("High level" and "In depth") performed on the candidate Implementation Projects (IPs) submitted to 2014 CEF Transport calls for proposals by the operational stakeholders

2. The macro-phase at the bottom of the picture built on the inputs resulting from Interim Deployment Steering Group (IDSG) monitoring activities, with the aim to identify the gaps in PDP v0 and accordingly improve PDP v1 FT technical content descriptions

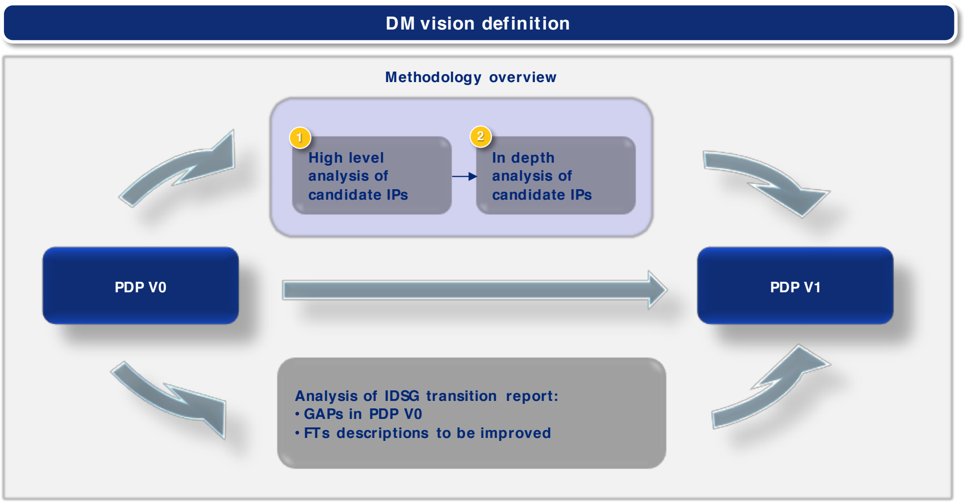
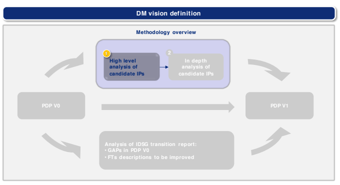


Figure 1 Methodology overview

2.1.2 High level analysis of candidate IPs



By the end of January (specifically, on January 26th), through a bid management transversal support, **SDM had received 143 candidate implementation projects (IPs)** and undertook a **three step assessment process**:

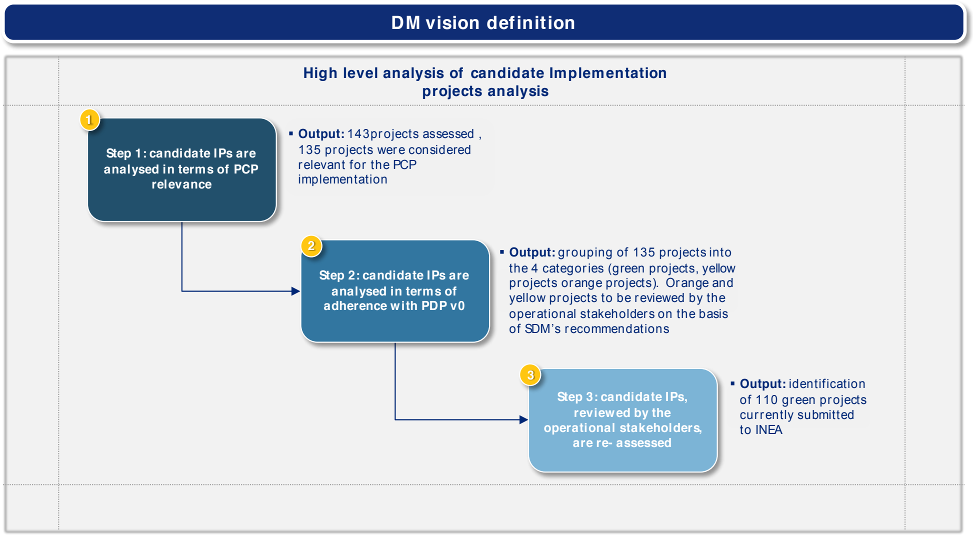


Figure 2 - High level analysis of IPs

The first step of the high level analysis was aimed at filtering out those projects not related to the Pilot Common Project. Of the assessed 143 projects, 135 projects were considered relevant for the PCP implementation, thus proceeding to the next step of the analysis. It is worth noting that those projects deemed outside PCP were however suggested to be submitted under category B[1] of the 2014 CEF Transport calls for proposals, although outside of the SDM's coordination.

The second step of the high level analysis was aimed at verifying whether all PCP implementation-related projects would feature a relevant adherence with the PDP v0 and its families of fast-tracks. The assessment resulted in the identification of the following three categories:

- green: projects "good to go" as currently described;
- yellow: projects "good to go" as currently described contents wise. However, time wise, SDM recommended clearer phasing of the activities and associated budget for easier later INEA's evaluation in the case budget limitations does not allow for full award;
- orange: projects with high potential to be turned green, at least partially, but that still required some adaptation or clarification.

The operational stakeholders were therefore invited to review both yellow and orange projects, taking into account SDM recommendations.

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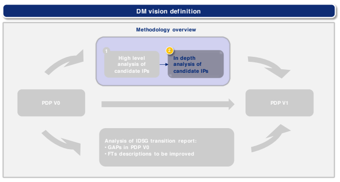
[1] Category B: other projects contributing to the implementation of the Single European Sky (SES) by addressing, in particular through the deployment of new technologies and best practices, the inefficiencies in the provision of air navigation services and the fragmentation of the European ATM system. http://inea.ec.europa.eu/download/calls2014/cef_transport/calltexts/_map_funding-objective-3_annex-1_sesar.pdf

The third and final step of analysis implied SDM experts' re-assessment of yellow and orange projects after operational stakeholders' review, which resulted in the identification of 110 "green" implementation projects currently submitted to INEA[2].

2.1.3 In depth analysis of candidate IPs



Nevertheless, when starting developing PDPv1, a more detailed assessment based on a set of criteria jointly defined by SDM experts was deemed necessary to study the implementation initiatives proposed, in order to elaborate a strategic vision aimed at further securing smooth and timely DP execution.

Accordingly, SDM experts conducted an **in depth analysis of the candidate IPs**, structured according to the here below reported flow chart:

[2] It is to be noted that the number of IPs templates in Annex A takes into account ENAIRE's splitting of IPs 057AF2 and 058AF2, as submitted to INEA.

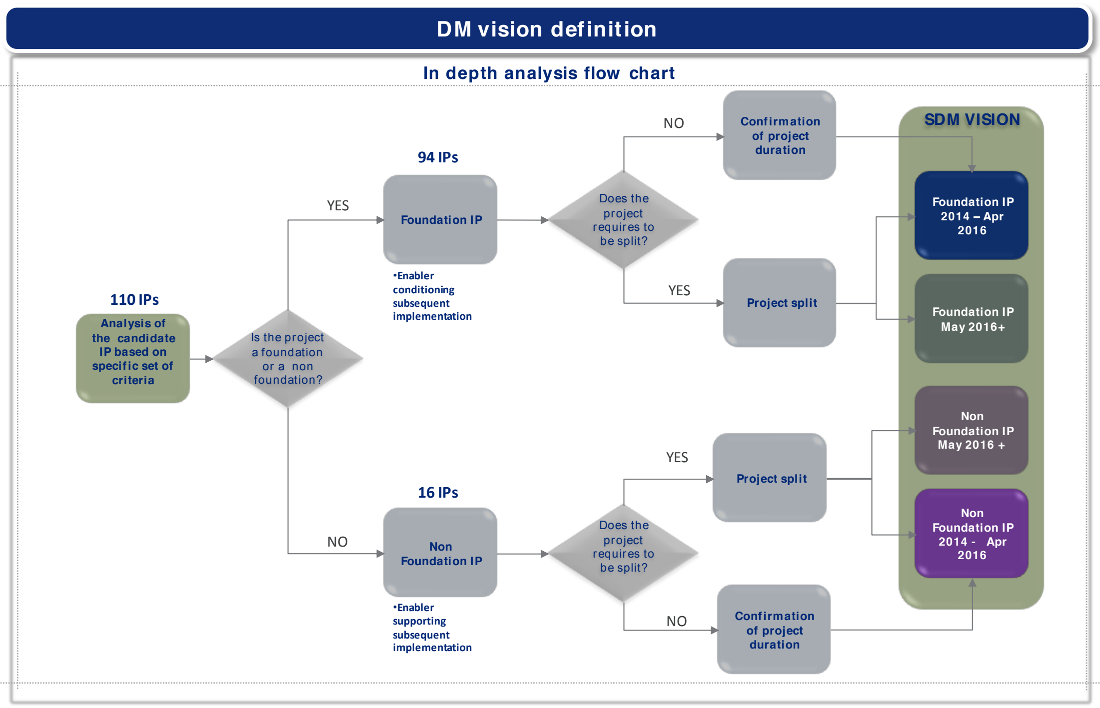


Figure 3: Flow chart

Each activity outlined in the previous flow chart is described hereafter.

Analysis of 110 candidate IPs

Starting from the 110 green projects resulting from the previous analysis, SDM experts further explored each implementation initiative, focusing on the following set of criteria:

- Synchronization needs, expressed in the implementation projects description;
- Interdependencies with other ATM Functionalities (AF), Sub-AFs and Fast Tracks (FT);
- Links with other implementation projects submitted to 2014 CEF Transport call;
- Potential impact on Network Strategy Plan (NSP) and Network Operation Plan (NOP).

The results of the evaluation are reported in the IP templates annexed to the present document (Annex A – Projects' Description).

Projects grouping

Furthermore, the above described evaluation allowed the experts to group the implementation initiatives within the following two categories:

- **Foundation IPs:** IPs, or parts thereof which are a necessary technical and operational condition for the subsequent implementation of a PCP ATM Functionality;
- **Non Foundation IPs:** IPs that include an enabler (technical or operational) from which the subsequent implementation of a PCP ATM Functionality would benefit.

The exercise resulted in 94 projects assessed as Foundation IPs and 16 projects assessed as Non Foundation IPs. As the flow chart shows, both projects categories went therefore through the same steps of assessment: however, the two categories enabled the experts to better shape SDM strategic vision, where all 110 implementation projects converge.

Potential modification of projects duration

Both Foundation and Non Foundation IPs were assessed to understand if their duration might be modified to make the best use of INEA co-funding opportunities.

The last part of the flow chart shows how SDM vision is structured:

- **Foundation IPs 2014 – end April 2016[3]:** IPs, or part of IPs, which are a necessary technical and operational condition necessary for the subsequent implementation of

[3] 1st May 2016 as the pivotal date to split the implementation projects when relevant stems from a) the expected timelines for the CEF Transport calls for proposals that will be launched by end 2015; and b) the general CEF rules according to which the cost will be eligible by the date of submission.

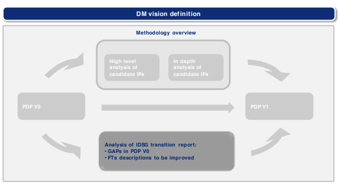
(elements of) a PCP ATM Functionality, these IPs or part of IPs need to start in the timeframe 2014 – end April 2016; it is to be noted that such timeframe could not be applied to some IPs, due to their specific features and attributes;

- **Foundation IPs May 2016+:** IPs, or part of IPs, which are a necessary technical and operational condition necessary for the subsequent implementation of (elements of) a PCP ATM Functionality, these IPs or part of IPs need to start from May 2016 onwards;
- **Non Foundation IPs 2014 – end April 2016:** IPs, or part IPs, that include an enabler (technical or operational) not yet implemented from which the subsequent implementation of (elements of) a PCP ATM Functionality would benefit, these IPs or part of IPs need to start in the timeframe 2014 – end April 2016;
- **Non Foundation IPs May 2016+:** IPs, or part of IPs, that include an enabler (technical or operational) not yet implemented from which the subsequent implementation of (elements of) a PCP ATM Functionality would benefit, these IPs or part of IPs need to start from May 2016 onwards.

It is worth noting that the exercise performed does not aim at challenging a posteriori the green flag awarded by SDM, as all 110 "green flagged" projects are and remain eligible thus to be evaluated by the Agency. The exercise aims instead at providing a SDM vision supporting INEA selection process, in order to:

- Make the best use of the current available co-funding;
- Highlight the projects which implementation is to be secured within the next CEF Transport calls for proposals;
- Highlight the need of financial support for a timely and synchronized SESAR deployment (possibly increasing future budget amounts availability).

Analysis of IDSG Transition Report



In addition to the extensive work performed to introduce the new project view in PDP v1, a careful revision of PDP v0 content was carried out. A PDP v1 taskforce was established to support an adequate takeover of IDSG's previous work, as detailed within the IDSG Transition Report, ensuring that:

- Prerequisites and facilitators to PCP which implementation was up to now synchronised by the IDSG are all considered in PDP V1;
- Activities unfinished in the IDSG Interim Deployment Programme (IDP) that constitute key elements for subsequent deployment are identified;
- Gaps in content identified by the IDSG in PDP v0 are considered with the aim to improve the Programme by modifying the FT description.
- Particular attention was given to data-link related implementation activities as prerequisites to AF6 implementation.

The revision was done under the principles of limiting the number of new fast tracks, paying attention to the relevance of activities with respect to PCP and keeping the PDP v0 structure as far as possible.

Accordingly, the analysis results in the following outcomes:

- Up to 15 FTs technical descriptions have been refined to include content that strengthens the continuity from the previous IDSG program;
- A **new FT "6.1.2 AGDL – ITY"** has been created to include data-link related implementation activities as prerequisites to AF6 implementation.

2.2 Gap Analysis

The gap analysis was elaborated taking into account the following documents:

- Regulation (EU) N°716/2014 specifying the content of the Pilot Common Project (PCP) and its geographical scope;
- The 110 projects submitted in the frame of the 2014 CEF Transport calls for proposals part A.

The gaps were derived by comparing the structure of the PDP V0 and the geographical scope of the PCP, with the projects submitted in the frame of the 2014 CEF Transport calls for proposals. It has to be noted that the gaps identified are representing only the project view and are not evidence that plans to cover the activity are not in place at relevant stakeholder level. In this respect, the full Gap analysis will be provided as part of DP v1, and submitted to stakeholders' consultation.

All stakeholders need to explore the possibilities to further align their plans in order to cover full PCP implementation. This analysis takes into consideration also the contribution provided by the Network Manager (NM) and high level observations received by European Defence Agency (EDA), although the final results reported in the tables of Annex C have not been cross checked again with EDA and NM and are delivered under the sole responsibility of SDM.

EDA has in particular highlighted that:

- there are no projects submitted by the military authorities (ANSP, airspace user, airport operator) for the 2014 CEF Transport calls for proposals;
- there is no evidence that the projects submitted went through a consultation process with the local military authorities.

Detailed gap analysis is available at annex C. DP v1 will aim at mitigating the gaps identified by the detailed gap analysis.

2.3 Risk Analysis

In the PDP v0 a list of high level risks was included. This initial list is enriched and further detailed through this chapter considering the projects submitted within 2014 CEF Transport calls for proposals part A. In general, the risks indicated below will be used as inputs when developing DP v1 in order to ensure that DP v1 will bring adequate mitigations.

2.3.1 Implementation delay

Implementation delay could stem from:

- insufficient stakeholders' awareness and commitment, with specific reference to prerequisites implementation delay, i.e. stakeholders do not submit projects as and when planned by the Deployment Programme. Already with the call 2014, the gap analysis shows that there are areas of the PDP v0 not sufficiently covered by the proposals submitted;
- poor local management of awarded implementation projects, thus drifting away from their contractual planning;
- complexity of the ATM functionalities to be implemented and the legacy environment into which they have to be implemented.

Mitigation actions are:

- Strong promotion of the Deployment Programme during and after stakeholders' consultation;
- Enhancement of the transversal approach and buy in among airspace users, airports and ANSPs to highlight that in some cases the late or missed investment could have a negative impact on other stakeholders;
- Synchronisation and coordination by SDM;
- Close correlation between requests for payment by the implementation projects to SDM and their effective transmission to INEA by SDM, i.e. requests for payment by implementation projects not meeting their planning will not be processed by SDM unless duly justified.

2.3.2 Military involvement

It has been noted that there are no projects submitted by the military authorities (ANSP, airspace user, airport operator) for the 2014 CEF Transport calls for proposalsand that there is no evidence that the civil projects submitted went through a consultation process with the local military authorities when potentially affecting them.

This could lead to an insufficient buy in of the PDP v1 and future DP v1 by the military stakeholders and to a "backlog" concerning necessary investments in modern technology to cope with the deployment of new ATM-functionalities and release all PCP benefits.

Mitigation actions are:

- demonstrate local civil-military coordination prior to projects submission to the next INEA calls and provide military assessment as part of the proposal whenever relevant;
- cooperation with the EDA to further facilitate local coordination between the local civil stakeholders (level 3) and the military authorities;
- promotion of the PCP amongst military authorities;
- introduction of a single communication channel between SDM and EDA to facilitate and accelerate dialog with the military authorities;
- recommendation of military projects in context of DP v1 and subsequent versions.

2.3.3 Financial constraints and risks

This could happen where stakeholders have other priorities in their investment plan than the common European wide priorities set by the PCP.

The gap analysis within the framework of the 2014 CEF Transport calls for proposals shows that there are areas where almost no projects were submitted.

Mitigation actions are:

- enhancement of the transversal approach and buy in among airspace users, airports and ANSPs to highlight that in some cases the late or missed investment could have a negative impact on other stakeholders;
- identification and activation of other funding mechanisms than EU grants to be used in conjunction with EU grants.

2.3.4 Recession in the Air Transport Business

The situation did not change compared to the PDP V0. This could lead to the fact, that necessary investments cannot be undertaken because of the lack of financial resources.

Mitigation action is:

- identification and activation of other funding mechanisms than EU grants to be used in conjunction with EU grants.

2.3.5 Network perspective

There are cases in which necessary investments at local level are not undertaken preventing other states/ANSPs to benefit from the traffic growth in their areas of jurisdiction, an example could be the projects related to DCT/FRA/XMAN.

Mitigation actions are:

- identification and activation of other funding mechanisms than EU grants to be used in conjunction with EU grants;

- enhanced identification of bottlenecks areas through cooperation with the Network Manager.

2.3.6 Maturity

This risk arises when requested ATM Functionalities or sub functionalities miss solutions ready for implementation, e.g. validation by SJU not completed, relevant large scale demonstrations by SJU not completed, missing standards, missing regulations or technical enablers not available on the market.

The gap analysis showed that for several areas (e.g. AF5 and AF6) only very few projects were submitted due to such lack of maturity.

This risk could be augmented in the case where all the CEF transport calls for proposals would be concentrated in the first half of the CEF period (2014-2016) as this would prevent the most advanced functionalities in PCP to reach maturity by the calls' deadlines.

Mitigation actions are:

- joint SJU-SDM demonstration for the maturity and added value of ATM Functionalities to be deployed;
- interact with European regulatory and standardization bodies to enhance alignment between the standardization and regulation roadmaps with the Deployment Programme;
- develop manufacturing industry's trust into PCP implementation to ensure consistent time to market and highly mature and reliable technical enablers;
- secure some opportunities for co-funding of implementation projects in the second half of the CEF period (2017-2020).

2.3.7 Data link implementation

Data link is a mandatory prerequisite to AF6.

However, at this stage, there is still uncertainty regarding the most appropriate airborne and ground based technologies to be implemented to enable the functionality. Therefore, regarding the 6 projects related to DLS implementation that have been submitted in the framework of the CEF CALL 2014, there is some probability that the implemented technologies will either not comply with the conclusions of the on-going validation by SJU or not provide for the necessary capacity to evolve to then be upgraded in accordance with these conclusions.

Mitigation actions are:

- SJU to shortly provide SDM with early results from its study on DLS technology validation;
- Update future DPs accordingly in order to specify future calls to only award projects that will comply with SJU's recommendations.

2.4 Recommendations

This chapter draws the main recommendations by SDM to EC and INEA and actions by SDM from SDM's strategic vision.

Recommendation 1: "Foundation projects" shall be considered as priority.

Within the 110 projects clustered into the 5 proposals for a total investment of 836 M€ (co-funding request of up to 409M€) submitted to INEA as the result of the 2014 CEF Transport calls for proposalsPart A, SDM has identified a sub-set of 96 projects (or parts of) that constitutes the foundation for PCP implementation, representing a total investment of 790M€ (co-funding request of about 389M€). Whilst all 110 projects remain supported by SDM as "ready to go for implementation" and "direct and effective contribution to PCP implementation in compliance with PDP v0's priorities", **SDM recommends those projects (or part of) in the foundation to be considered as priority when evaluating the proposals.**

Recommendation 2: Short term "Foundation projects" (2014-2016) shall be co-funded up to the maximum co-funding rate as from the CEF Transport calls for proposals 2014.

The total co-funding required for the short term "foundation projects" is in the range of 304M€, therefore exceeding the provisional co-funding envelope for part A of the call. Considering the high priority that PCP implementation represents for SES high level goals achievement, **SDM recommends co-funding to be increased so as to provide for co-funding of all short term foundation projects at their respective maximum co-funding rate in order to ensure and reward immediate start of PCP implementation.**

Recommendation 3: "Non foundation projects" shall be co-funded in addition to "Foundation projects" whenever possible.

The differentiation between "Foundation" and "Non foundation" projects has been performed without prejudice to implementation projects relevance to SDM's scope. Therefore "Non foundation projects" remains within SDM's scope and **SDM recommends that any potential co-funding in excess to "Foundation projects" is awarded to "Non foundation projects".**

Action 1: Implementation projects proposed for postponement in PDP v1 shall be protected in DP v1.

DP v1 being the specification for the next CEF calls, SDM will ensure that projects and / or part of projects which are proposed for postponement within PDP v1 will be duly tracked and protected through DP v1 for future CEF calls for proposals in order to guarantee timely implementation of the PCP.

Action 2: Gaps and risks identified in PDP v1 shall be mitigated through DP v1.

DP V1 being the specification for the next CEF calls, SDM will ensure that gaps and risks identified in PDP v1 are dully mitigated by DP v1, in particular through clear identification of all families of implementation projects needed to implement PCP fully and, to the maximum possible extent, identification of individual implementation projects expected to be submitted by the implementing partners through the next CEF call.

Action 3: Projects performance assessment shall be reinforced to evolve into a key driver for future calls.

SDM is "performance driven". This requires a strong performance assessment of the implementation projects by SDM against their planned and, later, actual contribution to SES high level goals. DP v1 will build on PDP V1's initial effort in the field of performance assessment and cost and benefit analysis to achieve this objective.

Action 4: Implementing partners' buy-in of DP v1 is key to next CEF call success.

DP V1 being the specification for the next CEF calls, it shall identify the families of implementation projects – and whenever possible the individual implementation projects expected to be submitted by the implementing partners through the next CEF call. However, because CEF only provides for co-funding of those projects, DP v1 would remain highly hypothetical if not adequately connected with implementing partners' investment plans. Such connection can only happen through implementing partners' buy-in of DP v1. Therefore, SDM shall consider with the highest importance the consultation of the implementing partners.

3. Project View

This chapter develops the project view of the PCP as it results from the 110 implementation projects submitted under SDM's coordination to the 2014 CEF Transport calls for proposals.Whilst building on the overall structure in 4 layers defined by PDP v0 and approved by EC, PDP v1 brings a first wave of implementation projects into the 4thlayer of this structure, voluntarily left empty in PDP v0, thus initializing PCP's translation into implementation projects.

To meet its objective, this chapter starts with an overview of the 3 first levels in the structure (AFs, sub-AFs and Fast-Track families) and how they connect together (figure 4 below). Then, as in PDP v0, this chapter divides into sections per AF that present:

- A short description of the AF and its sub-AFs (same as in PDP v0);
- A flow chart that further details the figure 5 for this AF, drilling down to the level 4 with the list of all related implementation project structured per Fast-Track family and providing for an easy tracking of projects' details in annex A to PDP v1;
- A description of the Fast-Track families for this AF (some new families have been added compared to PDP v0).

In the (common) case where an implementation projects address several AFs or sub-AFs, it has been arbitrary connected to the prominent one and the link with others has been indicated into project's details in annex A.

For completeness, the table here below reports the definition per each level of the Programme:

Level	Name	Description
Level 1	ATM Functionalities (AFs)	A group of ATM operational improvements and associated enablers related to trajectory operations, airspace and surface management or to information sharing within the en-route, terminal, airport or network operating environments;
Level 2	ATM Sub-Functionalities (S-AFs)	Essential operational changes (from the European ATM Master Plan level 1) selected for their performance contribution and synchronization into which an AF can be split.
Level 3	Early Implementation Projects cluster – Fast Tracks (FTs)	Sampler/implementation initiatives under which local implementation projects are grouped that require coordination/ synchronization at local or regional level and/or pursue the same (part of a) Sub-Functionality
Level 4	Implementation Projects (IPs)	Local Implementation projects which refer to relevant FTs

Figure 4 - PDP v1 levels definition

The FTs defined in this document are grouped according to the following criteria:

Grouping	Definition
Family 1	Every element to implement baseline (prerequisites and facilitators of the PCP) and all elements from IDP needed to be deployed for the PCP.
Family 2	All PCP elements ready to be deployed at certain location in the geographical scope defined by the IR, as a first step or sub-functionalities described in the annex of the Regulation (EU) N°716/2014 .

Figure 5 - Grouping definitions

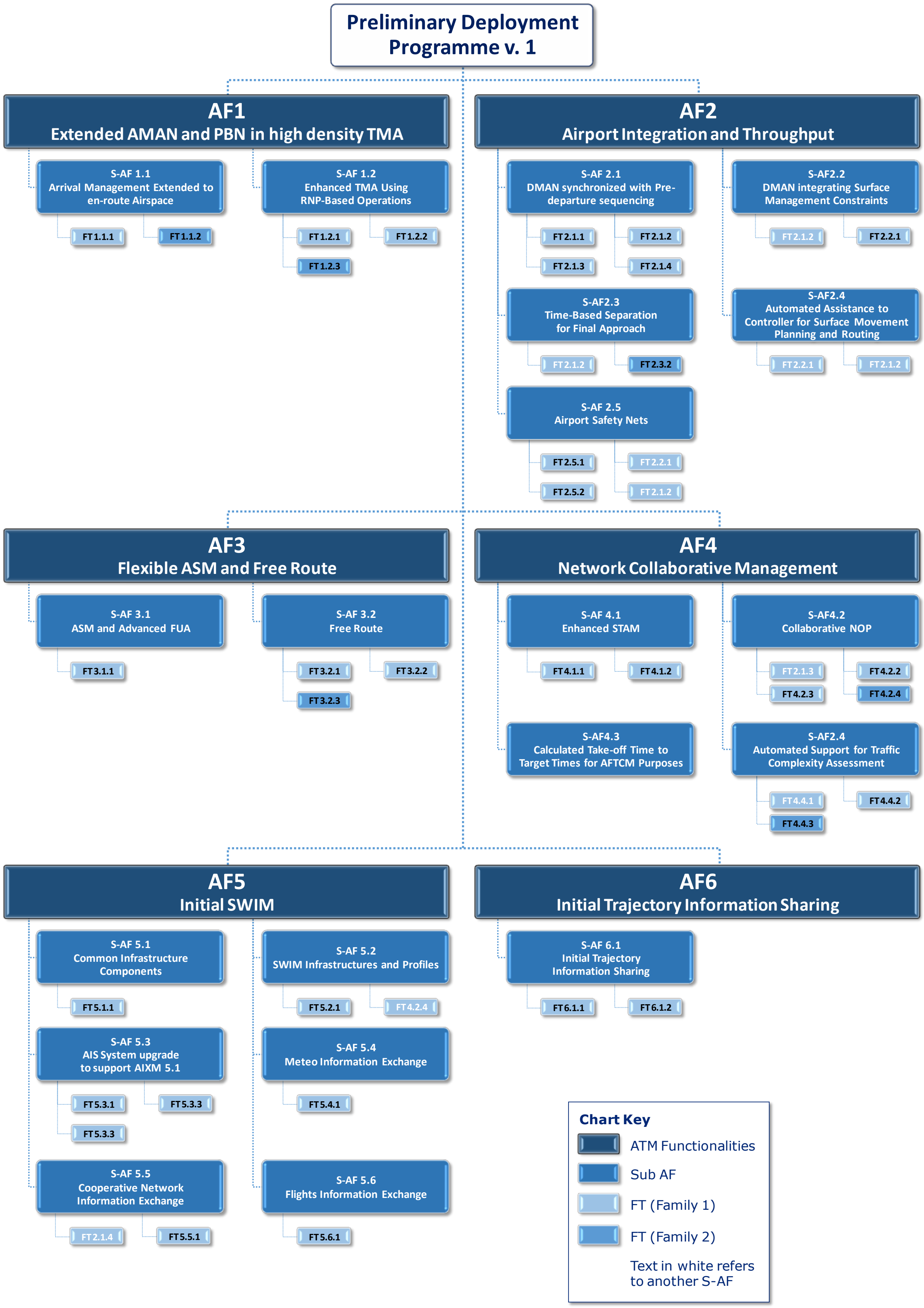


Figure 6 Preliminary Deployment Programme v.1 – Overall View

3.1 AF#1 –Extended Arrival Management and Performance Based Navigation in high density Terminal Manoeuvring Area

3.1.1 ATM Functionality and Sub-functionalities

Name	AF1: Extended Arrival Management and Performance Based Navigation in high density Terminal Manoeuvring Area
Description	Extended Arrival management (XMAN) and Performance Based Navigation (PBN) in high density Terminal Manoeuvring Areas (TMAs) improves the precision of the approach trajectory and facilitates air traffic sequencing at an earlier stage. Extended AMAN supports extension of the planning horizon out to a minimum of 180-200 Nautical Miles, up to and including the Top of Descent of arrival flights. PBN in high density TMAs covers the development and implementation of fuel efficient and/or environmental friendly procedures for arrival and departure (Required Navigation Performance 1 Standard Instrument Departures (RNP 1 SIDs), Standard Arrival Routes (STARs) and approach (Required Navigation Performance Approach (RNP APCH).
Sub-ATM Functionalities	S-AF1.1: Arrival Management extended to en-route Airspace S-AF1.2:Enhanced Terminal Airspace using RNP-Based Operations
Target date for Sub-AF	Operations of the complete AF as from 1 January 2024 (no distinction between sub AF)
Geographical scope	Extended AMAN and PBN in high density TMAs [and associated en-route sectors] shall be operated at the airports listed in Regulation (EU 716/2014)

3.1.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #1, divided in sub-AFs.

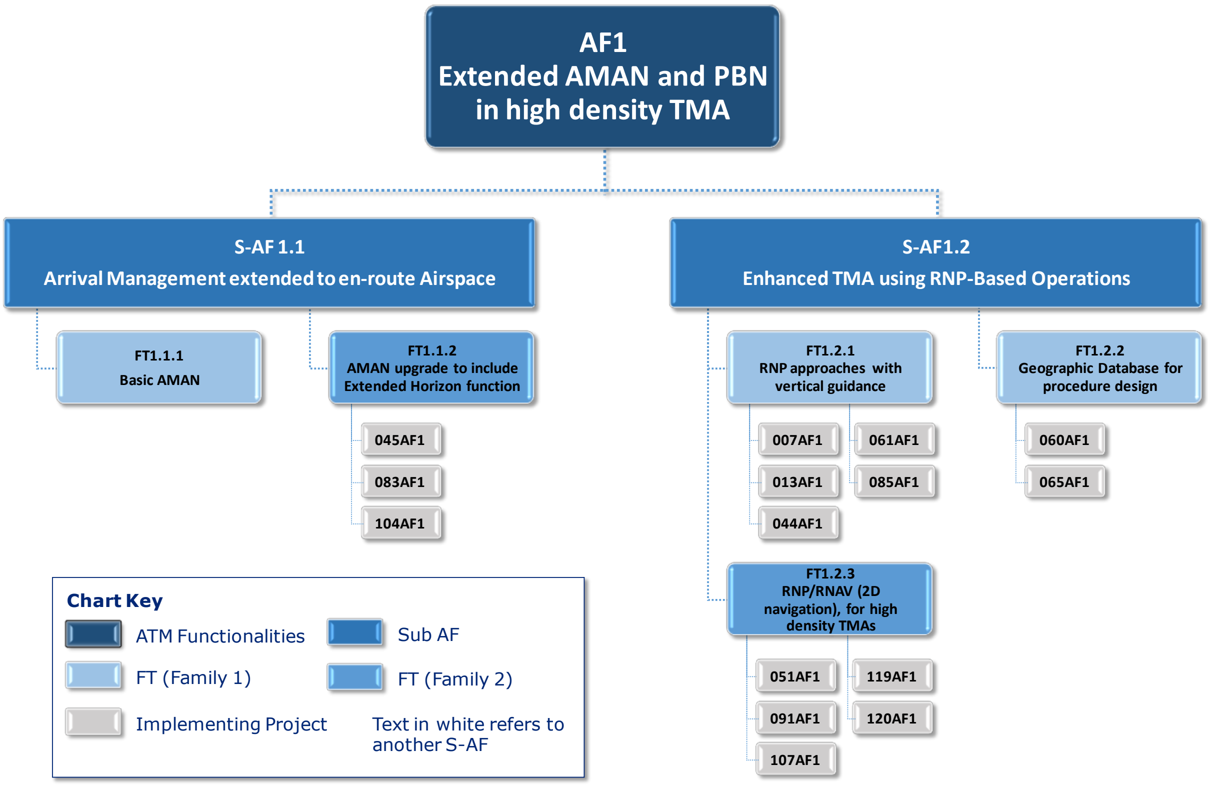


Figure 7 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #1

The following table encompasses the list of all projects related to the AF #1. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
007AF1	**Performance Based Navigation (PBN) implementation in Vienna (LOWW)**
013AF1	**Implementation of Required Navigation Performance Approaches with Vertical Guidance at Brussels Airport and Antwerp Airport**
044AF1	**Enhanced Terminal Airspace using Required Navigation Performance-Based Operations**
045AF1	**FABEC extended Arrival Manger XMAN/Arrival Manger AMAN**
051AF1	**Required Navigation Performance Approaches at CDG Airport with vertical guidance**
060AF1	**ENAIRE reference geographic database**
061AF1	**Required Navigation Performance Approach Implementation in Madrid, Barcelona, Palma de Mallorca**
065AF1	**ENAV Geographic DB for Procedure Design**
083AF1	**AMAN extended to en-route**
085AF1	**Study on Required Navigation Performance Approaches**
091AF1	**Enhanced Terminal Airspace (TMA) using Required Navigation Performance based Operations**
104AF1	**Lower Airspace optimization for the Stockholm TMA**
107AF1	**First phase of RNAV1 and RNP-APCH approaches Amsterdam Schiphol (EHAM)**
119AF1	**Manchester TMA Redevelopment**
120AF1	**London Airspace Management Programme**

3.1.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT 1.1.1
Name	Basic AMAN
Sub-AF	Arrival Management extended to en-route Airspace
Description	Implement Basic AMAN to support traffic synchronization in high density TMAs
Scope	Basic AMAN shall: - improve sequencing and metering of arrival aircraft in selected TMAs and airports; - continuously calculate arrival sequences and times for flights, taking into account the locally defined landing rate, the required spacing for flights arriving to the runway and other criteria; - provide automated sequencing support for the ATCOs handling traffic arriving to an airport - provide simple Time To Lose / Time To Gain - TTL/TTG – information, rather than more complex direct trajectory management solutions, such as "speed to be flown"
References	ESSIP ATC07.1
Concerned stakeholders	ANSPs
Geographical applicability	Implementation projects will deliver "basic AMAN" as a prerequisite at any of the airports listed in Regulation (EU 716/2014) (whenever it is not already implemented). If AMAN is already implemented, it might be necessary to upgrade the functionality to meet the up-to-date requirements and/or to prepare for the automatic coordination with adjacent ACCs as required for AMAN with extended horizon (see FT1.2.1)
Synchronization	Ex-ante synchronization requirements, to be further assessed at the level of Local Implementation Projects. Integration with local ATM systems necessary to process the flight plan and radar data. Therefore at least synchronization with local ATM-system required. Prerequisite for FT1.1.2 (XMAN)
Guidance material	Operational evaluation is required and it is essential to consider human factors issues (e.g., roles, responsibilities, working methods, training, organization and staffing) [http://www.eurocontrol.int/sites/default/files/article/content/documents/nm/fasti-aman-guidelines-2010.pdf]
Interdependencies	Interdependencies between Clusters should be described in the table itself and will be presented in the simplified Gantt Chart

Designator	FT 1.2.1
Name	RNP APCH with vertical guidance
Sub-AF	Enhanced Terminal Airspace using RNP-Based Operations
Description	Implementation of environmental friendly procedures (noise and GHG emissions) for approach using PBN in high-density TMAs, as specified in RNP APCH (Lateral Navigation/Vertical Navigation (LNAV/VNAV) and Localizer Performance with Vertical guidance (LPV) minima Required Navigation Performance (RNP) is a type of Performance Based Navigation (PBN) that allows an aircraft to fly a specific path between two 3D-defined points in space.
Scope	Implement approach procedures with vertical guidance APV/Baro and/or APV/SBAS (as per ESSIP NAV10. For RNP APCH, the Lateral and Longitudinal Total System Error (TSE) shall be +/− 0,3 nautical mile for at least 95 % of flight time for the Final Approach Segment and on-board performance monitoring, alerting capability and high integrity navigation databases are required. RNP APCH capability requires inputs from Global Navigation Satellite System (GNSS). Vertical Navigation in support of APV may be provided by GNSS Satellite Based Augmentation System (SBAS) or by barometric altitude sensors. Note that from IDP APV national deployment includes actions to - navaids rationalization / decommissioning plan - national RNP approach deployment plan - RNP Approaches Deployment
References	ESSIP NAV10, NOP 2014-2018/2019,
Concerned stakeholders	ANSP, Military authority, applicable airport, airspace users
Geographical applicability	Implementation projects will deliver "RNP approaches with vertical guidance" at any of the airports listed in Regulation (EU 716/2014) (whenever it is not already implemented). According to ICAO AR37.11, all TMAs shall implement "RNP approaches with vertical guidance".
Synchronization	There is the need to coordinate/synchronise efforts (operational procedure and aircraft capabilities) between ANSPs and Airspace users to ensure the return of investment and/or the start of operational benefits. The deadline for full operational capability is 2016 (ICAO global plan, EASA) From IDP status, it is projected that about 40% of runway ends will have APV by the end of 2015 and about 46% by the end of 2016.
Guidance material	EASA AMC 20-27 and AMC20-28 ICAO Doc9613 Performance-Based Navigation (PBN) Manual (2013) ICAO Assembly resolution 37.11

Designator	FT 1.2.2
Name	Geographic database for procedure design
Sub-AF	Enhanced Terminal Airspace using RNP-Based Operations
Description	Procurement/provision of geographic database of the TMA to support procedure design
Scope	The availability of an up-to-date geographic database (including the obstacle items) of each TMA is a prerequisite to design new procedures e.g., RNP approaches
References	ESSIP NAV10 and ITY-ADQ
Concerned stakeholders	ANSPs, airport authorities, AIS-providers
Geographical applicability	Implementation projects will deliver "geographic database for procedure design" at any of the airports listed in Regulation (EU 716/2014) (whenever it is not already implemented).
Synchronization	Prerequisite for FT 1.2.1 and FT1.2.3
Guidance material	EUROCAE ER-009 / Guidance material for the generation of aerodrome mapping database (December 2012)

3.1.4 Family 2 – Mature PCP elements

Designator	FT 1.1.2
Name	AMAN upgrade to include Extended Horizon function
Sub-AF	Arrival Management extended to en-route Airspace
Description	Implementation of arrival management extended to en-route airspaces at high density TMAs and its associated adjacent ACCs/UACs
Scope	Arrival Management extended to en-route Airspace extends the AMAN horizon from the 100-120 nautical miles to 180-200 nautical miles from the arrival airport. Traffic sequencing/metering may be conducted in the en-route and early descent phases. Air traffic control (ATC) services in the TMAs implementing AMAN operations shall coordinate with Air Traffic Services (ATS) units responsible for adjacent en-route sectors. The existing techniques to manage the AMAN constraints, in particular Time to Lose or Gain and Speed Advice may be used to implement this functionality. Analysis of IDP revealed some pending actions for Arrival management information exchange (AMA or suitable solution)
References	ESSIP ATC15, IDP WP5.2, NOP 2014-2018/2019
Concerned stakeholders	ANSPs (operating each high density TMA and ANSPs operating associated and adjacent en route ACCs/UACs), NM, AU
Geographical applicability	Any of the airports/TMAs listed in Regulation (EU 716/2014) + adjacent ACCs /UACs (the adjacent ACC may be operated by a different ANSP than the one operating the TMA) Note: the Implementing rule does not specify the list of impacted ACCs/UACs.
Synchronization	The synchronization is only needed for the implementations associated with a given AMAN. The synchronization is needed to adjust/upgrade the ATM-systems of the adjacent ACC/UACs to process the AMA-message provided by XMAN (SW-change, test, integration, and implementation).
Guidance material	SESAR (05.06.04) validation reports EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 (AMA message)

Designator	FT 1.2.3
Name	RNP1 operations in high density TMAs (including aircraft operator capabilities)
Sub-AF	Enhanced Terminal Airspace using RNP Based Operations
Description	Implementation of environmental friendly procedures (noise and GHG emissions) for arrival and approach using PBN in high-density TMAs, as specified in - RNP 1 specification with the use of the Radius to Fix (RF) path terminator for SIDs, STARs and transitions. Required Navigation Performance (RNP) is a type of Performance Based Navigation (PBN) that allows an aircraft to fly a specific path between two 3D-defined points in space.
Scope	Enhance arrival/departure procedures in high-density TMAs to include RNP 1 SIDs, STARs and transitions with the use of the Radius to Fix (RF) attachment. RNP 1 operations require the Lateral and Longitudinal Total System Error (TSE) to, be within +/− 1 nautical mile for at least 95 % of flight time and on-board performance monitoring, alerting capability and high integrity navigation databases. RNP 1 capability requires inputs from Global Navigation Satellite System (GNSS).
References	ESSIP NAV03
Concerned stakeholders	Civil/Military ANSPs and civil/military airspace users, airport operators
Geographical applicability	Implementation projects will deliver "RNP1 operations)" in high density TMAs around the airports listed in Regulation (EU 716/2014. Airspace user operating in high density TMAs need to adjust aircraft and aircrew capabilities to use RNP 1procedures.
Synchronization	(PCP IR=The deployment of PBN in high density TMAs shall be coordinated due to the potential network performance impact of delayed implementation in the airports referred to in the list. From a technical perspective, the adjustment/upgrade of ATM-systems and procedural changes shall be synchronized in order to ensure that the performance objectives are met. The synchronization of investments shall involve multiple airport operators ANSP and airspace users. Furthermore, synchronization during the related industrialization phase shall take place, in particular among supply industry).
Guidance material	EASA, IATA, ICAO, FAA guidance on airspace users as listed in ESSIP NAV03

3.2 AF#2 –Airport Integration and Throughput

3.2.1 ATM Functionality and Sub-functionalities

Name	AF2: Airport Integration and Throughput
Description	Airport Integration and Throughput facilitates the provision of approach and aerodrome control services by improving runway safety and throughput, enhancing taxi integration and safety and reducing hazardous situations on the runway. This functionality is composed of five sub-functionalities:
Sub-ATM Functionalities	S-AF2.1: Departure Management synchronised with Pre-departure sequencing S-AF2.2: Departure Management integrating Surface Management Constraints S-AF2.3: Time-Based Separation for Final Approach S-AF2.4: Automated Assistance to Controller for Surface Movement Planning and Routing S-AF2.5: Airport Safety Nets
Target date for Sub-AF	Departure Management Synchronised with Pre-departure sequencing as from 1 January 2021 Departure Management integrating Surface Management Constraints as from 1 January 2021 Time-Based Separation for Final Approach as from 1 January 2024 Automated Assistance to Controller for Surface Movement Planning and Routing as from 1 January 2024 Airport Safety Nets as from 1 January 2021
Geographical scope	Geographical scope according to Annex 2.2.1/2.2.2 of Commission Implementing Regulation (EU) N°716/2014

3.2.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #2, divided in sub-AFs.

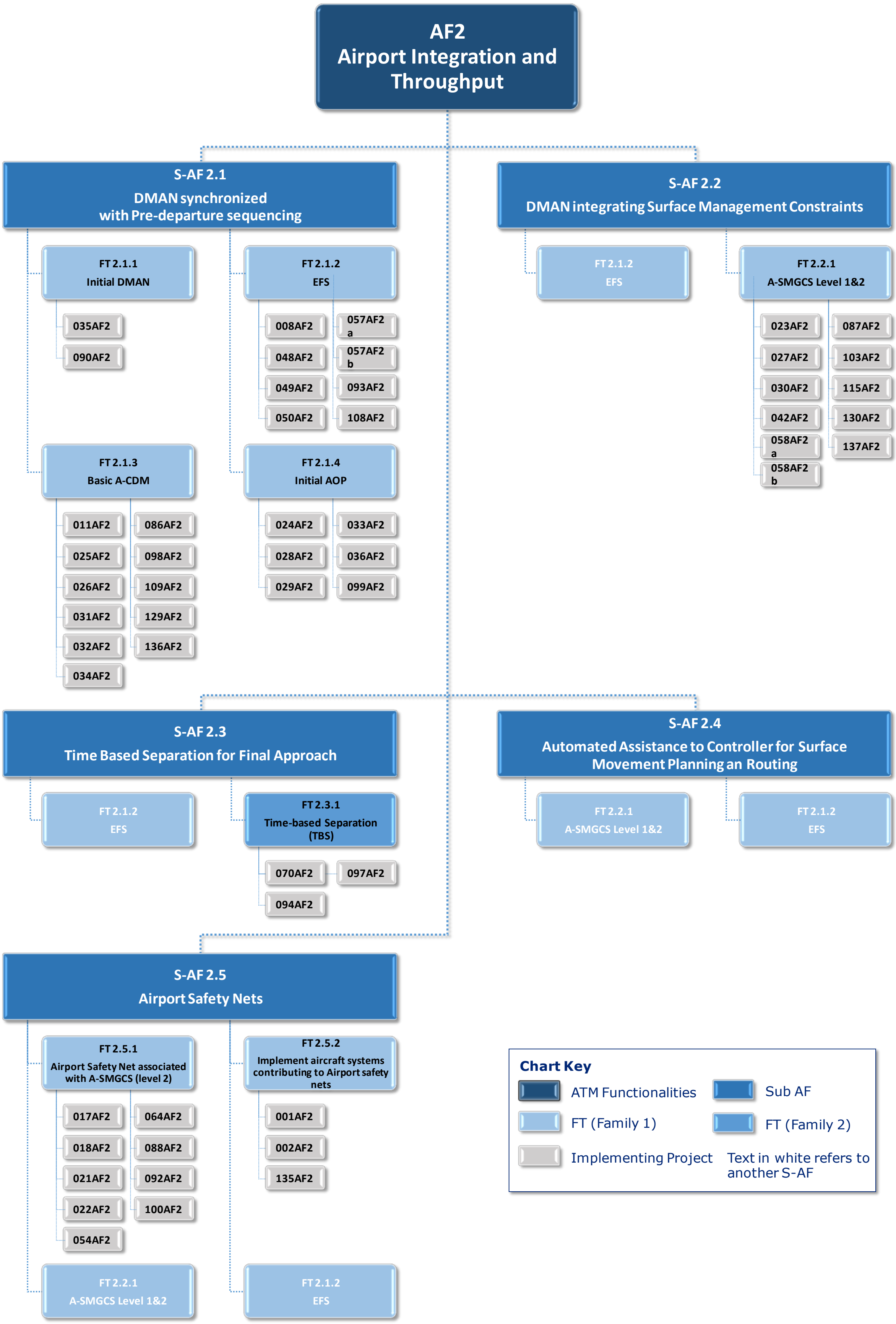


Figure 8 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #2

The following table encompasses the list of all projects related to the AF #2. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
001AF2	ROPS on AFR Airbus Fleet
002AF2	Automatic Friction Report
008AF2	External Gateway System (EGS) implementation
011AF2	Collaborative Decision Management (CDM) fully implemented
017AF2	Upgrade of A-SMGCS system at Brussels Airport
018AF2	Enhancement of Airport Safety Nets for Brussels Airport (EBBR)
021AF2	Elevated stop bar lights
022AF2	Vehicle Tracking System (VTS)
023AF2	SMAN-Vehicle
024AF2	SAIGA
025AF2	TSAT to the Gate
026AF2	Evolutions CDM-CDG
027AF2	SMAN-Airport
028AF2	Automatic block time detection – option 1: use of radar data
029AF2	Automatic block time detection – option 2: video cameras implementation
030AF2	Equipment of ground vehicles to supply the A-SMGCS
031AF2	Data exchanges with the ANSP
032AF2	Data exchanges with the NMOC
033AF2	Data exchanges with COHOR
034AF2	Data exchanges with airport stakeholders
035AF2	Pre-departure sequence
036AF2	Aeronautical information system upgrade (airport operation database)
042AF2	A-SMGCS Düsseldorf
048AF2	SYSAT@CDG
049AF2	SYSAT@NCE
050AF2	SYSAT@ORY
054AF2	CDG2020 Step1
057AF2a	Fulfilment of the prerequisite EFS for the PCP AF2 Sub functionality: Airport Integration and Throughput [2014-2016]
057AF2b	Fulfilment of the prerequisite EFS for the PCP AF2 Sub functionality: Airport Integration and Throughput [2017-2019]
058AF2a	Fulfillment of the prerequisite A-SMGCS 2for the PCP AF2 Sub functionality: Airport Integration and Throughput [2014-2016]

Reference Number	Title
058AF2b	Fulfillment of the prerequisite A-SMGCS 2 for the PCP AF2 Sub functionality: Airport Integration and Throughput[2017-2019]
064AF2	ENAV Airport System upgrade
070AF2	RECAT EU DEPLOYMENT WAKE TOOLS SUPPORT
086AF2	A-CDM Extension
087AF2	Apron Controller Working Position
088AF2	Airport Safety Net: Mobile Detection of Air Crash Tenders
090AF2	Departure Management Synchronised with Pre-Departure Sequencing (PDS)
092AF2	Enhanced Departure Management integrating airfield surface assets
093AF2	Electronic Flight Strip System (EFS) deployment
094AF2	Time-Based Separation for Final Approach
097AF2	Time Based Separation
098AF2	T2 SEGS
099AF2	Initial Airport Operational Plan (AOP)
100AF2	Airport Safety Nets associated with A-SMGCS Level 2 - Preparation for SMAN
103AF2	Standardization of A-SMGCS
108AF2	Electronic Flight Strips at Schiphol TWR
109AF2	Airport CDM implementation Schiphol
115AF2	Renewal of the Surface Movement Radar (BORA)
129AF2	CDM-Orly
130AF2	BOREAL-Orly
135AF2	Ryanair RAAS Programme
136AF2	A-CDM (Stockholm Arlanda)
137AF2	Enhance of ASN (Stockholm Arlanda)

3.2.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT 2.1.1
Name	Initial DMAN capability
Sub-AF	S-AF2.1: Departure Management Synchronized with Pre-departure sequencing
Description	Operational stakeholders involved in A-CDM shall jointly establish pre-departure sequences, taking into account agreed principles to be applied for specific reasons (such as runway holding time, slot adherence, departure routes, airspace user preferences, night curfew, evacuation of stand/gate for arriving aircraft, adverse conditions including de-icing, actual taxi/runway capacity, current constraints, etc.).
Scope	Implement Basic Departure Management (SDMAN) functionality to: - ensure an efficient usage of the runway take off capacity by providing an optimum and context dependent queue at the holding points - improve the departure flows at airports; - increase the predictability; - calculate Target Take Off Times (TTOT) and the Target Start-up Approval Times (TSAT) taking into account multiple constraints and preferences out of the A-CDM processes; - provide a planned departure sequence; - reduce queuing at holding point and distribute the information to various stakeholders at the airport.
References	AOP05
Concerned stakeholders	CIV/MIL ANSPs, AOP, NM, AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2of Commission Implementing Regulation (EU) N°**716/2014**
Synchronization	From a technical perspective the deployment of targeted system and procedural changes shall be synchronised in order to ensure that the performance objectives are met.
Guidance material	ESSIP Plan Edition 2013 EUROCONTROL A-CDM Manual
Interdependencies	There are interdependencies within AF2 with FT2.1.2 EFS, FT2.1.3 A-CDM and FT 2.2.1 A-SMGCS Level 1-2 The sub-functionalities Departure Management Synchronized with Pre-departure sequencing may be implemented independently from the other sub-functionalities

Designator	FT2.1.2
Name	Electronic Flight Strips (EFS)
Sub-AF	S-AF2.1: Departure Management Synchronised with Pre-departure sequencing
Description	Implement Digital Flight Data Management System, such as EFS, improve situational awareness of towers controllers by: - having data updates, received from an FDP system or by manual inputs, automatically available at all connected working positions; - performing Data inputs generally by simple mouse clicks or by selecting data from menus so that no time-absorbing interactions are needed; - presenting the flight plan data in a clear and easy to read way; - allowing combination with advanced tools like AMAN, DMAN; A-SMGCS and to support Airport-CDM Ref. S-AF2.2 Digital systems, such as EFSs, shall integrate the instructions given by the air traffic controller with other data such as flight plan, surveillance, routing, A-CDM, DMAN, A-SMGCS, published rules and procedures. Ref. S-AF2.3 Digital systems, such as EFSs, shall integrate the instructions given by the air traffic controller with other data such as flight plan, surveillance, routing, Initial AMAN, AMAN, published rules and procedures. Ref. S-AF2.4 Digital systems, such as EFSs, shall integrate the instructions given by the air traffic controller with other data such as flight plan, surveillance, routing, A-SMGCS, SDMAN, A-CDM, published rules and procedures. It shall help ensure any safety issue is automatically reported to the air traffic controller. Ref. S-AF2.5 Digital systems, such as EFSs, shall integrate the instructions given by the air traffic controller with other data such as flight plan, surveillance, routing, published rules and procedures.
Scope	The operational context of electronic dialogue as automated assistance to controller during coordination and transfer addresses the facilities and processes for data exchange between ATC components serving ATC units for the purpose of achieving: - The electronic dialogue in co-ordination prior to the transfer of flights from one ATC unit to the next. In the scope of this objective the implementers should use OLDI messages in order to perform an electronic dialogue: - The transfer of communication from one ATC unit to the next ATC unit of such flights. In the scope of this objective the implementers should use OLDI messages in order to perform an electronic dialogue: - The coordination processes that support the exchange of OLDI messages related to the Basic procedure

	The system permits controllers to conduct screen to screen coordination between adjacent ATSUs / sectors reducing workload associated with coordination, integration and identification tasks. The system supports coordination dialogue between controllers and transfer of flights between ATSUs, and facilitates early resolution of conflicts through inter ATSU/sector coordination. Ref. S-AF2.4 The flight data processing system shall be able to receive planned and cleared routes assigned to aircraft and vehicles and manage the status of the route for all concerned aircraft and vehicles. Ref. S-AF2.5 The controller working position shall allow the air traffic controller to manage surface route trajectories. Tower Runway Controller support tools shall provide the detection of Conflicting ATC Clearances and shall be performed by the ATC system based on the knowledge of data such as the clearances given to mobiles by the Tower Runway Controller, the assigned runway and holding point. Working procedures shall ensure that all clearances given to aircraft or vehicles are input in the ATC system by the controller on the Electronic Flight Strip (EFS). ATCOs shall be alerted when mobiles deviate from ATC instructions, procedures or route, potentially placing the mobile at risk. The introduction of Electronic Flight Strips (EFS) means that the instructions given by the ATCO are now available electronically and shall be integrated with other data such as flight plan, surveillance, routing, published rules and procedures. The integration of this data shall allow the system to monitor the information and when inconsistencies are detected, an alert is provided to the ATCO (e.g. No push-back approval) Furthermore, Digital Flight Data Management Systems will help to make consolidated flight data from different sources available to the controller and thus enhance situational awareness by indicating process steps and alerts in connection with AOP functionalities.
References	ATC15 + 17, ITY- COTR, COM9, FMTP, AOP05 The new ESSIP objective ATC17 complements the (mandatory) requirements of basic notification, coordination and transfer functionalities which are already covered in ESSIP objective ITY-COTR and regulated by Regulation (EC) N°1032/2006.
Concerned stakeholders	CIV/MIL ANSPs, AOP.AU,NM
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2 of Commission Implementing Regulation (EU) N°**716/2014**
Synchronization	From a technical perspective the deployment of targeted system and procedural changes shall be synchronized in order to ensure that the performance objectives are met. This synchronization of investments shall involve multiple airport operators and air navigation service providers. Furthermore synchronization during the related industrialization phase shall take place, in particular among supply industry and standardization bodies
Guidance material	ESSIP Plan Edition 2013

	EUROCONTROL A-CDM Implementation Manual, ESARR4 and related docs. EUROCONTROL Study report ITWP (Integrated Tower Working Position)
Interdependencies	S-AF2.2 Departure Management integrating Surface Management Constraints S-AF2.3 Time-based separation for final approach A-AF2.4 Automated Assistance to Controller for Surface Movement Planning and Routing A-AF2.5 Airport Safety Nets

Designator	FT2.1.3
Name	Basic A-CDM
Sub-AF	S-AF2.1: Departure Management Synchronised with Pre-departure sequencing
Description	A-CDM is the concept, which aims at improving operational efficiency at airports and improves their integration into the Air Traffic Flow and Capacity Management (ATFCM) by increasing information sharing and improving cooperation between all relevant stakeholders (local ANSP, airport operator, aircraft operators, NM, other airport service providers).
Scope	The Airport CDM concept is built on the following elements: - The foundations for Airport CSDM are Information Sharing and the Milestone Approach. They consist in collaborative information sharing and monitoring of the progress of a flight from the initial planning to the take-off. Those two elements allow the airport partners to achieve a common situational awareness and predict the forthcoming events for each flight. - Variable Taxi Time Calculation, Collaborative Pre-Departure Sequencing and CSDM in Adverse Conditions allow the airport partners to further improve the local management of airport operations, whatever the situation at the airport. Once A-CDM has been implemented locally, the link with the ATMN can be strengthened through the exchange of flight update messages between the CDM airport and the NM. This last building block of the A-CDM concept facilitates the flow and capacity management, helps reduce uncertainty and increases efficiency at the network level.
References	AOP05, IDP WP3.1 and IDP WP 3.2
Concerned stakeholders	CIV/MIL ANSPs, AOP, NM, AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2of Commission Implementing Regulation (EU) N°**716/2014**
Synchronization	Operational stakeholders involved in A-CDM shall jointly establish pre-departure sequences, taking into account agreed principles to be applied for specific reasons (such as runway holding time, slot adherence, departure routes, airspace user preferences, night curfew, evacuation of stand/gate for arriving aircraft, adverse conditions including de-icing, actual taxi/runway capacity, current constraints, etc.). The deployment of Airport Integration and Throughput functionality shall be coordinated due to the potential network performance impact of delayed implementation in the targeted airports. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized in order to ensure that the performance objectives are met. This synchronization of investments shall involve multiple airport operators and air navigation service providers. Furthermore, synchronization during the related industrialization phase shall take place, in particular among supply industry and standardization bodies. The concept of A-CDM constitutes the basis for airports to establish predictability in processes related to aircraft turn-around and as such feeds the AOP with essential and critical information concerning capacity issues as well as availability. This information is integrated in the NOP (ref. S-AF4.2 Collaborative NOP).
Guidance material	ESSIP Plan Edition 2013

	EUROCONTROL A-CDM Implementation Manual, Functional req. doc. Ed. 4.0
Interdependencies	Interdependencies exist between FT2.1.3 A-CDM and S-AF4.2: Collaborative NOP (FT 4.2.1 A-CDM). Within S-AF2.1 dependencies can be expected with FT2.1.1 Initial DMAN and between S-AF2.2 A-SMGCS L1-2 and FT2.1.3

Designator	FT2.1.4
Name	Initial Airport Operational Plan (AOP)
Sub-AF	S-AF2.1: Departure Management Synchronised with Pre-departure sequencing
Description	The Airport element that reflects the operational status of the Airport and therefore facilitates Demand and Capacity Balancing is the Airport Operations Plan (AOP). The AOP connects the relevant stakeholders, notably the Airspace Users' Flight Operations Centre (FOC). It contains data and information relating to the different status of planning phases and is in the format of a rolling plan, which naturally evolves over time. The AOP is a single, common and collaboratively agreed rolling plan available to all airport stakeholders whose purpose is to provide common situational awareness and to form the basis upon which stakeholder decisions relating to process optimization can be made. The AOP contains elements such as KPI, which allow monitoring and assessing the performance of ACDM operations. There are strong interdependencies with S-AF4.2 Collaborative NOP as well as with S-AF5.5 Cooperative Network Information Exchange.
Scope	The ATM stakeholders' planning processes and working methods are included in the AOP. The initial AOP is partly integrated in the NOP which provides a rolling picture of the network situation used by stakeholders to prepare their plans and their inputs to the network CDM processes (e.g. negotiation of airspace configurations).NM Information will be freely exchanged by Operational stakeholders by means of defined cooperative network information services, using the yellow SWIM TI Profile.
References	ESSIP FCM05
Concerned stakeholders	CIV/MIL ANSPs, AOP, NM, AU
Geographical applicability	ECAC airports
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated and synchronized with the AOP due to the potential network performance impact of delayed implementation. The synchronization of investments shall involve multiple air navigation service providers, airports and the Network Manager. The concept of A-CDM constitutes the basis for airports to establish predictability in processes related to aircraft turn-around and as such feeds the AOP with essential and critical information concerning capacity issues as well as availability. This information is integrated in the NOP (ref. S-AF4.2 Collaborative NOP).
Guidance material	ESSIP Plan Edition 2013 NOP portal User´s guide, SESAR WP6, IATA - Standard Schedules Information Manual - Edition 23
Interdependencies	S-AF4.2: Collaborative NOP(FT 4.2.4 Initial Connectivity AOP/NOP) S-AF5.5: Cooperative Network Information Exchange(FT 5.5.1 Interface and data Requirements of AF4 NOP)

Designator	FT2.2.1
Name	A-SMGCS Level 1/2
Sub-AF	S-AF2.2 Departure Management integrating Surface Management Constraints
Description	Advanced Surface Movement Guidance and Control System (A-SMGCS) is a system providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions within the aerodrome visibility operational level (AVOL) while maintaining the required level of safety. A-SMGCS Level 1 provides ATC with the position and automatic identity of: - All relevant aircraft on the movement area; - All relevant vehicles on the manoeuvring area. Traffic will be controlled through the use of appropriate procedures allowing the issuance of information and clearances to traffic on the basis of A-SMGCS Level 1surveillance data. A-SMGCS Level 2 is a L1 system complemented by the A-SMGCS function to detect potential conflicts on runways, taxiways and intrusions into restricted areas and provide the controllers with appropriate alerts. A-SMGCS integrates all surface information sources enhancing situational awareness. A-SMGCS Level 1 is a prerequisite for A-SMGCS Level 2. Ref S-AF2.4 Advanced Surface Movement Guidance and Control Systems (A-SMGCS) shall provide optimized taxi-time and improve predictability of take-off times by monitoring of real surface traffic and by considering updated taxi times in departure management. Ref S-AF2.5 Airport Safety Nets shall integrate A-SMGCS surveillance data and controller runway related clearances; Airport Conformance Monitoring shall integrate A-SMGCS Surface Movement Routing, surveillance data and controller routing clearances A-SMGCS shall include the advanced routing and planning function referred to in Point 2.1.4 above to enable conformance monitoring alerts A-SMGCS shall include a function to generate and distribute the appropriate alerts. These alerts shall be implemented as an additional layer on top of the existing A-SMGCS Level 2 alerts and not as a replacement for them.
Scope	The departure sequence at the runway shall be optimized according to the real traffic situation reflecting any change off-gate or during taxi to the runway. A-SMGCS shall provide optimized taxi-time and improve predictability of take-off times by monitoring of real surface traffic and by considering updated taxi times in departure management regardless of meteorological or other impacting conditions. Ref S-AF2.4

	The routing and planning function shall calculate the most operationally relevant route as free as possible of conflicts which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement
References	ESSIP AOP05, AOP04.1 and AOP04.2.
Concerned stakeholders	CIV/MIL ANSPs, AOP, AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2of Commission Implementing Regulation (EU) N°**716/2014**
Synchronization	DMAN systems shall take account of variable and updated taxi times from A-SMGCS to calculate the TTOT and TSAT. Interfaces between SDMAN and A-SMGCS routing shall be developed - DMAN integrating A-SMGCS constraints using a digital system, such as Electronic flight Strips (EFS) with an advanced A-SMGCS routing function shall be integrated into flight processing systems for departure sequencing and routing computation - An A-SMGCS routing function shall be deployed.

Designator	FT2.5.1
Name	Airport Safety Nets associated with A-SMGCS Level 2
Sub-AF	A-AF 2.5 Airport Safety Nets
Description	Airport safety nets consist of the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision.
Scope	The scope of this sub-functionality includes the Runway and Airfield Surface Movement area. ATC support tools at the aerodrome shall provide the detection of Conflicting ATC Clearances as well as deviations from ATC instructions, procedures or routes and shall be performed by the ATC system based on the knowledge of data including the clearances given to aircraft and vehicles by the air traffic controller, the assigned runway and holding point. The air traffic controller shall input all clearances given to aircraft or vehicles into the ATC system using a digital system, such as the EFS. Different types of conflicting clearances shall be identified (for example Line-Up vs. Take-Off). Some may only be based on the air traffic controller input; others may in addition use other data such as A-SMGCS surveillance data. Airport Safety Nets tools shall alert air traffic controllers when aircraft and vehicles deviate from ATC instructions, procedures or routes. The detection of Conflicting ATC Clearances shall aim to provide an early prediction of situations that if not corrected would end up in hazardous situations that would be detected in turn by the runway incursion monitoring system (RIMS) if in operation. Airport Safety Nets tools shall integrate equipment for vehicle drivers to improve situational awareness, reduce the risks of runway incursion, runway and taxiway confusions and thus contribute to the overall airport safety net for high-density airports
References	SAF11, SESAR OI AO-0104-A, AO-0209, SURF IA, DO-323 ICAO Annex 10 – Telecomm., ICAO Annex 14 - Aerodromes
Concerned stakeholders	CIV/MIL ANSPs, AOP, AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2of Commission Implementing Regulation (EU) N°716/2014
Synchronization	Ref. FT2.2.1 A-SMGCS Level 1-2
Guidance material	EAPRI, EAPRE
Interdependencies	The implementation of the sub-functionalities Airport Safety Nets require the availability of the sub-functionality S-AF2.4 "Automated assistance to controllers for surface movement planning and routing (A-SMGCS level 2+)"Ref. FT2.2.1 A-SMGCS Level 1-2

Designator	FT 2.5.2
Name	Implement aircraft systems contributing to airport safety nets
Sub-AF	Airport safety nets
Description	This fast-track represents a facilitator to the safety-focused PCP deployment. The objective is to equip aircrafts with safety related systems to improve situational awareness, reduce the risks of runway incursion, runway confusion and runway excursions and thus contribute to the overall airport safety net for high-density airports.
Scope	Airport safety nets consist of the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision. The scope of this fast-track project includes aircraft technology in the scope of avionic or electronic flight bag based systems with the objective to conclude the ground based airport safety net with specific airborne systems and technology. This leads to an improved situational awareness and thus improves the quality of the overall safety net. The main benefit is related to the increase of runway usage awareness, and consequently an increase of runway safety. On-board systems and technology uses airport data coupled with on-board sensors to monitor the movement of an aircraft around the airport and provide relevant information to the flight crew. Further applications of on-board systems are related to continuous monitoring of aircraft landing performance, providing pilots with a real-time, constantly updated picture. The on-board systems detect potential and actual risk of collision with other traffic during runway operations and provide the Flight Crew with the appropriate alert. An on-board airport safety net will improve safety in runway operations, mostly at airports where no safety net is provided to controllers.
References	OFA01.02.01 Airport safety nets OFA01.02.02 Enhanced situational awareness AUO-0605-A Airport Safety Nets for Pilots in Step 1
Concerned stakeholders	AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2 of Commission Implementing Regulation (EU) N°716/2014
Synchronization	Not applicable

Guidance material	Airbus Runway Overrun Prevention System (ROPS) Honeywell Runway Awareness and Advisory System (RAAS)
Interdependencies	

3.2.4 Family 2 – Mature PCP elements

Designator	FT 2.3.1
Name	Time-based Separation
Sub-AF	S-AF2.3 Time-based Separation
Description	Time-Based Separation (TBS) consists in the separation of aircraft in sequence on the approach to a runway using time intervals instead of distances. It may be applied during final approach by allowing equivalent distance information to be displayed to the controller taking account of prevailing wind conditions. Radar separation minima and Wake Turbulence Separation parameters shall be integrated in a TBS support tool providing guidance to the air traffic controller to enable time-based spacing of aircraft during final approach that considers the effect of the headwind.
Scope	The objective is to recover loss in airport arrival capacity currently experienced in headwind conditions on final approach under distance-based wake turbulence radar separation rules. By using time-based parameters, this loss is mitigated, having a positive effect on runway throughput and runway queuing delays. Minimum radar separation is not affected. Whilst TBS (Time-Based Separation) operations are not exclusive to a headwind on final approach, the current deployment proposal is specifically targeted at realizing the potential capacity benefits in these currently constraining conditions. Radar separation minimum and vortex separations parameters shall be integrated in the Time Based Separation support tool that provide guidance to the controller to achieve the time proposed spacing to counter the effect of the headwind.
References	SJU OI step AO-0303 Time Based Separation for Final Approach - full concept
Concerned stakeholders	CIV/MIL ANSPs, AU
Geographical applicability	Geographical scope according to Annex 2.2.1/2.2.2of Commission Implementing Regulation (EU) N°**716/2014**
Synchronization	From a technical perspective the deployment of targeted system and procedural changes shall be synchronized in order to ensure that the performance objectives are met. This synchronization of investments shall involve multiple airport operators and air navigation service providers. Furthermore synchronization during the related industrialization phase shall take place, in particular among supply industry and standardization bodies
Guidance material	SESAR SJU Time Based Separation Full Solution
Interdependencies	Interdependencies with FT 2.5.1 Airport Safety Nets

3.3 AF#3 – Flexible Airspace Management and Free Route

3.3.1 ATM Functionality and Sub-functionalities

Name	AF3: Flexible Airspace Management and Free Route
Description	Combined operation of Flexible Airspace Management and Free Route enable airspace users to fly as closely as possible to their preferred trajectory without being constrained by fixed airspace structures or fixed route networks. It further allows operations that require segregation, for example military training, to take place safely and flexibly, and with minimum impact on other airspace users.
Sub-ATM Functionalities	S-AF3.1: Airspace Management and Advanced Flexible Use of Airspace S-AF3.2: Free Route
Target date for Sub-AF	DCT as from 1 January 2018 FRA as from 1 January 2022
Geographical scope	Flexible Airspace Management and Free Route shall be provided and operated in the airspace for which the Member States are responsible at and above flight level 310 in the ICAO EUR region

3.3.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #3, divided in sub-AFs.

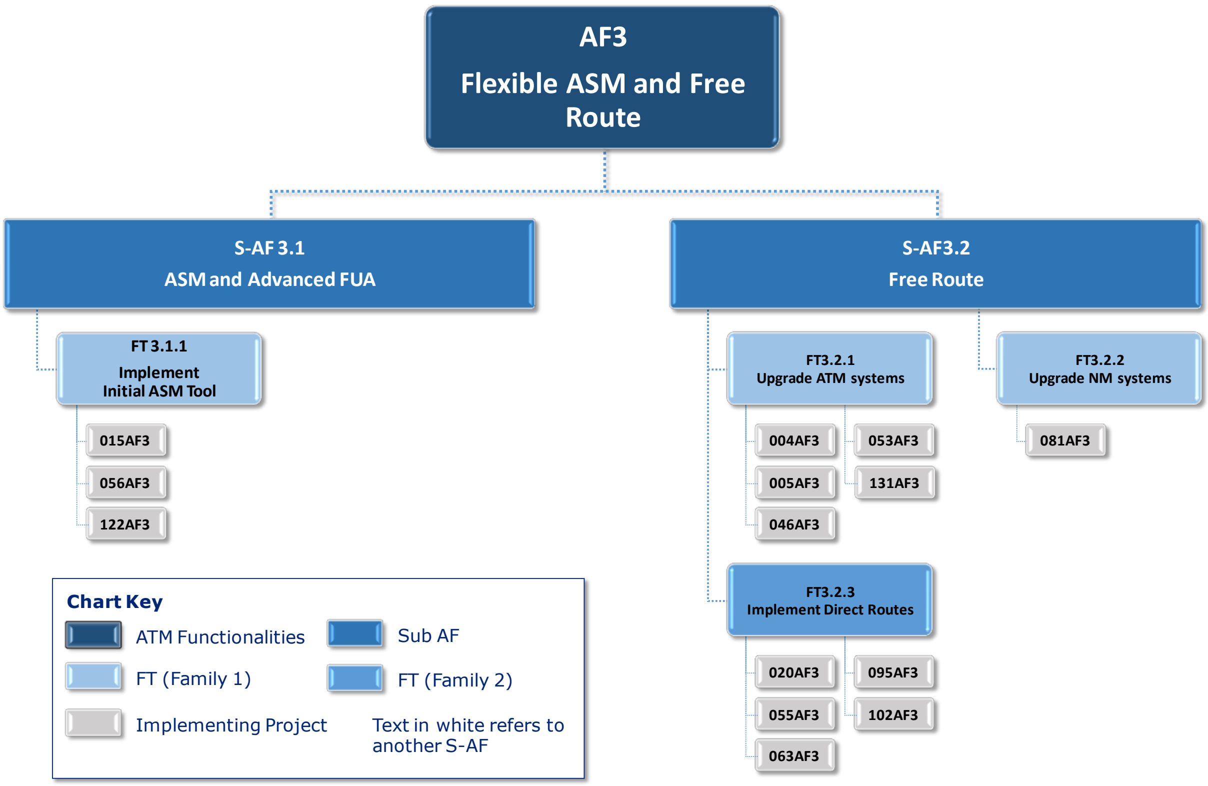


Figure 9 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #3

The following table encompasses the list of all projects related to the AF #3. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
004AF3	**AZA Traffic Flow Restriction (TFR) – LIDO planning system**
005AF3	**AZA FREE FLIGHT- DIRECT OPTIMIZATION**
015AF3	**LARA integration in CANAC 2: PHASE 1**
020AF3	**Borealis Free Route Airspace (Part 1)**
046AF3	**iTEC centre automation system (iCAS)**
053AF3	**4-Fight deployment in DSNA pilot ACCs**
055AF3	**FABEC Free Route Airspace project (FABEC FRA)**
056AF3	**ASM tool Implementation**
063AF3	**ENAV implementation of flexible ASM and Free Route**
081AF3	**NM DCT/FRA Implementation and support**
095AF3	**AF3 Flexible ASM and Free Route" – "S-AF Free Route**
102AF3	**Free route airspace from the Black Forest to the Black Sea**
122AF3	**FT3.1.1 NAV Portugal - Initial ASM tool to support AFUA**
131AF3	**Upgrade of the P_21 PEGASUS system to support SESAR functionalities and to the iTEC products line**

3.3.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT3.1.1
Name	Initial ASM tool to support AFUA
Sub-AF	Airspace Management and Advanced Flexible Use of Airspace
Description	Implement ASM tools to support coordination of airspace resources
Scope	ASM support system shall: - manage airspace reservations more flexibly in response to airspace user requirements; - share changes in airspace status with all concerned users, in particular Network Manager, air navigation service providers and (Civil/Mil) airspace users; - support the fixed and conditional route networks currently in place; - Be able to respond to changing demands for airspace; Enhancements to the Network Operations Plan (NOP) shall be achieved through a cooperative decision-making process between all involved operational stakeholders.
References	ESSIP AOM19, FCM05, DP WP 2.1.1, NOP 2014-2018/2019
Concerned stakeholders	CIV/MIL ANSPs, NM, AU
Geographical applicability (extract from IR PCP)	Flexible Airspace Management shall be provided and operated in the airspace for which the Member States are responsible in the ICAO EUR region.
Synchronization	Synchronization with NM and AUs, Synchronization among neighbouring ANSPs when Cross border areas are managed
Guidance material	As stated in ESSIP AOM19, FCM05
Interdependencies	Implementation of an ASM support tool is a prerequisite for the implementation of the advanced FUA, by allowing short-term (up to real-time) airspace management.

Designator	FT 3.2.1
Name	Upgrade ATM systems to support DCT/Free Routing
Sub-AF	Free Route
Description	Upgrade relevant ATM systems to be capable to process flight data over geographical coordinates instead of usual predefined COPs and airways. Upgrade relevant AU flight planning systems to support DCT/FRA. If beneficial, upgrade ATM systems to allow screen-to-screen coordination between adjacent ATSUs / sectors reducing workload associated with coordination, integration and identification tasks.
Scope	Flight Data Processing Systems shall be capable to coordinate and transfer the control of flights over geographical coordinates instead of usual predefined COPs. MONA function has to be capable to monitor the flight path of flights along geographical coordinates instead of usual predefined air routes. MTCD function has to be capable to plan the further flight path of flights along geographical coordinates instead of usual predefined air routes. Upgrade, if necessary, AU flight planning systems to support direct/free routing operations. When beneficial to support DCT / FRA operations, introduce Complementary OLDI messages as defined in ESSIP ATC17.
References	ESSIP AOM21, IDP WP2.3.2, NOP 2014-2018/2019, ESSIPATC17, IDP WP5.2
Concerned stakeholders	ANSPs, AU
Geographical applicability	DCT / Free Route shall be provided and operated in the airspace in the ICAO EUR region for which the Member States are responsible.
Synchronization	Implementation of a (technical) pre-requisite for DCT/FRA: There is no need for synchronization. Synchronization with neighbouring systems will be required, when Cross-border DCTs/FRA will be implemented. Bilateral synchronization will be required between neighbouring partners when implementing Complementary OLDI messages.
Guidance material	As stated in ESSIP AOM21, ATC17
Interdependencies	Upgrade of ATM and NM systems in support of DCT/FRA operations are technical prerequisites Interdependencies between these systems exist via their interfaces.

