ASBU Implementation Monitoring Report

ICAO EUR States

Reference Period 2015

ADDRESSING GROWTH AND REALIZING THE PROMISE OF TWENTY-FIRST CENTURY AIR TRAFFIC MANAGEMENT (ATM)

Air transport today plays a major role in driving sustainable economic and social development. It directly and indirectly supports the employment of 56.6 million people, contributes over $2.2 trillion to global Gross Domestic Product (GDP), and carries over 2.9 billion passengers and $5.3 trillion worth of cargo annually.

A fully harmonized global air navigation system built on modern performance-based procedures and technologies is a solution to the concerns of limited air traffic capacity and unnecessary gas emissions being deposited in the atmosphere.

The GANP represents a rolling, 15-year strategic methodology which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. The Global Air Navigation Plan's Aviation System Block Upgrades (ASBU) methodology is a programmatic and flexible global system's engineering approach that allows all Member States to advance their Air Navigation capacities based on their specific operational requirements. The Block Upgrades will enable aviation to realize the global harmonization, increased capacity, and improved environmental efficiency that modern air traffic growth now demands in every region around the world.

The GANP's Block Upgrades are organized in five-year time increments starting in 2013 and continuing through 2028 and beyond. The GANP ASBU planning approach also addresses airspace user needs, regulatory requirements and the needs of Air Navigation Service Providers and Airports. This ensures a single source for comprehensive planning. This structured approach provides a basis for sound investment strategies and will generate commitment from States, equipment manufacturers, operators and service providers.

The resultant framework is intended primarily to ensure that the aviation system will be maintained and enhanced, that ATM improvement programmes are effectively harmonized, and that barriers to future aviation efficiency and environmental gains can be removed at a reasonable cost. In this sense, the adoption of the ASBU methodology significantly clarifies how the ANSP and airspace users should plan for future equipage.

Although the GANP has a worldwide perspective, it is not intended that all Block Modules be required to be applied in every State and Region. Many of the Block Upgrade Modules contained in the GANP are specialized packages that should be applied only where the specific operational requirement exists or corresponding benefits can be realistically projected. The inherent flexibility in the ASBU methodology allows States to implement Modules based on their specific operational requirements. Using the GANP, Regional and State planners should identify those Modules which provide any needed operational improvements. Although the Block Upgrades do not dictate when or where a particular Module is to be implemented, this may change in the future should uneven progress hinder the passage of aircraft from one region of airspace to another.

The regular review of implementation progress and the analysis of potential impediments will ultimately ensure the harmonious transition from one region to another following major traffic flows, as well as ease the continuous evolution towards the GANP's performance targets.

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ABSTRACT

This ICAO/EUROCONTROL ASBU implementation monitoring report presents an overview of the planning dates and implementation progress for the ICAO ASBU Block 0 Modules within the ICAO EUR Region during the reporting year 2015. The region covers 55 States whose monitoring information was collected through the ESSIP/LSSIP mechanism (41 States) and using a dedicated questionnaire for the States outside that mechanism. A dashboard for implementation progress of ASBU Block 0 modules was developed and is presented, along with an outlook for implementation foreseen by 2018, in accordance with planning dates reported by States.

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1. INTRODUCTION

1.1 Objective and intended audience

This ICAO/EUROCONTROL ASBU implementation monitoring report presents an overview of the planning dates and implementation progress for the ICAO ASBU Block 0 Modules (and its detailed elements) within the ICAO EUR Region during the reporting year 2015.

The implementation progress information covers 41 States, plus 3 States where the information is included in another State's implementation progress information, that are part of the ESSIP/LSSIP mechanism and 8 States within the ICAO EUR Region that reported their status and plans using a dedicated questionnaire as part of their regular State Reports for the Air Traffic Management Group – Eastern part of the ICAO EUR Region (ATMGE) meetings.

Guided by the GANP, the regional national planning process should be aligned and used to identify those Modules which best provide solutions to the operational needs identified. Depending on implementation parameters such as the complexity of the operating environment, the constraints and the resources available, regional and national implementation plans will be developed in alignment with the GANP. Such planning requires interaction between stakeholders including regulators, users of the aviation system, the air navigation service providers (ANSPs), aerodrome operators and supply industry, in order to obtain commitments to implementation.

Accordingly, deployments on a global, regional and sub-regional basis and ultimately at State level should be considered as an integral part of the global and regional planning process through the Planning and Implementation Regional Groups (PIRGs), which is for the ICAO EUR Region the ICAO European Air Navigation Planning Group (EANPG). The PIRG process will further ensure that all required supporting procedures, regulatory approvals and training capabilities are set in place. These supporting requirements will be reflected in regional online Air Navigation Plans (eANPs) developed by the PIRGs, ensuring strategic transparency, coordinated progress and certainty of investment. In this way, deployment arrangements including applicability dates can also be agreed and collectively applied by all stakeholders involved in the Region. The ICAO/EUROCONTROL ASBU implementation monitoring report which contains all information on the implementation process of the ASBU modules is the key document for the EANPG to monitor and analyse the implementation within the region.
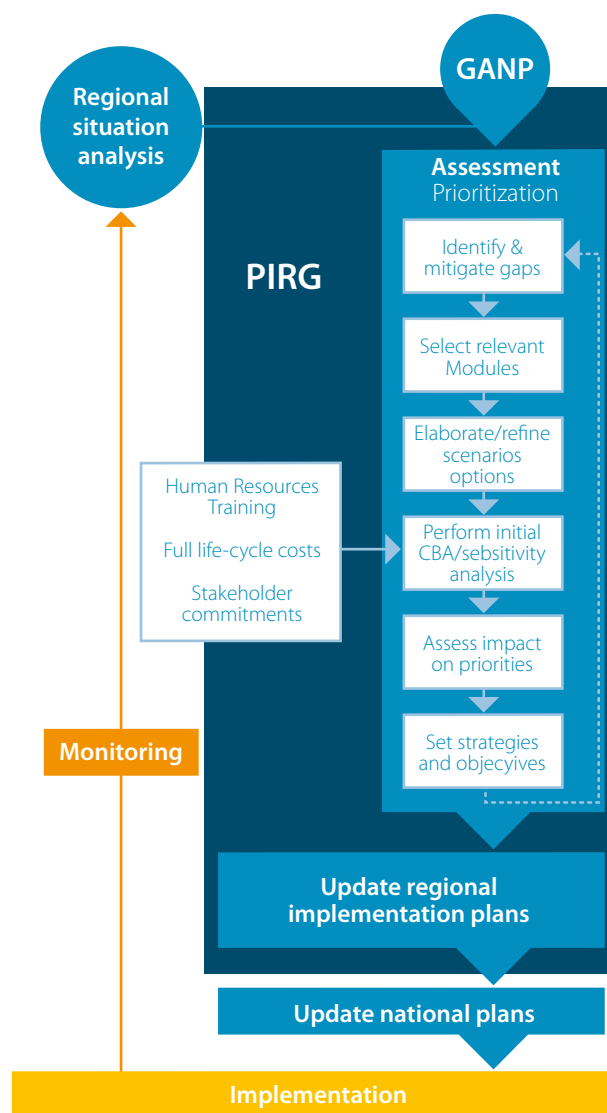
Fig 1 – Regional Planning

This report was developed by EUROCONTROL in cooperation with ICAO EUR/NAT Office and it will be presented on an annual basis to the EANPG for endorsement. Following the formal EANPG endorsement, the ICAO/EUROCONTROL ASBU implementation monitoring report will also be submitted for inclusion into the annual ICAO Global Air Navigation Report, so that the regional developments/deployment actions can be coordinated across the regions and global interoperability can be ensured at the highest level.

1.2   Background

Following the discussions and recommendations from the Twelfth Air Navigation Conference (AN-Conf/12), the Fourth Edition of the Global Air Navigation Plan (GANP) based on the Aviation Systems Block Upgrades (ASBU) approach was endorsed by the 38th Assembly of ICAO in October 2013. The Assembly Resolution 38-02 which agreed, amongst others, to call upon States, planning and implementation regional groups (PIRGs), and the aviation industry to provide timely information to ICAO (and to each other) regarding the implementation status of the GANP, including the lessons learned from the implementation of its provisions and to invite PIRGs to use ICAO standardised tools or adequate regional tools to monitor and (in collaboration with ICAO) analyse the implementation status of air navigation systems.

At EANPG meeting/55, which took place in November 2013, the EANPG agreed that in order to enable monitoring and reporting of the current priorities, a cooperative mechanism would be put in place between ICAO and EUROCONTROL. This mechanism would encompass the utilisation of the EUROCONTROL ESSIP/LSSIP process complemented by a specific ICAO EUR ASBU questionnaire. As a first step, this cooperative regional mechanism would address the initial high priority modules.

Pursuant to EANPG Conclusion 55/02a - the ASBU Block 0 Modules prioritisation table, as provided in Appendix G to EANPG/55 report, was endorsed as the initial version of the EUR ASBU Implementation Plan (See Annex 1).

Pursuant to EANPG Conclusion 55/02b - the mechanism for monitoring and reporting the implementation status for ASBU of Priority 1 Modules, is using the combined efforts of EUROCONTROL ESSIP/LSSIP mechanism and the ICAO EUR questionnaire, in an effort to avoid duplication of reporting.

In response to the EANPG/55 conclusions, the regional monitoring of ASBU implementation was announced by a State Letter in September 2014, which invited States to take all necessary measures in order to ensure that a complete overview of the status of ASBU Block 0 implementation (especially on the six ASBU Block 0 modules which had been given the highest priority at EANPG/55, namely, B0-APTA, B0-SURF, B0-FICE, B0-DATM, B0-ACAS and B0-SNET) would become available within the entire ICAO EUR Region.

A first ASBU Implementation Monitoring Report was prepared last year for the reporting period 2014. This report contained information/overviews on the implementation progress of ASBU Block 0 from the 41 ECAC States (direct information and reports through their 2014 LSSIP documents) and from 4 States in the EUR Region which used the specific State Report/questionnaires (in terms of information on the priorities, status of implementation and any relevant references to national documentation for all listed ASBU modules).

The 2014 ICAO/EUROCONTROL ASBU implementation monitoring report was presented, reviewed and endorsed, as the first report regarding the regional monitoring of ASBU implementation in response to EANPG Conclusion 55/03, at the EANPG/57 meeting in November 2015.

In order to achieve the aim of a complete overview of the status of ASBU Block 0 implementation from all States within the complete ICAO EUR Region, the EANPG also invited States to actively support the described ASBU implementation monitoring process, so that the number of responses could be increased and the quality of the reported information could be enhanced in the future.

Following the EANPG Conclusion 55/03, the ASBU Block O modules B0-WAKE, B0-AMET, B0-ASEP, B-OFPL and B0-CCO were not included into the monitoring report mechanisms. As some of these modules, especially B0-CCO, have become key priories of the GANP implementation, a review of the EANPG/55 conclusion is foreseen at EANPG/58. Therefore it can be expected that additional Block 0 modules will be included into the monitoring processes for the reference period 2016 of this report.

1.3   Scope of the report

This report addresses the deployment status, with reference date December 2015, for most ASBU Block 0 Modules. It is separated in two different paragraphs those Block 0 modules that were considered Priority and the other Block 0 Modules with less priority as approved by EANPG 55 (See Reference Table in Annex1).

The report is based on the information submitted by 41 States participating in the ESSIP/LSSIP mechanism and 8 other States of the ICAO EUR Region, outside that reporting mechanism, that reported their monitoring information using a questionnaire fully aligned with the ESSIP objectives and developed specifically for that purpose (for more details on the questionnaire see Chapter 2 and Annex 2).

Only 3 States, Algeria, Morocco and Tunisia, did not submit any information on ASBU Block 0 modules implementation progress. These 3 States are shaded in red in the picture below.

It must also be noted that Monaco, San Marino and Andorra are not addressed separately in this report, neither in related statistics, as they are included in other States for monitoring purposes. Therefore there are 52 Member States addressed in the following chapters.

ICAO EUR/NAT Office accreditation (56 States)

ICAO EUR Region (55 States)

ECAC (44) - Iceland (1) = 43 States

EUROCONTROL (41)

SES Performance Scheme (30 States)

EC (28States)

Austria	Latvia	Norway	Albania	Azerbaijan	Andorra	Iceland
Belgium	Lithuania	Switzerland	Armenia		Belarus	
Bulgaria	Luxembourg		Bosnia and Herzegovina		Israel	
Cyprus	Malta		Georgia		Kazakhstan	
Czech Republic	Netherlands		Macedonia		Kyrgyzstan	
Denmark	Poland		Moldova	San Marino	Russian Federation	
Estonia	Portugal		Monaco		Tajikistan	
Finland	Romania		Montenegro		Turkmenistan	
France	Slovakia		Serbia		Uzbekistan	
Germany	Slovenia		Turkey		Algeria	
Greece	Spain		Ukraine		Morocco	
Hungary	Sweden				Tunisia	
Ireland	United Kingdom					
Italy	Croatia					

41 ECAC States - LSSIP process	11 States - questionnaire

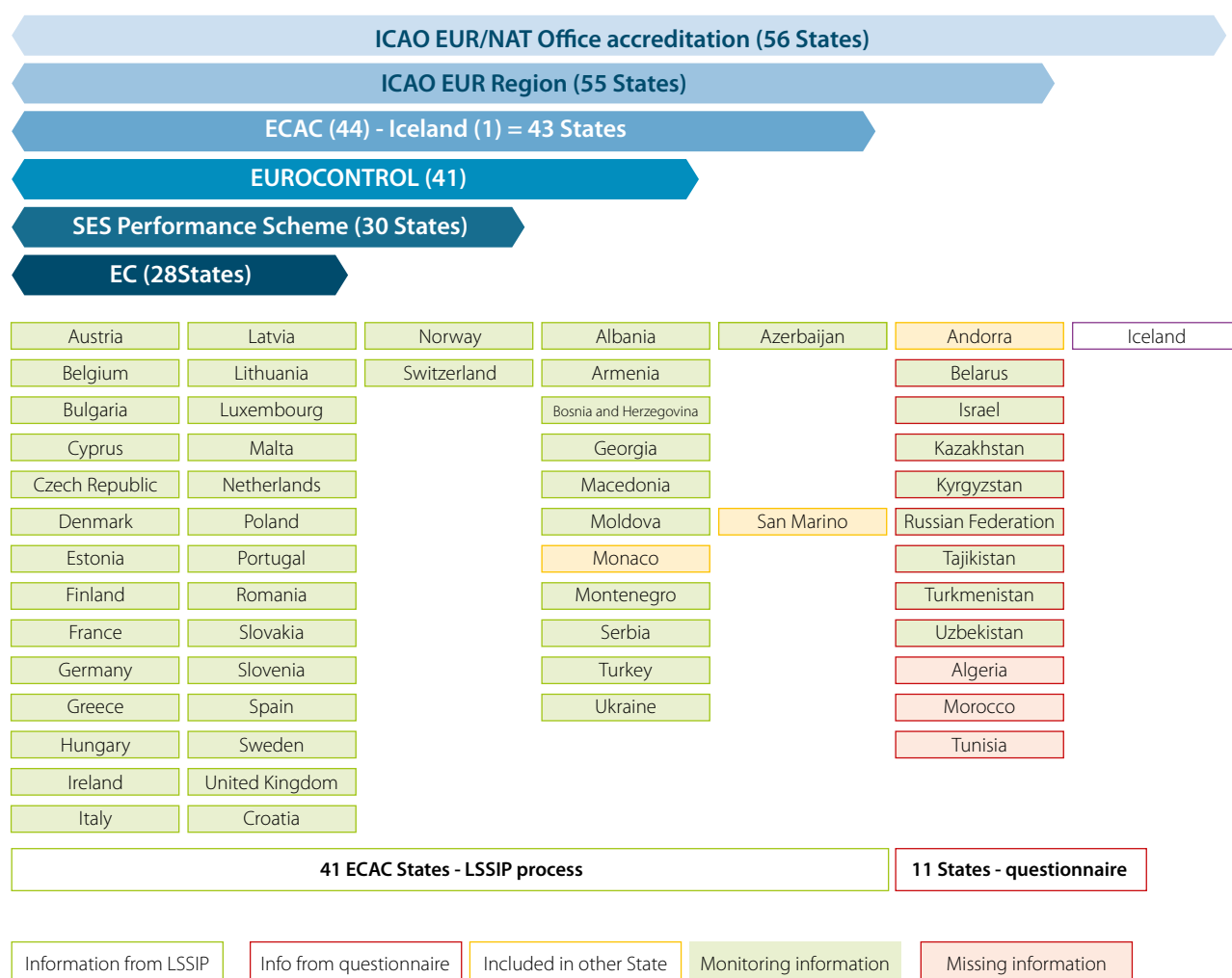| Information from LSSIP	Info from questionnaire	Included in other State	Monitoring information	Missing information

Fig 2 – Scope of the report

1.4   Structure of the report

This report has a simple structure to make it easier for the reader to consult and analyse.

The introduction (chapter 1) explains the objectives, the background and the geographical scope covered by the report.

The two processes used for collection of data are indicated and explained in the following chapter (2).

Two main chapters (3 and 4) are addressing and analysing the status of ASBU Block 0 modules implementation, using the data and results collected by the two monitoring processes.

Chapter 3 is important because it gives a consolidated view of the planning dates foreseen by States to finalise the implementation of each individual ASBU Block 0 module. It is developed mainly in the form of maps and statistics and can be considered as a dashboard for ASBU Block 0 modules deployment in the ICAO EUR Region.

Chapter 4 presents a global view on the implementation progress of the ESSIP objectives mapped to each ASBU module (see mapping on Annex 1).

Finally, the Conclusions and Recommendations chapter includes a summary table of an "**ASBU Block 0 Modules Implementation Dashboard 2015**" and a projection of the "Completion" status rates foreseen to be achieved by the end 2018 – "**ASBU Block 0 Modules Implementation Outlook for 2018**". The focus is on the most important observations coming from the report including proposals for required actions from the EANPG so that the integrated implementation of the ASBU modules in the ICAO EUR Region can be further enhanced.

Three Annexes complement the report:

Annex 1
Block 0 Modules EUR Implementation Plan and Mapping

Annex 2
ICAO ASBU Implementation Monitoring Questionnaire

Annex 3
General Implementation overview

2. PROCESS FOR COLLECTION OF DATA FOR THE REPORT

Two complementary processes were used to collect the monitoring data required for the preparation of this report:

1. The EUROCONTROL ESSIP/LSSIP mechanism that has been used by 41 European States.

2. A questionnaire specifically targeted and designed for the remaining 11 States that are included in the ICAO EUR Region.

Both processes are briefly described below.

2.1 ESSIP/LSSIP Process

EUROCONTROL ESSIP/LSSIP process is a robust mechanism to support Single European Sky (SES) and SESAR deployment planning and reporting. It covers 41 States plus the EUROCONTROL Maastricht Upper Area Control Centre (MUAC). The process sits at the crossroads of multiple performance improvement initiatives synergising the planning and monitoring activities of all stakeholders involved: State civil and military authorities, air navigation service providers and airport operators, all categories of airspace users. This cyclic process comprises three main components (see figure below):
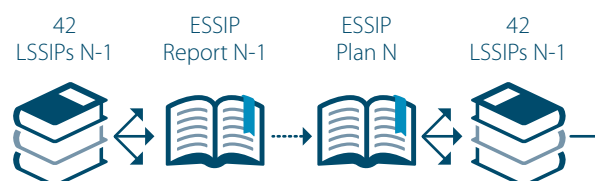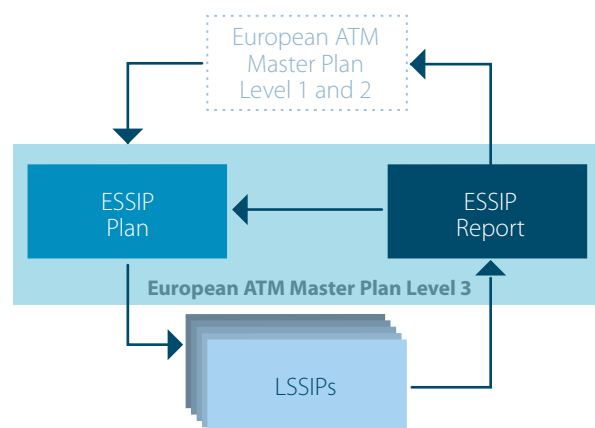
1. Deployment planning: ESSIP Plan Web site:
   http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-plan

2. Deployment reporting and monitoring at local (LSSIP documents) level Web site:
   http://www.eurocontrol.int/articles/lssip

3. Deployment reporting and monitoring at European level: ESSIP Report Web site:
   http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report

The ESSIP Plan and the ESSIP Report together constitute the Level 3 of the ATM Master Plan as indicated in the picture.

The ESSIP Plan contains the detailed implementation objectives and Stakeholder Lines of Action (SLoA) to be achieved within coordinated time scales. Its target audience includes planning staff from the various stakeholders participating in ESSIP, both at European and National level. It is produced every year.

The ESSIP Report assesses the level of success in the implementation progress of ESSIP objectives at ECAC level for the benefit of all aviation stakeholders. For each of the objectives it highlights critical issues, main reasons for delays, (positive) progress and it proposes remedial actions at network level. It is based on information gathered from the Local Single Sky ImPlementation (LSSIP) documents and closes the loop between the monitoring and planning phases of the ESSIP/LSSIP yearly cycle.

Understanding what happened during the reporting period puts into perspective the investments and actions needed to achieve real benefits and enables to steer

European ATM Master Plan Level 1 and 2

ESSIP Plan

ESSIP Report

European ATM Master Plan Level 3

LSSIPs

42 LSSIPs N-1 | ESSIP Report N-1 | ESSIP Plan N | 42 LSSIPs N-1

2.2   ICAO Questionnaire

With the objective to obtain monitoring information and facilitate the reporting activities required by the ICAO EUR Region States, outside the ESSIP/LSSIP mechanism, an ICAO ASBU Implementation Monitoring Questionnaire was first developed in 2014 and send out with the State Letter which launched the regional ASBU implementation reporting in September 2014. After review of the first reports at the ATMGE/21 meeting, and together with the lessons learned/way forward, an updated and comprehensive version of the questionnaire was developed in order to increase the number of responses and enhance the quality of the reported information.

This questionnaire (see Annex 2) indicates for each module a number of relevant actions defining the activities required to implement the concerning Module. The list of relevant actions is not exhaustive but they are fully aligned with related ESSIP objectives and additional information related to those actions can be found in the ESSIP Plan.

The questionnaire includes as well 3 Annexes aimed at helping the State to better understand the scope of reporting and related activities:

I. Annex A presents the guidance on how to determine the progress of each Module.

II. Annex B contains the detailed description of relevant actions for Priority 1 Modules.

III. Annex C includes the detailed description of relevant actions for Other Block 0 Modules.

The ATMGE supported the development of the new State Report Form which includes the revised questionnaire that was then presented to the EANPG/57. Consequently the EANPG/57 concluded that States were invited to use the new ATMGE State Report format on the status of implementation of ASBU Block 0 modules. States were also requested to provide their ASBU implementation data to the next ATMGE/22 meeting in March 2016, so that the 2015 version of the ASBU implementation monitoring report could be presented at EANPG/58 in 2016.

During the ATMGE/22 meeting, 7 States within the EUR/NAT Region, presented their national ASBU implementation progress using the new questionnaire and one additional State submitted their State Report.

3.   DEPLOYMENT PLANNING VIEW

The ICAO Block Upgrades refer to the target availability timelines for a group of operational improvements (technologies and procedures) that will eventually realize a fully-harmonized global Air Navigation System. The technologies and procedures for each Block have been organized into unique Modules which have been determined and cross-referenced based on the specific Performance Improvement Area to which they relate.

Block 0 Modules are characterized by operational improvements which have already been developed and implemented in many parts of the world. It therefore has a near-term implementation period of 2013–2018, whereby 2013 refers to the availability of all components of its particular performance modules and 2018 refers to the target implementation deadline. ICAO will be working with its Member States to help each determine exactly which capabilities they should have in place based on their unique operational requirements.

Based on the milestone framework established under the overall Block Upgrade strategy, ICAO Member States are encouraged to implement those Block 0 Modules applicable to their specific operational needs.

This chapter of the report gives an overview, mainly in the form of maps and statistics, of the dates when States plan to conclude, or have already completed, each of the ASBU Module Block 0.

The information contained in the maps was extracted from the reported implementation plans and progress taken from the LSSIP database and from the ASBU questionnaire of the State Report. The date indicated is the one corresponding to the implementation of the last activity of the questionnaire or of the ESSIP objective(s), required to fully complete the deployment of the ASBU. In case a State has more than one airport in the applicability area, the planning date retained is the one corresponding to the latest airport implementing the activity.

To note as well that in a few cases when some activities were indicated as "No Plan" the overall assessment date for the completion of the related ASBU module couldn't be done and therefore it had to be indicated overall as "No Plan".

Two paragraphs were created, one for the Block 0 priority modules and the another for "Other non priority Modules" as defined and approved by EANPG 55.[1]

The following colour scheme is used:

Legend

■	Completed in 2015 or before
■	Planned for 2016
■	Planned for 2017
■	Planned for 2018
■	Planned for 2019 or after
■	No Final Plan
■	Not applicable
▨	Missing Data

To note that "Missing Data" means that a final date for completion of all the activities related to the ASBU Module was not provided even if in some cases the status (Completed, Partially completed, Planned, etc) was indicated by the State.

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[1]   *Non priority Modules B0-WAKE, B0-AMET, B0-ASEP, B0-OFPL and B0-CCO are not addressed due to the lack of monitoring information.*
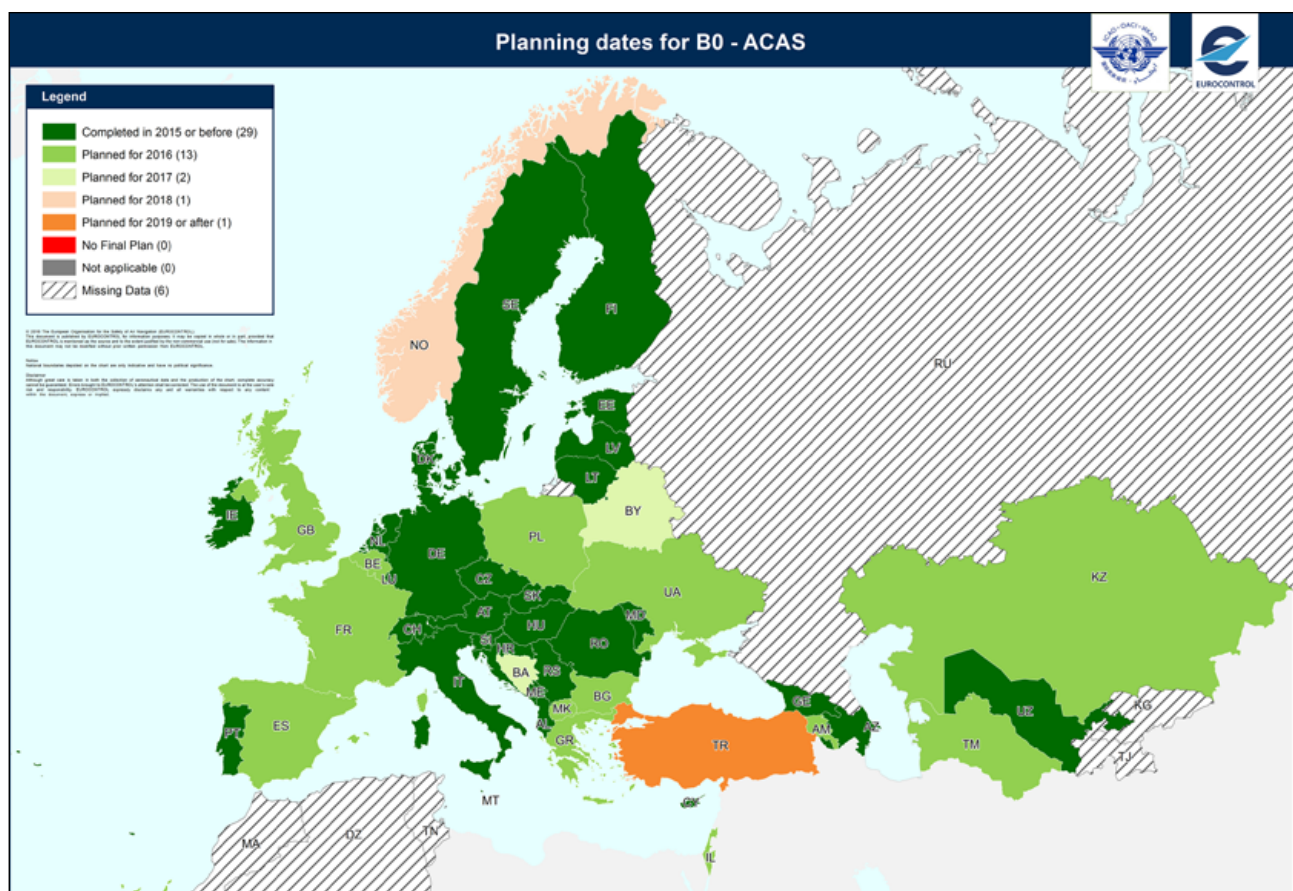
3.1 ASBU Block 0 Priority Modules

In the following paragraphs it is indicated the date reported by each ICAO EUR State for final implementation of ASBU modules identified by EANPG as the first priority.

3.1.1 B0-ACAS

This module is about ACAS Improvements, provision of short term improvements to existing airborne collision avoidance systems (ACAS) in order to reduce nuisance alerts while maintaining existing levels of safety. This will reduce trajectory perturbation and increase safety in cases where there is a breakdown of separation.

The picture indicates the status for B0-ACAS module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	**54%**
Planned for 2016	**27%**
Planned for 2017	4%
Planned for 2018	2%
Planned for 2019 or after	2%
Not applicable	0%
Missing Data	11%
No final Plan	0%

The progress of B0-ACAS can be considered good as by the end of 2016 about **81%** of States are expected to have completed the implementation of the module.

Planning dates for B0 - ACAS

Legend
- Completed in 2015 or before (29)
- Planned for 2016 (13)
- Planned for 2017 (2)
- Planned for 2018 (1)
- Planned for 2019 or after (1)
- No Final Plan (0)
- Not applicable (0)
- Missing Data (6)
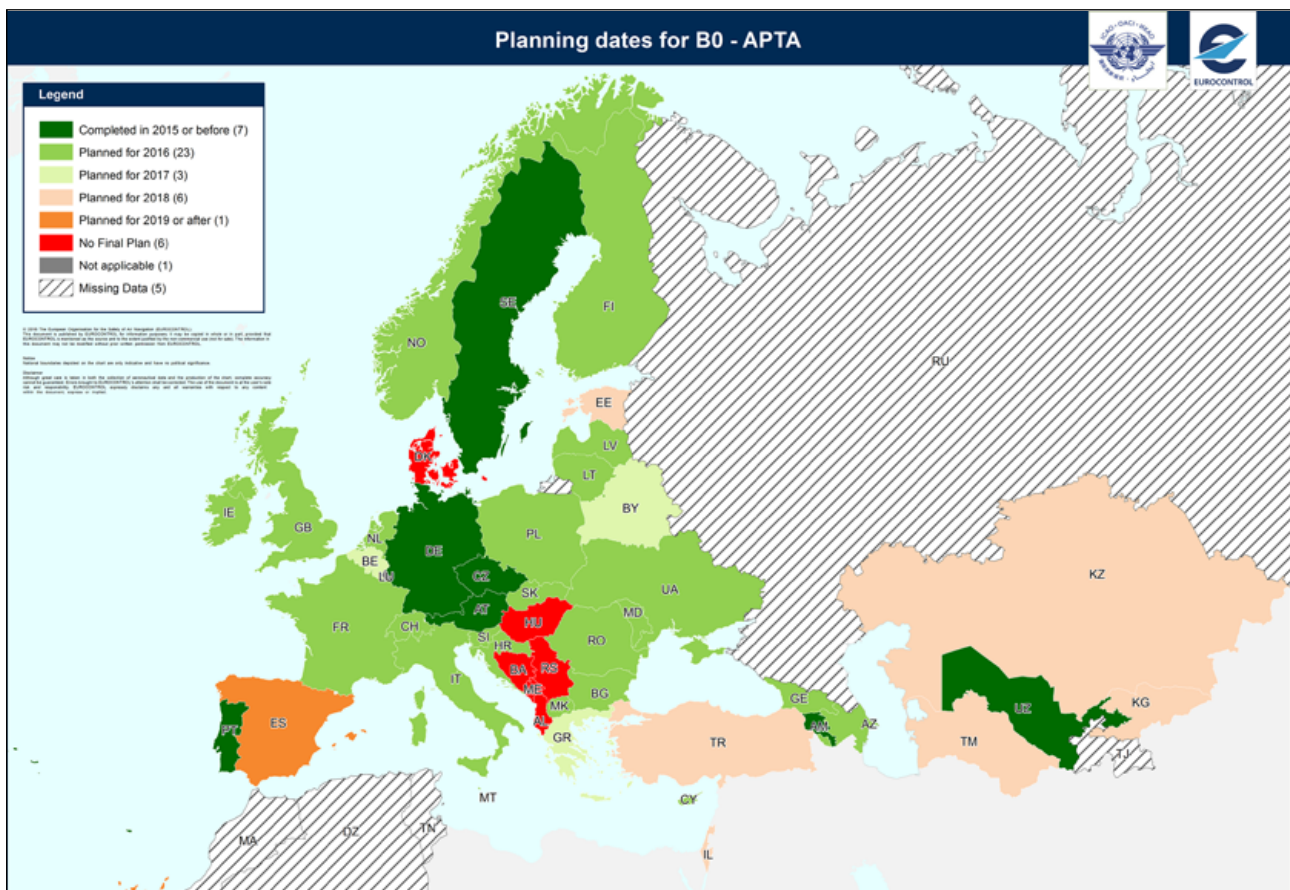
3.1.2   B0-APTA

Optimization of Approach Procedures including vertical guidance

This module is about the first step towards universal implementation of GNSS-based approaches.

The picture indicates the status for B0-APTA module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	12%
Planned for 2016	**44%**
Planned for 2017	6%
Planned for 2018	13%
Planned for 2019 or after	2%
Not applicable	2%
Missing Data	10%
No final Plan	11%

The progress for B0-APTA is slow (12% Completed) however it is expected that by the end of **2016** an additional **44%** of States will achieve completion.

Planning dates for B0 - APTA

Legend

- Completed in 2015 or before (7)
- Planned for 2016 (23)
- Planned for 2017 (3)
- Planned for 2018 (6)
- Planned for 2019 or after (1)
- No Final Plan (6)
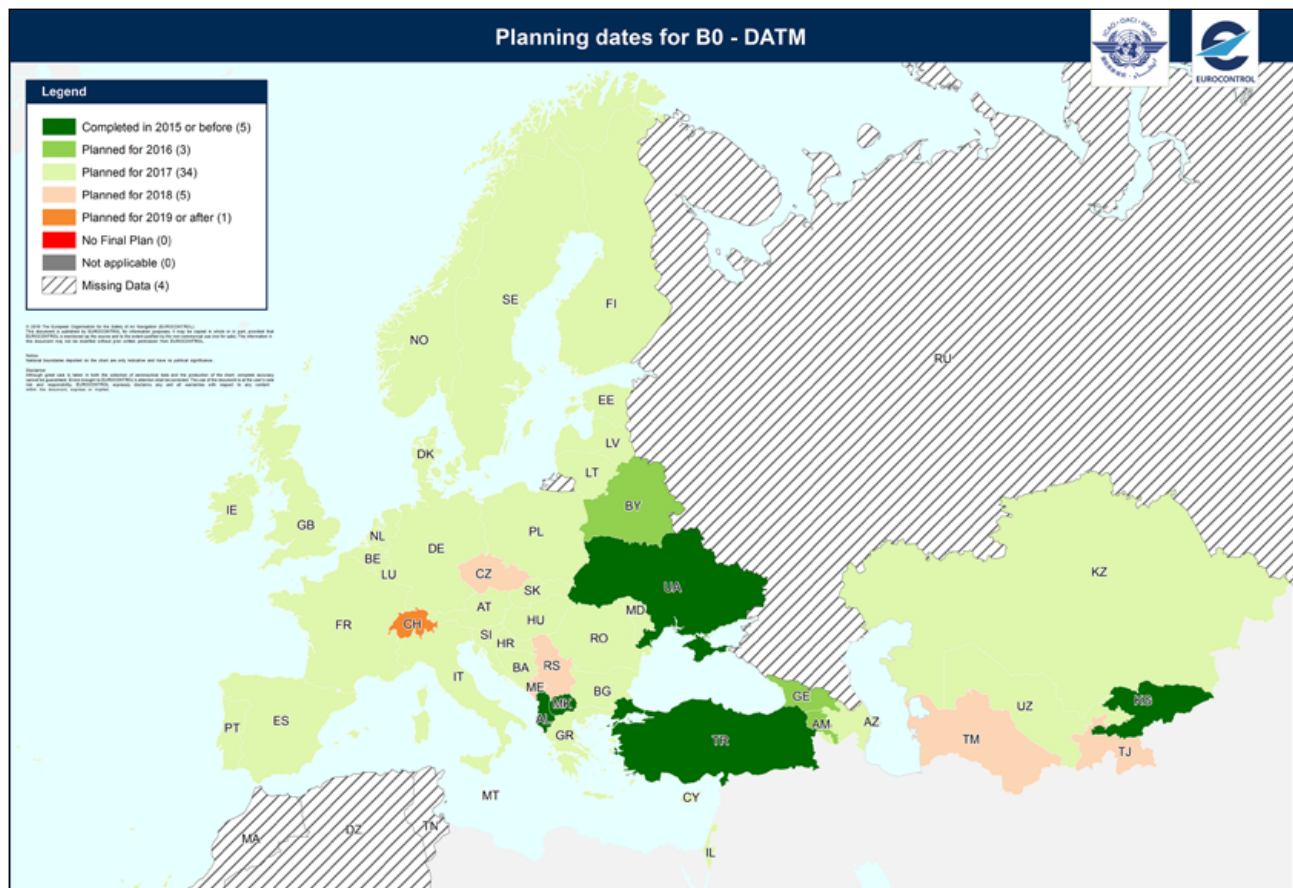- Not applicable (1)
- Missing Data (5)

3.1.3 B0-DATM

This module is about Service Improvement through Digital Aeronautical Information Management.

It concerns initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data.

The picture indicates the status for B0-DATM module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	10%
Planned for 2016	6%
Planned for 2017	**65%**
Planned for 2018	9%
Planned for 2019 or after	2%
Not applicable	0%
Missing Data	8%
No final Plan	0%

Progress of B0-DATM is slow with 10% only completed. During the year 2016 no significant evolution, only 6% planned to complete. By the end of **2017 an additional 65%** of of States plan to achieve the required activities.

Planning dates for B0 - DATM

Legend
- Completed in 2015 or before (5)
- Planned for 2016 (3)
- Planned for 2017 (34)
- Planned for 2018 (5)
- Planned for 2019 or after (1)
- No Final Plan (0)
- Not applicable (0)
- Missing Data (4)

3.1.4 B0-FICE

This module concerns increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

It supports the coordination of ground-ground data communication between ATSU based on ATS Inter-facility Data Communication (AIDC) defined by ICAO Document 9694.

The picture indicates the status for B0-FICE module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	2%
Planned for 2016	4%
Planned for 2017	11%
Planned for 2018	**60%**
Planned for 2019 or after	8%
Not applicable	0%
Missing Data	10%
No final Plan	5%

Progress of B0-FICE is very slow with only 2% only completed. During the next 2 years (2016 and 2017) not significant evolution, however during **2018 about 60%** of States plan to achieve the required activities.
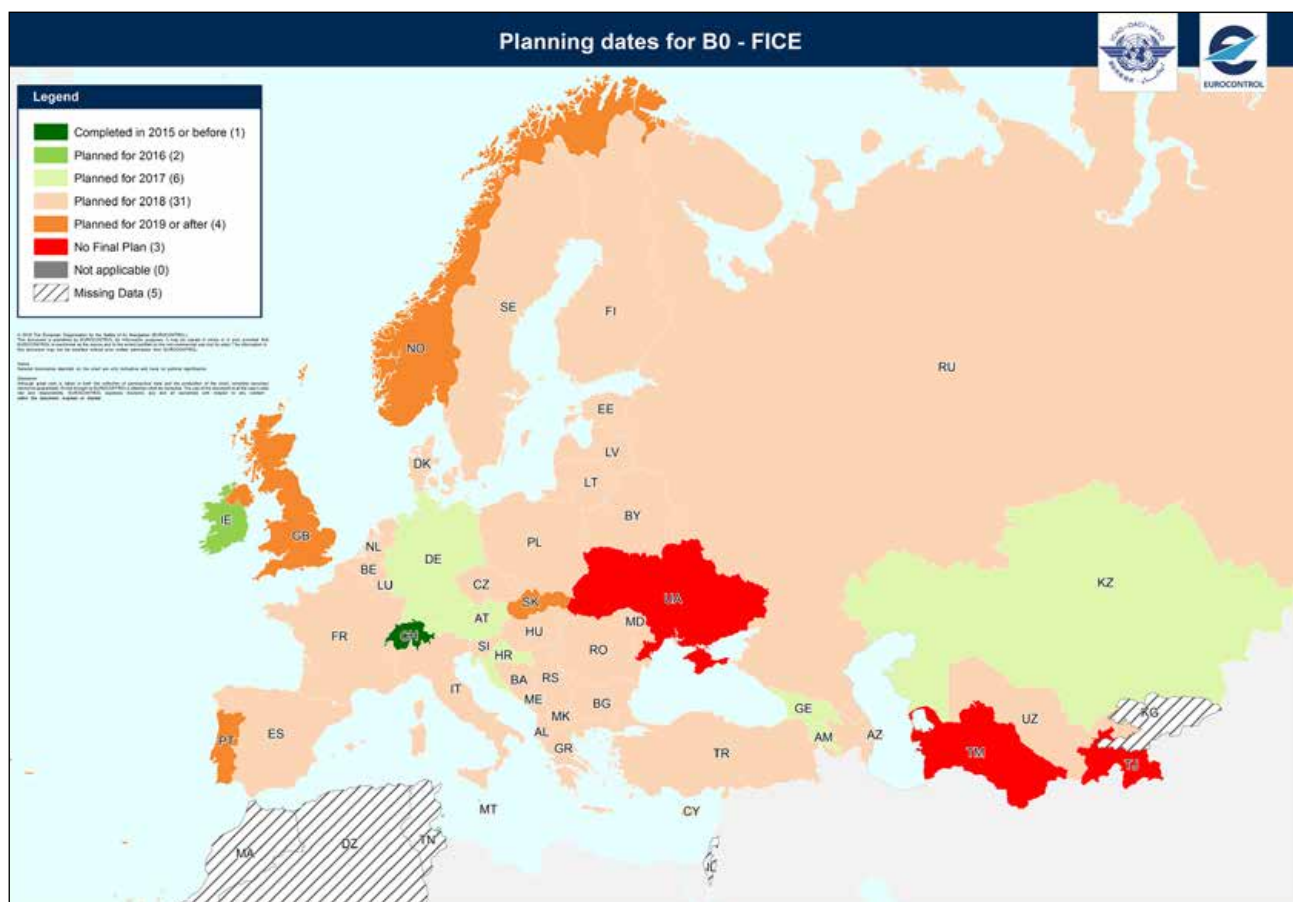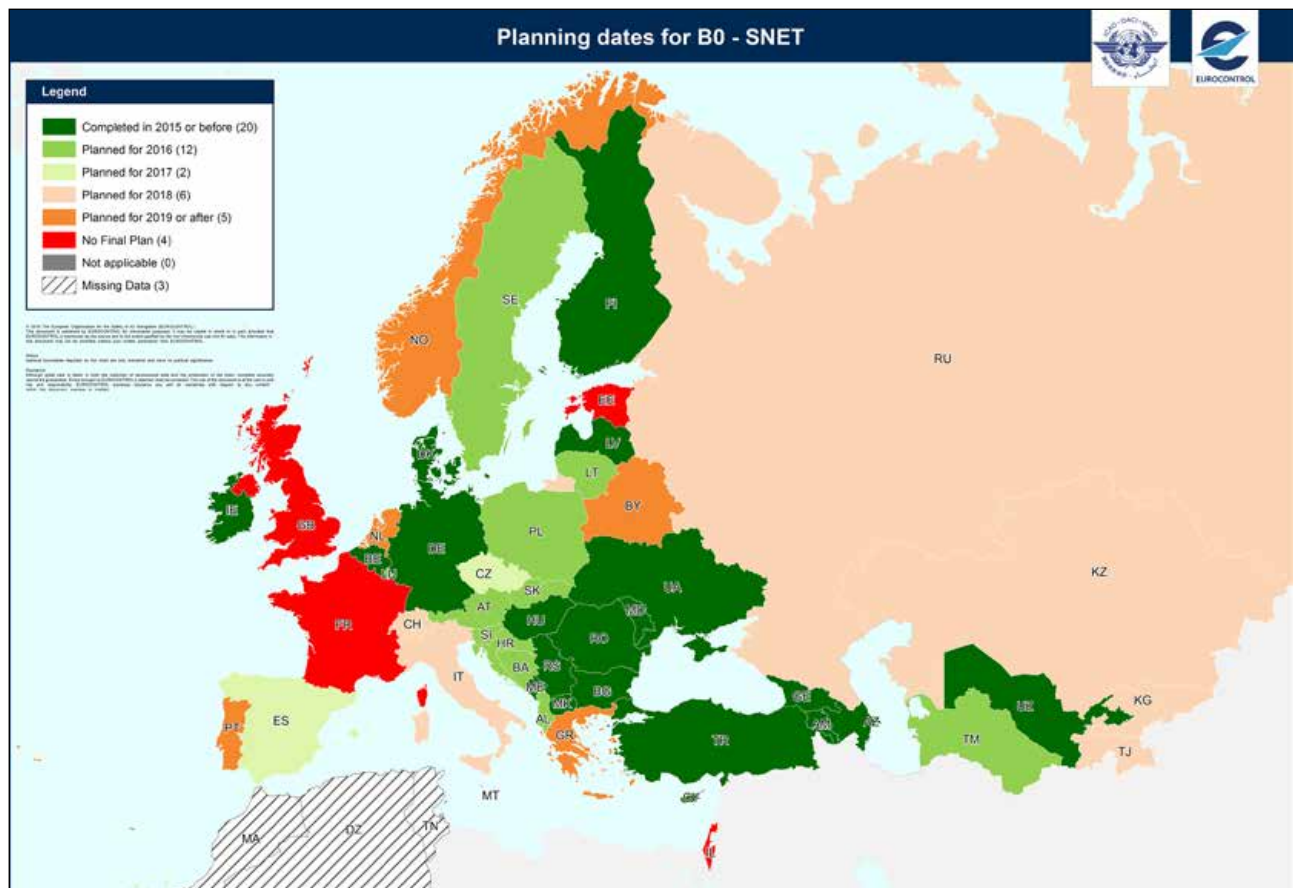
3.1.5   B0-SNET