Designator	FT 3.2.2
Name	Upgrade NM systems to support DCT/Free Route operations
Sub-AF	Free Route
Description	Upgrade of NM systems (e.g. ADR, DDR, NOP, IFPS) to support FRA/DRA multi state operations.
Scope	Implement system improvements (ADR and Airspace Management tools), Procedures and processes to support DCT/Free Routing.
References	ESSIP AOM21; Partially IDP WP2.3.1, NOP 2014-2018/2019
Concerned stakeholders	ANSPs, NM
Geographical applicability (extract from IR PCP)	Free Route shall be provided and operated in the airspace for which the Member States are responsible at and above flight level 310 in the ICAO EUR region. FL applicability will be synchronized with the one applying in FT 3.2.1
Synchronization	Implementation of a (technical) pre-requisite for DCT: There is no need for synchronization. Coordinated initiatives to be undertaken with FABs
Guidance material	As stated in ESSIP AOM21
Interdependencies	Upgrade of ATM and NM systems in support of DCT/FRA operations are technical prerequisites Interdependencies between these systems exist via their interfaces.

Designator	FT 3.2.3
Name	Direct routes / Free Route
Sub-AF	Free Route
Description	Implementation of Direct Routings (DCT)
Scope	DCT as a first step towards Free Route operations. Direct Routing airspace where published direct routings are available. Within Free Route Airspace (FRA),users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) way points, without reference to the ATS route network, subject to airspace availability. - Direct Routing airspace and FRA are defined :laterally and vertically; - during specific periods; and, - with a set of entry/exit conditions where published direct routings may also be available. Within this airspace, flights remain subject to air traffic control. DCT (and FRA) shall be published in aeronautical publications as described in the European Route Network Improvement Plan of the Network Manager.
References	ESSIP AOM21, IDP WP2.3, NOP 2014-2018/2019
Concerned stakeholders	NM, ANSP, AU
Geographical applicability	DCT and FRA shall be provided and operated in the airspace in the ICAO EUR region for which the Member States are responsible. In a first step, based on operational environment (such as airspace structure, ATM system limitations) each state can choose a different lower level (than FL310) for the initial implementation of DCT or FRA operations.
Synchronization	There is the need to coordinate/synchronize efforts (operational procedure and aircraft capabilities) between ANSPs, NM and Airspace users to ensure the return of investment and/or the start of operational benefits. Coordinated activities DCT implementation at FAB and inter-FAB level. The implementation of FRA is coordinated through the NM European Route Network Improvement Plan (ERNIP) and the Network Operations Plan following the Strategic Objectives and Targets set in the Network Strategic Plan and in the Network Manager Performance Plan. Free Route implementation strategy is a local decision coordinated at network and FAB level.

Guidance material	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 (Free Route Airspace Concept); Edition June 2012 EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 2 - European ATS Route Network - Version 8 (2012-2014) EUROCONTROL - European Route Network Improvement Plan (ERNIP) PART 3 - Airspace Management Handbook - Guidelines for Airspace Management; Edition February 2013 EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 4 - Route Availability Document User's Manual - Edition June 2012
Interdependencies	The implementation of DCT / FRA is strongly dependent of airspace design and in particular of civil/military coordination. This fast track is dependent upon S-AF-3.1 on Advanced Flexible Use of Airspace.

3.3.4 Family 2 – Mature PCP elements

Not applicable

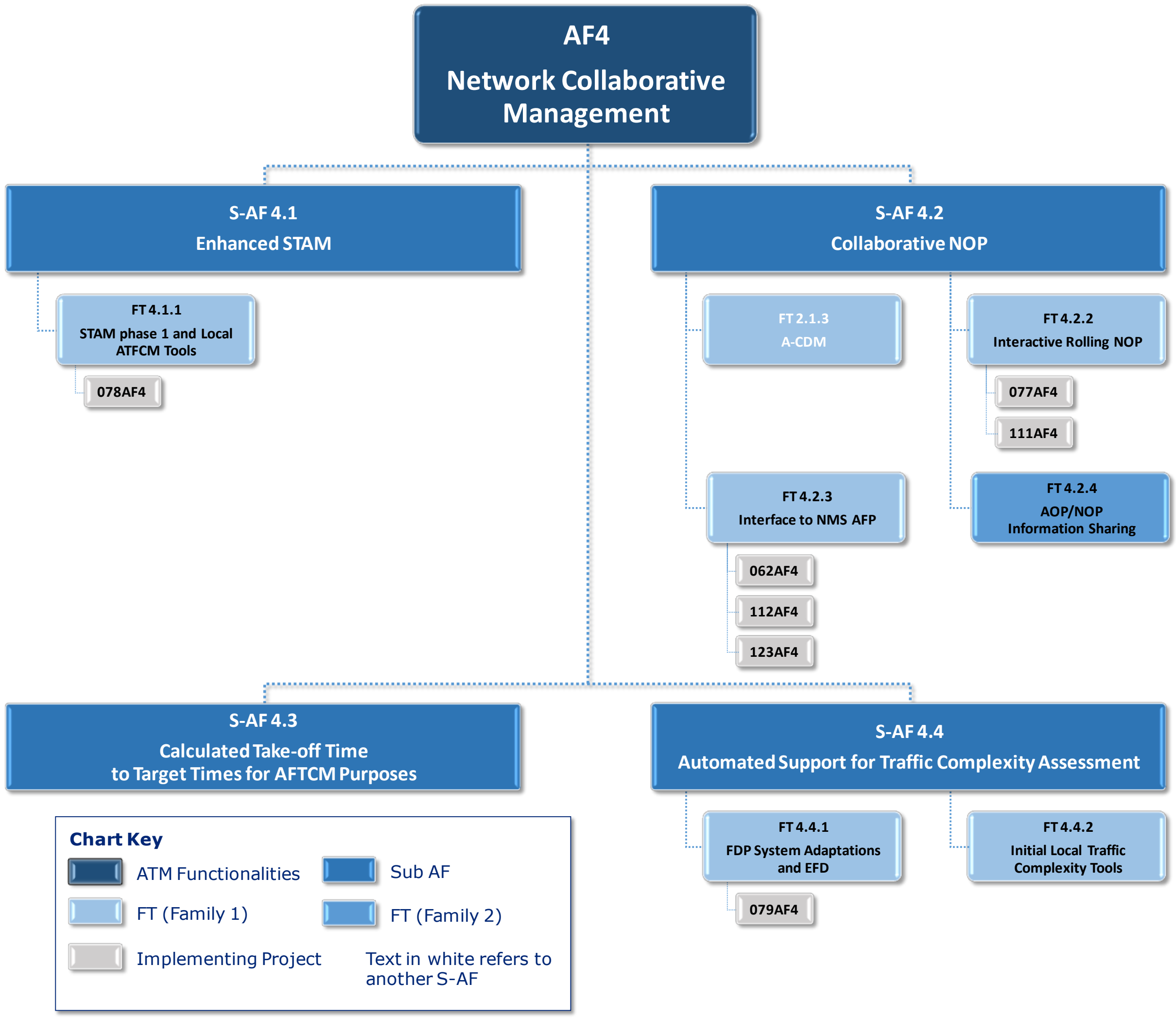
3.4 AF#4 – Network Collaborative Management

3.4.1 ATM Functionality and Sub-functionalities

Name	AF4: Network Collaborative Management
Description	Network Collaborative Management improves the European ATM network performance, notably capacity and flight efficiency through exchange, modification and management of trajectory information. Flow Management shall move to a Cooperative Traffic Management (CTM) environment, optimizing the delivery of traffic into sectors and airports and the need for Air Traffic Flow and Capacity Management (ATFCM) measures.
Sub-ATM Functionalities	S-AF4.1: Enhanced Short Term ATFCM Measures S-AF4.2: Collaborative NOP S-AF4.3: Calculated Take-off Time to Target Times for ATFCM purposes S-AF4.4: Automated Support for Traffic Complexity Assessment
Target date for Sub-AF	Operational stakeholders and Network Manager shall operate Network Collaborative Management as from 1 January 2022
Geographical scope	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated(Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II

3.4.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #4, divided in sub-AFs.



NB. The project *Irregularity Management Tool (DaRT)* (ref. n. 106AF4) is directly linked to the ATM Functionality #4, whilst not being associated to any of the identified Fast Tracks

Figure 10 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #4

The following table encompasses the list of all projects related to the AF #4. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
062AF4	**ENAV initiative for the identification of Network Collaborative Management requirements. AF4: Network Collaborative Management**
077AF4	**Interactive Rolling NOP**
078AF4	**ATFCM measures (STAM)**
079AF4	**Trajectory accuracy and traffic complexity**
106AF4	**Irreg Management Tool (DaRT)**
111AF4	**Interactive Rolling NOP**
112AF4	**Interface to NMS AFP**
123AF4	**FT 4.2.3 NAV Portugal Interface to NMS AFP**

3.4.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT 4.1.1
Name	STAM phase 1 and local ATFCM tools
Sub-AF	Enhanced Short Term ATFCM Measures
Description	STAM is consisting of an approach to smooth sector workloads by reducing traffic peaks through short-term application of minor ground delays, appropriate flight level capping and exiguous rerouting to a limited number of flights. These measures are capable of reducing the traffic complexity for ATC with minimum curtailing for the airspace users. STAM is based on high-quality data for prediction and accurate traffic analysis and will be an important contribution to dynamic DCB. The impact of the forecasted traffic peak on the workload is analysed using occupancy counts and indicators available in flight lists. A STAM solutions is investigated seeking minimum impact on AUs: either 1) dynamic capacity improvements based on short-notice reconfiguration changes or negotiations with military authorities, to increase time of availability of airspace engaged for air force activity, or 2) cherry-picking actions based on the identification of the flights creating the complexity, thanks to enhanced flight list attributes providing FMPs with the accurate flight status and aircraft attitude. Possible actions would include in order of priority: the allocation of small defined ground delay to specific flights, flight level reassignments or route changes negotiated with AOs and in the last resort interventions on airborne flights coordinated with adjacent FMPs when needed.
Scope	A close working relationship between ANSP/FMP, AU and NMF, which would monitor both the real demand, the effective capacity of sectors having taken into account the complexity of expected traffic situation replaces the rigid application of ATFM regulations based on standard capacity thresholds as the pre-dominant tactical capacity measure. The target of the Short Term ATFCM Measures (STAM) is to replace En Route CASA regulations for situations where the capacity is nominal. Implement Short-term ATFCM measures (STAM) in terms of minor ground delays, flight level capping and minor re-routings applied to a limited number of flights as described in ESSIP FCM04 and extend the Implementation subsequently throughout the entire EATMN.
References	ESSIP FCM04, IDP WP1.2
Concerned stakeholders	CIV/MIL ANSPs, AOP, NM, Airspace users
Geographical applicability (extract from IR PCP)	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative

	Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met. This synchronization of investments shall involve multiple air navigation service providers and the Network Manager. Furthermore synchronization during the related industrialization phase shall take place (supply industry and standardization bodies in particular).
Guidance material	ESSIP Plan Edition 2013 SESAR P13.02.03 - STAM concept design& System specifications SESAR P13.02.03 - STAM Trial VP-522 Safety Plan EUROCONTROL - CFMU HUMAN MACHINE INTERFACE (CHMI) ATFCM REFERENCE GUIDE - Edition 7.0 13/03/2012

Designator	FT 4.2.2
Name	Interactive rolling NOP
Sub-AF	Collaborative NOP
Description	The Network Operation Plan provides an overview of the ATFCM situation from strategic planning to real time operations with increasing accuracy up to and including the day of operations. The data is accessible online by stakeholders for consultation and update as and when needed, subject to access and security controls.
Scope	The first steps of the interactive Rolling NOP are already implemented through the deployment of the NOP portal. Further information and data are available or planned for deployment to support the Interactive approach to the NOP (e.g. ADR, DDR2) and the access to the NOP data will be more and more available through B2B services.
References	ESSIP FCM05, IDP WP2.1 and IDP WP 1.1
Concerned stakeholders	ANSPs, NM, AOP, Airspace users
Geographical applicability (extract from IR PCP)	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met. This synchronization of investments shall involve multiple air navigation service providers and the Network Manager. Furthermore synchronization during the related industrialization phase shall take place (supply industry and standardization bodies in particular).
Guidance material	ESSIP Plan Edition 2013 NOP Portal User's guide NM B2B Reference Manuals

Designator	FT 4.2.3
Name	Interface to NMS AFP
Sub-AF	Collaborative NOP
Description	Improve the collaboration between the NM and ANS providers, airports and airspace users in flight plan filing. ANSPs automatically provide AFP message for: Missing flight plan Change of route Diversion Change of flight rules or flight type Change of requested cruising level Change of aircraft type Change of aircraft equipment. The APL and ACH messages sent by IFPS and AFP messages are automatically processed in the local ATC system. These messages permit a real time update of the flight plan information.
Scope	Improve flight plan distribution and update to increase consistency of flight plan data amongst all actors involved (NM IFPS/ETFMS, ANSPs and AOs) preventing overloads and to obtain a better use of the available network capacity.
References	ESSIP FCM03, IDP WP1.1
Concerned stakeholders	ANSPs, NM, AOP
Geographical applicability (extract from IR PCP)	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met.
Guidance material	ESSIP Plan Edition 2013, NM IFPS User Manual, ADEXP format in line with ICAO State Letter (AN 13/2.1-08/50) - 25 June 2008, Regulation (EC) N°1033/2006 of 4 July 2006 laying down the requirements on procedures for flight plans in the pre-flight phase for the Single European Sky, as amended by Regulation (EC) N°929/2010.

Designator	FT 4.4.1
Name	FDP System adaptation and EFD (EFTMS flight data message)
Sub-AF	Automated support for traffic complexity assessment
Description	Traffic Complexity Management calculates traffic complexity within predefined airspace volumes by analysing the constituent factors contributing to complexity to facilitate the identification of measures that could be taken to adjust either traffic flows or the airspace sectorization to optimize the efficiency of the ATC/ATM services of En-route/Approach ATC Centres in high traffic density airspace.
Scope	Traffic Complexity Management tools purpose is to support the user in the assessment of air traffic complexity. For NM functionality, ETFMS/IFPS shall be upgraded to deal with a more flexible and dynamic sector configuration to the traffic demand/pattern. ATFCM planning needs to be significantly enhanced at Network and Local levels, including interaction between the two levels. In addition, tools are required for re-routing and to calculate and manage traffic loads and complexity at FMP and central level. ANSPs will be increasingly involved in managing improved coordination across the network using ANSP-derived data. To enable this, the following changes will be needed: - The FDP system shall be adapted to include interfaces to the NOP; - Flight Planning systems shall be updated; ASM/ATFCM tools shall be able to manage different airspace availability and sectors' capacity (including civil/military coordination, RAD adaptation and STAM).
References	ESSIP FCM03, IDP WP1.1
Concerned stakeholders	ANSPs, NM, AOP, AUs
Geographical applicability (extract from IR PCP)	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met. This synchronization of investments shall involve multiple air navigation service providers and the Network Manager. Furthermore synchronization during the related industrialization phase shall take place (supply industry and standardization bodies in particular).

Guidance material	ESSIP Plan Edition 2013 NM Flight Progress Messages Manual

3.4.4 Family 2 – Mature PCP elements

Designator	FT 4.2.4
Name	AOP/NOP Information sharing
Sub-AF	Collaborative NOP
Description	The collaborative NOP is fully integrated in ATM stakeholders' planning processes and working methods, including airport operations planning (AOPs). The NOP is used by the Network Manager Function during all phases for monitoring and assessing network performance and following-up stakeholders' actions and compliance with agreements. The NOP provides a rolling picture of the network situation that can be useful for stakeholders to prepare their plans and their inputs to the network CSDM processes (e.g. negotiation of airspace configurations). The NOP contains a broad spectrum of information which is structured in such a way as to ensure traceability between required operational network performance, stakeholders' courses of action and agreements, and the root causes of deviations from (and/or revisions to) the plan. The information is updated in real-time, and refined throughout the planning cycle up to and including execution. The quality of NOP information (e.g. accuracy, consistency, completeness) is monitored. There are layers of security for accessing the NOP so that only those who have an operational need to access particular information are able to do so.
Scope	The NOP aims to develop and validate an on-line performance monitoring function integrated into collaborative network planning. This objective is motivated by the need to better predict if the ATM network will perform as required, to continuously monitor if it is performing as planned. In operating at the European ATM Network level, the performance monitoring capability focuses on early detection and mitigation of regional issues through a collaborative stakeholders' (NM, ANSPs, Airports, Airspace Users, and Military) process.
References	PCP AF4 sub- functionality
Concerned stakeholders	NM, ANSP, AU
Geographical applicability	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by EC Regulation (EC) N°552/2004, (point 4, part A, (Annex II).
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope

	involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met. This synchronization of investments shall involve multiple air navigation service providers and the Network Manager. Furthermore synchronization during the related industrialization phase shall take place (supply industry and standardization bodies in particular).
Guidance material	ESSIP Plan Edition 2013 NOP Portal User's guide NM B2B Reference Manuals

Designator	FT 4.4.2
Name	Initial Local Traffic Complexity tools
Sub-AF	Automated Support for Traffic Complexity Assessment
Description	Automated tools continuously monitor sector demand and evaluate traffic complexity by applying predefined parameters (or guidelines). Forecast complexity, coupled with demand, enables ATFCM to take timely action to adjust capacity or demand profiles through various means, in collaboration with ATC and Airspace Users.
Scope	Network Collaborative Management improves the European ATM network performance, notably capacity and flight efficiency through exchange, modification and management of trajectory information. Flow Management shall move to a Cooperative Traffic Management (CTM) environment, optimizing the delivery of traffic into sectors and airports and the need for Air Traffic Flow and Capacity Management (ATFCM) measures. Automated Support for Traffic Complexity Assessment represents one of the sub-functionalities associated to the Network Collaborative Management.
References	PCP AF4 sub-functionality
Concerned stakeholders	NM, ANSP
Geographical applicability	Network Collaborative Management shall be deployed in the EATMN. In ATC centres in Member States where civil-military operations are not integrated (Austria, Belgium, Czech Republic, France, Ireland, Italy, Portugal, Romania, Slovakia and Spain), Network Collaborative Management shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Network Collaborative Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and procedural changes shall be synchronized to ensure that the performance objectives are met. This synchronization of investments shall involve multiple air navigation service providers and the Network Manager. Furthermore synchronization during the related industrialization phase shall take place (supply industry and standardization bodies in particular).
Guidance material	SESAR 13.2.3 Enhanced DCB

3.5 AF#5 – Initial System Wide Information Management

3.5.1 ATM Functionality and Sub-functionalities

Name	AF5: Initial System Wide Information Management
Description	System Wide Information Management (SWIM) concerns the development of services for information exchange. SWIM comprises standards, infrastructure and governance enabling the management of information and its exchange between operational stakeholders via interoperable services. Initial System Wide Information Management (iSWIM) supports information exchanges that are built on standards and delivered through an internet protocol (IP)-based network by SWIM enabled systems.
Sub-ATM Functionalities	S-AF5.1: Common Infrastructure Components S-AF5.2: SWIM Technical Infrastructure and Profiles S-AF5.3: Aeronautical information exchange S-AF5.4: Meteorological information exchange S-AF5.5: Cooperative network information exchange S-AF5.6: Flight information exchange
Target date for Sub-AF	Operations of the complete AF as from 1 January 2025 (no distinction between sub AF)
Geographical scope	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.

3.5.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #5, divided in sub-AFs.

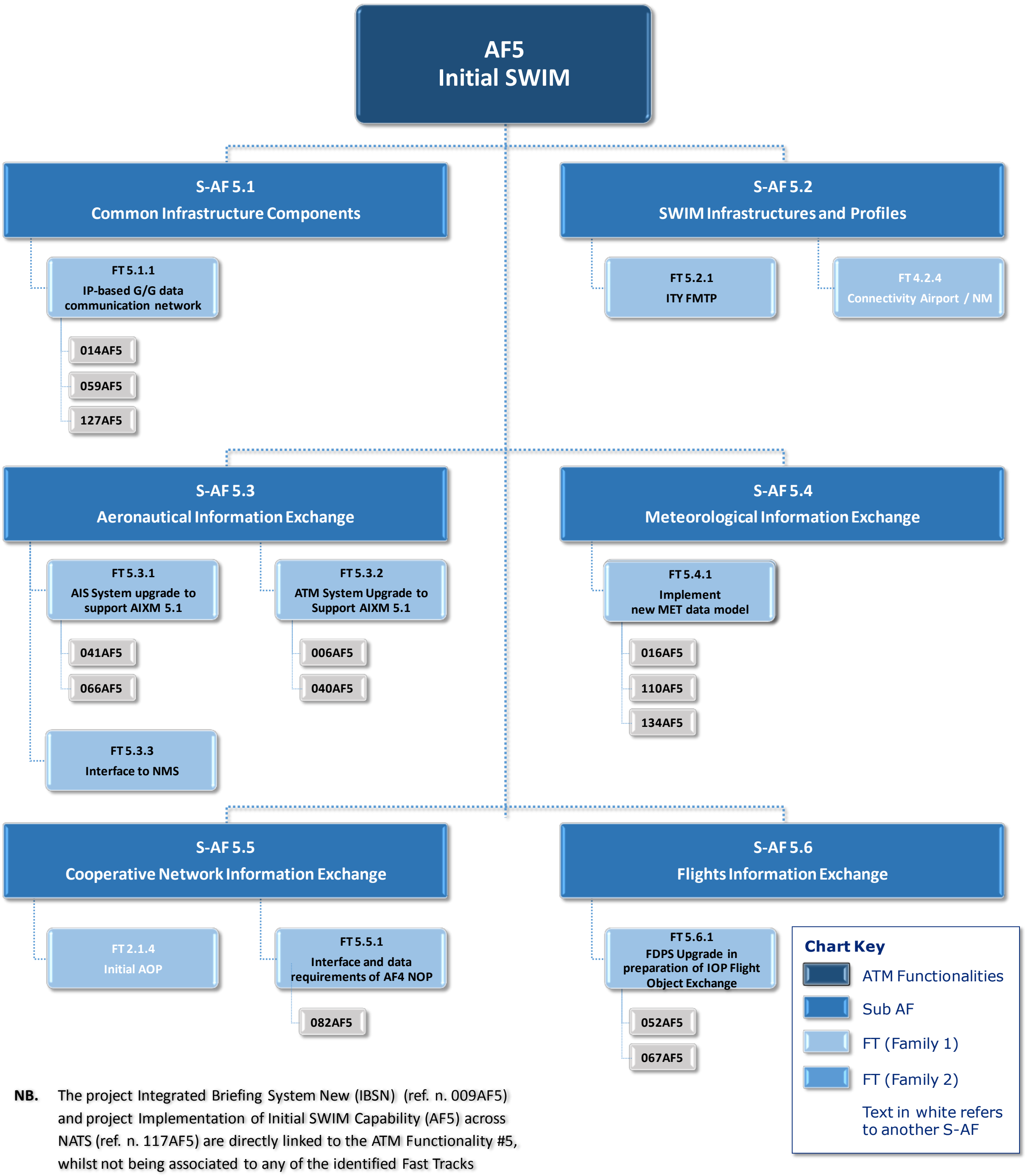


Figure 11 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #5

The following table encompasses the list of all projects related to the AF #5. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
006AF5	ATM Data Quality
014AF5	MPLS WAN Project
016AF5	Initial WXXM Implementation on Belgocontrol Systems
040AF5	ADQ – Aeronautical Data Quality
041AF5	EASI – EAD AIM Systems Integration
052AF5	Coflight as a service
059AF5	Implementation and operation of an IP-based G/G data communication network in ENAIRE
066AF5	ENAV AIS system upgrade to support AIXM5.1
067AF5	Coflight e-FDP System Development
073AF5	SWIM Common Components
082AF5	SWIM compliance of NM systems
084AF5	Implementation of Prerequisites for the Provision of Aerodrome Mapping Data and Airport Maps as Data Originator (Aeronautical Information Exchange)
110AF5	Meteorological Information Exchange by MET ANSP KNMI
117AF5	Implementation of Initial SWIM Capability (AF5) across NATS
127AF5	Implementation Project X.X: National WAN Infrastructure (CANDI-IP)
134AF5	PILOT PLATFORM for access services to OPMET (worldwide/ECAC) data (METAR, TAF, SIGMET) in WXXM format

3.5.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT 5.1.1
Name	IP-based G/G data communications network
Sub-AF	Common Infrastructure Components
Description	Ensure an agreed level of Ground-Ground interconnectivity between member states ATSUs and stakeholders as required to facilitate information exchange
Scope	G/G connectivity shall: Be via PENS wherever possible; Facilitate exchange of ATM Information between relevant stakeholders ;
References	ESSIP COM 09, IDP WP5.1
Concerned stakeholders	CIV / MIL ANSPs, Airports, NM, AUs
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Synchronization is required before start of iSWIM implementation.
Guidance material	References in ESSIP COM09

Designator	FT 5.2.1
Name	ITY FMTP
Sub-AF	SWIM Infrastructure and Profiles
Description	Use of FMTP for ATM messaging over legacy standards
Scope	ANSPs shall conform to the ITY FMTP regulation for external connectivity prior to commencement of SWIM services.
References	ESSIP ITY-FMTP, IDP WP5.1
Concerned stakeholders	CIV/MIL ANSPs
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Synchronization is needed bilaterally initially, with full synchronization before commencement of SWIM services.
Guidance material	As stated in ESSIP ITY-FMTP

Designator	FT 5.3.1
Name	AIS System Upgrade to support AIXM 5.1
Sub-AF	Aeronautical Information Exchange
Description	Upgrade of AIS to provide data and services into SWIM
Scope	CIV and MILANSPs' aeronautical data systems shall: - Adopt a service-oriented approach to provision of data - Provide information to SWIM network by standard XML schema as per AIXM 5.1
References	ESSIP AOM 13.1 MIL04, IDP WP2.4
Concerned stakeholders	CIV/MIL ANSPs, AIS providers
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Synchronization is needed before full implementation of S-AF 3.3, Synchronisation with ATM-systems or AUs needed?
Guidance material	As in ESSIP AOM 13.1 MIL 04 AIXM 5.1

Designator	FT 5.3.2
Name	ATM System Upgrade to support AIXM 5.1
Sub-AF	Aeronautical Information Exchange
Description	Upgrade of ATM Systems to provide data and services into SWIM and make use of SWIM services for data
Scope	ANSPs' ATM systems shall: - Adopt a service-oriented approach to provision of data - Provide information to SWIM network by standard XML schema as per AIXM 5.1 - Utilise SWIM for data in preference to point-to-point interfaces where possible - Be compliant with the applicable version of the AIRM and ISRM.
References	AOM 13.1 (for military)
Concerned stakeholders	ANSPs–Military Authorities
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	No ex-ante synchronization requirements, to be further assessed at the level of Local Implementation Projects, Synchronization with AU and AIS-systems needed?
Guidance material	AIXM 5.1

Designator	FT 5.3.3
Name	Interface to NMS
Sub-AF	Aeronautical Information Exchange
Description	Integrate the local/regional automated ASM support systems migrated to AIXM 5.1 B2B with the NM system.
Scope	ANSPs' ASM support systems shall communicate with the Network Manager's system.
References	ESSIP AOM19-NM01/02, AOM19-ASP05, FCM05, IDP 2.1.1
Concerned stakeholders	CIV/MILANSPs, NM,
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Although individual ANSPs may be connected at different times, the benefits are gained once a critical mass of ANSPs are interacting with the Network Manager.
Guidance material	As in ESSIP AOM19 and FCM05 AIXM 5.1

Designator	FT 5.4.1
Name	Implement New MET Data Model
Sub-AF	Meteo Information Exchange
Description	Upgrade Meteo service to provide reliable actual and forecast Meteo data, wherever required across the ATM network, in WXXM format.
Scope	Meteo data shall: - Be distributed as a set of defined services, standard across all ATM stakeholders, conforming to WXXM; - Be available through SWIM to all necessary stakeholders Conform to relevant ADQ 2 regulation ;
References	ESSIP ITY-ADQ
Concerned stakeholders	Met service providers, ANSPs, AOP, AUs
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Although individual ANSPs may be connected at different times, the benefits are gained once a critical mass of ANSPs are using WXXM format. No Synchronization with AU/AOP/NM required?
Guidance material	As in ESSIP ITY-ADQ WXXM, iWXXM
Designator	FT 5.5.1
Name	Interface and data Requirements of AF4 NOP
Sub-AF	Cooperative Network Information Exchange
Description	NM Information will be freely exchanged by Operational stakeholders by means of defined cooperative network information services, using the yellow SWIM TI Profile.
Scope	Operational stakeholders shall implement services which support the exchange of the following cooperative network information using the yellow SWIM TI Profile: - Maximum airport capacity based on current and near term weather conditions - Synchronization of Network Operations Plan and all Airport Operations Plans

	- Regulations - Slots - Short term ATFCM measures - ATFCM congestion points - Restrictions - Airspace structure, availability and utilization - Network and En-Route Approach Operation Plans
References	NMP/NSP(SO4)
Concerned stakeholders	ANSPs Airports NM, Aus
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civil/military service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	The deployment of Initial System Wide Information Management functionality shall be coordinated due to the potential network performance impact of delayed implementation in a wide geographical scope involving a number of stakeholders. From a technical perspective the deployment of targeted system and service delivery changes shall be synchronized to ensure that the performance objectives are met. This synchronization shall enable changes targeted within ATM functionalities referred to in Sub-AF 1 to 4 as well as future common projects. Synchronization shall involve all ATM ground stakeholders (civil/military air navigation service providers, airspace users — for FOC systems, airport operators, MET Service Providers and the Network Manager. Furthermore, synchronization during the related industrialization phase shall take place, in particular among supply industry and standardization bodies.
Guidance material	References TBD

Designator	FT 5.6.1
Name	FDPS Upgrade preparing for IOP Flight Object Exchanges
Sub-AF	Flight Information Exchange
Description	Flight information shall be exchanged during the pre-tactical and tactical phases by ATC systems and Network Manager, using SWIM standard services of the blue and yellow SWIM TI Profiles.
Scope	Operational stakeholders shall implement services which support the exchange of the following flight information as indicated in the table below using the blue SWIM TI Profile: - Various operations on a flight object: Acknowledge reception, Acknowledge agreement to FO, End subscription of a FO distribution, Subscribe to FO distribution, Modify FO constraints, Modify route, Set arrival runway, Update coordination related information, Modify SSR code, Set STAR, Skip ATSU in coordination dialogue - Share Flight Object information. Flight Object includes the flight script composed of the ATC constraints and the 4D trajectory - Operational stakeholders shall implement the following services for exchange of flight information using the yellow SWIM TI Profile: - Validate flight plan and routes - Flight plans, 4D trajectory, flight performance data, flight status - Flights lists and detailed flight data - Flight update message related (departure information)
References	Not applicable
Concerned stakeholders	ANSPs
Geographical applicability	iSWIM functionality shall be deployed in the EATMN as indicated in the table in section 5.2 of Regulation (EU 716/2014). In centres in the Member States that have non-integrated civ/mil service provision (1), iSWIM functionality shall be deployed to the extent required by Regulation (EC) N°552/2004, point 4 of Part A of Annex II.
Synchronization	Peer-to-peer synchronization is needed.
Guidance material	References TBD

3.5.4 Family 2 – Mature PCP elements

Family 2 elements for System Wide Information Management (SWIM) services are still to be proposed and agreed. These will satisfy the requirements of section 5.1 of the Regulation (EU) N°716/2014.

3.6 AF#6 – Initial Trajectory Information Sharing

3.6.1 ATM Functionality and Sub-functionalities

Name	AF6: Initial trajectory information sharing
Description	Initial Trajectory Information Sharing (i4D) consists of the improved use of target times and trajectory information, including where available the use of on-board 4D trajectory data by the ground ATC system and Network Manager Systems, implying fewer tactical interventions and improved de-confliction situation.
Sub-ATM Functionalities	S-AF6.1: Initial trajectory information sharing
Target date for Sub-AF	ATS providers and the Network Manager shall ensure that they enable Initial Trajectory Information Sharing as from 1 January 2025. At least 20% of the aircraft operating within the airspace of European Civil Aviation Conference (ECAC) countries in the ICAO EUR region corresponding to at least 45% of flights operating in those countries are equipped with the capability to downlink aircraft trajectory using ADS-C EPP as from 1 January 2026.
Geographical scope	Initial Trajectory Information Sharing shall be deployed in all ATS units providing air traffic services within the airspace for which the Member States are responsible in the ICAO EUR region.

3.6.2 List of Fast Tracks and Implementation Projects

The following chart highlights all Fast Tracks and Implementation projects (identified by their Reference Number) related to the AF #5, divided in sub-AFs.

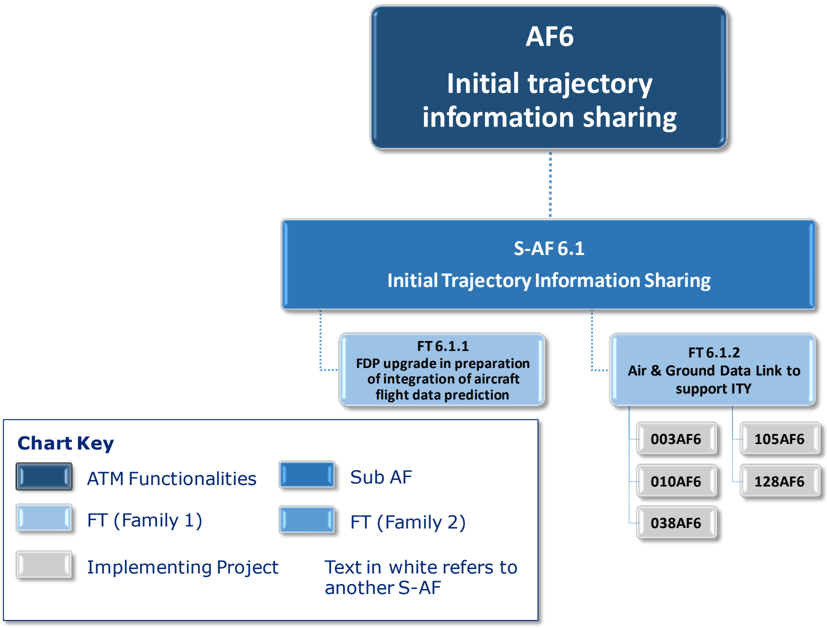


Figure 12 Project View: AF, Sub-AF, FTs and Implementing Projects – AF #6

The following table encompasses the list of all projects related to the AF #6. Further details for each Implementation Projects are provided within Annex A.

Reference Number	Title
003AF6	**Deploy Datalink Service EC 29/2009 on aircraft**
010AF6	**Ground System Data Link Services**
038AF6	**CPDLC - Supply, installation and integration of AGDL system for CPDLC service in CCL**
105AF6	**Retrofit of Lufthansa Group Airbus A319 and A320 fleet for Controller Pilot Data Link Communications**
128AF6	**NAVIAIR Implementation of Air-ground System Data Link Services**

3.6.3 Family 1 - Pre-requisites and facilitators, including IDP elements

Designator	FT 6.1.1
Name	FDP upgrade in preparation of integration of aircraft flight data prediction (available only when ADS-C EPP service will be deployed at the relevant ATSU)
Sub-AF	Initial trajectory information sharing
Description	"Adapt FDP to process the air derived flight data provided through ADS-C EPP service. This includes potential interface with the data-link system (to access to the aircraft flight data) and the adaptation of the Trajectory Prediction sub system to integrate such additional information. It could also include the integration of the ADS-C EPP contract and the associated CPDLC messages.
Scope	Ground System: The following are main system improvements for ground FDP systems - Inclusion of aircraft FMS 4D trajectory within FDP Trajectory Prediction. - ADS-C contracts management (demand/event/periodic.) - Manage CPDLC messages. - HMI in CWP must also be adjusted accordingly.
References	ATN B2 standards
Concerned stakeholders	ANSPs,
Geographical applicability	Implementation projects will deliver "FDP upgrade" as a prerequisite of Initial trajectory information sharing at any of the ATS units providing air traffic services within the airspace for which the Member States are responsible in the ICAO EUR region
Synchronization	The integration of such functionality within FDP as proposed must be considered as an opportunity (associated with the FDP evolution strategies of the ANSPs) rather than a synchronised objective because it remains a preparatory activity. Should be synchronised with procedural changes for ATC-operations.
Interdependencies	Availability of a data link capability covered by FT 6.1.2 is a prerequisite for AF6 including both ATN B1 (required through DLS IR) and the subsequent ATN B2.Exchange of trajectories between ATC centres requires implementation of FF ICE, Flight Objects and SWIM.

Designator	FT 6.1.2.
Name	Air Ground Data Link
Sub-AF	
Description	Air & Ground ATN Data-link implementation above FL 285 to support ITY
Scope	Assure capability to support Initial Trajectory Sharing, which requires updates and modification on both air/avionic equipment and ground/ATS Systems
References	Reference to EU Regulation 29/2009, ESSIP objectives,
Concerned stakeholders	ANSPs, Airspace Users, Military authorities
Geographical applicability	Scope according to EU Regulation29/ 2009.
Synchronization	Synchronization with AF#5 related to FO- Flight Object functionality communication GG Upgrade of ATM-systems necessary, therefore Synchronization required e.g. LOF/NAN—messages-exchange between adjacent ACCs/UACs, synchronization required for procedural changes for ATC-operations
Guidance material	EU Regulation 29/ 2009
Interdependencies	Interdependencies to FT 6.1.1. - FDP upgrade in preparation of integration of aircraft flight data prediction

3.6.4 Family 2 – Mature PCP elements

Not applicable

4. Towards DP v.1

PDP v1 shall constitute the basis for SDM to develop DP v1. This chapter anticipates the main evolutions to be expected from DPv1 compared to PDP v1 and how they will be developed.

4.1 Involvement of the SESAR stakeholders

One of the essential improvements from PDP v1 to DP v1 lays with the involvement of the SESAR stakeholders into the DP v1's development.

In addition to the three liaison officers that SDM established, respectively for civil airspace users, civil airports operators and civil air navigation service providers, stakeholders' involvement in DP v1's development will mainly happen through:

- The Cooperative Arrangements that SDM is in the process to establish with the SESAR Joint Undertaking (SJU)[4], the Network Manager (NM), the European Defense Agency (EDA), the National Supervisory Authorities (NSA) and manufacturing industry as per Regulation (EU) N°409/2013;
- The consultation of the operational stakeholders through SDM's Stakeholders' Consultation Platform[5]. Whilst PDP v1, as PDP v0, have been elaborated by SDM on the sole expertise of the SESAR Deployment Alliance (SDA), DP v1 will be the first Deployment Program resulting from a wider consultation of all operational stakeholders through SDM's Stakeholders' Consultation Platform (SCP).

DPV1 will take build on the valuable inputs expected from the SESAR stakeholders, thus facilitating Deployment Programme understanding and buy in, as a first essential step towards Deployment Programme timely execution.

4.2 First full project view

The next improvement from PDP v1 to DP v1 is the wider scope of DP v1. Indeed, where PDPv0 and then v1 where focused on providing guidance and then drawing recommendations and actions from the first CEF CALL 2014 therefore focusing on the short term implementation activities (the so-called Fast Tracks), DP v1 ambitions to develop the first full project view for PCP implementation.

Such ambition requires to evolve towards a DP v1 with the aim to:

- provide a robust project view to deliver PCP timely through families of synchronized and coordinated implementation projects;
- specify content for the CEF calls through which the budget for SESAR deployment will be allocated to projects. This will be done through the identification of key

[4] Signed on 10th March 2015
[5] Information sent to the targeted operational stakeholders on 20th March 2015

activities and future projects content that may need to be fostered through financial mechanisms and will need to be monitored to ensure an adequate synchronization. This identification will result from the consultation process and will constitute an input for the launching of the next CEF Transport calls for proposals;

- provide a planning view where activities are ordered in time and with details on how synchronization and monitoring will be performed;
- identify any potential risks of not achieving PCP full deployment and propose, where possible mitigation actions;
- identify together with SESAR JU and EASA the standardization and regulation coverage of the overall Programme in order to de-risk its implementation;
- mitigate gaps and risks identified in this PDP v1.

4.3 IDSG hand over

In order to hand over from the IDSG for the monitoring of those on-going implementation activities in the IDP that are pre-requisites or facilitators to PCP implementation, DP v1 will incorporate a chapter that will report on actual progress and analyse any potential adverse impact on PCP implementation. This would be translated in terms of risks and associated mitigations that would be addressed in the other relevant parts of DP v1.

4.4 Towards performance driven implementation

Another improvement by DP v1 will be a growing connection with performance.

The description of all projects involved in the 2014 CEF Transport calls for proposals are well described in terms of operational content but, on the cost and benefit side, are still to be fine-tuned in order for SDM to fulfill his task to produce a global cost and benefit analysis of the deployment program on a regular basis. The reception of the self-assessment performance grids[6], combined with the network vision of the Network Manager, has been of great help to fill the gap. Time to develop PDP v1 has been too short to fully exploit such information. However, in the framework of DP v1 development, SDM will review the data to develop an SDM assessment of expected projects' contributions to performance.

Next steps to allow a deeper analysis of the cost and benefit analysis will include different actions by SDM and will engage all stakeholders and project-leaders to participate. Furthermore the lessons learnt from the PDPv1 development will allow for a better preparation of the information to be requested from the projects for the next CEF calls. SDM may also develop with INEA additional guidelines for better harmonization of the cost and benefit analysis at project level, hence facilitating their aggregation into the global CBA. For instance, important aspects about the costs include clear segmentation of the different kinds or nature of investment (i.e. hardware, software, staff, training, project administration…)

[6] 70% of the 110 projects have provided answers to a questionnaire that has been circulated by SDM in order to collect additional information not required by INEA

or identification of the starting point of depreciation and as well the duration of the depreciation. Other considerations would include the information concerning the level of uncertainty in the estimates and the possible options to postpone some tasks in case the funding will be later or not in the expected volume. This last point could be provided through a risk grid showing also additional information about interdependencies between tasks or deliverables.

The reference for the cost and benefit analysis of the deployment program is the initial PCP Cost & Benefit Analysis produced by the SESAR JU. During implementation, costs will be monitored according to the implementation project expected costs and the actual costs link to the deliverables. On the benefits side, assumptions will be reviewed according to updated data such as new edition of Eurocontrol information, forecast of the number of flights…

The consolidated vision of the performance impact of the projects will trigger a consistency approach with the overall CBA. This feedback shall help to qualify the benefits as local or network related (avoiding double counting), quantify network related benefit with the Network Manager and also, make best use of other more qualitative benefits, such as safety.

SDM will ensure that all investments for the different ATM-Functionalities including all sub AFs and families of projects are summed up correctly, which should allow to identify as early as possible if it is needed to correct former assumptions.

5. Annexes

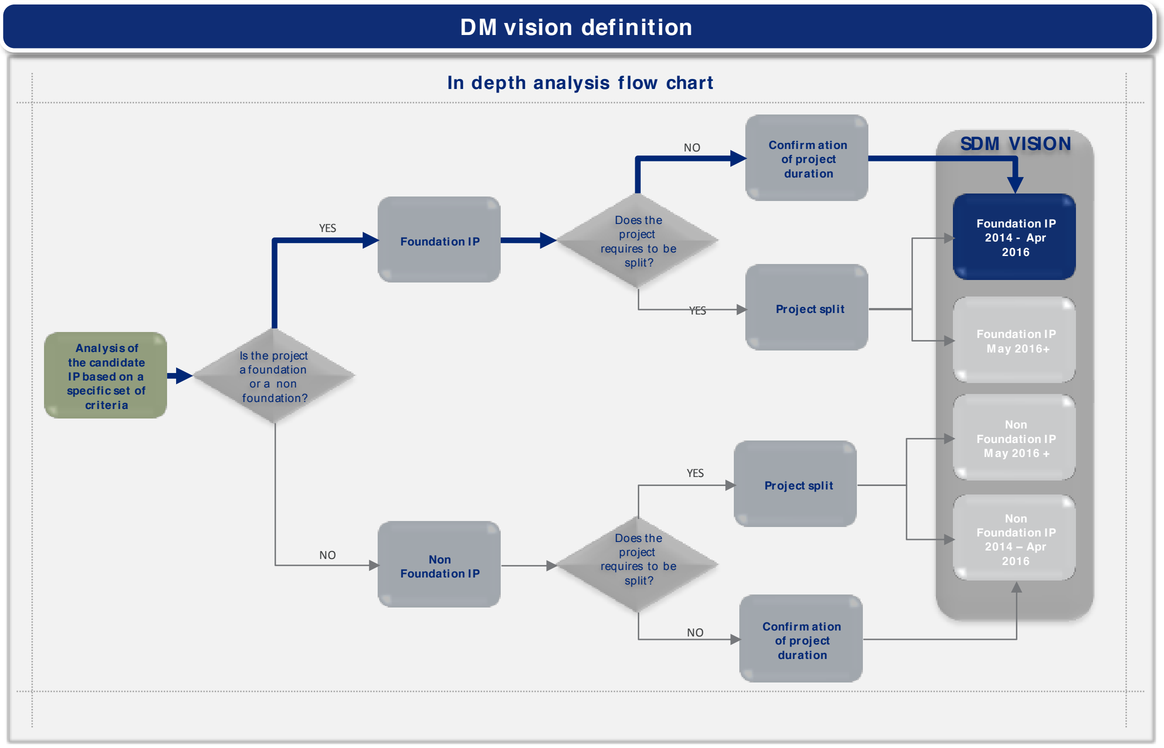
5.1 Annex A – Project view - Projects' details

5.1.1 AF 1 Extended Arrival Management & PBN in high density TMA

Content	Description
REFERENCE NUMBER	**007AF1**
TITLE	**Performance Based Navigation (PBN) implementation in Vienna (LOWW)**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** – 2014 RNP AR Procedures to Runway 16 LOWW for noise abatement purposes implemented – 2015 feasibility study for open PBN transitions to final approach conducted – 2015 night SIDs on PBN basis implemented – 2016 one LPV (SBAS) approach in LOWW implemented
PROJECT LEADER	AUSTRO CONTROL
MEMBER STATE	AUSTRIA
TIMING	01/03/2014 – 30/12/2016
AIRBORNE	
INTERDEPENDENCIES	006AF5 ATM Data Quality (ADQ)
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	AF1, Sub AF 1.2 FT 1.2.2, FT1.2.3
NM links	**NSP:** SO 6/5 **NOP:** Capacity constraints due to environmental obligations with regard to RWY usage plan and SID routings. Enhanced DEP spacing**.**

Recommendation:

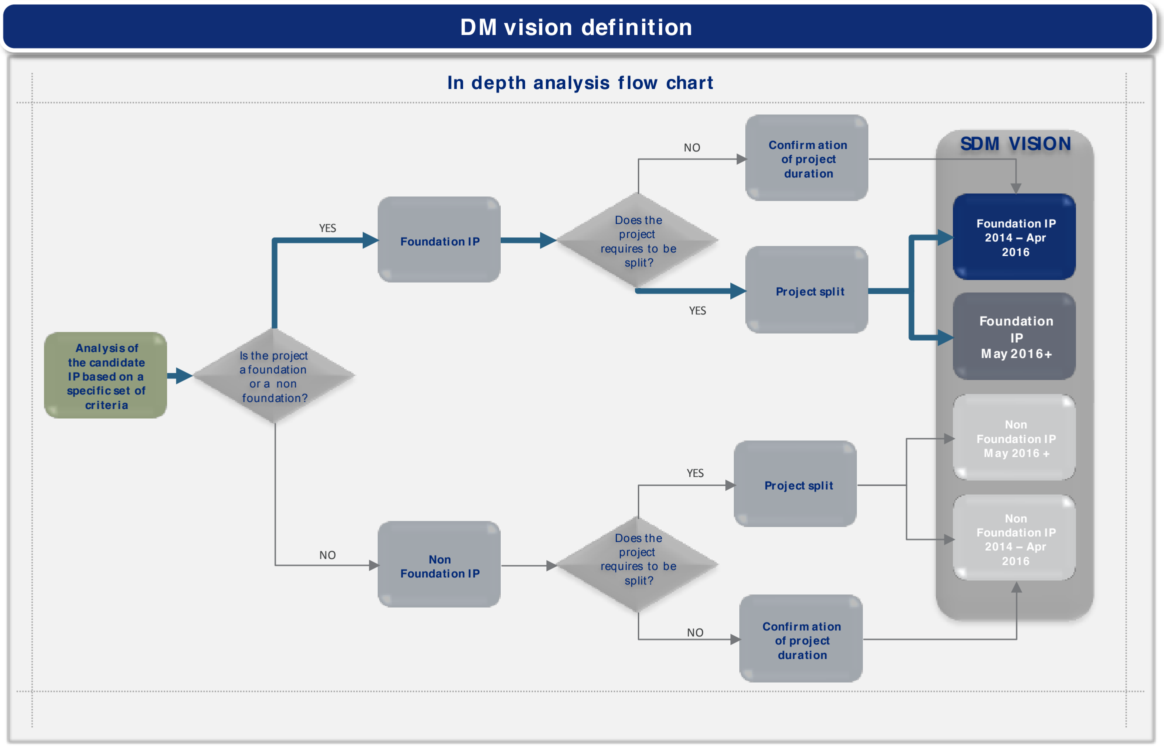
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**013AF1**
TITLE	**Implementation of Required Navigation Performance Approaches with Vertical Guidance at Brussels Airport and all other Belgian airports**
MAIN AF / Sub AF / FT	**AF 1; Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** The main objective of this project is to: – Achieve compliancy with ICAO AR37.11, EC Part-AUR (currently being developed at EASA) and Commission Implementing Regulation (EU) No 716/2014 Annex 1. – Implement Required Navigation Performance (RNP) Approaches (Lateral Navigation/Vertical Navigation (LNAV/VNAV) and Localizer Performance with Vertical guidance (LPV) minima) on all instrument runway ends of Brussels Airport and Antwerp Airport
PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	01/01/2015 - 13/09/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	AF1, Sub AF 1.2, FT 1.2.2
NM links	**NSP:** SO 6/5, SO 9/4 **NOP:** None

Recommendation:

This project is considered as a Foundation IP.

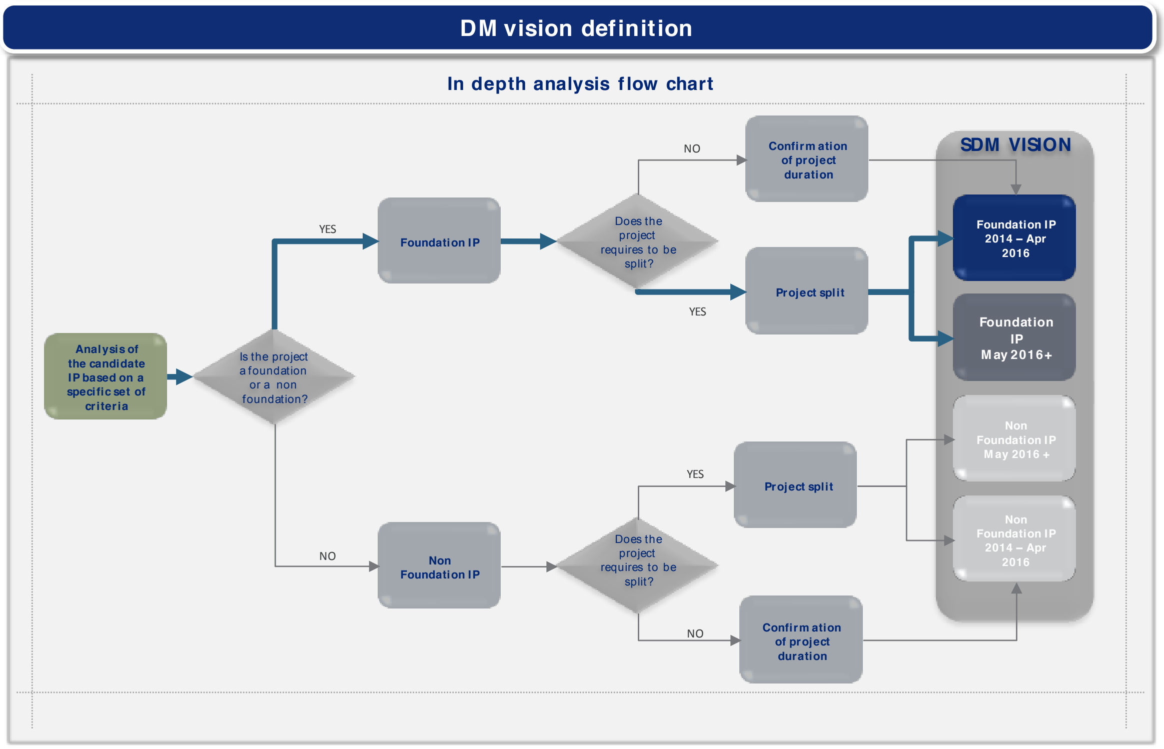


The project could be split in two phases. The first phase (January 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – September 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**044AF1**
TITLE	**Enhanced Terminal Airspace using Required Navigation Performance-Based Operations**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** In order to fulfil the requirements of the COMMISSION IMPLEMENTING REGULATIN (EU) No 716/2014, ANNEX 1 – EXTENDED ARRIVAL MANAGEMENT AND PERFORMANCE BASED NAVIGATION IN THE HIGH DENSITY TERMINAL MANOEUVRING AREAS DFS will implement RNP-based routes including the Radius to Fix-functionality especially for departure procedures (SID). Through this functionality it is intended to reduce the spread of flight tracks during turns, and thereby reducing the noise footprint. Additionally to the usage of this procedures for departures it will be examined to which extend this functionality can be useful for arriving aircraft as well. This project supports FT 1.2.1 RNP approaches with vertical guidance. • Implementation of RF-Legs for Departures from Frankfurt/Main (EDDF) Runways 07C/R & 18 • Implementation of RF-Legs for Departures from Frankfurt/Main (EDDF) Runways 25C/L • Implementation of RF-Legs for Departures from Düsseldorf (EDDL)
PROJECT LEADER	DFS
MEMBER STATE	GERMANY
TIMING	15/10/2015 – 28/03/2019
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports, Airspace Users
LINKS	AF 1; Sub AF 1.2; FT 1.2.2 and 1.2.3
NM links	**NSP:** SO 6/5 **NOP:** None

Recommendation:

The project is considered as a Foundation IP.

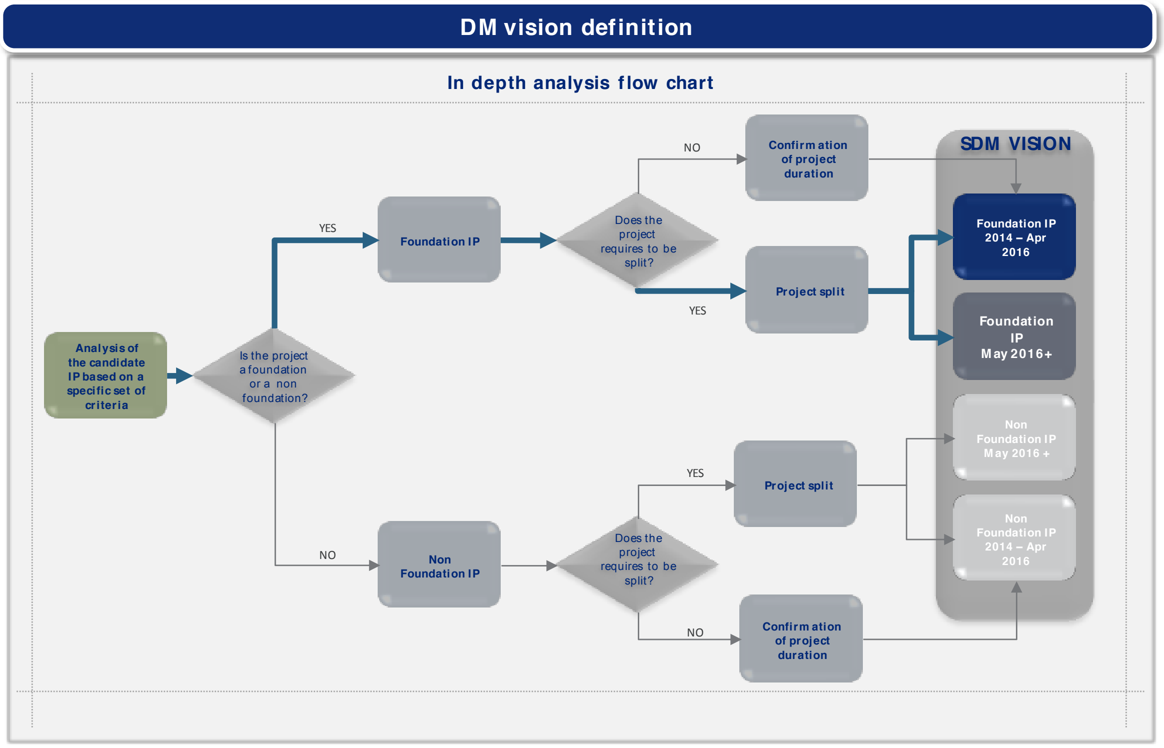


The project could be split in two phases. The first phase (October 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – March 2019) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**045AF1**
TITLE	**FABEC extended Arrival Manger XMAN/Arrival Manger AMAN (Call 2014)**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.1; FT 1.1.2**
PROJECT DESCRIPTION	**Objectives:** This project aims to contribute to the Pilot Common Projects Implementing Rule 716/2014 and to the ATM Function AF-1 "Extended AMAN and PBN in high density TMAs". It specifically contributes directly to the implementation of Sub-A-F1.1 "AMAN extended to En-Route Airspace" and the related Fast Tracks. The main objectives are: – The upgrade of automated Arrival Management Systems to include Extended Horizon Function at major airports in FABEC and FAB UK/IRL (FT 1.1.2 AMAN upgrade to include Extended Horizon function) for the airports Frankfurt, Munich, London, Amsterdam, Zurich and Brussels – The development and operational introduction of automated Arrival Management (AMAN) Systems at the major airports in FABEC and FAB UK/IRL Airspace (Fast Track 1.1.1 "Basic AMAN"), for the airport Berlin – Provision of Arrival Management Information and constraints to Air Traffic Service Units within the Extended Horizon and the management of arrival constraints in these units. – Insurance of a harmonized and coordinated approach of the above within the FABEC and FAB UK/IRL airspace utilizing the management methods and structures of the established multi-ANSP FABEC XMAN/AMAN Project
PROJECT LEADER	DFS/FABEC/NATS
MEMBER STATE	GERMANY
TIMING	02/01/2012 – 29/12/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports, ANSPs, ECTL/NM
LINKS	AF1, Sub AF 1.1, FT 1.1.1, AF2, AF4, AF5 (SWIM ready web service)
NM links	**NSP:** SO 6/5, SO5 **NOP**: AMAN projects are mentioned in NOP for many FABEC ANSPs**.**

Recommendation:

This project is considered as a Foundation IP.

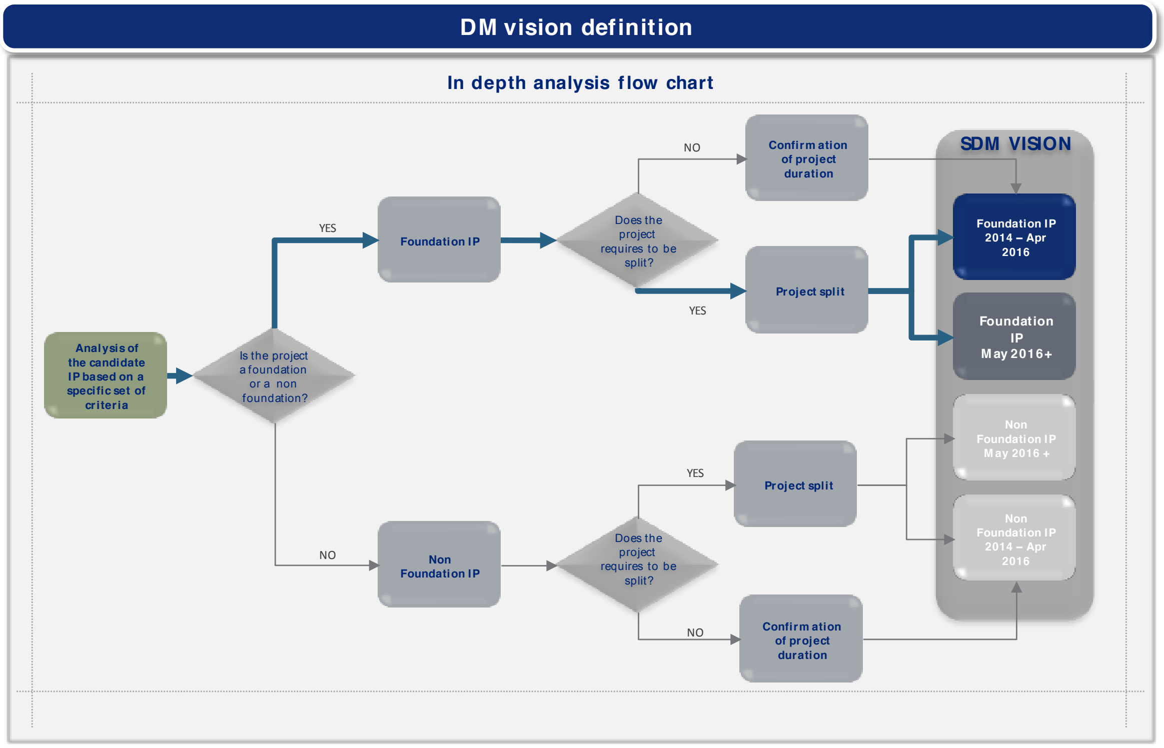


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**051AF1**
TITLE	**Required Navigation Performance Approaches at CDG Airport with vertical guidance, Phase**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** – To implement RNP APCH with LPV minima and with LNAV/VNAV minima for Runway 08L/26R – To equip 51 B777 aircraft of Air France with LNAV/VNAV capability – To implement RNP APCH with LPV minima and with LNAV/VNAV minima for Runway 09L/27R – To maintain maximum CDG Airport Runway Throughput when one ILS equipment is not available by ensuring independent triple parallel approaches capability between CDG and Le Bourget airports The associated indicators are : For objective 1 : Publication of the procedures (source : French AIP) For objective 2 : Number of flights/h in case of ILS outage compared to the flight average
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/07/2014 - 01/10/2017
AIRBORNE	Air France, 51 B777 aircraft
INTERDEPENDENCIES	Subsequent Projects for Required Navigation Performance Approaches at other French airports
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	AF1, Sub-AF 1.2, FT 1.2.2
NM links	**NSP:** SO 6/5, SO 9/4 **NOP:** None

Recommendation:

This project is considered as a Foundation IP.

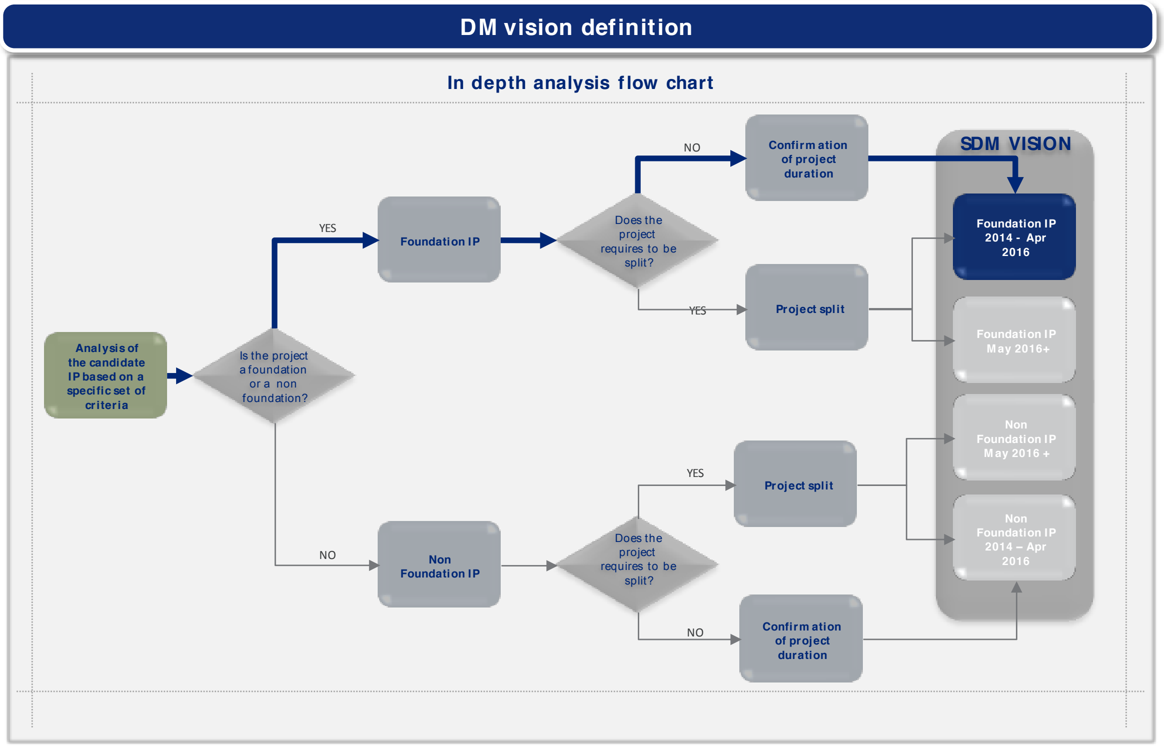


The project could be split in two phases. The first phase (July 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – October 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**060AF1**
TITLE	**ENAIRE reference geographic database (FT 1.2.2)**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.2**
PROJECT DESCRIPTION	**Objectives:** – The project will generate an ENAIRE reference dataset structure and set up the managing processes to maintain the information up to date with authoritative sources reference data. – Procedure design tools will be updated to make use of this database content; digital cartography (terrain and obstacles) and aeronautical data defining instrumental manoeuvres from authoritative sources with required quality and integrity. – To achieve the required high levels of integrity the Spanish AIS provider will participate in the data provision and management processes. – To populate the database with full datasets for LEMD, LEBL and LEPA TMA's**.**
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2014 – 31/12/2017
AIRBORNE	
INTERDEPENDENCIES	061AF1 - RNP APCH Implementation in Palma de Mallorca, Madrid, Barcelona
SYNCHRONIZATION	No
LINKS	AF5 ITY ADQ
NM links	**NSP:**SO 6/5 **NOP:** Not applicable

Recommendation:

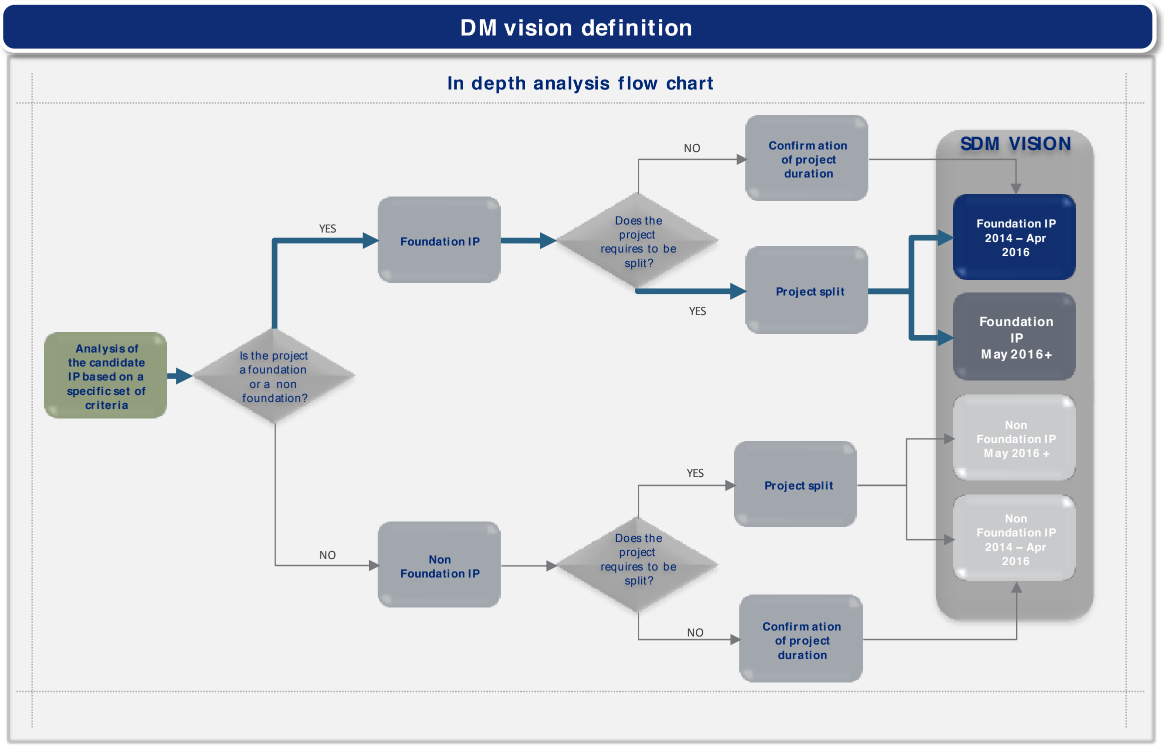
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**061AF1 A** **061AF1 B**
TITLE	**Phase 1: Required Navigation Performance Approach Implementation in Palma de Mallorca; Phase 2: Required Navigation Performance Approach Implementation in Madrid, Barcelona**
MAIN AF / SUB AF / FT	**AF 1 / Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** The main objective of this project is to improve the precision of the approach trajectories and to develop and implement fuel efficient and environmental friendly procedures for approach in this high density TMA airport. The new RNP APCH procedures will help increase the accessibility by means of RNP APCH to LPV minima procedures (using SBAS), in combination with LNAV and LNAV/VNAV minima for those operators not equipped with SBAS technology. These procedures will make operations at these sites more efficient and profitable, thus enhancing the use of the airports and saving operational costs, both for aircraft and airport operators (AENA). Specifically, the objectives of this project are: – Reduce the missed-approach rate when using non-precision approach runway headers for landing. – Increase safety by enabling straight approach procedures when not possible by means of current navaids infrastructure. – Reduce costs for Aircraft Operators (AOs) whenever an airport change must be done due to operational restrictions at destination airport. – Enhance airports and AOs business types by means of allowing broader kinds of flying activities at the airports. Phase 1: – Implementation of RNP Approaches in Palma de Mallorca Phase 2: – Implementation of RNP Approaches in Barcelona – Implementation of RNP Approaches in Madrid
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	Phase 1: 01/11/2015 - 03/07/2017 (implementation starts in 11/2016) Phase 2: 04/07/2017 – 31/12/2020 (implementation for Barcelona starts 06/18 and for Madrid 02/20)
AIRBORNE	
INTERDEPENDENCIES	060AF1 ENAIRE reference Geographic Database
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	
NM links	**NSP**: SO 6/5

	NOP: None

Recommendation:

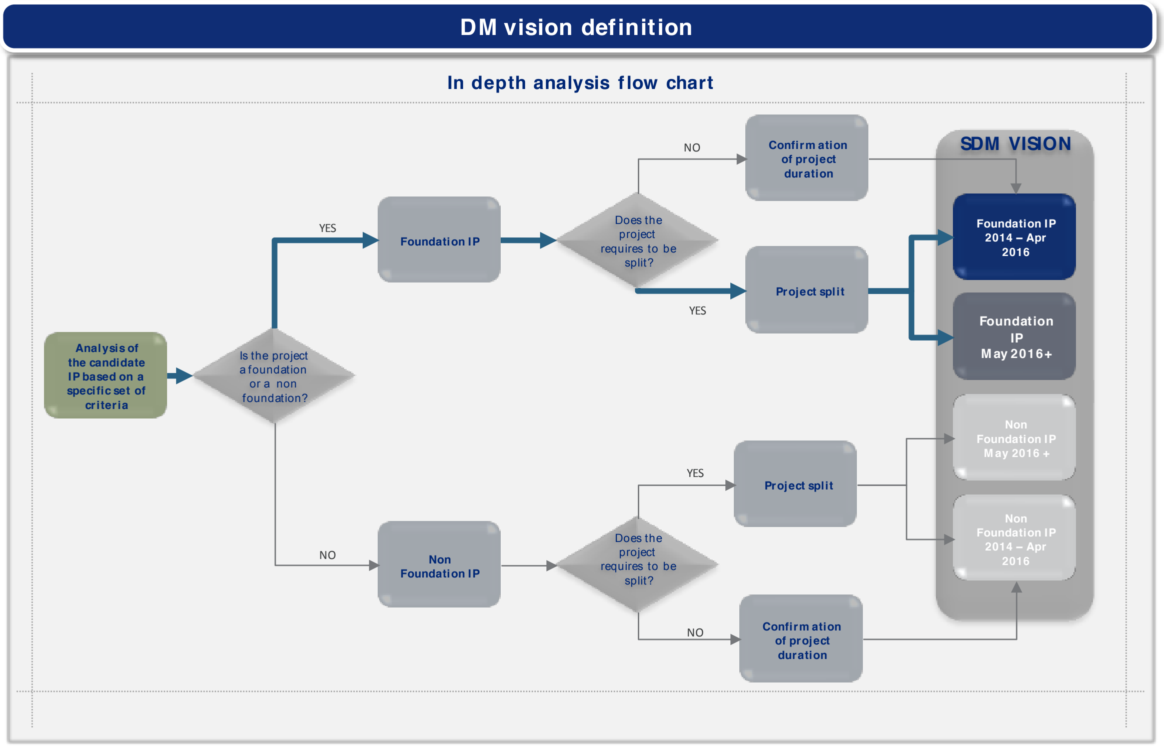


The project could be split in two phases. The first phase (November 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2020) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**065AF1**
TITLE	**ENAV Geographic DB for Procedure Design**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.2**
PROJECT DESCRIPTION	**Objectives:** – To upgrade the ENAV geographic database for procedure design suite based on two products developed by IDS (SIPRO and eTOD). – To implement improvements to the solution currently used and help to execute the Electromagnetic Compatibility analyses to determine the expected radio-electric performances of the new navaids equipment (SIPRO). – To validate a new technique for automatic feature extraction from Digital Orthophoto with the tool Electronic Terrain and Obstacle Database (eTOD). – To use the tools above to implement with priority RNP operations over the geographic applicability area identified within the PCP: LIRF and LIMC.
PROJECT LEADER	ENAV
MEMBER STATE	ITALY
TIMING	02/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	Subsequent Projects for RNP Approach Implementation at LIRF and LIMC
SYNCHRONIZATION	
LINKS	AF5 ITY ADQ
NM links	**NSP:** SO 6/5 **NOP:** No reported plan for RNP operations**.**

Recommendation:

This project is considered as a Foundation IP



The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 - December 2016) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

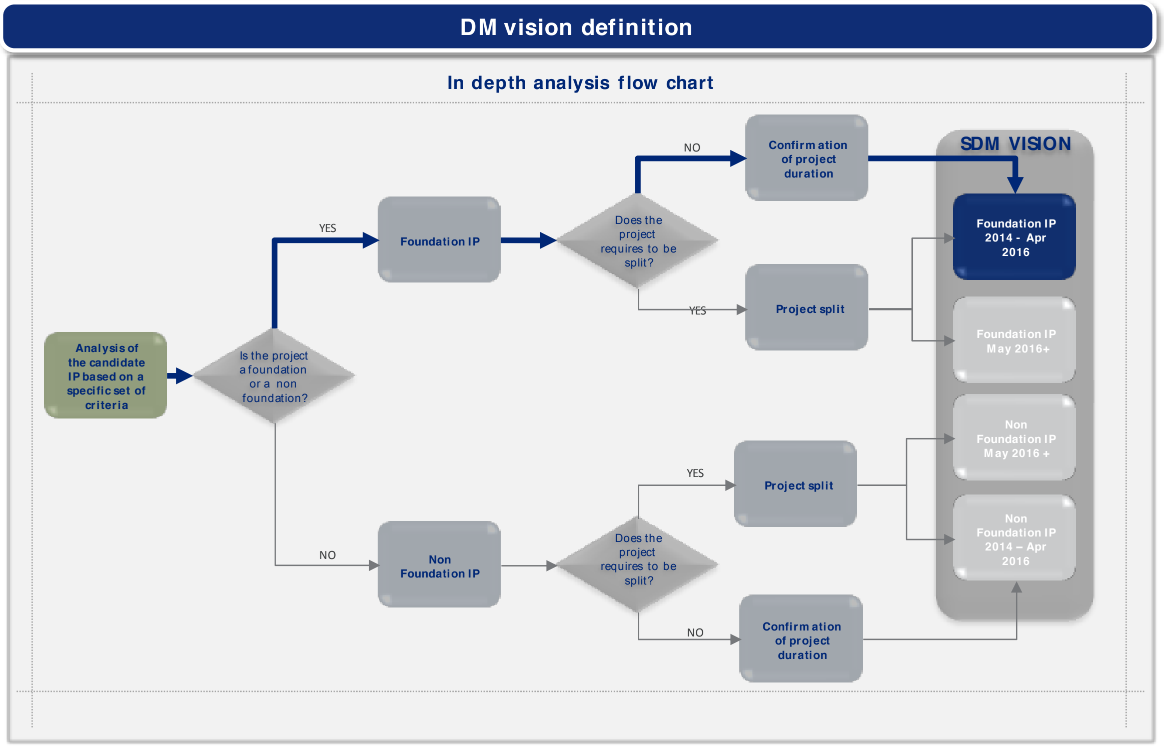
It is worth noting that this project includes specific tasks which encompass maintenance activities. While the project as a whole is still considered as "Foundation IP", these tasks cannot be considered as enabler for the implementation of PCP ATM Functionalities.

"To implement improvements to the solution currently used and help to execute the Electromagnetic Compatibility analyses to determine the expected radio-electric performances of the new navaids equipment (SIPRO)"

Content	Description
REFERENCE NUMBER	**083AF1**
TITLE	**AMAN extended to en-route**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.1; FT 1.1.2**
PROJECT DESCRIPTION	**Objectives:** – Upgrade NM systems to cope with extended AMAN requirements. – Introduce in the network view and the collaborative NOP, the information managed and shared with NM system by local extended AMAN systems (from airports / ANSP's where available) – Support the network coordination of extended AMAN functions and provide, if necessary, the network view on extended AMAN measures. The project is a key contributor to the following Strategic Objectives mentioned in the Network Strategy Plan (NSP): – SO 4: Plan optimum capacity and flight efficiency – SO 5: Facilitate business trajectories and cooperative traffic management – SO 6: Fully integrate airport and network operations
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	1/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	045AF1 - FABEC XMAN/AMAN
SYNCHRONIZATION	With Airspace Users, ANSPs, EUROCONTROL, ECTL/NM
LINKS	AF4 NOP
NM links	**NSP:** Not assessed **NOP:** Not assessed

Recommendation:

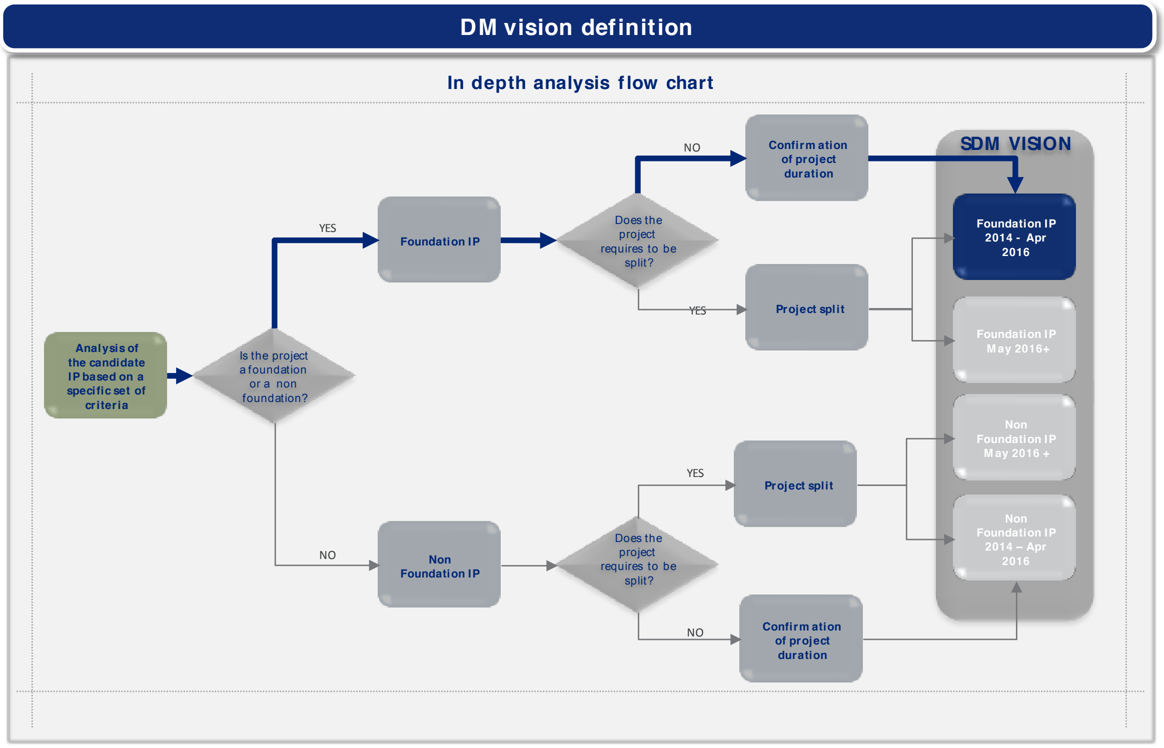
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**085AF1**
TITLE	**Study on Required Navigation Performance Approaches**
MAIN AF / SUB AF / FT	**AF1; Sub AF 1.2; FT 1.2.1**
PROJECT DESCRIPTION	**Objectives:** – development of possibilities for environmental friendly approach procedures with due consideration of RNP (PDP FT1.2.1 RNP approaches with vertical guidance) – Analysis and identification of measures to mitigate impacts on approach capacity during RNP operations (PDP FT1.2.1 RNP approaches with vertical guidance**.**
PROJECT LEADER	FRAPORT
MEMBER STATE	GERMANY
TIMING	01/03/2014 – 28/02/2015
AIRBORNE	
INTERDEPENDENCIES	044AF1 Enhanced Terminal Airspace using RNP-Based Operations
SYNCHRONIZATION	No
LINKS	AF1, Sub AF 1.2, FT 1.2.2
NM links	**NSP:** SO 6/5 **NOP:** None

Recommendation:

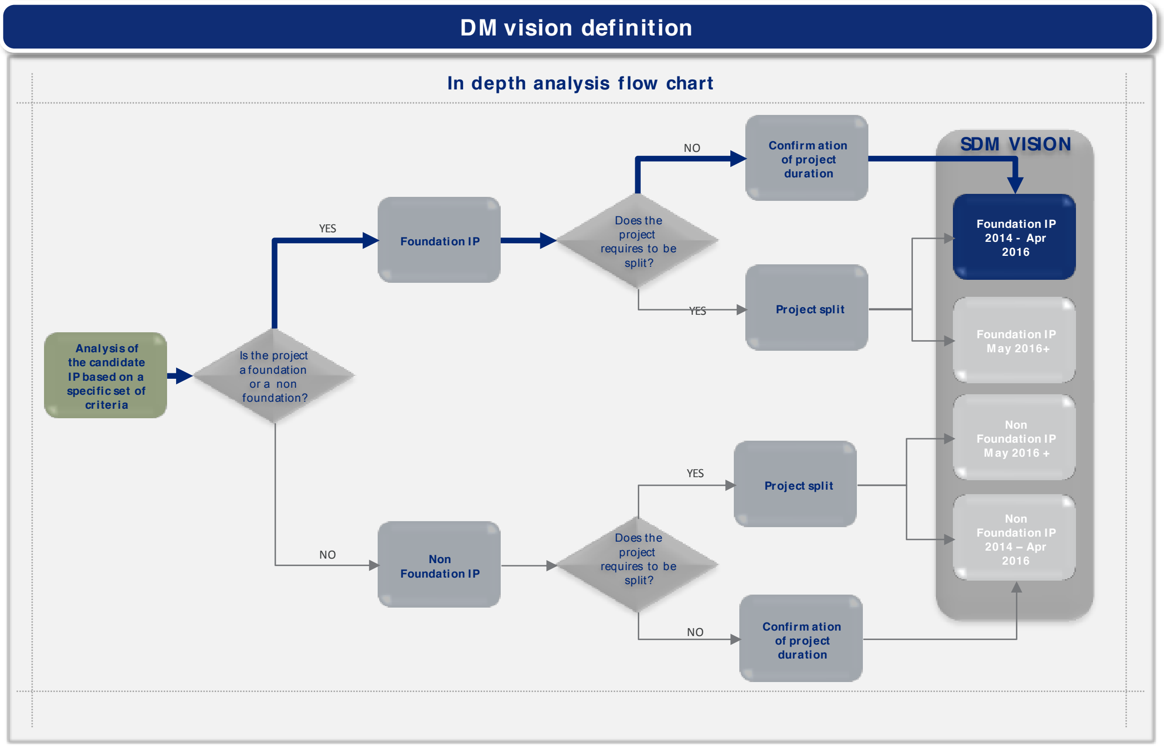
The project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**091AF1**
TITLE	**Enhanced Terminal Airspace (TMA) using P-RNAV based Operations**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.3**
PROJECT DESCRIPTION	**Objectives:** The objectives of the project for Gatwick Airport are as follows: – Introduce point merge – Efficient BOGNA Standard Instrument Departure (SID) Route – Dual Precision Area Navigation (P-RNAV) routes with easterly and westerly arrival and departure routes to runway (RWY) 26 and 08, providing rolling respite – Increase RWY capacity by introducing ADNID SID – Re-design SIDs and STARs to meet RNP specifications As a result of these changes, the project would deliver the following benefits: – Improvements in arrivals and departures stability – Significant improvement in operational resilience – Reduced fuel burn for airlines – Reduced CO_2 emissions (reduced track mileage) – in line with Gatwick Airport and NATS carbon reduction targets – Reduced noise impact for people on the ground through provision of rotating respite – Delivery against requirements of S106 Legal Agreement – Support the delivery of NATS 10% carbon emissions reduction target The project is divided into two Phases: – Phase 1: Enhanced terminal airspace using P-RNAV for all Standard Instrument Routes. – Phase 2: Enhanced terminal airspace to meet RNP specifications (out of scope of this INEA Call).
PROJECT LEADER	Gatwick Airport Limited
MEMBER STATE	UK
TIMING	04/10/2013 – 31/03/2018
AIRBORNE	
INTERDEPENDENCIES	Phase 2 of this project
SYNCHRONIZATION	With Airspace Users, ANSPs
LINKS	117AF5 Implementation of Initial SWIM Capability (AF5) across NATS, task 4 120 AF1 London Airspace Management Program (LAMP)
NM links	**NSP:** SO 6/5, SO 9/4 **NOP:** ERNIP indirectly mentions this project**.**

Recommendation:

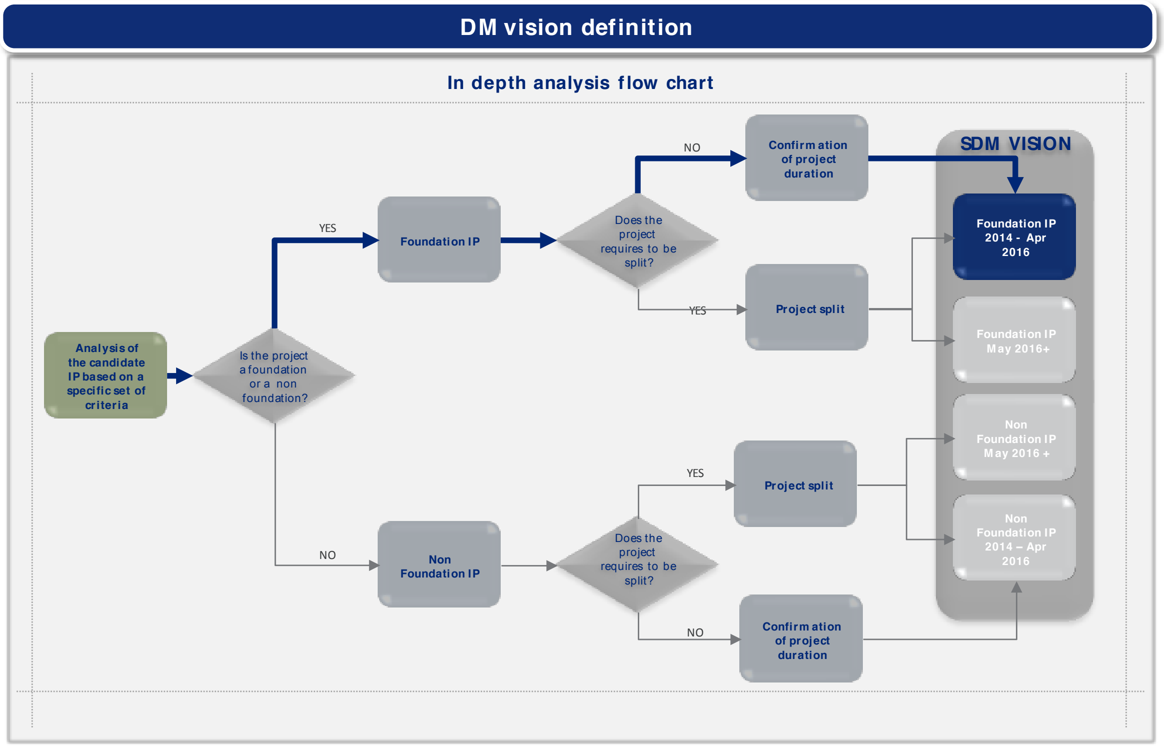
The project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**104AF1**
TITLE	**Lower Airspace optimization for the Stockholm TMA**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.1; FT 1.1.2**
PROJECT DESCRIPTION	**Objectives:** – This project aims to contribute to the PCP AF-1 Extended AMAN and PBN in high density TMAs, through the development and implementation of short term improvements for Stockholm TMA and the development of a roadmap for long term implementation. – A complete set up of requirements for the design and use of the future terminal airspace for Stockholm – A baseline and a defined long term forecast – Well defined KPIs for the baseline and the future – Implementation of short term measures within Stockholm TMA – A long term implementation Plan (What, When) with the main purpose to: o Increase the general efficiency of operations in lower airspace (more efficient route structure, better use of the available space, better planning of movements) o Specifically increase efficiency by the removal of sub-optimal solutions currently required to ensure safety, e.g. during missed approaches o Reduce environmental impact
PROJECT LEADER	LFV
MEMBER STATE	SWEDEN
TIMING	01/02/2015 - 10/06/2016
AIRBORNE	
INTERDEPENDENCIES	Subsequent Project for the long term optimization of the Lower Airspace
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	AF1, Sub AF 1.2, FT 1.2.3, AF 3
NM links	**NSP:** SO 6/5 **NOP:** None

Recommendation:

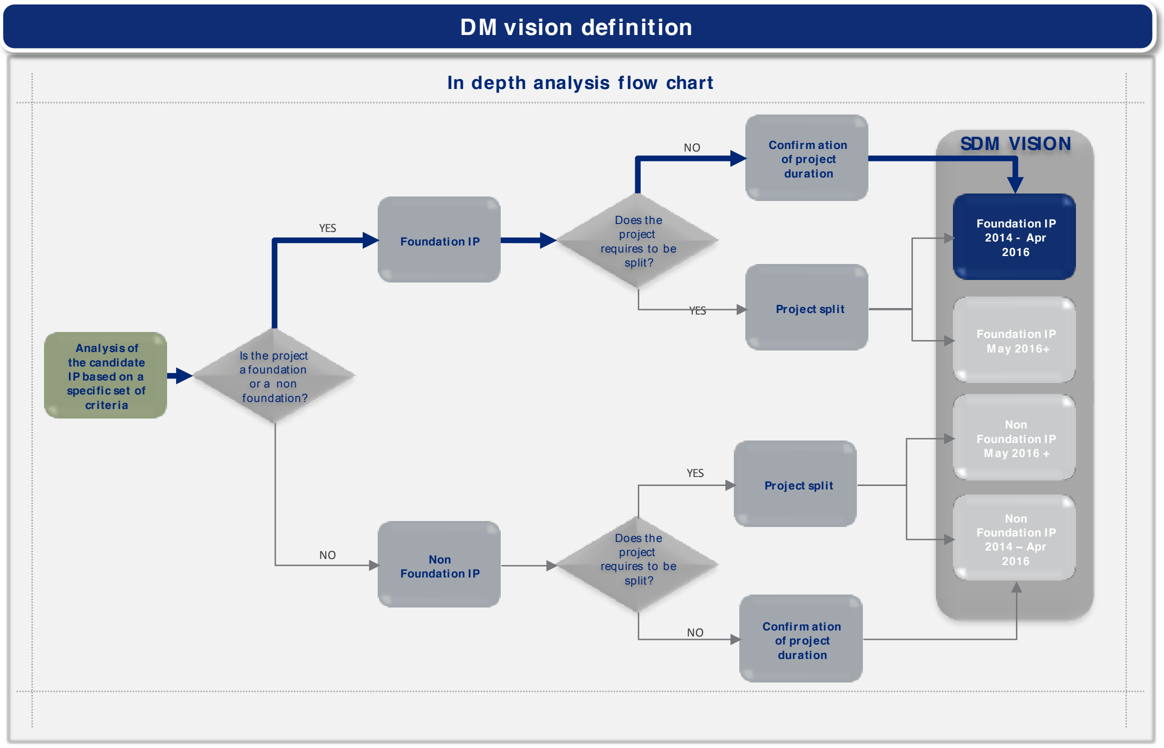
The project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**107AF1**
TITLE	**First phase of RNAV1 and RNP-APCH approaches Amsterdam Schiphol (EHAM)**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.3**
PROJECT DESCRIPTION	**Objectives:** – Publication and operational implementation of an RNAV1 fixed inbound route to RWY 36R from ARTIP. – Publication and operational implementation of an RNAV1 fixed inbound route to RWY 18C from ARTIP to be flown as CDO. – Publication and operational implementation of an RNP APCH procedure to RWY 22 with vertical guidance.
PROJECT LEADER	LVNL
MEMBER STATE	NETHERLANDS
TIMING	01/01/2014 – 01/03/2017
AIRBORNE	
INTERDEPENDENCIES	Second phase of RNAV1 and RNP-APCH approaches Amsterdam Schiphol (EHAM)
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 1; Sub AF 1.2; FT 1.2.3 045AF1 FABEC XMAN/AMAN
NM links	**NSP:** SO 6/5, SO 9/4 **NOP:** None

Recommendation:

The project is considered as a Foundation IP.

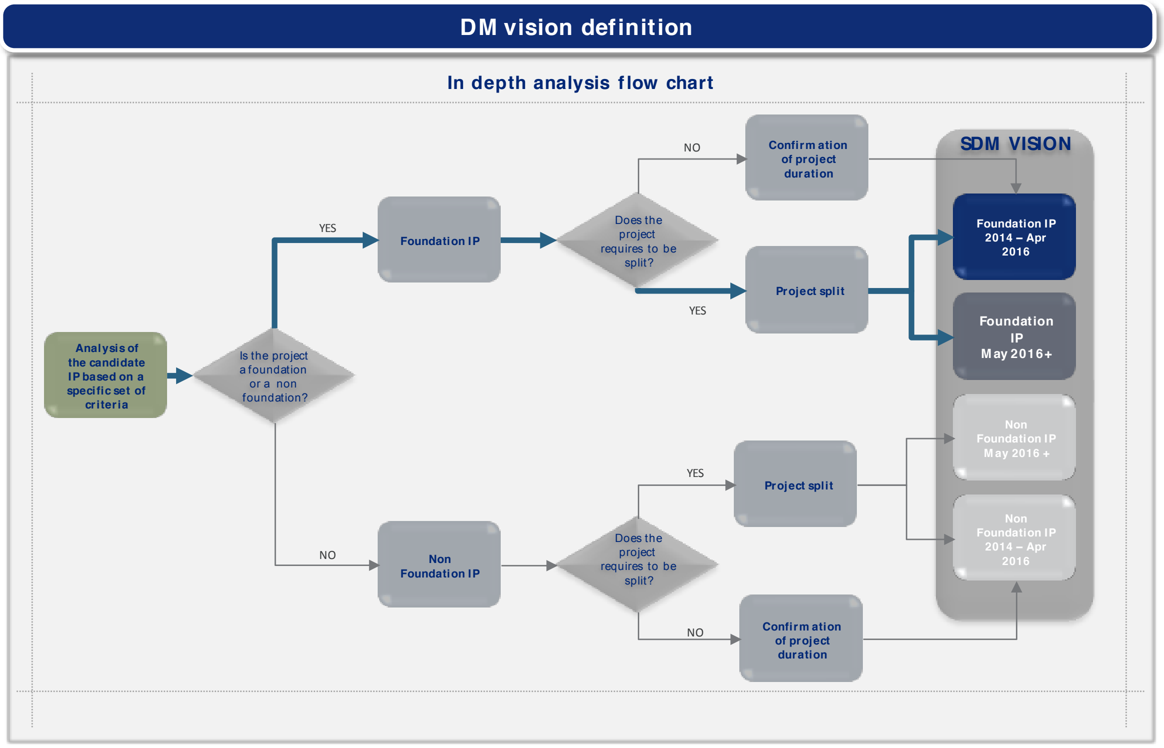


Content	Description
REFERENCE NUMBER	**119AF1**
TITLE	**Manchester TMA Redevelopment**
MAIN AF / SUB AF / FT	**AF1; Sub AF 1.2; FT 1.2.3**
PROJECT DESCRIPTION	**Objectives:** Introduction of RNAV1 SIDs (Standard Instrument Departure) and STARs (Standard Arrival Route) within the existing Manchester Terminal Manoeuvring Area (MTMA) in order to systemise the airspace infrastructure. The systemised airspace will : – Exploit existing and future aircraft capabilities to fly precise trajectories (through use of Performance Based Navigation – PBN), enabling greater flexibility in airspace design through closely spaced arrival and departure routes independent of ground-based navigation aids. – Offer greater resilience against human error (pilot or controller), with fewer interactions between routes and a reduction in tactical interaction by controllers. o Reduced tactical intervention will offer a corresponding increase in capacity – Locate routes where they best meet the needs of airports and flight profiles, making far better use of finite terminal airspace. – Save fuel and reducing noise by enabling continuous descent approaches (CDAs) and continuous climb departures (CCDs) to be flown from/to significantly higher altitudes than available today. The revised RNAV route infrastructure will align with LAMP (London Airspace Management Programme) requirements and maximise the benefits within the majority of the UK TMA. The Project is split into two phases: <u>Phase 1: Project Definition (PD) from Jan 2012 – December 2016</u> Goal: Develop PBN designs for the Manchester TMA airspace, and surrounded impacted areas for Consultation in November 2015 and validation by December 2016 <u>Phase 2: Implementation from December 2016 – Q4 2018</u>. Goal: Implement the revised NTCA designs into Operations subject to approval of CAA Consultation
PROJECT LEADER	NATS
MEMBER STATE	UK
TIMING	01/01/2014 – 30/11/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs

LINKS	117AF5 Implementation of Initial SWIM Capability (AF5) across NATS, task 4 120 AF1 London Airspace Management Program (LAMP)
NM links	**NSP:** SO 6/5; SO 9/4 **NOP:** Airport capacity constrained by TMA/Approach

Recommendation:

This project is considered as a Foundation IP.

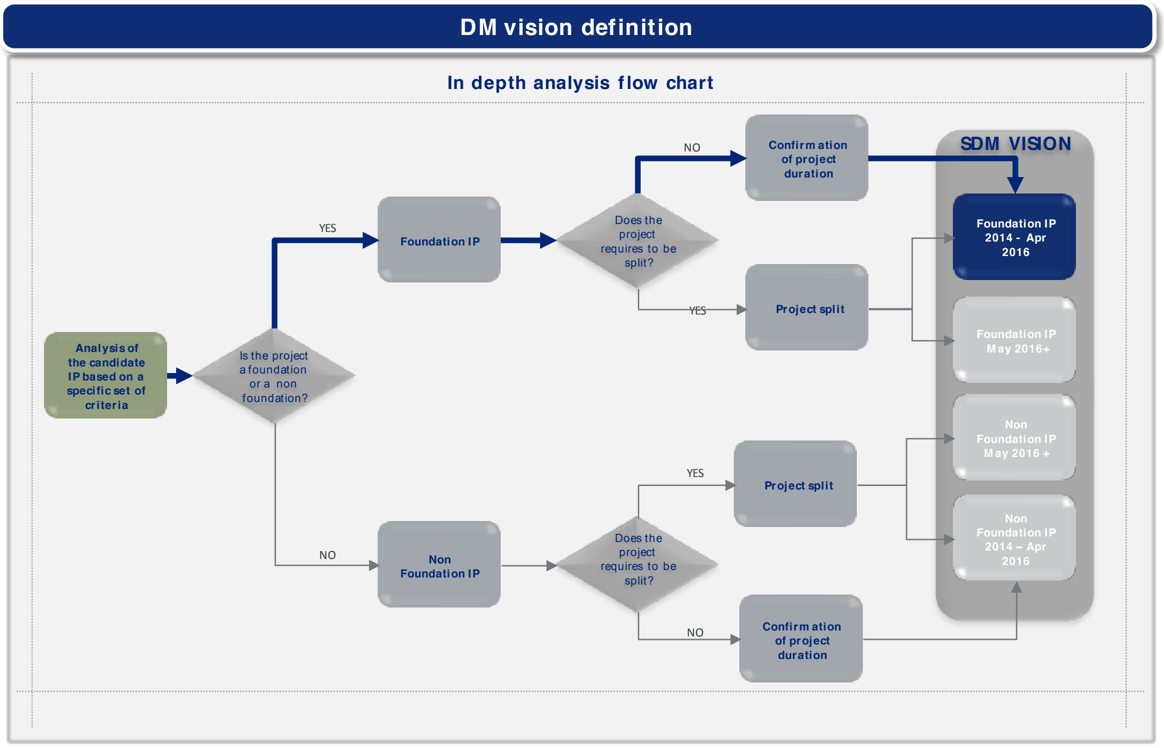


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – November 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**120AF1**
TITLE	**London Airspace Management Programme, Phase 1a**
MAIN AF / SUB AF / FT	**AF 1; Sub AF 1.2; FT 1.2.3**
PROJECT DESCRIPTION	**Objectives:** – Produce systemised airspace design for the London TMA by using PBN-based procedures and STARs facilitating RNP-1 SIDs where required at London Airports – Introduce greater efficiencies in the design of airspace to accommodate forecast demand and also facilitate Continuous Climb and Descent Operations minimising delay and realising fuel savings This application concerns the first implementation of the LAMP programme (Phase 1a), implementing that part of the London TMA affecting London City Airport and higher level re-sectorization and airspace modification within the TMA. The LAMP project will be delivered in a phased approach; the first deployment (Phase 1a) being delivered prior to the implementation of the key enabling project of raising the Transition Altitude (TA) to 18,000 feet from the current 6,000 feet. Subsequent phases of LAMP will be deployed after the TA change in 2018.
PROJECT LEADER	NATS
MEMBER STATE	UK
TIMING	01/01/2014 – 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	Subsequent Phases of this Project
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, Military
LINKS	045AF1 FABEC XMAN/AMAN 117AF5 Implementation of Initial SWIM Capability (AF5) across NATS, task 4 091AF1 Enhanced Terminal Airspace using RNP based Operations (Gatwick)
NM links	**NSP:** SO 6/5; SO 9/4 **NOP:** LAMP project is contained in NOP. The project introduces RNAV 1 in preparation of future RNP1 introduction.

Recommendation:

The project is considered as a Foundation IP.

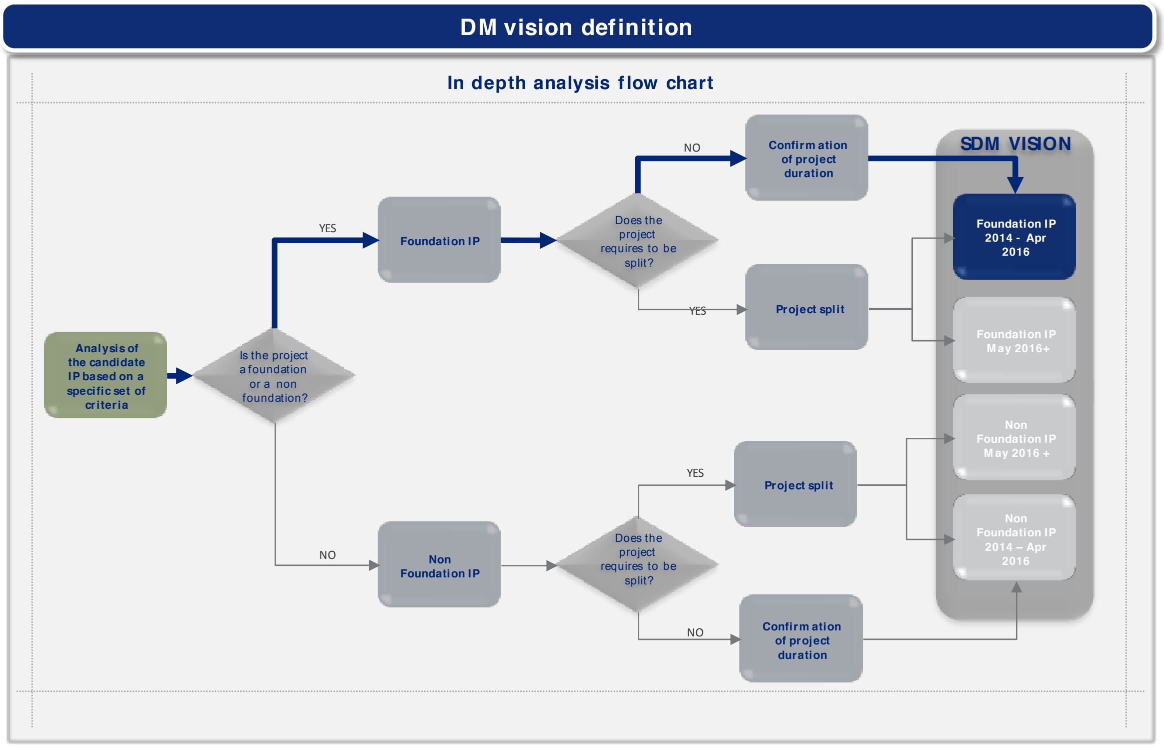


5.1.2 AF2 Airport integration and throughput

Content	Description
REFERENCE NUMBER	**001AF2**
TITLE	**ROPS on AFR Airbus Fleet**
MAIN AF / SUB AF / FT	**AF2; Sub AF 2.5; FT 2.5.2**
PROJECT DESCRIPTION	**Objectives:** To prevent against runway excursion that represents 30% of accident at Airport. Such a system would have alerted the crew of AF358 from runway overrun at Toronto on August 2nd 2005 and certainly prevented the accident: 12 major injuries, no fatalities resulted from the accident; a post-crash fire destroyed the aircraft.
PROJECT LEADER	Air France
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With: Airspace Users
LINKS	NO
NM LINKS	**NSP :** SO 6/6 **NOP:** Yes

Recommendation:

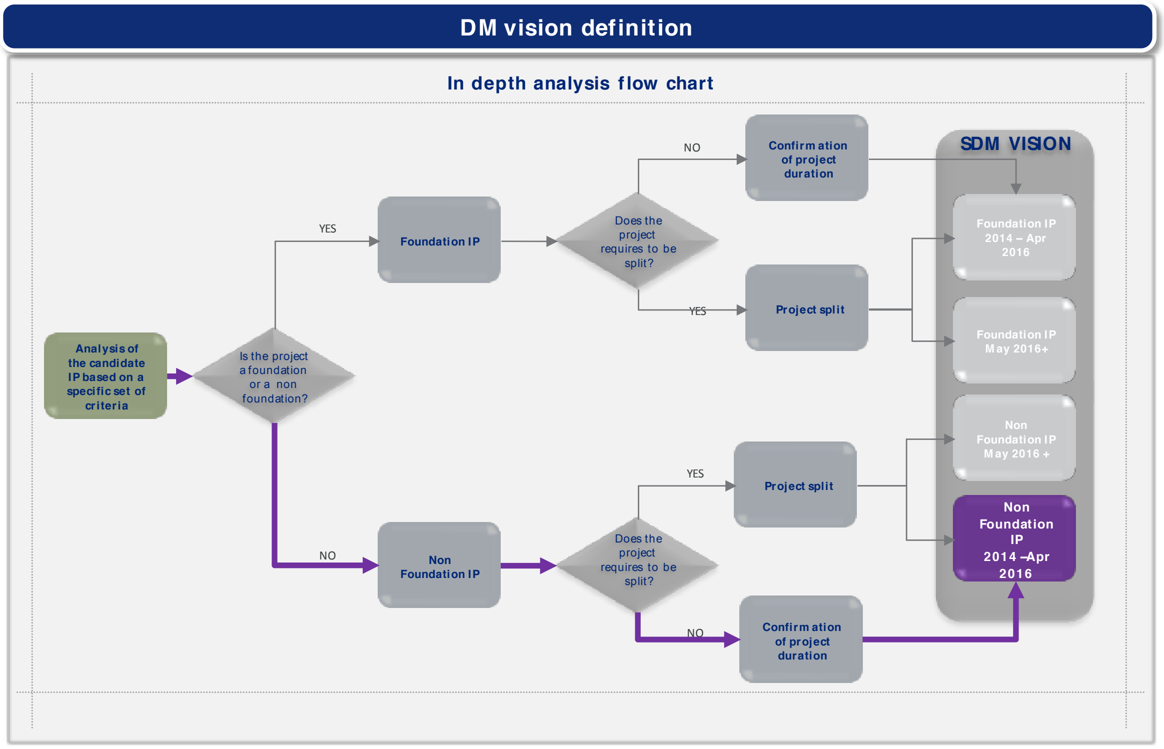
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**002AF2**
TITLE	**Automatic Friction Report**
MAIN AF / SUB AF / FT	**AF2; Sub AF 2.5; FT 2.5.2**
PROJECT DESCRIPTION	**Objectives:** Presently, runway conditions are characterized by pilot reports (PIREPs), which are subjective and often inaccurate, and ground based friction equipment, which produces results inconsistent with aircraft braking performance and requires runway usage interruptions. The inability of these present methods to clearly define runway surface friction results in unnecessary risk of runway excursions and marginalized operating efficiencies during challenging weather events. This implementation project will use aircraft landing data in real-time in order: - To assess the runway friction status through an non-intrusive method - To maintain runway throughput while improving Safety in preventing runway excursion
PROJECT LEADER	Air France
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 31/03/2016
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With Airspace Users
LINKS	NO
NM LINKS	**NSP :** SO 6/6 **NOP:** Yes

Recommendation:

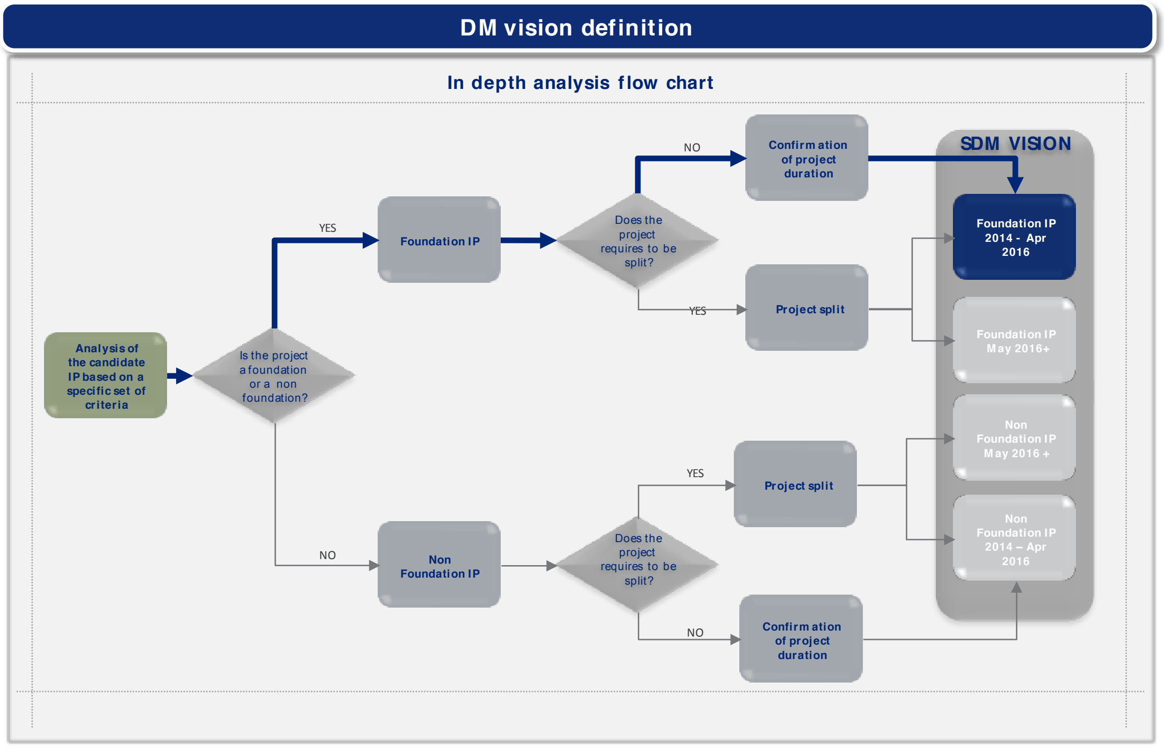
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**008AF2**
TITLE	**External Gateway System (EGS) implementation**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** EGS (External Gateway System) will connect the Tower and Approach ATS Units' subsystems DIFLIS (Digital Flight Strip System) and ASTOS (A-SMGCS – Airport Surface Movement and Guidance Control System) to the ATM Data Processing System. The EGS implementation contributes to AF2 of the PCP implementing rule as an enabler for future Electronic Flight Strip, DMAN, CDM and A-SMGCS enhancements. The former ATM Data processing system VAS will be removed for end of life (EOL) reasons.
PROJECT LEADER	Austro Control
MEMBER STATE	Austria
TIMING	25/02/2014 – 10/12/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	No
LINKS	AF 2; Sub AF 2.2; FT 2.2.1
NM-Links	**NSP:** SO6/4 & SO6/6 **NOP:** Yes (Annex 5)

Recommendation:

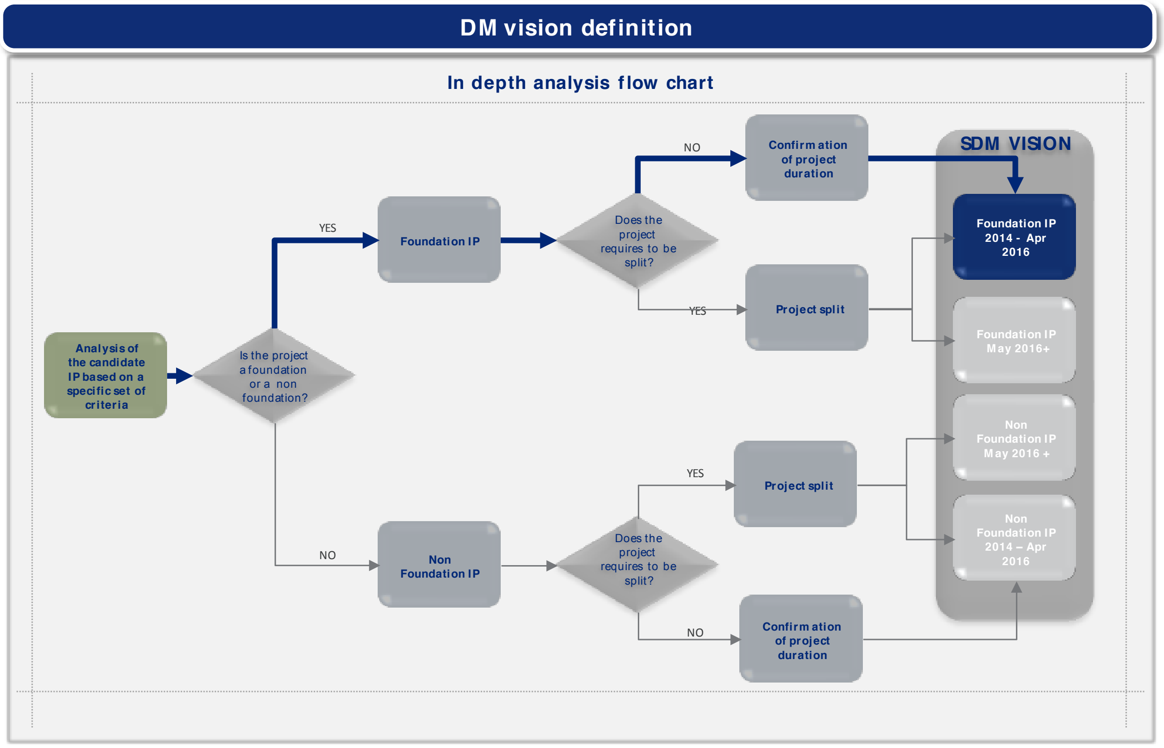
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**011AF2**
TITLE	**Collaborative Decision Management (CDM) fully implemented**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - CDM fully implemented in LOWW and certified by Eurocontrol - Process organisation established, considering all stakeholders involved and guaranteeing a sustainable CDM operation - Meaningful KPIs are constantly measured and used for improvement - Additional tasks contain Enhanced De-icing and the guarantee of a Degraded Mode in case of partial system failure
PROJECT LEADER	Austro Control
MEMBER STATE	AUSTRIA
TIMING	17/07/2014 – 29/08/2016
AIRBORNE	
INTERDEPENDENCIES	077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: ECTL/NM
LINKS	AF 2; AF 4; Sub AF 2.1; Sub AF 4.2; FT 2.1.1; FT 2.1.4; FT 4.2.2; FT 4.2.3
NM-Links	**NSP:** SO6/4 **NOP:** Yes (Annex 5)

Recommendation:

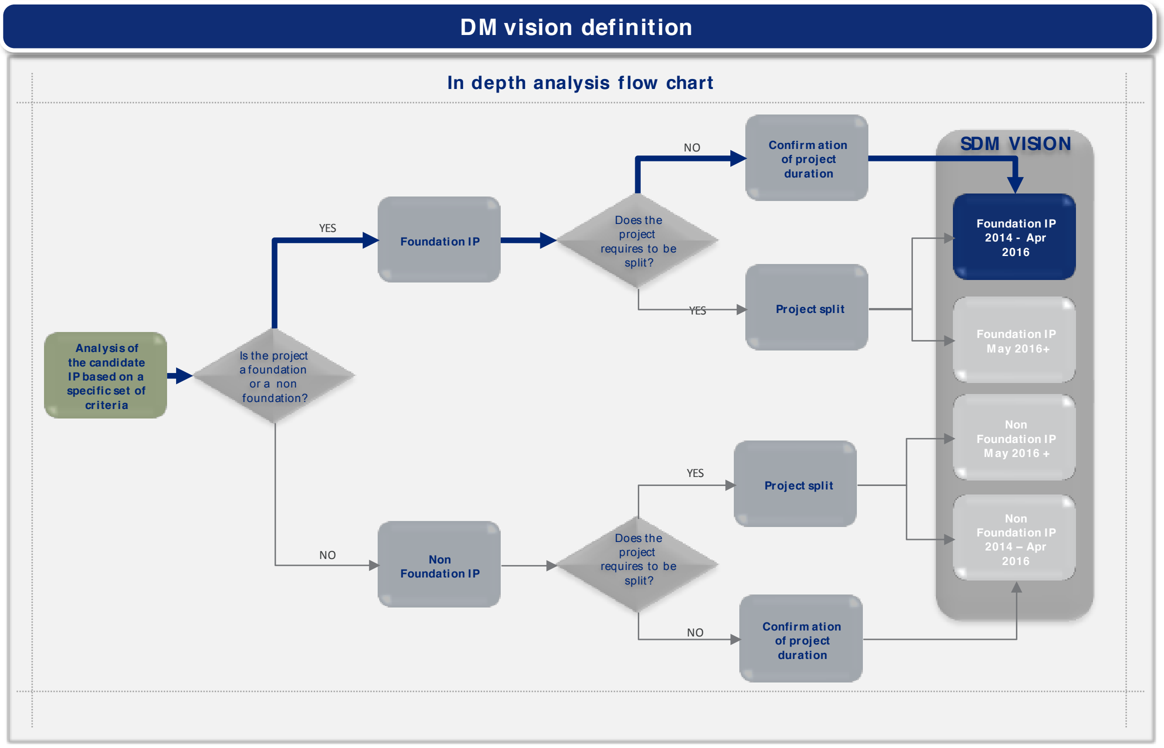
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**017AF2**
TITLE	**Upgrade of A-SMGCS system at Brussels Airport**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** The main objectives of this project are to: - Improve the performance of the surveillance function of the A-SMGCS system deployed at Brussels airport, in order to enable to provision of high-quality, reliable surveillance data for integration in the advanced Airport Safety Nets function. - Keep the implementation of the surveillance function up-to-date to enable future expansion of the ASMGCS system, to enable future functionality of the A-SMGCS system and to ensure interoperability with new components in the future.
PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	01/07/2013 - 07/05/2015
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With ANSPs
LINKS	AF 2; Sub AF 2.1; Sub AF 2.4; FT 2.1.1; FT 2.2.1
NM LINKS	NSP: SO6/6; NOP: None;

Recommendation:

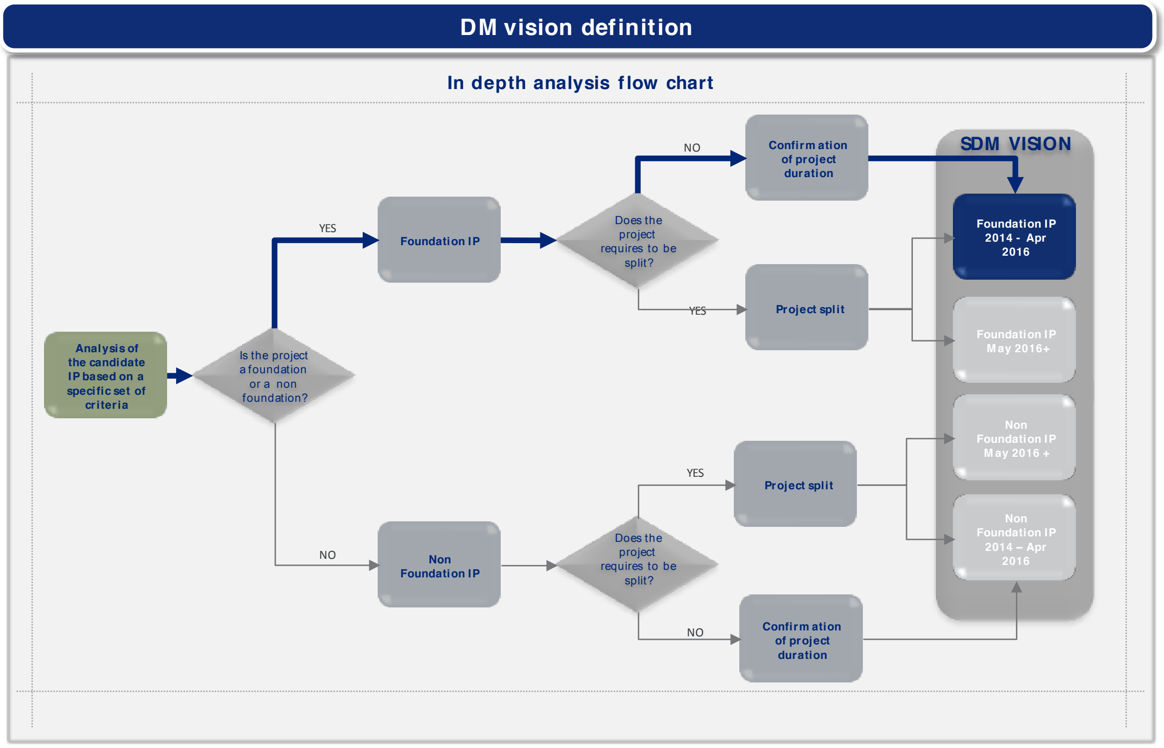
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**018AF2**
TITLE	**Enhancement of Airport Safety Nets for Brussels Airport (EBBR)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** The main objective of this project is to upgrade the existing Airport Safety Nets function, associated with the A-SMGCS system at Brussels Airport (EBBR), to obtain (or even exceed) the level of performance as envisaged under ATM functionality AF 2 as defined in the PCP Regulation (see ANNEX, section 2.1.5). Two related sub-projects are defined: - Sub-project 1: Validation and Operational introduction of the Advanced Safety Nets function, developed by Belgocontrol, at Brussels Airport (Control Tower). - Sub-project 2: Further enhancement (by Belgocontrol) of the Advanced Safety Nets function by adding a "Taxi Route conformance monitoring" functionality.
PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	02/06/2014 - 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With ANSPs
LINKS	AF 2; Sub AF 2.2; FT 2.2.1
NM LINKS	**NSP:** SO6/6; **NOP:** None;

Recommendation:

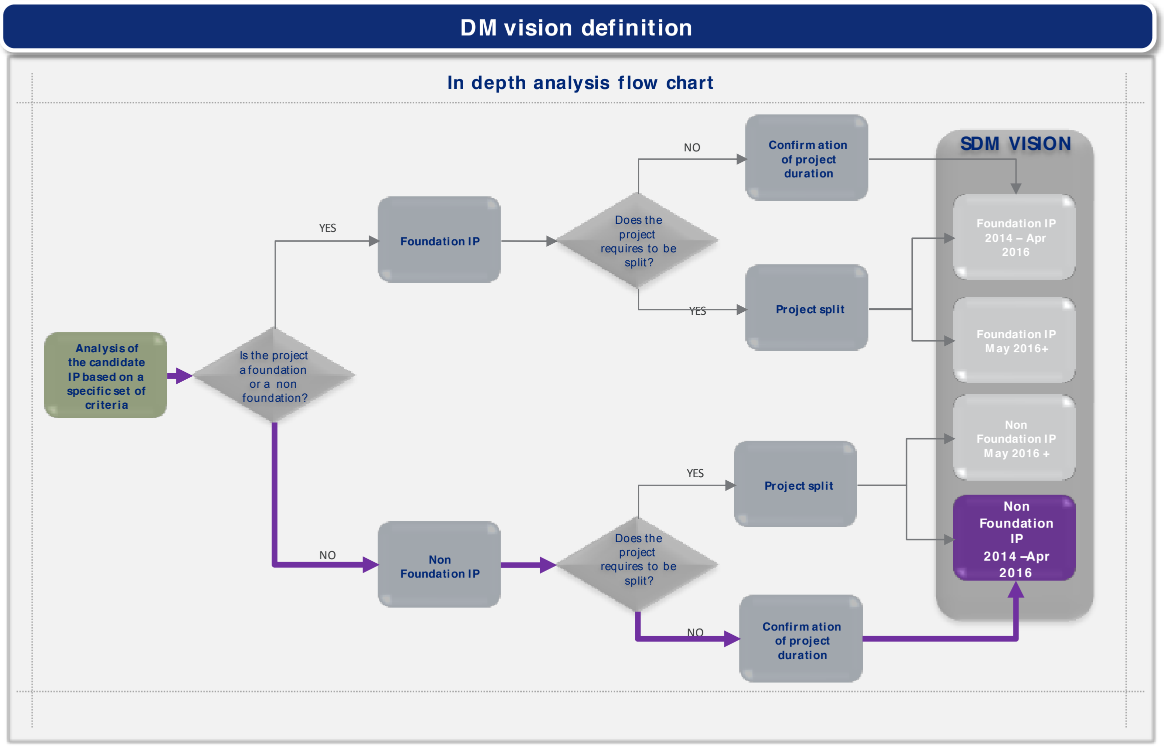
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**021AF2**
TITLE	**Elevated stop bar lights**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** Goal Redesign shape of sensitive area RWY25R (and during 2016 the same for RWY 25L), reposition holding position stop bars and implement elevated stop bars ref ICAO Annex 14 on all stop bars RWY 25R to enhance visibility for pilots and vehicle drivers. Motivation By redesigning sensitive areas for enhanced capacity and improved safety purpose, a number of stop bars have to be removed and re-installed. Additionally in accordance with ICAO annex 14 an elevated stop bar system will be introduced for the purpose of runway incursion prevention.
PROJECT LEADER	Brussels Airport
MEMBER STATE	BELGIUM
TIMING	15/05/2014 – 28/02/2015
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With: ANSPs
LINKS	AF 2; Sub AF 2.1; Sub AF 2.4; FT 2.2.1, FT 2.1.1
NM LINKS	**NSP:** SO6/6; **NOP:** None;

Recommendation:

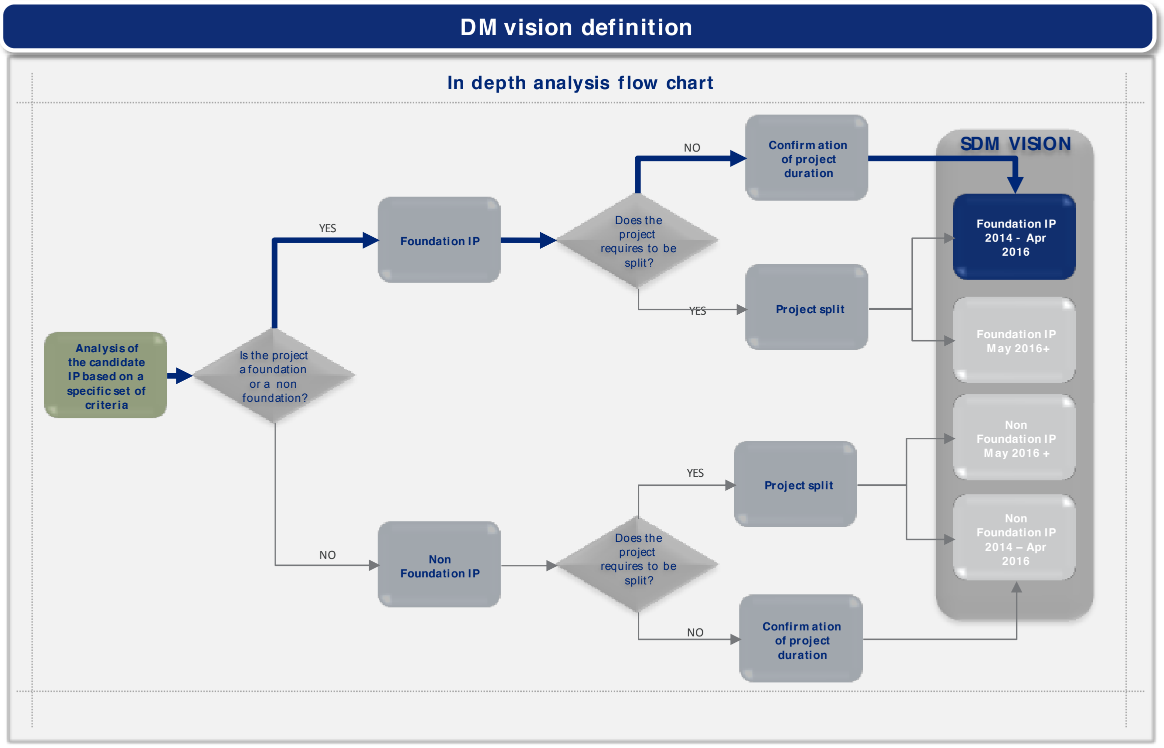
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**022AF2**
TITLE	**Vehicle Tracking System (VTS)**
MAIN AF / SUB AF / FT	**AF2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** Goal Display position and identification of all vehicles entering maneuvering area on a regular basis on the ground radar display to controller. Motivation - Improve safety airport ground movements (additional safety net) - Comply with Level-1 A-SMGCS requirement (SES Legislation – ESSIP initiative)
PROJECT LEADER	Brussels Airport
MEMBER STATE	BELGIUM
TIMING	01/01/2008 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With: ANSPs
LINKS	AF 2; Sub AF 2.2; Sub AF 2.4; FT 2.2.1
NM LINKS	**NSP:** SO6/6; **NOP:** None;

Recommendation:

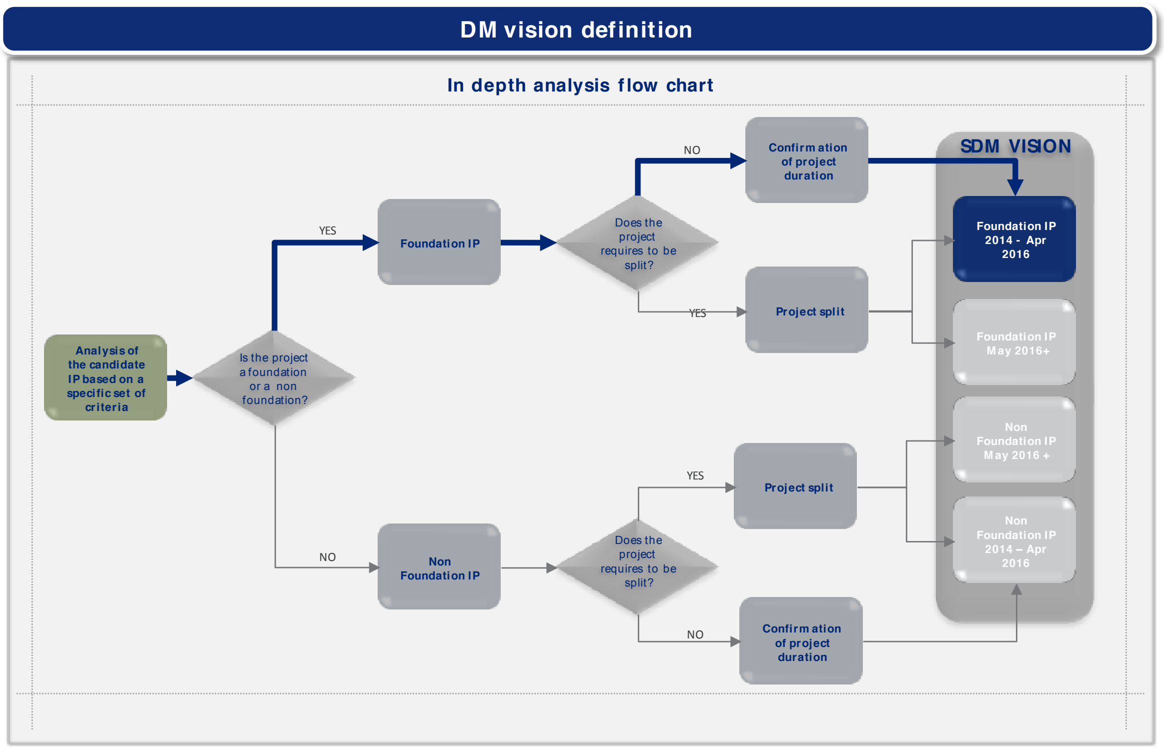
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**023AF2**
TITLE	**SMAN-Vehicle**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** Upgrade and Extend the A-SMGCS L2 for all relevant ground vehicles moving on the manoeuvring area by providing new functionalities for the drivers: alerts, geo-fencing …
PROJECT LEADER	Aéroports de Paris: CDG Airport & ORLY Airport
MEMBER STATE	FRANCE
TIMING	01/08/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	- 027AF2 - SMAN-Airport - 048AF2 - SYSAT@CDG - 050AF2 - SYSAT@ORLY
SYNCHRONIZATION	With: Airports, ANSPs
LINKS	AF 2; Sub AF 2.5; FT 2.5.1 AF 2; Sub AF 2.4; FT 2.2.1
NM LINKS	**NSP :** SO 6/6 **NOP:** None

Recommendation:

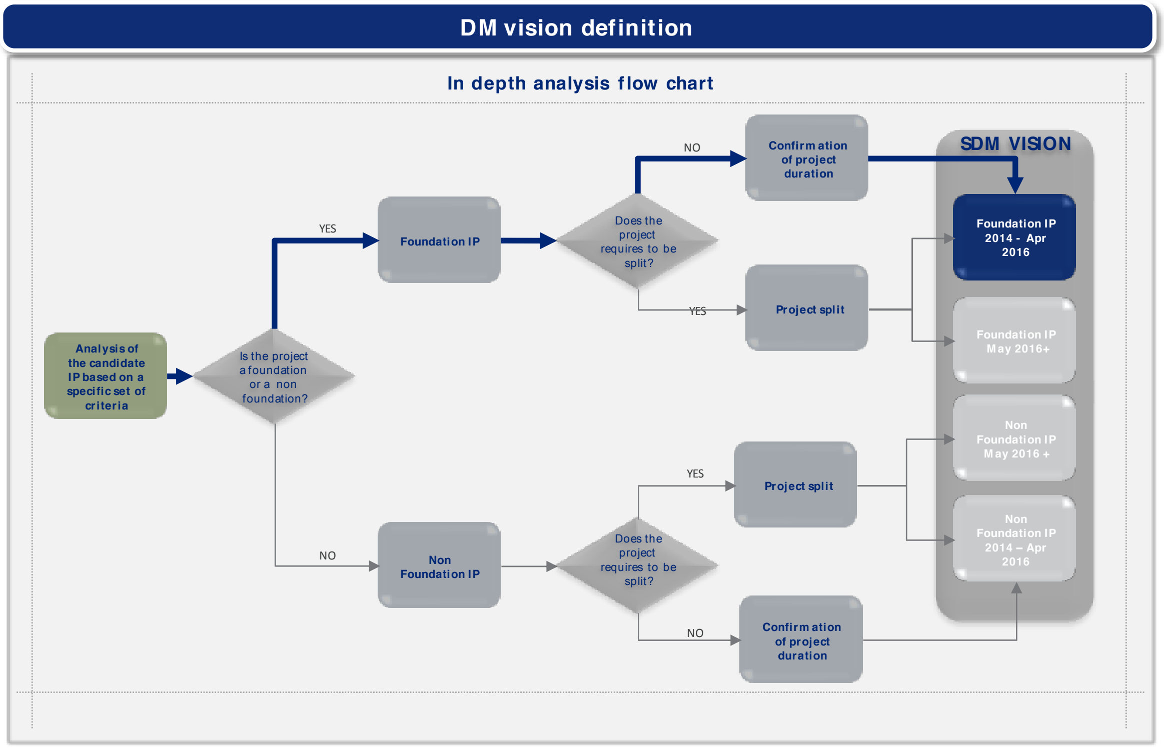
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**024AF2**
TITLE	**SAIGA**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** Extend the capabilities of the airport resources management system : Stands, Gates, bridges, and Baggage claims, to : - Consolidate the Airport Operational Plan - Consolidate the Pre-departure sequencing and DMAN capability - Optimize and increase the efficiency and performances of operations - Better support crisis situation and faster recovering
PROJECT LEADER	Aéroports de Paris: CDG Airport & ORLY Airport
MEMBER STATE	FRANCE
TIMING	01/01/2014 – 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	- 025AF2 - TSAT to the Gate; - 026AF2 - Evolutions CDM-CDG; - 027AF2 - SMAN-Airport; - 129AF2 - CDM-Orly
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs, ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.1 AF 4; Sub AF 4.2; FT 4.2.1 & FT 4.2.2
NM LINKS	**NSP :** SO 6/2 & SO 6/4 **NOP:** None

Recommendation:

This project is considered as a Foundation IP.



<table>
<tr><th>Content</th><th>Description</th></tr>
<tr><td>REFERENCE NUMBER</td><td>025AF2</td></tr>
<tr><td>TITLE</td><td>TSAT to the Gate</td></tr>
<tr><td>MAIN AF / SUB AF / FT</td><td>AF 2; Sub AF 2.1; FT 2.1.3</td></tr>
<tr><td>PROJECT DESCRIPTION</td><td>Objectives:
The use of VDGS/Displays is driven by 2 types of needs:

Consolidate the Pre-departure Sequence and enhance predictability by implementing highly recommended milestones: In-bloc (AIBT - milestone n°7 - Airport CDM Manual V4) and Off-bloc (AOBT- milestone n°15 - Airport CDM Manual V4).
Display key A-CDM information, such as TSAT, to all stakeholders located at the Gate: Airlines crews, Ground handler and Airport operator.

Visual Display Guidance System (VDGS) units and Displays address sub AF 2.1 and associated Fast track:

2.1.1 Consolidate Initial DMAN capabilities
2.1.3 Enhance Basic A-CDM
2.1.4 Consolidate Initial Airport Operational Plan (AOP)

Number of stands concerned :
<table>
<tr><th>First Phase (2014 – 2016)</th><th>Second phase (2017 – 2019)</th></tr>
<tr><td>CDG
64 VDGS
34 Displays
ORLY
36 VDGS
16 Displays</td><td>CDG
256 VDGS
136 Displays
ORLY
144 VDGS
64 Displays</td></tr>
</table></td></tr>
<tr><td>PROJECT LEADER</td><td>Aéroports de Paris: CDG Airport & ORLY Airport</td></tr>
<tr><td>MEMBER STATE</td><td>FRANCE</td></tr>
<tr><td>TIMING</td><td>01/01/2014 - 31/12/2019</td></tr>
<tr><td>AIRBORNE</td><td></td></tr>
<tr><td>INTERDEPENDENCIES</td><td>024AF2 - SAIGA;
026AF2 - Evolutions CDM-CDG;
027AF2 - SMAN-Airport;
129AF2 - CDM-Orly</td></tr>
<tr><td>SYNCHRONIZATION</td><td>With: Airspace Users, Airports, ANSPs, ECTL/NM</td></tr>
<tr><td>LINKS</td><td>AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.4
AF 2; Sub AF 2.5; FT 2.5.1</td></tr>
<tr><td>NM LINKS</td><td>NSP : SO 6/2 & SO 6/4

NOP: None</td></tr>
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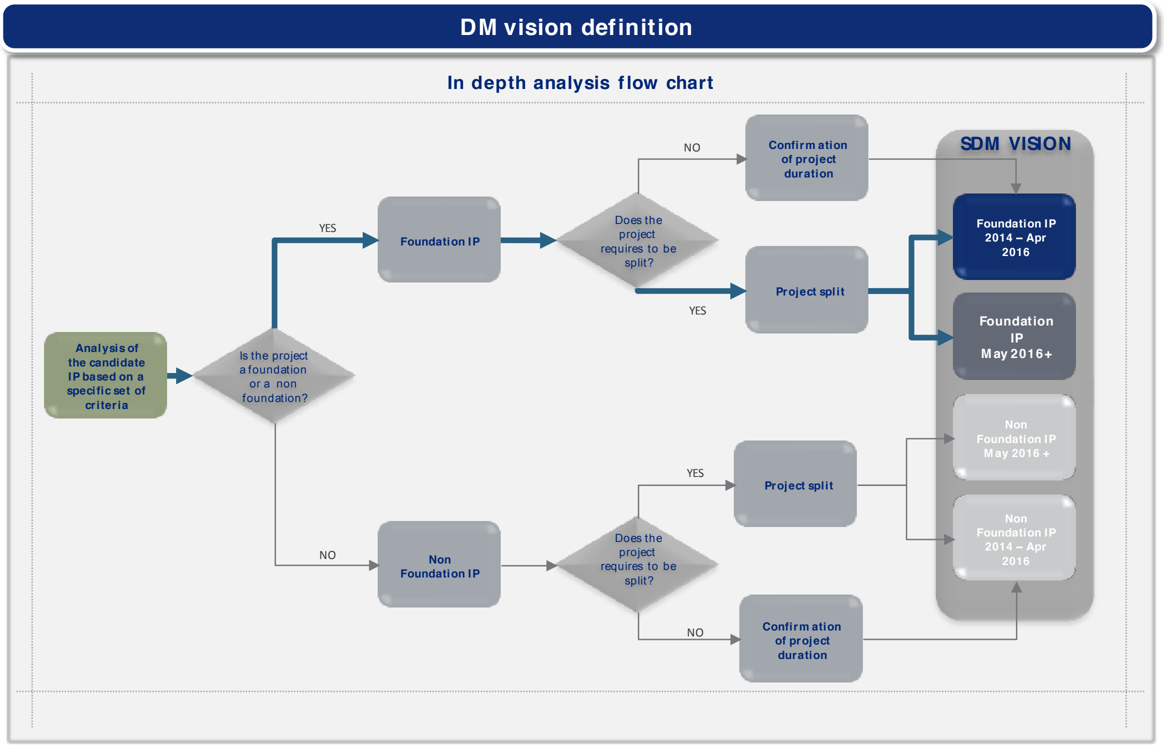
Recommendation:

This project is considered as a Foundation IP.

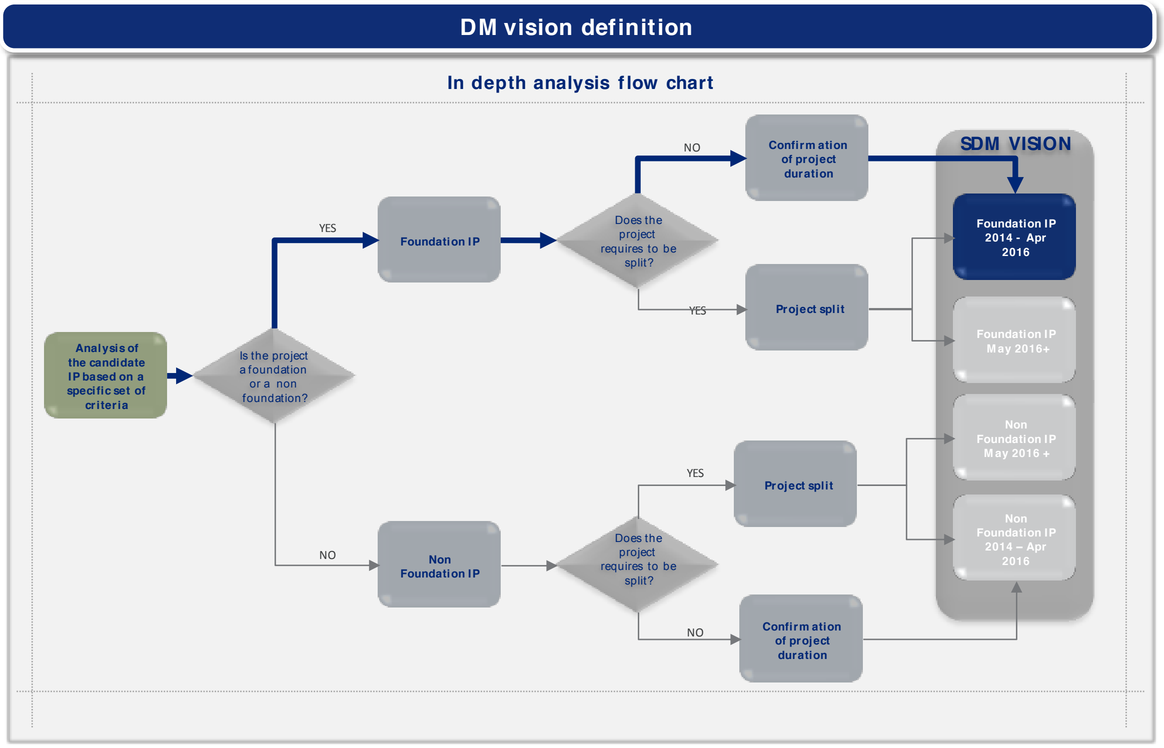


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2019) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**026AF2**
TITLE	**Evolutions CDM-CDG**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** Upgrade CDM@CDG airport tools (PDS and De-icing tool) to be more efficient and to enhance actual functionalities to respond to the requirements of operational staff. It directly responds to the pre requisite S-AF 2.1 though FT 2.1.1 ("initial DMAN capability") and FT 2.1.3 (Basic A-CDM) - DPI improvements - TSAT stabilization - PLN / Airport slot reconciliation - PDS/DMAN interface - Training infrastructure - Variable Taxi Time calculation - De-icing tool improvements
PROJECT LEADER	Aéroports de Paris: Paris CDG Airport
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	- 024AF2 - SAIGA; - 025AF2 - TSAT to the Gate; - 027AF2 - SMAN-Airport; - 048AF2 - SYSAT@CDG; - 077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs, ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.2 AF 2; Sub AF 2.2; FT 2.2.1 AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP :** SO 6/4 **NOP:** None

Recommendation:

This project is considered as a Foundation IP.