It concerns "Increased Effectiveness of Ground-based Safety Nets". This module provides improvements to the effectiveness of the ground-based safety nets assisting the Air Traffic Controller and generating in a timely manner, alerts of proximity warning and minimum safe altitude.

The picture indicates the status for B0-SNET module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	38%
Planned for 2016	23%
Planned for 2017	4%
Planned for 2018	12%
Planned for 2019 or after	10%
Not applicable	0%
Missing Data	6%
No final Plan	7%

The progress of B0-SNET can be considered relatively good as by the **end of 2016 about 61%** of States are expected to have completed the implementation of the module.

Planning dates for B0 - SNET

Legend

- Completed in 2015 or before (20)
- Planned for 2016 (12)
- Planned for 2017 (2)
- Planned for 2018 (6)
- Planned for 2019 or after (5)
- No Final Plan (4)
- Not applicable (0)
- Missing Data (3)

3.1.6   B0-SURF

This module is about Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2) and Airport surface surveillance for ANSP.

The picture indicates the status for B0-SURF module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	25%
Planned for 2016	6%
Planned for 2017	13%
Planned for 2018	13%
Planned for 2019 or after	4%
Not applicable	31%
Missing Data	8%
No final Plan	0%

To note that for **31% of States** the B0-SURF module is reported as "**Not applicable**" therefore with **25% of States** already "**Completed**" the progress up to now can be considered **good**.

Planning dates for B0 - SURF
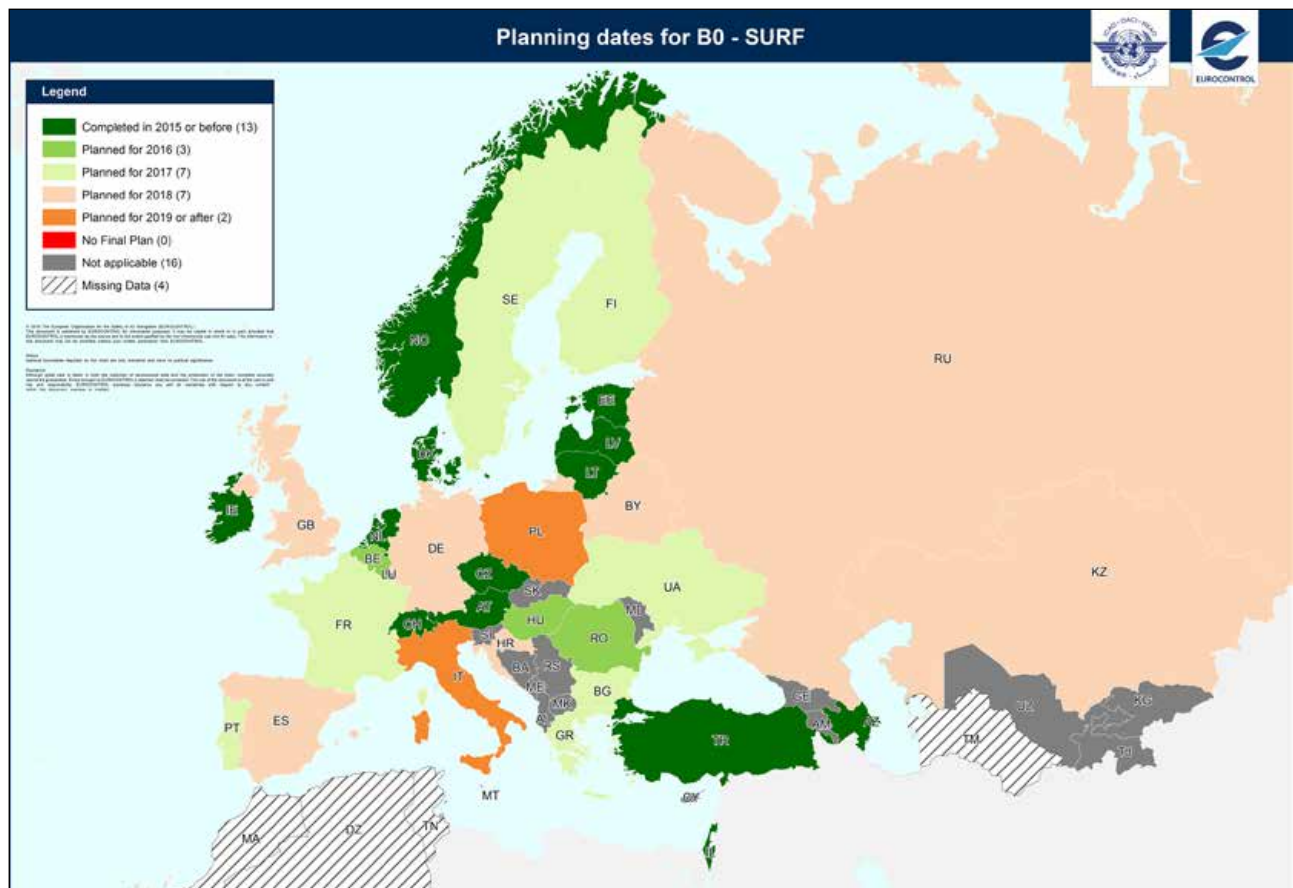
3.2 Other Block 0 Modules

In the following paragraphs it is indicated the date reported by each ICAO EUR State for implementation of ASBU modules identified by the EANPG as the second priority.

3.2.1 B0-ACDM

Improved Airport Operations through Airport-CDM and consists on Airport operational improvements through the way operational partners at airports work together.

The picture indicates the status for B0-CDM module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	10%
Planned for 2016	**25%**
Planned for 2017	11%
Planned for 2018	6%
Planned for 2019 or after	2%
Not applicable	**36%**
Missing Data	8%
No final Plan	2%

To note that for **36% of States** the B0-ACDM module is reported as **Not applicable**. The **progress** up to 2016 can be considered **slow**, an improvement is expected in 2016 (25%).
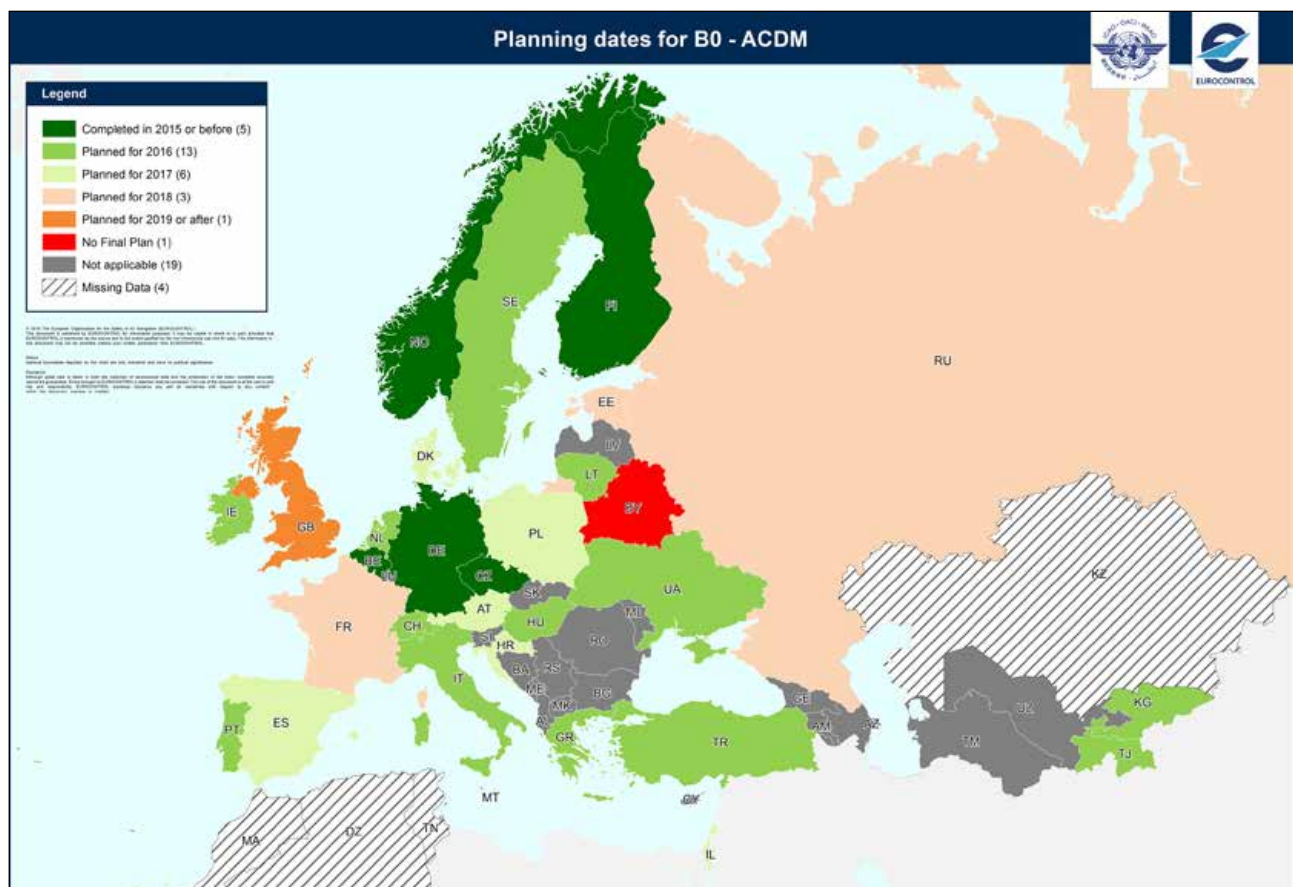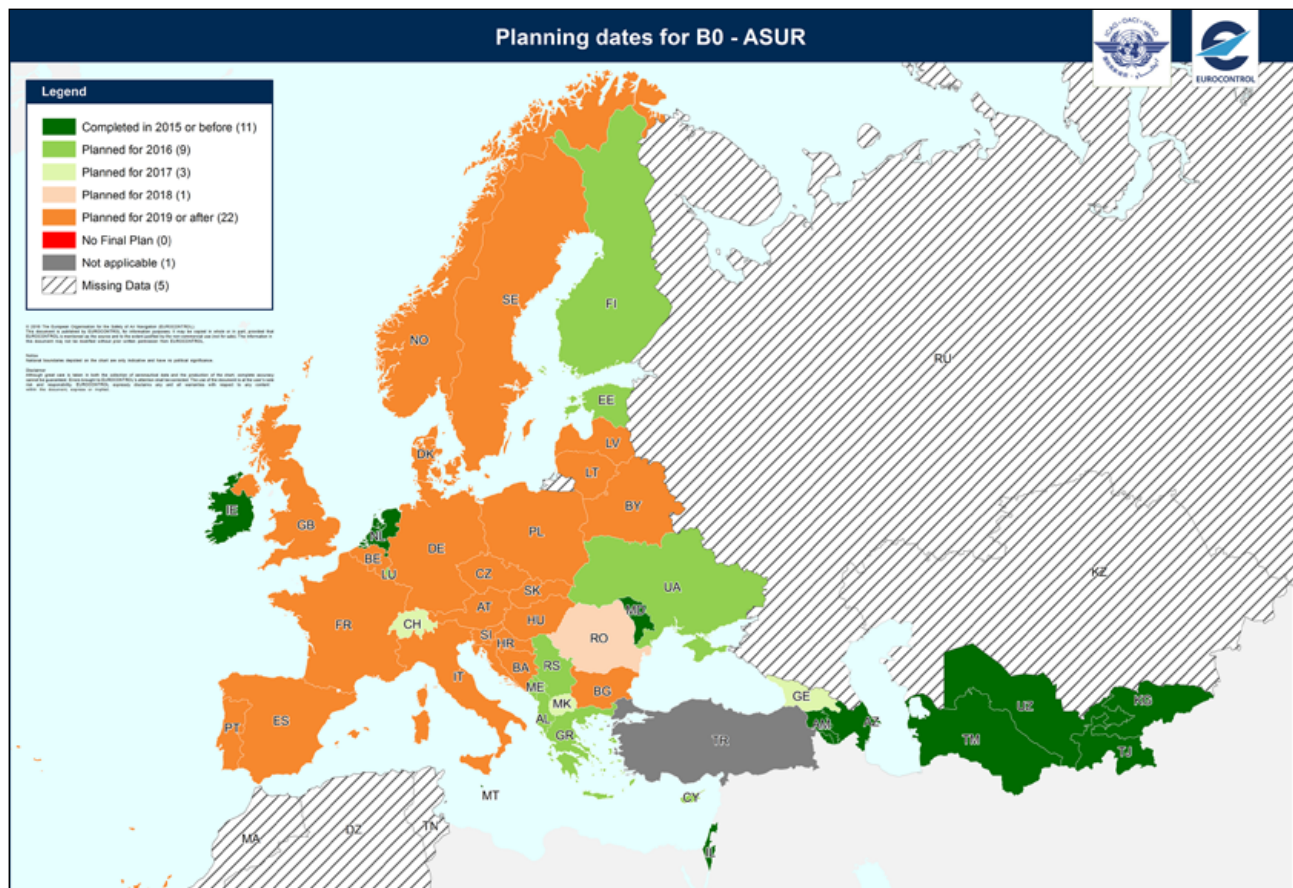
3.2.2 B0-ASUR

It addresses initial Capability for Ground Surveillance.

Ground surveillance supported by ADS-B OUT and/or wide area multilateration systems will improve safety, especially search and rescue and capacity through separation reductions. This capability will be expressed in various ATM services, e.g., traffic information, search and rescue and separation provision.

The picture indicates the status for B0-ASUR module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	21%
Planned for 2016	17%
Planned for 2017	6%
Planned for 2018	2%
Planned for 2019 or after	**42%**
Not applicable	2%
Missing Data	10%
No final Plan	0%

This module is progressing **relatively well (21%)** completed but the most important evolution is expected in 2019 and after.

Planning dates for B0 - ASUR

Legend
- Completed in 2015 or before (11)
- Planned for 2016 (9)
- Planned for 2017 (3)
- Planned for 2018 (1)
- Planned for 2019 or after (22)
- No Final Plan (0)
- Not applicable (1)
- Missing Data (5)

3.2.3   B0-CDO

This module covers Improved Flexibility and Efficiency in Descent Profiles (CDO).

It is about the deployment of performance-based airspace and arrival procedures that allow the aircraft to fly its optimum aircraft profile taking account of airspace and traffic complexity with continuous descent operations (CDOs).

The picture indicates the status for B0-CDO module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	33%
Planned for 2016	15%
Planned for 2017	6%
Planned for 2018	10%
Planned for 2019 or after	4%
Not applicable	25%
Missing Data	6%
No final Plan	0%

To note that for **25% of States** the B0-CDO module is reported as **Not applicable.** The **progress** up to 2016 can be considered good with **33 % completed**.
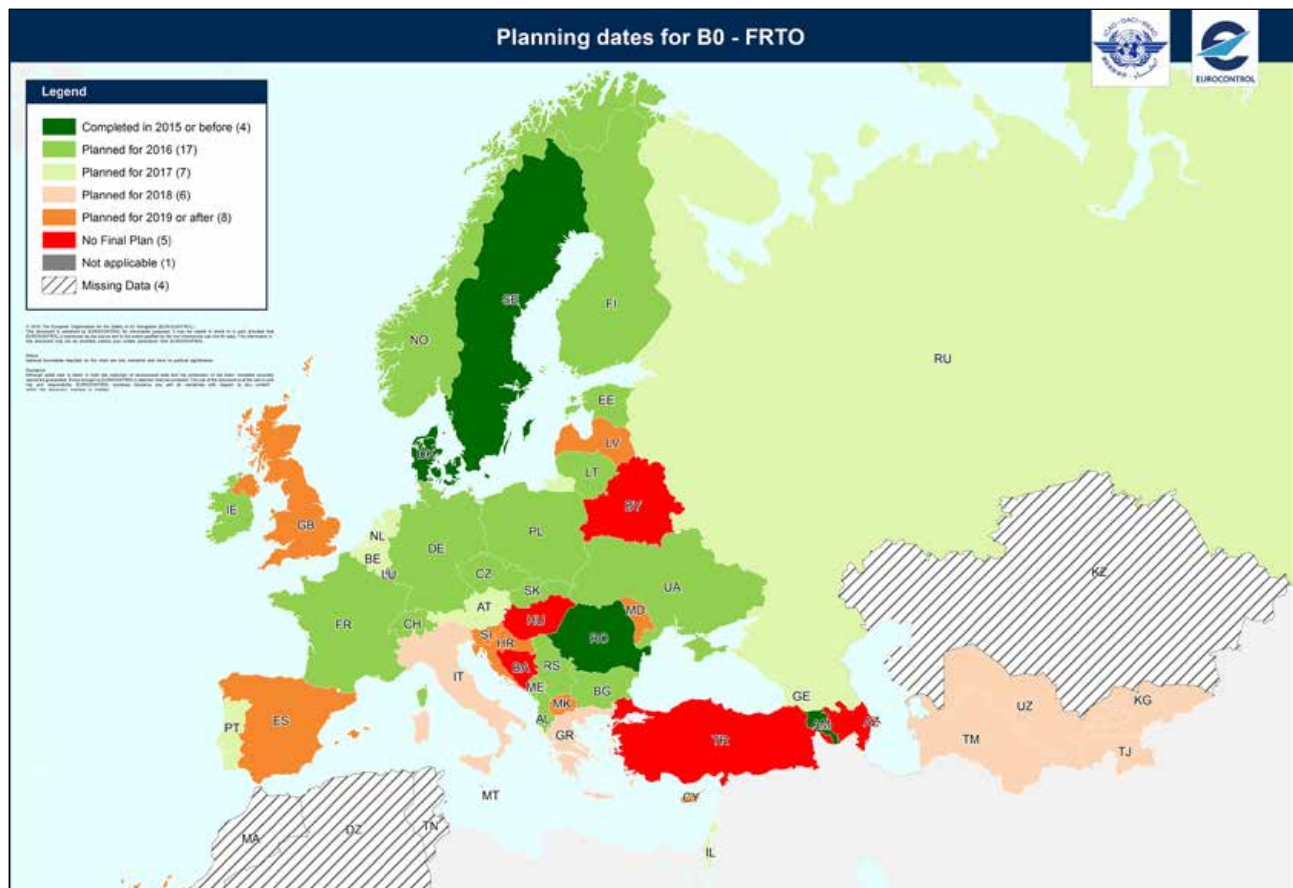