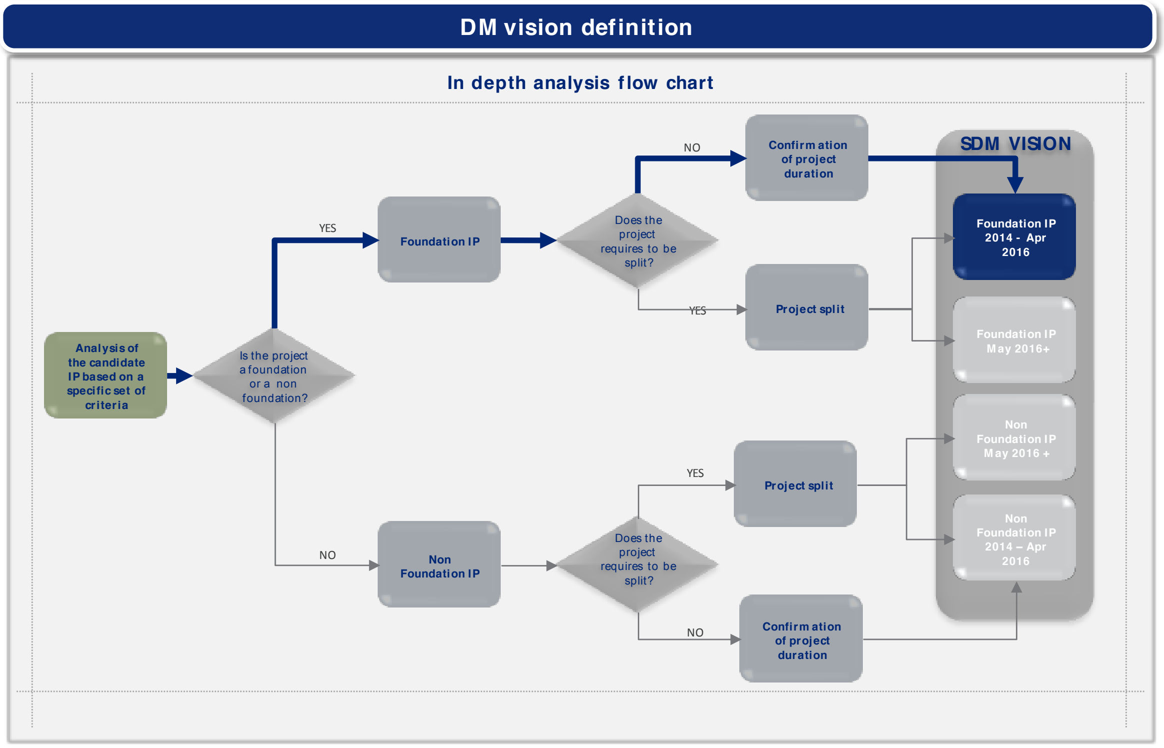
Content	Description
REFERENCE NUMBER	**027AF2**
TITLE	**SMAN-Airport**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**

PROJECT DESCRIPTION	**Objectives:**
	- Develop and integrate Airport Surface Management Tool which allows managing and monitoring information of the airfield area under the responsibility of the airport operator.
	  o Enhance Initial AOP to airfield area
	  o Improve Airport Safety Nets functionalities
	  o Facilitate A-SMGCS planning functions by improving predictability of Take-Off times
	- The system will share information with all stakeholders/Systems and in particular with the ATC ASMGCS
	The system is currently used by the ATC tower supervisor and apron managers

PROJECT LEADER	Aéroports de Paris: CDG Airport & ORLY Airport
MEMBER STATE	FRANCE
TIMING	02/01/2015 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	- 024AF2 - SAIGA; - 025AF2 - TSAT to the Gate; - 026AF2 - Evolutions CDM-CDG; - 129AF2 – CDM-Orly - 048AF2 - SYSAT@CDG - 050AF2 – SYSAT@ORLY
SYNCHRONIZATION	With: Airspace users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.4; FT 2.2.1; FT 2.1.2
NM LINKS	**NSP :** SO 6/2 & SO 6/4 **NOP:** None

Recommendation:

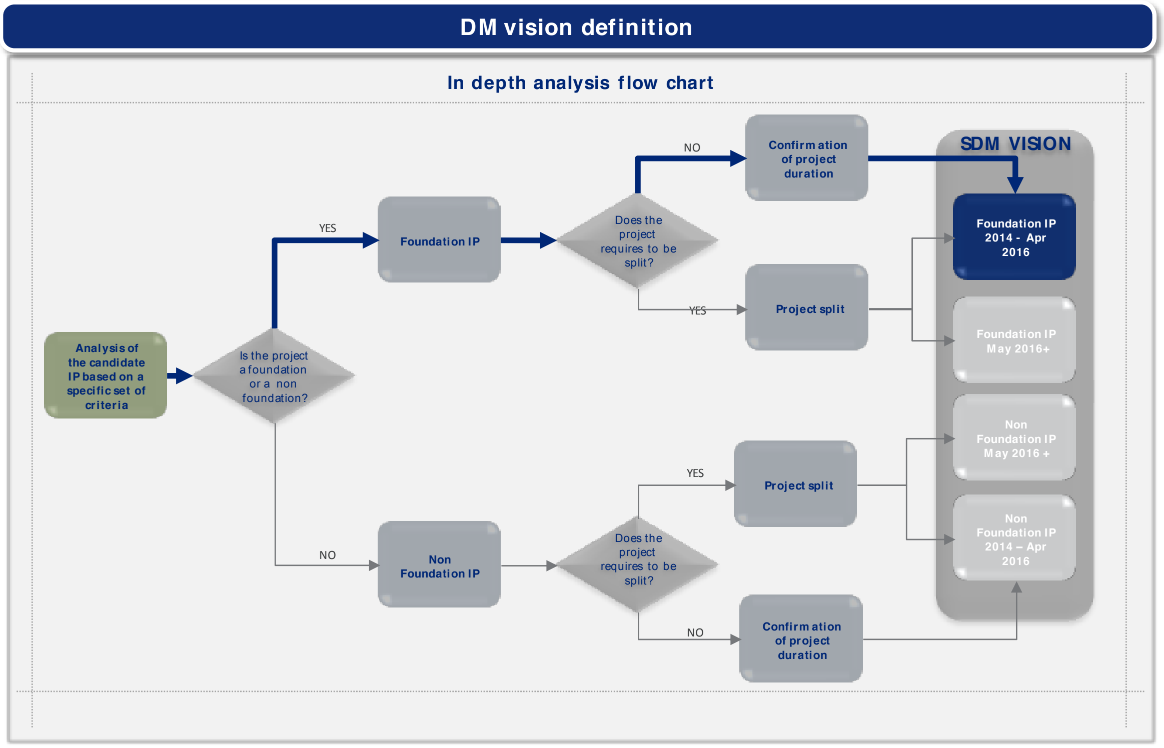
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**028AF2**
TITLE	**Automatic block time detection – option 1: use of radar data**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** - Obtain an accurate off-block/in-block time in order to provide it to the Network Manager Operation Center (NMOC) through the DPI messages - Allow an accurate management of the air traffic in Europe through the link with the NMOC - Improve the management of the use of our resources through the improvement of the accuracy - Share the collected data between all airports stakeholders through the different local implementation projects for the creation of information sharing channels
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/12/2014 - 01/12/2015
AIRBORNE	
INTERDEPENDENCIES	- 029AF2 - Automatic block time detection – option 2: video cameras implementation; - 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database)
SYNCHRONIZATION	With: Airspace users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.1; FT 2.1.1
NM LINKS	**NSP :** SO 6/2 & SO 6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

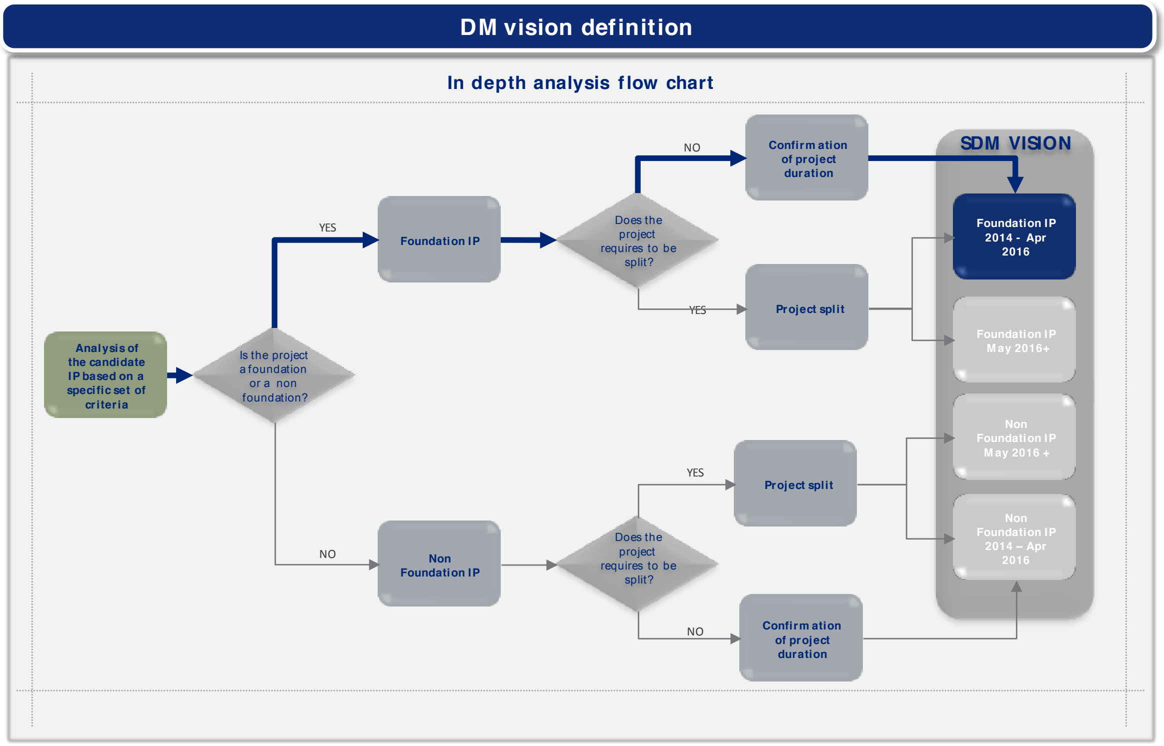
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**029AF2**
TITLE	**Automatic block time detection – option 2: video cameras implementation**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** - Obtain an accurate off-block/in-block time in order to provide it to the Network Manager Operation Center (NMOC) through the DPI messages - Allow an accurate management of the air traffic in Europe through the link with the NMOC - Improve the management of the use of our resources through the improvement of the accuracy - Share the collected data between all airports stakeholders through the different local implementation project for the creation of information sharing channels
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/03/2015 - 28/02/2017
AIRBORNE	
INTERDEPENDENCIES	- 028AF2 - Automatic block time detection – option 1: use of radar data; - 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database)
SYNCHRONIZATION	With: Airports Airspace users
LINKS	AF 2; Sub AF 2.1; FT 2.1.1
NM LINKS	**NSP :** SO 6/2 & SO 6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

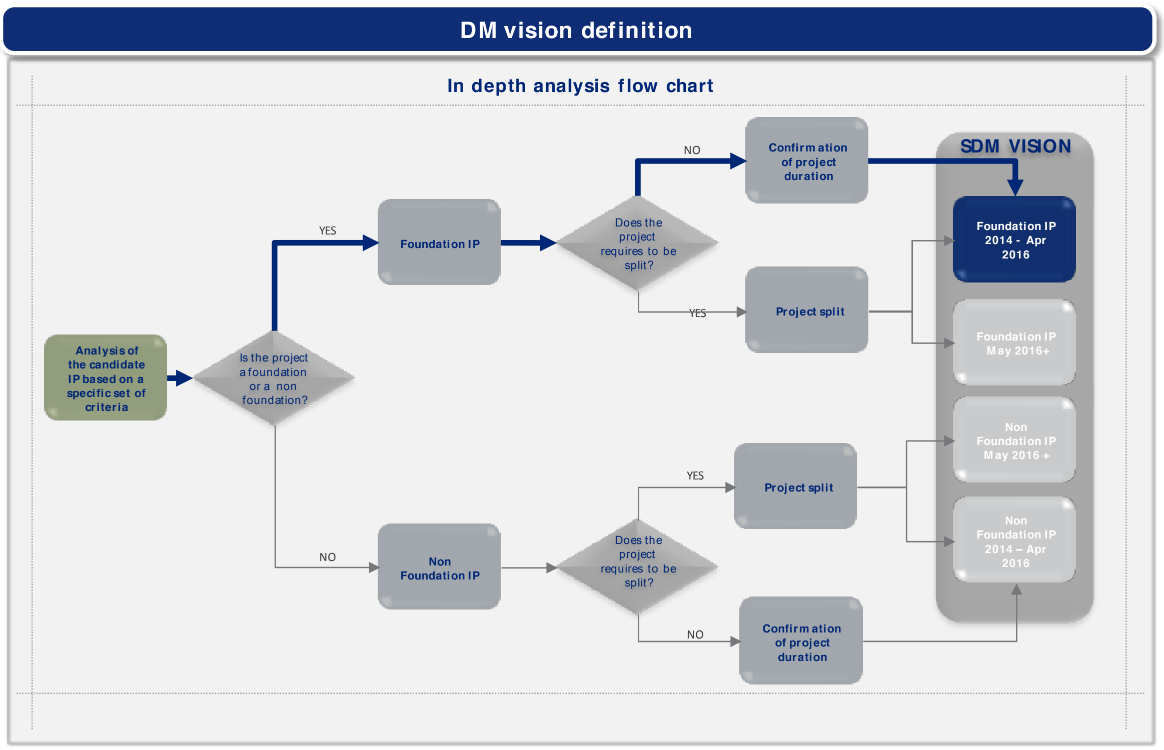
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**030AF2**
TITLE	**Equipment of ground vehicles to supply the A-SMGCS**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** - Supply the A-SMGCS with accurate information - Allow the efficient deployment of the A-SMGCS Level 1 & 2 by providing the location of the vehicle and the identification - Improve the safety on the platform with knowing the location of the vehicles and the possibility to identify runway incursion - Be compliant with the regulation
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/02/2014 - 30/11/2015
AIRBORNE	
INTERDEPENDENCIES	- 049AF2 - SYSAT@NCE
SYNCHRONIZATION	With: Airports, ANSPs
LINKS	AF 2; Sub AF 2.5; FT 2.5.1 AF 2; Sub AF 2.4; FT 2.2.1
NM LINKS	**NSP :** SO 6/6 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

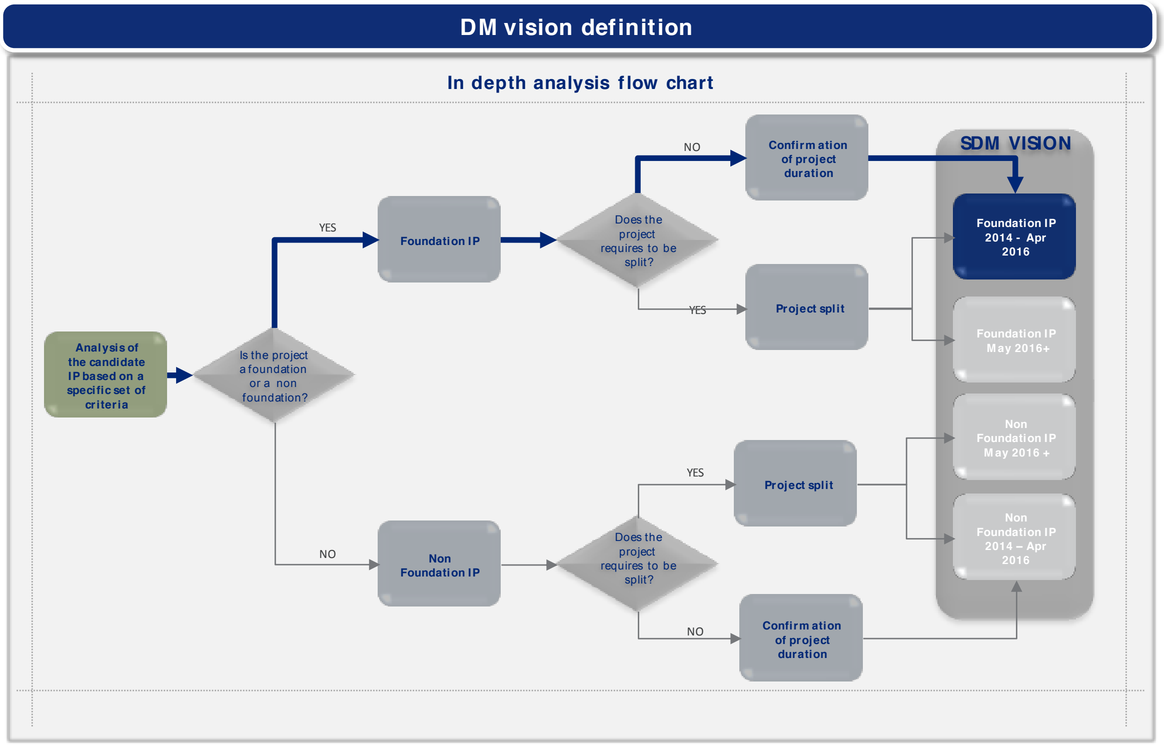
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**031AF2**
TITLE	**Data exchanges with the ANSP**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - Implement a new channel for data exchanges between us and the ANSP - Improve the data exchanges (quality and quantity) - Create a common awareness of all operational situations - Through the improvement of the awareness, improve the management of adverse conditions and make the operations more efficient
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/01/2015 - 31/07/2017
AIRBORNE	
INTERDEPENDENCIES	- 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database)
SYNCHRONIZATION	With: Airports, ANSPs
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.4
NM LINKS	**NSP :** SO 6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

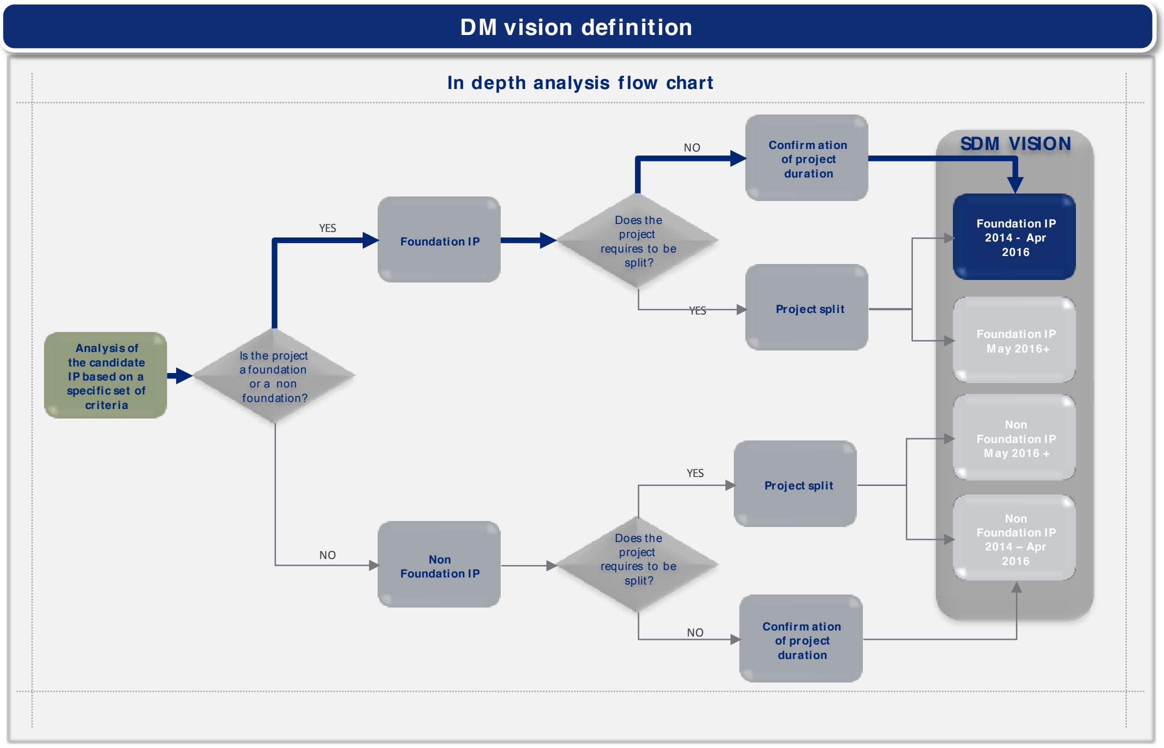
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**032AF2**
TITLE	**Data exchanges with the NMOC**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - Be part of the European Network - Improve the real time data exchanges - Improve the operations efficiency at a local level and at a European one - Facilitate the flow and capacity management - Improve the situational awareness - Better anticipation of the different situations - Improve the management of normal and adverse conditions
PROJECT LEADER	Aéroports de la cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/01/2015 - 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	- 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database); - 077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: Airports, ANSPs, ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.4 AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP :** SO 6/4, SO 6/2 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

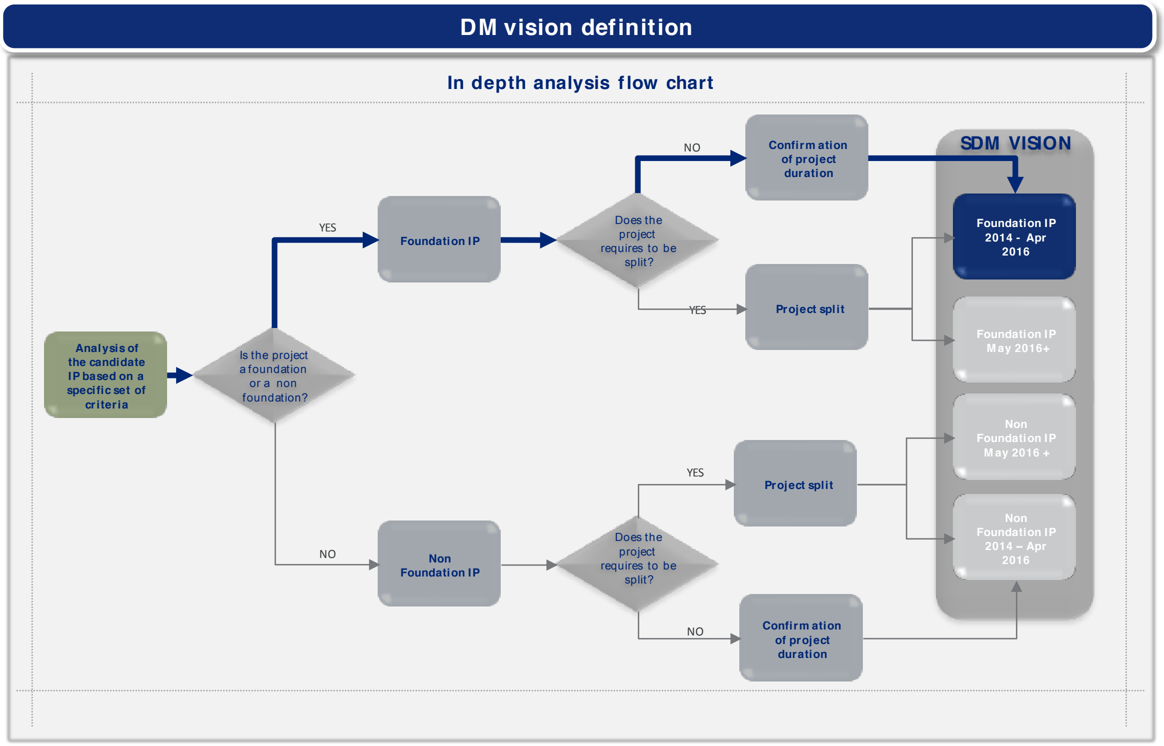
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**033AF2**
TITLE	**Data exchanges with COHOR**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** - Obtain correct and on-time information for general aviation flights - Make the operations easier in order to better anticipate the management of the resources - Make the whole operations more efficient through an easier way to obtain automatically the information - As general aviation traffic is a big part of our whole traffic, the improvement of the management of this part allow a gain in the management efficiency for the whole traffic
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/12/2014 - 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	- 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database)
SYNCHRONIZATION	With: Airports
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.3
NM LINKS	**NSP :** SO 6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

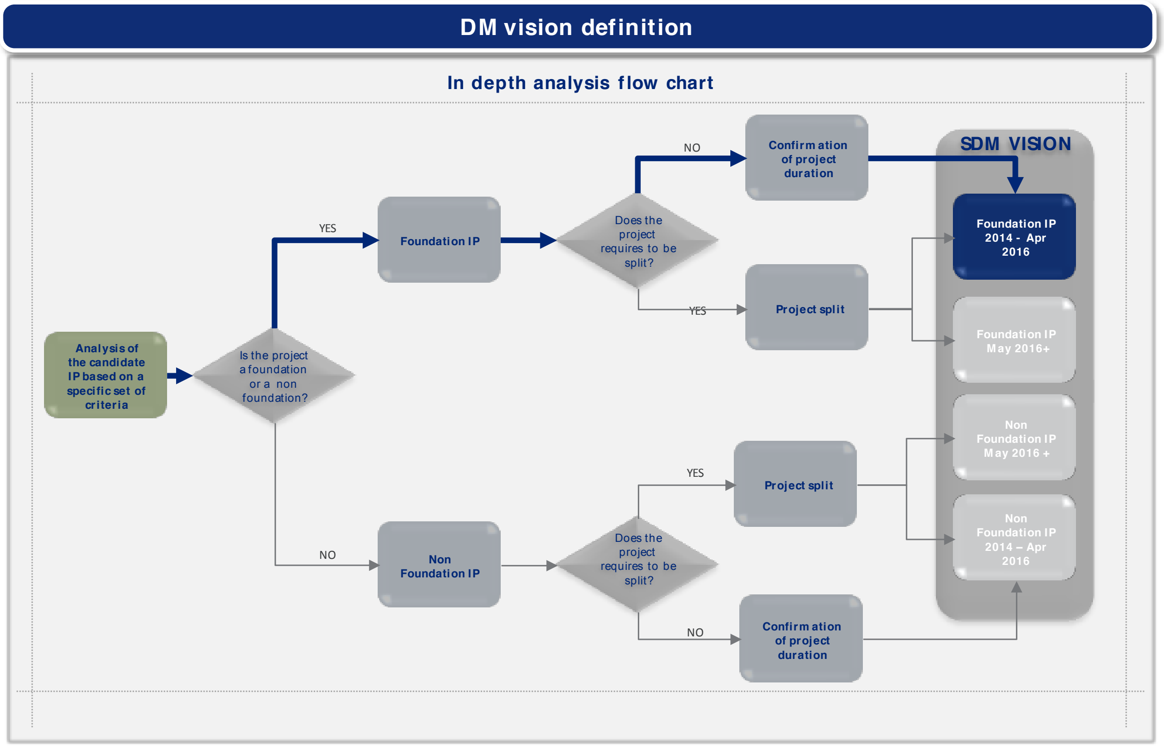
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**034AF2**
TITLE	**Data exchanges with airport stakeholders**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - Collect and share information/data between all stakeholders - Improve the efficiency of the operations through accurate data and awareness of all situations - Improvement in the management of the resources - Improvement in the management of normal and adverse situation
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/01/2016 - 30/11/2016
AIRBORNE	
INTERDEPENDENCIES	- 035AF2 - Pre-departure sequence; - 036AF2 - Aeronautical information system upgrade (airport operation database);
SYNCHRONIZATION	With: Airspace Users, Airports
LINKS	AF 2; Sub AF 2.1; FT 2.1.4; FT 2.1.1
NM LINKS	**NSP :** SO 6/1 & SO6/2 & SO6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

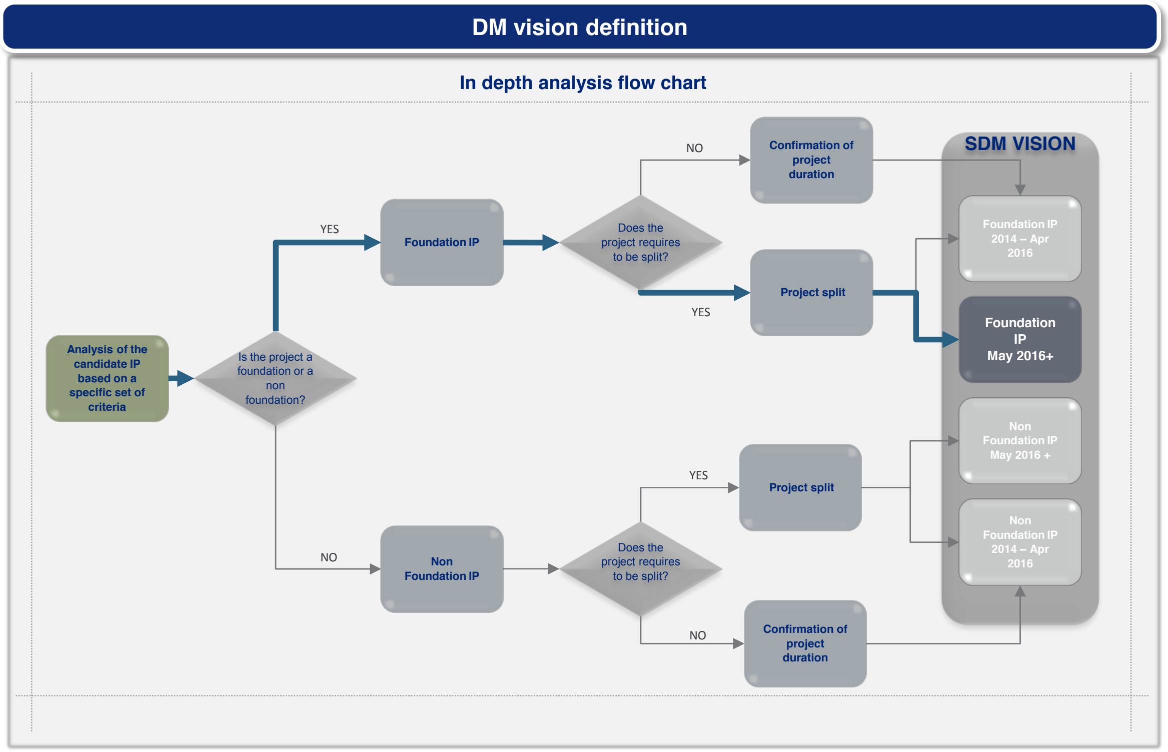
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**035AF2**
TITLE	**Pre-departure sequence**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.1**
PROJECT DESCRIPTION	**Objectives:** - Obtain a sequence that can allow the efficiency of the operation on the whole platform and when the DMAN will be implemented by the ANSP, the 2 tools will work in close cooperation in order to better manage the traffic - Reach a high level of accuracy - Reach a high level of safety on the platform - Share aeronautical data between all stakeholders in order to have the same level of information - Regulate the traffic on the platform - Propose a common display tool in order to provide the collected information through the different created information channels (see the others local implementation projects)
PROJECT LEADER	Aéroports de la Cote d'Azur
MEMBER STATE	FRANCE
TIMING	01/07/2017 - 31/01/2018
AIRBORNE	
INTERDEPENDENCIES	- 028AF2 - Automatic block time detection – option 1: use of radar data; - 029AF2 - Automatic block time detection – option 2: video cameras implementation; - 031AF2 - Data exchanges with the ANSP; - 032AF2 - Data exchanges with the NMOC; - 033AF2 - Data exchanges with COHOR; - 034AF2- Data exchanges with airport stakeholders; - 036AF2 - Aeronautical information system upgrade (airport operation database); - 077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: Airspace Users; Airports; ANSPs; ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.3; FT 2.1.4 AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP :** SO6/4 **NOP:** Advanced ATC Tower Implementation planned for 2015; DMAN not available; AMAN available. No reported CDM basic.

Recommendation:

This project is considered as a Foundation IP.

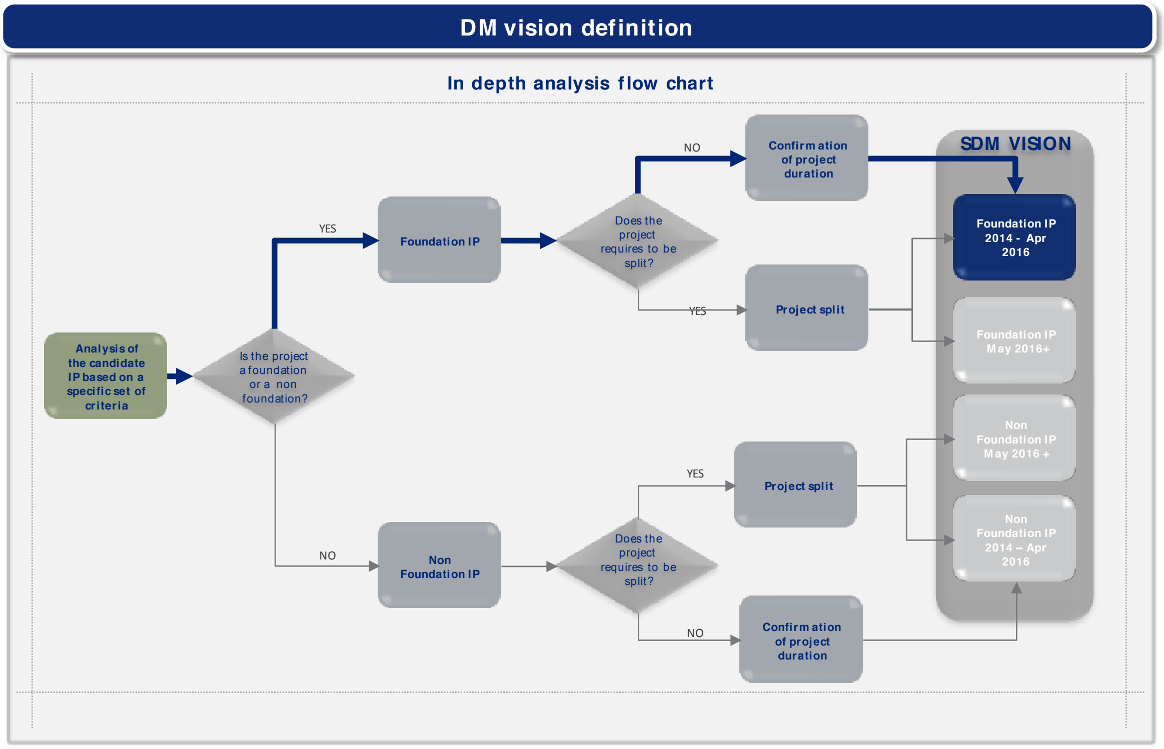


The project could be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**036AF2**
TITLE	**Aeronautical information system upgrade (airport operation database)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** - Keep the level of efficiency for the information management - Link with all local project implementation, this project allow to keep all the functionalities and allow to add the new ones keeping the fluidity of the data processing - Manage the different impacts of the CDM implementation (amongst others) on the different peripheral systems - Sustain the system potential - Make the others local implementation projects parts of the overall functioning of the platform This local project implementation is essential in order to reach the new objectives of efficiency.
PROJECT LEADER	Aéroports de la Cote d’Azur
MEMBER STATE	FRANCE
TIMING	01/01/2016 - 31/05/2018
AIRBORNE	
INTERDEPENDENCIES	- 028AF2 - Automatic block time detection – option 1: use of radar data; - 029AF2 - Automatic block time detection – option 2: video cameras implementation; - 031AF2 - Data exchanges with the ANSP; - 032AF2 - Data exchanges with the NMOC; - 033AF2 - Data exchanges with COHOR; - 034AF2 - Data exchanges with airport stakeholders; - 035AF2 - Pre-departure sequence; - 077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: Airspace Users; Airports: ANSPs; ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.3 AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP :** None **NOP:** None

Recommendation:

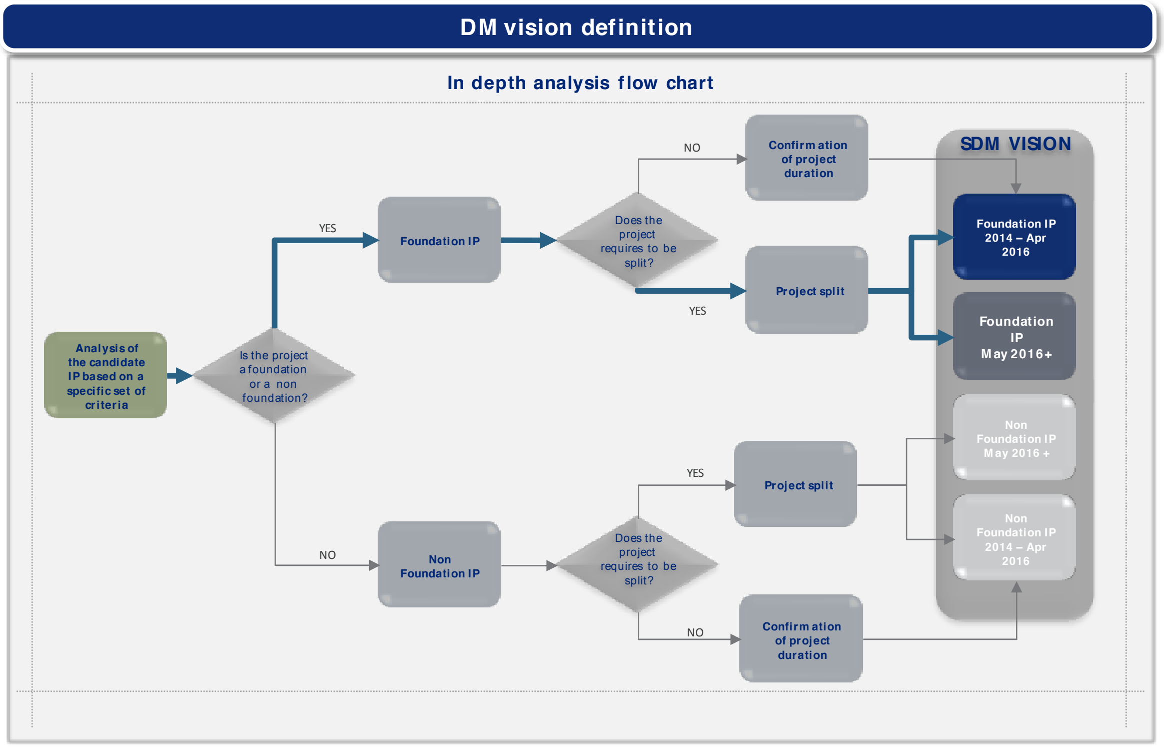
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**042AF2-A**
TITLE	**A-SMGCS Düsseldorf**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** The A-SMGCS-Düsseldorf project comprises the implementation of an A-SMGCS Level 2, including RIM function, at Düsseldorf Airport to improve runway safety and throughput and to support the provision of air traffic services and apron services. The project covers the following activities: - Replacing/exchanging the current primary sensor - Setting up the new cooperative sensor (MLAT) - Provision of the required infrastructure - Implementation of a tracker and a ground situation display - Safety assessments The realisation of this project will be the preparatory work for the further A-SMGCS Level 3 and 4. Implementation of the routing function is not part of the described project.
PROJECT LEADER	DFS
MEMBER STATE	GERMANY
TIMING	30/04/2013 – 04/04/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With: Airports
LINKS	
NM-Links	**NSP:** SO6/6 **NOP:** None

Recommendation:

This project is considered as a Foundation IP.

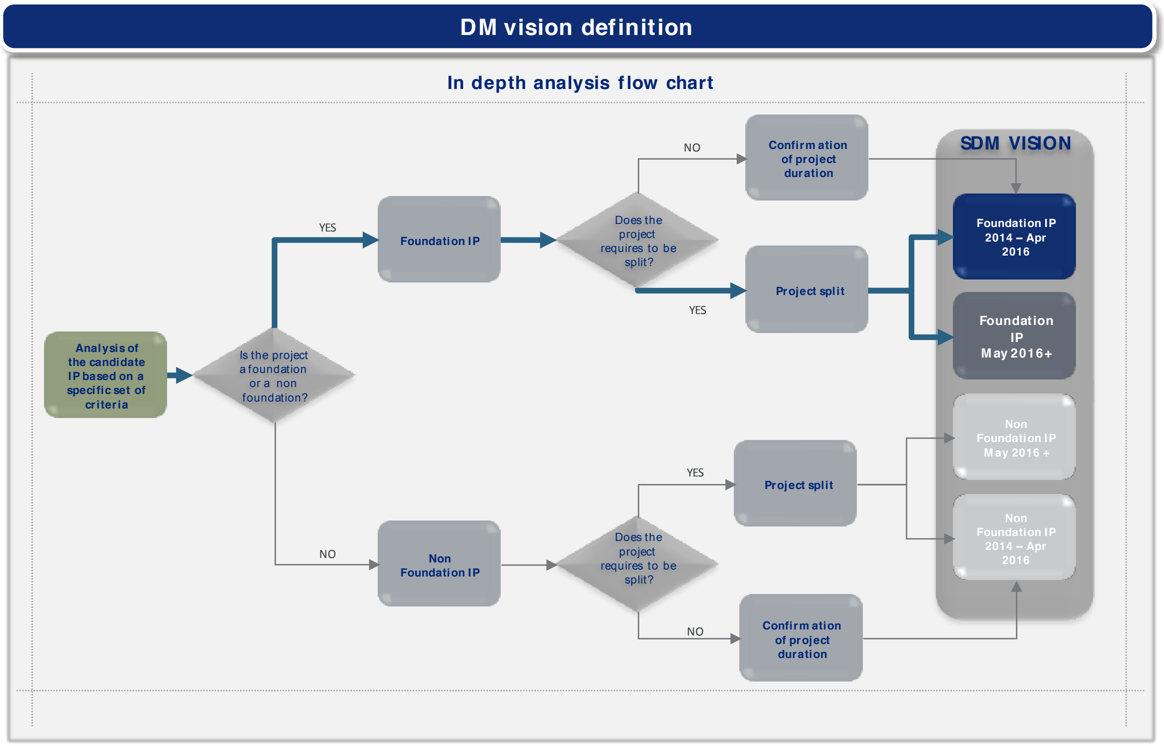


The project could be split in 2 phases. The first phase (January 2014 – April 2016) hast to be considered for this INEA Call 2014. The second phase (May 2016 – April 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**048AF2**
TITLE	**SYSAT@CDG**
MAIN AF / SUB AF / FT	**AF 2; SUB AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** In all CDG tower facilities (3 ATC + 2 apron cab) and Approach control room - introduce Electronic Flight Strip - provide new ASMGCS level 2 tracker with enhanced ground situation display including some level 3/4 functionalities - provide new Air Situation Display - provide new weather information, synoptic display and electronic documentation - increase information sharing among ATC actors and Airport handler especially regarding DMAN and CDM processes - be ready for SESAR evolution Phase 1 (2014-2016) : product acquisition and installation preparation Phase 2 (2017-2018): installation in operational rooms
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 31/12/2018
AIRBORNE	
INTERDEPENDENCIES	- 023AF2 - SMAN-Vehicle; - 026AF2 - Evolutions CDM-CDG; - 027AF2 - SMAN-Airport; - 054AF2 - CDG2020 Step1
SYNCHRONIZATION	With: Airspace Users; Airports: ANSPs
LINKS	AF 2; Sub AF 2.1; FT 2.1.1 AF 2; Sub AF 2.2; FT 2.2.1 AF 2; Sub AF 2.3; FT 2.1.2; FT 2.3.1 AF 2; Sub AF 2.4; FT 2.1.2; FT 2.2.1 AF 2; Sub AF 2.5; FT 2.5.1; FT 2.1.2; FT 2.2.1
NM LINKS	**NSP :** SO6/6 **NOP:** A-SMGCS (level 2): Available in TWR and APCH

Recommendation:

This project is considered as a Foundation IP.

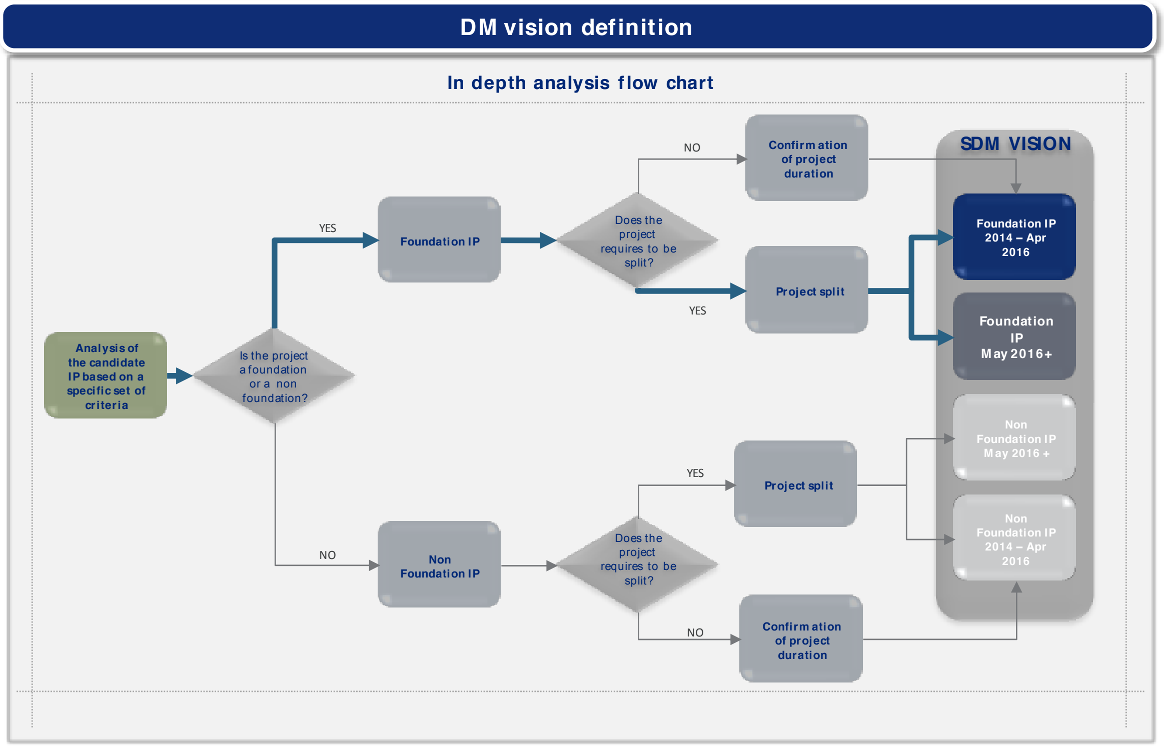


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**049AF2**
TITLE	**SYSAT@NCE**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** In the Tower cab and Approach control room - provide ASMGCS level 1 capability before full SYSAT deployment - introduce Electronic Flight Strip - evolve ASMGCS to level 2 with enhanced ground situation display including some level 3/4 functionalities, - provide new Air Situation Display, - provide new weather information, synoptic display and electronic documentation, - be ready for SESAR evolution. Phase 1 (2014-2016) : Acquisition, Deployment preparation Phase 2 (2017-2019): Deployment, Training and transition
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 01/07/2019
AIRBORNE	
INTERDEPENDENCIES	- 030AF2 - Equipment of ground vehicles to supply the A-SMGCS
SYNCHRONIZATION	With: ANSPs, Airport
LINKS	AF 2; Sub AF 2.1; FT 2.1.1 AF 2; Sub AF 2.2; FT 2.2.1 AF 2; Sub AF 2.3; FT 2.1.2; FT 2.3.1 AF 2; Sub AF 2.4; FT 2.1.2; FT 2.2.1 AF 2; Sub AF 2.5; FT 2.5.1; FT 2.1.2; FT 2.2.1
NM LINKS	**NSP :** SO6/6 **NOP:** A-SMGCS (level 1): Ongoing Implementation.

Recommendation:

This project is considered as a Foundation IP.

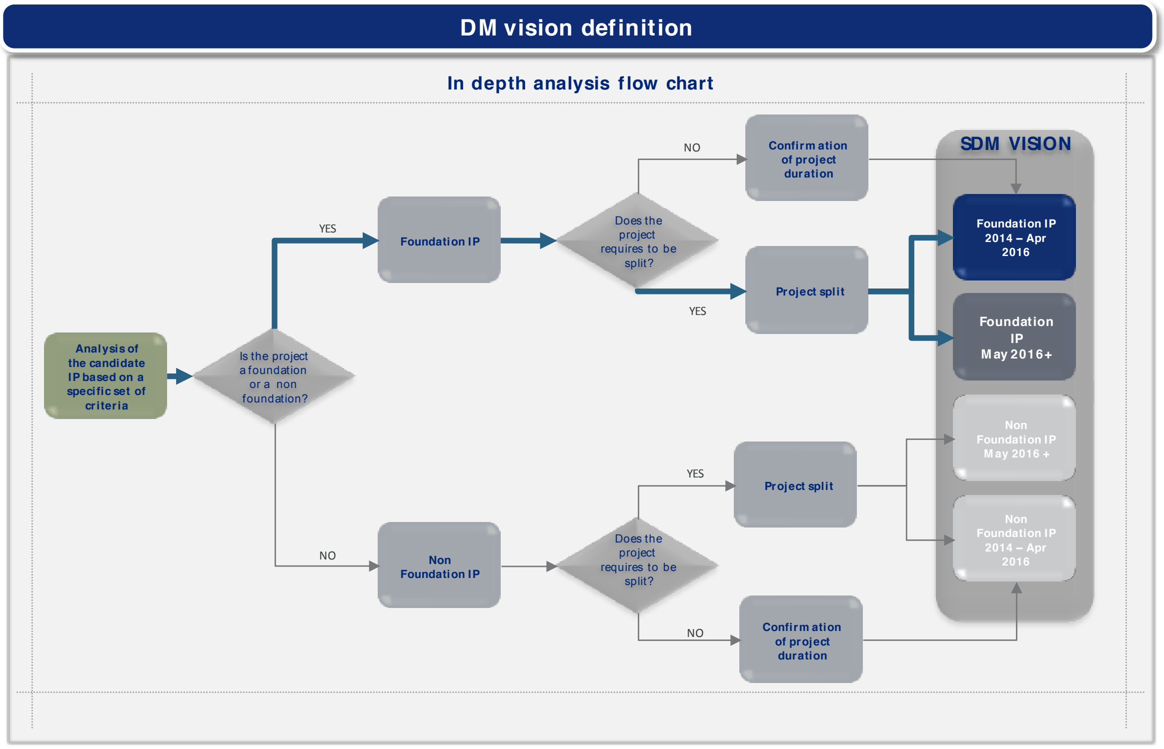


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – July 2019) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**050AF2**
TITLE	**SYSAT@ORY**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	In Tower cab and Approach control room - introduce Electronic Flight Strip, - provide new ASMGCS level 2 tracker with enhanced ground situation display including some level 3/4 functionalities, - provide new Air Situation Display, - provide new weather information, synoptic display and electronic documentation, - increase information sharing among ATC actors and Airport handler especially regarding DMAN and CDM processes, - be ready for SESAR evolution. Phase 1 (2014-2016) - ACQUISITION - SYSTEM ADAPTATION Phase 2 (2017-2019): IMPLEMENTATION
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 01/07/2019
AIRBORNE	
INTERDEPENDENCIES	- 023AF2 - SMAN-Vehicle; - 129AF2 - CDM-Orly; - 130AF2 - BOREAL-Orly
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.1; FT 2.1.1 AF 2; Sub AF 2.2; FT 2.2.1 AF 2; Sub AF 2.3; FT 2.1.2; FT 2.3.1 AF 2; Sub AF 2.4; FT 2.1.2; FT 2.2.1 AF 2; Sub AF 2.5; FT 2.5.1; FT 2.1.2; FT 2.2.1
NM LINKS	**NSP :** SO 6/6 **NOP:** A-SMGCS not reported.

Recommendation:

This project is considered as a Foundation IP.

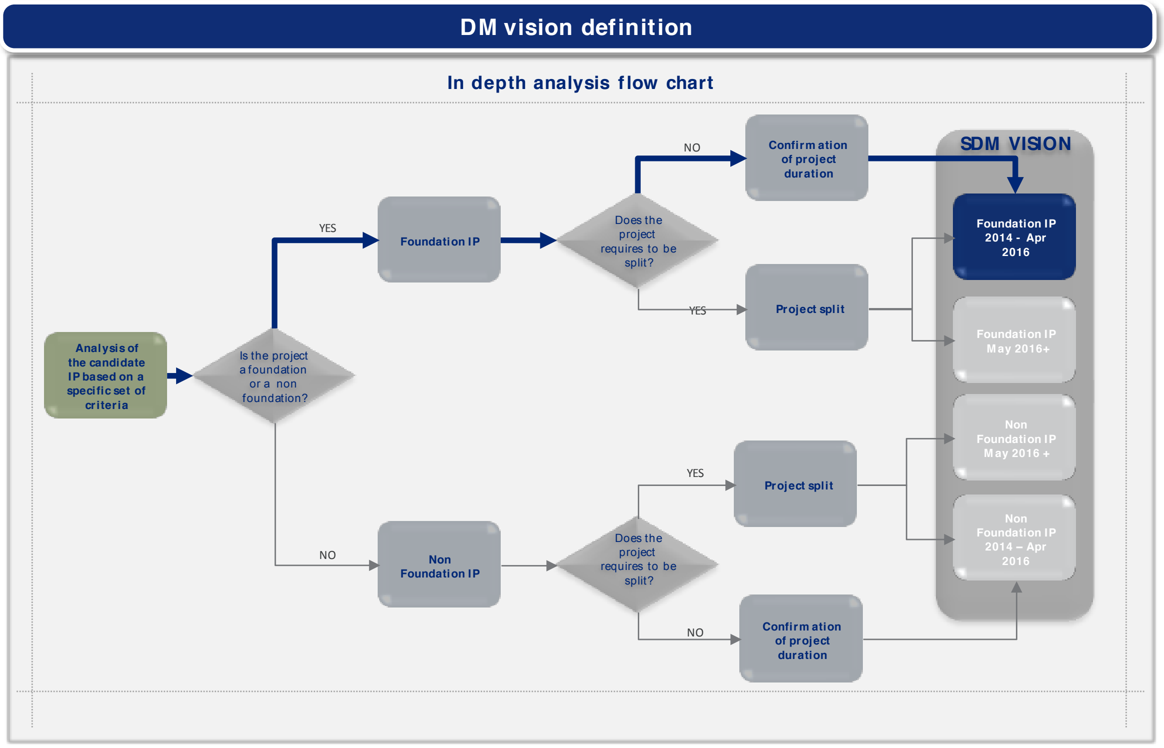


The project could be split in two phases. The first phase (January 2014- April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – July 2019) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**054AF2**
TITLE	**CDG2020 Step1**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** - Improve runway safety against runway intrusion - Improve runway throughput at peak arrival period A 2020 action plan has been set up to improve performance at CDG, following a balanced approach in the areas of safety and capacity. Step1 of the action plan is targeting improvement of the performance level at the horizon of 2017 by implementing new systems and procedures identified as quick wins. The deployment of those actions is coordinated with Aéroport de Paris (ADP) and the airport users.
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/01/2014 - 01/03/2017
AIRBORNE	
INTERDEPENDENCIES	- 048AF2 - SYSAT@CDG; - 070AF2 - RECAT EU DEPLOYMENT WAKE TOOLS SUPPORT
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, EUROCONTROL
LINKS	AF 1; Sub AF 1.1; FT 1.1.1 AF 2; Sub AF 2.3; FT 2.3.1
NM LINKS	**NSP :** SO6/6 **NOP:** A-SMGCS (level 2): Available in TWR and APCH

Recommendation:

This project is considered as a Foundation IP.

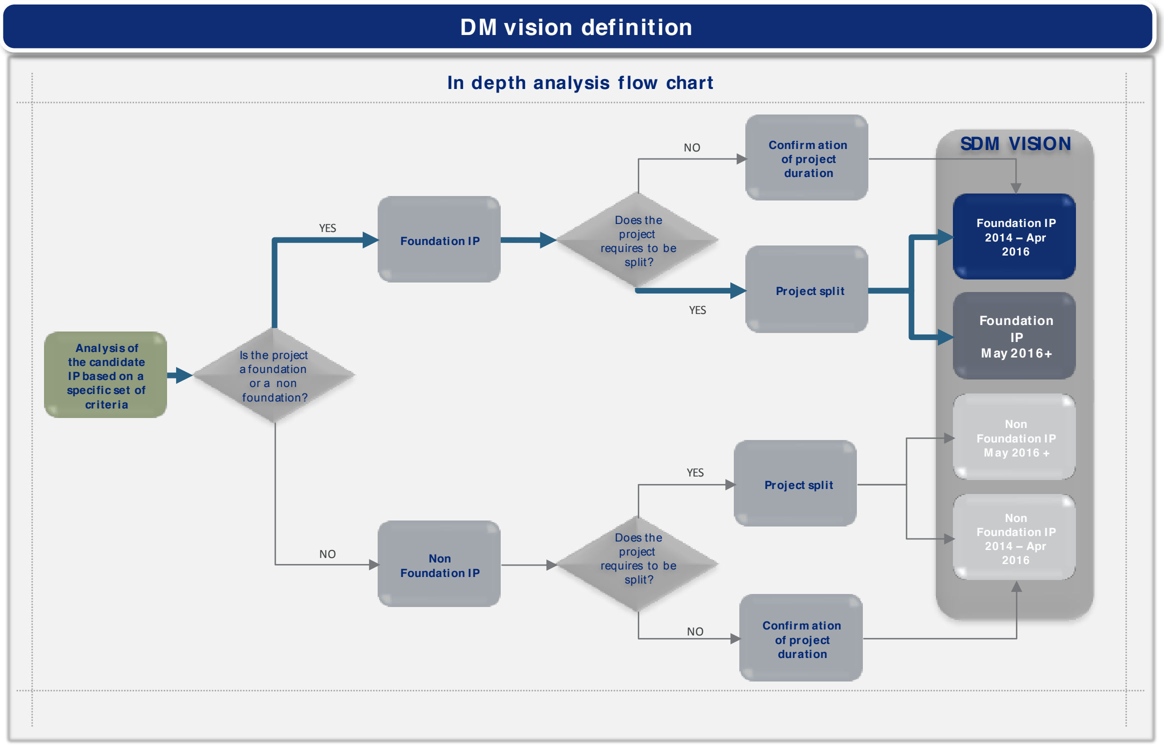


Content	Description
REFERENCE NUMBER	**057AF2 Phase 1**
TITLE	**Fulfillment of the prerequisite EFS for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2014-2016]**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** Partial fulfillment of the IR 716/2014 "Pilot common project", and in special the AF2 functionality which identifies the use of EFS ("Electronic Flight Strip" in the Tower domain) as a prerequisite for the following functions: - Departure management synchronized with pre-departure sequencing - Departure management integrating surface management constraints - Time based separation - Automated assistance to controller for surface movement planning and routing - Airport safety nets FAST TRACK FT2.1.2 Electronic Flight Strip (EFS). Electronic Strip where all the information regarding instructions controller/pilot about flight plan, surveillance, etc., are integrated. The tool will ease the data input and display for the use of advanced tools like DMAN, A-SMGCS and CDM." There will be two EFS operation modes, according to the operational complexity of the airport: 1. Based on lists. The information contained in the flight strip will be available in different lists and windows of the system 2. Based on labels. In airports with surface surveillance systems, the relevant flight strip information will be displayed (apart from the lists and windows) in the corresponding flight label It will require the development of a dynamic simulation system for training purposes. The following Spanish airports will implement Electronic Flight Strip: 1. Adolfo Suárez Madrid-Barajas 2. Barcelona El Prat 3. Palma de Mallorca This proposal includes all the development activities, to be carried out from 2014 to 2016, prior to the operational validation of the new function. The operational validation and deployment of the functionality in the above mentioned airports will be performed 2017 onwards.
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	057AF2 Phase 2 _ Fulfillment of the prerequisite EFS for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2017-2019]
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.2; Sub AF 2.3; Sub AF 2.4; Sub AF 2.5
NM LINKS	**NSP:** SO 6/5 & SO 6/6;

	NOP: None;

Recommendation:

This project is considered as a Foundation IP.



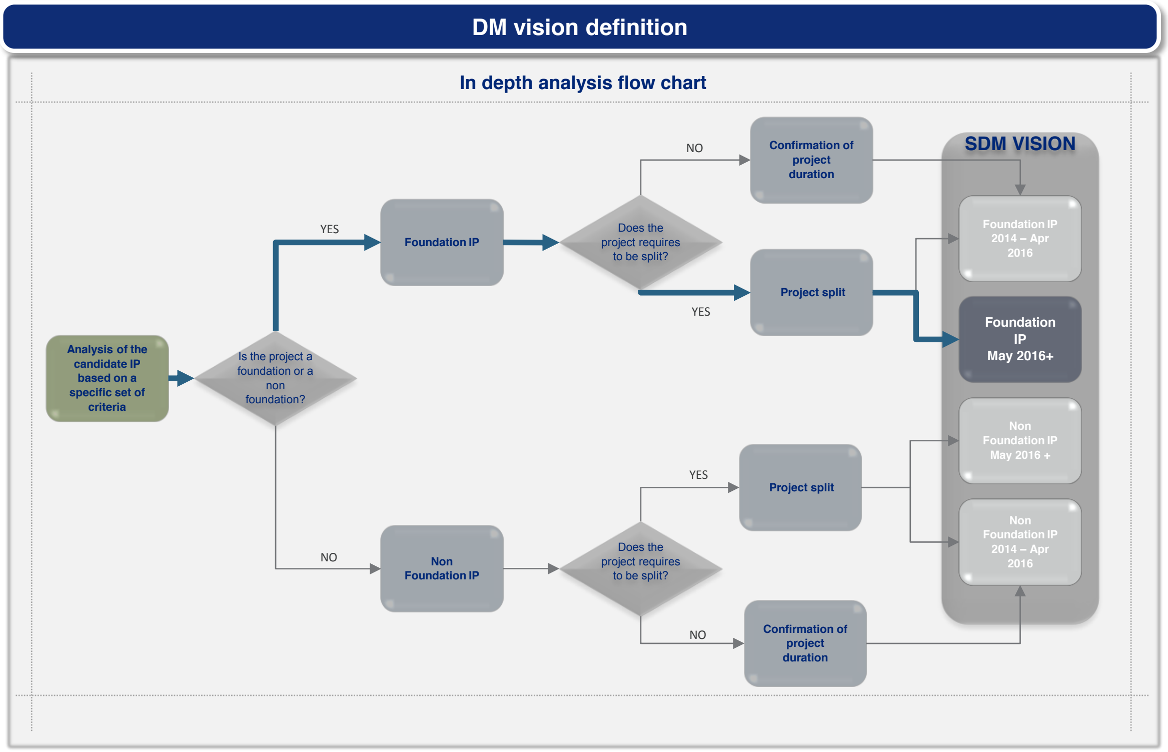
The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2016) needs to be part of the next INEA call linked to IP n. 057AF2 b in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**057AF2 Phase 2**
TITLE	**Fulfillment of the prerequisite EFS for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2017-2019]**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** Partial fulfillment of the IR 716/2014 "Pilot common project", and in special the AF2 functionality which identifies the use of EFS ("Electronic Flight Strip" in the Tower domain) as a prerequisite for the following functions: - Departure management synchronized with pre-departure sequencing - Departure management integrating surface management constraints - Time based separation - Automated assistance to controller for surface movement planning and routing - Airport safety nets FAST TRACK FT2.1.2 Electronic Flight Strip (EFS). Electronic Strip where all the information regarding instructions controller/pilot about flight plan, surveillance, etc., are integrated. The tool will ease the data input and display for the use of advanced tools like DMAN, A-SMGCS and CDM." There will be two EFS operation modes, according to the operational complexity of the airport: 3. Based on lists. The information contained in the flight strip will be available in different lists and windows of the system 4. Based on labels. In airports with surface surveillance systems, the relevant flight strip information will be displayed (apart from the lists and windows) in the corresponding flight label It will require the development of a dynamic simulation system for training purposes. The following Spanish airports will implement Electronic Flight Strip: 1. Adolfo Suárez Madrid-Barajas 2. Barcelona El Prat 3. Palma de Mallorca This proposal includes all the development activities, to be carried out from 2014 to 2016, prior to the operational validation of the new function. The operational validation and deployment of the functionality in the above mentioned airports will be performed 2017 onwards.
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2017 – 31/12/2019
AIRBORNE	
INTERDEPENDENCIES	057AF2 Phase 1 _ Fulfillment of the prerequisite EFS for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2014-2016]
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.2; Sub AF 2.3; Sub AF 2.4; Sub AF 2.5
NM LINKS	NSP: SO 6/5 & SO 6/6;

	NOP: None;

Recommendation:

This project is considered as a Foundation IP.

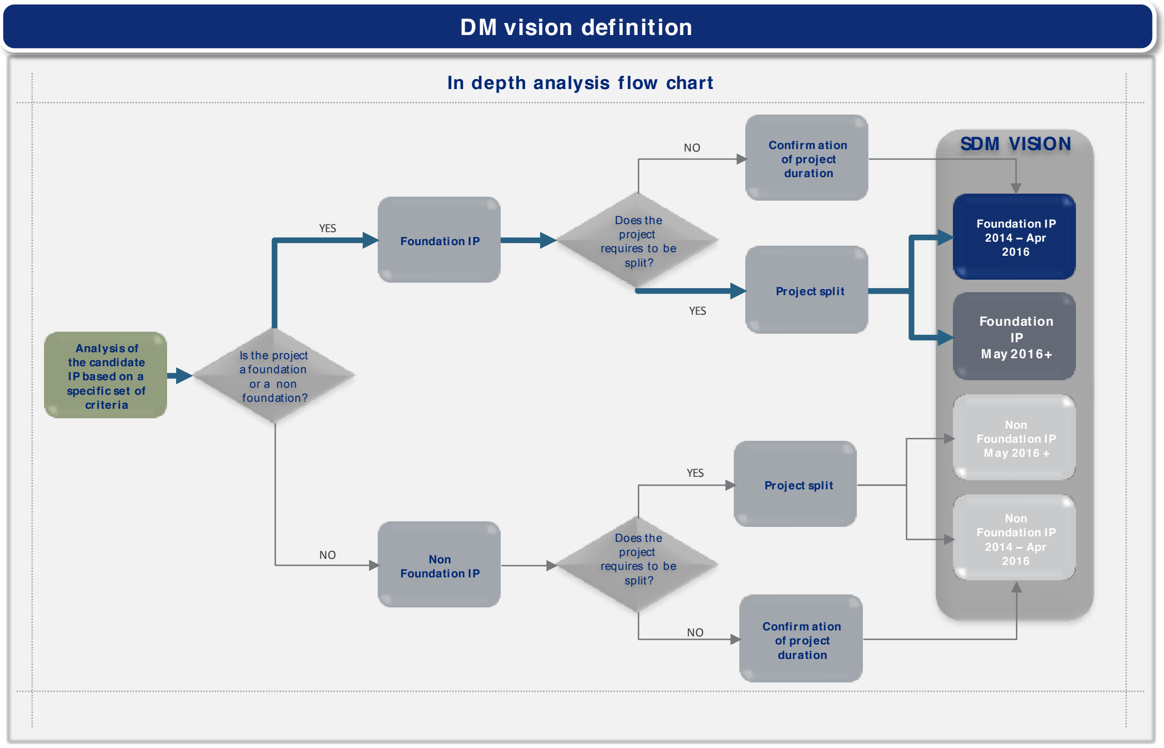


The project could be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**058AF2 Phase 1**
TITLE	**Fulfillment of the prerequisite A-SMGCS 2 for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2014-2016]**
MAIN AF / SUB AF / FT	**AF 2 ; Sub AF 2.2 ; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** Partial fulfillment of the IR 716/2014 "Pilot common project", and in special the AF2 functionality which identifies the implementation and deployment of A-SMGCS 2 as a prerequisite for the Airport Safety Nets function. ENAIRE´s FAST TRACK FT2.2.1 A-SMGCS 2 will focus on Runway Incursion Alerts. The function shall integrate the surveillance information (regarding all relevant aircraft and vehicles on the area) and controller runway related clearances, to generate and distribute the appropriate alerts. The following Spanish airports will implement Runway Incursion Alerts based on A-SMGCS 2 : 1. Adolfo Suárez Madrid-Barajas 2. Barcelona El Prat 3. Palma de Mallorca This proposal includes all the development activities, to be carried out from 2014 to 2016, prior to the operational validation of the new function. The operational validation and deployment of the functionality in the above mentioned airports will be performed 2017 onwards.
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	058AF2 Phase 2 _ Fulfillment of the prerequisite A-SMGCS 2 for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2017-2019]
SYNCHRONIZATION	With : Airspace Users, Airports, ANSPs
LINKS	AF2 ; Sub AF 2.3 ; Sub AF 2.4 ; Sub AF 2.5
NM LINKS	**NSP:** SO 6/6; **NOP:** ASMGCS Level 1 available in LEMD; On-going implementation Level 1 in LEBL; ASMGCS Level 1 available in LEPA;

Recommendation:

This project is considered as a Foundation IP.

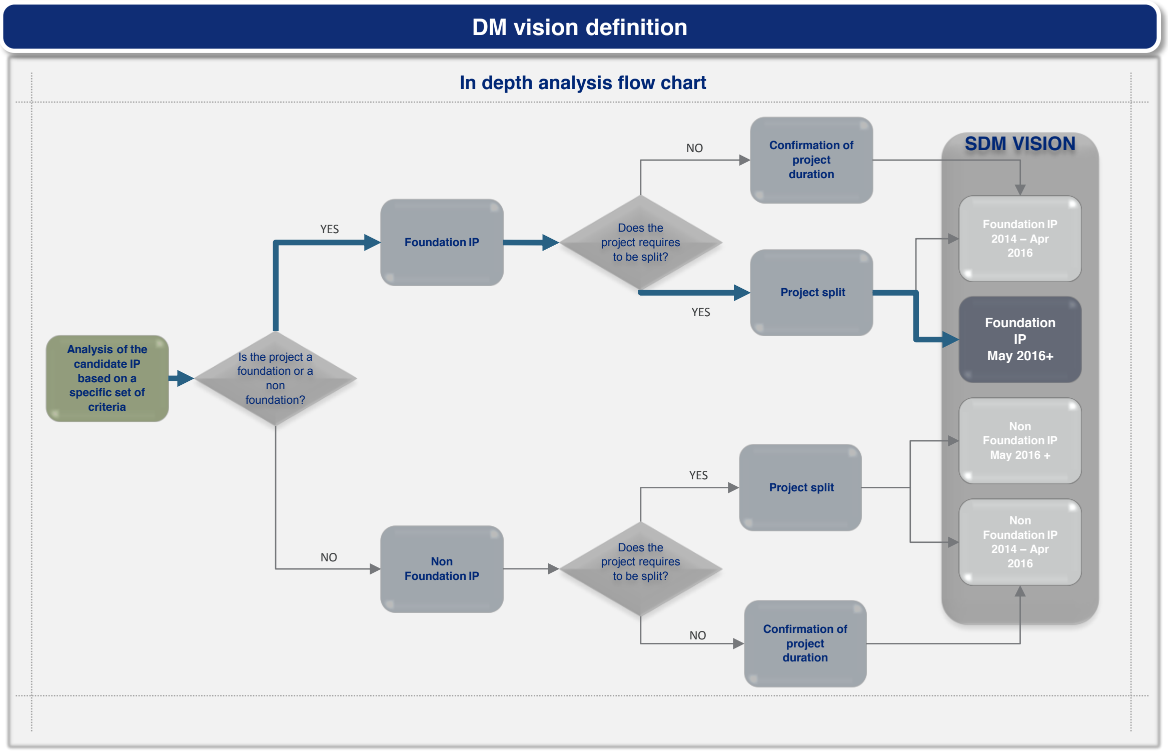


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2016) needs to be part of the next INEA call linked to IP n. 058AF2 b in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**058AF2 Phase 2**
TITLE	**Fulfillment of the prerequisite A-SMGCS 2 for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2017-2019]**
MAIN AF / SUB AF / FT	**AF 2 ; Sub AF 2.2 ; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** Partial fulfillment of the IR 716/2014 "Pilot common project", and in special the AF2 functionality which identifies the implementation and deployment of A-SMGCS 2 as a prerequisite for the Airport Safety Nets function. ENAIRE´s FAST TRACK FT2.2.1 A-SMGCS 2 will focus on Runway Incursion Alerts. The function shall integrate the surveillance information (regarding all relevant aircraft and vehicles on the area) and controller runway related clearances, to generate and distribute the appropriate alerts. The following Spanish airports will implement Runway Incursion Alerts based on A-SMGCS 2 : 4. Adolfo Suárez Madrid-Barajas 5. Barcelona El Prat 6. Palma de Mallorca This proposal includes all the development activities, to be carried out from 2014 to 2016, prior to the operational validation of the new function. The operational validation and deployment of the functionality in the above mentioned airports will be performed 2017 onwards.
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2017 – 31/12/2019
AIRBORNE	
INTERDEPENDENCIES	058AF2 Phase 1 _ Fulfillment of the prerequisite A-SMGCS 2 for the PCP AF2 Sub-Functionality: Airport Integration and Throughput [2014-2016]
SYNCHRONIZATION	With : Airspace Users, Airports, ANSPs
LINKS	AF2 ; Sub AF 2.3 ; Sub AF 2.4 ; Sub AF 2.5
NM LINKS	NSP: SO 6/6; NOP: ASMGCS Level 1 available in LEMD; On-going implementation Level 1 in LEBL; ASMGCS Level 1 available in LEPA;

Recommendation:

This project is considered as a Foundation IP.



The project could be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

<table>
<tr><th>Content</th><th>Description</th></tr>
<tr><td>REFERENCE NUMBER</td><td>064AF2</td></tr>
<tr><td>TITLE</td><td>ENAV Airport System upgrade</td></tr>
<tr><td>MAIN AF / SUB AF / FT</td><td>AF 2; Sub AF 2.5; FT 2.5.1</td></tr>
<tr><td>PROJECT DESCRIPTION</td><td>Objectives:
The main objective is to increase the efficiency and safety of operations at Malpensa and Fiumicino, the two main Italian airports, by improving the surveillance coverage, quality and accuracy in order to extend its capabilities over the all movement area (including most of the suitable apron areas), with a view to implement functionalities that shall facilitate and enable the deployment of Airport Safety Nets as requested within Reg. 716/2014
The enhancement of surveillance is needed in order to fully satisfy the requirements for ASMGCS level 1 and for laying down the bases for ASMGCS Level 2. In particular, the aim of this project is to achieve the
Implementation of A-SMGCS level 2 at Malpensa airport and full A-SMGCS level 1 at Fiumicino airport. The project modularity will reflect the different requirements at airport level, allowing each working package to be further decomposed in different modules.

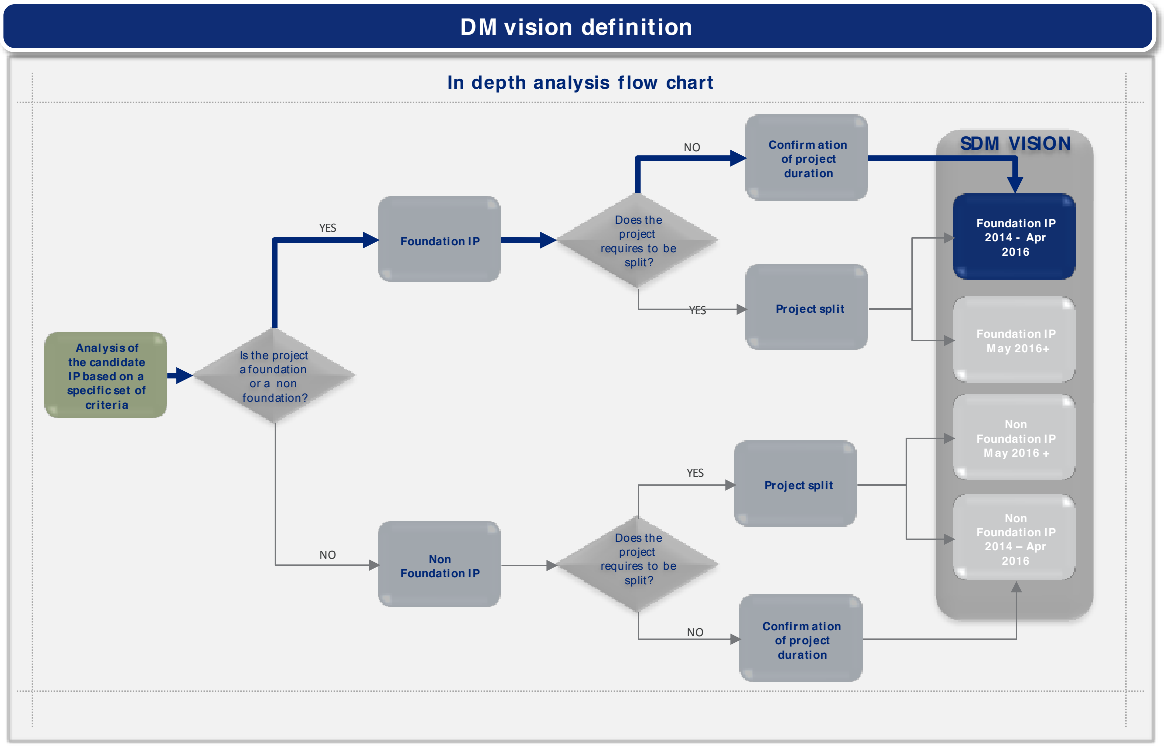
In particular the surveillance functionality will be improved through:
- The implementation of a new multi-sensor data fusion that will be able to integrate all the contributions coming from different surveillance sensors (ADS-B, Multilateration , SMR,)
- The enhancement of the current Surface Movement Radar (SMR)
- the upgrade of the Multilateration system (MLAT), enhancing the actual coverage by adding and integrating other MLAT ground stations.

The new tower system will provide the :
- Electronic Flight Progress Strips (EFPS).
- New Airport Surveillance Data presentation
- Basic safety (Conflicting clearances through the use of EFPS).</td></tr>
<tr><td>PROJECT LEADER</td><td>ENAV</td></tr>
<tr><td>MEMBER STATE</td><td>ITALY</td></tr>
<tr><td>TIMING</td><td>01/01/2014 – 31/12/2016</td></tr>
<tr><td>AIRBORNE INTERDEPENDENCIES</td><td>NO</td></tr>
<tr><td>SYNCHRONIZATION</td><td>With Airport, ANSPs</td></tr>
<tr><td>LINKS</td><td>AF 2; Sub AF 2.1; FT 2.1.2</td></tr>
<tr><td>NM LINKS</td><td>NSP : SO 6/5 & SO 6/6 ;

NOP: In LIMC, A-SMGCS (level 1): Ongoing Implementation. WIP in progress with Italian CAA to define A-SMGCS level 1. In LIRF, ASMGCS not reported ;</td></tr>
</table>

Recommendation:

This project is considered as a Foundation IP.



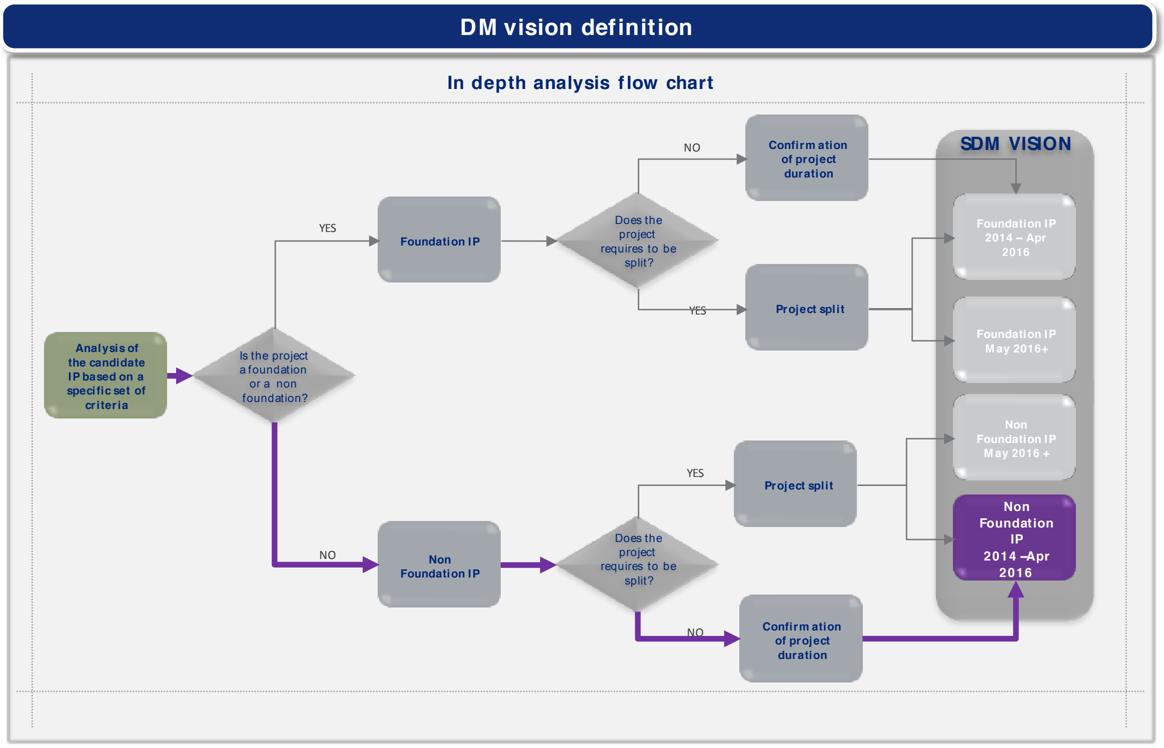
Content	Description
REFERENCE NUMBER	**070AF2**
TITLE	**RECAT EU DEPLOYMENT PARIS CDG _ WAKE KNOWLEDGE HUB DEVELOPMENT**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.3; FT 2.3.1**

PROJECT DESCRIPTION	**Objectives:**
	- Deploy RECAT-EU to increase runway throughput by between 5 and 8% whilst safely deploying operational resilience and managing user demand for peak period runway access.
	- Mitigate, in recognition of RP2 KPI of the European Performance Scheme:
	  o Additional Taxi Out time;
	  o Terminal Airspace (ASMA) and
	  o Arrival ATFM delay per flight attributable to terminal and airport air navigation services and caused by landing restrictions at the destination airport,
	- Support wider deployment of RECAT-EU and F2_SAF2.3_FT2.3.1 Time Based Separation by development of the wake and RECAT method and metrics, and A-SMGCS Knowledge Hub supporting safety nets, RECAT EU and TBS Deployment including the transfer of associated knowledge to European Industry and the development of the associated standards.
	
	AF2_S-AF2.3_FT2.3.1_Time Based Separation Wake and A-SMGCS Knowledge Hub RECAT-EU Deployment
	This response is specifically targeting capacity constrained airports or those with significant peak time activity and associated delay (airport and network). The target area is Europe and its capacity constrained airports or airports with significant peak with a minimum of 10% heavy aircraft and associated surface and terminal airspace delay.
	The response also targets safety improvements through the deployment of A-SMGCS, specifically Controller Safety Nets and Runway Status Lights.
	The activity covers both AF2 Time Based Separation and A-SMGCS Safety Nets in the PCP and activities supporting the European Performance Scheme.
	The task is linked to the CDG 2020 action plan, Tasks X.1 Advanced runway Safety Net targeting a significant reduction of runway incursions and X.2 Reduced Wake Vortex separation, targeting improvement of performance above 5% from first deployment.
	The activity also concerns the participation of EUROCONTROL (as part of a joint proposal –with other airports TBC) in the deployment of A-SMGCS, Time Based Spacing and RECAT EU to improve surface and runway safety and increase runway throughput and reduce surface and terminal airspace delays as a contribution to the European Performance Scheme.
	RECAT EU was developed by EUROCONTROL and following an extensive 12 month stakeholder consultation and a 9 month EASA assessment was agreed by EASA *"that*

	RECAT-EU wake turbulence separation scheme can be used by Member States as a basis to update current schemes". The product is mature; however, the knowledge remains in EUROCONTROL with almost no other external RECAT EU expertise. The proposed activity will be in support of a partner's deployment and will ensure knowledge transfer to individual airports and a wider supporting industry partnership through a knowledge hub. Paris CDG is in deployment of both RWSL and RECAT EU so the deployment phase has started. RECAT EU is not constrained to other deployment activities and has no prerequisites. Furthermore, there are minimal requirements for system changes to support HMI information display to controllers and FAA experience indicates limited controller down time for controller training. The knowledge hub is an input to a wider A-SMGCS and Time Based Separation deployment.
PROJECT LEADER	EUROCONTROL
MEMBER STATE	BELGIUM
TIMING	01/09/2014 – 30/4/2016
AIRBORNE	
INTERDEPENDENCIES	054AF2 - CDG2020 Step1
SYNCHRONIZATION	With Airspace Users, ANSPs, EUROCONTROL;
LINKS	AF 1; Sub AF 1.1; FT 1.1.1
NM LINKS	**NSP:** NOT ASSESSED. NM inputs provided through the normal channels as any other implementing stakeholder; **NOP:** NOT ASSESSED. NM inputs provided through the normal channels as any other implementing stakeholder;

Recommendation:

This project is considered as a Non Foundation IP.



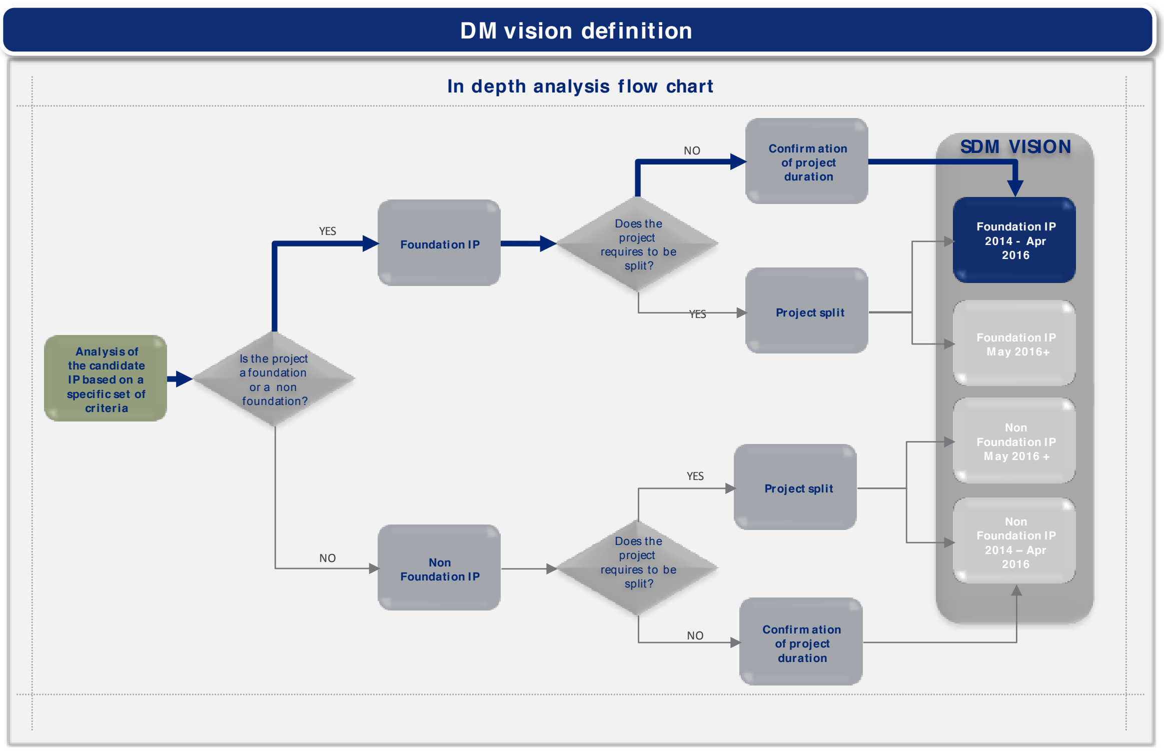
Content	Description
REFERENCE NUMBER	**086AF2**
TITLE	**A-CDM Extension**
MAIN AF / SUB AF / FT	**AF2; Sub AF 2.1; FT 2.1.3**

PROJECT DESCRIPTION	**Objectives:**
	- Enhancement of the pre-departure sequencing (PDP FT2.1.3 Basic A -CDM) by:
	  o Considering minimum departure intervals (MDI) on standard instrument departures (SID)
	  o facilitating a demand & capacity balance capability
	- Implementation of a "de-icing" element enabling Airport CDM for adverse conditions (PDP FT2.1.3 Basic A-CDM)

PROJECT LEADER	FRAPORT
MEMBER STATE	Germany
TIMING	01/03/2014 – 12/02/2016
AIRBORNE	
INTERDEPENDENCIES	077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With ANSP, ECTL / NM
LINKS	AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM-Links	**NSP:** SO6/4 **NOP:** A-CDM available

Recommendation:

This project is considered as a Foundation IP.