Planning dates for B0 - CDO
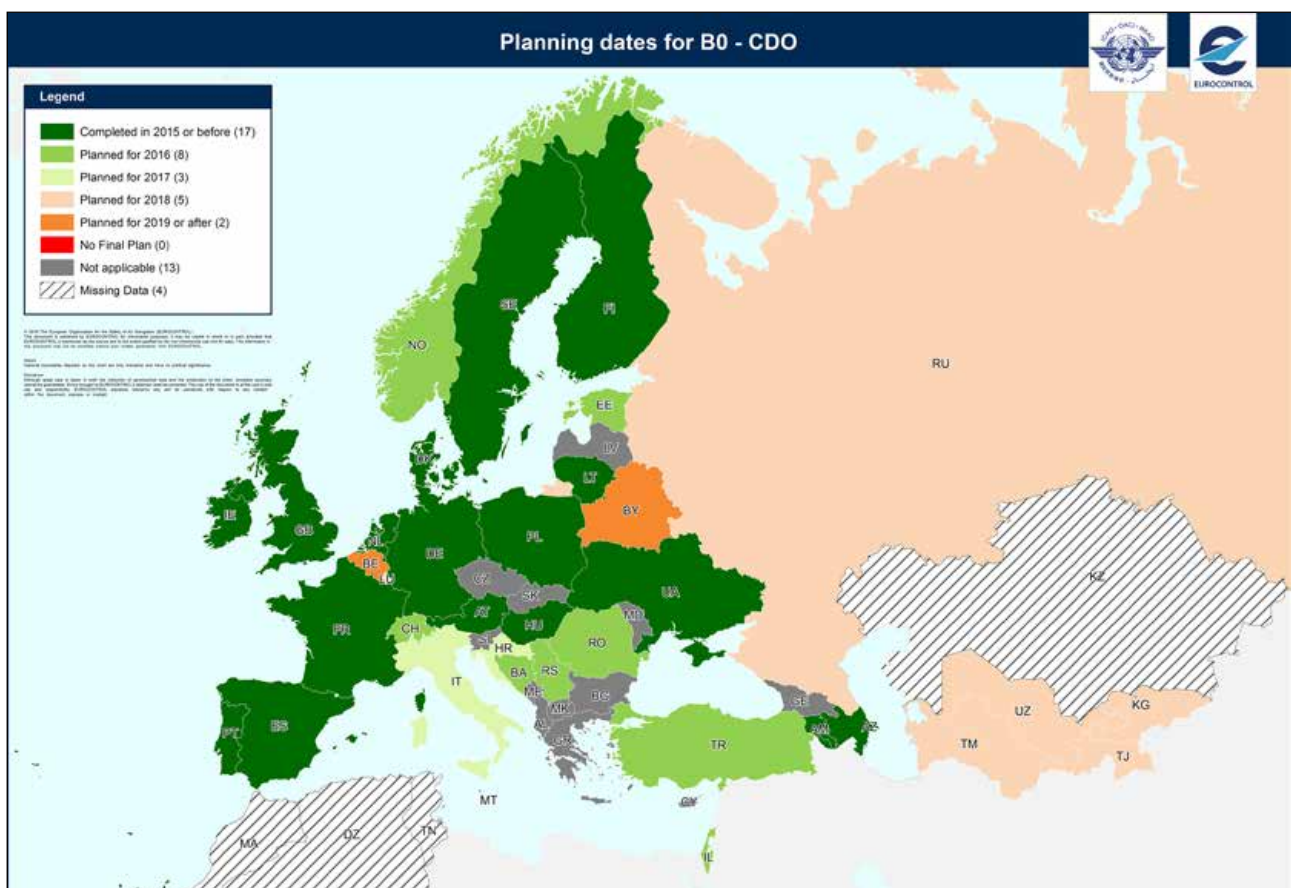
3.2.4   B0-FRTO

Improved Operations through Enhanced En-Route Trajectories in order to allow the use of airspace which would otherwise be segregated (i.e. Military airspace) along with flexible routing adjusted for specific traffic patterns. This will permit greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn.

The picture indicates the status for B0-FRTO module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	8%
Planned for 2016	**33%**
Planned for 2017	13%
Planned for 2018	12%
Planned for 2019 or after	**15%**
Not applicable	2%
Missing Data	8%
No final Plan	9%

Slow progress up to now with 8% only of completion, a big **improvement expected in 2016** (33%).

Planning dates for B0 - FRTO

Legend
- Completed in 2015 or before (4)
- Planned for 2016 (17)
- Planned for 2017 (7)
- Planned for 2018 (6)
- Planned for 2019 or after (8)
- No Final Plan (5)
- Not applicable (1)
- Missing Data (4)

3.2.5   B0-NOPS

This module is about improved Flow Performance through Planning based on a Network-Wide view.

It includes collaborative ATFM measure to regulate peak flows involving departure slots, managed rate of entry into a given piece of airspace for traffic along a certain axis, requested time at a way-point or an FIR/sector boundary along the flight, use of miles-in-trail to smooth flows along a certain traffic axis and re-routing of traffic to avoid saturated areas.

The picture indicates the status for B0-NOPS module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	6%
Planned for 2016	8%
Planned for 2017	0%
Planned for 2018	4%
Planned for 2019 or after	**57%**
Not applicable	0%
Missing Data	15%
No final Plan	10%

Very slow progress, only 6% completed by 2015. Only **in 2019 and after 57% States** plan to be completed.
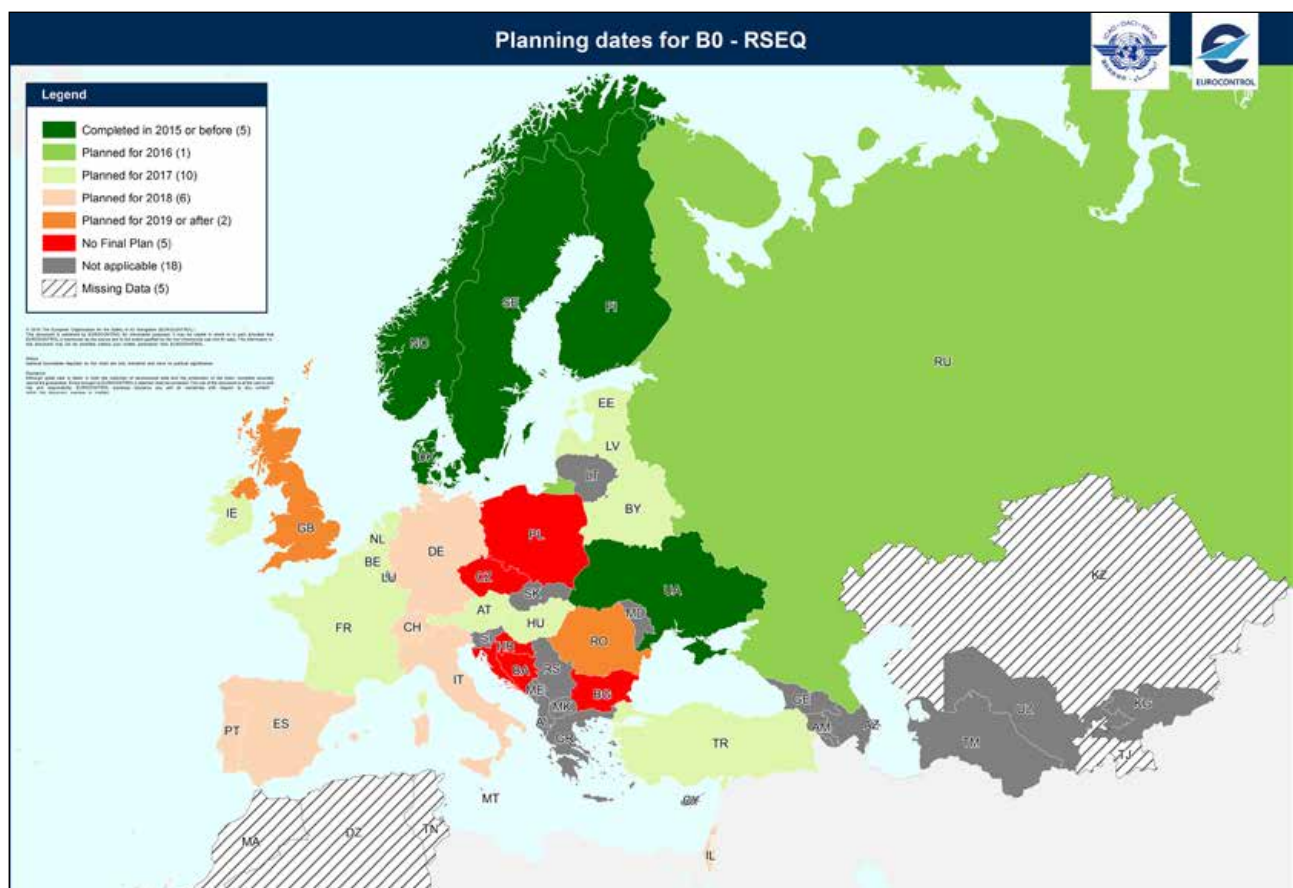

Planning dates for B0 - NOPS
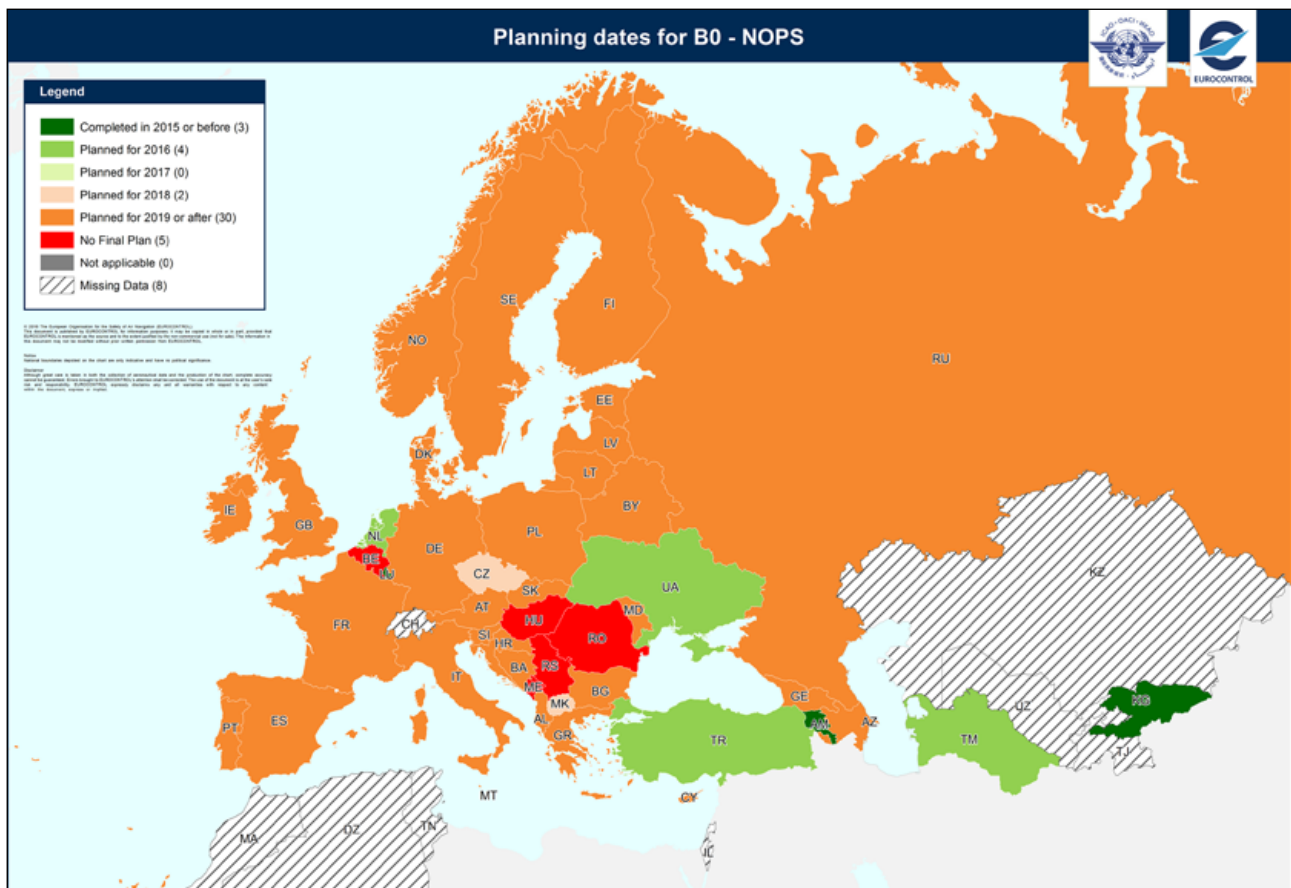
3.2.6   B0-RSEQ

This module is about improved Traffic Flow through Runway Sequencing (AMAN/DMAN) and time-based metering to sequence departing and arriving flights.

The picture indicates the status for B0-RSEQ module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	10%
Planned for 2016	2%
Planned for 2017	**19%**
Planned for 2018	12%
Planned for 2019 or after	4%
Not applicable	**35%**
Missing Data	9%
No final Plan	9%

To note that for **35% of States** the B0-RSEQ module is reported as **Not applicable**. The **progress is slow** with only **10% completed in 2015**.

Planning dates for B0 - RSEQ

Legend
- Completed in 2015 or before (5)
- Planned for 2016 (1)
- Planned for 2017 (10)
- Planned for 2018 (6)
- Planned for 2019 or after (2)
- No Final Plan (5)
- Not applicable (18)
- Missing Data (5)

3.2.7   B0-TBO

This module is about Improved Safety and Efficiency through the initial application of Data Link En-Route.

Implementation of an initial set of data link applications for surveillance and communications in ATC.

The picture indicates the status for B0-TBO module planning dates corresponding approximately to the following statistics for the 52 States:

Completed	13%
Planned for 2016	4%
Planned for 2017	4%
Planned for 2018	**40%**
Planned for 2019 or after	10%
Not applicable	19%
Missing Data	8%
No final Plan	2%

A **slow progress for B0-TBO** (13%) and a big increase in progress expected for 2018 (40%). To note that 19% of States declared **Not applicable**.
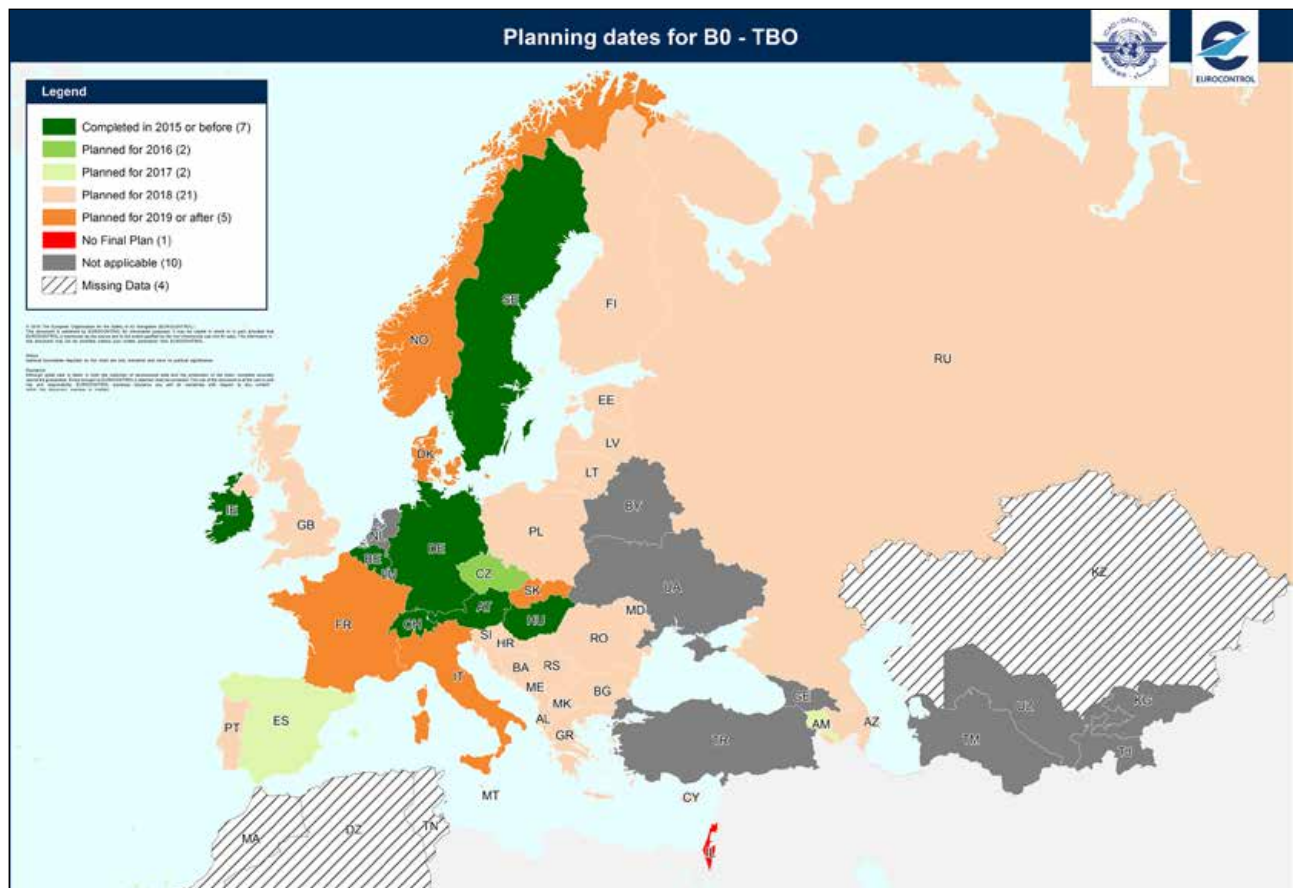
4. IMPLEMENTATION PROGRESS VIEW

4.1 Global Implementation per ASBU Module

This chapter presents a global view on the implementation progress of each ESSIP objective included in each ASBU module (see mapping on Annex 1). The data taken as reference for the maps was extracted from the LSSIP database for the cycle 2015, for those States that are part of that mechanism, and the data for the remaining 11 States was extracted from the questionnaire mentioned before.

For each objective and for those States inside the ESSIP/LSSP mechanism it is indicated the progress achieved from previous reporting cycles. For the other remaining States it is indicated for each one the current progress status. It is not possible yet to assess evolution due to the lack of information from previous reporting cycles.

To note that reference dates for assessment of status are the ones indicated in the ESSIP objectives and in the questionnaire respectively for the States inside and outside the ESSIP/LSSIP mechanism.

For airport related objectives, namely AOP04.1, AOP04.2, AOP05, ENV01 and ATC07.1, the maps contain detailed progress information for each airport in the applicability area, but only for those Sates in the ESSIP/LSSIP mechanism. For the other States the progress is indicated overall at State level, because the same level of detailed information per airport is not available.

As in the previous chapter, two paragraphs were created, one for the Block 0 priority modules and the another for "Other non priority Modules" as defined and approved by EANPG 55. [2]

More information about States in ESSIP/LSSIP mechanism is available at the EUROCONTROL web site where it is possible to consult the LSSIP documents containing generic and detailed progress data for each individual State

http://www.eurocontrol.int/articles/lssip

Explanation of the Progress Reporting

The following colour scheme is used in the maps for the assessment of progress of each implementation objective and for each ICAO State.

- Completed
- Partly Completed
- Planned
- Late
- No Plan
- Not Applicable
- Missing Data

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[2] *Non priority Modules B0-WAKE, B0-AMET, B0-ASEP, B0-OFPL and B0-CCO are not addressed due to the lack of monitoring information.*

**Definitions of individual progress have been defined
as follows:**

"PROGRESS"	"PROGRESS" DEFINITION
COMPLETED	The development or improvement aimed by a Stakeholder Lines of Actions (SLoA), by the Objective or at Stakeholder level is reportedly fulfilled (it is either in operational use or there is reported on-going compliance by the stakeholder(s) as applicable).
PARTLY COMPLETED	Implementation is reportedly on-going, however not yet fully completed: • Most of the Local Action(s) (LAs) or SLoAs are completed or implemented, but the aimed development or improvement is not yet operational; or • The development or improvement aimed through this SLoA is operational, but compliance with the applicable requirements or specifications is only partially achieved.
PLANNED	A planned schedule and proper (budgeted) action are specified; and the level of implementation so-far does not qualify the SLoA as "Partly Completed".
LATE	• Part or all of the actions leading to completion (of a SLoA or at Stakeholder or State level) are "Planned" to be achieved after the ESSIP target date; or their implementation is ongoing but will be achieved later than that date; or • None or only too little actions have started vs. the timing needed for full implementation/completion; or • The ESSIP target date is already exceeded.

NO PLAN	1) The Stakeholder has reviewed the SLoA/ Objective and:
	
	    a) has no intention (yet) to plan or implement it (implying that the Stakeholder has given some consideration to the SLoA/Objective and its possible benefits), or
	
	    b) has not (yet) a defined or approved implementation plan and/or budget for the Objective/SLoA concerned
	
	Or
	
	2) The Stakeholder has neither reviewed the SLoA/ Objective nor considered its participation in the Objective/ SLoA concerned. The Stakeholder must then provide a statement of intentions.

NOT APPLICABLE	The SLoA or Objective is found to be not applicable for this Stakeholder or State.
MISSING DATA	Lack of data from a Stakeholder makes it impossible to define "Progress", for a SLoA, Stakeholder or State.

Definitions of **Implementation Progress for the States in the ESSIP/LSSIP mechanism** have been defined as follows:

FOC – Full Operational Capability date as defined in the ESSIP Plan Edition 2015. The FOC date in ESSIP is defined as the date by which full operational capability should be achieved by all stakeholders.

Estimated achievement – The date of estimated achievement is calculated as the year when objective implementation reaches 80% of completion in the applicability area.

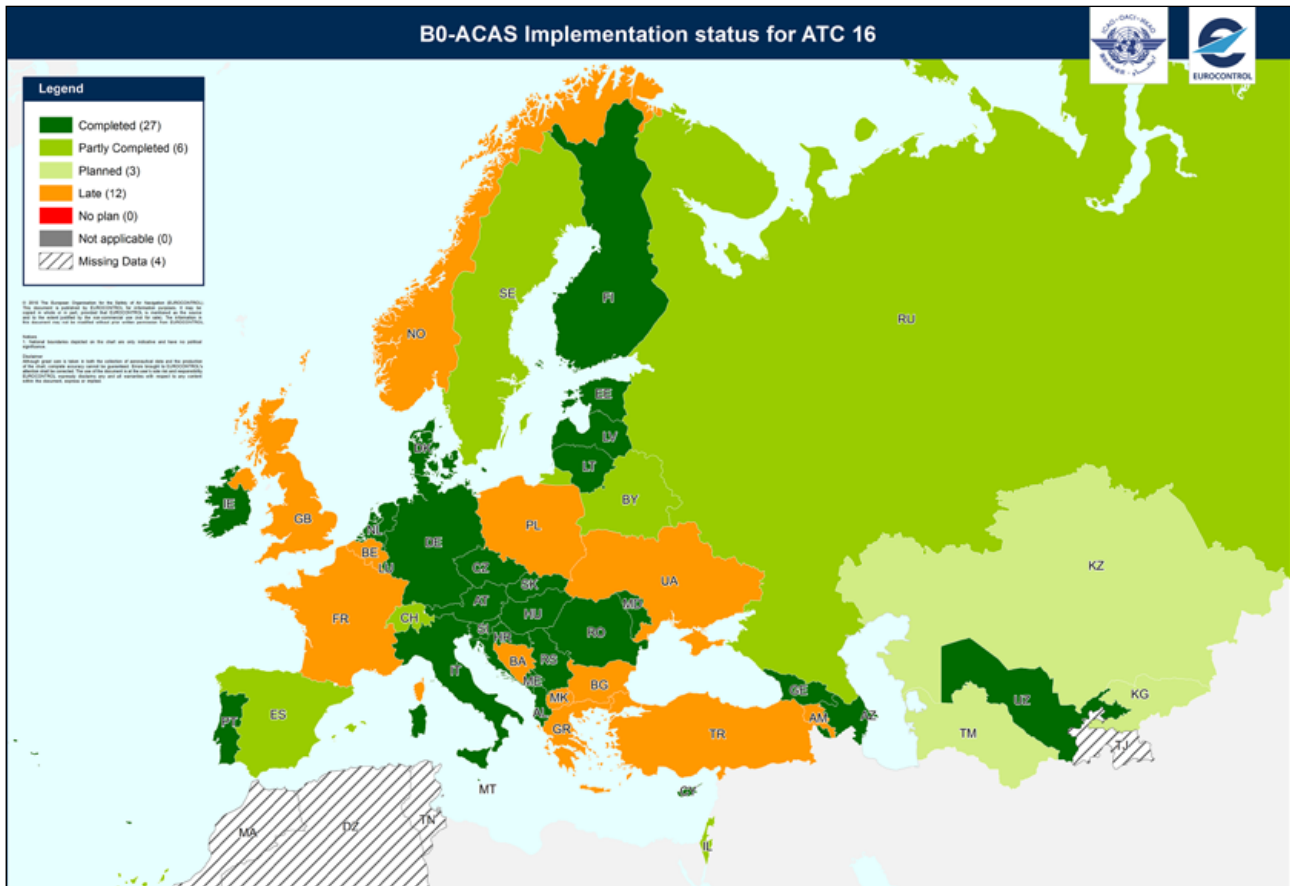|	
ON TIME	Implementation progress is on time. No delays expected.
RISK OF DELAY	Estimate achievement date is in line with the ESSIP FOC date, but there are risks that could jeopardise timely implementation of the ESSIP objective.
PLANNED DELAY	Estimated achievement date is beyond ESSIP FOC date. Stakeholders already envisage implementation delays. ESSIP FOC date is in the future, some corrective measures can still be taken to achieve the objective in line with its FOC date.
LATE	Estimated achievement date is beyond ESSIP FOC date and the ESSIP FOC date is already in the past.
ACHIEVED	Objective has fulfilled the achievement criteria (80% completion in the applicability area). For PCP and SES related objectives the objective may be monitored until 100% achievement in the mandatory area. This will be done on the case to case basis if decided that objective relates to PCP functionality as defined in Deployment Programme or EC Regulation.
CLOSED !	Objective can be declared as closed / removed because it is replaced or renamed, or it is considered as no longer relevant nor contributing to the European ATM network Performance.

4.1.1 Priority 1 modules

4.1.1.1 B0-ACAS

ACAS IMPROVEMENETS	
ATC16	Implement ACAS II compliant with TCAS II change 7.1

Global Implementation Status.

B0-ACAS Implementation status for ATC 16

Legend
- Completed (27)
- Partly Completed (6)
- Planned (3)
- Late (12)
- No plan (0)
- Not applicable (0)
- Missing Data (4)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Year 2015 has seen a tremendous increase in the completion rate of this ESSIP objective. Training of controllers, addressed by Line of Action ASP01 is fully completed (93%). The same goes for the establishing o a monitoring process of TCAS Reports (ASP02), completed by 88% of the ANSPs. Equipage of relevant MIL air transport a/c is roughly 50% completed (SLoA MIL01), while the training of tactical pilots is finalised all across the area. For all those airframes subject to the ACAS II mandate, this objective requires to upgrade the relevant avionics to TCAS II change 7.1. 93% of the ANSPs have implemented the provisions prescribed in the objective. This means that the civil side has fully implemented the objective but this is not the case for the Military (which is reflected in the picture above). However as this objective is not mandatory for MIL, it will be declared as achieved for ESSIP Plan Edition 2016.

FOC: 12/2015

Estimated achievement: 12/2015

Achieved

Completion Rate Evolution (% of ANSPs completed the objective)

62%	71%		93%	93%	95%
		79%			
2012	2013	2014	2015	2016	2017

2. Status for remaining States

Algeria		Missing Data
Belarus	Aircraft operators have developed and implemented special training programmes on flights with TCAS II version 7.1. Training for flight crew members is carried out. Procedures for flights with TCAS II version 7.1 have been developed, approved and implemented. Technical maintenance of aircraft and training of aircraft engineers are carried out in compliance with Aircraft Operator Manual for Technical Maintenance of Aircraft." Performance monitoring of ACAS II (TCAS II version 7.1) is carried out. Certificates for all types of activities are granted based on the existing Air Rules.	Partly Completed 31/01/2017
Israel	Delivery of operational approval and AW certification for ACAS II version 7.1 equipped aircraft. Israeli air carriers engaged in commercial int'l air operations are equipped with TCAS II version 7.1. CAAI is in a process of approval of training and maintenance programmes, operational procedures, manuals, etc. Establishment of performance monitoring completed. TCAS RA reports are submitted as mandatory.	Partly Completed 31/12/2016
Kazakhstan	Work in progress to equip registered aircraft for TCAS II version 7.1.	Planned 31/12/2016
Kyrgyzstan	RA Monitoring has been implemented together with other reporting requirements. Annex 10 requirement (all aircraft from 01 Jan 2017) transposition into national aviation law.	Planned
Morocco		Missing Data
Russian Federation	Aircraft on-going retrofit is realizing in accordance with the plan.	Partly Completed
Tajikistan		Missing Data
Tunisia		Missing Data
Turkmenistan	All aircraft (which are required to be equipped with ACAS) registered in Turkmenistan have been already equipped, or have scheduled maintenance program to install ACAS II/TCAS 7.1 before the Annex 10 deadline. RA investigation process has been implemented together with other AIRPROX, LHD reports, etc.	Planned 31/12/2016
Uzbekistan	All aircraft (which are required to be equipped with ACAS) registered in Uzbekistan have been already equipped, or have scheduled maintenance program to install ACAS II/TCAS 7.1 before the Annex 10 deadline. RA monitoring is part of the normal reporting process , similar to AIRPROX, LHD reports, etc.	Completed 31/12/2015

4.1.1.2 B0-APTA

NAV10	Implement APV procedures

Global Implementation Status.

B0-APTA Implementation status for NAV10

Legend
- Completed (6)
- Partly Completed (13)
- Planned (17)
- Late (6)
- No plan (6)
- Not applicable (1)
- Missing Data (3)
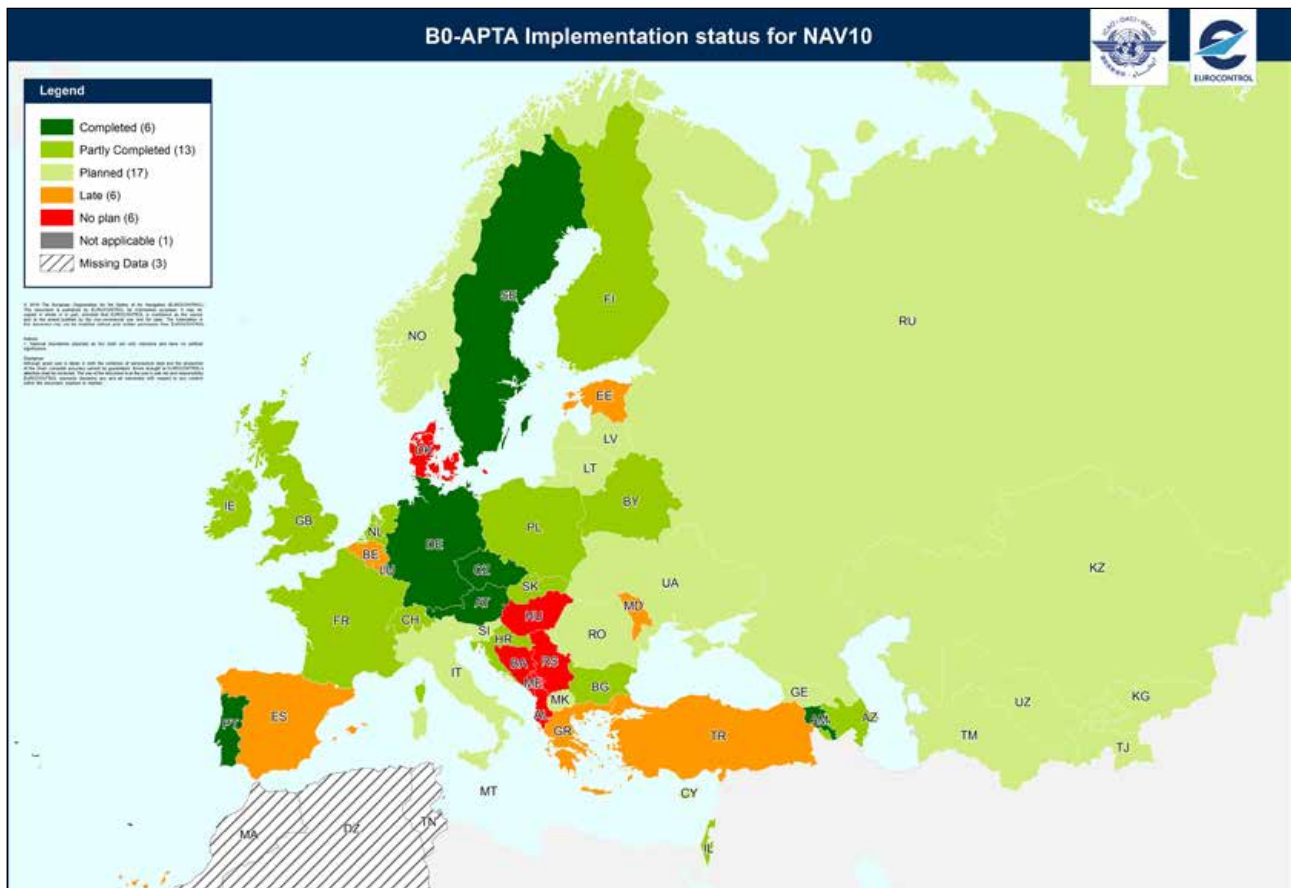
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Although completion rate is not very high, there are 17 States that declared full or partial completion of this objective.

One (1) State (PT) has completed the objective in 2015. Seven (7) States (AZ, BG, FR, HR, IE, PL, SK) have significantly progressed the implementation in 2015. However, there are still six (6) States (AL, BA, DK, HU, ME, RS) which have not yet approved plans for implementation of this objective. The implementation of this objective is subject to the development and approval of a PBN Strategy at National level which has proved to be time consuming and led to some delays in the implementation plan. According to the EUROCONTROL PRISME Fleet database, almost 50% of the flights had APV capabilities (46% RNP BARO and 2,3% LPV SBAS).

FOC: 12/2016

Estimated achievement: 12/2018

Planned delay

Completion Rate Evolution (% of States completed the objective)

2013	2014	2015	2016	2017	2018
5%	12%	14%	69%	74%	85%

2. Status for remaining States

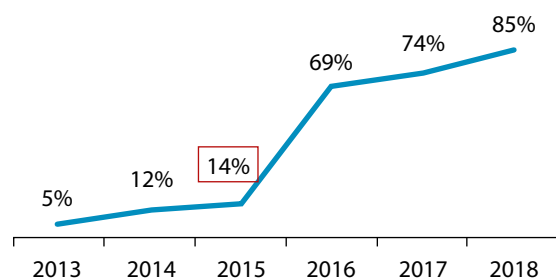| Algeria		Missing Data
Belarus	National PBN Implementation Plan was approved on 24.06.2010. Belarus Airspace Concept was adopted on 17.12.2014. Upgrade of SW for aeronautical information automated facilities (modules for flight procedures design, aeronautical charting, airspace design) and also adaptation of these facilities to support AIXM 5.1. format are in progress. It is planned to develop APV procedures and publish them in Belarus AIP. Coordinates data have been published in Belarus AIP in WGS-84 since 17.12.2009.	Partly Completed 31/07/2017
Israel	Israel is in a process of design APV procedures in accordance with the objectives of ICAO Assembly resolution 37-11. An advanced draft of an APV (BARO/SBAS) procedure has been designed and validated during an EC technical assistance team to Israel. It has been submitted to the ANSP for flight validation and for CAAI publication. CAAI is now exploring the way to fulfil Annex 10 requirements for APV procedure. All coordinates data published in the AIP are in WGS-84 in accordance with Annex 15 requirements.	Partly Completed 31/12/2018
Kazakhstan	APV/Baro procedures will be developed at Astana and Almaty aerodromes as a back-up for precision approaches by 03/2017. At other aerodromes APV/Baro procedures will be developed and published in AIP by 12/2018. WGS84 survey at all aerodromes are fully completed. On March 3, 2016, aeronautical information/data and aeronautical charts on 15 aerodromes (Aktau, Almaty, Astana, Atyrau, Balkhash, Zhezkazgan, Karaganda, Kokshetau, Kostanay, Kyzylorda, Pavlodar, Taldykorgan, Shymkent, Uralsk, Ust-Kamenogorsk) were completely revised, all geographical coordinates were published in terms of the WGS-84 geodetic reference datum.	Planned 31/12/2018
Kyrgyzstan	WGS-84 was implemented as geodetic reference system for air navigation purposes in the airspace of Kyrgyzstan and for all international airports (Bishkek, Osh, Issykkul and Karakol) with effect of 16 October 2014. The data for the obstacles is available in a variety of documents but must still be integrated into an electronic format (eTOD data base). ILS Cat II is installed for all runway ends at Bishkek and ILS Cat I for RWY12 in Osh. ILS installation is currently planned for Issykul. The development of a national PBN implementation plan has stalled as there are no GNSS procedure designers available. Discussions have started with other countries to support Kyrgyzstan in the procedure design/development, but the decrease in traffic figures and the very low aircraft equipage rate has put the process on hold.	Planned 31/12/2018
Morocco		Missing Data

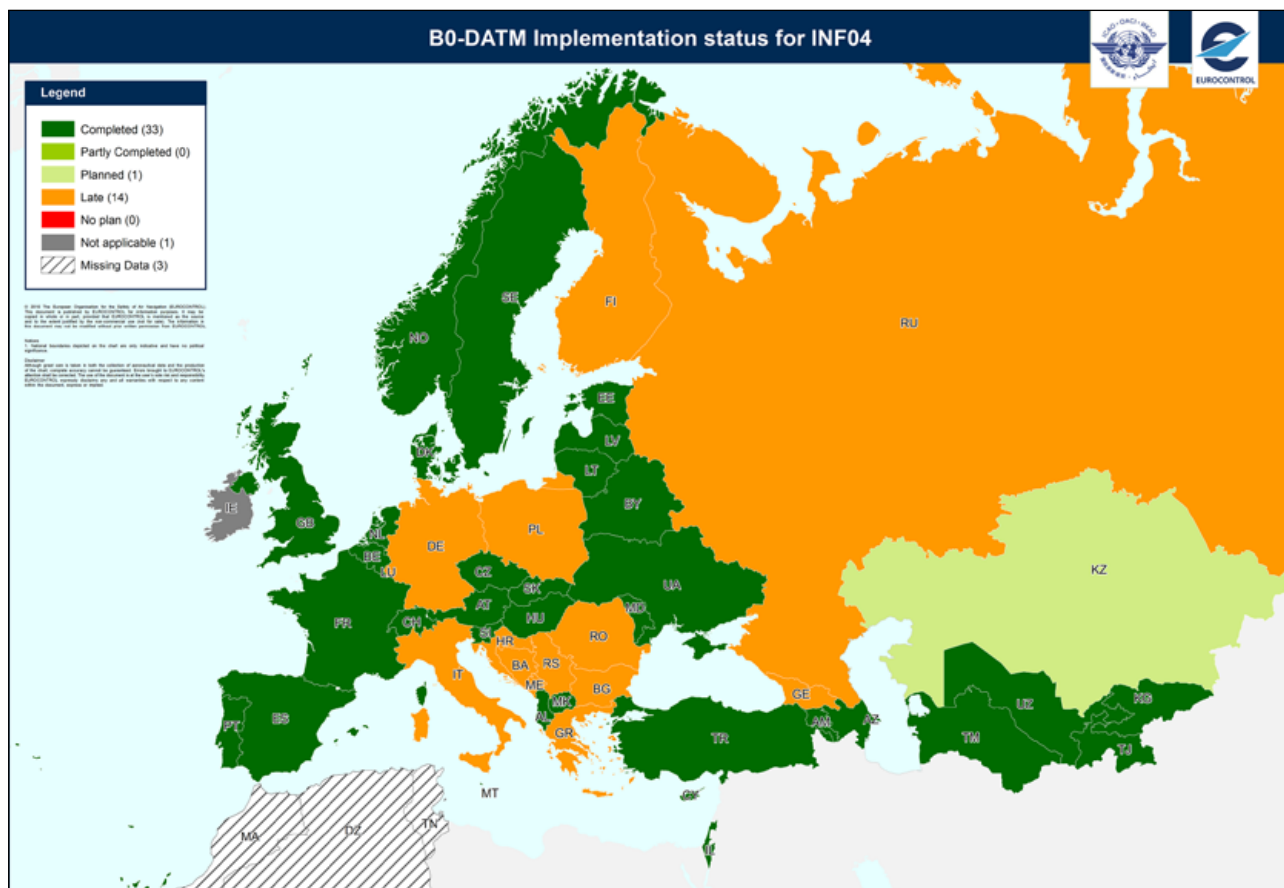|		
Russian Federation	In accordance with Navigation Plan Implementation based on PBN character-istics in Russian Federation Airspace, implementation of Approach Procedures including vertical guidance is planned in terms of Baro VNAV (LNAV/VNAV) using of navigational specifications (RNP APCH/Baro VNAV).	Planned
Tajikistan	International airport Dushanbe is equipped with ILS, Cat I on RWY09, RWY 27 installation is planned for the end of 2016. WGS-84 project has started (permission from TAJ Ministry of Transport) for Tajikistan (Dushanbe and 3 other international airports Hujand –ILS installed on both runway sides but no category assigned, Kulob -ILS for one runway also no category, Qurgontepa-no ILS approach). National PBN implementation plan will be started after completion of WGS-84 project approximately by end 2017. GNSS procedures for international airports will be included in national PBN plan.	Planned
Tunisia		Missing Data
Turkmenistan	All 5 international airports in Turkmenistan (Asgabat ILS CAT III on RWYs 30/12, Turkmenbashi RWY 16/34 with ILS, Turkmenabat end of 2016 RWY with 31/13 CAT II, Dashoguz end of 2016 RWY 26/08 with CAT II and Mary RWY 36L with ILS, RWY 18R with NDB) are equipped with ILS or NDB Approaches. An airport modernisation program has started with construction of new runways and installation of new ATC TWR systems. In preparation for the Asian Games in 2017, a second parallel runway (4000 ft apart, with ILS CAT II) and new Airport terminals are under construction in Asgabat. It is also planned to establish flights (around 10 flights per day) to 5-7 local airports. In this process, the implementation of WGS-84 as geodetic reference system for air navigation purposes in the airspace of Turkmenistan and for all international airports has started and it is expected to be completed by 2018. Discussions have started on the development of an eTOD data server and a possible migration to EAD. The development of a national PBN implementation plan has not started so far, but it is planned to include GNSS procedures for all international airports in the national PBN plan. The idea of a Mid Asia States PBN development project was supported.	Planned 31/12/2018
Uzbekistan	11 international airports are in Uzbekistan with Tashkent being the main airport. Tashkent has 2 parallel runways (210m apart) with 08L CAT II, 26 R CAT I, 08R CAT I, 26L VOR/DME approaches. Navoi airport has ILS CAT II on both runways and all other airports have either CAT I on some runways or VOR/NDB approaches. Uzbekistan plans the implementation of WGS-84 as geodetic reference system for air navigation purposes in the airspace of Uzbekistan and for all international airports. The State approval for the program is expected within the next 3 months and the program will include the data collection (to-gether with navigation department of Uzbekistan Airways), the development of an eTOD data server and a possible migration to EAD. The development of a national PBN implementation plan has not started so far, but it is planned after WGS-84 program approval. GNSS procedures for all international airports will be developed in the national PBN plan. The idea of a Mid Asia States PBN plan development project was supported.	Planned 31/12/2018

SERVICE IMPROVEMENT THROUGH DIGITAL AERONAUTICAL INFORMATION MANAGEMENT	
INF04	Implement integrated briefing

Global Implementation Status.