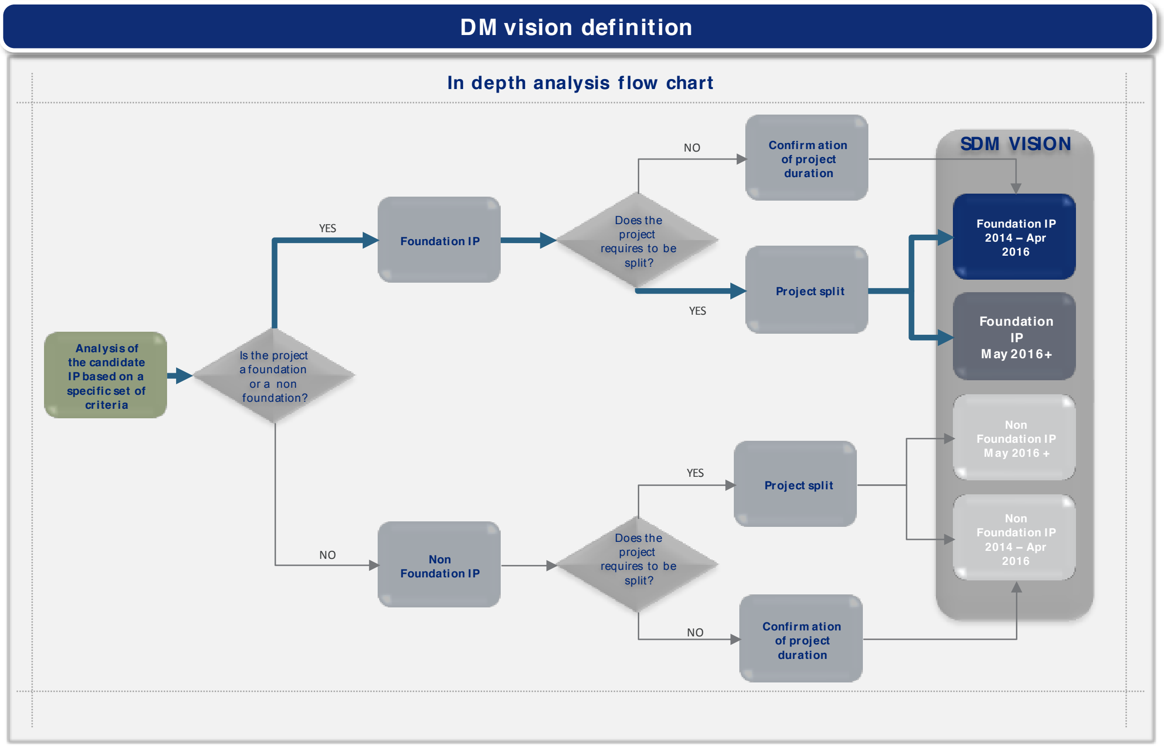
Content	Description

REFERENCE NUMBER	087AF2 - A
TITLE	Apron Controller Working Position (Part 1)
MAIN AF / SUB AF / FT	AF 2; Sub AF 2.2; FT 2.2.1
PROJECT DESCRIPTION	**Objectives:** Fraport AG is responsible for apron management services at Frankfurt Airport and as such subject to a number of provisions in Commission Implementing Regulation (EU) No 716/2014 ("Pilot Common Project"). These are: - 2.1.1 Departure Management Synchronised with Pre-Departure Sequencing (in particular with regard to 'variable taxi-times'), - 2.1.2 Departure Management integrating Surface Management Constraints ('routing'), - 2.1.4 Automated Assistance to Controller for Surface Movement Planning and Routing, - 2.1.5 Airport Safety Nets and - 2.5 Essential prerequisites. The latter concern particularly A-SMGCS Level 1 and 2, EFS and DMAN. Consequently, the implementation project is linked to the following sections of the Preliminary Deployment Programme (PDP): - SMGCS Level 1 (Surveillance) (FT 2.2.1 (A-SMGCS Level 1/2)), - SMGCS Level 2 (Alerting) (FT 2.2.1 (A-SMGCS Level 1/2) and FT 2.5.1 (Airport Safety Nets Associated with A-SMGCS Level 2)), - A-SMGCS Level 2+ (Routing) (S-AF 2.4 (Automated Assistance to Controller for Surface Movement Planning and Routing)) and - —as a prerequisite—EFS (FT 2.1.2 Electronic Flight Strips (EFS)). Underlying objectives of the project are: - The implementation of an Advanced Surface Movement Guidance and Control System (A-SMGCS) providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions while maintaining the required level of safety. - The routing and planning function shall calculate the most operationally relevant route as free as possible of conflicts which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement. - The apron controller working position shall allow the controller to manage surface route trajectories. - The flight data processing system shall be able to receive planned and cleared routes assigned to aircraft and vehicles and manage the status of the route for all concerned aircraft and vehicles. - The system shall also be complemented by a function providing controllers with appropriate alerts when potential conflicts primarily on taxiways and intrusions to restricted areas are detected. Conflicts on runways are of secondary

	interest in this implementation project as the runway system is controlled by the local Air Navigation Service Provider. - The controller working position shall host warnings and alerts with an appropriate human-machine interface (HMI) including support for cancelling the alert. - Digital systems, such as electronic flight strips (EFSs), shall integrate the instructions given by the controller with other data such as flight plan, surveillance, routing, published rules and procedures
PROJECT LEADER	FRAPORT
MEMBER STATE	GERMANY
TIMING	01/01/2014 – 31/12/2016 (Part 1)
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With: ANSP
LINKS	AF 2; Sub AF 2.1; Sub AF 2.4; Sub AF 2.5; FT 2.1.1; FT 2.1.2; FT 2.5.1
NM-Links	**NSP:** SO6/6 **NOP:** A-SMGCS (level 1): Available in TWR. Electronic Strips: Available in TWR and APP

Recommendation:

This project is considered as a Foundation IP.

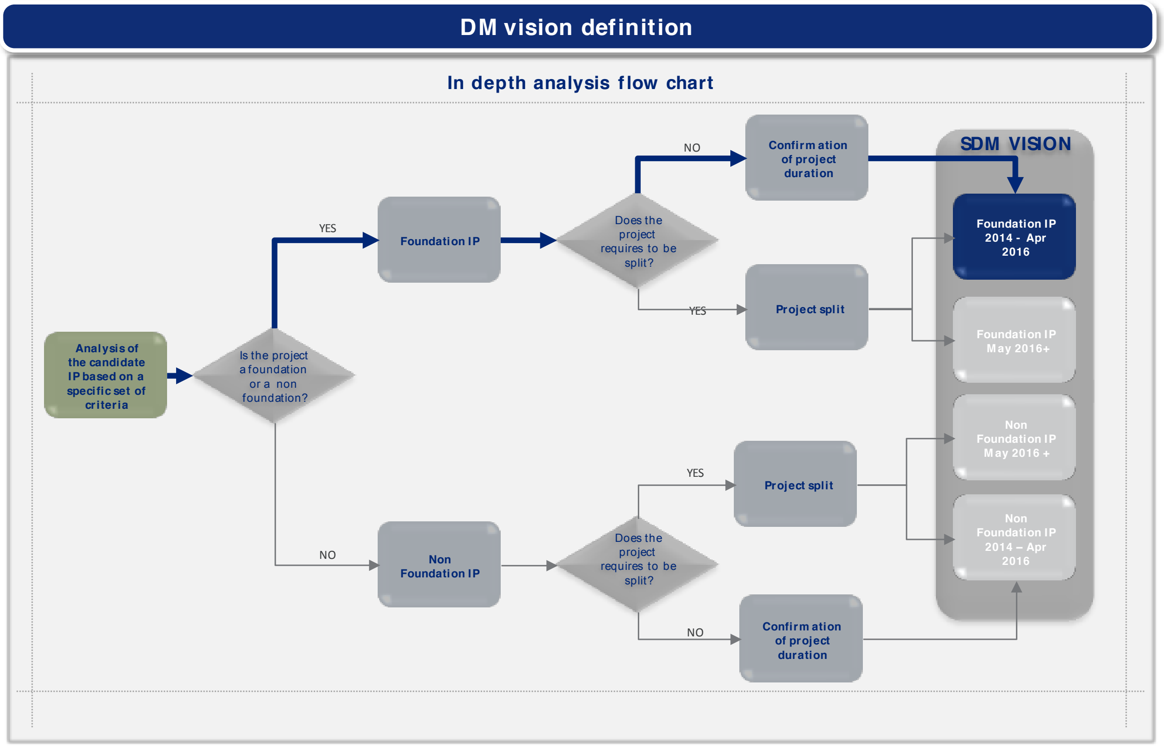


The project could be split in 2 phases. The first phase (January 2014 - April 2016) has to be considered for this INEA Call 2014. The second phase (May 2016 - December 2019) including Part 2 needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**088AF2**
TITLE	**Airport Safety Net: Mobile Detection of Air Crash Tenders**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** - Equipage of Air Crash Tenders with a Moving Map based on A-SMGCS surveillance data - Identification of deviations from routes and procedures of Air Crash Tenders (PDP FT2.5.1 Airport Safety Nets associated with A-SMGCS Level 2) - Improvement of situational awareness of Air Crash Tenders (PDP FT2.5.1 Airport Safety Nets associated with A-SMGCS Level 2) - Early prediction of situations that would end up in hazardous situations (PDP FT2.5.1 Airport Safety Nets associated with A-SMGCS Level 2)
PROJECT LEADER	FRAPORT
MEMBER STATE	Germany
TIMING	01/07/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	
NM-Links	**NSP:** SO6/6 **NOP:** A-SMGCS (level 1): Available in TWR. Electronic Strips: Available in TWR and APP

Recommendation:

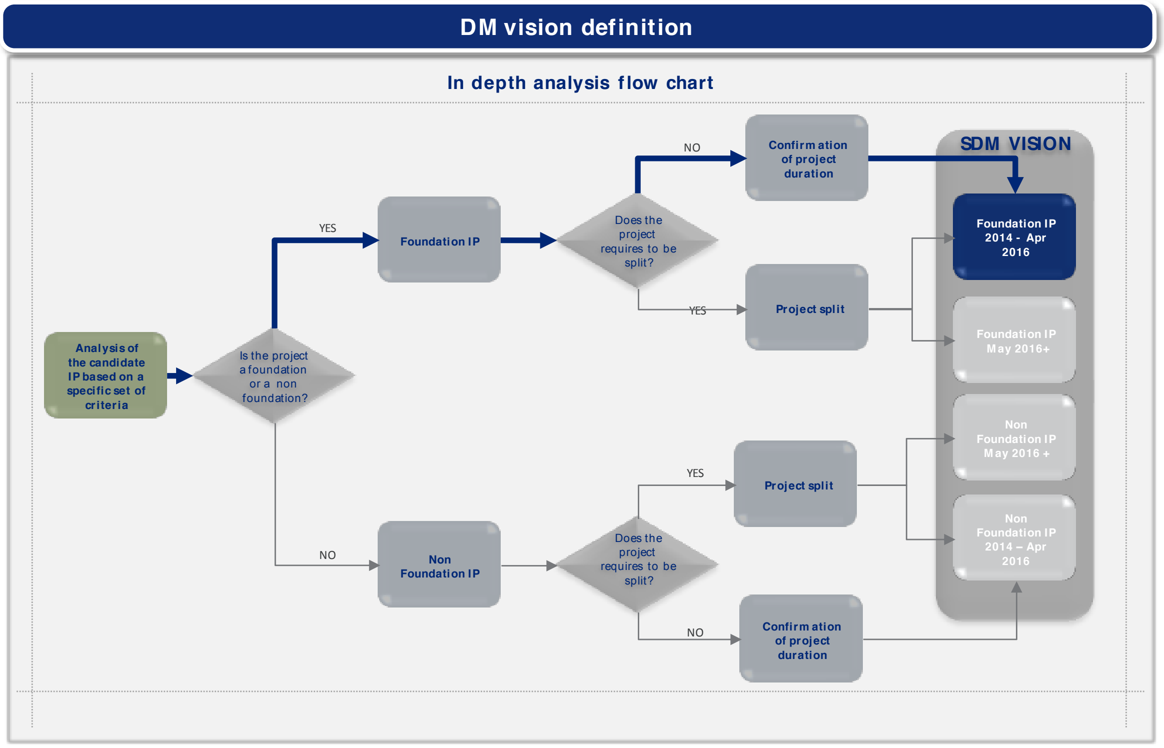
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**090AF2**
TITLE	**Departure Management Synchronized with Pre-Departure Sequencing (PDS)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.1**
PROJECT DESCRIPTION	**Objectives:** The high-level objectives of the project are as follows: - Deliver runway capacity for declared 55 movements/hour - Achieve 85% overall on-time performance (i.e. 85% of flights departing with delay <= 15 min) - Improved environmental footprint - reduced cost/noise/carbon in ground operations and noise respite capability - Connection to European network (Network Manager) for improved slots during busy periods - Reduce taxi times, improve Air Traffic Flow Management (ATFM) slot adherence, and improve accuracy of departure times (Target Take-Off Times) - Introduce Departure Manager, including improved Human-Machine Interface (HMI) for Tower supervisor position (ATC Watch Manager)
PROJECT LEADER	Gatwick Airport Limited
MEMBER STATE	UK
TIMING	01/10/2012 - 05/02/2015
AIRBORNE	
INTERDEPENDENCIES	077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With: Airspace Users, Airports, EUROCONTROL/NM
LINKS	AF 2; AF 4; AF 5; Sub AF 2.1; Sub AF 4.2; Sub AF 5.5; FT 2.1.3; FT 2.1.4; FT 4.2.1; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP:** SO 6/5 & SO 6/6; **NOP:** A-CDM, DMAN, and AMAN available;

Recommendation:

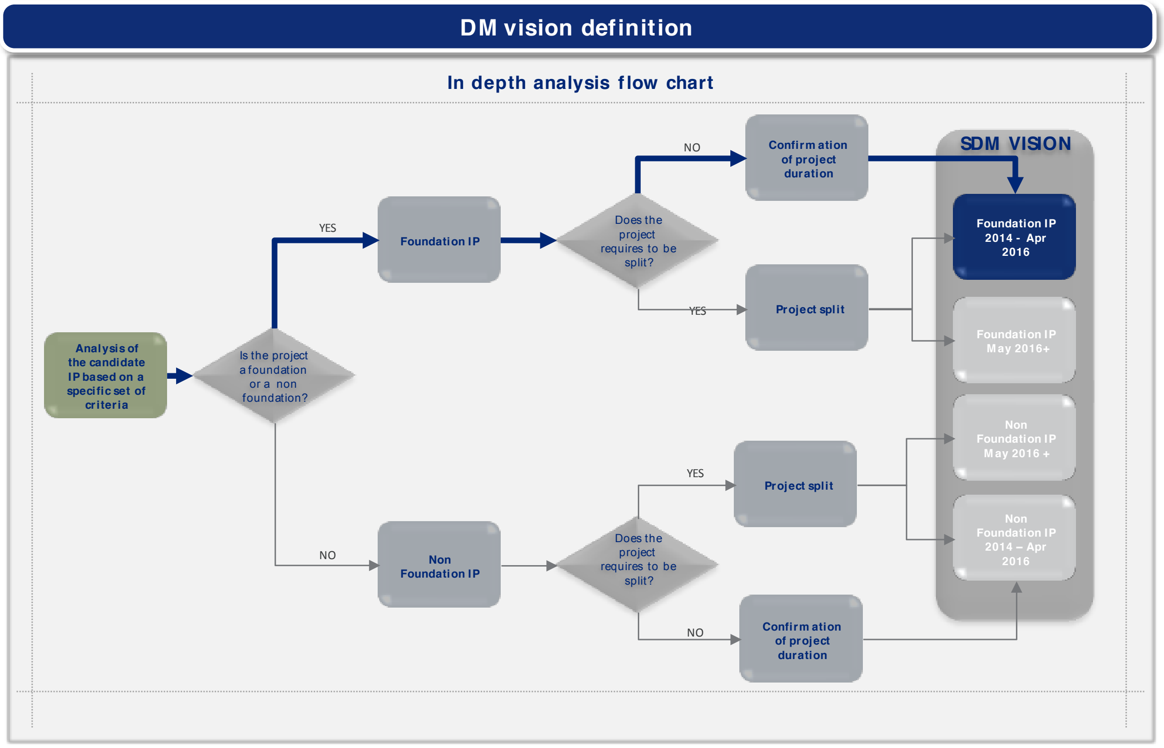
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**092AF2**
TITLE	**Enhanced Departure Management integrating airfield surface assets**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** The high-level objectives of the project are as follows: - Achieve 100% equipage of ground service vehicles with tracking technology - Increase airside safety by providing visibility of appropriate vehicles and equipment to Air Traffic Control Tower - Enable further implementation of Airport Safety Nets (ATM Sub-Functionality 2.5) - Improve taxi conflict prediction to reduce number of stop-and-go taxiing - Improve efficiency of airside operations by providing real-time information about location of ground service equipment and vehicles to Ground Handling Agents (GHAs) and Airport Flow Centre
PROJECT LEADER	Gatwick Airport Limited
MEMBER STATE	UK
TIMING	01/03/2015 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	090AF2 - Departure Management Synchronized with Pre-Departure Sequencing (PDS)
SYNCHRONIZATION	With: Airports
LINKS	AF 2; Sub AF 2.2; FT 2.2.1
NM LINKS	**NSP:** SO 6/6 ; **NOP:** A-CDM fully implemented;

Recommendation:

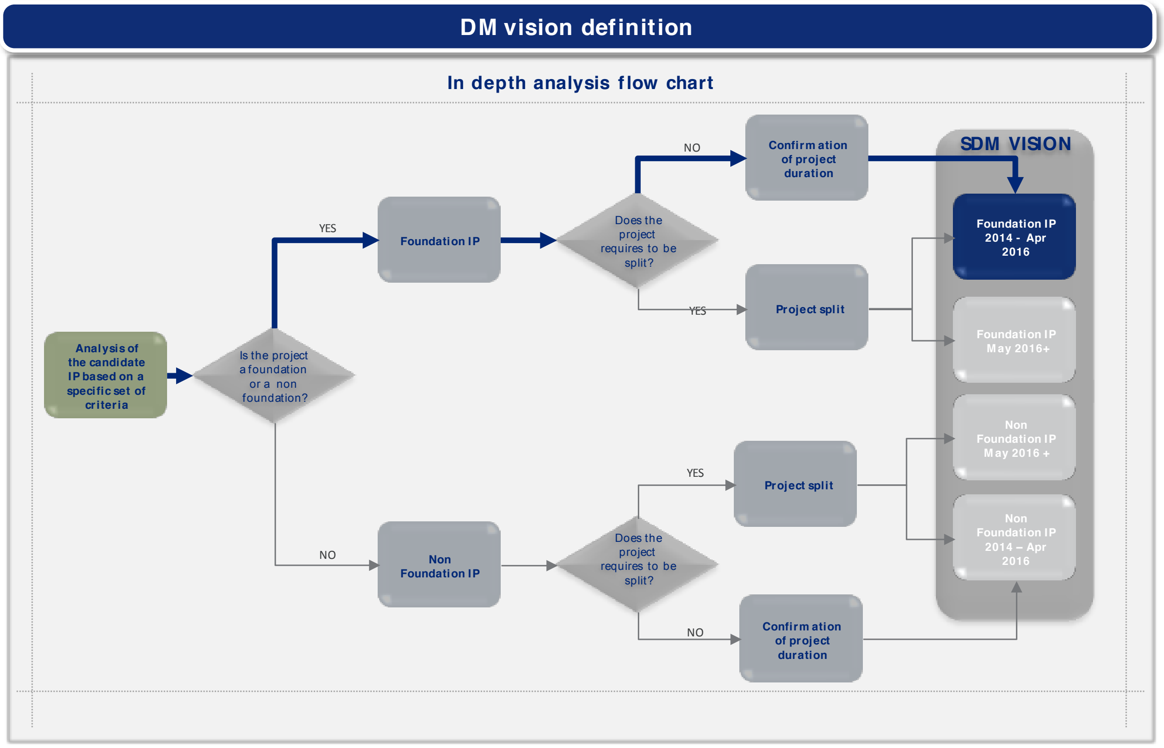
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**093AF2**
TITLE	**Electronic Flight Strip System (EFS) deployment**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** The high-level objectives of the project are as follows: - Finalize implementation of EFS at Gatwick, including all the ground movements (tows) - Achieve regulatory target of 95% for Pier-Service Level in both terminals, even with increased traffic, by maximizing tow movements where possible - Improve situational awareness of tower controllers - Improve surface management, tow management, reduce GMC delays and improve On-Time Departure Performance - Increased safety and efficiency – no towing to occupied stands
PROJECT LEADER	Gatwick Airport Limited
MEMBER STATE	UK
TIMING	01/06/2014 - 31/05/2016
AIRBORNE	
INTERDEPENDENCIES	- 092AF2 Enhanced Departure Management integrating airfield surface assets; - 090AF2 Departure Management Synchronized with Pre-Departure Sequencing (PDS); - 094AF2 Time-Based Separation for Final Approach
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.1; Sub AF 2.2; Sub AF 2.3; Sub AF 2.5; FT 2.1.1; FT 2.1.3; FT 2.2.1; FT 2.5.1;
NM LINKS	**NSP:** SO 6/5 & SO 6/6; **NOP:** EFS not reported;

Recommendation:

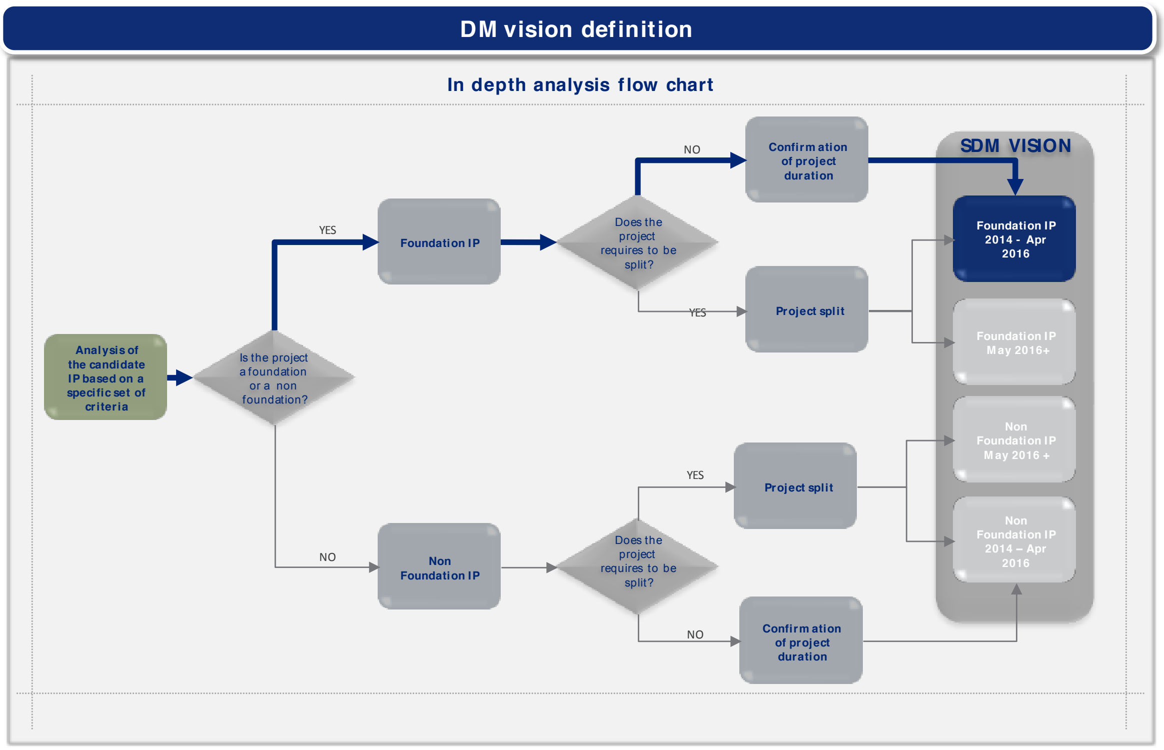
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**094AF2**
TITLE	**Time-Based Separation for Final Approach**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.3; FT 2.3.1**
PROJECT DESCRIPTION	**Objectives:** The high-level objectives of the project are as follows: - Implement initial spacing monitor to support air traffic controller to deliver optimum separation between arriving aircraft - Improve utilization of existing RWY capacity - Increase landing rates, especially during strong headwind conditions and reduce arrival and knock-on delays
PROJECT LEADER	Gatwick Airport Limited
MEMBER STATE	UK
TIMING	30/01/2014 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	120AF1 - London Airspace Management Programme
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs
LINKS	AF 1; Sub AF 1.1; FT 1.1.1
NM LINKS	**NSP:** SO 6/5 ; **NOP:** Not available;

Recommendation:

This project is considered as a Foundation IP.

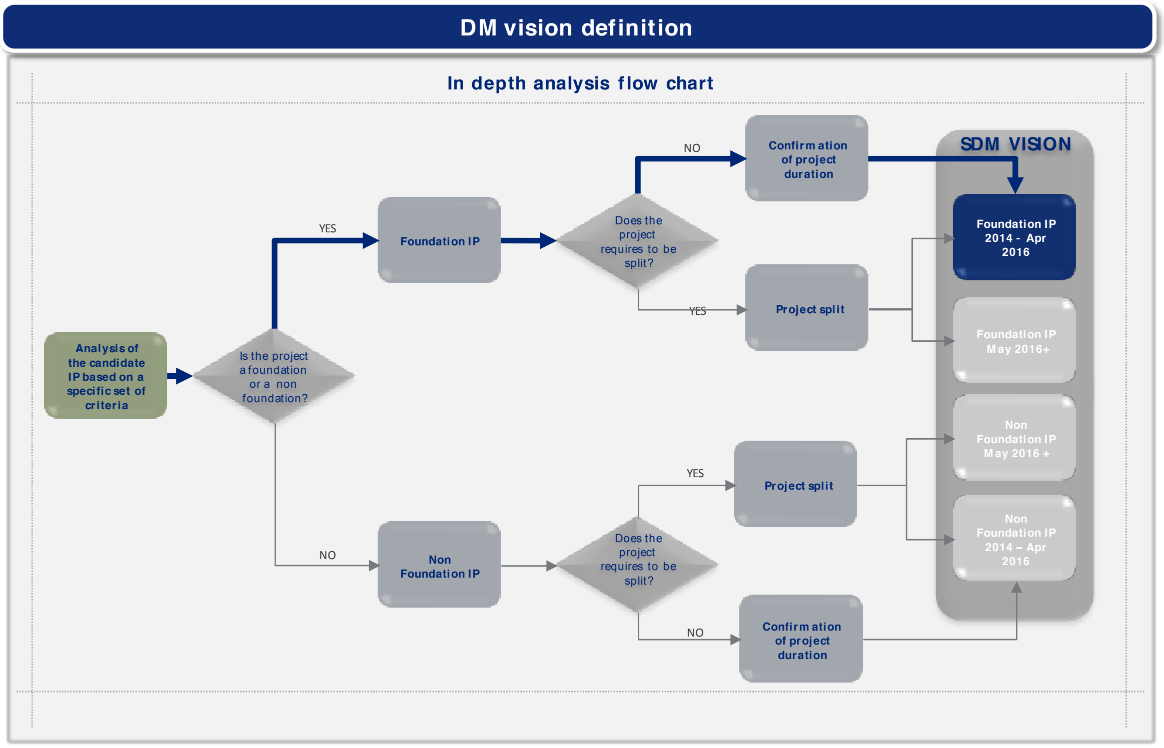


Content	Description
REFERENCE NUMBER	**097AF2**
TITLE	**Time Based Separation**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.3; FT 2.3.1**
PROJECT DESCRIPTION	**Objectives:** - Deployment of Time-based separation (TBS) at Heathrow Airport in order to address the biggest single cause of delay to Heathrow arrivals - strong headwinds on final approach. - Time Based Separation is expected to reduce this delay by as much as 50% of all strong wind regulations applied at Heathrow (equating to c.20% reduction in overall Heathrow ATFM delay) with a projected benefit to the airlines in the range £6m to £7.5m per annum. Any reduction in spacing during strong wind conditions will not result in aircraft being closer than minimum radar separation of 2.5nm. As noted by Eurocontrol the European Network Manager, London Heathrow airport remained a delay hot spot in 2013 due to our significant impact to aircraft operations under adverse weather conditions. Strong winds is the most impacting condition to Heathrow flights operations thus knocking on to wider global operations. The TBS concept aims to improve resilience to the impact of high head wind conditions by: - Reducing the cost of wind-related arrival delay - Improving the consistency of spacing (for wake pairs) (TBS) is a pioneering new system plus operational methodology aimed at organizing the separation of arriving aircraft at Heathrow by time instead of distance. This will radically cut flight delays and reduce cancellations due to high headwinds. Supported in the Airports Commission's interim report in December 2013, the delivery of TBS comes after three years of exhaustive analysis from co-members of the Single European Sky Research ATM Research and development programme (SESAR). The introduction of a time-based separation method at Heathrow will help maintain the landing rate under strong headwind conditions and thus deliver an average improvement of 4 flights per hour beyond today's rate. Every year halving the current delay figure under strong wind conditions while significantly reducing the need for airlines to cancel flights due to the effects of strong headwinds.
PROJECT LEADER	Heathrow Airport Limited
MEMBER STATE	UK
TIMING	01/01/2014 – 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	120AF1 - London Airspace Management Programme
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs
LINKS	AF 1; Sub AF 1.1; FT 1.1.1
NM LINKS	**NSP:** SO 6/5;

	NOP: Not available;

Recommendation:

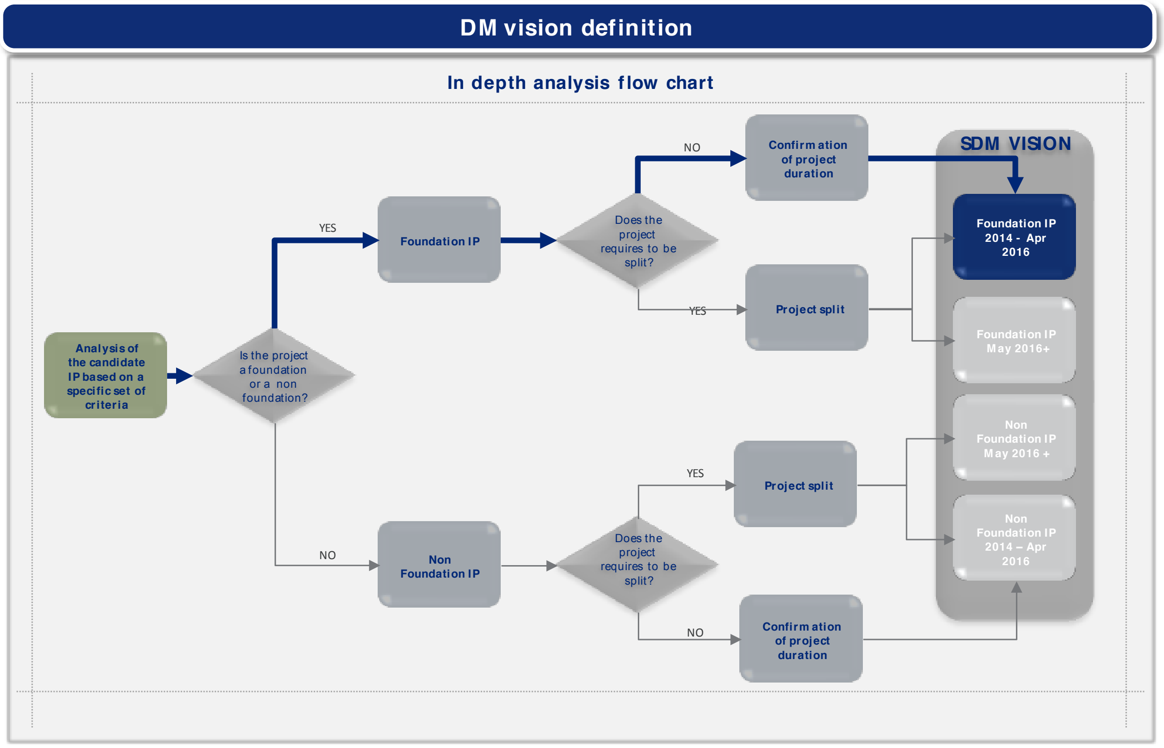
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**098AF2**
TITLE	**T2 SEGS**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - Delivering A-CDM information on each SEGS unit on the airfield will help to improve the efficiency of the turnaround process - it is a key part for the airlines and ground handlers - The back end infrastructure & bulk of the stands were completed during Q5/Q5+1 at a cost of £2.559m - Bring Terminal 2 stands in line with Heathrow standards for A-CDM operations and ensure equitability for all Airlines operating at Heathrow. - Address stands that could not be connected with a wired LAN connection - Support the provision of situational awareness for operational staff, including those working in an external environment - Heathrow also need to ensure a robust support model for the delivery of the information & complete the on stand configuration - The benefits of completing the rollout of SEGS unit to all stands at Heathrow: o One process o Provide equivalence o Maximize operational benefits - increased departures punctuality
PROJECT LEADER	Heathrow Airport Limited
MEMBER STATE	UK
TIMING	01/11/2014 – 30/06/2015
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.4
NM LINKS	**NSP:** SO 6/4; **NOP:** Airport CDM available. Electronic Strips are available in TWR. Future plans: to install EFS in APP in 2016;

Recommendation:

This project is considered as a Foundation IP.

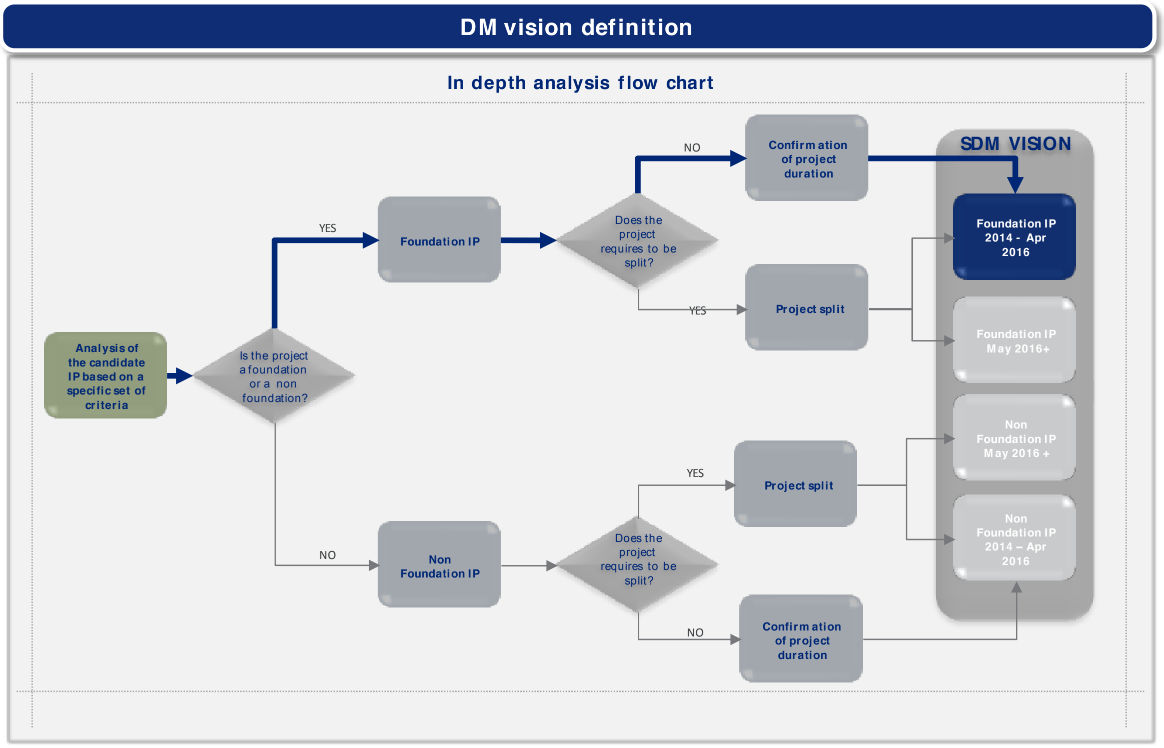


Content	Description
REFERENCE NUMBER	**099AF2**
TITLE	**Initial Airport Operational Plan (AOP)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.4**
PROJECT DESCRIPTION	**Objectives:** Airfield Flow Management The key improvement area is the production of a rolling airfield plan with added layers or resilience and architectural consolidations. The AOP is an up-to-date plan or "on the day schedule" with pre-tactical provisions from the pre-tactical DCB (covered under another call submission within AF4). It is the airfield part of the Airport Operations Plan (AOP), known here as the 'airfield plan'. The solution builds on the pre-requisite ACDM Concept and tooling and expands in line with the future SESAR APOC/AOP concept. By sharing this rolling plan with the Airport Operations Centre (APOC) and other stakeholders, the use of resources can be optimized. The production of a common and optimized rolling airfield plan will cover three main steps: - The ability to create a plan (based initially on the schedule, updated with the latest information) that can be shared among all stakeholders. - The ability to evaluate and then update the airfield plan using different scenarios (known as Demand Capacity Balancing, DCB) to optimise it. - The ability to take into account user preferences – in all operational circumstances and not only during disruptions, as is the case today. This is known as User Driven Prioritisation Process (UDPP). The vision for the airport and stakeholders to operate in line with a rolling airfield plan which is up to-date and reflects external factors and user preferences will be a major cultural change. In Summary an AOP is: - An integrated operating environment to improve efficiency, effectiveness and resilience against disruptions - A common shared truth to facilitate timely and focused collaborative decision making - Empowering the workforce to make a real difference with the right information at the right time Why AOP? - To aide decision making in complex landscape of airport operations - To optimise allocation of limited Airport resources - To support enhanced passenger experience
PROJECT LEADER	Heathrow Airport Limited
MEMBER STATE	UK
TIMING	01/09/2014 – 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	- 073AF5 - SWIM Common Components - 082AF5 - SWIM compliance of NM systems
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, EUROCONTROL/NM

LINKS	AF 4; AF 5; Sub AF 4.2; Sub AF 5.5; FT 4.2.1; FT 4.2.2; FT 4.2.3; FT 4.2.4
NM LINKS	**NSP:** SO 6/2; **NOP:** There are currently no agreed plans for capacity expansion at Heathrow. Opportunities to increase the resilience (as opposed to the capacity) of the Heathrow operation continue to be explored;

Recommendation:

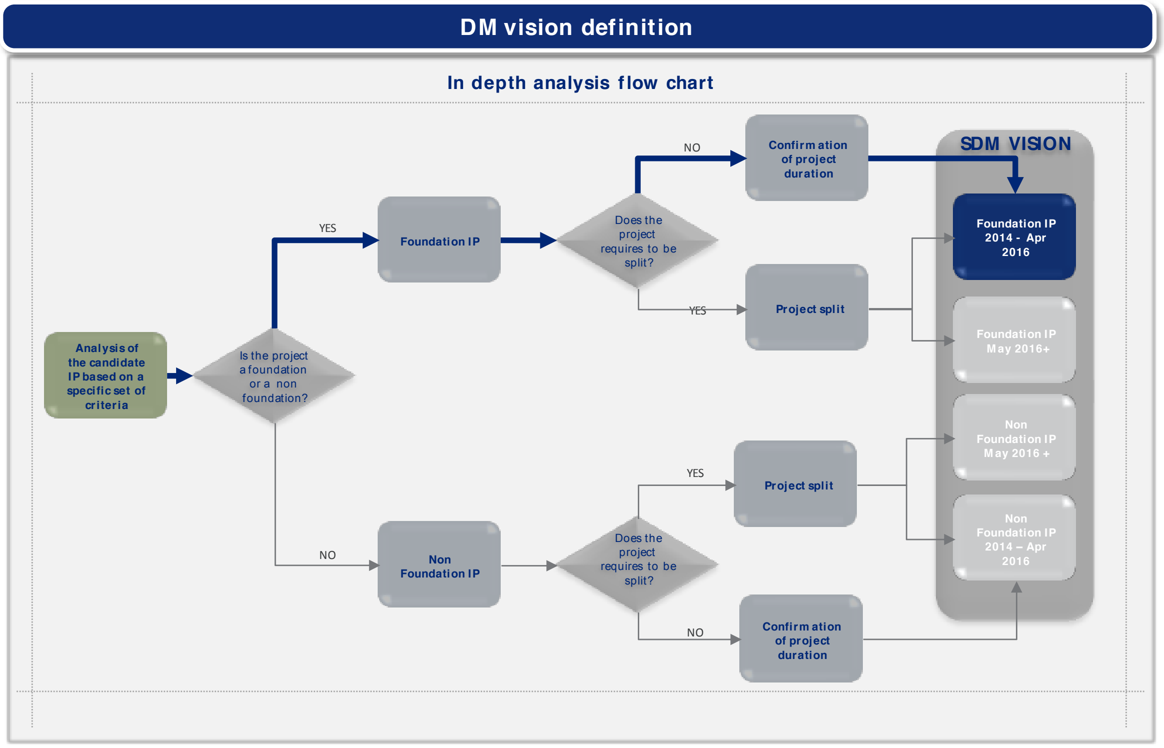
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**100AF2**
TITLE	**Airport Safety Nets associated with A-SMGCS Level 2 - Preparation for SMAN**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.1**
PROJECT DESCRIPTION	**Objectives:** - Concept of Operation has been developed to clarify the AGL and field infrastructure component design and architecture requirements for an integrated ASMGCS level 4/5 Surface manager (SMAN). - A holistic Options analysis and selection process is being undertaken to assess the functional and safety integrity requirement of the Ground Movement Control System as a system design that is fully congruent and potentially pre-integrated with the ASMGSC4/5 Surface Manager. - Primary Cable specification, distribution and operational architecture is being surveyed to scope design and installation of an airfield-wide GMCS primary cabling matrix to allow floating separation and necessary system integrity for automatic/.semi-automatic operation. - Existing AGL system architecture is undergoing resilience and communication architecture modification to allow for validation testing of floating separation and seamless operational transition to the new GMCS/SMAN function.
PROJECT LEADER	Heathrow Airport Limited
MEMBER STATE	UK
TIMING	01/01/2014 – 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With: Airports, ANSPs
LINKS	AF 2; AF 2.2; Sub AF 2.2.1
NM LINKS	**NSP:** SO 6/6; **NOP:** A-SMGCS (level 2) is available in TWR;

Recommendation:

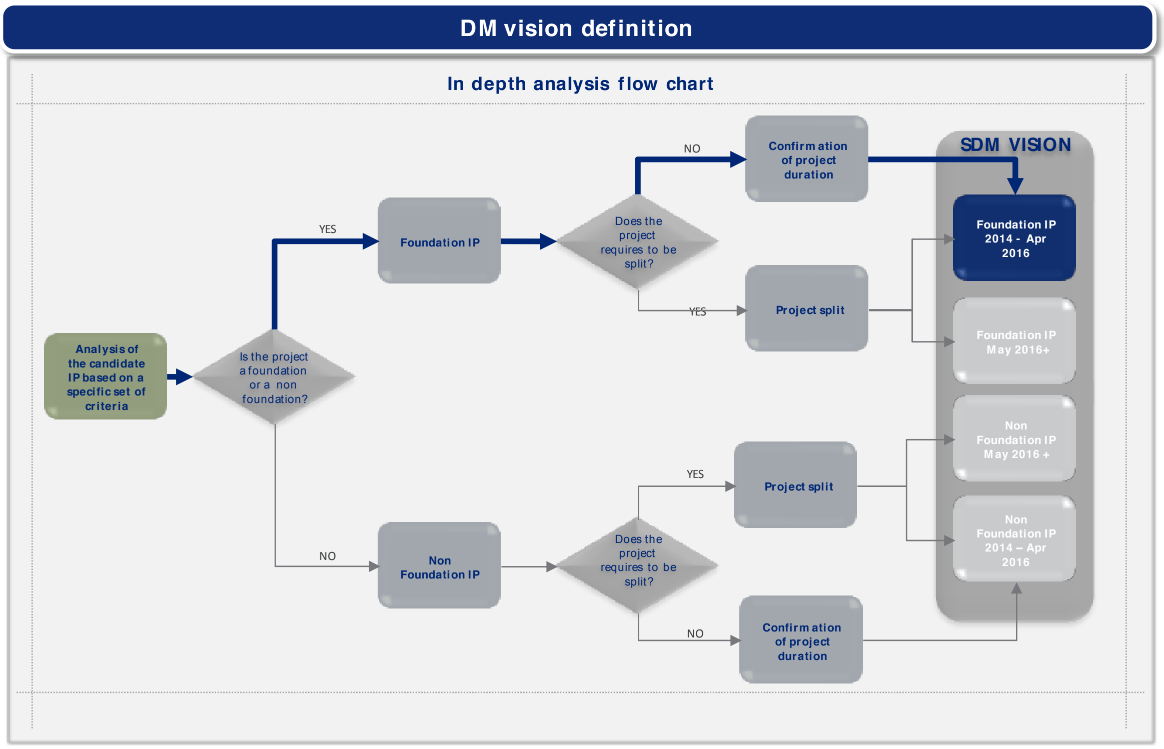
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**103AF2**
TITLE	**Standardization of A-SMCCS**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** With this project Copenhagen Airport will upgrade the existing A-SMGCS to a newer and standardized version. The standardization of the existing A-SMGCS will facilitate the future procurement of ad-on modules necessary for the implementation of the A-SMGCS advanced functions, cf. point 2 of the Annex to the PCP regulation 716/2014. Furthermore, it will enable Copenhagen Airport to enter into a partnership with other EU airports, which are also looking to upgrade to the standardized expansion module to A-SMGCS. The project is also part of Copenhagen Airport's strategy "Expanding CPH", which objective is to facilitate the expected future growth in operations at Copenhagen Airport.
PROJECT LEADER	Københavns Lufthavne A/S
MEMBER STATE	DENMARK
TIMING	01/12/2014 – 16/11/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With ANSPs
LINKS	
NM-Links	**NSP:** SO6/6 **NOP:** A-SMGCS (level 2): Available in TWR and APP. Electronic Strips: Available in TWR and APP

Recommendation:

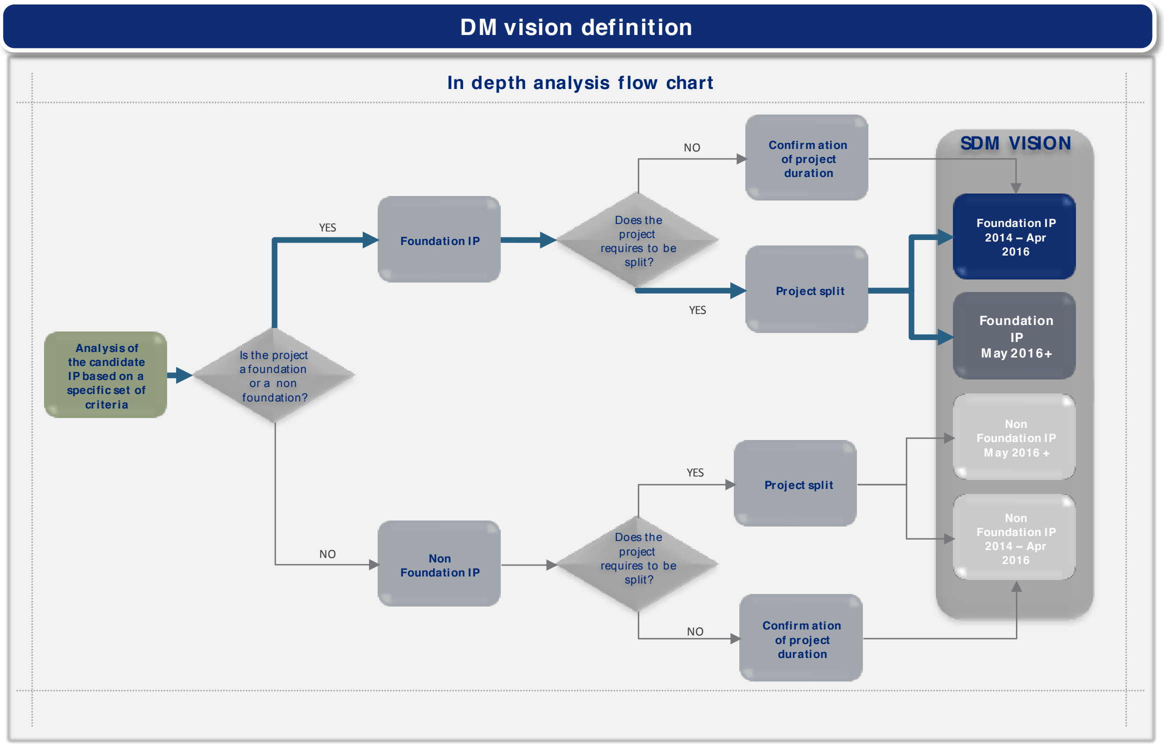
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**108AF2-A**
TITLE	**Electronic Flight Strips at Schiphol TWR**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.2**
PROJECT DESCRIPTION	**Objectives:** - Digital flight data processing at Schiphol Towers and the Tower simulator - Safer and more efficient handling of ground traffic - Efficient and flexible data distribution and data sharing - Enabler for safety support systems - Enabler for CDM extension of functionalities **Description:** - Work Package 1: Project Management - Work Package 2: Tender Organisation - Work Package 3: Electronic Flight Strip Application - Work Package 4: Console Adjustments - Work Package 5: Transition The overall expected results after EFS is operational with particular reference to the ATM Performance contribution: - A 'digital' tower environment with a digital data flow (so without paper flight strips); - Identical tower working positions with cleaned up and simplified consoles; - A flexibility gain in allocating functions to working positions and extending the amount of working positions; - A quieter working environment (speechless co-ordination, less standing up and walking in the tower, printing noises, etc.). These results will lead to less working errors (thus an increase in safety) and a more efficient use of both data and ATC personnel in the ATM process at the tower. It is an enabler for a lot of planned future activities like safety net functions, conflict detection, data sharing, enhanced CDM, automation of specific functions, enhanced A-SMGCS, etc.
PROJECT LEADER	LVNL
MEMBER STATE	Netherlands
TIMING	01/09/2014 – 01/02/2018
AIRBORNE	
INTERDEPENDENCIES	109AF2 - Airport CDM implementation Schiphol
SYNCHRONIZATION	With Airports
LINKS	AF 2; Sub AF 2.1; Sub AF 2.3; Sub AF 2.2; Sub AF 2.5; FT 2.1.1; FT 2.1.3; FT 2.2.1; FT 2.5.1
NM-Links	**NSP:** SO6/5 & SO6/6 **NOP:** Electronic Strips: Ongoing Implementation in TWR

Recommendation:

This project is considered as a Foundation IP.

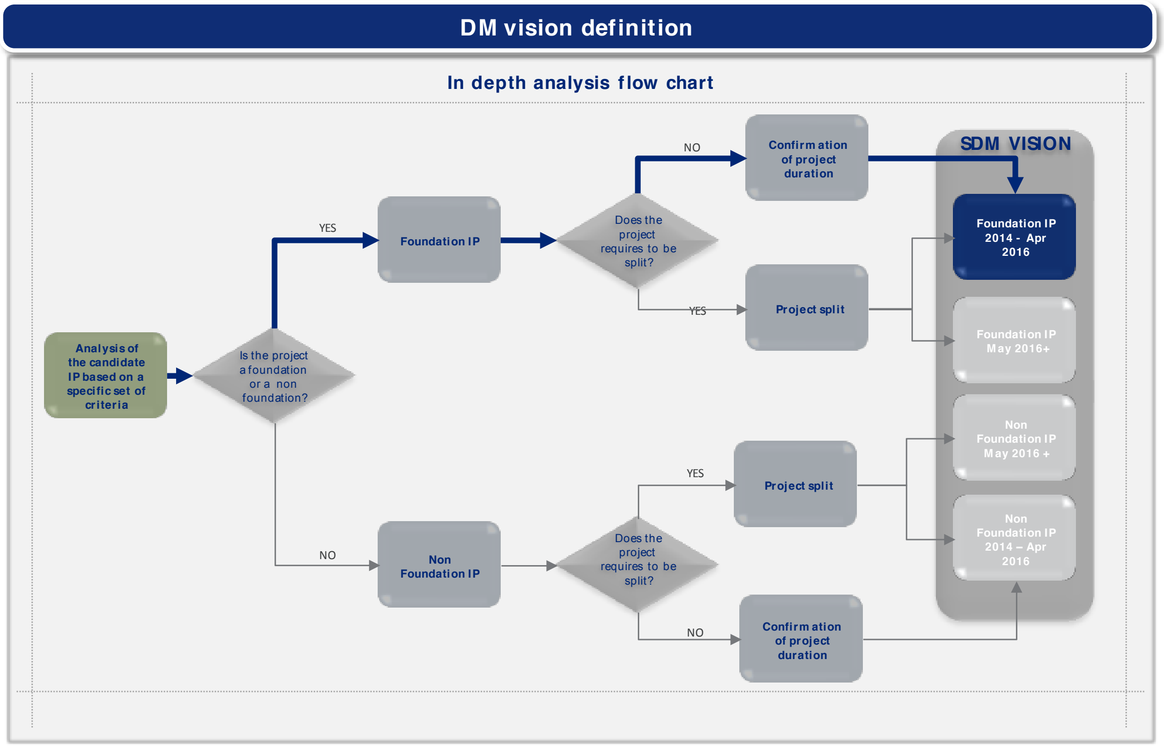


The project could be split in 2 phases. The first phase (September 2014 – April 2016) hast to be considered for this INEA Call 2014. The second phase (May 2016 – February 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**109AF2**
TITLE	**Airport CDM implementation Schiphol**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** Airport CDM implementation according to Eurocontrol guidelines consisting of 2 major parts: Local Airport CDM - Real time CDM data presentation to pilots and handlers - CDM for adverse conditions - Development of an HMI presentation for SUC - CDM Trials - Process and procedure development and implementation - (Local) CDM information sharing Connection to Eurocontrol NMOC - Connecting the local CDM process to the NMOC - allow exchange of DPI messages in accordance with Eurocontrol specifications
PROJECT LEADER	Schiphol Nederland B.V. (AAS)
MEMBER STATE	NETHERLANDS
TIMING	01/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	**077AF4 - Interactive Rolling NOP**
SYNCHRONIZATION	With ANSP, ECTL/NM
LINKS	AF 2; AF 4; AF 5; Sub AF 2.1; Sub AF 2.5; Sub AF 4.2; Sub AF 5.5; FT 2.1.1; FT 2.1.4; FT 2.5.1; FT 4.2.2; FT 4.2.3; FT 5.5.1
NM-Links	**NSP:** SO 6/5 & SO 6/6 **NOP:** CDM Local Project Manager (PM) established Gap Analysis: completed Memorandum of Understanding: Done Implementation: not finalised

Recommendation:

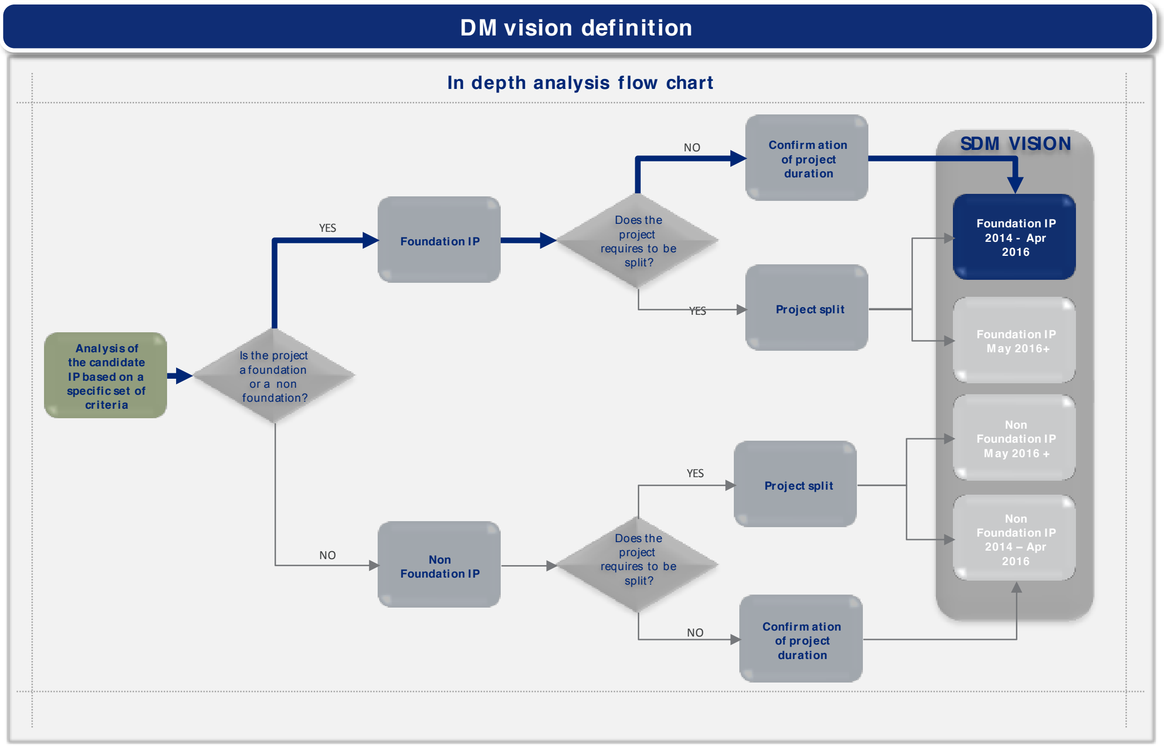
This project is considered as a Foundation IP.



Content	**Description**
REFERENCE NUMBER	**115AF2**
TITLE	**Renewal of the Surface Movement Radar (BORA)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** The Surface Movement Radar enables exact positioning including identification of all aircraft and other vehicles on all relevant operation areas. The original system was purchased and installed in 2003 and has thus concluded an uninterrupted operating time of 10 years. Main parts of this much differentiated technology are no longer available to order, which means a continued and operationally necessary maintenance can no longer be guaranteed. Only the specified modernization will enable a continuous availability of the operationally essential SMR, and thus avoid security relevant gaps in the service. In the short term and long term, the Surface Movement Radar shall enable the following objectives: - The departure sequence at the runway shall be optimized according to the real traffic situation reflecting any change off-gate or during taxi to the runway. - Thus enabled, A-SMGCS shall provide optimized taxi by monitoring of real surface traffic and by considering updated taxi times in departure management regardless of meteorological or other impacting conditions. In a further step, planned routing and planning function free as possible of conflicts which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement. This protect supports FT 2.2.1 A-SMGCS Level 1/2.
PROJECT LEADER	Munich Airport
MEMBER STATE	GERMANY
TIMING	24/01/2014 - 31/12/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With ANSPs
LINKS	
NM-Links	**NSP:** SO 6/3 & SO 6/4 **NOP:** Basic SMR is available in TWR and APP. A-SMGCS (level 1) available in TWR and APP

Recommendation:

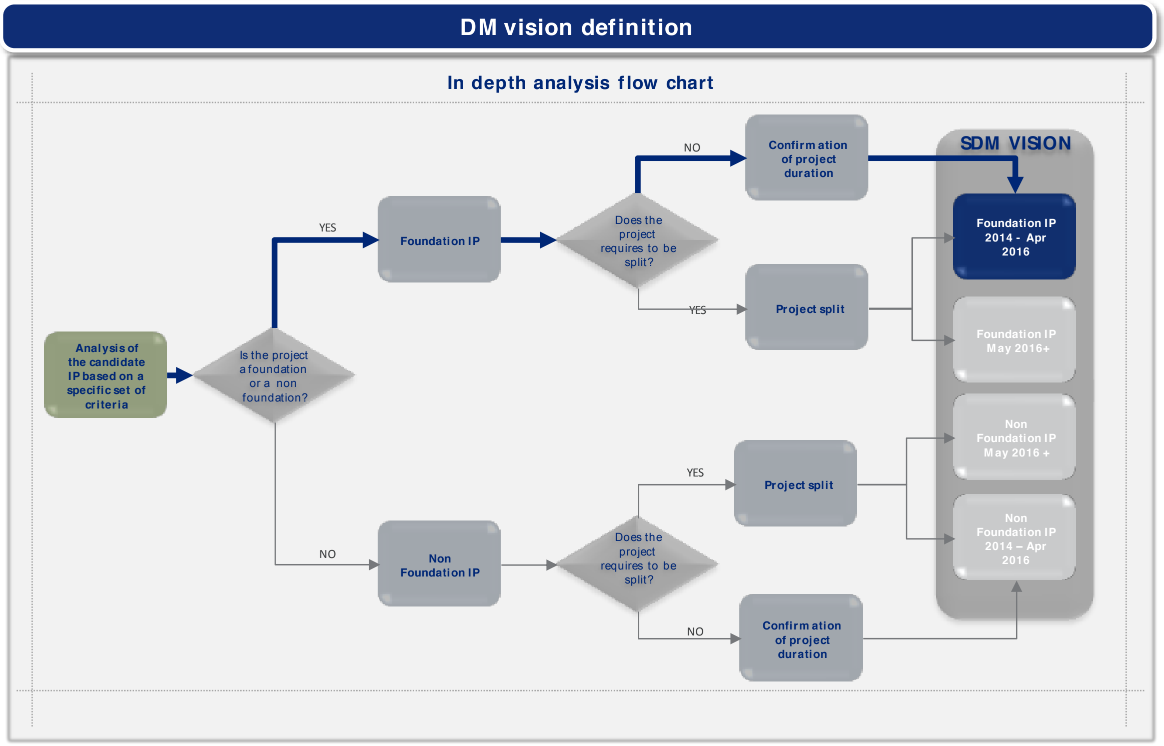
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**129AF2**
TITLE	**CDM-Orly**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** - Upgrade PDS for sharing information with DMAN, - Implement De-icing tool for improving operational efficiency - Share essential information, such TSAT, on the CDM Website for all stakeholders These functionalities contribute directly to the pre-requisite S-AF 2.1 "Departure Management synchronized with Pre Departure sequencing", through FT 2.1.1 "Initial DMAN capability" and FT 2.1.3 "Basic A-CDM" : - PDS upgrades / DMAN/PDS interface integration - De-icing manager tool upgrades - CDM Website upgrades
PROJECT LEADER	**Airports de Paris: Orly Airport**
MEMBER STATE	FRANCE
TIMING	02/06/2014 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	- 050AF2 - SYSAT@ORY; - 077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, ECTL/NM
LINKS	AF 2; Sub AF 2.1; FT 2.1.1; FT 2.1.2 AF 2; Sub AF 2.2; FT 2.2.1 AF 4; Sub AF 4.2; FT 4.2.2; FT 4.2.3
NM LINKS	**NSP :** SO 6/4; SO 6/6 **NOP:** Advanced ATC Tower implemented. NM will continue to provide support towards A-CDM implementation - planned for Q2 2016.

Recommendation:

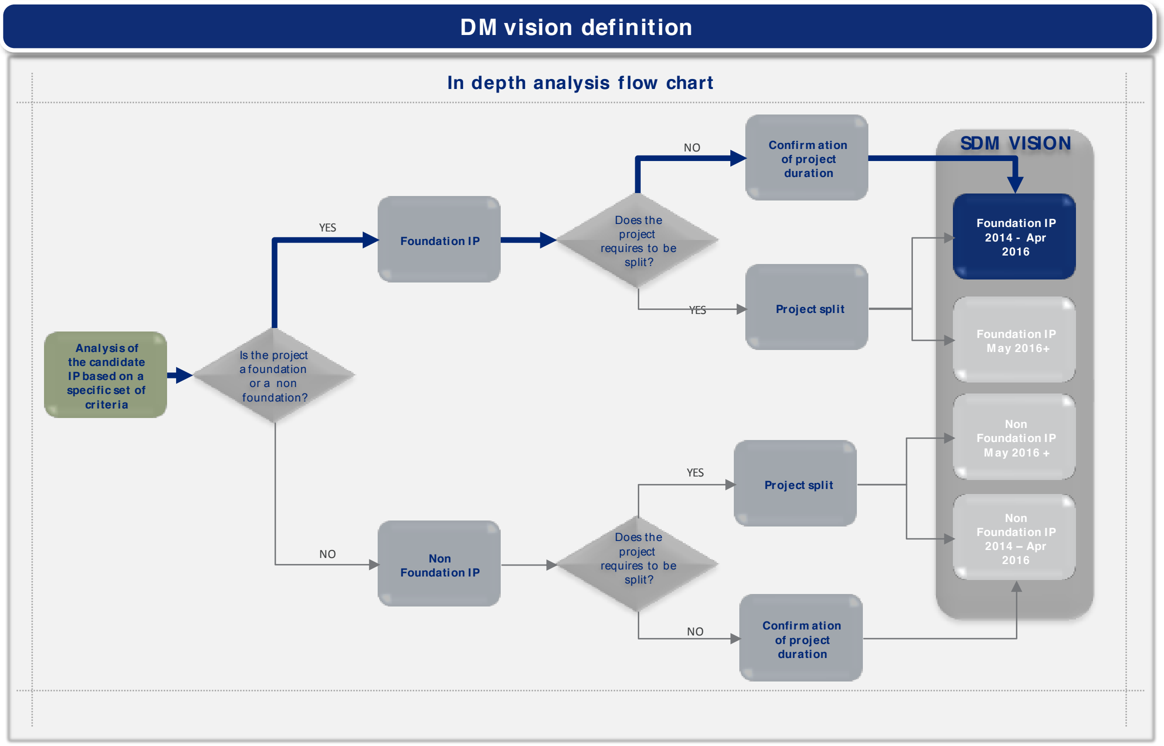
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**130AF2**
TITLE	**BOREAL- Orly**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** - Improve safety by upgrading knowledge of surface state and reaction time. - Enabler to sub-functionalities defined into the IR 716/2014: A-SMGCS Level 1/2 (2.2.1) SAF 2.5/2.4 Boreal is the control and visualization station of the state of the runways and taxiways lights in Paris-Orly. Replacement of existing equipment is designed to enhance the robustness and the level of knowledge of information on state of the lights, in order to improve the reaction time of operational maintenance team and to upgrade or extend the tools which allow managing and monitoring information of the airfield area.
PROJECT LEADER	Aéroports de Paris: Orly Airport
MEMBER STATE	FRANCE
TIMING	01/02/2015 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	- **050AF2 - SYSAT@ORY;** - **077AF4 - Interactive Rolling NOP**
SYNCHRONIZATION	With Airports, ANSPs
LINKS	AF 2; Sub AF 2.5; FT 2.5.1
NM LINKS	**NSP :** SO 6/6 **NOP:** A-SMGCS not reported.

Recommendation:

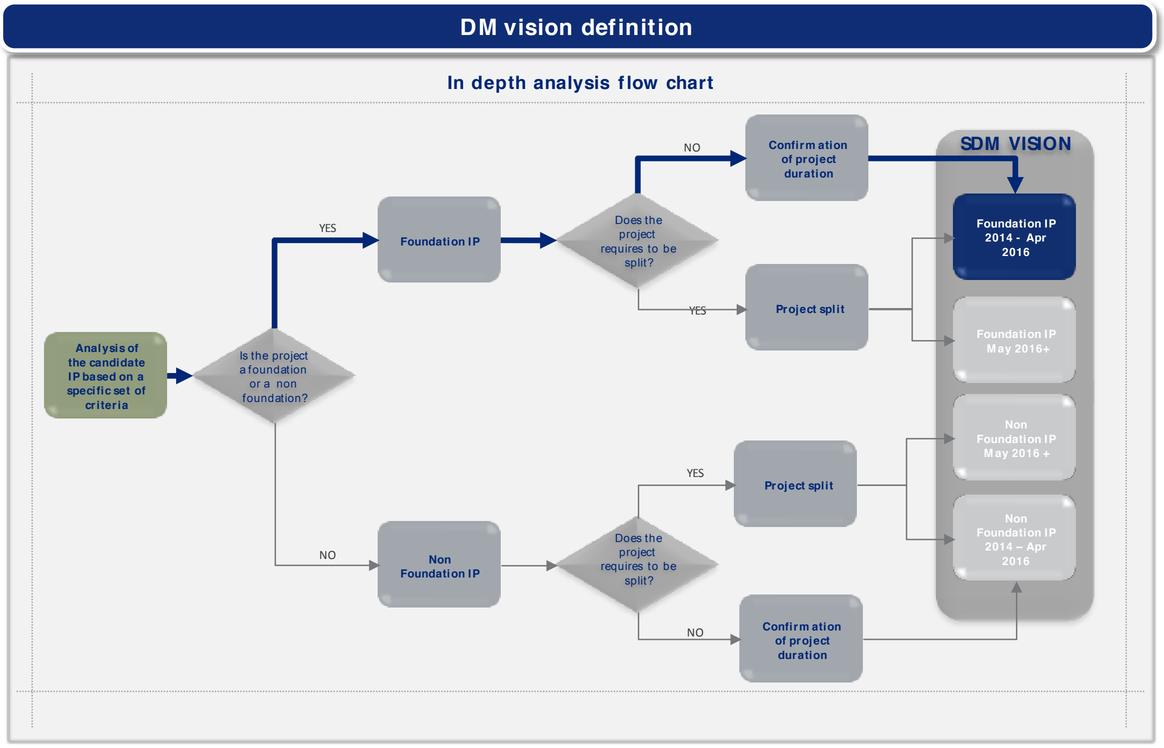
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**135AF2**
TITLE	**Ryanair RAAS Programme**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.5; FT 2.5.2**
PROJECT DESCRIPTION	**Objectives:** Implement aircraft systems contributing to airport safety nets. (ref: FT 2.5.2) The objective is to equip all Ryanair aircrafts with Honeywell Runway Awareness and Advisory Systems (RAAS) to improve situational awareness, reduce the risks of runway incursion, runway confusion and runway excursions and thus contribute to the overall airport safety net for high-density airports. Airport safety nets consist of the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision. The main benefit is related to the increase of runway usage awareness, and consequently an increase of runway safety. On-board systems and technology uses airport data coupled with on-board sensors to monitor the movement of an aircraft around the airport and provide relevant information to the flight crew. Further applications of on-board systems are related to continuous monitoring of aircraft landing performance, providing pilots with a real-time, constantly updated picture. The on-board systems detect potential and actual risk of collision with other traffic during runway operations and provide the Flight Crew with the appropriate alert. An on-board airport safety net will improve safety in runway operations, mostly at airports where no safety net is provided to controllers.
PROJECT LEADER	Ryanair
MEMBER STATE	IRELAND
TIMING	01/01/2015 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	NO
SYNCHRONIZATION	With Airspace Users
LINKS	NO
NM LINKS	**NSP:** SO 6/6; **NOP:** None;

Recommendation:

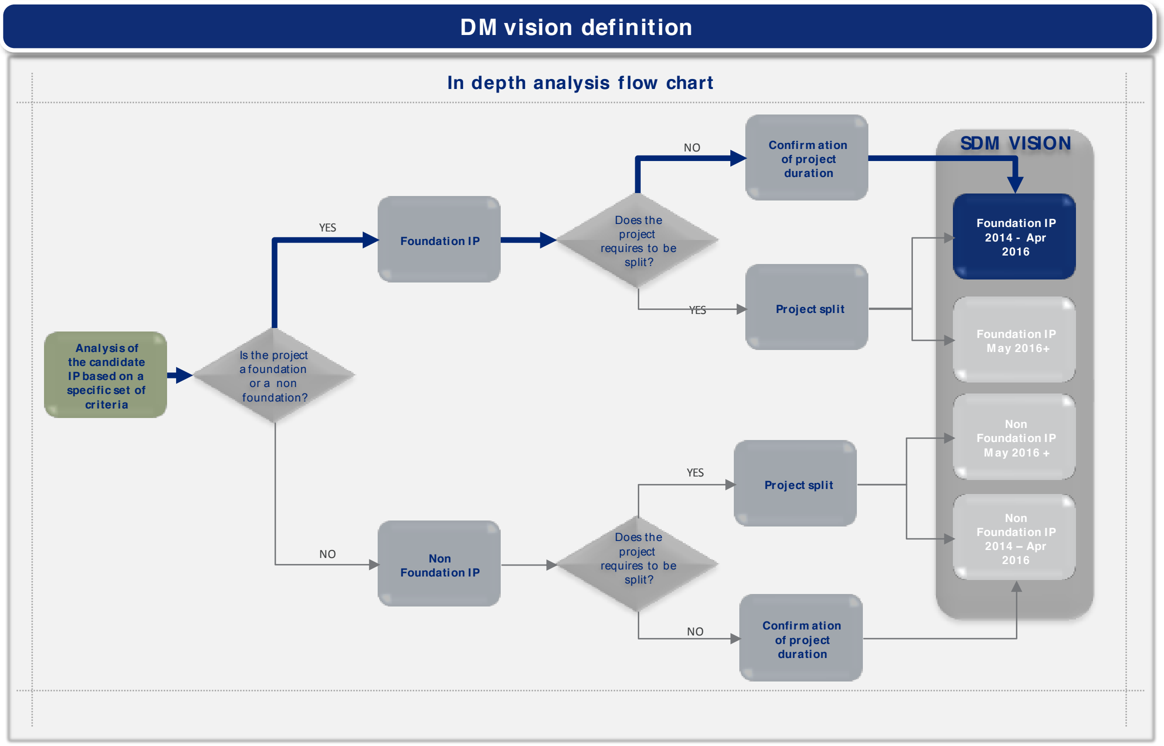
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**136AF2**
TITLE	**A-CDM (Stockholm Arlanda)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.1; FT 2.1.3**
PROJECT DESCRIPTION	**Objectives:** Although Airport Collaborative Decision Making Optimization Project covers several areas that can be attributed to basic A-CDM the focus is primarily on optimization of "Information Sharing" which is one of the cornerstones in the milestone approach process described in the A-CDM Manual. The detailed purpose of the project is - to facilitate cooperation between different organizations while raising the quality of information dissemination at Stockholm Arlanda Airport and at Network Manager Operations Centre (NMOC). - The distribution of information will only be recorded once - Online information will replace the estimated values. - The quality of operational flight data will increase by making data available online - Improve the quality of "Departure Progress Information" to NMOC The main steps are: - Development and introduction a WEB-interface. - Development and introduction of an Flight Operational APP - Develop and introduce a CDM portal - System integration - Introducing Flight information at GATE and STAND
PROJECT LEADER	Swedavia
MEMBER STATE	SWEDEN
TIMING	01/07/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	077AF4 - Interactive Rolling NOP
SYNCHRONIZATION	With, ECTL/NM
LINKS	AF 2; AF 4; AF 5; Sub AF 2.1; Sub AF 2.5; Sub AF 4.2; Sub AF 5.5; FT 2.1.1; FT 2.1.4; FT 2.5.1; FT 4.2.2; FT 4.2.3; FT 5.5.1
NM-Links	**NSP:** SO 6/3 & SO 6/4 **NOP:** Local Airport CDM Implementation: Yes. Integration of Airports into the network (DPI, FUM): FUMs are used. DPI Operational Evaluation (testing): Current Status for DPI: Short Delay. Planned for Q1 2015.

Recommendation:

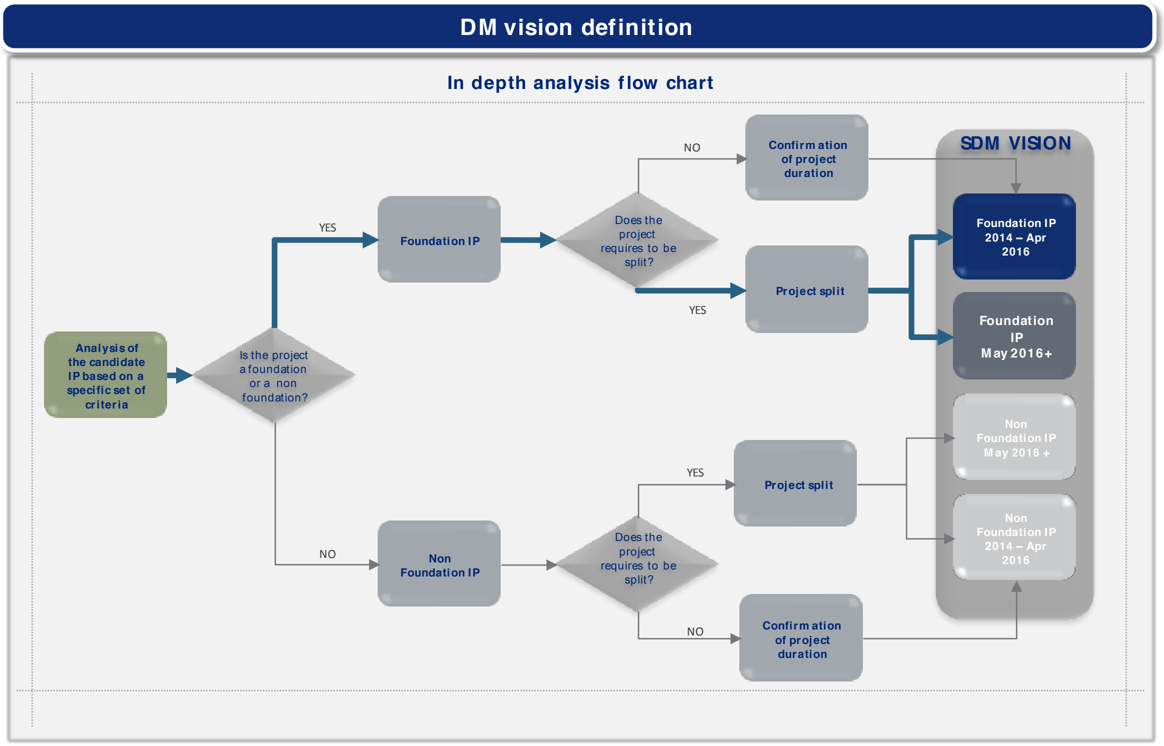
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**137AF2-A**
TITLE	**Enhance of ASN (Stockholm Arlanda)**
MAIN AF / SUB AF / FT	**AF 2; Sub AF 2.2; FT 2.2.1**
PROJECT DESCRIPTION	**Objectives:** - Improve the performance of the surveillance function of the A-SMGCS system at Stockholm Arlanda airport, in order to enable to provision of high-quality, reliable surveillance data for integration in the advanced Airport Safety Nets function. - Keep the implementation of the surveillance function up-to-date to enable future expansion of the ASMGCS system, to enable future functionality of the A-SMGCS system and to ensure interoperability with new components in the future. The main steps to reach this objective are: - Upgrade of SMR stations - Enhancement of Airport Safety Nets - Operational validation and introduction of Airport Safety Nets
PROJECT LEADER	Swedavia
MEMBER STATE	SWEDEN
TIMING	01/12/2014 – 31/08/2017
AIRBORNE	
INTERDEPENDENCIES	136AF2 - A-CDM (Stockholm Arlanda)
SYNCHRONIZATION	With ANSPs
LINKS	AF2; Sub AF 2.1; Sub AF 2.5; FT 2.1.1; FT 2.1.3; FT 2.5.1
NM-Links	**NSP:** SO 6/6 **NOP:** A-SMGCS (level 1) is available in TWR A-SMGCS (level 2) implementation is on-going. Electronic Strips: Available in TWR and APP.