B0-DATM Implementation status for INF04

Legend
- Completed (33)
- Partly Completed (0)
- Planned (1)
- Late (14)
- No plan (0)
- Not applicable (1)
- Missing Data (3)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

This objective is five (5) years beyond its scheduled implementation date. Two (2) States (HU, ES) completed this objective in 2015. This is a very small progress considering that there are still 13 States declared late and the objective was due in 12/2012. The reasons for delay are the same as in previous years, namely waiting for the final implementation of a new system, expecting the connection and use of EAD briefing facilities and in house developments and upgrades that have been done step by step and therefore time consuming. In addition, there are SWIM developments in this area. Based on this, this objective will be closed down in 2016. Monitoring for ICAO purposes will be continued for States not yet implemented. It is expected that in the context of SWIM developments, ongoing and future activities, the briefing functionality will be addressed.

FOC: 12/2012

Estimated achievement: 06/2017

Closed !

Completion Rate Evolution (% of States completed the objective)

- 2013: 60%
- 2014: 61%
- 2015: 64%
- 2016: 76%
- 2017: 90%
- 2018: 95%

2. Status for remaining States

Algeria		Missing Data
Belarus	Integrated briefing for providing airspace users with preflight information has been implemented at civil aerodromes.	Completed 31/12/2012
Israel	IAA AIS, (a licensed ATS provider who's granted the rights for providing NOTAM and PIBs services within Tel-Aviv FIR), is operating an Automated Flight-Plan, NOTAM and PIB system - PSB (A shelf product issued by a commercial vendor). The PSB - Pilot Self Briefing is incorporating aeronautical data from the AIP AMDT, AIP SUP, AIC, NOTAM and ME, therefore enables an automated web service for the provision of Flight Plan filing, pre-flight briefing, NOTAM/MET query, etc.	Completed 31/12/2015
Kazakhstan	EAD Briefing Facility will be installed at aerodromes Astana and Almaty by 06/2016. At other aerodromes EAD Briefing Facility will be installed by 12/2017.	Planned 31/12/2017
Kyrgyzstan	Integrated briefing function (AIS, FPL, MET and ATFM information) was implemented in 2014 for Bishkek and Osh airports. A similar functionality (with main data being produced in Bishkek and only amended with local data) was implemented for the seasonal airports in Issykkul and Karakol airports.	Completed 31/12/2014
Morocco		Missing Data
Russian Federation		Late
Tajikistan	Integrated briefing (AIS, FPL, MET and ATFM information) was implemented in all international airports.	Completed 31/12/2012
Tunisia		Missing Data
Turkmenistan	An integrated briefing function (AIS, FPL, MET and partially ATFM information) was implemented in Asgabat during 2003. The 4 other international airports (Turkmenbashi, Turkmenabat, Dashoguz and Mary) have no integrated briefing functionality and the briefing data is/will be prepared in Asgabat.	Completed 31/12/2003
Uzbekistan	An integrated briefing function (AIS, FPL, MET and partially ATFM information for all 11 airports) is part of the national Uzbekistan airlines briefing section.	Completed 31/12/2000

SERVICE IMPROVEMENT THROUGH DIGITAL AERONAUTICAL INFORMATION MANAGEMENT	
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Global Implementation Status.

B0-DATM Implementation status for ITY-ADQ

Legend
- Completed (1)
- Partly Completed (3)
- Planned (19)
- Late (22)
- No plan (0)
- Not applicable (4)
- Missing Data (3)

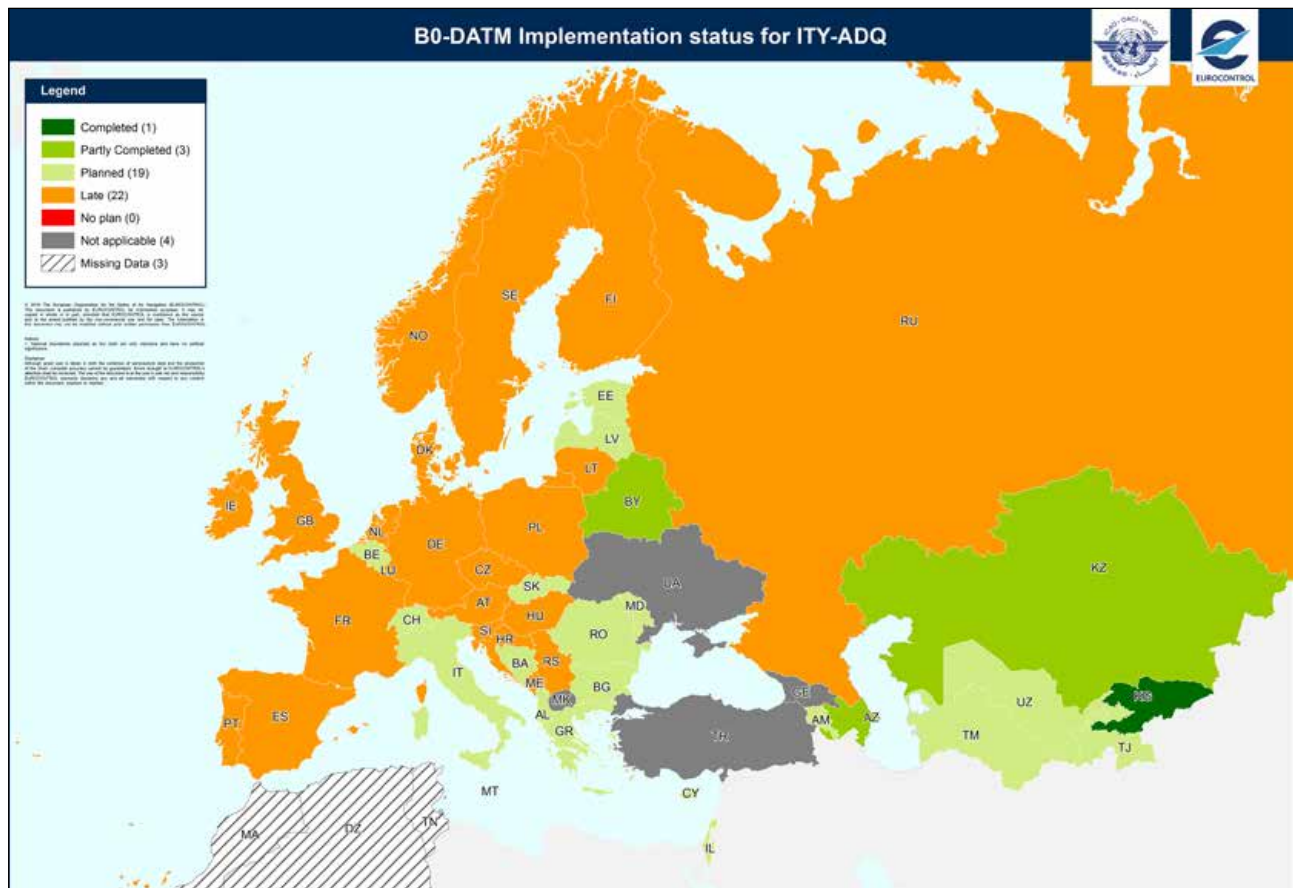## 1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Overall the progress is very poor for almost all stakeholders and in a few cases even regressive as more States declared 'late' in relation to the previous cycle. Particularly for those SLoAs that are overdue the majority of organisations have reported being late. Formal Arrangements (ASP02) are on the critical path of the ADQ implementation however 21 ANSPs are late on the implementation. Those states will find it very difficult to progress on most of the other SLoAs, too. Reasons for delay are the extremely challenging requirements especially concerning data originators, legal uncertainties, very tight deadlines, cost of implementation and lack of available resources, late availability of means of compliance, technical issues and the time required to establish reliable system solutions. This objective will have to be reviewed in the context of a new regulation that is under preparation by EASA covering the same domain of activity.

FOC: 06/2017

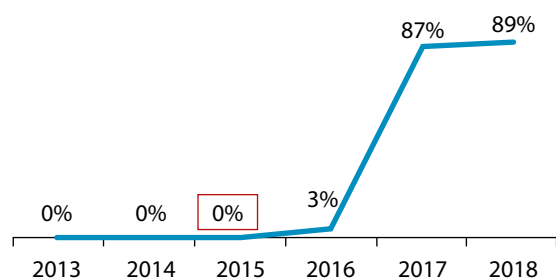**Estimated achievement:** 12/2017

Planned delay

**Completion Rate Evolution
(% of States completed the objective)**

2013	2014	2015	2016	2017	2018
0%	0%	0%	3%	87%	89%

2. Status for remaining States

| Algeria		Missing Data
Belarus	Quality Management System (QMS) for the provision of Aeronautical Information Services was implemented in 2014. Certificate ISO9001 No UA227572 was issued by Bureau Veritas on 26 August 2014. Additionally safety management and information security management objectives are included in the QMS as described in Art 10 of EU regulation 73/2010. Data quality requirements have been implemented as per Annex 15, in terms of completeness, timeliness, consistency, accuracy, resolution and integrity. Order of the Department of Aviation No. 139 dd 07.07.2015 "On approval of the Regulation for the Provision of Aeronautical Information." At present aeronautical data are represented in AIXM 4.5. Upon upgrade of the aeronautical data and charting database and SW the data will be provided as datasets (AIP, TOD, Aerodrome Mapping Data) in AIXM 5.1 as per Annex 15. Formal arrangements between Aeronautical Information providers and data originators for the exchange of Aeronautical data / information have been established in accordance with the Order of the Department of Aviation No. 139 dd 07.07.2015 "On approval of the Regulation for the Provision of Aeronautical Information." Drafts of the LoAs for Provision or Aeronautical Information and Data Integration between AIS of Belarus and AIS of Latvia and AIS of Lithuania have been drawn up.	Partly Completed 31/12/2016
Israel	A QMS is fully implemented by CAAI on all components of AIS except for NOTAM and PIB – services provided by the IAA. A QMS for NOTAM and PIB services will be implemented by the IAA within the next few years. The implementation of data quality requirements is completed. The implementation of the common dataset and digital exchange format is planned. Israel is in a process of migration to EAD service. The establishment of formal arrangements is completed. CAAI AIS unit has established a set of procedures regarding the exchange of aeronautical data and information with data originators.	Planned 31/12/2017
Kazakhstan	An ISO 9001 QMS certificate issued on 05/2015. Since 11/2014 Kazakhstan has "EAD Full Migrated" status. National AIXM Database will be created on 03/2016. Formal arrangements established with 95% Originators.	Partly Completed 31/12/2016
Kyrgyzstan	Kyrgzystan fully migrated to EAD in February 2015.	Completed 31/12/2015
Morocco		Missing Data
Russian Federation		Late
Tajikistan	AIM QMS is planned to start before the end of 2016. Cooperation with CAIGA established but QMS aspects need to be verified.	Planned 31/12/2018
Tunisia		Missing Data
Turkmenistan	All aeronautical information for Turkmenistan is managed by the FSUE in the Russian Federation. They are also publishing the Turkmenistan AIP. There are no plans for a separate AIS QMS implementation, but these digital aeronautical information management issues could be part of the WGS/eTOD data server development project and/or the possible EAD migration project.	Planned 31/12/2018
Uzbekistan	Data quality requirements standards, implementation of common dataset and digital exchange formats, establish formal arrangements satisfied will be part of the WGS-84 program, which will be started after State approval.	Planned 31/12/2017

4.1.1.4 B0-FICE

INCREASED INTEROPERABILITY, EFFICIENCY AND CAPACITY THROUGH GROUND-GROUND INTEGRATION	
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer

Global Implementation
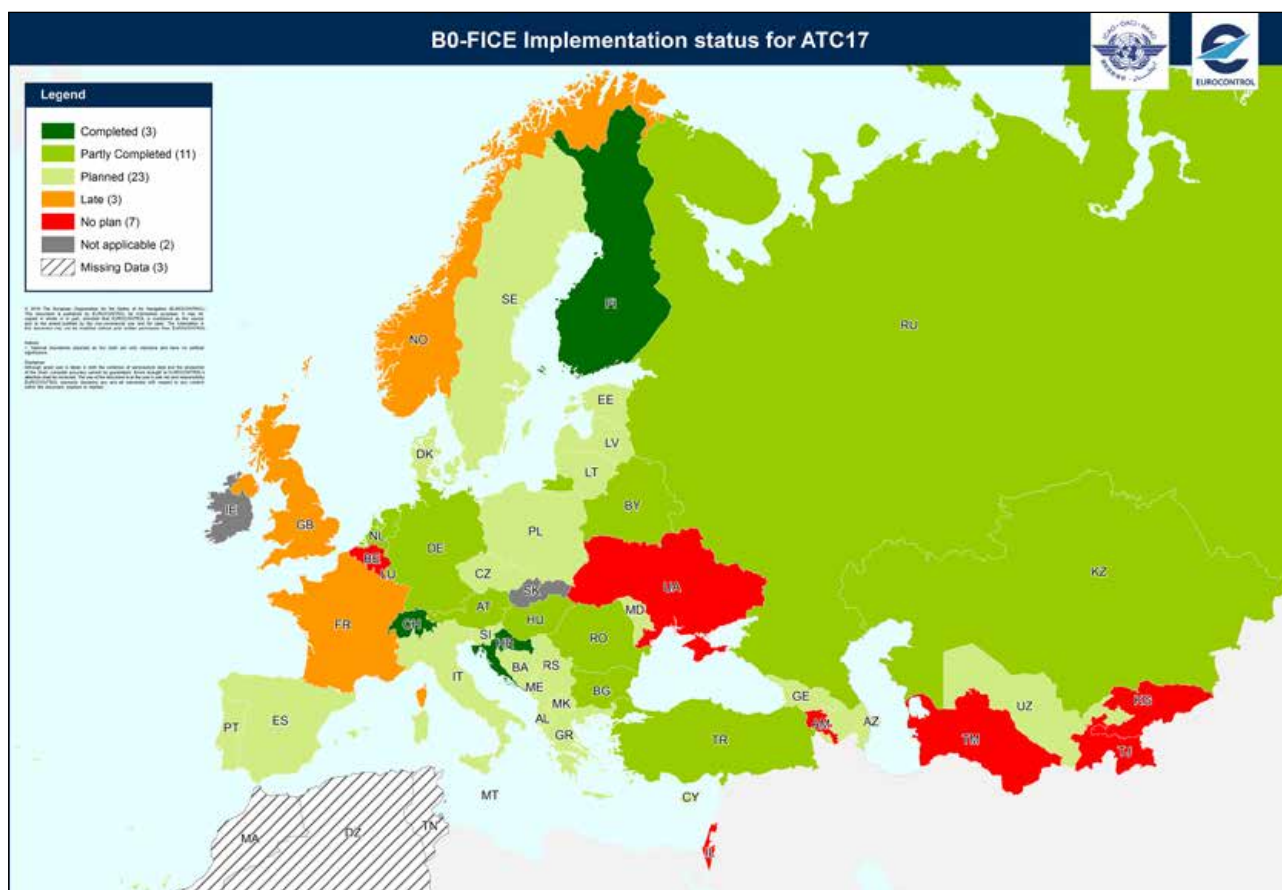
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

This objective complements the services implemented with ITY-COTR, regulated provision based on the IR. The progress over the last year has been very limited but most of the States expect the implementation between 2017 and 2018. One (1) State (CH) has completed the objective in 2015. Two (2) States have downgraded their progress declared last year, to 'late' (FR and NO). It should be noted that most OLDI messages are already available in many ATM systems across the applicability area but their operational introduction is pending as it depends on the signing of an agreement between neighbouring ACCs. This is also confirmed by the fact that a number of States that report 'no plan' status, explain that functionally they can exchange the messages, but the testing is yet to be done (e.g. BE and AM). In most cases, implementation of the objective is depending on new system capability so the implementation requires system upgrade.

FOC: 12/2018

Estimated achievement: 12/2018

On Time

Completion Rate Evolution (% of States completed the objective)

2013	2014	2015	2016	2017	2018
2%	5%	7%	10%	20%	88%

2. Status for remaining States

Algeria		Missing Data
Belarus	PAC message has been implemented at Minsk ACC. It is not planned to support COD message. It is planned to implement the electronic dialogue in Transfer of Communication process at the future new Automated ATC System. It is planned to implement the electronic dialogue in Coordination process at the future new Automated ATC System. Safety assessment for the introduction of these procedures will be carried out in accordance with national rules.	Partly Completed 31/12/2018
Israel	At the moment there is no plan to implement OLDI capability between Israel and any neighbouring ANSPs.	No Plan
Kazakhstan	Kazakhstan has completed implementation of PAC messaging between each of the four Kazakhstan FIRs. COD is not applicable for KZ and is not used. Kazakhstan has not implemented other Electronic Dialogue OLDI messages. Safety assessment for the changes are not applicable.	Partly Completed 31/12/2017
Kyrgyzstan	With the upgrade of the ATC System (NITA) in 2011 the ground-ground ATC system functionality was installed but put only partially into operation. System coordination is only implemented between the ACC/APP Sectors within Bishkek ACC, but not with any other neighbouring ACC. COTR is done via phone.	No Plan
Morocco		Missing Data
Russian Federation	PAC is implemented. COD is planned to implement. Realized without voice coordination procedure between ACC Moscow, Moscow – ACC Samara, for rest of directions will support electronic dialogue procedure.	Partly Completed 31/12/2018
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and ground-ground ATC system functionality was not installed.	No Plan
Tunisia		Missing Data
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The system includes AFTN and FPL/FDPS functionalities. The automatic ground-ground ATC system coordination functionality is not put into operation. The coordination (COTR) between ACC/APP Sectors within Asgabat ACC, and with any other neighbouring ACC is done via phone and will also be done in the future via phone. A system to system coordination via AFTN has been tested with Iran but is not in operation.	No Plan
Uzbekistan	After new ATC system for Uzbekistan will be operational, the use of OLDI is planned. Based on bilateral agreement with adjacent countries OLDI procedures will be used.	Planned 31/12/2018

Global Implementation

B0-FICE Implementation status for ITY-COTR

Legend
- Completed (15)
- Partly Completed (18)
- Planned (4)
- Late (8)
- No plan (2)
- Not applicable (2)
- Missing Data (3)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

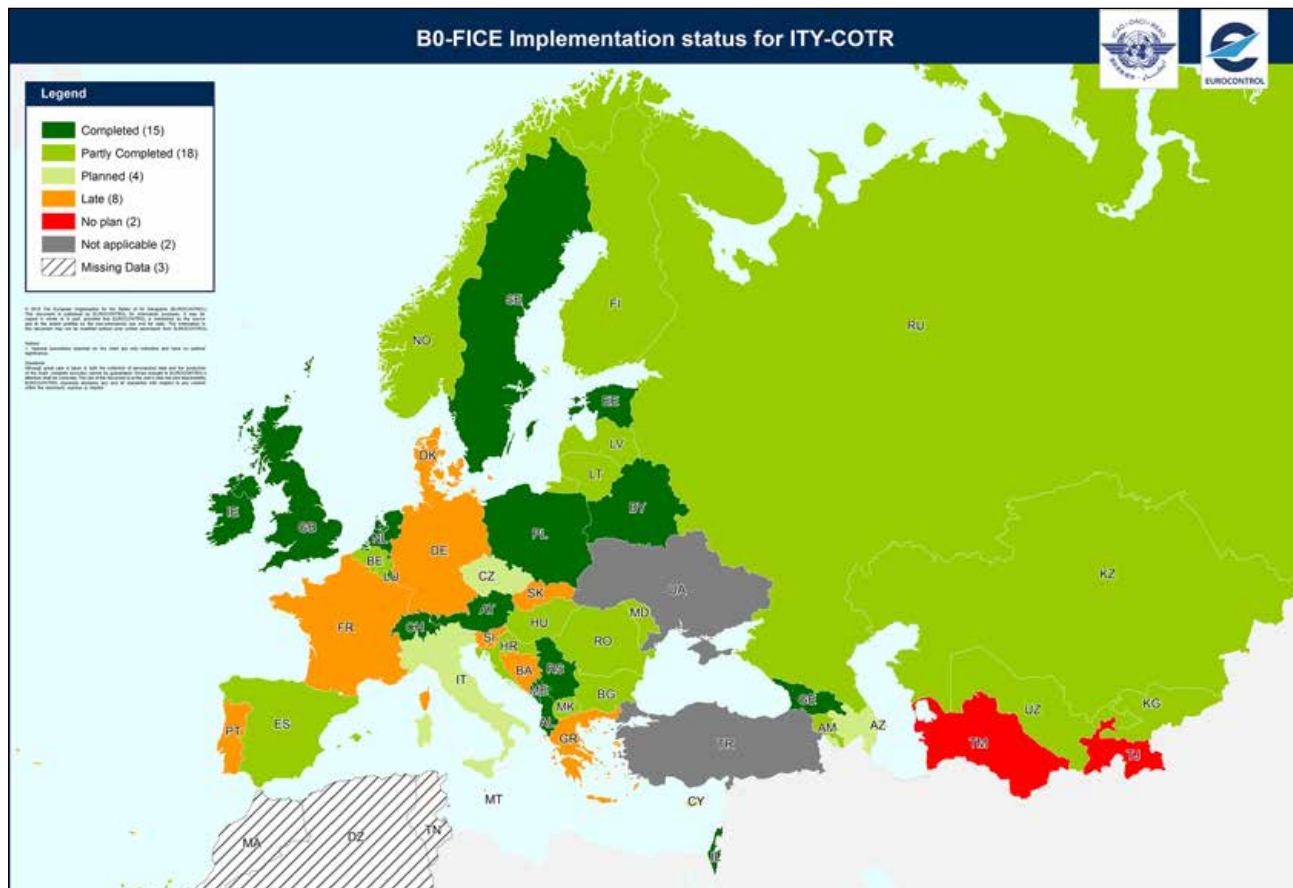Implementation has significantly improved since 2013. In particular, processes covered under Lines of Action ASP02 (Notification) and ASP03 (Initial Coordination) are fully completed (to almost 100% rate) across the entire applicability area; with ASP04 (Revision of Coordination), ASP05 (Abrogation of Coordination) and ASP06 (Basic Flight Data) showing completion over 80%. Lines of Action ASP08 (Logon Forward) and ASP09 (Next Authority Notified) which are supported by the use of VDL2 Datalink are part of a separate regulation: 30/2009, which amended the COTR Regulation 1032/2006, by adding these 2 processes. For consistency purposes (technically and functionally LOF and NAN actions belong to AGDL objective) it is proposed that these actions will be moved into ITY-AGDL objective. Therefore, COTR can be closed as achieved. The late indications in the map above are mainly due to the actions moved to objective AGDL.
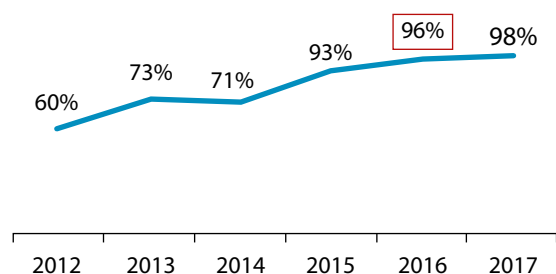
FOC: 02/2018