Recommendation:

This project is considered as a Foundation IP.



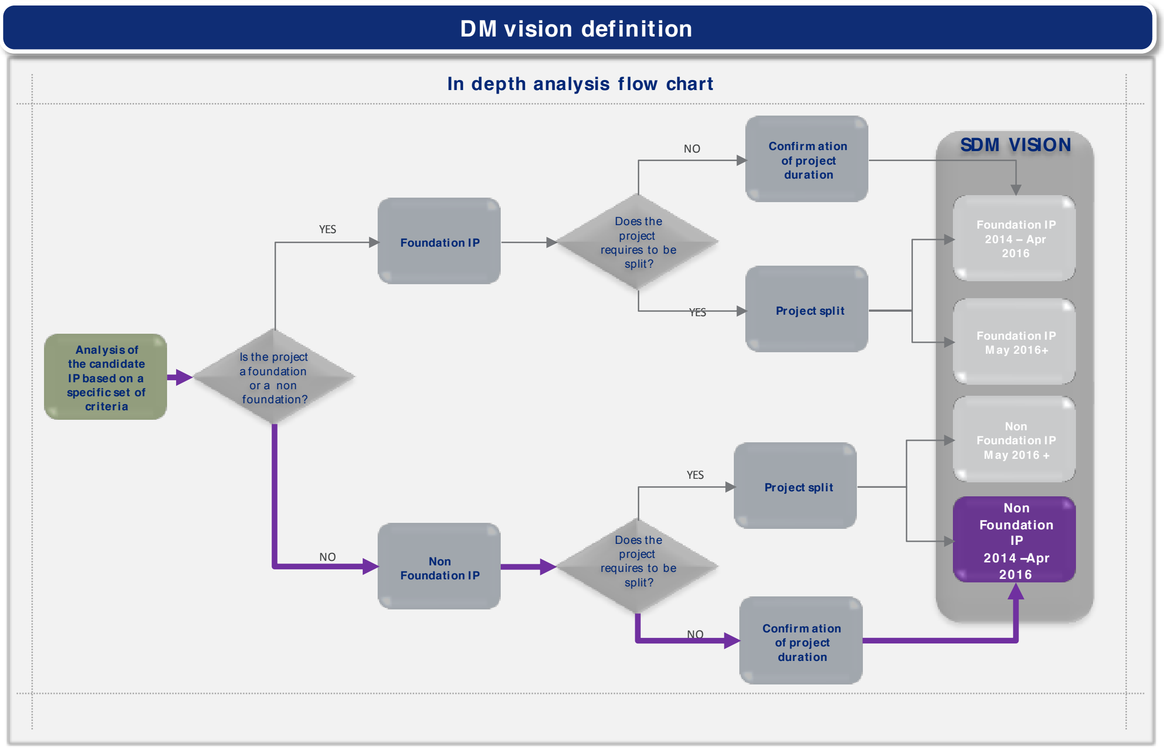
The project could be split in 2 phases. The first phase (December 2014 – April 2016) hast to be considered for this INEA Call 2014. The second phase (May 2016 – August 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

5.1.3 AF3Flexible ASM and Free Route

Content	Description
REFERENCE NUMBER	**004AF3**
TITLE	**AZA Traffic Flow Restriction (TFR) – LIDO planning system (integration of Updated Used Plan for AFUA purpose)**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.1**
PROJECT DESCRIPTION	**Objectives:** TFR (Traffic Flow Restriction) is a LIDO FLIGHT LUFTHANSA SYSTEMS module that allows integrating traffic flow restriction document (RAD) and the EUP/UUP into the flight planning process within Lido/Flight. The RAD is the document published by Central Flow management Unit (CFMU) of EUROCONTROL and describes routes on which restrictions are imposed for a specific period. By this Lido tool Alitalia will be able to plan usually closed segments (CDR) obtaining in this way important optimization to company routes and also be able to catch the opportunity to plan over new segments whose availability will be unveiled day by day. The main objectives are: – Improve the route efficiency pursuing the minimum cost (Total cost = fuel costs + ATC costs + time cost). – Automation on the research of the best routing – Research of the best routing looking at the daily availability of DCT and RAD restriction removal – Reduction of CO2 and other emissions due to optimized flight plans.
PROJECT LEADER	Alitalia
MEMBER STATE	ITALY
TIMING	05/05/2014 – 21/04/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	
NM links	**NSP:** direct link with: SO 5/1 Enable 4D trajectories at planning level, in cooperation with airspace users and ANSPs an indirect link with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible). **NOP:** The Network Operation Plan (NOP) does not directly address the requirements and plans for Airspace Users.

Recommendation:

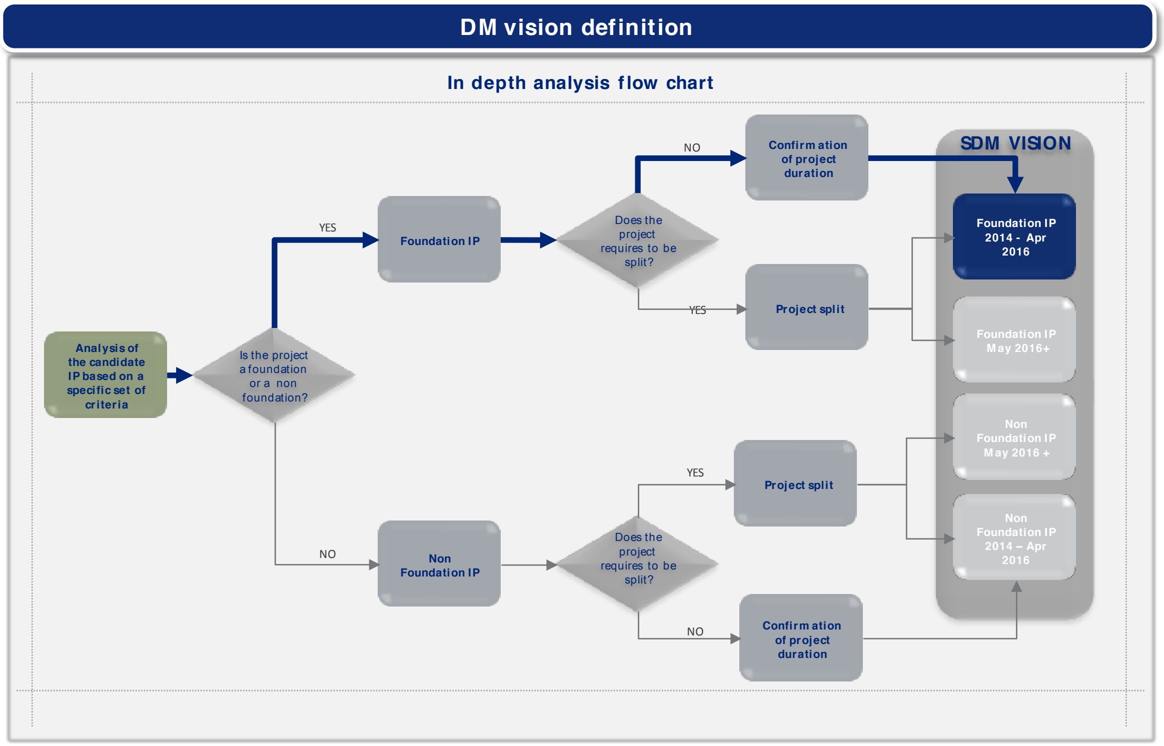
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**005AF3**
TITLE	**AZA FREE FLIGHT- DIRECT OPTIMIZATION**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.1**
PROJECT DESCRIPTION	**Objectives:** The feature "Free Flight – Direct Optimization" lets users define arbitrary waypoints by their coordinates and dynamically trigger a calculation of the missing segment between the newly defined Free Flight waypoint and any other Free Flight or system-known waypoint, or between two systems known waypoints. The feature can be used as part of the regular flight planning process. It is also suitable for the modification of reclearance procedures or as inflight assistance. With the aid of graphical maps, flight dispatchers can visualize and evaluate a given calculated route, select a waypoint, replace it with a Free Flight waypoint, eliminate waypoints deemed superfluous and reconnect the Free Flight waypoint with existing route objects. The application plots the missing segment between a designated Free Flight waypoint and the designated next waypoint. Main objective is: – Improve the route efficiency pursuing the minimum cost (Total cost = fuel costs + ATC costs + time costs). – Reduction of CO_2 and other emissions due to optimized flight plans.
PROJECT LEADER	Alitalia
MEMBER STATE	ITALY
TIMING	25/05/2015 – 18/05/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	
NM links	**NSP:** direct link with: SO 5/1 Enable 4D trajectories at planning level, in cooperation with airspace users and ANSP; an indirect link with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible). **NOP :** The Network Operation Plan (NOP) does not directly address the requirements and plans for Airspace Users

Recommendation:

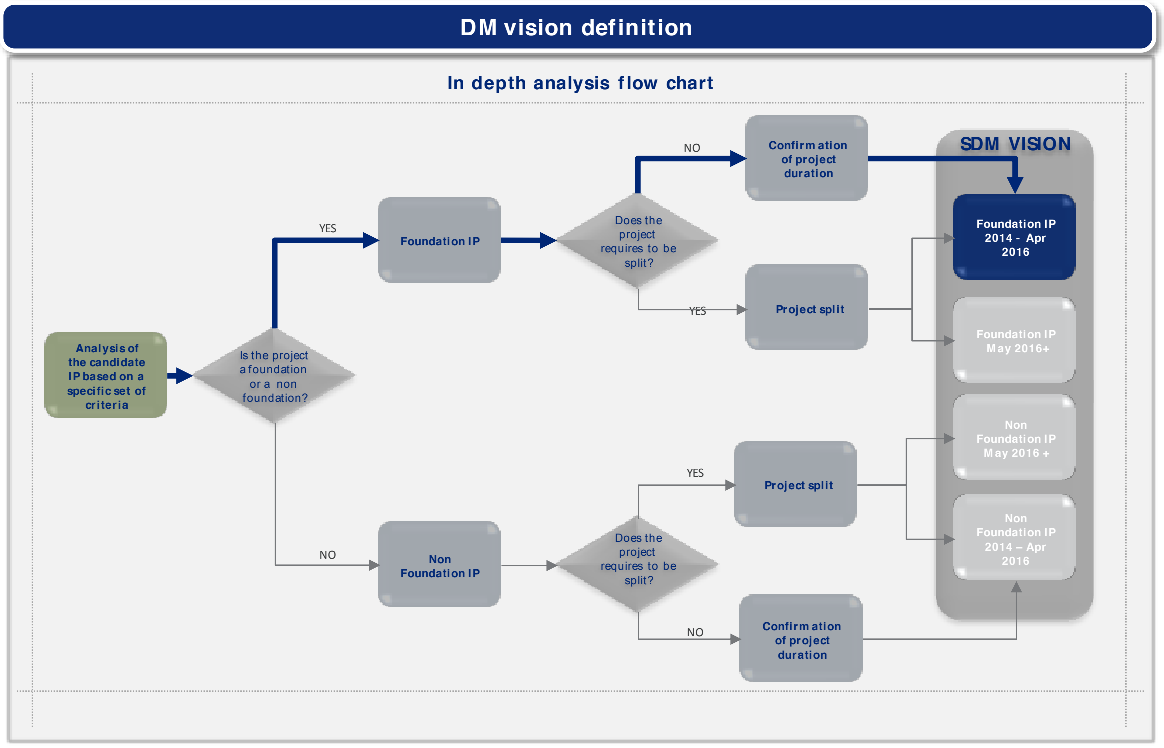
The project is considered as a Foundation IP



Content	Description
REFERENCE NUMBER	**015AF3**
TITLE	**LARA integration in CANAC 2: PHASE 1**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.1; FT 3.1.1**
PROJECT DESCRIPTION	**Objectives:** – Providing ATCO's (Air Traffic Controller) with military information about areas reservation in order to optimise the use of airspace – Automate the display of airspace reservation in the EUROCAT (in the ODS (Operational input and Display System) of the FDP (Flight Data Processing) system) – Provide information about status of airspace reservation in the ADIDS-c (Aeronautical Data Information Display System)
PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	01/01/2014 - 01/01/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	
NM links	**NSP:** direct links with SO 3/2 (Implement Advanced Flexible Use of Airspace), SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization) **NOP:** It is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the airspace management (advanced FUA) measure and Technical Measures (minor upgrades of CANAC 2 system) for capacity enhancement in 2015/2016

Recommendation:

The project is considered as a Foundation IP.

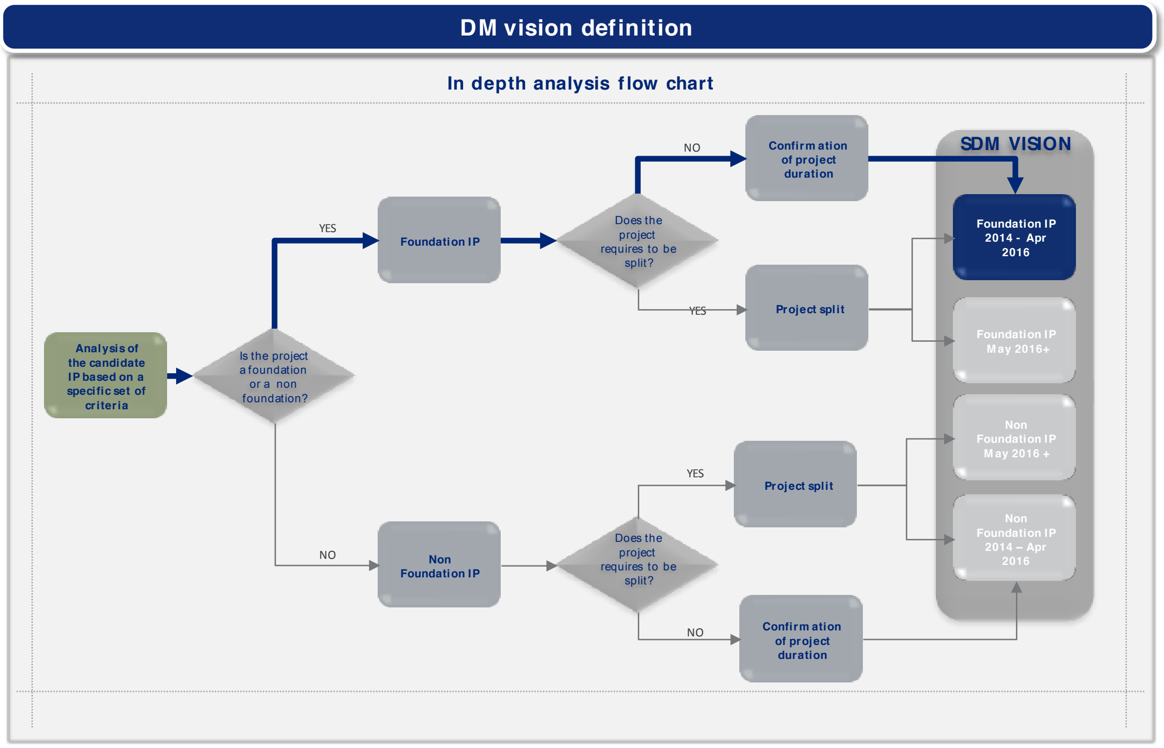


Content	Description
REFERENCE NUMBER	**020AF3**
TITLE	**Borealis Free Route Airspace (Part 1)**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.3**
PROJECT DESCRIPTION	**Objectives:** Free Route Airspace (FRA) is a key element of AF3 – Flexible Airspace Management and Free Route of the Commission Implementing Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project (PCP) supporting the implementation of the European Air Traffic Management Master Plan. Within the Preliminary Deployment Programme FRA is sub-ATM functionality S-AF3.2: Free Route. Therefore, the implementation will ensure that all Fast Track elements defined in the PDP to support Free Route (S-AF3.2) are fully implemented including: Family 1 Projects: – FT3.2.1 Upgrade of ATM systems, where appropriate – FT3.2.2 Upgrade of NM systems, where appropriate Family 2 projects – FT3.2.3 Implementation of Direct Routes, where these are not currently implemented – S-AF3.2 Implementation of Free Route across the NEFRA region. The target date for implementing FRA is 1 January 2022 above flight level 310 in the ICAO EUR region.
PROJECT LEADER	BOREALIS Alliance
MEMBER STATE	Not applicable
TIMING	01/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM
LINKS	AF3; Sub AF3.2, FT3.2.1 AF3; sub AF3.2, FT3.2.2 AF 4; Sub AF 4.1, FT4.1.1 AF4; Sub AF 4.2, FT4.2.2 AF4; Sub AF 4.2, FT4.2.3 AF4; Sub AF 4.4; FT 4.4.1
NM links	**NSP:** SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible) ; SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization as required for FRA deployment) ; SO 3/4 (Coordinate the development and implementation of airspace design and airspace management improvements to achieve the flight efficiency targets and ensure appropriate network connectivity and coordination) ; SO 4/1 (Modernise the local/FAB system

	capabilities including ATC planning functions and Controller tools procedures) for AVINOR and LGS. **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the airspace/ free route airspace measure for capacity enhancement in 2015-2019 time slot by NAVIAIR, EANS, Finavia, IAA, AVINOR, LFV and NATS ; the technical measures for capacity enhancements in 2015-2019 time slot by NAVIAIR, EANS, LGS, IAA, AVINOR, LFV and NATS

Recommendation:

The project is considered as a Foundation IP.

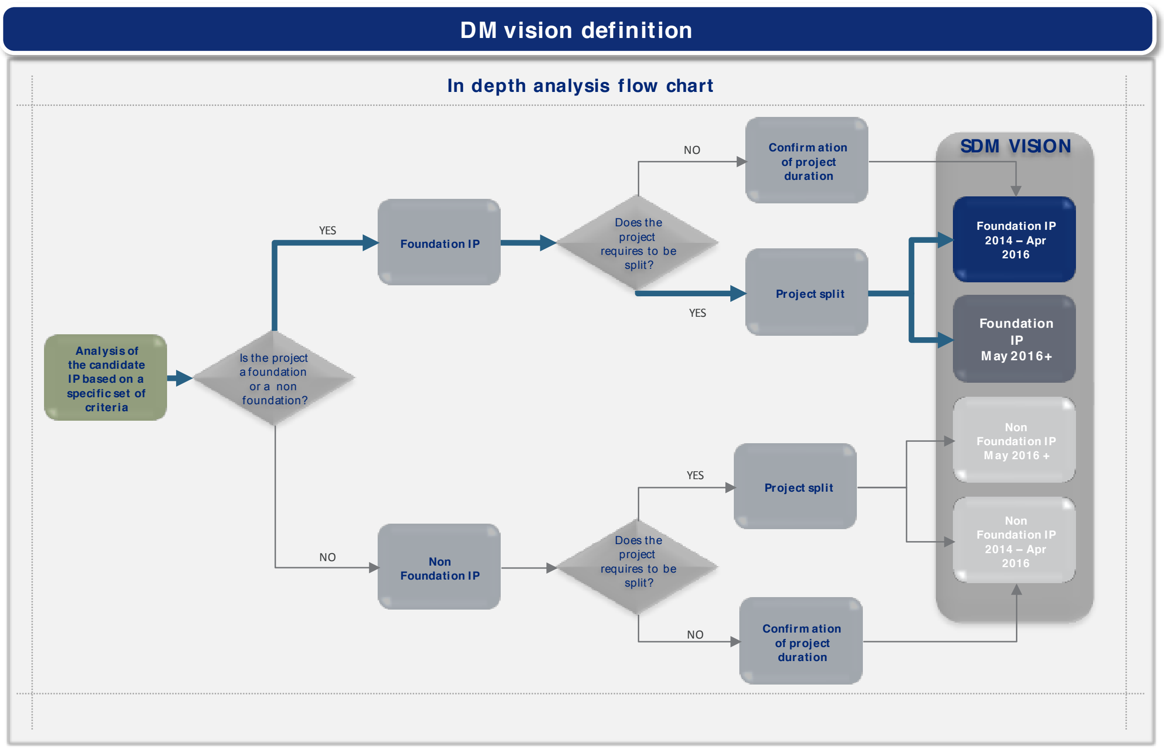


Content	Description
REFERENCE NUMBER	**046AF3**
TITLE	**iTEC Centre Automation System (iCAS)**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.1**
PROJECT DESCRIPTION	**Objectives:** iCAS has the following main objectives: – Provide a State-of-the-Art ATS system platform which supports harmonized and interoperable air traffic control services within the FABEC – Provide advanced tools for Air Traffic Controllers (e.g. MTCD, MONA, Datalink, …) to enable the introduction of advanced operational concepts such as Direct Routing and Free Route – Achieve a cost efficient development of iCAS together with LVNL and also via the iTEC cooperation with ENAIRE and NATS – Achieve a cost efficient maintenance of iCAS through harmonization of system management and operational procedures across all DFS control centres – Provide the iCAS ATS system timely enough in order to replace the current ATS systems P1/ATCAS and P1/VAFORIT without a need for life extending measures – To enable Extended Arrival Management (AMAN) systems to provide arrival sequence time information and manage AMAN constraints. – To provide an ATS system that makes use of the flight information exchange services like sharing Flight Object information and 4D trajectories. (as part of future iCAS version) – To provide an ATS system that complies with the following PCP ATM functions: 1. AF1: Extended AMAN and PBN 2. AF3: Flexible Airspace Management and Free Route 3. AF5: iSWIM (as part of future iCAS version) 4. AF6: Initial Trajectory Information Sharing (i4D) (as part of future iCAS version) iCAS Phase I is currently in the development and deployment phases, the relevant tasks are as follows.
PROJECT LEADER	DFS/LVNL
MEMBER STATE	GERMANY
TIMING	01.01.2014 - 30.06.2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, ECTL/NM, MET
LINKS	AF 1, AF 3, AF 5, AF 6; Sub AF 3.2; FT 1.1.1, FT 1.1.2, FT 3.2.1, FT 3.2.3, FT 6.1.1
NM LINKS	**NSP**: "direct links with SO: • SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible)

	• SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures); **NOP**: "This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as • Technical measure for capacity enhancement by the deployment of iCAS functionalities (Karlsruhe UAC 2016-2017 and Bremen ACC (2019) • Technical measure for capacity enhancement by the deployment of P1/ATCAS and P2/ATCAS by Langen ACC (2105-2017) and Munich ACC (2015) • The Capacity plans for Amsterdam ACC did not make any reference to ICAS or P1/ATCAS or P2/ATCAS;

Recommendation:

This project is considered as a Foundation IP.

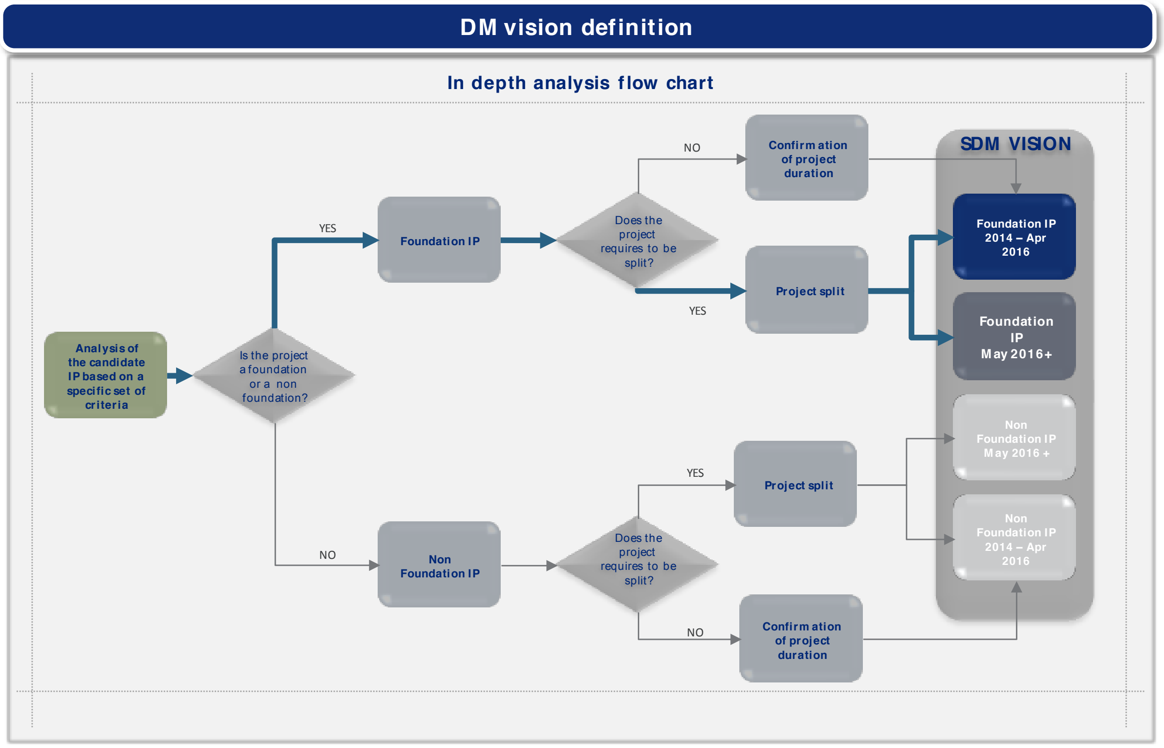


The project could be split in two phases. The first phase (January 2014 – December 2015) has to be considered for the INEA call 2014. The second phase (January 2016 – June 2016) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**053AF3**
TITLE	**4-Flight deployment in DSNA pilot ACCs**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.1**
PROJECT DESCRIPTION	**Objectives:** – Replace the current operational CAUTRA System for ACC and Major APP, by a modern SESAR compliant interoperable line of product, to increase DSNA Performance – Support the implementation of the European ATM Master Plan for France and of the SESAR concept – Respect the Single European Sky (SES) and FABEC rules – Switch to "stripless" environment and up-to-date technologies – Reduce total cost of ownership, by sharing development and evolution costs and risks for the new system, with ANSP partners
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/07/2014 – 31/12/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	
NM links	**NSP:** direct links with SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as Technical measure for capacity enhancement by the deployment of new ATM system (4-flight) by Reims and Marseille ACCs in 2019.

Recommendation:

The project is considered as a Foundation IP.



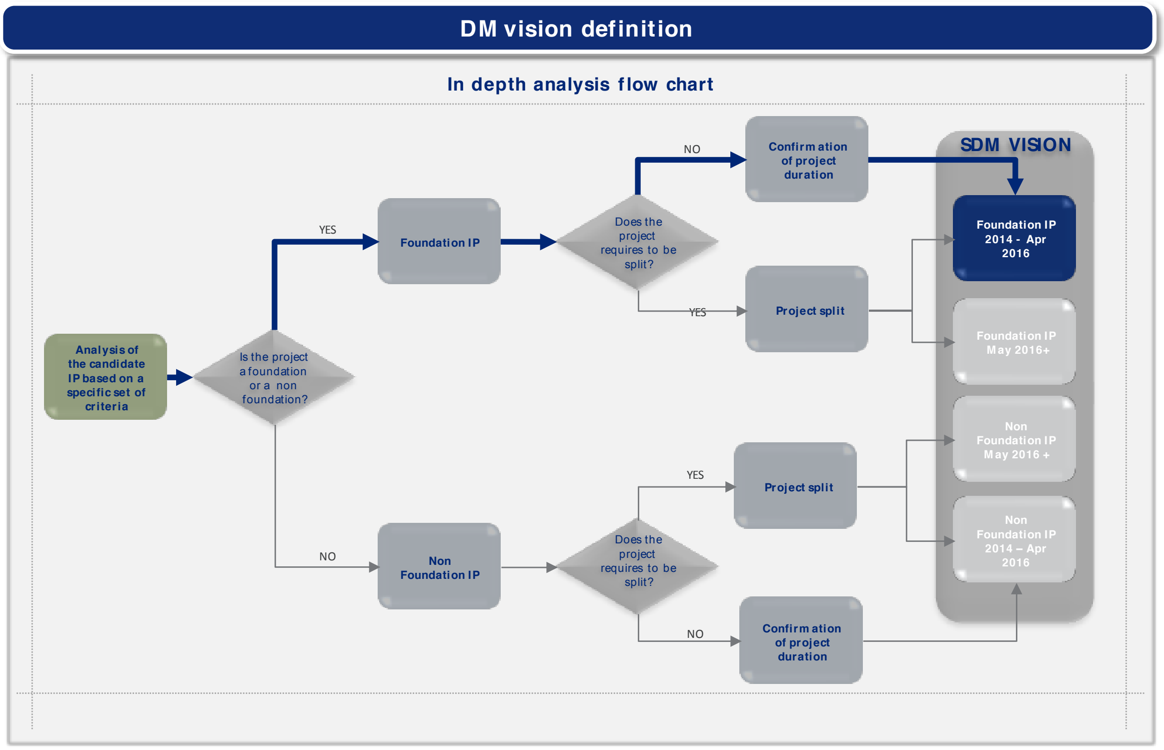
On the basis of selected tasks which might be postponed to a latter phase (namely beyond May 2016), the project could be split in two phases. The first phase (July 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

	Description
REFERENCE NUMBER	**055AF3**
TITLE	**FABEC Free Route Airspace project (FABEC FRA)**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.3**
PROJECT DESCRIPTION	**Objectives:** The overall objectives of the FABEC Free Route project is to fulfill PCP AF3 requirements for the entire FABEC Airspace and contribute to FABEC performance targets in terms of Horizontal Flight Efficiency. The project aims at delivering benefits to both airspace users and ANSPs, by improving: a) Horizontal flight efficiency thus reducing fuel burn and environmental emissions by implementing Free Route within the FABEC Airspace through: Direct Routing, and Free Routing (according to the SESAR Free Route concept) b) Flexibility for airspace users and ANSPs by increasing the number of routing options c) Availability of economical routings through making use of special used airspace d) Predictability through better compliance to the flight plan The project also aims at offering more direct routes in lower airspace and enhance the in-and-outbound flows with the regional and adjacent airports. In view of a coherent progress along European development roadmaps, the FABEC FRA project addresses the following: <u>IR 716/2014 SESAR Deployment PCP</u> Flexible Airspace Management and Free Route shall be provided and operated in the airspace for which the Member States are responsible at and above flight level 310 in the ICAO EUR region DCT as from 1 January 2018 FRA as from 1 January 2022 The project contributes to both requirements as it proposes: – all national, cross border, FABEC-wide implementation of DCT until 31 of December 2017 – initial implementation of Free Route as a first step towards the 2nd requirement about FRA implementation
PROJECT LEADER	DSNA/FABEC
MEMBER STATE	FRANCE
TIMING	01/06/2014 - 31/12/2018
AIRBORNE	
INTERDEPENDENCIES	– iCAS, – 053AF3 - 4-Fight deployment in DSNA pilot ACCs
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM
LINKS	AF 4

NM links	**NSP:** The project has direct links with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible) ; SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization as required for FRA deployment) ; SO 3/4 (Coordinate the development and implementation of airspace design and airspace management improvements to achieve the flight efficiency targets and ensure appropriate network connectivity and coordination). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as Free route airspace measure for capacity enhancement in 2015-2019 time slots by Skyguide, DFS, DSNA and MUAC.

Recommendation:

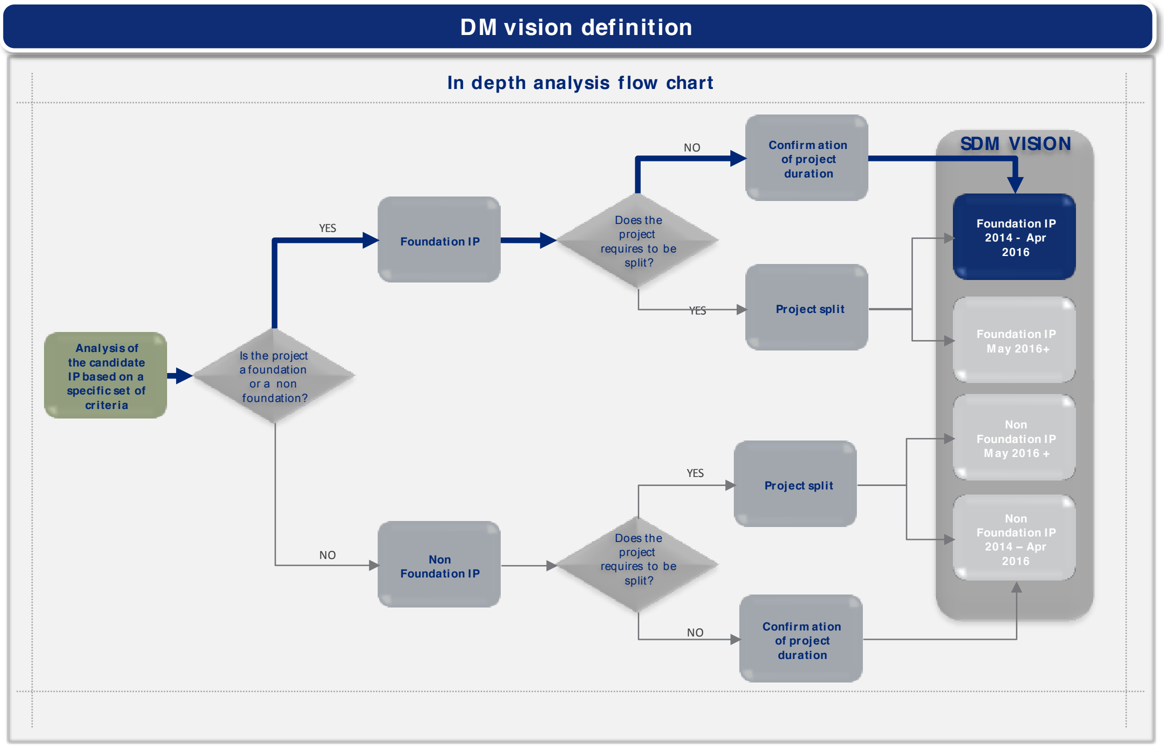
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**056AF3**
TITLE	**ASM tool Implementation**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.1; FT 3.1.1**
PROJECT DESCRIPTION	**Objectives:** Air Space Management (ASM) tool implementation is a prerequisite for Free Route Airspace Implementation of AF3 – Flexible Airspace Management and Free Route of the Commission Implementing Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project (PCP) supporting the implementation of the European Air Traffic Management Master Plan. The EUROCONTROL LARA ASM tool will: – enhance Civil-Military ATM performance; – provide real-time exchange of airspace management data; – enhance situational awareness – facilitates collaborative decision-making – improve safety
PROJECT LEADER	EANS
MEMBER STATE	ESTONIA
TIMING	01/01/2014 – 30/06/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ECTL/NM
LINKS	AF 4; Sub AF 4.2
NM links	**NSP :** SO 3/2 (Implement Advanced Flexible Use of Airspace) SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the procedural measures for capacity enhancement in 2016.

Recommendation:

The project is considered as a Foundation IP.

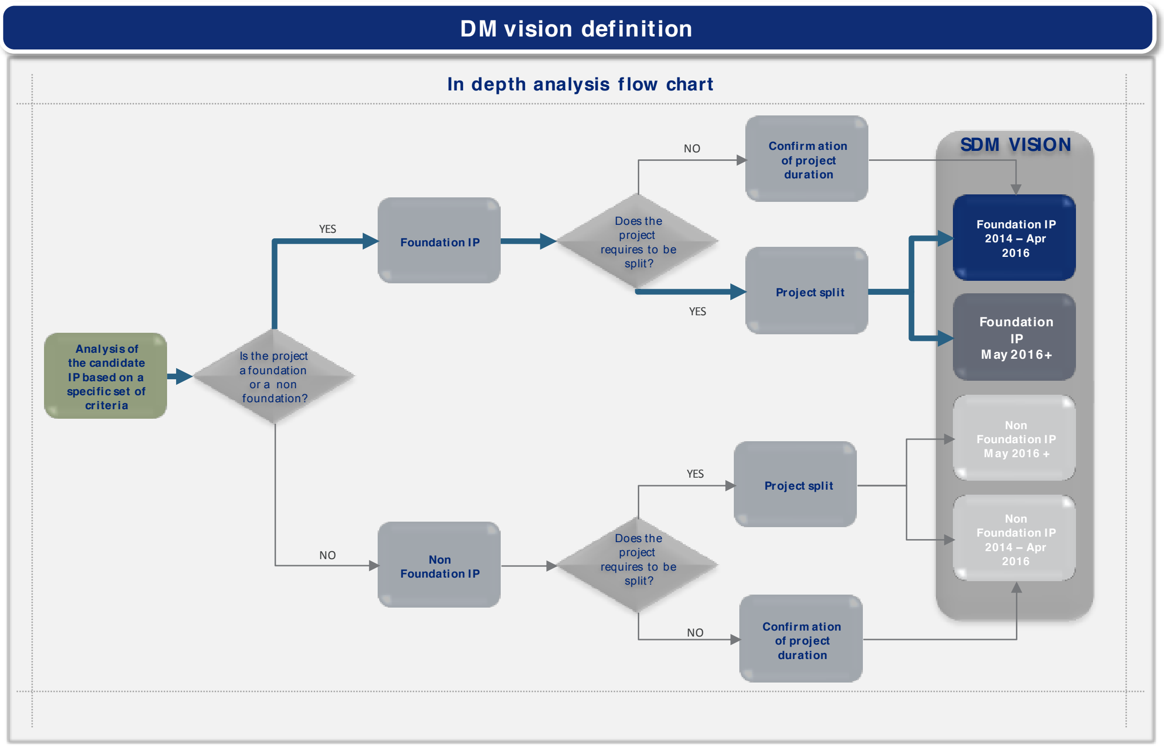


Content	Description
REFERENCE NUMBER	**063AF3**
TITLE	**ENAV implementation of flexible ASM and Free Route**
MAIN AF / SUB AF / FT	**AF3; Sub AF 3.2; FT 3.2.3**
PROJECT DESCRIPTION	**Objectives:** The project aims to implement free route operations in Italy through a seamless integration of the four Italy ACCs enabling airspace users to flight-plan their preferred trajectories within the whole Italian airspace. The deployment will address both technical systems and operational airspace design and procedures. ENAV and BLUE MED FAB partners have been implementing Free Route Airspace concept according to the agreed BLUE MED FAB Implementation Programme, within which the Free Route Airspace concept will be applied in all its stages: from the implementation of night DCTs, up to more ambitious Free Route scenarios on regional scale. The project aims to implement free route operations in Italy through a seamless integration of the four Italy ACCs enabling airspace users to flight-plan their preferred trajectories within the whole Italian airspace. The deployment will cover technical systems, operational airspace design and procedures addressing the following objectives: – Enable users preferred trajectories within whole Italian airspace – Upgrade of ATM Systems – Seamless integration of four Italy ACCs – ATS-route network optimization, including arrival and departure procedures – Sectors adaptation to accommodate the changes in traffic flows where needed
PROJECT LEADER	ENAV
MEMBER STATE	ITALY
TIMING	01/01/2014 - 31/12/2017
AIRBORNE	
INTERDEPENDENCIES	– 095AF3 - AF3 Flexible ASM and Free Route – S-AF Free Route
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM
LINKS	AF3; Sub AF 3.1, FT3.1.1 AF3; Sub AF3.2; FT3.2.1, AF 4; Sub AF 4.1; FT4.1.1
NM links	**NSP:** direct links with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible); SO 3/4 (Coordinate the development and implementation of airspace design and airspace management improvements to achieve the flight efficiency targets and ensure appropriate

	network connectivity and coordination); SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as free route airspace measure for capacity enhancement in 2015-2017 time slot by 4 Italian ACCs Technical measure by the deployment of MTCD by 4 Italian ACCs in 2016.

Recommendation:

The project is considered as a Foundation IP.

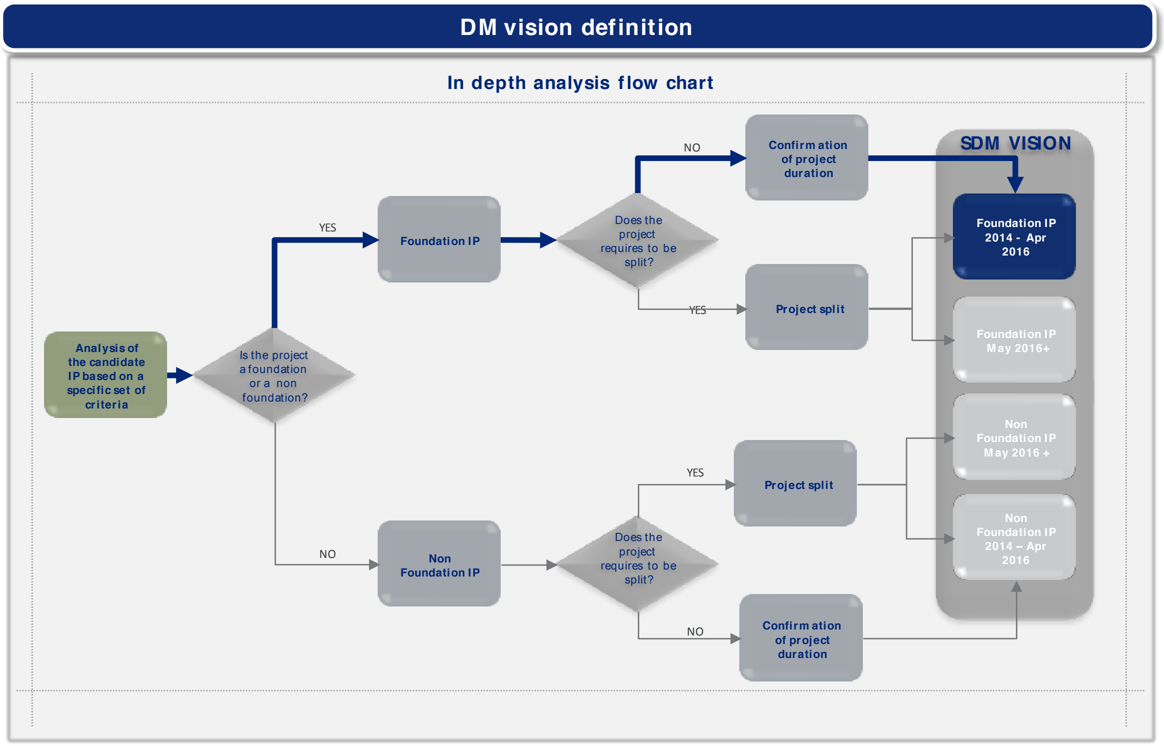


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**081AF3**
TITLE	**NM DCT/FRA Implementation and support**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.2**
PROJECT DESCRIPTION	**Objectives:** This project contributes directly to the implementation of AF3 / S-AF3.2 Free Route: – FT 3.2.2 Upgrade NM Systems to support Direct Routing Operation (DCT) – FT 3.2.3 Implement Direct Routes The project allows to : – Ensure and co-ordinate the gradual implementation, in a harmonized way, of Free Route Airspace, including DCT based, throughout the European airspace. – Adapt NM systems to cope with Free route developments The project is a key contributor to the following Strategic Objectives mentioned in the Network Strategy Plan (NSP): – SO 3 : Implement a seamless and flexible airspace – SO 4: Plan optimum capacity and flight efficiency – SO 5: Facilitate business trajectories and cooperative traffic management
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	01/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ANSPs
LINKS	AF 4; Sub AF 4.2
NM links	NM inputs provided through the normal channels as any other implementing stakeholder.

Recommendation:

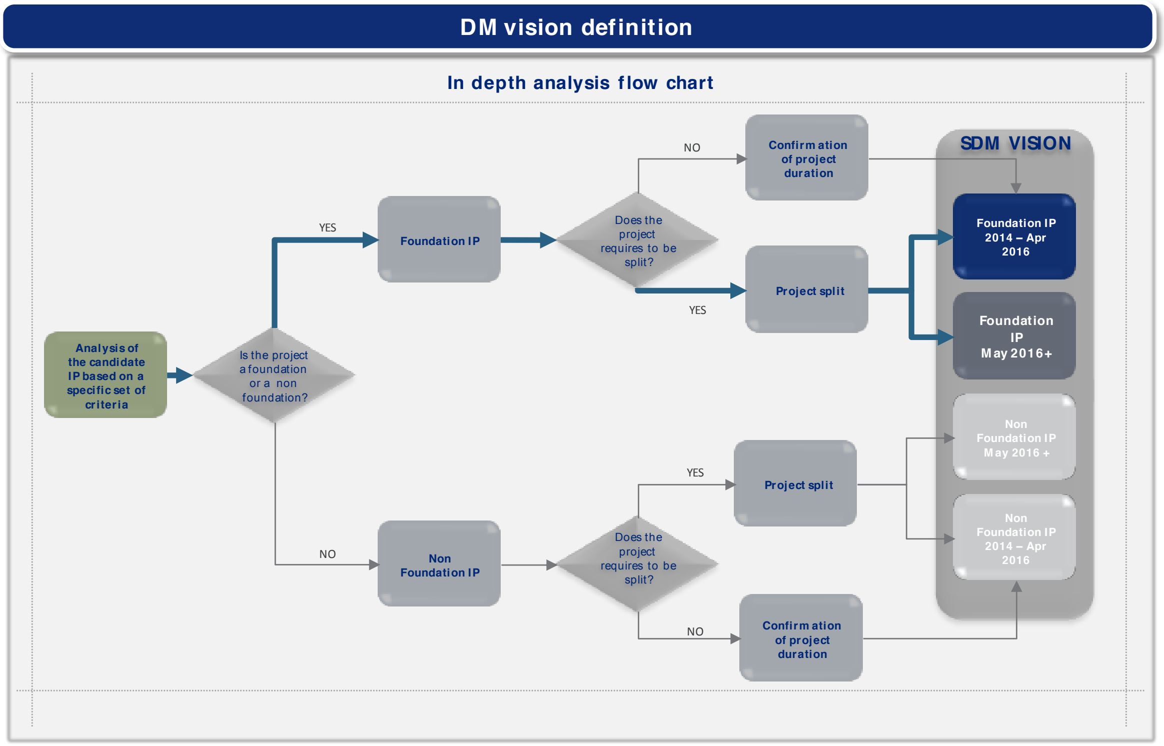
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**095AF3**
TITLE	**AF3 Flexible ASM and Free Route – S-AF Free Route**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT 3.2.3**
PROJECT DESCRIPTION	**Objectives:** HANSP and BLUE MED FAB partners have been implementing Free Route Airspace concept according to the agreed BLUE MED FAB Implementation Program, within which the Free Route Airspace concept will be applied in all its stages: from the implementation of night DCTs, up to more ambitious Free Route scenarios on regional scale. The project aims to implement free route operations in Greece through a seamless integration of the two Greek ACCs enabling airspace users to flight-plan their preferred trajectories within the airspace of HELLAS UIR. The deployment will cover technical systems, operational airspace design and procedures addressing the following objectives: – Enable users preferred trajectories within the airspace of HELLAS UIR – Upgrade of ATM Systems – Seamless integration of two Greek ACCs – ATS-route network optimization, including arrival and departure procedures – Sectors adaptation to accommodate the changes in traffic flows where needed
PROJECT LEADER	HCCA
MEMBER STATE	GREECE
TIMING	01/11/2015 - 31/12/2020
AIRBORNE	
INTERDEPENDENCIES	– 063AF5 - ENAV (FAB-partner) FRA
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM
LINKS	AF3, Sub AF3.2, FT3.2.1 AF 4; Sub AF 4.2
NM links	**NSP:** direct links with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible); SO 3/4 (Coordinate the development and implementation of airspace design and airspace management improvements to achieve the flight efficiency targets and ensure appropriate network connectivity and coordination); SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as free route airspace measure for capacity enhancement in 2016-2019 time slot by Athens and Makedonia ACCs; Technical measure by the deployment of a new ATM system by Athens and Makedonia ACCs(2015-2017).

Recommendation:

This project is considered as a Foundation IP.



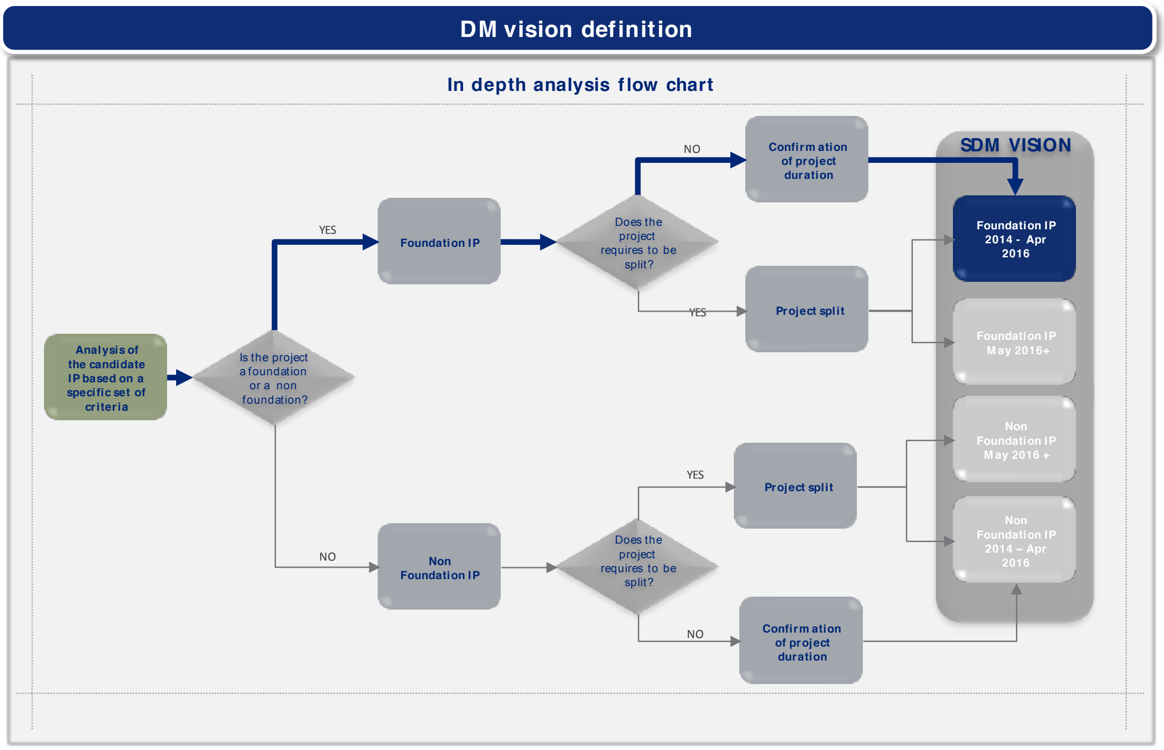
The project could be split in two phases. The first phase (November 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2020) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**102AF3**
TITLE	**Free route airspace from the Black Forest to the Black Sea**
MAIN AF / Sub AF / FT	**AF 3; Sub AF 3.2; FT 3.2.3**
PROJECT DESCRIPTION	**Objectives:** – development of the cross-border FRA concept within FAB CE – validation of the cross-border FRA concept within FAB CE – development of the FRA concept intra-FAB CE (throughout the FAB) – validation of the FRA concept intra-FAB CE (throughout the FAB) – increase airspace capacity – reduce the environmental footprint – via flexible/shorter routes improve the sustainability of aviation
PROJECT LEADER	HUNGAROCONTROL
MEMBER STATE	HUNGARY
TIMING	01/09/2015 - 31/12/2017
AIRBORNE	
INTERDEPENDENCIES	– 063AF5 - ENAV FRA (BlueMed - neighboring FAB)
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM
LINKS	AF3; Sub AF3.2, FT3.2.1 AF 4; Sub AF 4.2
NM links	**NSP:** This project has indirect links with NSP SO, as it does not address the deployment but the preparatory activities for deployment: SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible); SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization as required for FRA deployment) ; SO 3/4 (Coordinate the development and implementation of airspace design and airspace management improvements to achieve the flight efficiency targets and ensure appropriate network connectivity and coordination) ; SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures). **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as Free route airspace measure for capacity enhancement in 2015-2019 time slots by Austro Control, Croatia Control, ANS CR, LPS SE and Slovenia Control. HungaroControl already deployed fully FRA within The Budapest FIR

	airspace but did not refer in their capacity plans for FABCE FRA deployment. BHANSA capacity plans are not addressed by NOP as ATS provision above FL 325 is delated to Serbia and Croatia and their respective ANSPs; the technical measures for capacity enhancements in 2015-2019 time slot by Austro Control, Croatia Control, ANS CR, LPS SE and Slovenia Control.

Recommendation:

The project is considered as a Foundation IP.

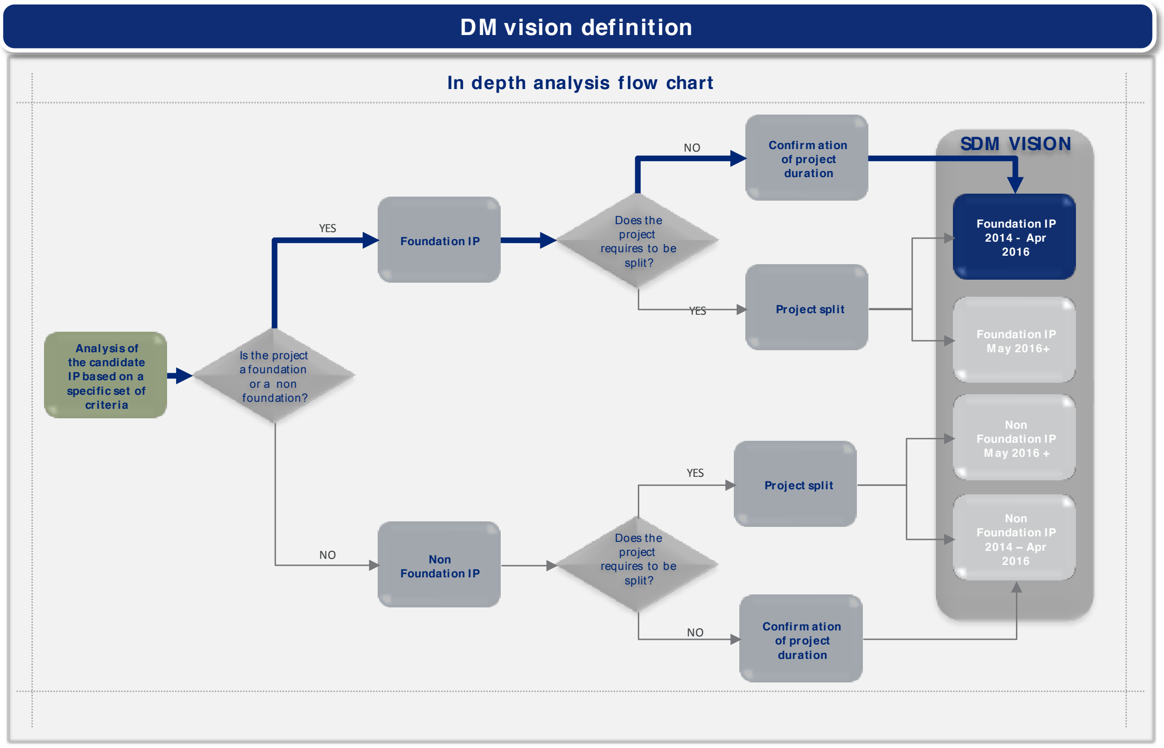


Content	Description
REFERENCE NUMBER	**122AF3**
TITLE	**FT3.1.1 NAV Portugal - Initial ASM tool to support AFUA**
MAIN AF / SUB AF / FT	**AF 3; AF 3.1 ; FT 3.1.1**
PROJECT DESCRIPTION	**Objectives:** Airspace Management (ASM) and Advanced Flexible Use of Airspace (A-FUA) aims to provide the possibility to manage airspace reservations more flexibly in response to airspace user requirements. Changes in airspace status shall be shared with all concerned users, in particular Network Manager, air navigation service providers and airspace users (Flight Operations Centre/Wing Operations Centre (FOC/WOC)). ASM procedures and processes shall cope with an environment where airspace is managed dynamically with no fixed-route network. Data-sharing shall be enhanced by the availability of airspace structures in support of a more dynamic ASM and Free Routing Airspace (FRA) implementation. FRA is the airspace defined laterally and vertically, allowing free routing with a set of entry/exit features. Within this airspace, flights remain subject to air traffic control. ASM solutions shall support all airspace users, including enabling the alignment of FRA, Conditional Route (CDR) and published Direct Routing (DCT). These ASM solutions shall be based on forecast demand received from the local Air Traffic Flow and Capacity Management (ATFCM) function and/or the Network Manager. Establish a collaborative civil-military airspace planning at Lisbon FIR integrated on the European Network level through an integrated Airspace Management/Air Traffic Flow Capacity Management (ASM/ATFCM) process and an extended planning phase into the day of operations. Ensure full exploitation of capacity becoming available through the identification of efficient combinations of areas allocation, routes availability, including CDRs, and Lisbon ACC sector configurations able to cope with traffic demand. The process will be applied also for improving the planning activities related to the updates to airspace status. Foster a consistent application of the Flexible Use of Airspace (FUA) Concept across the European network, and support a safe, efficient and accurate flow of ASM data. The improved planning process refers to the use of specific procedures allowing Airline Operators (AOs) to optimise their flight planning in order to achieve a more efficient utilization of available airspace through more dynamic responses to specific short notice or real-time airspace status changes, requirements and route optimization at the pre-tactical and/or tactical levels. Develop, validate and implement ASM/ATFCM processes, procedures and supporting tools at national, subregional and the European Network level to ensure that airspace is used more flexibly, capacity is better balanced and predictability is enhanced through greater adherence to planned activities as a result of better planning and notification.

	Ultimately, the ASM operations continue until the real-time activation of airspaces in the Lisbon ACC or routes (below FL 240, since above that level the FIR airspace is full free route). The alignment between both ASM/ATFCM processes shall continue to ensure the assessment of the network impact, the identification of flights affected by real-time modifications, as well as the timely dissemination of the decisions. Airspace uses (allocations, activations, deactivations) are issued from the ASM tools (LARA,) via B2B.
PROJECT LEADER	Nav Portugal
MEMBER STATE	PORTUGAL
TIMING	01/01/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ECTL/NM
LINKS	AF3; Sub AF 3.2; FT3.2.1 AF4; AF5, sub AF5.3; FT5.3.3
NM links	**NSP:** direct links with SO 3/2 (Implement Advanced Flexible Use of Airspace); SO 3/3 (Implement appropriate cross-border airspace structures, enabling a flexible use of airspace - to achieve the flight efficiency targets and ensure appropriate cross-border sectorization). **NOP:** This project that aims to deploy LARA tool by the end of 2016 is not addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS).

Recommendation

This project is considered as a Foundation IP.

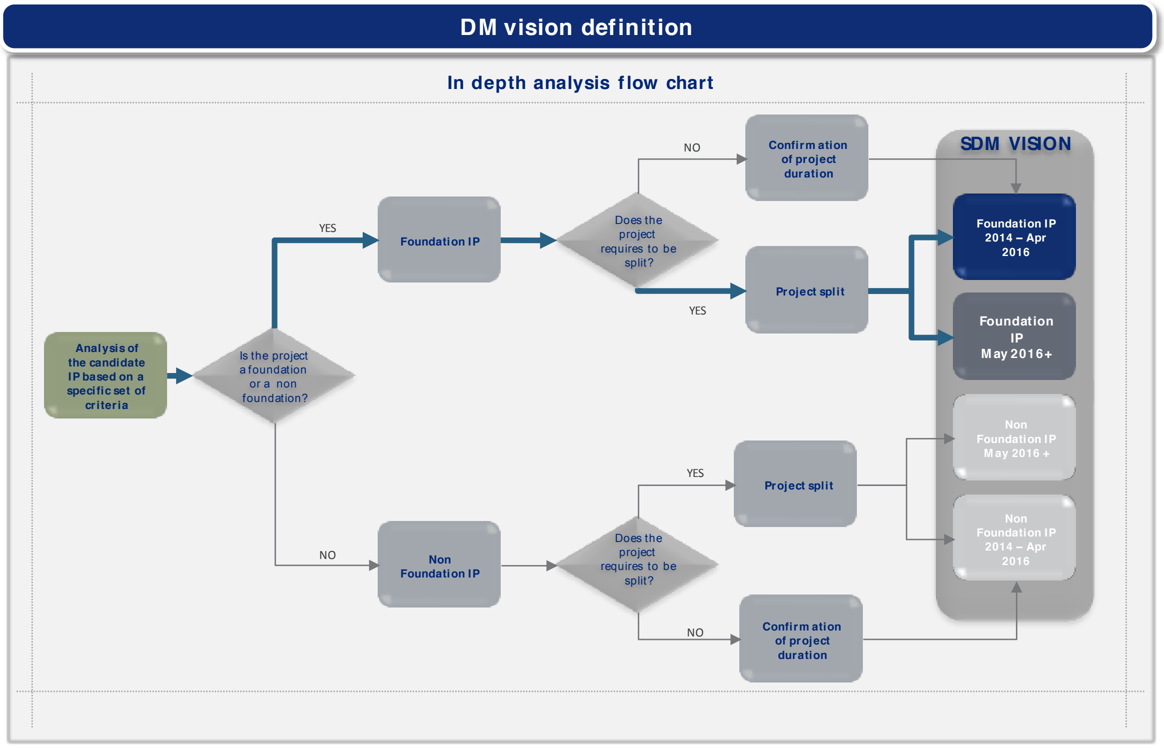


Content	Description
REFERENCE NUMBER	**131AF3**
TITLE	**Upgrade of the P_21 PEGASUS system to support SESAR functionalities and to the iTEC products line**
MAIN AF / SUB AF / FT	**AF 3; Sub AF 3.2; FT3.2.1**
PROJECT DESCRIPTION	**Objectives:** The P_21 system transition to iTEC has the following objectives: – Deployment of Preliminary Deployment Plan functionalities of the ATM System, mostly the ATM. Functionality 3 - Flexible Airspace Management and Free Route (Fast Track 3.2.1), with references to: o Pilot Common Project – Technical Annex for the AF 03: • 3.1.1. Airspace Management and Advanced Flexible Use of Airspace: ▪ The ATC system shall support flexible configuration of sectors so that their dimensions and operating hours can be optimized according to the demands of the NOP ▪ The system shall allow a continuous assessment of the impact of changing airspace configurations on the network ▪ ATC systems shall correctly depict the activation and de-activation of configurable airspace reservations and the change of a volume of airspace from a fixed route network to FRA ▪ The ASM, ATFCM and ATC systems shall securely interface in a way that allows the provision of air navigation services based on a common understanding of the airspace and traffic environment. The ATC systems shall be modified to enable this functionality to the extent necessary to comply with Regulation (EC) No 552/2004, point 4 of Part A of Annex II. • 3.2.1. Free Route - ATC systems shall implement the following: ▪ Flight data processing system, including HMI, to manage trajectory/flight planning without reference to the fixed ATS network ▪ Flight planning systems to support FRA and cross-border operations ▪ ASM/ATFCM to manage FRA — for FRA, Medium Term Conflict Detection (MTCD) including Conflict Detection Tools (CDT), Conflict Resolution Assistant (CORA), Conformance Monitoring, and APW for dynamic airspace volumes/sectors; Trajectory prediction and de-confliction shall support an automated MTCD tool

	adapted to operate in FRA airspace and, when required, on DCT ▪ Flight Data Processing System (FDPS) shall support FRA, DCT and A-FUA ▪ The controller working position shall support the operating environments, as appropriate ▪ o Baltic FAB CONOPS ▪ 3.3.6 FRA (Free Route Airspace) ▪ The deployment of FRA will initially require the introduction of a number of key enablers - System support – enhancement for the purposes of flight planning, flight data processing, flight data display and exchange, coordination, conflict detection and resolution; – Deployment at the same time of elements of other ATM Functionalities: o Enable the ATM System to support RNP operations (FT 1.2.3) o Electronic Flight Strips (FT 2.1.2) o Interface to NMS (FT 4.2.3) o FDP system adaptation to interface with NOP (FT 4.4.1) o ATM system adaptation to support AIXM 5.1 (FT 5.3.2) o FDPS upgrade preparing for IOP Flight Object exchanges (FT 5.6.1) – Alignment of the PEGASUS ATM system to further joint development within the iTEC cooperation and with the FAB partner
PROJECT LEADER	PANSA
MEMBER STATE	POLAND
TIMING	01/01/2015 – 30/04/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With ANSPs, ECTL/NM
LINKS	AF3; Sub AF3.1, FT3.1.1 AF 1, AF 4, AF 5; FT 1.2.3, FT 2.1.2, FT 4.2.3, FT 4.4.1, FT 5.3.2, FT 5.6.1
NM links	**NSP:** The project has direct links with SO 3/1 (Deploy full free route airspace throughout the European ATM network, to the maximum extent possible); SO 3/2 (Implement Advanced Flexible Use of Airspace); SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures); **NOP:** This project is not addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the PANSA listed only the data link system improvement as the technical measures for capacity enhancement.

Recommendation:

The project is considered as a Foundation IP.



The project could be split in two phases. The first phase (January 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – April 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

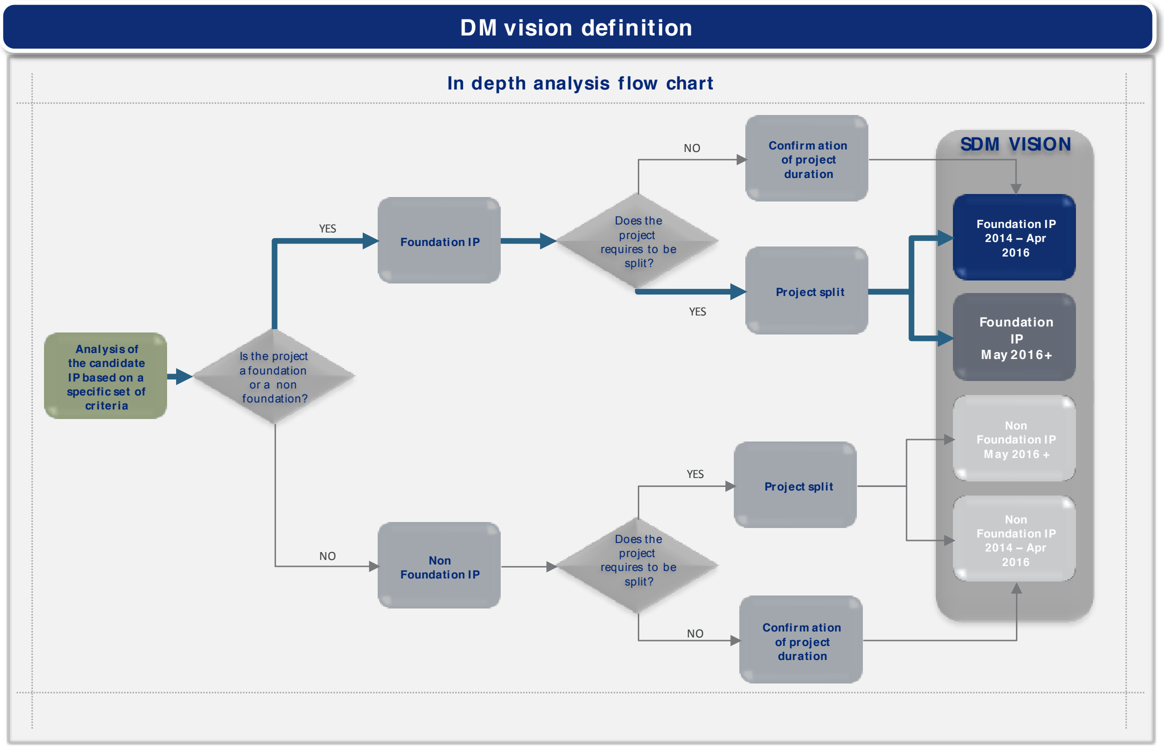
5.1.4 AF4 Network Collaborative Management

Content	Description
REFERENCE NUMBER	**062AF4**
TITLE	**ENAV initiative for the identification of Network Collaborative Management requirements.**
MAIN AF/ SUB AF/ FT	**AF 4, Sub AF 4.2,FT 4.2.3**
PROJECT DESCRIPTION	**Objectives:** ENAV will develop a study in order to identify all requirements and provisions to meet the demands set for AF4 under Reg. 716/2014. The study will identify measures in order to implement: – Optimized management of traffic demand, including high-level/peak hours traffic requests. Some enhancement through reduction in controller workload. – Enhanced by improved sharing of the network situation – Better use of the available network capacity – Increased through suppression of flight ATFM regulations thanks to local ATFCM measures with the same ATC sector manning – Small benefits through improved use of the airport and airspace capacity resulting from a better knowledge of the airspace availability and of the traffic demand. – Reduction of costs induced by delays – Reduction of flight delays Enhanced through use of cost effective tools to access network information instead of expensive local tools or procedures and through the improved capacity
PROJECT LEADER	ENAV
MEMBER STATE	ITALY
TIMING	01/01/2014 - 31/12/2017
AIRBORNE	
INTERDEPENDENCIES	– 063AF3 - ENAV implementation of flexible ASM and Free Route – 066AF5 - ENAV AIS system Upgrade to support AIXM5.1 – 078AF4 - ATFCM measures (STAM) – 079AF4 - Trajectory accuracy and traffic complexity (NM)
SYNCHRONIZATION	With ANSPs, NM
LINKS	AF4,SubAF4.1,FT4.1.1 AF4,SubAF4.2,FT4.2.2 AF4,SubAF4.4,FT4.4.1 AF4,SubAF4.4,FT4.4.2 AF3,SubAF3.1,FT3.1.1 AF3,SubAF3.2,FT3.2.1 AF3,SubAF3.2,FT3.2.3 AF5,SubAF5.3,FT5.3.1
NM links	**NSP :** SO4/1, SO4/2, SO4/3, SO5/1, SO5/4

	NOP: Marginal with NOP annex 5 (ACC traffic forecast and capacity plan) with a reference to the improved ATFCM process (including STAM) by 4 Italian ACCs

Recommendation:

This project is considered as a Foundation IP.

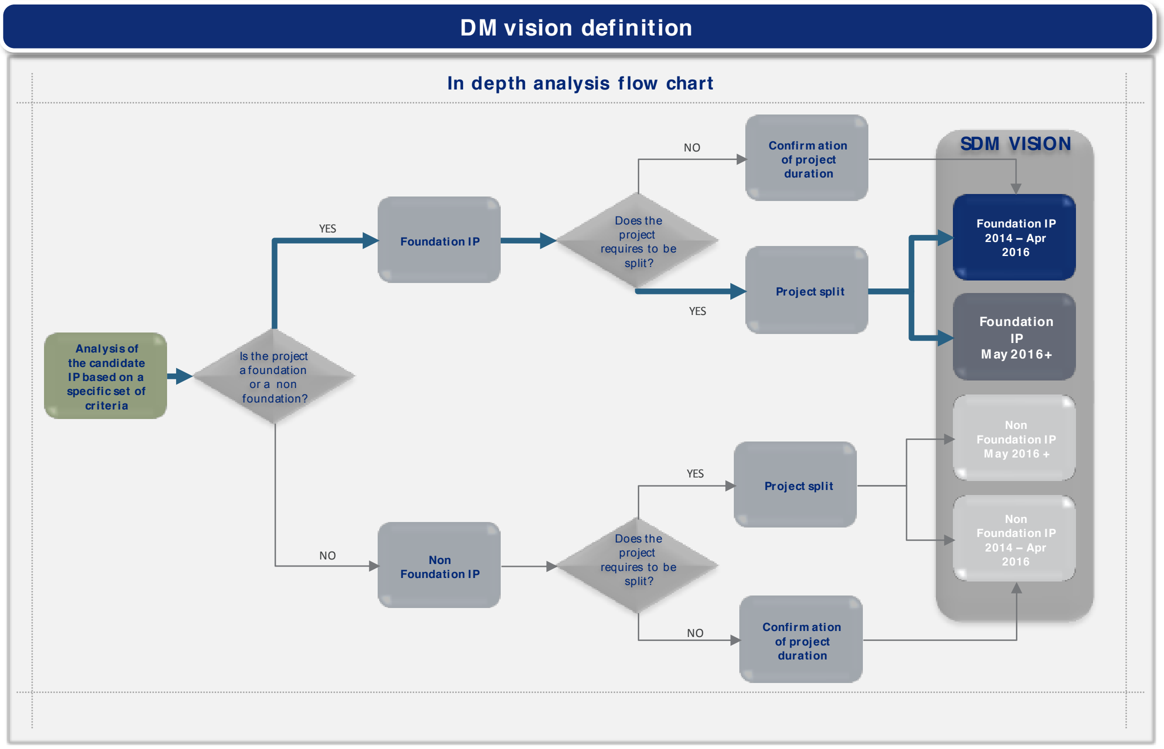


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016-December 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**077AF4**
TITLE	**Interactive Rolling NOP (Network Operating Plan)**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.2; FT 4.2.2**
PROJECT DESCRIPTION	**Objectives:** – Extension and improvement of the process referred to as the interactive rolling NOP. – Replacing the existing interfaces (NOP Portal, CHMI and EHMI) into a single interface – Provision of the common interface to all Stakeholders to enable the collaborative decision making processes used to build and execute the Network Operations Plan. The project is a key contributor to the following Strategic Objectives mentioned in the Network Strategy Plan (NSP): – SO 4: Plan optimum capacity and flight efficiency – SO 5: Facilitate business trajectories and cooperative traffic management
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	06/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	– 078AF4 – NM ATFCM measures (STAM) – 081AF3 - NM DCT/FRA Implementation and support – 082AF5 - SWIM compliance of NM systems
SYNCHRONIZATION	With Airspace Users; Airports; ANSPs; EUROCONTROL; MET
LINKS	AF4;SubAF4.2;FT4.2.3 AF4;SubAF4.1;FT4.1.1 AF3;Sub AF 3.2; FT 3.2.2 AF3 Sub AF 3.2; FT 3.2.3 AF5;Sub AF 5.3; FT 5.3.1
NM LINKS	**NSP**: SO4, SO5 **NOP**: Yes

Recommendation:

This project is considered as a Foundation IP.

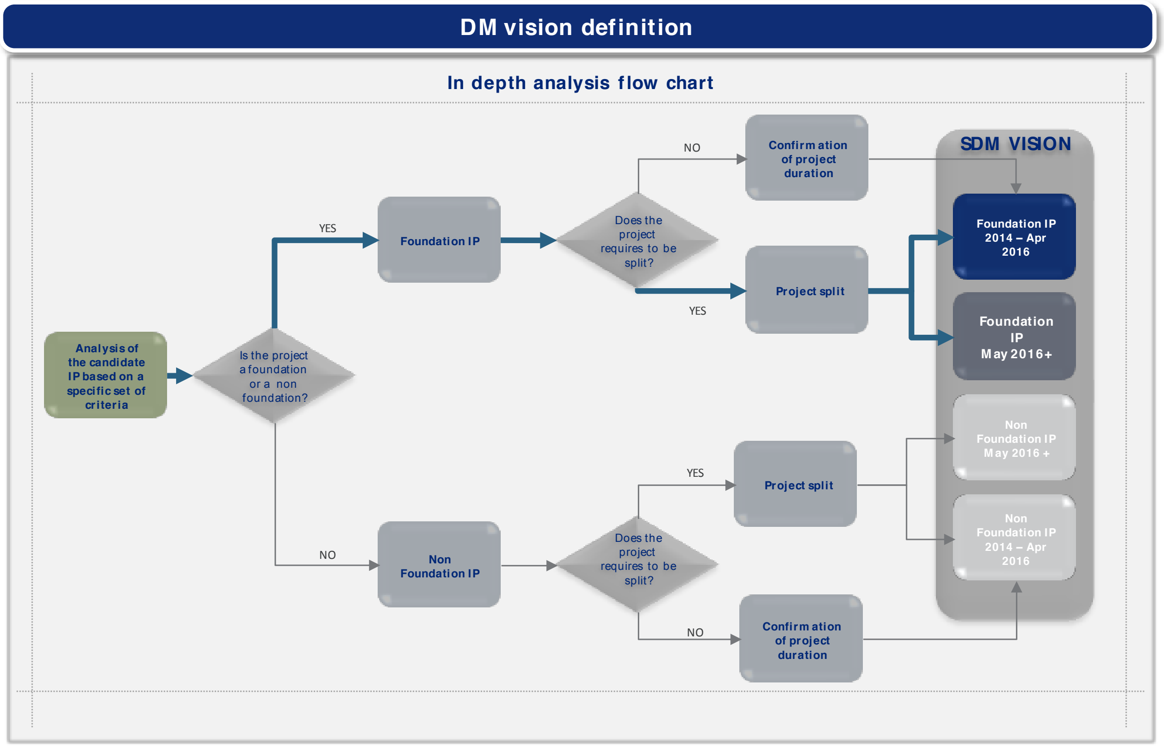


The project could be split in two phases. The first phase (January 2014 - April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – June 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**078AF4**
TITLE	**ATFCM measures (Short Term ATFCM Measure)**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.1; FT 4.1.1**
PROJECT DESCRIPTION	**Objectives:** – Minimizing ATFCM delay by reducing the need for ATFCM regulations and its impact on operations. – Improve the balance between demand and available capacity through cooperation between ATFCM and ATS processes, through targeted measures on (an) individual flight(s). – Delivery of a complete package of system support and operational procedures, to enable the harmonised and effective deployment of Short Term ATFCM Measures throughout the European airspace. – Support the network coordination between stakeholders and provide the network view for the elaboration, decision and execution of STAM measures. – Provide the collaborative environment to stakeholders during the elaboration, decision and execution of STAM measures. The project is a key contributor to the following Strategic Objectives mentioned in the Network Strategy Plan (NSP): – SO 4: Plan optimum capacity and flight efficiency – SO 5: Facilitate business trajectories and cooperative traffic management
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	01/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	– 077AF4 - Interactive Rolling NOP – 062AF4 - ENAV initiative for the identification of Network Collaborative Management requirements – 045AF1 - FABEC XMAN/AMAN (Call 2014) – 083AF1 - AMAN extended to en-route
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF4;SubAF4.2;FT4.2.2 AF1; Sub AF 1.1; FT 1.1.3
NM LINKS	**NSP:** SO4/ SO5 **NOP:** Yes

Recommendation:

This project is considered as a Foundation IP.