Estimated achievement: 12/2015

Achieved*

* Without actions related to DLS

Completion Rate Evolution (% of ANSPs completed ASP01)

60% (2012)
73% (2013)
71% (2014)
93% (2015)
96% (2016)
98% (2017)

2. Status for remaining States

Algeria		Missing Data
Belarus	OLDI connection (ABI, ACT, REV, PAC, MAC, LAM) was implemented between Minsk ACC and the following adjacent ACCs: with Lviv ACC in December 2014, with Kyiv ACC in May 2005, with Riga ACC in July 2006, with Vilnius ACC in December 2006, with Warsaw ACC in July 2007, with St-Petersburg ACC in March 2014, with Moscow ACC in July 2015. Relevant amendments have been introduced in LoAs with adjacent ATS Centres.	Completed 31/07/2015
Israel	The IAA has implemented the Electronic Flight Strip (EFS) since Q3 2015.	Completed 31/09/2015
Kazakhstan	Kazakhstan has completed implementation of ABI, ACT, REV, MAC, PAC, and LAM messages between each of the four Kazakhstan FIRs. COD messages are not applicable for KZ and not used	Partly Completed 31/12/2017
Kyrgyzstan	With the upgrade of the ATC System (NITA) in 2011 the ground-ground ATC system coordination functionality was installed but put only partially into operation. System coordination is only implemented between the ACC/APP Sectors within Bishkek ACC, but not with any other neighbouring ACC.	Partly Completed
Morocco		Missing Data
Russian Federation	In accordance with plan there is a process of data exchanging between ATSo of OLDI.	Partly Completed 31/12/2018
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and ground-ground ATC system functionality was not installed.	No Plan
Tunisia		Missing Data
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The system includes AFTN and FPL/FDPS functionalities. The automatic ground-ground ATC system coordination functionality is not put into operation. The coordination (COTR) between ACC/APP Sectors within Asgabat ACC, and with any other neighbouring ACC is done via phone and will also be done in the future via phone. A system to system coordination via AFTN has been tested with Iran but is not in operation.	No Plan
Uzbekistan	The current ATC System (Thomson/Peling Master) system includes AFTN and FPL/FDPS/RDPS functionalities. The automatic ground-ground ATC system coordination functionality is operational in Tashkent ACC with coordination between ACC, APP and TWR. The coordination (COTR) between Samarkand and Nukus ACC, and with any other neighbouring ACC is done via phone. ANP has just announced tendering (selection of new ATC system before end 2016) for new ATC system for Uzbekistan that will include the ground-ground automated co-ordination functionalities.	Partly Completed 31/12/2018

ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

Global Implementation

B0-FICE Implementation status for ITY-FMTP

Legend

- Completed (29)
- Partly Completed (4)
- Planned (1)
- Late (11)
- No plan (3)
- Not applicable (1)
- Missing Data (3)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Implementation is late, with two (2) years of delay. Eight (8) States have completed the objective during 2015 (AZ, BE, GE, EE, ES, IE, IT, TR). ANSPs late in implementation are mostly those who implemented FMTP on IPv4 in a first stage; all of them report the migration to IPv6 currently ongoing. In a couple of States the implementation is completed by the civil ANSP and is only pending the implementation by the military. The main reasons for delay are some postponement in implementation plans due to financial crisis, the need for international coordination with neighbours to test and implement FMTP connections and the fact that some ANSPs had already planned for, or implemented, IPv4. Some late implementers have installed translation boxes from older protocols into IPv6 to ensure interoperability.

FOC: 14/2014

Estimated achievement: 12/2016

Late

**Completion Rate Evolution
(% of States completed the objective)**

19% 2013
52% 2014
71% 2015
88% 2016
95% 2017
100% 2018

2. Status for remaining States

|		
Algeria		Missing Data
Belarus	Communication equipment has been upgraded to support FMTP. Information exchange via FMTP has been implemented between Minsk ACC and St-Petersburg ACC. It is planned to migrate from X.25 protocol to FMTP protocol for information exchange with other adjacent ATS Centres in a phased manner. Safety assessment is carried out for the migration to FMTP protocol, in accordance with national rules.	Partly Completed 31/12/2018
Israel	The IAA intends to start the implementation process of AHMS during 2016.	Planned
Kazakhstan	Currently Kazakhstan uses a simple IA-5 protocol (like AFTN) for point to point communication of OLDI between the KZ FIRs. FMTP is not implemented for Kazakhstan.	Not Applicable
Kyrgyzstan	With the upgrade of the ATC System (NITA) in 2011 the ground-ground ATC system functionality was installed but put only partially into operation. System coordination is only implemented between the ACC/APP Sectors within Bishkek ACC, but not with any other neighbouring ACC. FMTP is done via AFTN.	No Plan
Morocco		Missing Data
Russian Federation	Between ATC units net using OLDI interface, FMTP protocol will be implemented until ATM centres have been modernized. Some other work on FMTP implementation is not planned until replacement of equipment.	Late
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and ground-ground ATC system functionality was not installed.	No Plan
Tunisia		Missing Data
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The system includes AFTN and FPL/FDPS functionalities. The automatic ground-ground ATC system coordination functionality is not put into operation. FMTP is done via AFTN.	No Plan
Uzbekistan	FMTP functions are done by the ARO in Tashkent via AFTN. After new ATC system has been installed. Requirements specification of a new ATC system provides for availability of FMTP.	Partly Completed 31/12/2018

4.1.1.5 B0-SNET

INCREASED EFFECTIVENESS OF GROUND-BASED SAFETY NETS	
ATC02.2	Implement ground based safety nets – Short Term Conflict Alert (STCA) - level 2

Global Implementation
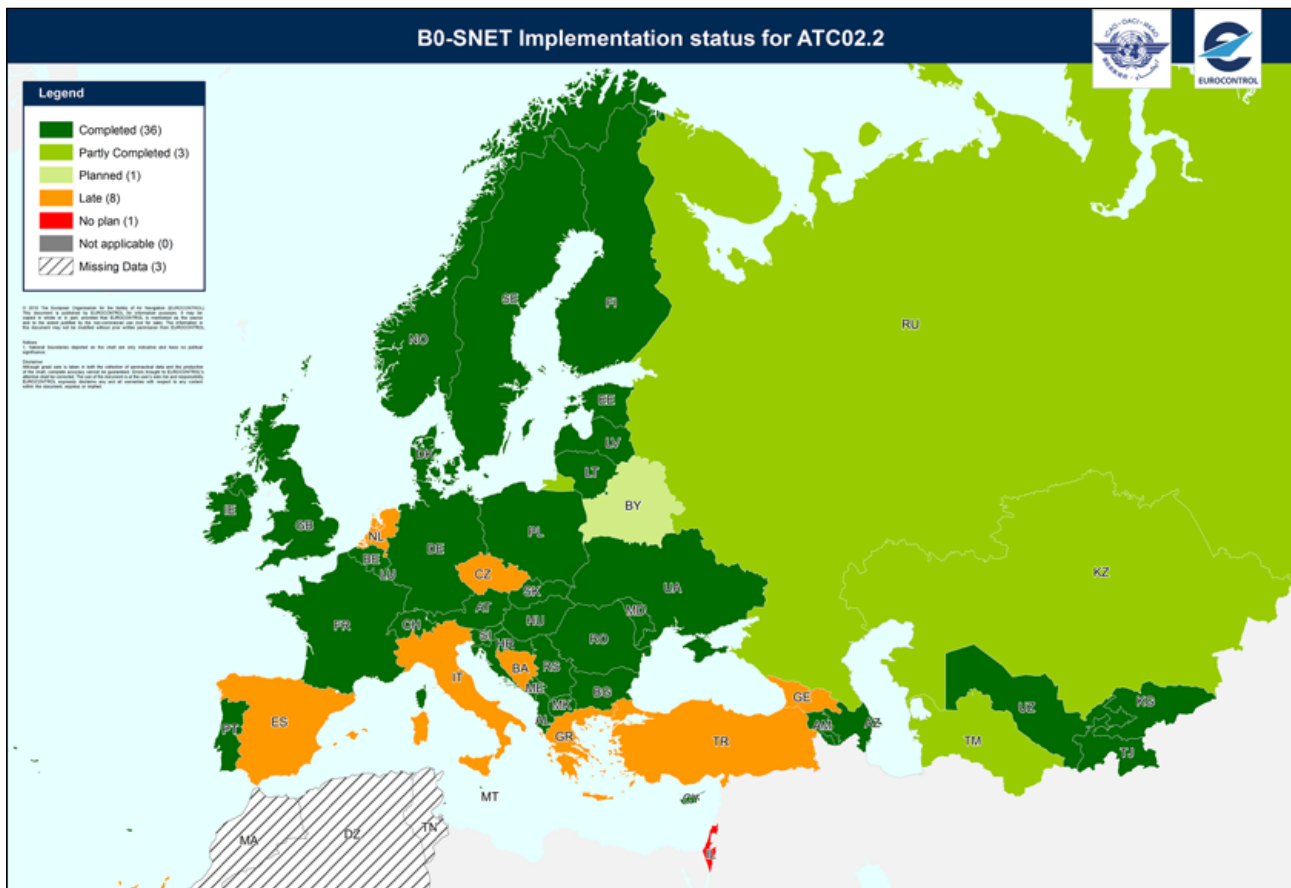
1. Progress for States in the ESSIP/LSSIP mechanism

The objective ATC 2.2 reached 80% of achievement in the applicability area and was declared closed after the 2014 cycle. Therefore no remaining progress has been reported. However States that still need to implement the objective should continue to do so.

The following is a summary of progress achieved before its closure.

Overview of progress	2014	2013
Completed	34 (AL, AM, AT, AZ, BE, BG, CH, CY, DE, DK, EE, FI, FR, HR, HU, IE, LT, LU, LV, MAS, MD, ME, MK, MT, NO, PL, PT, RO, RS, SE, SI, SK, UA, UK)	30 (AM, AT, BE, BG, CH, CY, DE, DK, EE, FI, FR, HR, HU, IE, LT, LU, LV, MAS, MD, ME, MK, NO, PT, RO, RS, SE, SI, SK, UA, UK)
Partly Completed	...	1 (AZ)
Late	8 (BA, CZ, ES, GE, GR, IT, NL, TR)	10 (AL, BA, CZ, ES, GE, IT, MT, NL, PL, TR)
No Plan	...	1 (GR)
Latest to complete the Objective	GR, NL - 12/2020	IT - 12/2017
Planned Objective achievement (80%)	2014 (80.95 %)	2014 (80.95 %)

2. Status for remaining States

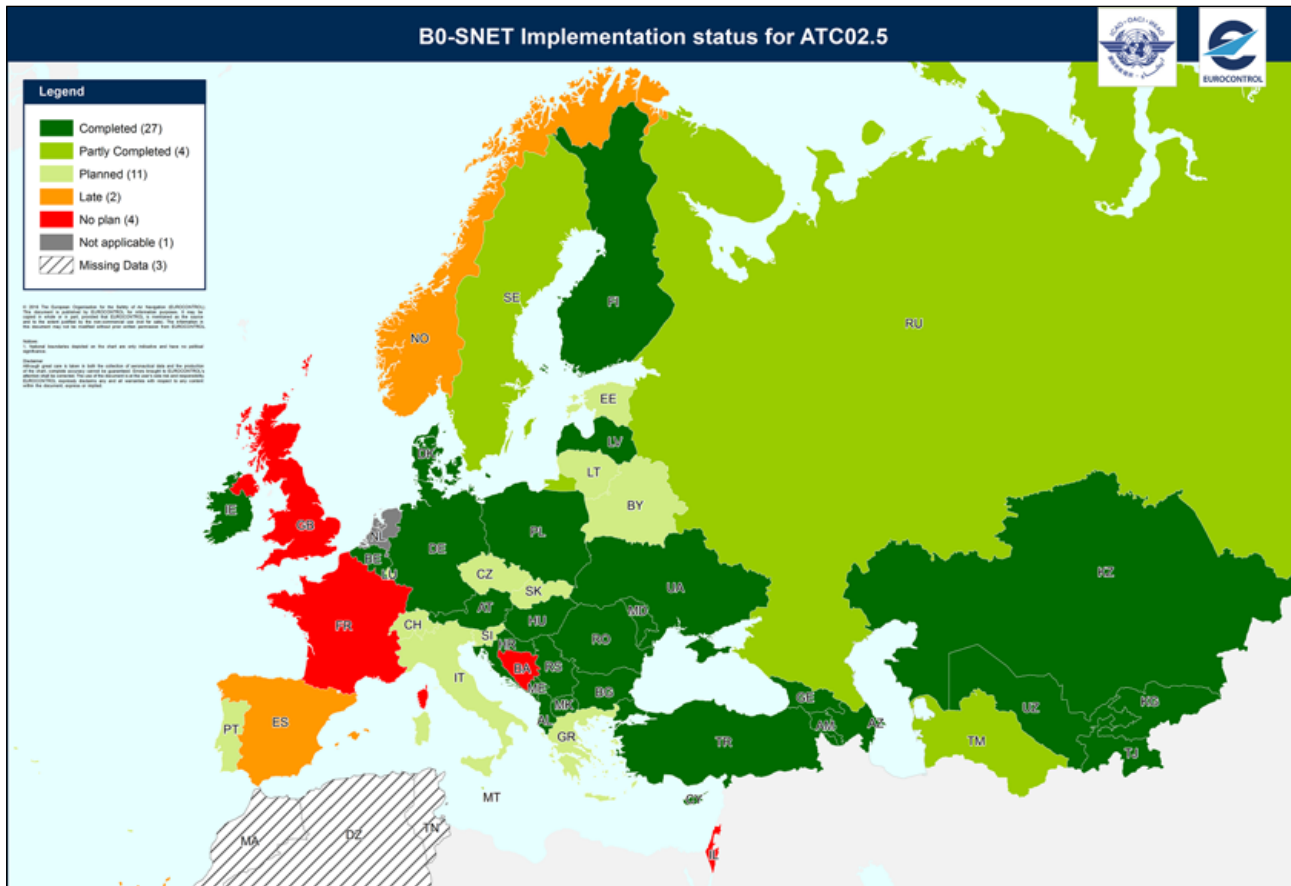|		
Algeria		Missing Data
Belarus	STCA Level 2 will be implemented at the new Automated ATC System at Aerodrome Minsk-2. Implement the STCA Level 2 function. Training of operational staff. Conduct safety assessment before the implementation.	Planned 31/12/2019
Israel	STCA functions are implemented at all ATM units (at Ben – Gurion using FAA approved systems). However, level 2 is not implemented yet.	No Plan
Kazakhstan	STCA was introduced in Kazakhstan in 2005 with the implementation of the Astana ATC system. It was then implemented in Shymkent in 2006, Aktobe in 2009, and completed in Almaty in 2012. Safety assessment of the changes will be developed by 12/2018.	Partly Completed 31/12/2018
Kyrgyzstan	New ATC System (NITA) was upgraded in 2011 and STCA functionality was installed for CWPs in Bishkek and Osh ACCs.	Completed
Morocco		Missing Data
Russian Federation	STCA is implemented and used in operating ATM automated facility. Operational development of module to the new level requirement is planned.	Partly Completed 31/12/2018
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and STCA functionality was installed for CWPs in ACC.	Completed 31/12/2012
Tunisia		Missing Data
Turkmenistan	STCA has been implemented in Asgabat ACC since 1998 and in Turkmenbashi ACC since 2010. A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The safety net part of the system includes the STCA functionalities. The same Thales system with the ATC safety net functions will be installed in the 2 other ACCs (Turkmenabat, Dashoguz) from summer 2016 onwards. The new TWR/APP system (ex-ATC system from Asgabat with 60 km APP range) for Mary will also include this function.	Partly Completed 31/12/2016
Uzbekistan	The current ATC System (Thomson/Peling Master which was installed after QNH implementation in 2014) system includes STCA functions. The system is installed in all 3 ACCs (Tashkent, Samarkand, Nukus).	Completed 31/12/2014

Global Implementation

B0-SNET Implementation status for ATC02.5

Legend

- Completed (27)
- Partly Completed (4)
- Planned (11)
- Late (2)
- No plan (4)
- Not applicable (1)
- Missing Data (3)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Slight progress has been made in deploying this objective since the previous report. Three (3) more States have completed this objective (GE, TR). However, the majority of the remaining States have actions to implement this objective by 12/2016. In addition, two (2) States (FR, UK) reported that they have put in place alternative systems. Three (3) States reported late implementation (CH, ES, NO) due to a major upgrade of their ATM system. Further coordination at ECAC level is done during SPIN Sub-Group and Safety Team meetings.

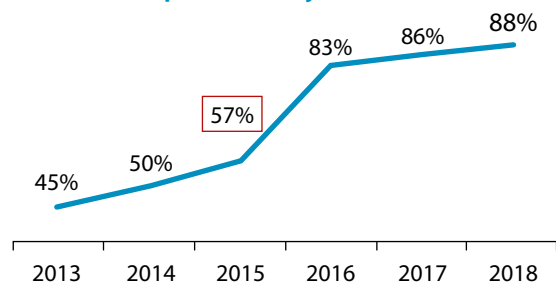Due to complementarity between the ATC objectives related to ground safety nets (ATC02.5/6/7) and the fact that they all link to the same OI step, they will be grouped into one objective in ESSIP Plan Edition 2016.