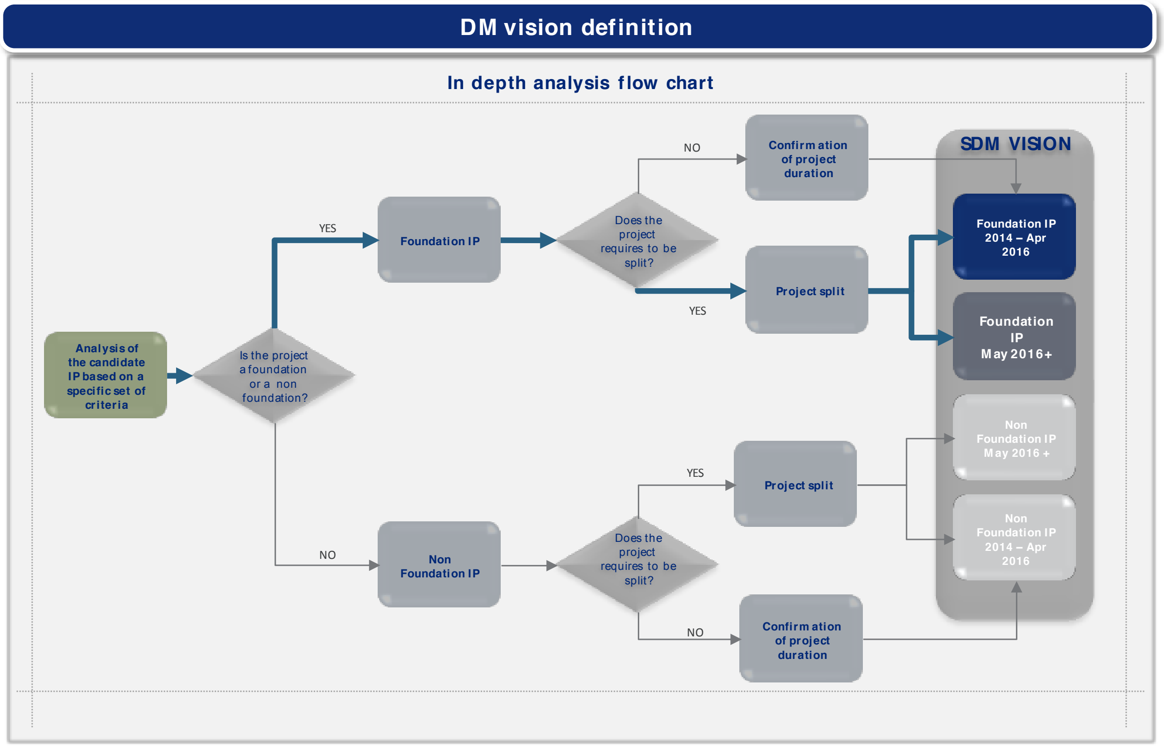


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – June2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**079AF4**
TITLE	**Trajectory accuracy and traffic complexity**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.4; FT 4.4.1**
PROJECT DESCRIPTION	**Objectives:** This IP addresses the FT4.4.1 'FDP System adaptation and EFD (EFTMS flight data message)' and contributes to the S-AF4.4 'Automated Support for Traffic Complexity Assessment'. – The accuracy of demand assessment will be significantly improved by the use of the Extended Flight Plan (EFPL) in the planning phase, meaning a Flight Plan enriched with detailed trajectory and flight performance information. This will also positively impact the ETFMS flight data (EFD) messages process. – The better accuracy of the initial trajectory information provided by NM will improve traffic predictability in general, and more specifically facilitate the traffic complexity assessment both at local and central level. – The implementation of Network Traffic Scenario management tools at NM level will also directly contribute to manage traffic complexity. – Improved trajectory/constraint accuracy/awareness will also result in potential improvements to flight efficiency.
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	01/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	062AF4 - ENAV initiative for the identification of Network Collaborative Management requirements. (WP 3)
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, EUROCONTROL
LINKS	AF4,SubAF4.1,FT4.1.1
NM LINKS	**NSP:** SO5 **NOP:** Yes

Recommendation:

This project is considered as a Foundation IP.

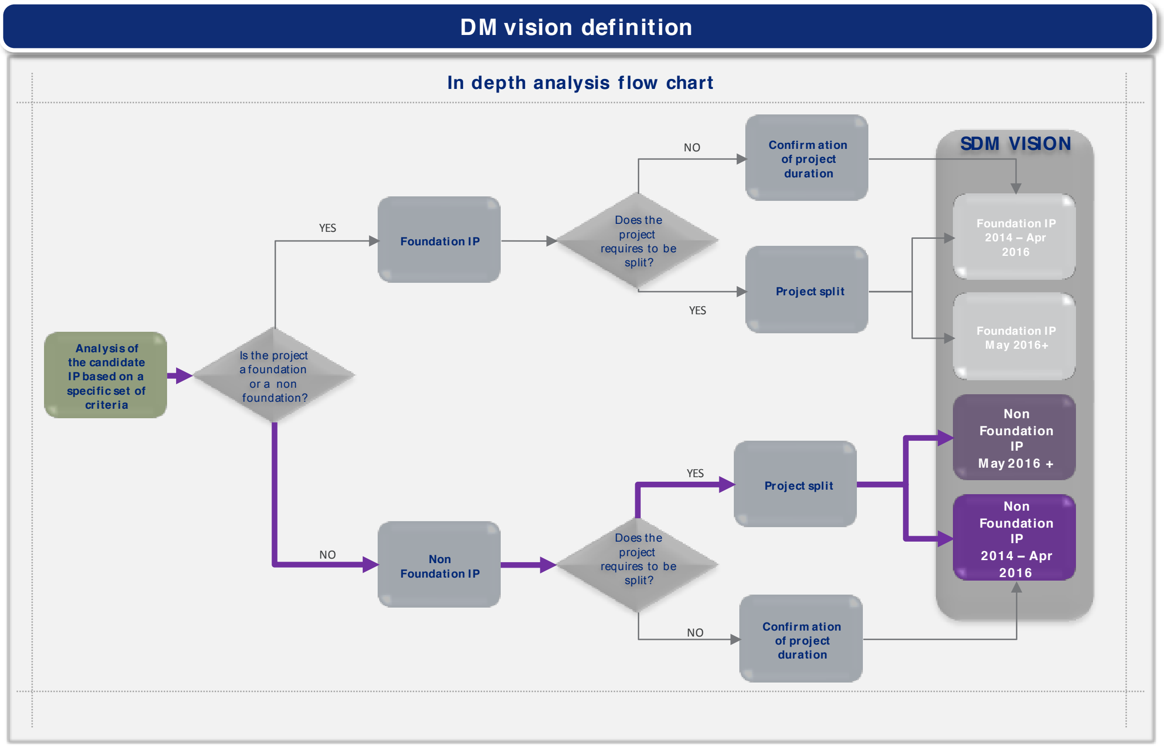


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 - June 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the deployment programme.

Content	Description
REFERENCE NUMBER	**106AF4**
TITLE	**Irregularity Management Tool (DaRT)**
MAIN AF/ SUB AF/ FT	**AF4**
PROJECT DESCRIPTION	**Objectives:** IT-Support of decision making processes in the Lufthansa (LH) Operations Control Centers FRA & MUC (Network Management) in case of major disruptions (unpredictable events such as adverse weather, strike, …) – Automated identification of measures – Automated generation of solution scenarios that take into account all relevant data and information such as airspace restrictions, flow restrictions, airport capacities, … – Deployment of solutions (reduced flight plans) that are beneficial to LH's operational stability – Shortening of reaction times in case of irregularities, quick information of passengers and system partners – Quick recovery from irregularities The Ops Control system used at Lufthansa is very good at supporting everyday business requirements, but lacks functionality to sufficiently cope with large scale disruptions. Such events are currently handled manually by experienced Ops Controllers and are supported by the system in a limited way. As complex decision rules and parameters as well as large amounts of data cannot be handled by humans, optimization potential of today's manual solutions has been assessed to be quite high. The proposed action is expected to significantly lower the amount of cancellations and delays in case of large disruptive events which impact Lufthansa flight operations and air traffic in general. This shall be accomplished by taking into consideration factors such as airspace and airport capacities, flow rates and so on. Considering these factors shall have a positive impact on air traffic management on one hand and service quality on the other.
PROJECT LEADER	Lufthansa
MEMBER STATE	GERMANY
TIMING	01/01/2013 – 10/04/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	
LINKS	AF2; Sub AF 2.1; FT2.1.3
NM LINKS	**NSP:** SO5/3 **NOP:** None

Recommendation:

This project is considered as a Non Foundation IP.

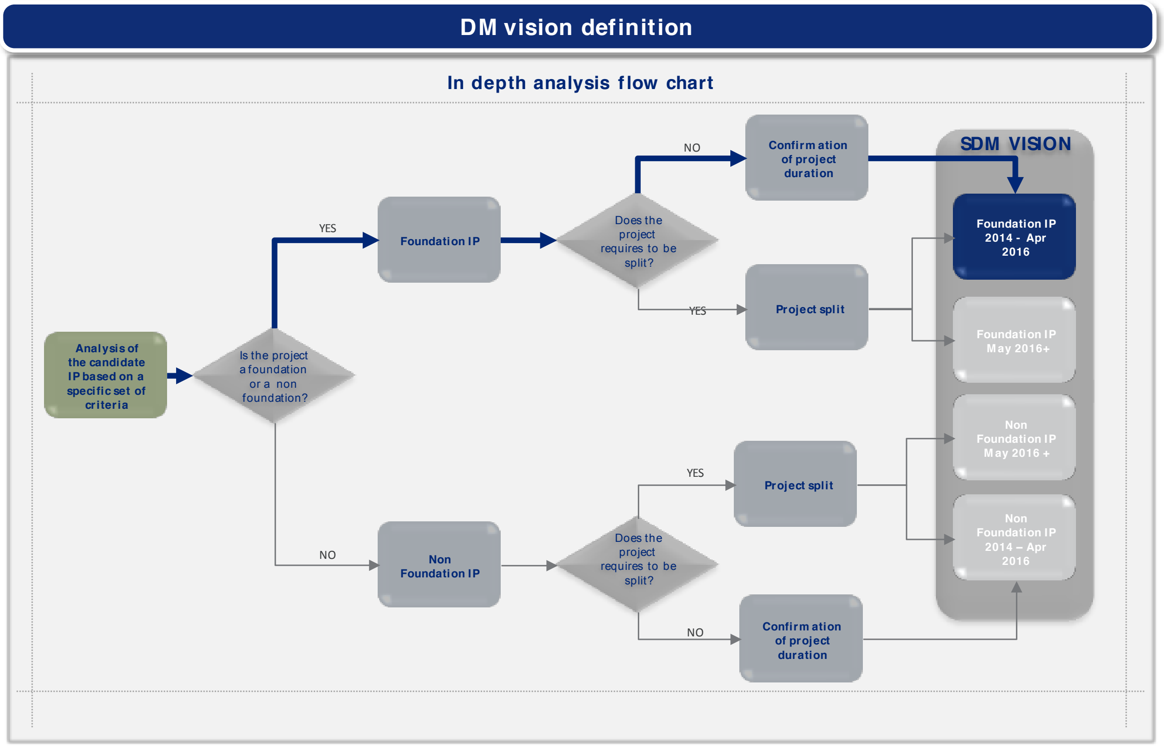


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – April 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**111AF4**
TITLE	**Interactive Rolling NOP**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.2; FT 4.2.2**
PROJECT DESCRIPTION	**Objectives:** In order to provide CPR (correlative position radar) to NM – Establish the UAB – Configure Firewall – Finalise Cabling – Successful Technical Validation – Successful Operational Validation
PROJECT LEADER	Malta Air Traffic Services
MEMBER STATE	MALTA
TIMING	31/03/2014 – 31/05/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	NM
LINKS	
NM LINKS	**NSP:** indirect link with SO4/2 **NOP:** Annex 5

Recommendation:

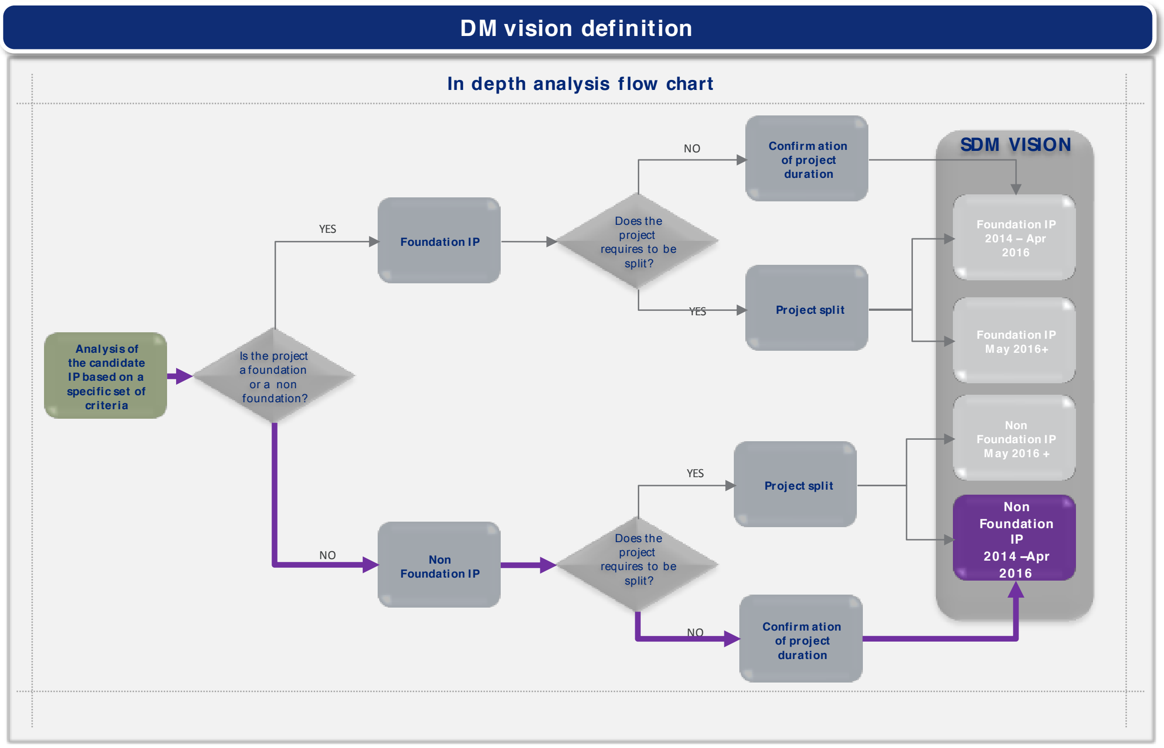
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**112AF4**
TITLE	**Interface to NMS AFP**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.2; FT 4.2.3**
PROJECT DESCRIPTION	**Objectives:** – To Deploy AFP on the Upgraded ATM System – To Commission the System – To Validate AFP – To Train the ATCO on AFP – To Conduct Shadow Mode Operations until full Deployment
PROJECT LEADER	Malta Air Traffic Services
MEMBER STATE	MALTA
TIMING	06/01/2014 - 15/05/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	NM
LINKS	
NM LINKS	**NSP:** SO4/1, SO4/2 **NOP:** NOP annexe 5

Recommendation:

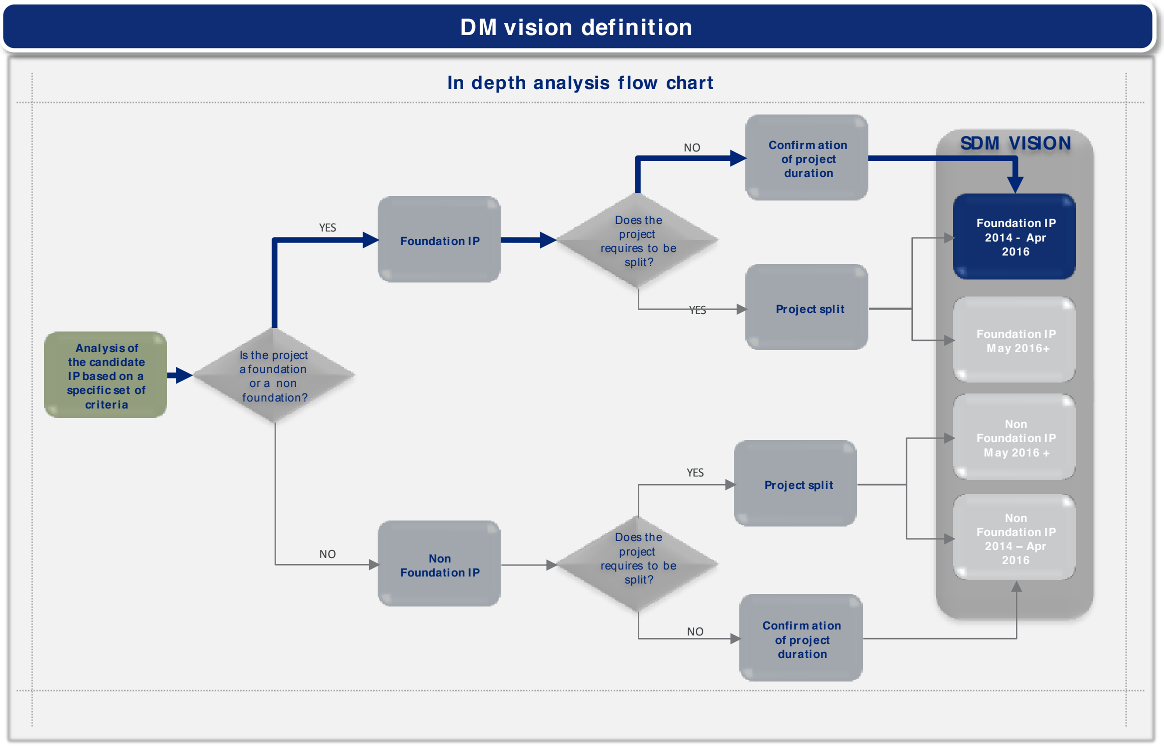
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**123AF4**
TITLE	**FT 4.2.3 NAV Portugal Interface to NMS AFP**
MAIN AF/ SUB AF/ FT	**AF 4; Sub AF 4.2; FT 4.2.3**
PROJECT DESCRIPTION	**Objectives:** – The purpose of this national project (action), on the Lisbon FIR, is to contribute for the European wide objectives of the IR 716/2014 AF#4, namely on the Improvement of the collaboration between the NM and ANS providers, airports and airspace users in flight plan filing. – The Lisbon FIR ATM system should automatically provide AFP message for: o Missing flight plan o Change of route o Diversion o Change of flight rules or flight type o Change of requested cruising level o Change of aircraft type o Change of aircraft equipment. – The APL and ACH messages sent by IFPS and AFP messages are automatically processed
PROJECT LEADER	Nav Portugal
MEMBER STATE	PORTUGAL
TIMING	01/05/2015 – 31/03/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	NM
LINKS	
NM LINKS	**NSP:** SO4/1, SO4/2 **NOP:** Annex 5

Recommendation:

This project is considered as a Foundation IP.

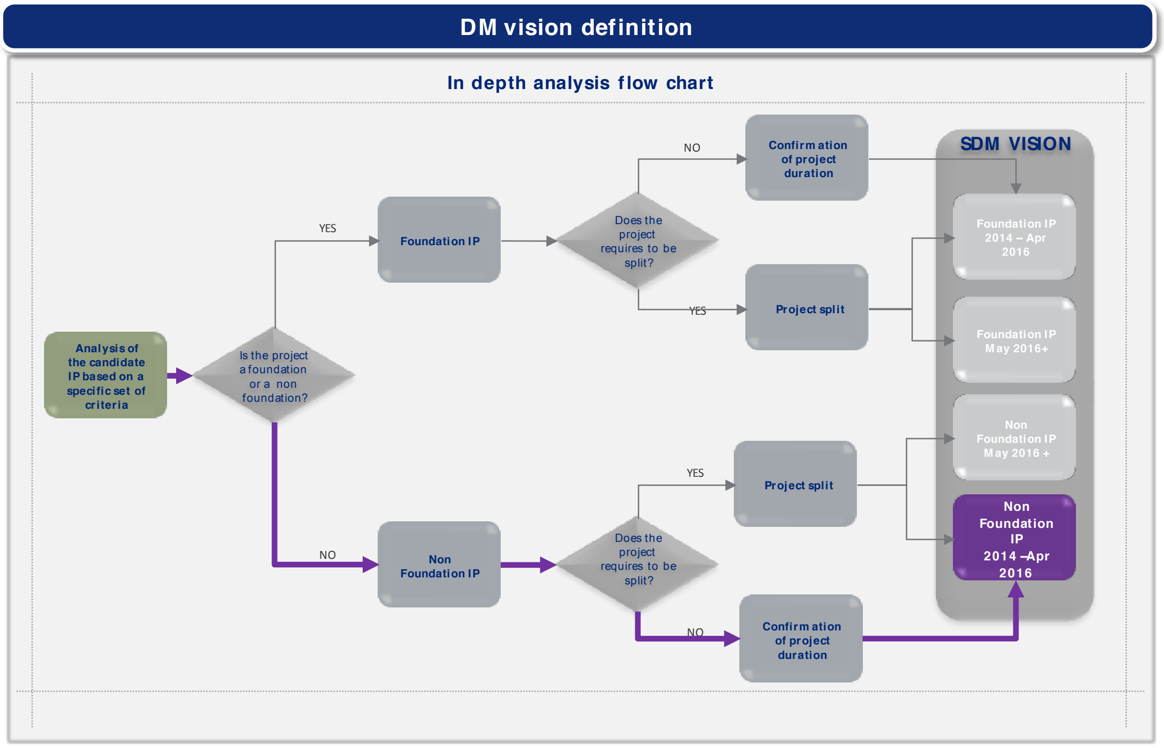


5.1.5 AF 5 Initial SWIM

Content	Description
REFERENCE NUMBER	**006AF5**
TITLE	**ATM Data Quality (ADQ)**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.3; FT 5.3.2**
PROJECT DESCRIPTION	**Objectives:** The project aims to migrate Austro Control's aeronautical data base to support AIXM 5.1, ensuring the data quality to be high enough to be compatible with System Wide Information Management (SWIM). This migration will support the enhancement of security, data integrity and capacity, as well as promotion of ATM automation. The proposed action is therefore instrumental to the fulfilment of the requirements according to ICAO Annex 15 and ESSIP INF05, as well as for creating the basis for a smooth implementation of SES/ADQ, more specifically aiming at: – Compliance to ICAO Annex 15 and Commission Regulation (EU) No 73/2010 ensured – Validation and integrity checks introduced – Workflow management system introduced to the service delivery management domain (SDM) – Stream for internal and external data delivery digitalized – National legislation aligned
PROJECT LEADER	AUSTRO CONTROL
MEMBER STATE	AUSTRIA
TIMING	01/01/2014 – 15/12/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports
LINKS	AF 1/Sub AF 1.2/ FT 1.2.1 AF 1/Sub AF 1.2/ FT 1.2.2 AF 1/Sub AF 1.2/ FT 1.2.3 AF 3/ Sub AF 3.2/FT 3.2.1 AF 3/ Sub AF 3.2/ FT 3.2.3 AF 4/Sub AF 4.2/ FT4.2.2 AF5/Sub AF 5.3/FT 5.3.1
NM links	**NSP:** SO 2/5 **NOP:** No link

Recommendation:

This project is considered as a Non Foundation IP.

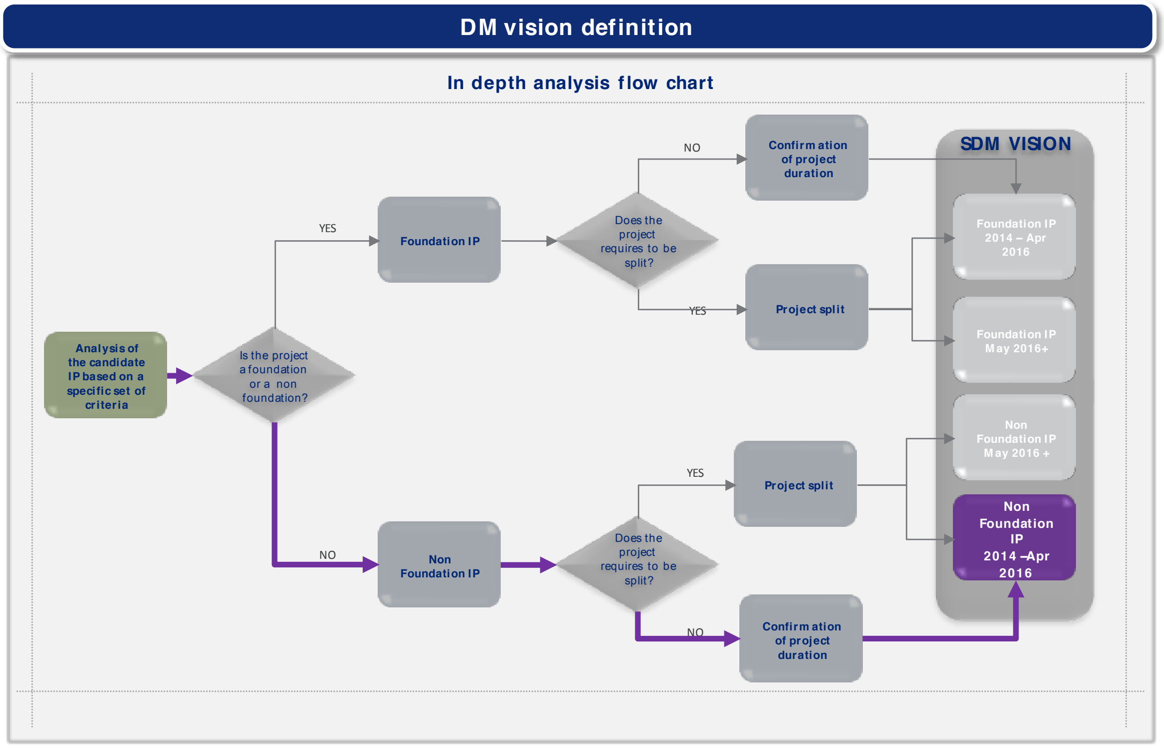


Content	Description
REFERENCE NUMBER	**009AF5**
TITLE	**Integrated Briefing System New (IBSN)**
MAIN AF / SUB AF / FT	**…**
PROJECT DESCRIPTION	**Objectives:** – AIDA (Aeronautical Information Data-handling-system Austria)/Integrated Briefing System (IBS) Legacy System (technology end of life as well as software architecture) replaced – "EAD customized" (EAD - European Aeronautical Database) implemented – Connection to existing Austro Control infrastructure (network, working positions, ECITs – EAD Connection Interface Terminal, BF (Briefing Facility)-Box, IBS Web services etc.) ensured – Data from legacy system transferred – AIDA/IBS legacy system cut out and sub-provider contracts cancelled – OPS (operations) training (AIM/VFSS) and briefing of technical personnel (ACG Service Control Center and experts) conducted – Nagios and Trouble Ticket System inserted – "EAD customized" set in operation after successful FAT and SAT **Description:** Austro Control's Integrated Briefing Legacy System has reached end of life (of the technological product cycle) and needs to be replaced. The new briefing service will be prepared to be compliant with the System-Wide Information Management (SWIM) architecture. The upgrade of AIS services shall be seen as a SWIM prerequisite by using EAD core services (reference is made to ESSIP INF 05) New briefing functions introduced by the new system include: – Graphical display (FPL – Flight Plan & NOTAM – Notification to airman) – Mobile devices – Meteorological (MET) web interface – Webshop
DELIVERABLES AND MILESTONES	**Deliverables:** – 1.1.3 Execution Phase - Meeting minutes, project reports – 1.1.4 Finalization Phase - Project closedown report – 1.2.2 Process In voices - Paid invoices – 1.2.3 Verify contracts - Verified contracts – 1.2.4 Revise Service Level - Agreements Revised SLAs – 1.4.1 Start BF-box - BF-box connected and ready for operation – 1.4.2 Provide VFSS WP (Citrix) - Working positions installed and ready for operation – 1.4.3 Configure network/monitoring - Network ready for operation and monitoring available

	– 1.4.4 Provide MET - Services Interface control document - web service definition language (WSDL) implemented – 1.5.1 Revise Contingency Procedures - Updated Contingency Procedures – 1.5.2 Revise Manuals - Updated Manuals – 1.5.3 Revise SCC Procedures - Updated SCC Procedures – 1.6.1 Test MET connection - Test protocols – 1.6.2 Test performance - Test protocols – 1.6.3 Assure continuous testing - According to test plan conducted and protocols – 1.6.4 Organize FAT - Test plan – 1.6.5 Conduct FAT - FAT Protocol – 1.6.7 Organize SAT- Test plan – 1.6.8 Conduct SAT - SAT Protocol – 1.7.1 Create training plan - Training Plan – 1.7.2 Implement training - Training documentation – Participant certificates – 1.8.1 Create and implement concepts for data migration - Migration concepts, Migration plan, Migration documentation and verification – 1.8.2 Plan release - Release plan documents – 1.8.3 Implement release - Release certification – 1.8.4 Requirement Spec. Tax for Webshop - Requirement specification document – 1.9.1 Compile marketing concept - Marketing concept – 1.9.2 Inform customers - Mailings, meetings, events, etc. – 1.9.3 Create folders and posters - Marketing material – 1.10.1 Decommission facilities - Decommissioning report – 1.10.2 Conduct asset retirement - Updated asset management register **Milestones:** – 1.2.5 Procurement and contracts completed – 1.6.6 FAT successfully conducted – 1.6.9 SAT successfully conducted – 1.7.3 Certificate received – 1.8.5 New system is operational – 1.9.4 Customers are informed – 1.10.3 AIDA/IBS legacy system decommissioned
PROJECT LEADER	Austro Control
MEMBER STATE	AUSTRIA
TIMING	01/01/2014 – 30/11/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL / NM, MET
LINKS	AF 4; Sub AF 4.2; FT 4.2.3
NM links	**NSP:** SO 2/5 **NOP:** No link

Recommendation:

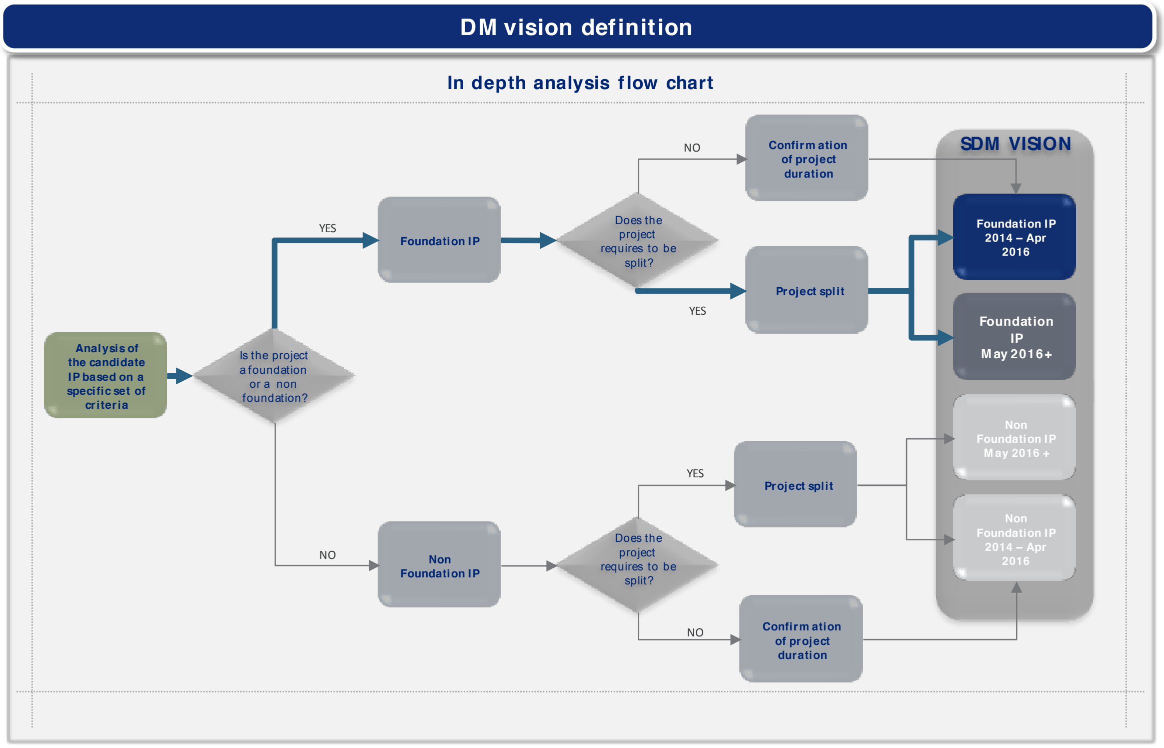
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**014AF5**
TITLE	**MPLS WAN PROJECT**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.1; FT 5.1.1**
PROJECT DESCRIPTION	**Objectives :** In the context of the Common Backbone Network Group (Germany, Belgium, Luxembourg and the Netherlands), the RAPNET (Regional Aeronautical Packetswitched NETwork) is currently used by these ANSP's to connect to the PENS (Pan-European Network System). The evolution of this inter-ANSP network is based on MPLS (MultiProtocol Label Switching) and Belgocontrol needs to implement a compatible networking infrastructure. The specific goals of MPLS WAN project are: – to create a secure and performing IP-based Ground-Ground communication network for the transfer of both operational data (Radar, Voice, Meteo, Aeronautical and Flight Information) and administrative data (LAN and Telephony)… – to share the different Belgocontrol applications on the network with the required data integrity; – to replace current SDH (Synchronous Digital Hierarchy) based by an MPLS based Wide Area Network (WAN). The project will allow compliance with EU 409/2013 and 716/2014
PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	17/11/2014 - 07/06/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports, ANSPs, MET
LINKS	
NM links	**NSP:** SO 6/5, SO 9/4 **NOP:** AMAN projects are mentioned in NOP for many FABEC ANSPs.

Recommendation:

This project is considered as a Foundation IP.



The project could be split in two phases. The first phase (November 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – June 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

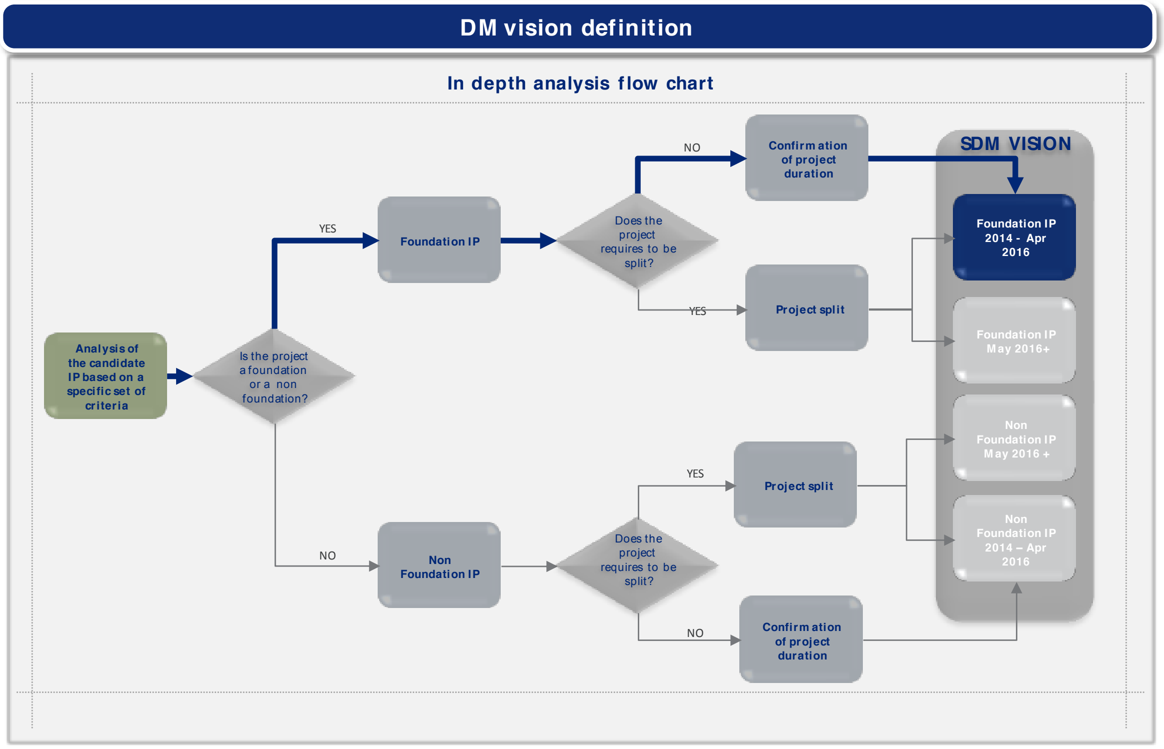
Content	Description
REFERENCE NUMBER	**016AF5**
TITLE	**Initial WXXM Implementation on Belgocontrol systems**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.4; FT 5.4.1**

PROJECT DESCRIPTION	**Objectives:**
	The main objectives of this project are:
	– Enabling the Brussels Regional OPMET DataBank (RODB) to:
	  o Receive and store ICAO OPMET data in IWXXM (ICAO Meteorological Information Exchange) format;
	  o handle requests from users and to exchange ICAO OPMET data in IWXXM format;
	– Enabling the issuance of Belgian OPMET data in IWXXM format to ensure conformity with the envisaged Amendment 77 to ICAO Annex 3;
	– Enabling the Belgocontrol ATS Messages Handling system (AMHS) to support exchange of messages in XML (Extensible Markup Language) data formats (IWXXM, …)

PROJECT LEADER	BELGOCONTROL
MEMBER STATE	BELGIUM
TIMING	01/01/2014 - 10/11/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ANSPs, MET
LINKS	
NM links	**NSP:** SO 2/5 **NOP:** No

Recommendation:

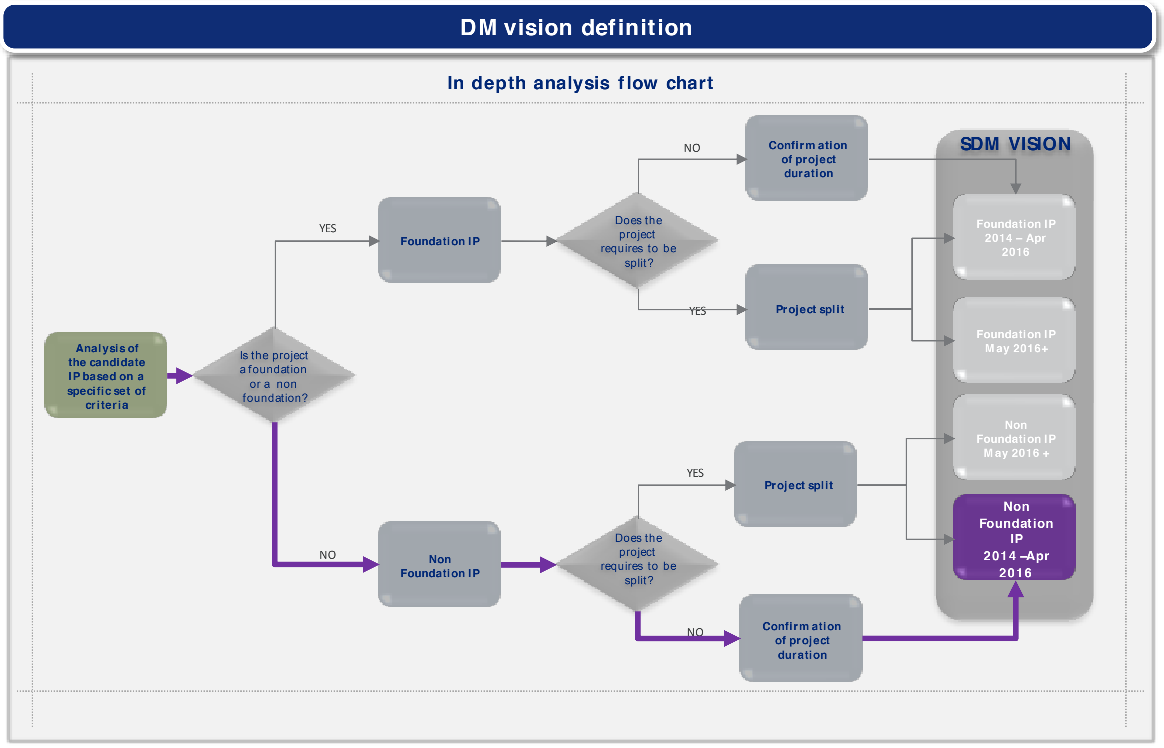
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**040AF5**
TITLE	**ADQ – Aeronautical Data Quality**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.3; FT 5.3.2**
PROJECT DESCRIPTION	**Objectives:** The project consists of DFS migration of their relevant IT systems to AIXM5.1. The Project ADQ is the focal point for all technical issues Reg. 73/2010 and establishing AIXM5.1-ability, which will allow: – receiving in conformity with Reg. 73/2010 aeronautical data in AIXM5.1 format, – exchange data between internally databases in AIXM5.1 format and also – providing external entities with aeronautical data in the AIXM5.1 format. In consultation with the German authority BAF, the implementation will be proved by ECTL Specification as Means of Compliance (MoC). One of these ECTL specifications for compliance of AIXM5.1 is the documentation of - Aeronautical information Exchange (Aix)
PROJECT LEADER	DFS
MEMBER STATE	GERMANY
TIMING	01/10/2013 – 08/01/2016
AIRBORNE	
INTERDEPENDENCIES	– 041AF5 - EASI - EAD AIM System Integration – 084AF5 - Implementation of Prerequisites for the Provision of Aerodrome Mapping Data and Airport Maps as Data Originator (Aeronautical Information Exchange)
SYNCHRONIZATION	With Airports
LINKS	AF 1; Sub AF 1.2; FT 1.2.2, FT 5.3.1
NM links	**NSP:** SO 2/5 **NOP:** No

Recommendation:

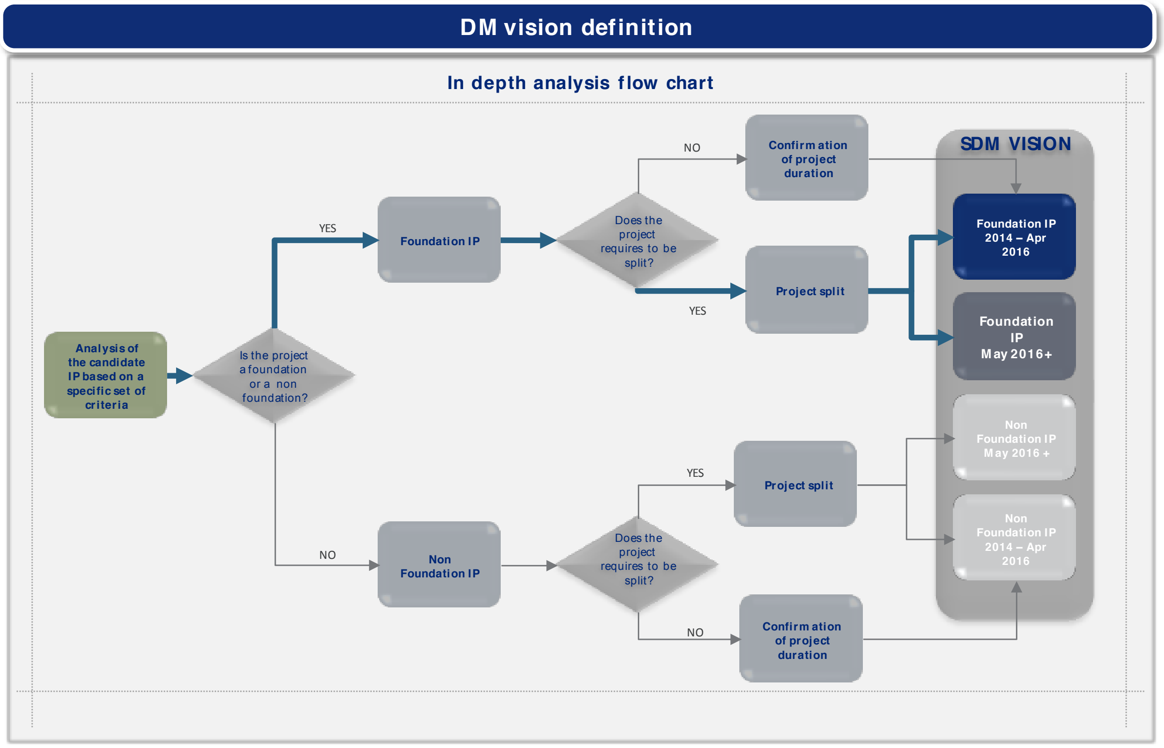
This project is considered as a Non Foundation IP.



Content	Description
REFERENCE NUMBER	**041AF5**
TITLE	**EASI - EAD AIM System Integration**
MAIN AF / SUB AF /FT	**AF 5; Sub AF 5.3; FT 5.3.1**
PROJECT DESCRIPTION	**Objectives:** The DFS project EASI will replace the current DFS system DIAS by the centrally provided EAD system in the context of AIS/ARO functions. This step to a centralised system enables the direct provision of DFS NOTAM and flight plan information via this centralised service. As soon as implemented on the EAD, this DFS information will be available in AIXM-5.1-format and DFS will directly input this data in AIXM-5.1. The abdication of a DFS-specific AIS-system reduces the complexity for the launch of AIXM-5.1 as the number of interfaces and especially parallel AIXM-5.1-implementations is limited. The effort to implement AIXM-5.1 on an internal system can then be spent to support the AIXM-5.1-implementation by EUROCONTROL on the central system. The migration to the central EAD-system is performed by the usage of standard-EAD-terminal-clients and EAD-standard-interfaces.
PROJECT LEADER	DFS
MEMBER STATE	GERMANY
TIMING	05/08/2013 – 31/05/2017
AIRBORNE	
INTERDEPENDENCIES	– 040AF5 - ADQ – Aeronautical Data Quality
SYNCHRONIZATION	With Airspace Users, ANSPs, EURO CONTROL , ECTL / NM
LINKS	AF 4/ Sub AF 4.2/ FT4.2.2, AF 5/ Sub AF 5.3/ FT 5.3.2
NM links	**NSP:** SO 2/5 **NOP:** No link

Recommendation:

This project is considered as a Foundation IP.

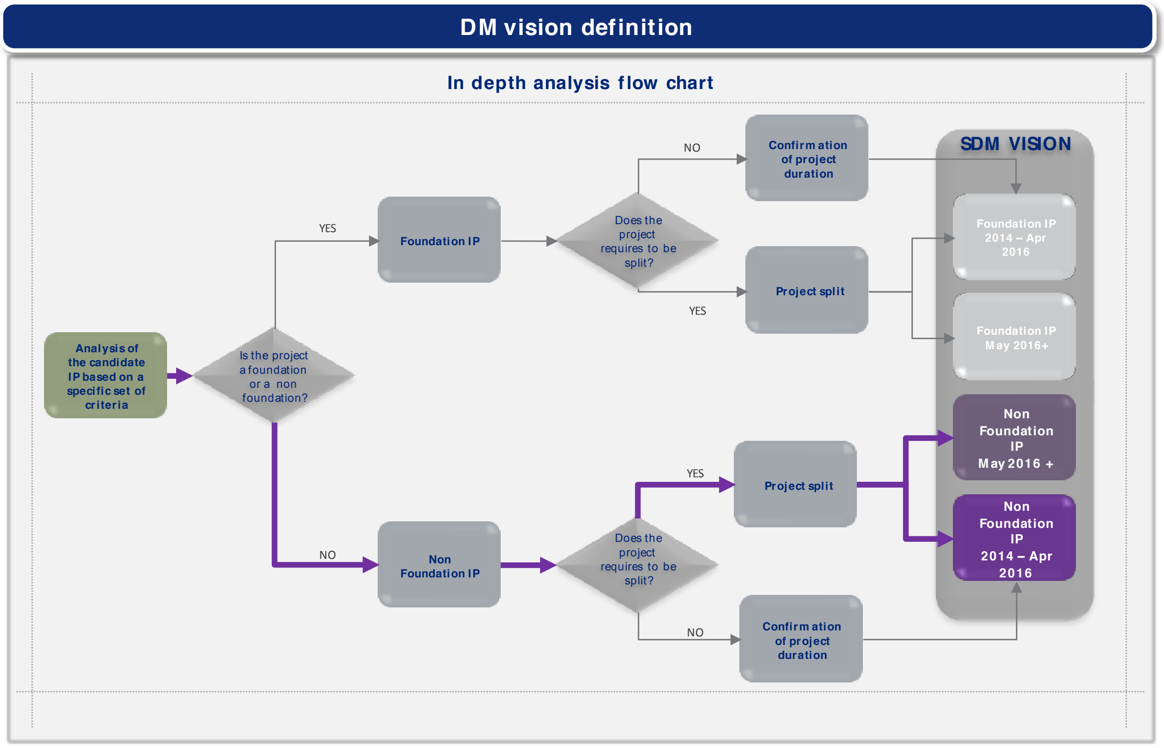


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – May 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**052AF5**
TITLE	**Coflight as a service**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.6; FT 5.6.1**
PROJECT DESCRIPTION	**Objectives:** The objectives of the initiative "Coflight as a service" are to perform legal, economic, architectural and operational studies, accompanied by the initial requirements definitions and corresponding **trials in order to improve the C**oflight system flight data processing. The scope of the studies is : – Fulfil AF5.1.6 "flight information exchange" by accelerating the access to full capabilities of new generation Flight Data Processing system Coflight through swim services. – Enable consolidation of flight data processing system among the stakeholders of the project. – Enable harmonisation of flight data processing capability throughout the EATMN. The objective of the Action "preliminary study" is to remove the bottlenecks link to service provision.
PROJECT LEADER	DSNA
MEMBER STATE	FRANCE
TIMING	01/02/2014 – 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	– 067AF5 - Coflight-eFDP System Development
SYNCHRONIZATION	With ANSPs, ECTL / NM
LINKS	
NM links	**NSP:** SO 5/1 **NOP:** No link

Recommendation:

This project is considered as a Not Foundation IP.

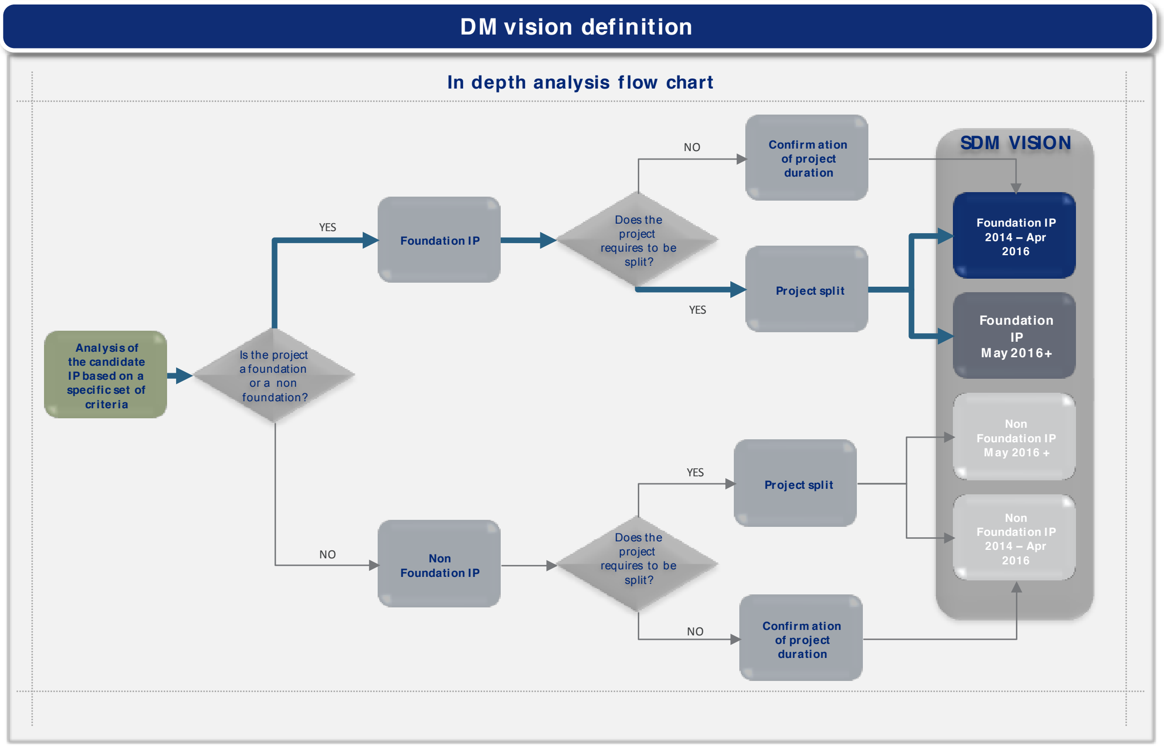


The project could be split in two phases. The first phase (February 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2016) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**059AF5**
TITLE	**Implementation and operation of an IP-based G/G data communication network in ENAIRE**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.1; FT 5.1.1**
PROJECT DESCRIPTION	**Objectives:** Evolution of the existing ENAIRE's aeronautical data network (REDAN) in order to ensure an agreed level of Ground-Ground interconnectivity between ENAIRE ATSUs and stakeholders as required to facilitate information exchange with the communication requirements of new applications (SWIM based). This evolution will include voice and data integration and Alignment of REDAN technology with the current and future state-of-the-art. Benefits are expected through Reduction of maintenance and operation costs. The scope of the project includes deployment of the new network infrastructure in ACCs and remote sites (TWRs, radar and radio stations, etc.), user integration into new infrastructure, training and Safety studies and continuous supervision of the deployed network infrastructure.
PROJECT LEADER	ENAIRE
MEMBER STATE	SPAIN
TIMING	01/01/2014 - 31/12/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, MET
LINKS	
NM links	**NSP:** SO 8/3 **NOP:** No link

Recommendation:

The project is considered as a Foundation IP.

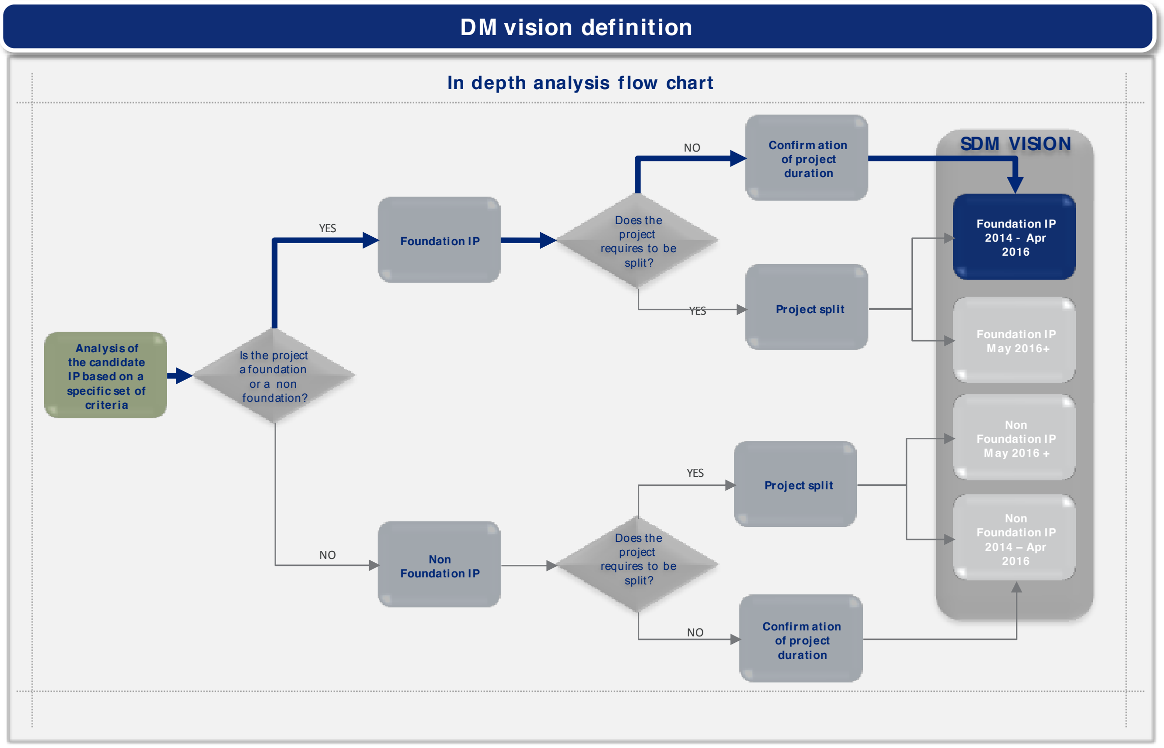


The project could be split in two phases. The first phase (January 2014 - April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**066AF5**
TITLE	**ENAV AIS system Upgrade to support AIXM5.1**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.3; FT 5.3.1**
PROJECT DESCRIPTION	**Objectives:** The Aeronautical Information Exchange Model (AIXM) is designed to enable the management and distribution of Aeronautical Information Services (AIS) data in digital format. ENAV uses an IDS suite called AERODB for AIS static data storage, exchange, manipulation and AIP and Charts production, the actual DB use AIXM 4.5 protocol. The PIB producing system (AOIS Web) is actually based on a non-standard format environmental DB. The project will complete the AERODB migration to the new information exchange model and will change from AOIS web to a new application called EWADs, in order to ensure fully capability AIS system to support AIXM 5.1 data format,
PROJECT LEADER	ENAV
MEMBER STATE	ITALY
TIMING	03/03/2015 - 22/08/2016
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports, ANSPs
LINKS	
NM links	**NSP:** SO 8/3 **NOP:** No link

Recommendation:

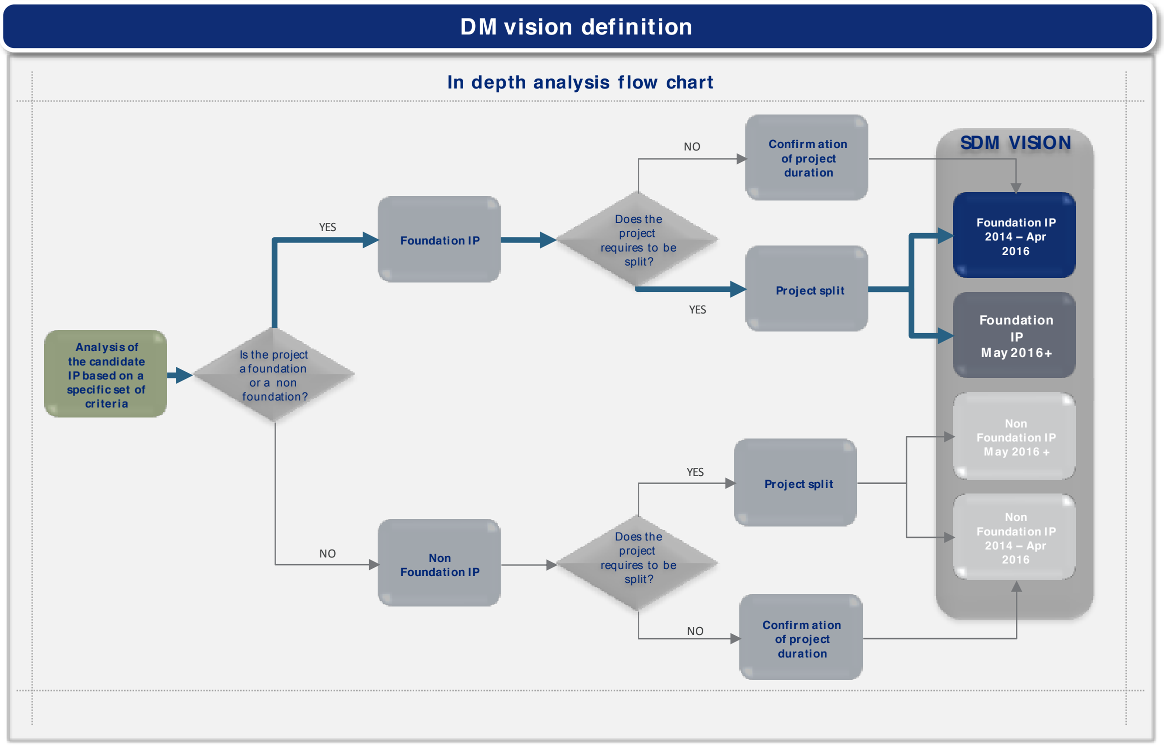
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**067AF5**
TITLE	**Coflight-eFDP System Development**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.6; FT 5.6.1**
PROJECT DESCRIPTION	**Objectives:** The Coflight-eFDP System is the Flight Data Processing (FDP) System of new generation designed to meet the needs of European Air Navigation Service Providers (ANSPs) for the next decade, satisfying the need for the harmonisation and interoperability of air traffic management systems in Europe. The Coflight Programme is part of a wider programme that involves the renewal of the whole National ATM System, called 4-Flight, for ENAV and DSNA, through which they will develop their completely brand new ATM system to meet all the requirements from the SES performance scheme as well as from all the relevant regulations for the coming years. 4-Flight will guarantee the optimal performances in terms of safety, capacity, environmental impact and cost efficiency, contributing to a significant improvement of the network performances in Europe. The 4-Flight's system core and infrastructure will be made available by the Coflight Programme, which will provide an overall ATM System Oriented architecture and sockets for the other internal components that will be developed according to SESAR compliant user requirements. Coflight will provide also the connections with most of the external systems through SESAR standardised Flight Object based Gate-To-Gate IOP. This project will focus on the development of the successive upgrading software versions (V2R1, V3+ and V4) from requirements to functional tests and reports
PROJECT LEADER	ENAV/DSNA
MEMBER STATE	ITALY
TIMING	01/01/2014 - 31/12/2016
AIRBORNE	
INTERDEPENDENCIES	– 052AF5 - Coflight as a service – 053AF3 - 4-Flight deployment in DSNA pilot ACCs
SYNCHRONIZATION	With Airports, ANSPs, EUROCONTROL, NM
LINKS	AF 3; Sub AF 3.2
NM LINKS	**NSP:** SO5/1 **NOP:** No

Recommendation

This project is considered as a Foundation IP.

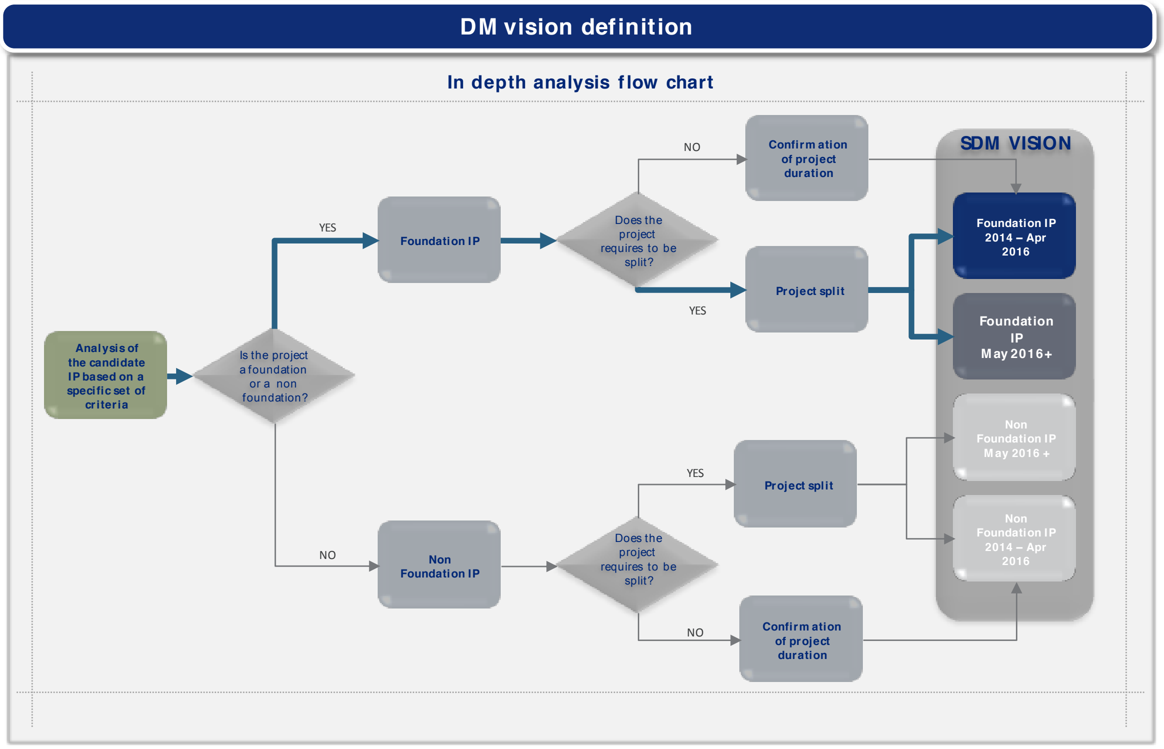


The project could be split in two phases. The first phase (January 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016-December 2016) needs to be part of the next INEA call in order to ensure continuity of the action within the deployment programme.

Content	Description
REFERENCE NUMBER	**073AF5**
TITLE	**SWIM Common Components**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.3**
PROJECT DESCRIPTION	**Objectives:** The objective of this project is twofold: *1. SWIM Data Models - deployment toolkit:* The goal is to have common rules for the data capturing/mapping/interpretation. It will include: • Development of an AIXM Coding Guidelines Service. This service will update the AIXM 5.1 coding guidelines better reflecting the needs of a wider range of stakeholders, such as NM sub-systems, ATC, procedure designers, etc. • Provide AIXM Data Validation Services, ensuring that data sets are syntactically valid (against the XML Schema) and semantically correct and can be used in confidence for a particular application. The initial set of AIXM 5.1 Business Rules needs to be maintained and enhanced, considering the feedback from the implementations and the needs of the various stakeholder groups. • Provide a Web Based Training (WBT) Service for the latest AIXM version. The existing AIXM 4.5 WBT is outdated and there is a strong need for a new AIXM 5.1 WBT Service. The deployment toolkits will be updated based on further versions of the following specifications: ○ Aeronautical Information Exchange Model (AIXM) version 5.2 ○ Weather Exchange Model (WXXM) and ICAO Weather Exchange Model (IWXXM) version 3 ○ Flight Information Exchange Model (FIXM) version 4 *2. Registry:* The SWIM Registry will provide a platform for the service providers to find information about SWIM (SWIM Reference Management) and will provide a limited support for the end-users, including minor changes to the look and feel of the SWIM registry and allow updates of the SWIM references when needed.
PROJECT LEADER	EUROCONTROL
MEMBER STATE	BELGIUM
TIMING	01/06/2015 - 01/06/2020
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airports, ANSPs, Airspace Users, NM, MET
LINKS	AF 2/Sub AF 2.1/ FT 2.1.3; AF 2/Sub AF 2.1/FT 2.1.4 AF 4/ Sub AF 4.2/,;FT 4.2.1 ; AF 4/ Sub AF 4.2/FT 4.2.3; AF 4/ Sub AF 4.2/FT 4.2.4 AF 5/Sub AF 5.1/FT 5.1.1; AF 5/Sub AF 5.4; AF 5/Sub AF 5.5 AF 5/Sub AF 5.6
NM LINKS	NM inputs provided through the normal channels as any other implementing stakeholder**.**

Recommendation

This project is considered as a Foundation IP.



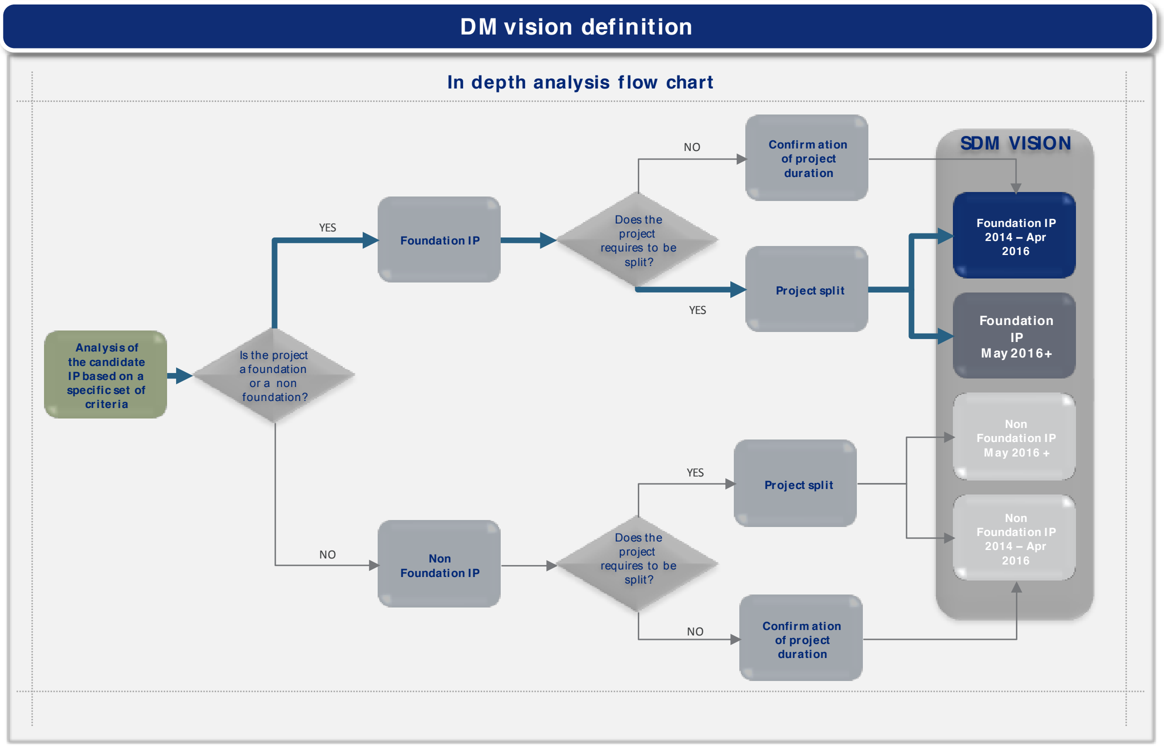
The project could be split in two phases. The first phase (June 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – June 2020) needs to be part of the next INEA call in order to ensure continuity of the action within the deployment programme.

It is worth noting that this project includes specific tasks which encompass maintenance activities. While the project as a whole is still considered as Foundation IP, these tasks cannot be considered as enabler for the implementation of PCP ATM Functionalities.

Content	Description
REFERENCE NUMBER	**082AF5**
TITLE	**SWIM compliance of NM systems**
MAIN AF / SUB AF / FT	**AF 5; Sub, 5.5, FT 5.5.1**
PROJECT DESCRIPTION	**Objectives:** The project aims at extending NM systems technical capabilities to initiate SWIM compliance and at developing/deploying new NM B2B services to exchange network / flight plan information with the operational stakeholders. It aims compliance with the requirements of SWIM Yellow Profile and it includes: – the exchange of network / flight plan information using the Yellow SWIM TI Profile; – the new NM B2B services. This IP addresses the following FT(s): – FT5.5.1 Interface and Data requirements – FT5.6.1 FDPS Upgrade preparing for IOP Flight Object Exchanges
PROJECT LEADER	EUROCONTROL/NETWORK MANAGER
MEMBER STATE	BELGIUM
TIMING	01/01/2014 – 30/06/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, ECTL/NM
LINKS	AF 2/Sub AF 2.1/ FT 2.1.3 AF 2/Sub AF 2.1/ FT 2.1.4 AF 3/Sub AF 3.2/ FT 3.2.2 AF 4/Sub AF 4.2/FT 4.2.3 AF 4/Sub AF 4.2/ FT 4.2.4 AF5/ Sub AF 5.2 AF5/ Sub AF 5.3 AF5/ Sub AF 5.6/FT 5.6.1
NM LINKS	NM inputs provided through the normal channels as any other implementing stakeholder.

Recommendation:

This project is considered as a Foundation IP.

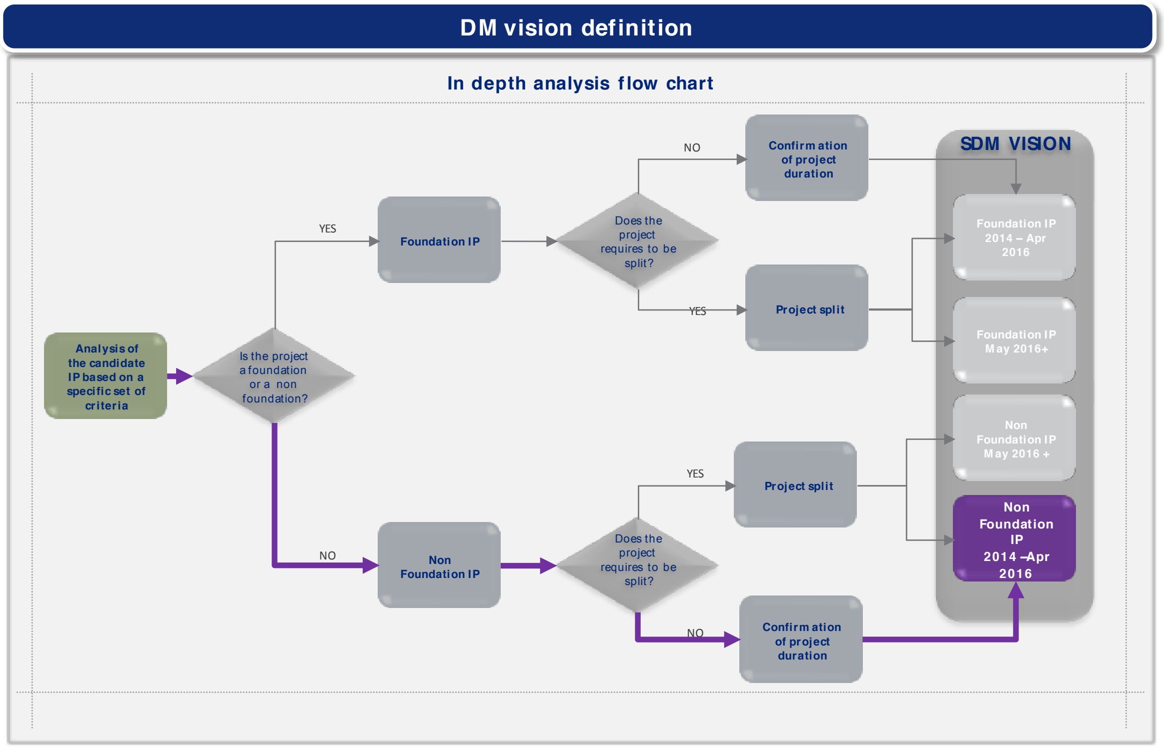


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – June 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**084AF5**
TITLE	**Implementation of Prerequisites for the Provision of Aerodrome Mapping Data and Airport Maps as Data Originator (Aeronautical Information Exchange)**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.3;**
PROJECT DESCRIPTION	**Objectives:** This implementation project will ensure that Frankfurt Airport can fulfil its role as data originator for aerodrome mapping data and airport maps as required by 5.1.3 Aeronautical Information Exchange, bullet point "provide aerodrome mapping data and airport maps" of Commission Regulation (EU) No 716/2014. The implementation of this project will allow the provision of aerodrome mapping data and airport maps by standard XML schema as per AIXM 5.1. In order to implement Regulation (EU) No 73/2010 and to be able to fulfil their role as data originator for aerodrome mapping data and airport maps German airports, their associations ADV and IDRF and DFS agreed upon a common process for the aeronautical data chain and the definition of the interface between airports and the air navigation services provider, DFS. The interface dealing with data and information provided by the originators (airports) to the receiver (DFS) will use the AIXM 5.x format (Aeronautical Information Exchange Model). Therefore, a tool is required which transforms the data formats used at airports in such a way that they are accepted by the interface provided by DFS and that they comply with the requirements of Commission Regulation (EU) No 73/2010 and Commission Implementing Regulation (EU) No 716/2014 ("Pilot Common Project"). The implementation project is a prerequisite for the exchange of information among operational stakeholders as required by Commission Regulation (EU) 716/2014.
PROJECT LEADER	FRAPORT
MEMBER STATE	GERMANY
TIMING	01/01/2014 – 31/03/2016
AIRBORNE	
INTERDEPENDENCIES	– 041AF5 - EASI - EAD AIM System Integration
SYNCHRONIZATION	With Airports
LINKS	
NM LINKS	**NSP** : SO2/5 **NOP** : None

Recommendation

This project is considered as a Non Foundation IP.

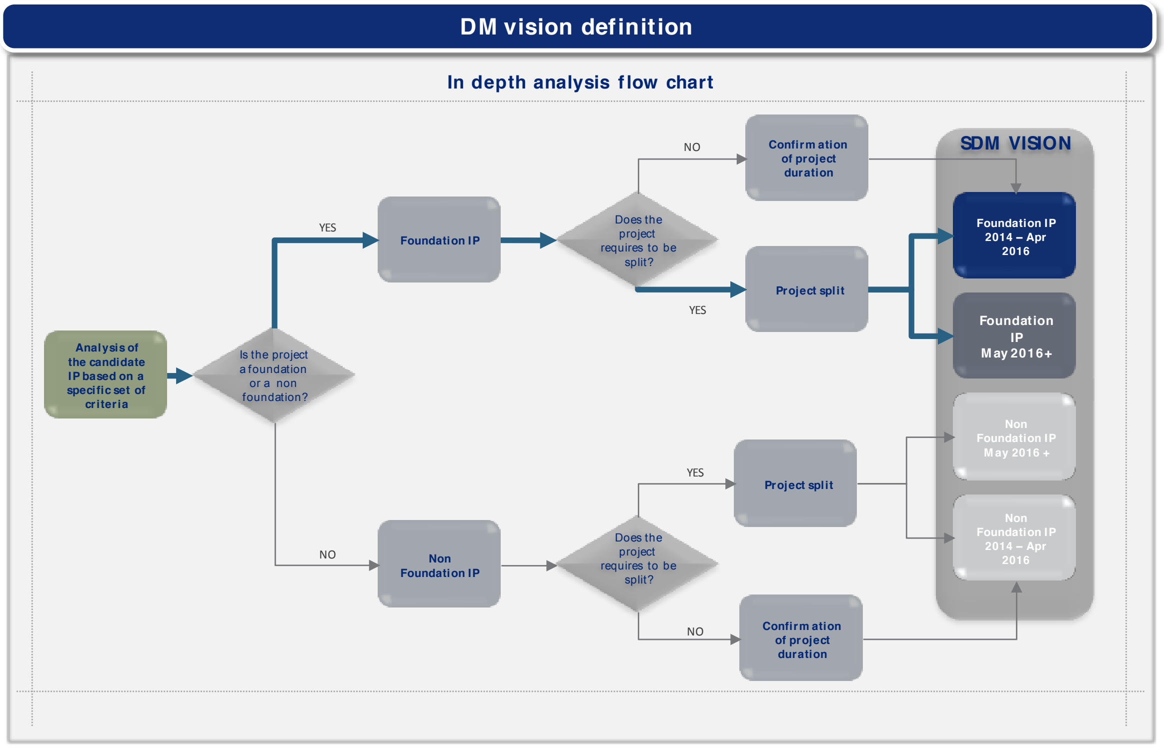


Content	Description
REFERENCE NUMBER	**110AF5**
TITLE	**Meteorological Information Exchange by MET ANSP KNMI**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.4; FT 5.4.1**
PROJECT DESCRIPTION	**Objectives:** The project aims at: – Implementation of a flexible and cost-effective interoperable exchange of MET information for Amsterdam TMA and ACC, Amsterdam Airport Schiphol, Airspace Users, Military and Network Manager compliant with the iSWIM data formats and interfaces. – Demonstration and verification of the operational deployment of iSWIM for MET information, and to provide feedback on the principles, standards and specifications currently defined for **iSWIM** in AF5 and the information and exchange models and schemes of ICAO (WXXM), WMO (METCE) and the EUROCONTROL/FAA (WXCM-WXXM-WXXS). – The implementation and verification covers the standard MET products: TAFs for civil airports in Amsterdam TMA and ACC (WP1); AIRMETs and SIGMETs for the Amsterdam FIR (WP2); METARs and AUTO METARs for civil airports in Amsterdam TMA and ACC (WP4); (AUTO) MET reports and warnings for civil airports in Amsterdam TMA and ACC (WP5). It covers the provision of continuous sensor information for all available runways in Amsterdam TMA and ACC. – The development and implementation of a central database and web services to make the iSWIM compliant MET information easily available to users (WP3). – The realization of a cost-effective, secure and standard interface (PENS) for dissemination of safety critical MET information to ATM (WP6). – The development and implementation of (geo)graphical user interfaces to facilitate the generation and monitoring of the MET products and the efficient maintenance of these data formats. – The embedding of the systems/applications (new and/or extended) for the above mentioned provision of MET information in the operational production and monitoring chains of KNMI.
PROJECT LEADER	KNMI
MEMBER STATE	NETHERLANDS
TIMING	01/06/2015 - 31/12/2018
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, EURO CONTROL, ECTL/NM, MET
LINKS	

NM LINKS	**NSP :** SO2/5 **NOP :** None

Recommendation:

This project is considered as a Foundation IP.

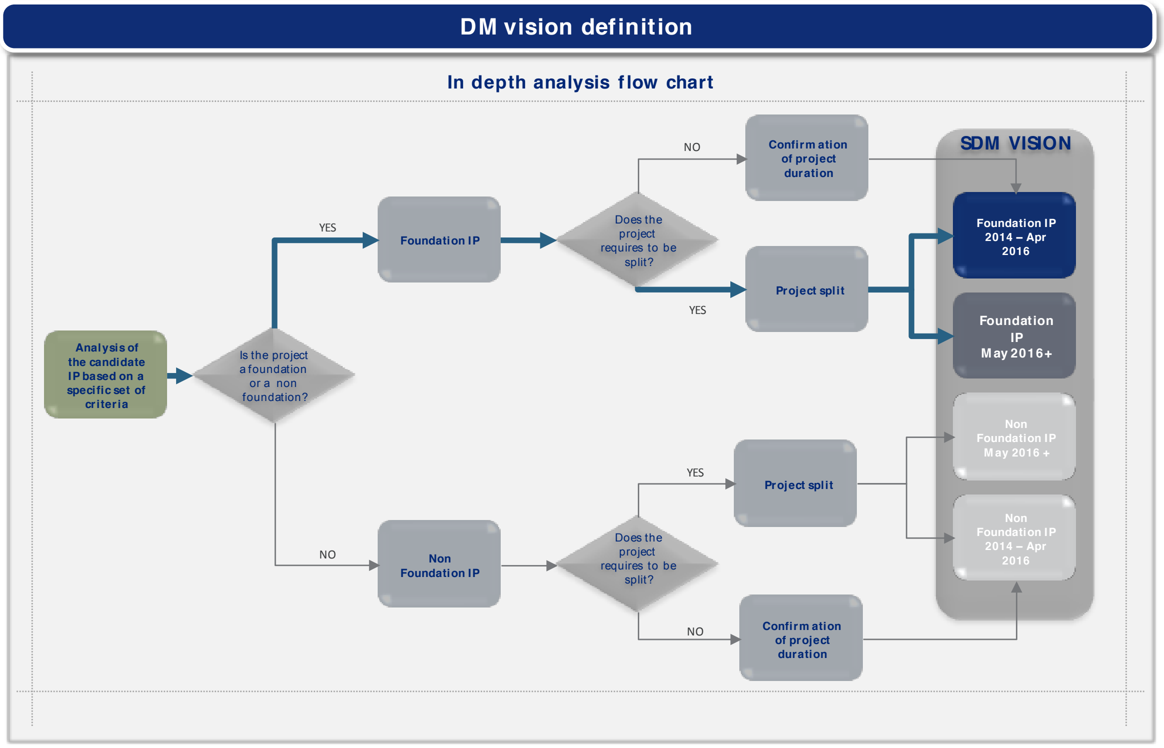


The project could be split in two phases. The first phase (June 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – December 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**117AF5**
TITLE	**Implementation of Initial SWIM Capability (AF5) across NATS**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.1**
PROJECT DESCRIPTION	**Objectives** The objective is to enable iSWIM as an enabler for other PCP elements that deliver benefits in safety, capacity, cost-effectiveness and environment. Initial System Wide Information Management (iSWIM) supports information exchanges that are built on standards and delivered through an internet protocol (IP)-based network by SWIM enabled systems and will be delivered in the following blocks: Common Infrastructure Components (Sub AF 5.1);SWIM Technical Infrastructure and Profiles (Sub AF 5.2); Aeronautical information exchange (Sub AF 5.3) ; Meteorological information exchange (Sub AF 5.4); Cooperative network information exchange (Sub AF 5.5) and Flight information exchange (Sub AF 5.6)NATS proposal is to deliver a core Enterprise Information Service (EIS) capability to interconnect ATM services within centres, with Airports and other users and to underpin and enable later stages of information exchange by Flight Object. Delivery of the core EIS is the prime action in this 2014 funding call to enable information exchanges of this nature, a number of NATS core systems (primarily Networks, FDP, AIS and Meteo) also require update and enhancement. By their nature, these enhancements need to be carried out first and form the other sub-action elements of this 2014 funding call. Provision of full Flight Object exchange and IOP are expected to be part of future funding requests.
PROJECT LEADER	NATS
MEMBER STATE	UK
TIMING	01/01/2014 – 31/07/18
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs, ECTL/NM, MET
LINKS	AF 1, AF 3, AF 4, AF 6; AF 5/Sub AF 5.1/FT 5.1.1 AF5/Sub AF 5.2, AF5/ Sub AF 5.3/FT 5.3.1 AF5/ Sub AF 5.3/FT 5.3.2 AF 5/Sub AF 5.5, AF 5/ Sub AF 5.6
NM LINKS	**NSP**: "SO2/1; SO2/5; SO2/4; **NOP**: NO;

Recommendation

This project is considered as a Foundation IP.

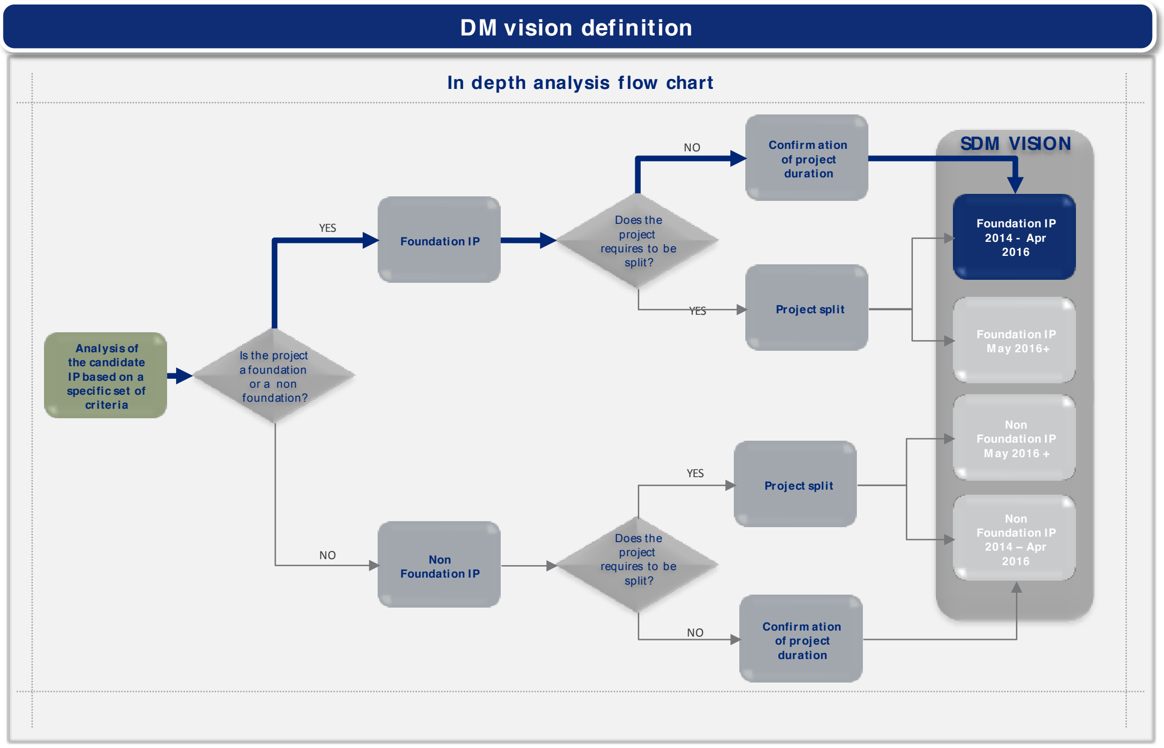


The project could be split in two phases. The first phase (January 2014 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – July 2018) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**127AF5**
TITLE	**Implementation project X.X: National WAN Infrastructure (CANDI-IP)**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.1; FT 5.1.1**
PROJECT DESCRIPTION	**Objectives:** The project aims at providing requirements for an adequate WAN infrastructure that will be compliant with the requirements of an IP g/g communications network is available. This WAN infrastructure will: – Ensure continuous availability of WAN data transport in EKDK FIR – Ensure logical and physical segregation of operationally critical data – Ensure that requirements on VoIP data transport are fulfilled – Ensure that rules and requirements on IPv6 data transport are fulfilled – Interface to PENS
PROJECT LEADER	NAVIAIR
MEMBER STATE	DENMARK
TIMING	03/02/2014 - 27/04/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	No
LINKS	
NM LINKS	**NSP**: SO8/3; **NOP**: None;

Recommendation:

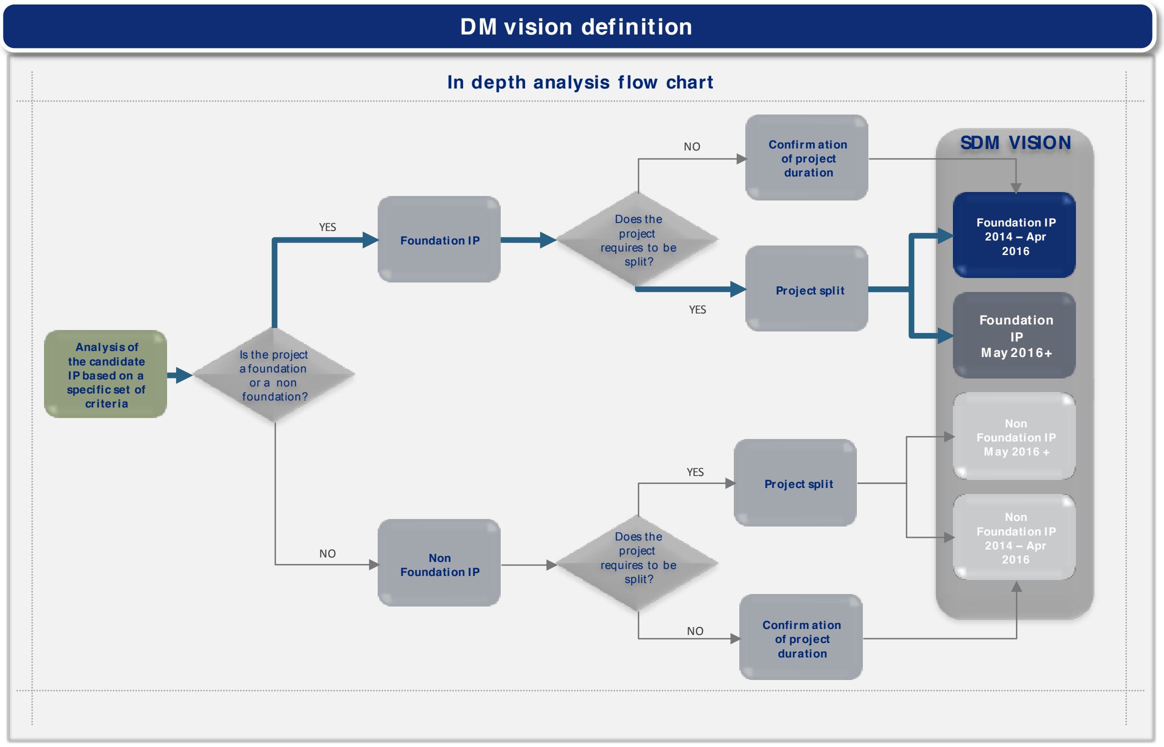
This project is considered as a Foundation IP.



Content	Description
REFERENCE NUMBER	**134AF5**
TITLE	**PILOT PLATFORM for access services to OPMET (worldwide/ECAC) data (METAR, TAF, SIGMET) in WXXM format**
MAIN AF / SUB AF / FT	**AF 5; Sub AF 5.4; FT 5.4.1**
PROJECT DESCRIPTION	**Objectives:** Upgrade Meteo service to provide reliable actual and forecast Meteo data, wherever required across the ATM network, in WXXM format. The project consists in the achievement of a pilot platform as WEB Service for access to OPMET (worldwide/ECAC) data (METAR, TAF, SIGMET) in WXXM format
PROJECT LEADER	ROMATSA
MEMBER STATE	ROMANIA
TIMING	02/03/2015 - 01/09/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, ANSPs, ECTL/NM, MET
LINKS	AF 5/Sub AF 5.1/FT 5.1.1
NM LINKS	**NSP:** SO2/5; **NOP**: None;

Recommendation:

This project is considered as a Foundation IP.



The project could be split in two phases. The first phase (March 2015 – April 2016) has to be considered for the INEA call 2014. The second phase (May 2016 – September 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

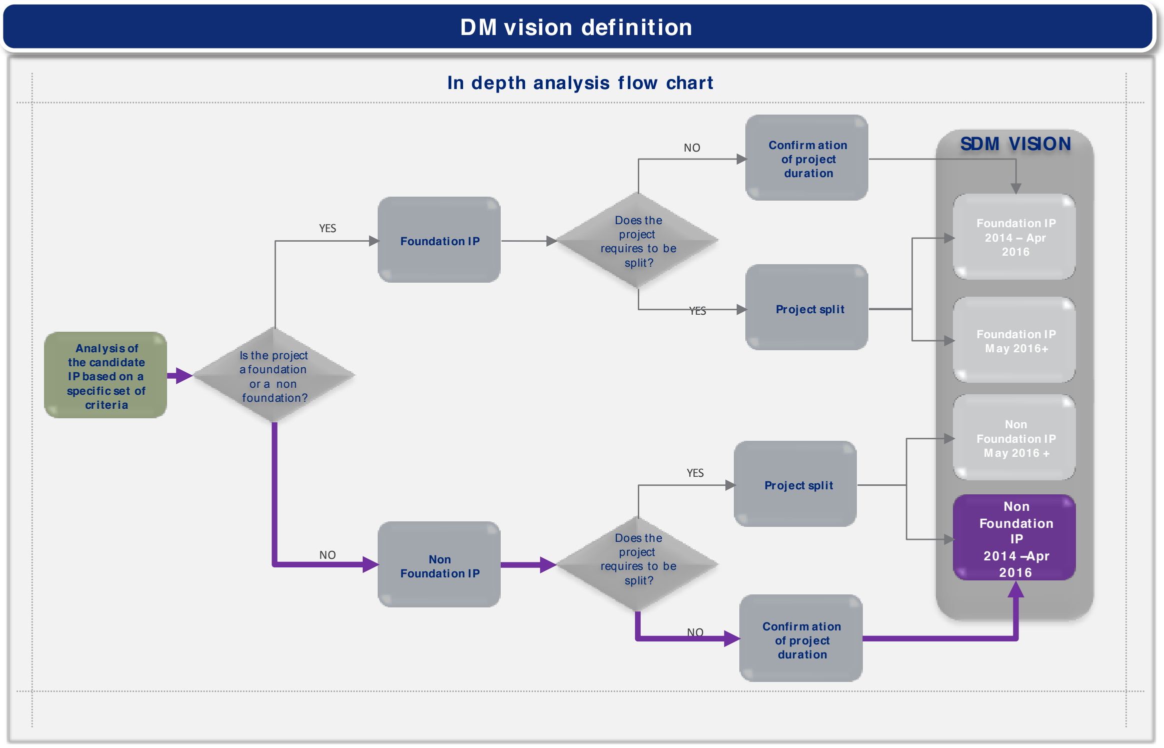
5.1.6 AF 6 Initial trajectory information sharing

Content	Description
REFERENCE NUMBER	**003AF6**
TITLE	**Deploy Datalink Service EC 29/2009 on aircraft**
MAIN AF / SUB AF / FT	**AF6; Sub AF 6.1; FT 6.1.2**
PROJECT DESCRIPTION	**Objectives:** This implementation project aims at aircraft retrofit performed from 2014 both within Air France A320 family fleet and in HOP EJets & CRJ fleets in order to comply with EC 29/2009. This Regulation lays down requirements for the coordinated introduction of data link services based on air-ground point-to-point data communications (the so called Controller-Pilot Data-Link Communications (CPDLC)). This application enables the exchange of text messages between controllers and pilots complementing traditional voice communications, providing pilots and controllers with an additional communications medium and improving the safety and efficiency of air traffic management in Europe. For Air France this applied to 97 aircraft (A320 family fleet) and the aircraft retrofit started in 2012 and will end in 2017. For HOP-Regional this applied to 26 aircraft (EJets) and the aircraft retrofit started in 2012 and will end in 2020. For HOP-Brit Air this applied to 28 aircraft (15 CRJ700 / 13 CRJ1000) and the aircraft retrofit started in 2014 and will end in 2020.
PROJECT LEADER	Air France
MEMBER STATE	France
TIMING	01/01/2014 – 30/11/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs
LINKS	
NM LINKS	**NSP:** None; **NOP:** None;

Recommendation:

This project is considered as a Non Foundation IP.

There exists a risk that the technology used to support this project is not in line with the future results of the SJU study about DLS technology validation.



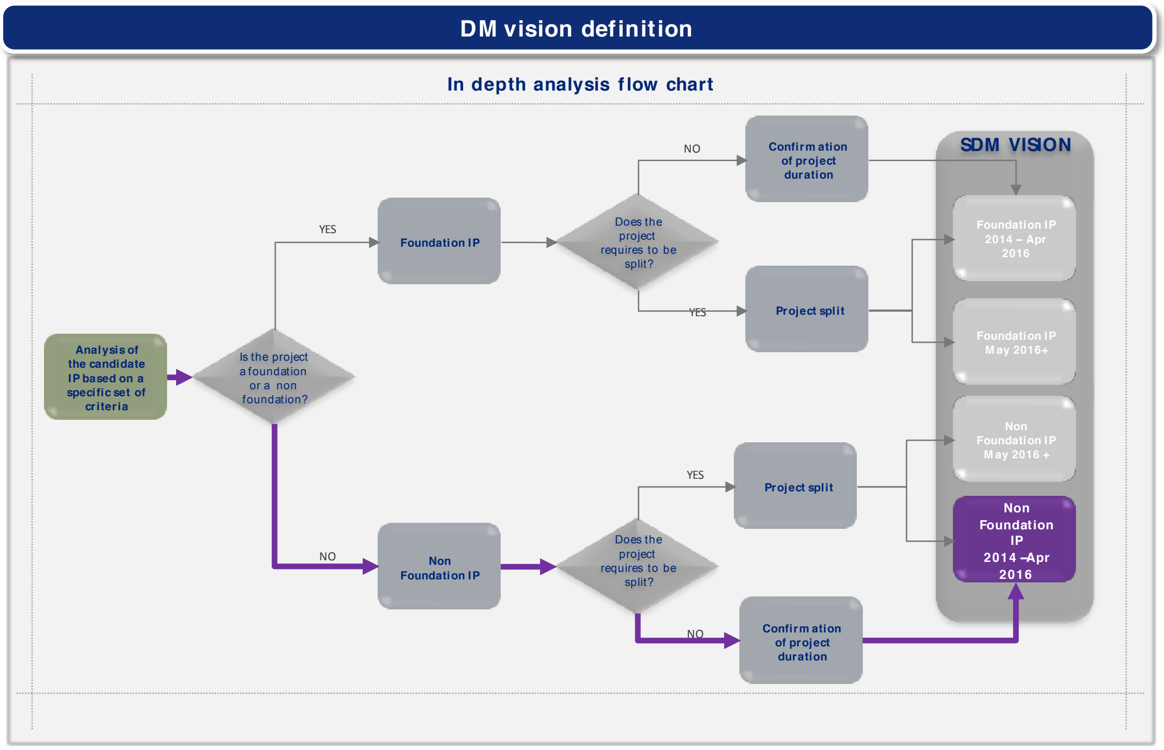
Content	Description
REFERENCE NUMBER	**010AF6**
TITLE	**Ground System Data Link Services**
MAIN AF / SUB AF / FT	**AF 6; Sub AF 6.1; FT 6.1.2**
PROJECT DESCRIPTION	**Objectives:** The main objective of the project is to implement the datalink service defined by the Commission Regulation (EC) No 29/2009, which lays down requirements on data link services for the Single European Sky. More specific objectives are: – Data radio service infrastructure deployed. The establishment of a harmonized and fully tested communication infrastructure including the ATM system as well as the VHF Ground Stations (VGS) is critical to the project. Therefore, Austro Control (ACG) creates the necessary infrastructure by procuring and implementing the CPDLC Air-Ground system. – End to end acceptance test accomplished. To fulfill this objective, an end-to-end safety case is established. – Integration into the Next Generation Austrian Air Traffic Management System (NG-AATMS) completed. – CPDLC service set in operation. – Communication Service Provider SITA and ARINC connected in order to be able to provide the services to all airspace users. Most airlines have existing contracts for radio data services for the purpose of Airline Operations Communication (AOC), with one of the global Communication Service Providers (CSP) ARINC or SITA. – Therefore, ACG has to guarantee the connection to both service providers, ARINC and SITA. – Services of the Air Communication Service Provider (ACSP) ARINC/SITA procured.
PROJECT LEADER	Austro Control
MEMBER STATE	AUSTRIA
TIMING	01.01.2014 -30.11.2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With: Airspace Users, Airports, ANSPs
LINKS	AF 1/Sub-AF 1.1 AF 1/Sub-AF 1.2 AF 3/Sub-AF 3.1 AF 3/Sub-AF 3.2
NM LINKS	**NSP:** "direct links with • SO 8/3 (Modernise the CNS infrastructures, and adapt the associated procedures) • SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures) "

	NOP: This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the procedural measure for capacity enhancement in 2015.

Recommendation:

This project is considered as a Non Foundation IP.

There exists a risk that the technology used to support this project is not in line with the future results of the SJU study about DLS technology validation.



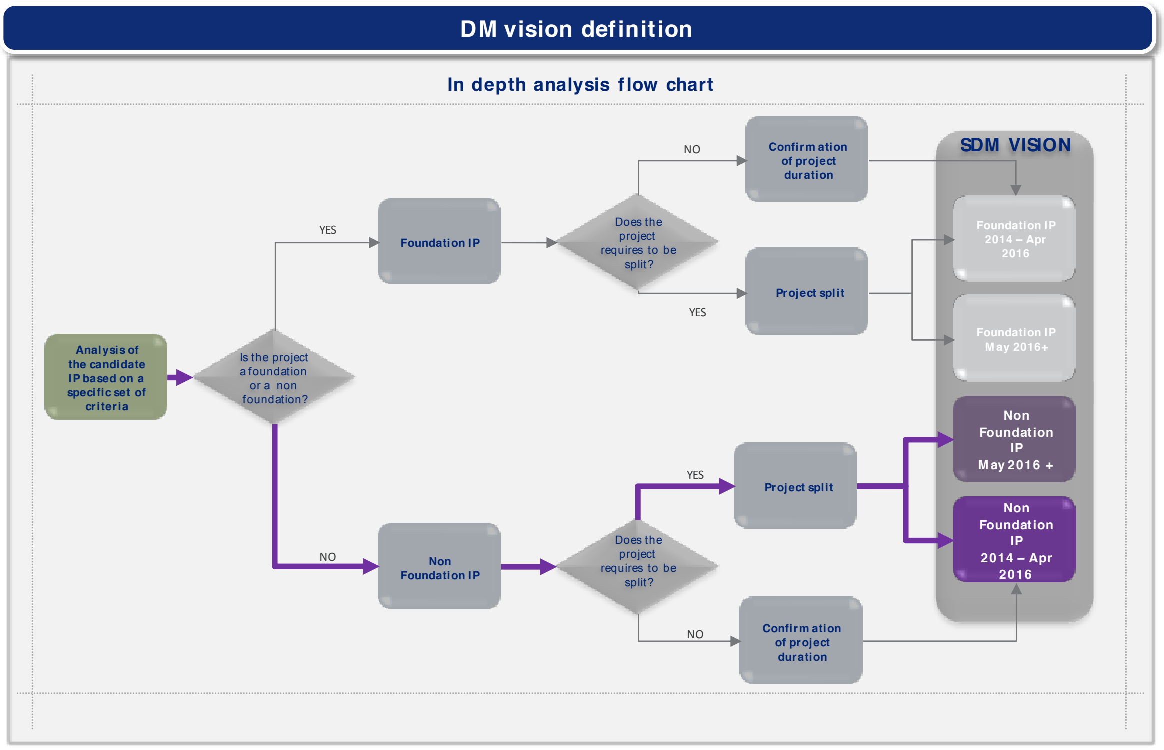
Content	Description
REFERENCE NUMBER	**038AF6**
TITLE	**CPDLC - Supply, installation and integration of AGDL system for CPDLC service in CCL**
MAIN AF / SUB AF / FT	**AF 6; Sub AF 6.1; FT 6.1.2**
PROJECT DESCRIPTION	**Objectives:** – Ensure that air-ground communications systems, flight data processing systems and human-machine interface systems providing service to general air traffic within the applicable airspace areas comply with the Regulation (EC) No 29/2009 – Organise personnel awareness and training – Ensure ground communication systems comply with air-ground communication requirements – Deploy communication infrastructure to handle air-ground data link services This project is expected to achieve the following ATM performance benefits: – SAFETY: Through the delivery of standard and unambiguous messages (entailing significant error and fatigue reduction), the provision of a communications back up and the possibility of immediate message retrieval, data link communications are a major safety enhancement – CAPACITY: Increased capacity through both reduction of voice congestion and increase in controller efficiency. Capacity gain is expected from 3.4 % (if 25% of flights is equipped) up to 11% (if 75% of flights is equipped). – COST-EFFECTIVENESS: Data link is a cost-effective capacity increase enabler through sector productivity increase and delay cost savings. ANSPs savings are derived from staff cost avoidance. Aircraft operators will benefit of en-route cost savings and reduction of delays. – ENVIRONMENT: Not applicable
PROJECT LEADER	Croatia Control
MEMBER STATE	CROATIA
TIMING	01/05/2014 - 30/04/2017
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 1/Sub-AF 1.1 AF 1/Sub-AF 1.2 AF 3/Sub-AF 3.1 AF 3/Sub-AF 3.2
NM LINKS	**NSP:** "direct links with • SO 8/3 (Modernise the CNS infrastructures, and adapt the associated procedures and) • SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures)

	NOP: This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the procedural measure for capacity enhancement in 2016;

Recommendation:

This project is considered as a Non Foundation IP.

There exists a risk that the technology used to support this project is not in line with the future results of the SJU study about DLS technology validation.



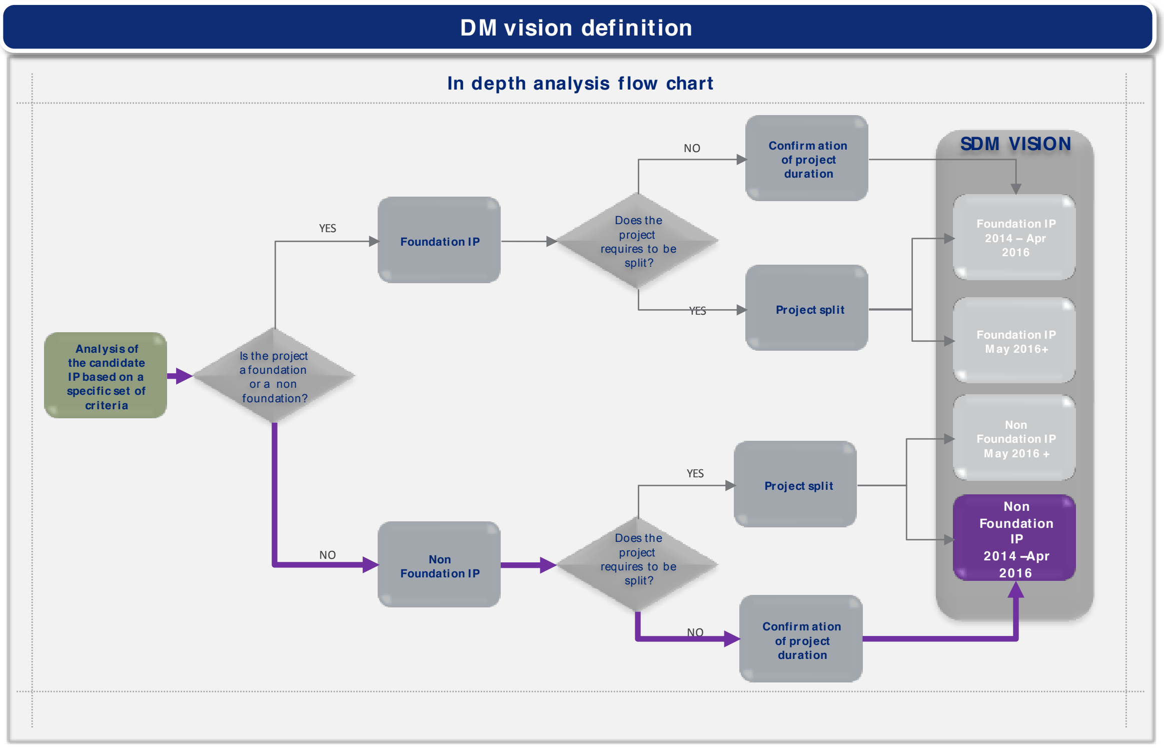
The project could be split in two phases. The first phase (May 2014-April 2016) has to be considered for the INEA call 2014. The second phase (May 2016-April 2017) needs to be part of the next INEA call in order to ensure continuity of the action within the Deployment Programme.

Content	Description
REFERENCE NUMBER	**105AF6**
TITLE	**Retrofit of Lufthansa Group Airbus A319 and A320 fleet for Controller Pilot Data Link Communications**
MAIN AF / SUB AF / FT	**AF 6; Sub AF 6.1; FT 6.1.2**
PROJECT DESCRIPTION	**Objectives:** Modification of Lufthansa Group Fleet with Controller Pilot Datalink Communications. The modification was planned to reach the due date 05.Feb.2015 with finalizing testing and finishing works until summer 2015. Due to high amount of work scope this modification has been done during scheduled base maintenance layovers as well as additional special-layovers where necessary.
PROJECT LEADER	Lufthansa
MEMBER STATE	GERMANY
TIMING	01/01/2014 – 31/08/ 2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	
NM LINKS	**NSP:** None; **NOP:** None;

Recommendation:

This project is considered as a Non Foundation IP.

There exists a risk that the technology used to support this project is not in line with the future results of the SJU study about DLS technology validation.



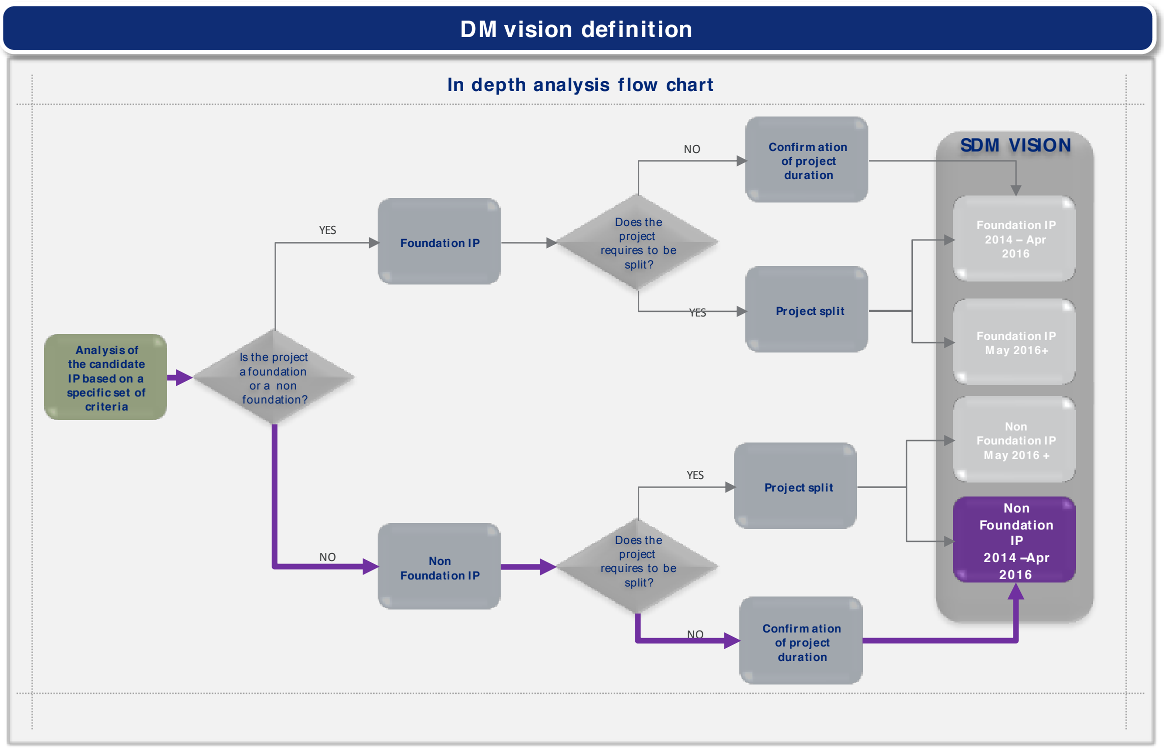
Content	Description
REFERENCE NUMBER	**128AF6**
TITLE	**NAVIAIR Implementation of Air-ground System Data Link Services**
MAIN AF / SUB AF / FT	**AF 6; Sub AF 6.1; FT 6.1.2**
PROJECT DESCRIPTION	**Objectives:** The Proposed Implementation Project implements the required infrastructure and ATM system functionality for controller-pilot data link communications via VDL-M2 in Danish FIR at FL285+, and lower in terminal areas. The solution ensures data link communications capability. Naviair will be directly connected to the SITA network, while the ARINC network is accessed through SITA. – Establish communications infrastructure for data link communications. – Implement CPDLC processing and messaging functions in the ATM system. – Prepare for other future data link applications including trajectory exchange. The Proposed Implementation Project is also concerned with the modification of the ATM system FDP processing to allow for initial trajectory exchanges as well as the use of the trajectory information to allow for enhanced profile calculations. The communications infrastructure is based on standard services from aeronautical communications service providers SITA and ARINC. The communications infrastructure will provide redundant connections to the SITA network, while dual ATN routers will be installed locally at Naviair. The communications infrastructure will be able to carry future ADS-C data and initial trajectory information exchange. CPDLC messaging functionality and processing is implemented in the COOPANS ATM system. The basic Link2000+ message set and requirements are implemented. Preparations for trajectory exchange and processing are made.
PROJECT LEADER	Naviair
MEMBER STATE	DENMARK
TIMING	01/01/2013 - 05/02/2015
AIRBORNE	
INTERDEPENDENCIES	
SYNCHRONIZATION	With Airspace Users, Airports, ANSPs
LINKS	AF 1/Sub-AF 1.1 AF 1/Sub-AF 1.2 AF 3/Sub-AF 3.1 AF 3/Sub-AF 3.2
NM LINKS	**NSP:** "direct links with

	• SO 8/3 (Modernise the CNS infrastructures, and adapt the associated procedures and) • SO 4/1 (Modernise the local/FAB system capabilities including ATC planning functions and Controller tools procedures) **NOP:** This project is addressed by NOP Annex 5 (ACC TRAFFIC FORECAST & CAPACITY PLANS) as the procedural measure for capacity enhancement in 2015. This project aims to deploy AGDL by February 2015,in line with NOP schedule;

Recommendation:

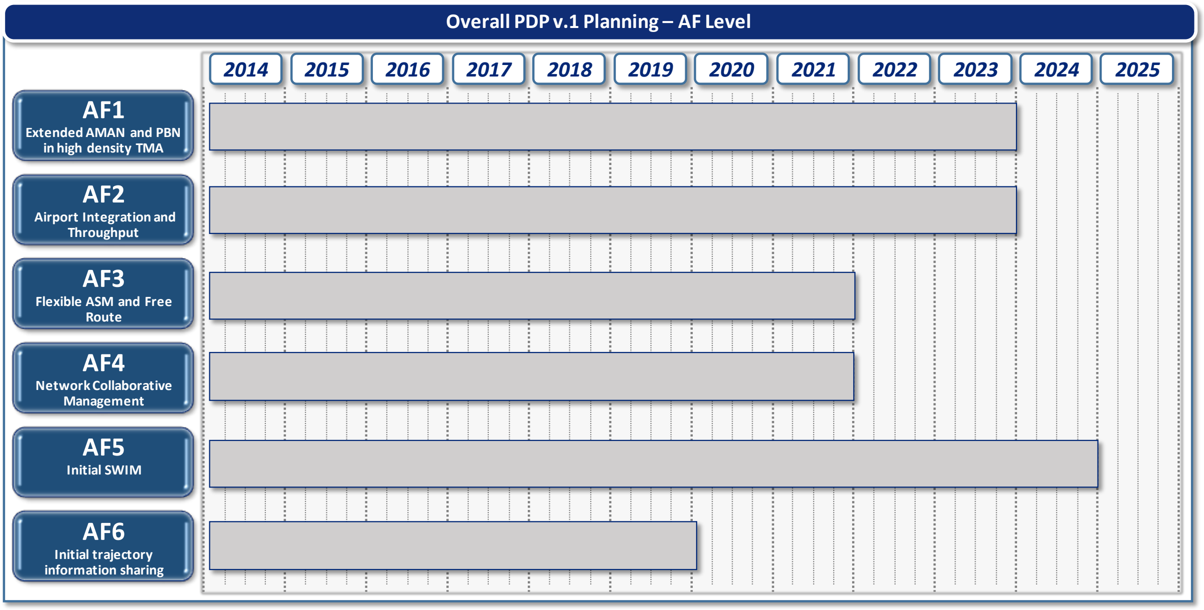
This project is considered as a Non Foundation IP.

There exists a risk that the technology used to support this project is not in line with the future results of the SJU study about DLS technology validation.



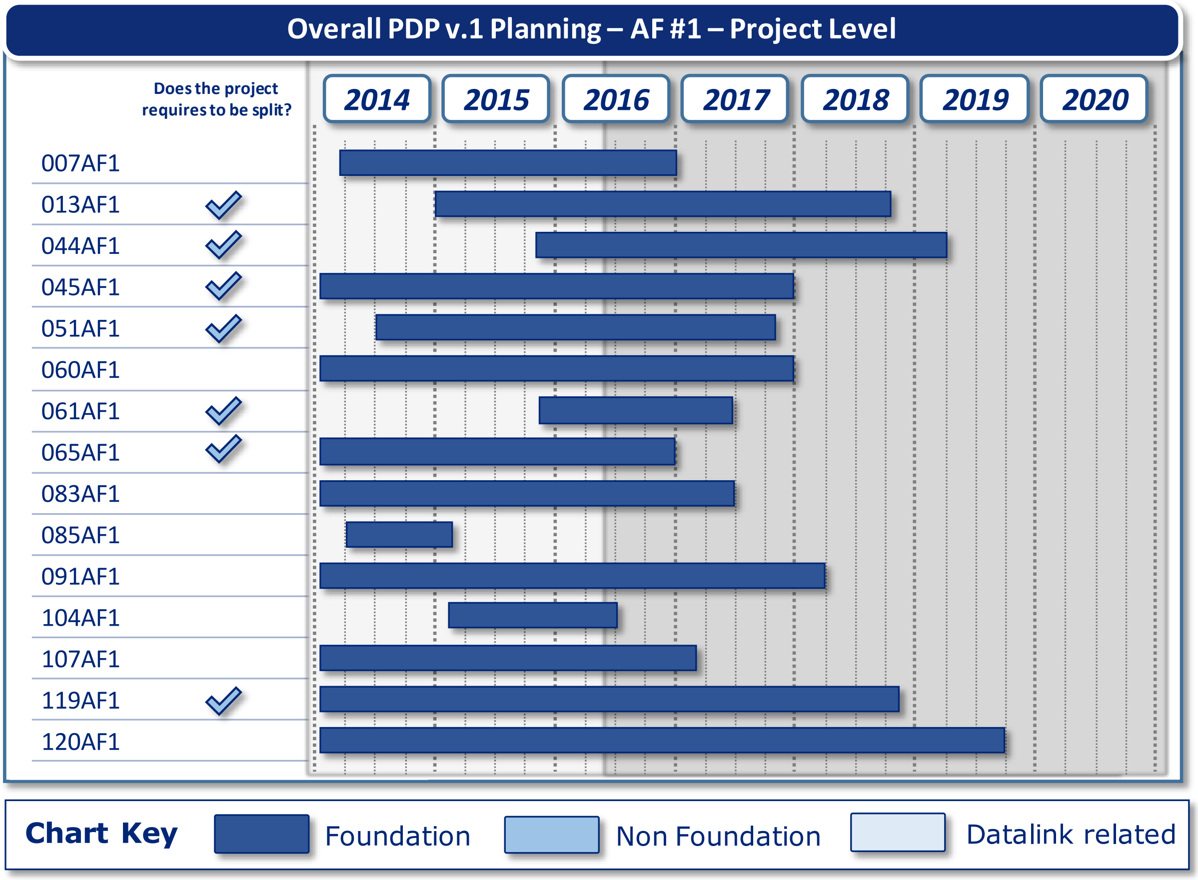
5.2 Annex B – Project view - Planning

This Annex provides evidences concerning the overall Planning of the Preliminary Deployment Programme v.1. In particular, the following chart encompasses the high-level scheduling at ATM Functionality level, while in the subsequent paragraphs a more detailed planning (i.e. at Implementation Project level) is presented.



5.2.1 AF#1 – Extended AMAN and PBN in high density TMA

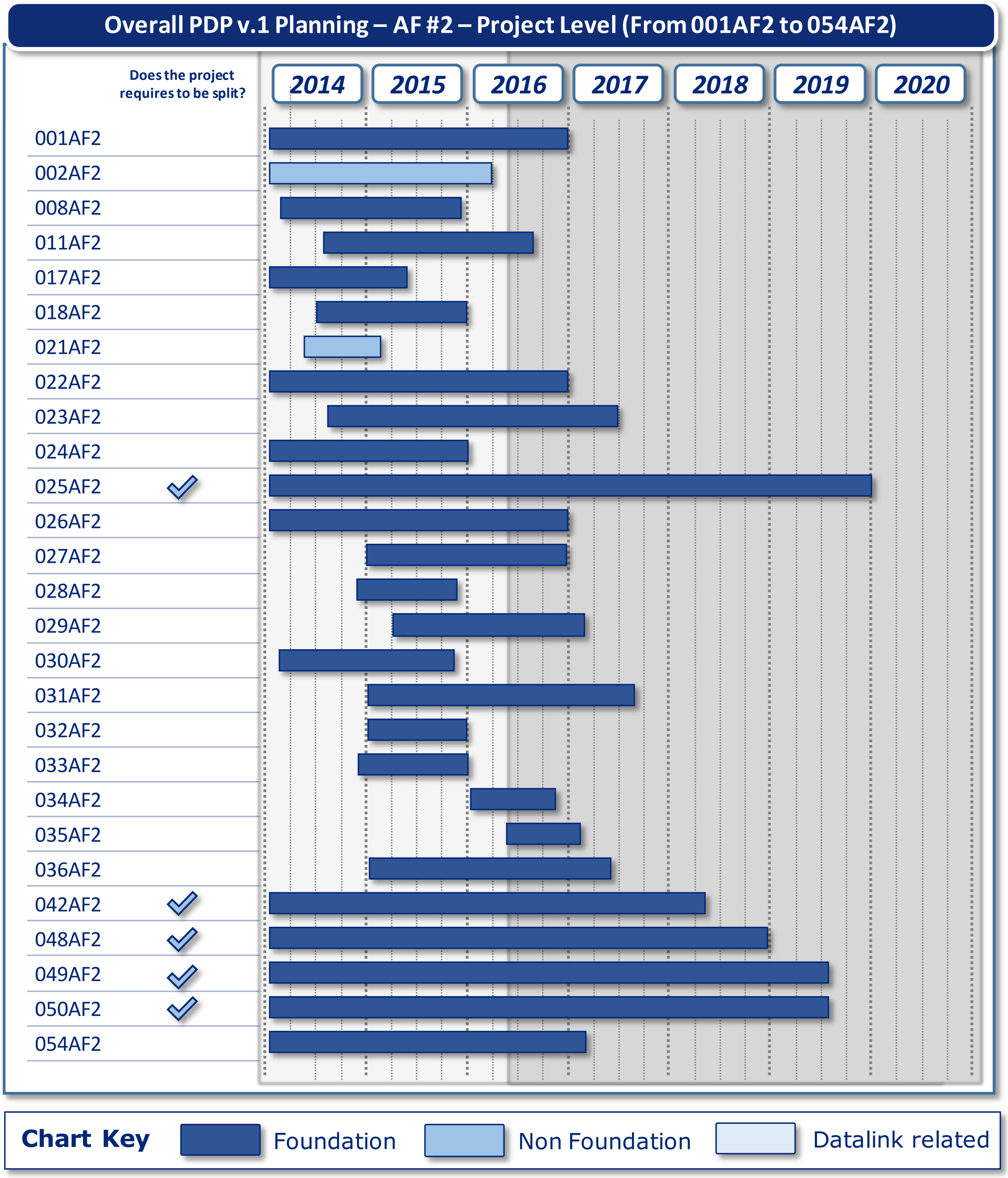
The following chart encompasses the overall schedule of the projects included within AF#1 – Extended AMAN and PBN in high density TMA. For each IP, it is also detailed whether the project might be split.



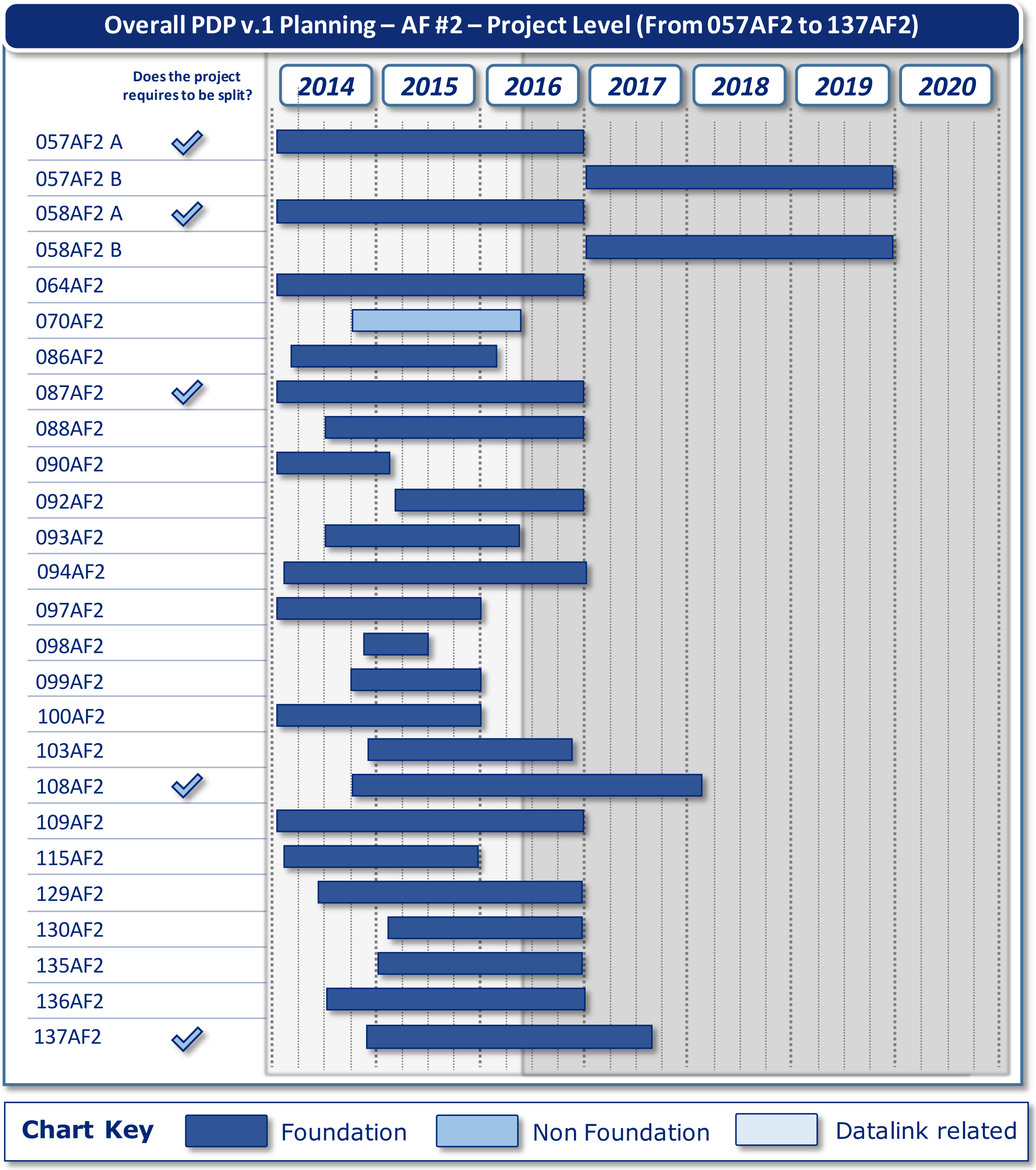
NB. IP 045AF1 started on 02/01/2012
IP 091AF1 started on 04/10/2013

5.2.2 AF #2 – Airport Integration and Throughput

The following charts encompass the overall schedule of the projects included within AF#2 – Airport Integration and Throughput. For each IP, it is also detailed whether the project might be split.



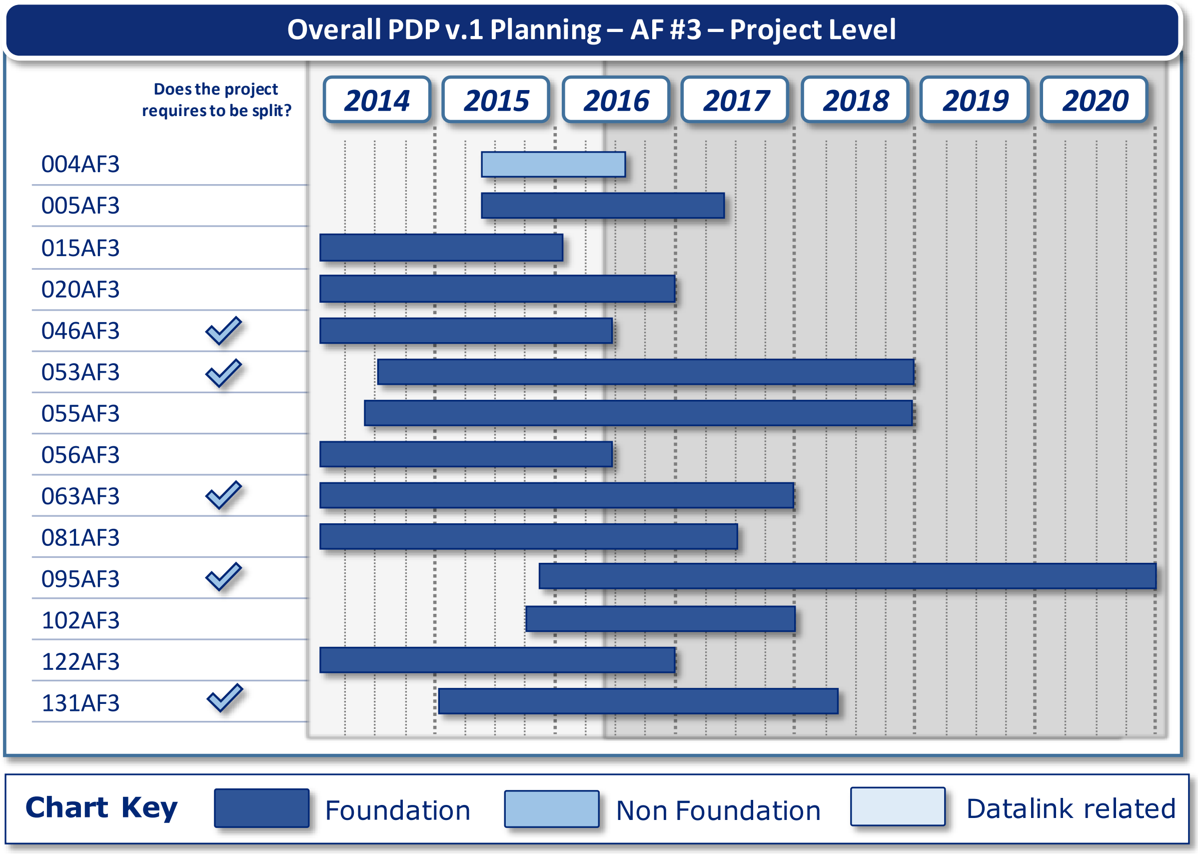
NB. IP 017AF2 started on 01/07/2012
IP 022AF2 started on 01/01/2008
IP 042AF2 started on 30/04/2013



NB. IP 090AF2 started on 01/10/2012

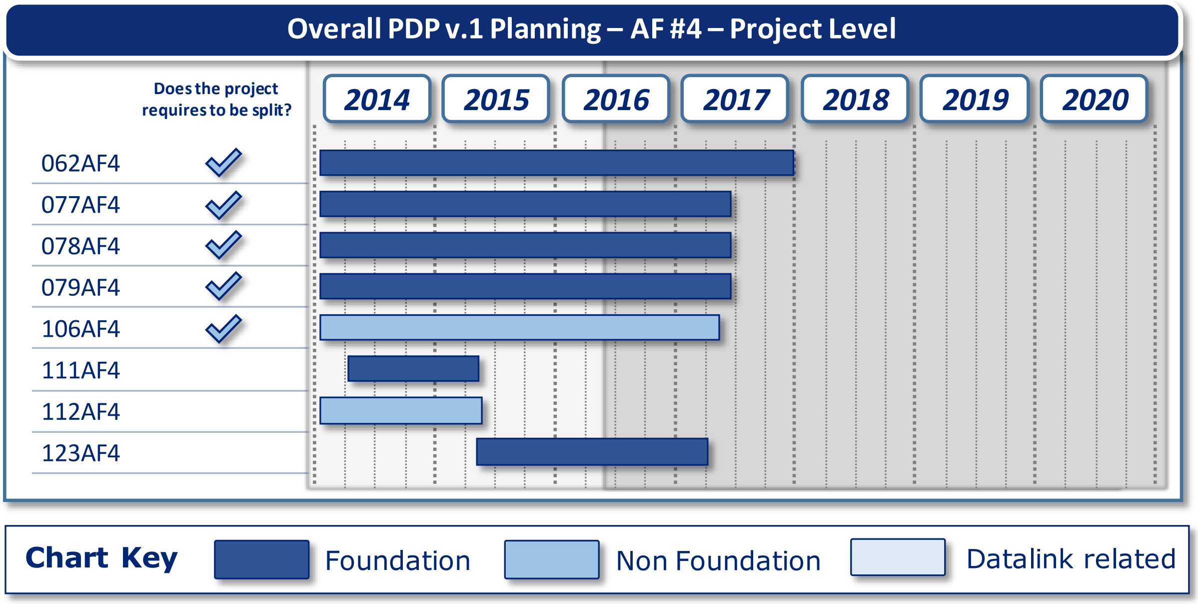
5.2.3 AF#3 – Flexible ASM and Free Route

The following chart encompasses the overall schedule of the projects included within AF#3 – Flexible ASM and Free Route. For each IP, it is also detailed whether the project might be split.



5.2.4 AF#4 – Network Collaborative Management

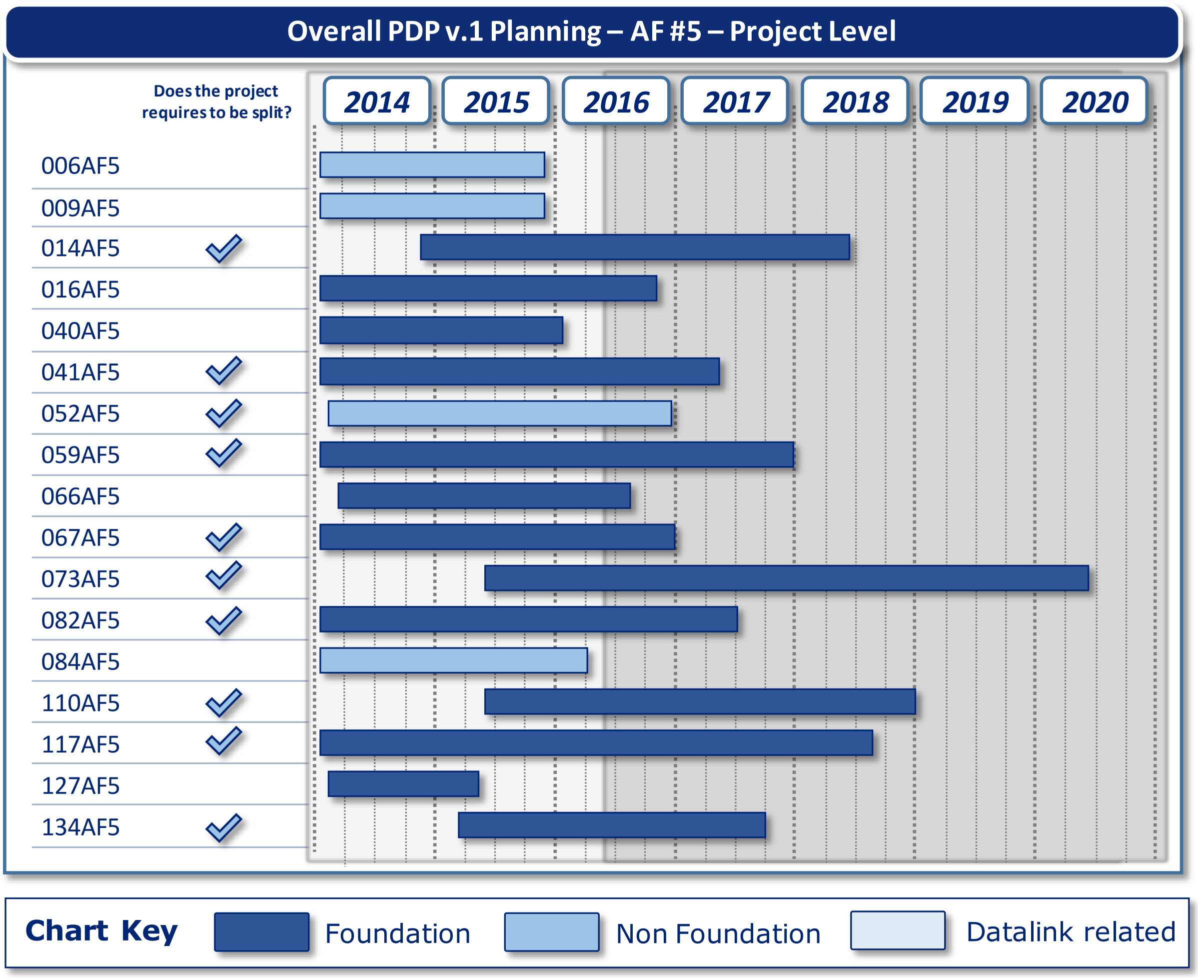
The following chart encompasses the overall schedule of the projects included within AF#4 – Network Collaborative Management. For each IP, it is also detailed whether the project might be split.



NB. IP 106AF4 started on 01/01/2013

5.2.5 AF#5 – Initial SWIM

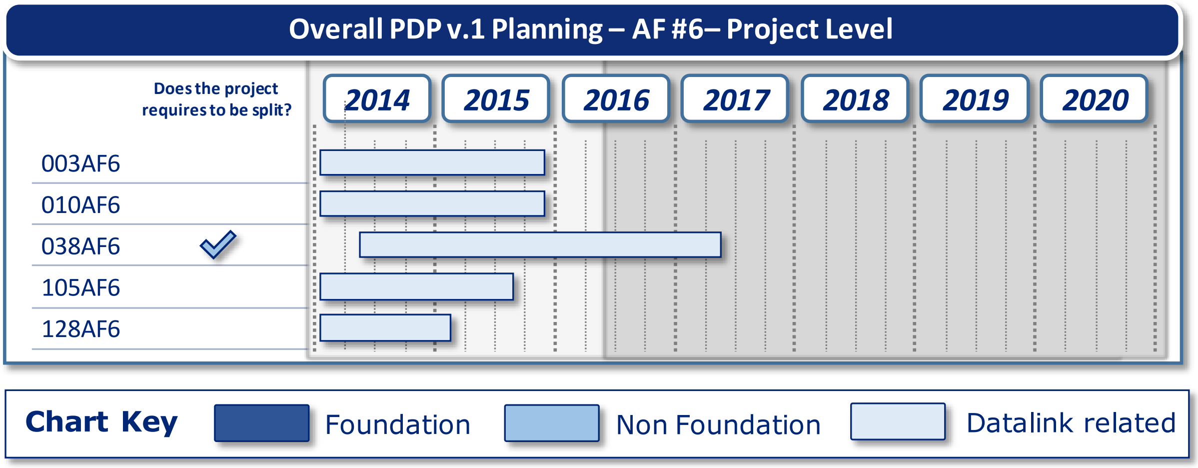
The following chart encompasses the overall schedule of the projects included within AF#5 – Initial SWIM. For each IP, it is also detailed whether the project might be split.



NB. IP 040AF5 started on 01/10/2013
IP 041AF5 started on 05/08/2013

5.2.6 AF#6 – Initial Trajectory Information Sharing

The following chart encompasses the overall schedule of the projects included within AF#6 – Initial Trajectory Information Sharing. For each IP, it is also detailed whether the project might be split.



NB. IP 128AF6 started on 01/01/2013

5.3 Annex C – Strategic view - detailed gap analysis

5.3.1 AF 1 Extended Arrival Management & PBN in high density TMA

AF1 - Extended Arrival Management & PBN in high density TMA	
S-AF 1.1 Arrival Management extended to en-route airspace	
FT 1.1.1 Basic AMAN	
Projects One project for Berlin TMA related to this FT was submitted.	**Potential Gaps** For the following TMAs no projects has been submitted: • Manchester • Vienna • Roma and Milano • Istanbul • Madrid, Barcelona and Palma • Düsseldorf
Notes It has to be noted that many stakeholders have submitted projects covering the enhanced functionality of AMAN to include extended horizon (FT 1.1.2).	

Figure 13 FT 1.1.1 Basic AMAN

AF1 - Extended Arrival Management & PBN in high density TMA	
S-AF 1.1 Arrival Management extended to en-route airspace	
FT 1.1.2 AMAN upgrade to include extended horizon function	
Projects Projects related to upgrades of AMAN to include the extended horizon function (XMAN) were submitted for following TMAs: • Frankfurt • Munich • London • Amsterdam • Zürich • Brussels • Stockholm It does include distribution of AMA message to Karlsruhe UAC, Munich ACC, Langen ACC, Brest UAC, Reims UAC, Prestwick ACC, Shannon ACC and MUAC via OLDI or dedicated SWIM service.	**Potential Gaps** For the following TMAs no projects has been submitted: • Paris (CDG and Orly) and Nice • Madrid, Barcelona and Palma • Roma and Milano • Oslo • Vienna • Berlin and Düsseldorf • Istanbul • Manchester • London-Gatwick • London-Stansted • Copenhagen • Dublin

Figure 14 FT 1.1.2 AMAN upgrade to include extended horizon function

AF1 - Extended Arrival Management & PBN in high density TMA	
S-AF 1.2 Enhanced TMA using RNP based operations	
FT 1.2.1 RNP approaches with vertical guidance	
Projects Projects related to RNP approaches with vertical guidance were submitted for following TMAs: • Paris CDG • Frankfurt, Düsseldorf • Madrid, Barcelona and Palma de Mallorca • Amsterdam • Brussels • Stockholm • Vienna	**Potential Gaps** For the following TMAs no projects has been submitted: • London • Milano • Zürich • Oslo • Copenhagen • Manchester • Dublin • Istanbul • Nice

Figure 15 FT 1.2.1 RNP approaches with vertical guidance

AF1 - Extended Arrival Management & PBN in high density TMA	
S-AF 1.2 Enhanced TMA using RNP based operations	
FT 1.2.2 Geographical database for procedure design	
Projects Projects related to Geographical database for procedure design were submitted for following TMAs: • Roma and Milano • Madrid, Barcelona and Palma de Mallorca • Vienna	**Potential Gaps** For the other TMAs within the geographical scope of the PCP no other projects submitted.

Figure 16FT 1.2.2 Geographical database for procedure design

AF1 - Extended Arrival Management & PBN in high density TMA	
S-AF 1.2 Enhanced TMA using RNP based operations	
FT 1.2.3 RNP/RNAV (2D navigation) for high density TMAs	
Projects Projects related to RNP/RNAV (2D navigation) for high densitiy TMAs were submitted for following airports: • London (Heathrow, Gatwick, Stansted) and Manchester • Frankfurt, Düsseldorf • Vienna • Stockholm • Amsterdam	**Potential Gaps** For the following TMAs no projects has been submitted: • Paris (CDG, Orly) and Nice • Roma and Milano • Madrid, Barcelona, Palma de Mallorca • Zürich • Brussels • Oslo • Copenhagen • Dublin • Istanbul

Figure 17 FT 1.2.3 RNP/RNAV (2D Navigation) for high density TMAs

5.3.2 AF2 Airport integration and throughput

AF2 Airport integration and throughput	
S-AF 2.1 DMAN synchronised with pre-departure sequencing	
FT 2.1.1 Initial DMAN	
Projects The following Airports submitted projects for INEA funding related to this FT: • Nice • London-Gatwick	**Potential Gaps** The following Airports did not submit projects related to this FT: • Manchester • Stockholm

Figure 18 FT 2.1.1 Initial DMAN

AF2 Airport integration and throughput	
S-AF 2.1 DMAN synchronised with pre-departure sequencing	
FT 2.1.2 EFS	
Projects The following Airports submitted projects for INEA funding related to this FT: • Vienna • Paris CDG • Nice • Paris Orly • Palma de Mallorca • Madrid • Barcelona • Gatwick • Amsterdam	**Potential Gaps** The following Airports did not submit projects related to this FT: • Heathrow • Dublin

Figure 19 FT 2.1.2 EFS

AF2 Airport integration and throughput	
S-AF 2.1 DMAN synchronised with pre-departure sequencing	
FT 2.1.3 Basic A-CDM	
Projects The following Airports submitted projects for INEA funding related to this FT: • Nice (new) • Vienna (new) • Amsterdam (finalisation of CDM) • Paris CDG (extension/improvement) • Frankfurt (extension/improvement) • Gatwick (extension/improvement) • Heathrow (extension/improvement) • Paris Orly (finalisation of CDM) • Stockholm (extension/improvement)	**Potential Gaps** The following Airports did not submit projects related to this FT: • Manchester • Dublin • Copenhagen • Palma

Figure 20 FT 2.1.3 Basic A-CDM

AF2 Airport integration and throughput	
S-AF 2.1 DMAN synchronised with pre-departure sequencing	
FT 2.1.4 Initial AOP	
Projects The following Airports submitted projects for INEA funding related to this FT: • Paris CDG, Orly • Nice • Heathrow	**Potential Gaps** All other Airports specified in EU-Reg 716/2014 did not submit projects related to this FT .

Figure 21 FT 2.1.4 Initial AOP

AF2 Airport integration and throughput	
S-AF 2.2 DMAN integrating surface management constraint	
FT 2.2.1 ASMGCS Level 1 + 2	
Projects The following Airports submitted projects for INEA funding related to this FT: • Nice • Roma-Fiumicino • Milano-Malpensa • Munich • Düsseldorf • Palma de Mallorca • Madrid • Barcelona	**Potential Gaps** The following Airport did not submit projects related to this FT: • Manchester

Figure 22 FT 2.2.1 ASMGCS Level 1+2

AF2 Airport integration and throughput	
S-AF 2.3 Time-based separation for final approach	
FT 2.3.1 TBS	
Projects The following Airports submitted projects for INEA funding related to this FT: • Gatwick • Heathrow • Paris CDG	**Potential Gaps** All other Airports specified in EU-Reg 716/2014 did not submit projects related to this FT .

Figure 23 FT 2.3.1 TBS

AF2 Airport integration and throughput	
S-AF 2.5 Airport Safety Nets	
FT 2.5.1 Airport Safety Nets associated with A-SMGCS level 2	
Projects The following Airports submitted projects for INEA funding related to this FT: • Heathrow • Paris CDG • Gatwick • Paris Orly • Milano-Malpensa • Frankfurt • Madrid • Barcelona • Palma • Amsterdam • München • Rom-Fiumicino • Düsseldorf • Brussels • Stockholm • Copenhagen • Nice	**Potential Gaps** The following airports did not submit projects related to this FT: • Istanbul • Manchester • Berlin

Figure 24 FT 2.5.1 Airport Safety Nets associated with A-SMGCS level 2

AF2 Airport integration and throughput	
S-AF 2.5 Airport Safety Nets	
FT 2.5.2 Implement aircraft systems contributing to airport safety nets	
Projects Following airspace users submitted projects related to this FT: • Air France • Ryanair	**Potential Gaps** All other CIV/MIL airspace users did not submit projects related to this FT.

Figure 25 FT 2.5.2 Implement aircraft systems contributing to airport safety nets

5.3.3 AF3Flexible ASM and Free Route

AF3 Flexible ASM and Free Route	
S-AF 3.1 ASM and Advanced FUA	
FT 3.1.1 Implement initial ASM tool	
Projects The following States submitted projects for INEA funding related to the implementation of initial ASM tools as: • Belgium • Denmark • Estonia • Finland • France • Germany • Ireland • Italy • Latvia • Lithuania • Netherlands • Poland • Portugal • Sweden • United Kingdom • Switzerland • Norway	**Potential Gaps** The following States did not submit projects related to FT 3.1.1: • Croatia • Austria • Serbia • Czech Republic • Hungary, • Spain • Greece • Malta • Cyprus • Slovenia • Slovak Republic • Turkey

Figure 26 FT 3.1.1 Implement initial ASM tool

AF3 Flexible ASM and Free Route	
S-AF 3.2 Free Route	
FT 3.2.1 Upgrade ATM Systems	
Projects The following states submitted projects for INEA funding related to the upgrade of ATM system for DCT as: • Austria • Croatia • Czech Republic • Denmark • Estonia • Finland • Germany • Greece • Netherlands • Poland • France (Marseille and Reims ACCs) • Hungary • Italy • Ireland • Latvia • Lithuania • Portugal • Slovakia • Slovenia • Sweden • United Kingdom • Norway • Bosnia Herzogowina	**Potential Gaps** The following states did not submit projects related to FT 3.2.1: • Malta • Cyprus • Spain (SACTA system for all ACCs) • Switzerland • Turkey

Figure 27 FT 3.2.1 Upgrade ATM Systems

AF3 Flexible ASM and Free Route
S-AF 3.2 Free Route
FT 3.2.2 Upgrade NM Systems
Projects NM systems have been adapted for DCT/FRA operations and some alignments are required to improve handling of FRA operations and introduce B2B interoperability between NM and local system. No Gaps have been identified for this FT.

Figure 28 FT 3.2.2 Upgrade NM Systems

AF3 Flexible ASM and Free Route	
S-AF 3.2 Free Route	
FT 3.2.3 Implement Direct Routes Upgrade ATM Systems	
Projects The following States submitted projects for INEA funding related to the deployment of DCT: • Borealis (DK-SE FAB, NEFRA, UK-IE FAB plus Iceland) • FABEC • Italy (ENAV) • Greece (HANSP) • FRA Project for FABCE	**Potential Gaps** The following states did not submit projects related to FT 3.2.3 • Cyprus • Lithuania • Poland • Serbia / Montenegro / Bosnia and Herzegovina; • The Former Yugoslav Republic of Macedonia; • Turkey; • Albania

Figure 29 FT 3.2.3 Implement Direct Routes Upgrade ATM Systems

5.3.4 AF4 Network Collaborative Management

AF4 Network Collaborative Management	
S-AF 4.1 Enhanced STAM	
FT 4.1.1 STAM Phase 1 and Local ATFCM tools	
Projects Italy and Eurocontrol submitted projects referring to this FT.	**Potential Gaps** The following states did not submit projects related to FT 4.1.1: • Belgium • Bulgaria • Croatia • Cyprus • Czech Republic • Denmark • Greece • Ireland • Poland • Portugal • Slovakia • Slovenia • Spain • Sweden • UK • Hungary • Lithuania • Latvia • Netherlands • Romania • Norway

Figure 30FT 4.1.1 STAM Phase 1 and Local ATFCM tools

AF4 Network Collaborative Management	
S-AF 4.2 Collaborative NOP	
FT 4.2.2 Interactive rolling NOP	
Projects EUROCONTROL and Malta submitted projects for INEA call 2014	**Potential Gaps** No gaps have been identified. The major activity is related to EUROCONTROL NM actions, while the individual Stakeholders need to comply with the B2B data exchange requirements.

Figure 31 FT 4.2.2 Interactive rolling NOP

AF4 Network Collaborative Management	
S-AF 4.2 Collaborative NOP	
FT 4.2.3 Interface to NMS AFP	
Projects The following States submitted projects for INEA funding related to the deployment of DCT: • Italy • Malta • Portugal	**Potential Gaps** The following States/ANSPs did not submit project related to FT 4.2.3 as: • Belgium • Cyprus • France • Norway • Poland • Slovak Republic • United Kingdom

Figure 32 FT 4.2.3 Interface to NMS AFP

AF4 Network Collaborative Management	
S-AF 4.2 Collaborative NOP	
FT 4.2.4 AOP/NOP information sharing	
Projects There are no projects related to this FT.	**Potential Gaps** N/A

Figure 33 FT 4.2.4 AOP/NOP information sharing

AF4 Network Collaborative Management	
S-AF 4.4 Automated Support for Traffic Complexity Assessment	
FT 4.4.1 FDP Systems adaptation and EFD	
Projects There are no projects related to this FT.	**Potential Gaps** N/A

Figure 34FT 4.4.1 FDP Systems adaptation and EFD

AF4 Network Collaborative Management	
S-AF 4.4 Automated Support for Traffic Complexity Assessment	
FT 4.4.2 Initial Local Traffic Complexity tools	
Projects EUROCONTROL NM submitted project related to EFPL and Network Traffic complexity assessment, while ENAV submitted project related to EFPL development/deployment.	**Potential Gaps** All remaining ANSPs except MUAC are the identified gaps in term of missing projects.

Figure 35 FT 4.4.2 Initial Local Traffic Complexity tools

5.3.5 AF 5 Initial SWIM

AF 5 Initial SWIM	
S-AF 5.1 Common Infrastructure Components	
FT 5.1.1 IP based G/G data communications network	
Projects The following States submitted projects for INEA funding related to the deployment of this FT: • United Kingdom • Spain • Belgium • Denmark	**Potential Gaps** No projects submitted from other states related to this FT.

Figure 36 FT 5.1.1 IP based G/G data communications network

AF 5 Initial SWIM	
S-AF 5.2 SWIM Infrastructures and Profiles	
FT 5.2.1 ITY FMTP	
Projects No projects submitted related to this FT.	**Potential Gaps** N/A

Figure 37 FT 5.2.1 ITY FMTP

AF 5 Initial SWIM	
S-AF 5.3 Aeronautical Information Exchange	
FT 5.3.1 AIS System Upgrade to AIXM 5.1	
Projects The following States have presented related to this FT: • United Kingdom • Germany • Italy • Austria	**Potential Gaps** No projects submitted for this FT from: • Sweden • Spain • Hungary • Norway • Denmark • Switzerland • Belgium • Finland • Netherlands • Ireland • Romania • Turkey

Figure 38 FT 5.3.1 AIS System Upgrade to AIXM 5.1

AF 5 Initial SWIM	
S-AF 5.3 Aeronautical Information Exchange	
FT 5.3.2 ATM System Upgrade to AIXM 5.1	
Projects The following States have presented related to this FT: • United Kingdom • Germany • Austria	**Potential Gaps** No projects submitted for this FT from: • Sweden • Spain • Norway • Italy • Denmark • Switzerland • Belgium • Finland • Netherlands • Ireland • Romania • Turkey • Serbia

Figure 39 FT 5.3.2 ATM System Upgrade to AIXM 5.1

AF 5 Initial SWIM	
S-AF 5.3 Aeronautical Information Exchange	
FT 5.3.3 Interface to NMS	
Projects United Kingdom submitted projects related to this FT.	**Potential Gaps** All other States did not submit projects related to this FT.

Figure 40FT 5.3.3 Interface to NMS

AF 5 Initial SWIM	
S-AF 5.4 Meteorological Information Exchange	
FT 5.4.1 Implement New MET Data Model	
Projects The following States have presented related to this FT: • United Kingdom • Romania • Belgium • Netherlands	**Potential Gaps** All other States did not submit projects related to this FT.

Figure 41 FT 5.4.1 Implement New MET Data Model

AF 5 Initial SWIM	
S-AF 5.5 Cooperative Network Information Exchange	
FT 5.5.1 Interface and data requirements of AF4 NOP	
Projects No projects were submitted related to this FT.	**Potential Gaps** N/A

Figure 42 FT 5.5.1 Interface and data requirements of AF4 NOP

AF 5 Initial SWIM	
S-AF 5.6 Flights Information Exchange	
FT 5.6.1 FDPS Upgrade preparing for IOP flight Object Exchanges **INEA-call 2014**	
Projects The following States have submitted related to this FT: • France • Italy • Switzerland	**Potential Gaps** All other States did not submit projects related to this FT.

Figure 43 FT 5.6.1 FDPS upgrade preparing for IOP flight Object Exchanges

5.3.6 AF 6 Initial trajectory information sharing

AF 6 Initial trajectory information sharing	
S-AF 6.1 Initial trajectory information sharing	
FT 6.1.1 FDPS Upgrade preparing for IOP flight Object Exchanges **INEA-call 2014**	
Projects No projects were submitted	**Potential Gaps** N/A

Figure 44 FT 6.1.1 FDPS upgrade preparing for IOP flight Object Exchanges

AF 6 Initial trajectory information sharing	
S-AF 6.1 Initial trajectory information sharing	
FT 6.1.2 Air & Ground Data link to support ITY	
Projects The following States have submitted projects related to FT 6.1.2: • Austria • Croatia • Denmark From the airspace users side, LUFTHANSA and Air France submitted projects related to AGDL deployment.	**Potential Gaps** All other States did not submit projects related to this FT. No airspace users (except DLH/AFR) submitted projects related to this FT.
Notes It has to be considered the technology used to support the proposed projects might not be in line with the future results of SESAR JU study about DLS technology validation	

Figure 45 FT 6.1.2 AGDL - ITY