FOC: 12/2016

Estimated achievement: 12/2016

On Time

Completion Rate Evolution (% of States completed the objective)

45% — 2013
50% — 2014
57% — 2015
83% — 2016
86% — 2017
88% — 2018

2. Status for remaining States

|		
Algeria		Missing Data
Belarus	APW Level 2 will be implemented at the new Automated ATC System at Aerodrome Minsk-2. Implement the APW Level 2 function. Training of operational staff. Conduct safety assessment before the implementation.	Planned 31/12/2019
Israel		No Plan
Kazakhstan	APW was introduced in Kazakhstan in 2005 with the implementation of the Astana ATC system. It was then implemented in Shymkent in 2006, Aktobe in 2009, and completed in Almaty in 2012.	Completed 31/12/012
Kyrgyzstan	New ATC System (NITA) was upgraded in 2011 and APW functionality was installed for CWPs in Bishkek and Osh ACCs.	Completed 31/12/011
Morocco		Missing Data
Russian Federation	In operating automated ATM facilities the function is included into the standard envelope (area use restrictions, dangerous weather phenomena).	Partly Completed 31/12/2018
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and STCA functionality was installed for CWPs in ACC.	Completed 31/12/2012
Tunisia		Missing Data
Turkmenistan	APW has been implemented in Asgabat ACC since 2013 and in Turkmenbashi ACC since 2010. A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The safety net part of the system includes the APV functionalities. The same Thales system with the ATC safety net functions will be installed in the 2 other ACCs (Turkmenabat, Dashoguz) until end of 2016. The new TWR/APP system (ex-ATC system from Asgabat with 60 km APP range) for Mary will also include this function.	Partly Completed 31/12/2016
Uzbekistan	The current ATC System (Thomson/Peling Master) system includes ATC system provides APW functions. The system is installed in all 3 ACCs (Tashkent, Samarkand, Nukus).	Completed 31/12/2014

ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2

Global Implementation
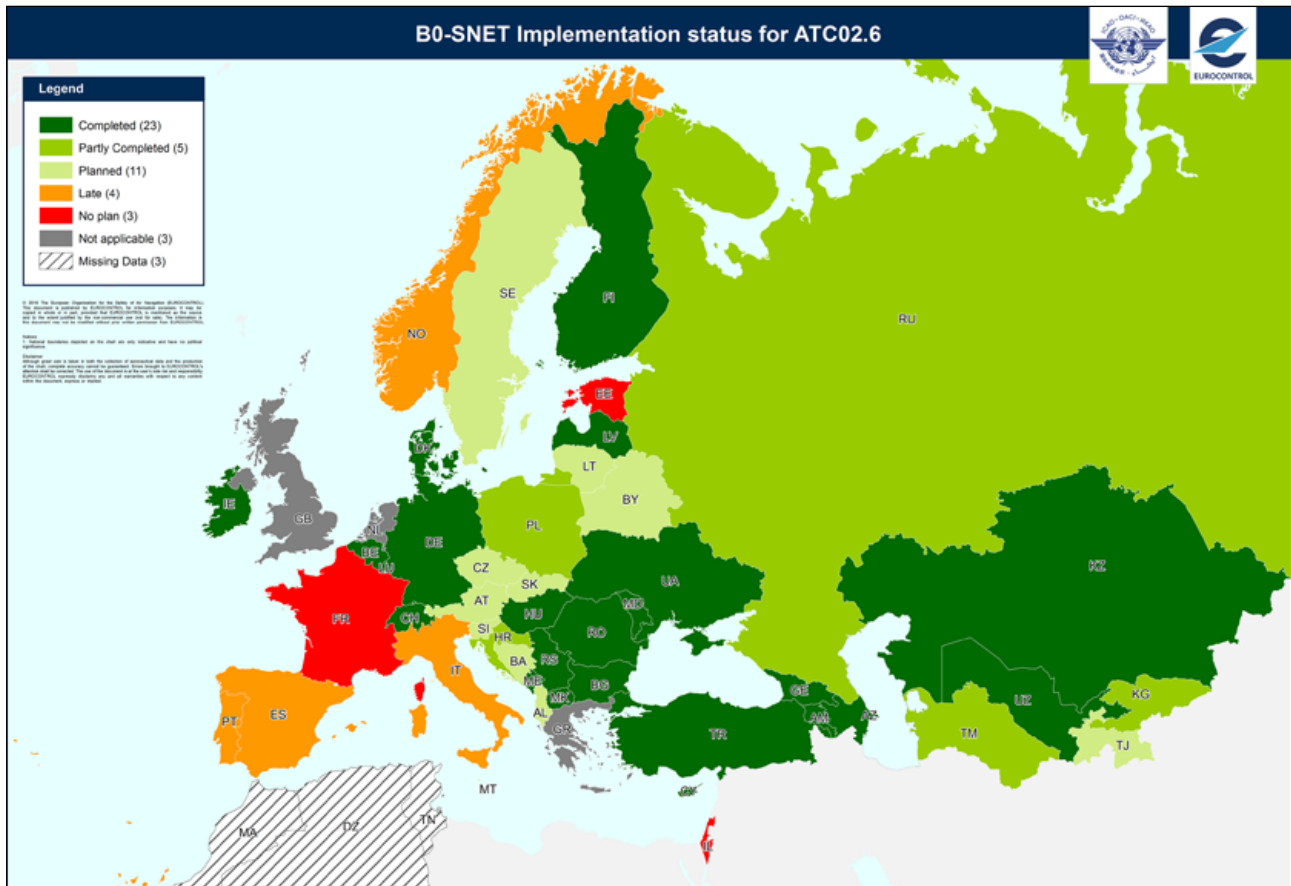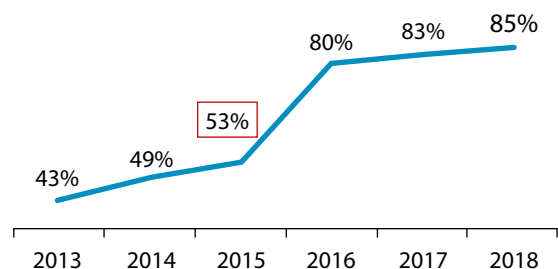

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Slight progress has been made in deploying this objective since the previous report. Two (2) more States have completed this objective (GE,TR). However, the majority of the remaining States have actions to implement this objective by 12/2016. In addition, FR has no intentions to implement this objective due to the fact that they have put in place an alternative system. Four (4) States reported 'late' (ES, IT, NO, PT). The main reason for delay in implementation is due to a major upgrade /new ATM system.

Due to complementarity between the ATC objectives related to ground safety nets (ATC02.5/6/7) and the fact that they all link to the same OI step, they will be grouped into one objective in ESSIP Plan Edition 2016.

FOC: 12/2016

On Time

Estimated achievement: 12/2016

Completion Rate Evolution
(% of States completed the objective)

2. Status for remaining States

| State	Description	Status
Algeria		Missing Data
Belarus	MSAW Level 2 will be implemented at the new Automated ATC System at Aerodrome Minsk-2. Implement the MSAW Level 2 function. Training of operational staff. Conduct safety assessment before the implementation.	Planned 31/12/2019
Israel	MSAW functions are implemented at Ben Gurion radar only (using FAA approved equipment). However, level 2 is not implemented yet. At the moment there is no plan to equip the Area Control units in such systems.	No Plan
Kazakhstan	MSAW was introduced in Kazakhstan in 2005 with the implementation of the Astana ATC system. It was then implemented in Shymkent in 2006, Aktobe in 2009, and completed in Almaty in 2012.	Completed 31/12/012
Kyrgyzstan	ATC System (NITA) was upgraded in 2011 and the MSAW functionality was implemented. Due to the lack of precise terrain data within the airspace of Kyrgyzstan, with a very raw (different scales ranging from 50km to 5km) obstacle data grid. The refinement of the terrain data could be done if the eTOD database would be available and this would significantly enhance the operational acceptance/functionality (number of incorrect alerts) of the MSAW function.	Partly Completed 31/12/2018
Morocco		Missing Data
Russian Federation	In operating automated ATM facilities the function is included into the standard envelope.	Partly Completed 31/12/2018
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and MSAW was not put into operation (lack of terrain data) with the initial installation. Final integration of MSAW could be started after completion of WGS-84 project approximately by end 2017.	Planned 31/12/2018
Tunisia		Missing Data
Turkmenistan	MSAW has been implemented in Asgabat ACC since 2013 and in Turkmenbashi ACC since 2010. A new ATC system upgrade (Thales TopSky) has been installed in the Asgabat ACC and will be put into operation in March 2016. The safety net part of the system includes MSAW functionalities. In addition, an Approach Path Monitoring System (APM for last 6NM of LLZ and GP) was installed at Asgabat TWR. The same Thales system with (including all ATC safety net functions will be installed in the 2 other ACCs (Turkmenabat, Dashoguz) until end 2016. The new TWR/APP system (ex-system from Asgabat with 60 km APP range) for Mary will also include these functions. A further refinement of the terrain data could be done if the eTOD database would be available and this would significantly enhance the operational acceptance/functionality (number of incorrect alerts) of the MSAW function.	Partly Completed 31/12/2016
Uzbekistan	TThe current ATC System (Thomson/Peling Master) system includes ATC system provides MSAW functions. The system is installed in all 3 ACCs (Tashkent, Samarkand, Nukus). The MSAW functionality could be enhanced with the integration of eTOD data after WGS-84 program completion.	Completed 31/12/2014

4.1.1.6 B0-SURF

SAFETY AND EFFICIENCY OF SURFACE OPERATIONS (A-SMGCS LEVEL 1-2)	
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

Global Implementation

B0-SURF Implementation status for AOP04.1
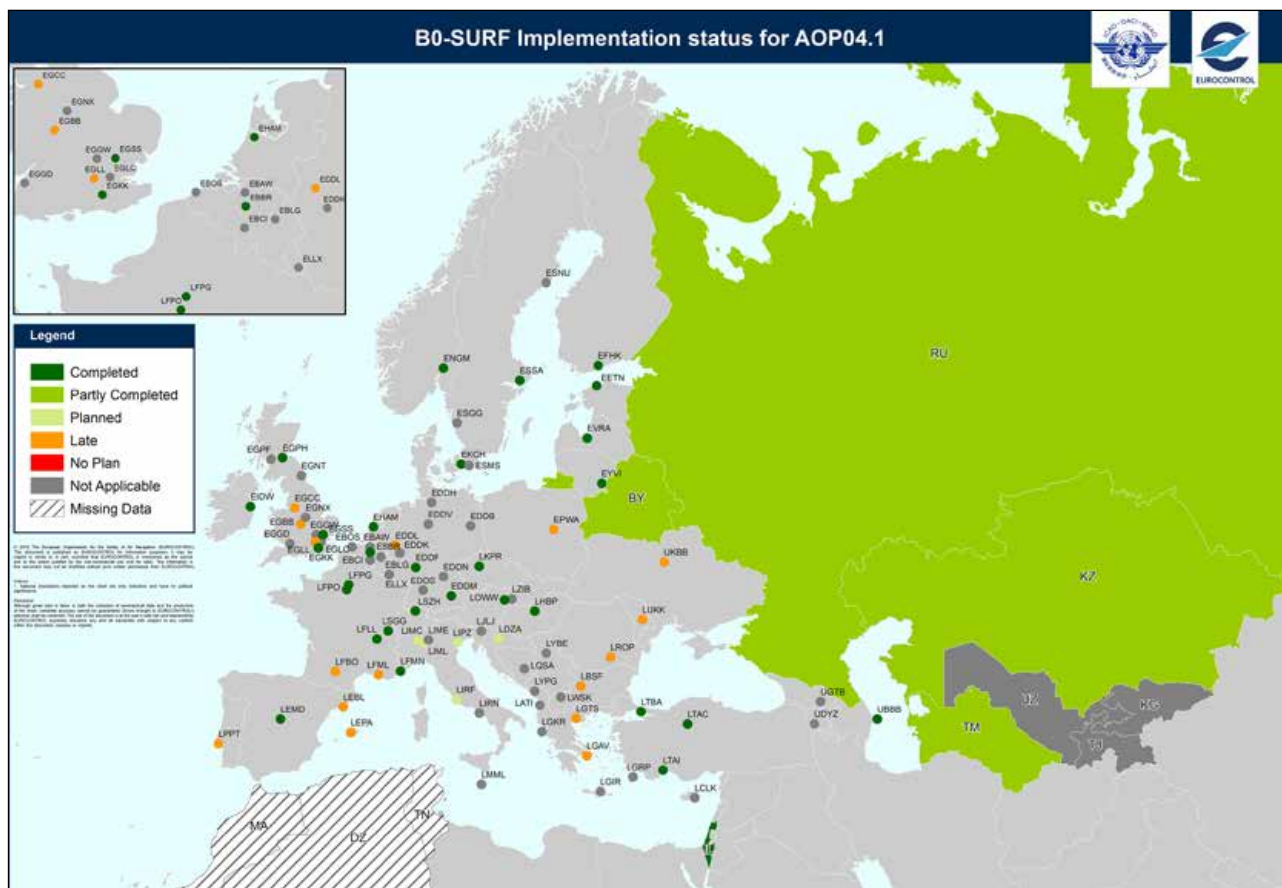
1. Progress for States in the ESSIP/LSSIP mechanism
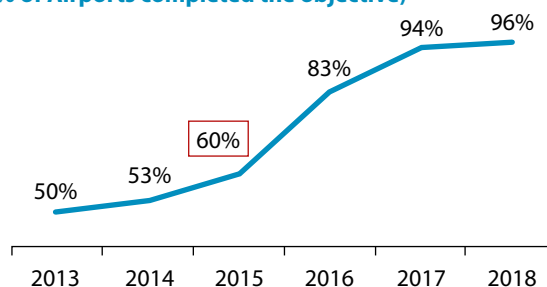
Main 2015 developments:

A-SMGCS Level 1 is an essential prerequisite for Level 2 (AOP04.2) and Airport Safety Nets (AOP12). In 2015, two (2) additional airports have implemented this concept. Out of 25 airports specified in the PCP IR, five (5) airports have reported some delays against the objective FOC date. Dusseldorf (EDDL) reported that full compliance will be achieved by 12/2017. Italian airports Rome (LIRF) and Milan Malpensa (LIMC) reported 'planned' status although beyond ESSIP FOC date. Bucharest (LROP) and few others have "late" status due to a later joining to applicability area. Full implementation is planned at the end of 2016. Barcelona (LEBL) is still to implement operational procedures (06/2016), and UK airports Heathrow (EGLL) and Manchester (EGCC) will achieve full compliance end of 2018 and end of 2017, respectively. Heathrow reported some issues with fitting vehicle transmitters and Manchester is currently developing a project plan.

FOC: 12/2011

Estimated achievement: 06/2016

Late

Completion Rate Evolution (% of Airports completed the objective)

50% (2013) · 53% (2014) · 60% (2015) · 83% (2016) · 94% (2017) · 96% (2018)

2. Status for remaining States

Algeria		Missing Data
Belarus	THALES A-SMGCS Level 1 system is being put into operation at Minsk-2 aerodrome. Commissioning is in progress. Information about the implementation of A-SMGCS will be published in Belarus AIP. Transponders for ground vehicles are being put into operation. Investigations are carried out for installation of MLAT system within A-SMGCS at Minsk-2 aerodrome.	Partly Completed 31/12/2017
Israel	A-SMGCS level 1 is implemented by IAA (Israel Airports Authority – the only ANSP in Israel) at Ben-Gurion international airport which is the main international airport in Israel (more than 99% of international traffic in Israel).	Completed
Kazakhstan	A-SMGCS Level 2 is implemented at Almaty and Astana. There are no plans for A-SMGCS installation at other airports Operational procedures will be developed at Astana and Almaty aerodromes. A-SMGCS procedures (including transponder operating procedures) is not published in national aeronautical information publications (after develop). Ensure vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Level 1 are equipped with the necessary systems.	Partly Completed 31/12/2018
Kyrgyzstan	Due to low airport traffic figures (less than 15 aircraft movements per hour) there is currently no implementation planned for airports in Kyrgyzstan, even if there would be a benefit during the period of low visibility operations (aprx. 40 days per year in Bishkek).	Not Applicable
Morocco		Missing Data
Russian Federation	Upgrade is performed in accordance with inner plan of Observing equipment System and Aerodrome movement Control system . A-SMGCS equipment is installed in Domodedovo, Pulkovo, Sheremetyevo, Vnukovo, Sochi. MLAT is installed in Domodedovo, Sochi, technical facilities operating in maneuvering area are equipped with mode S.	Partly Completed 31/12/2018
Tajikistan	No implementation planned for airports in Tajikistan (The largest Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia		Missing Data
Turkmenistan	Due to low airport traffic figures (around 60 aircraft movements per day in Asgabat and between 15-20 aircraft movements per day at the other 4 airports) there is currently no implementation planned for the 5 airports in Turkmenistan, even if there would be a benefit during the periods (less than 30 days per year for main airport Asgabat) of LVPs low visibility operations. As part of the runway incursion prevention measures for Asgabat airport, an optical beam system was installed that would give a warning to the TWR for any object higher than 30 cm which passes this bar. The monitoring of the movement area at Asgabat airport (all vehicles with transponders) is planned also with the opening of the new terminal (August 2016 onwards).	Partly Completed
Uzbekistan	Due to low traffic implementation no planned for aerodromes of Uzbekistan Due to low airport traffic figures (maximum of 80 aircraft movements per day in Tashkent, maximum of 20 aircraft movements per day in the other airports. there is no implementation planned, even if there would be a benefit during the periods (Tashkent has less than 20 days per year LVP conditions). As part of the runway incursion prevention, stop bar system have been installed in Tashkent and Navoi airports. Tashkent has a Thomson ASR installed.	Not Applicable

Global Implementation

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

A-SMGCS Level 2 implementation builds on the implementation of Level 1 functionality and it is an important pre-requisite towards the implementation of PCP. Due to delays reported in A-SMGCS Level 1 implementation, there is a risk of delayed implementation of Level 2 functionality. One (1) airport reported completion of this objective (Edinburgh Airport EGPH) in 2015. Out of 25 PCP airports, 12 of them have reported the A-SMGCS Level 2 as operational. Remaining 13 PCP airports mostly report completion within ESSIP FOC deadline, except Italian airports that report latest implementation dates (Milan Malpensa (LIMC) plans to implement at the end of 2020 and Rome Fiumicino (LIRF) at the end of 2024). Heathrow Airport (EGLL) reports that the A-SMGCS Level 2 is operational although the overall objective is reported 'late'. This is because not all ground vehicles are fitted with transmitters yet (AOP04.1).

FOC: 12/2017

Estimated achievement: 12/2017

Risk of delay

Completion Rate Evolution (% of Airports completed the objective)

2. Status for remaining States

Algeria		Missing Data
Belarus	A-SMGCS system at Minsk-2 aerodrome will be upgraded to Level 2.	Planned 31/12/2018
Israel	The IAA implements A-SMGCS level 2 since the beginning of 2015.	Completed 01/01/2015
Kazakhstan	A-SMGCS Level 2 is implemented at Almaty and Astana. Function systems in order to enable the detection of conflicts & intrusions in accordance with A-SMGCS Level 2 requirements are installed. Operational procedures will be developed at Astana and Almaty aerodromes.	Partly Completed 31/12/2018
Kyrgyzstan	No implementation planned for airports in Kyrgyzstan.	Not Applicable
Morocco		Missing Data
Russian Federation	Performing work of enhance A-SMGCS equipment in Domodedovo, Pulkovo, Vnukovo.	Planned 31/12/2018
Tajikistan	No implementation planned for airports in Tajikistan (The largest Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia		Missing Data
Turkmenistan	No implementation planned for 5 international or any national airports in Turkmenistan.	Not Applicable
Uzbekistan	Implementation is not planned for aerodromes of Uzbekistan.	Not Applicable

4.1.2   Other Block 0 Modules

4.1.2.1 B0-ACDM

IMPROVED AIRPORT OPERATIONS THROUGH AIRPORT- CDM	
AOP05	Implement Airport Collaborative Decision Making (CDM)

Global Implementation

B0-ACDM Implementation status for AOP05

Legend
- Completed
- Partly Completed
- Planned
- Late
- No Plan
- Not Applicable
- Missing Data

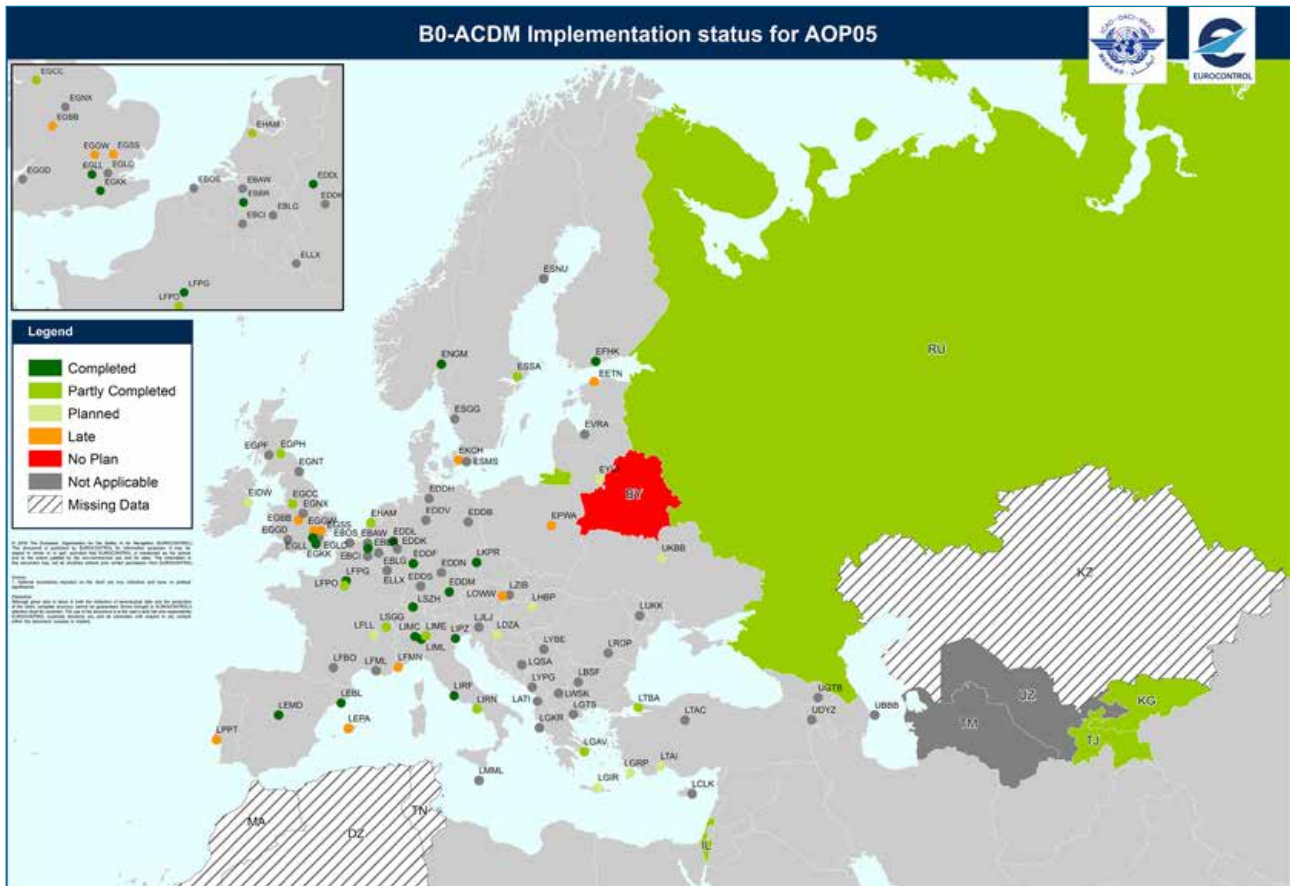### 1. Progress for States in the ESSIP/LSSIP mechanism
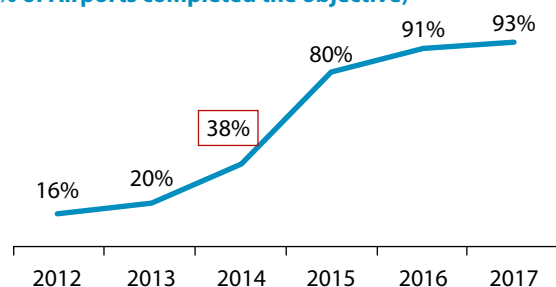
Main 2015 developments:

Significant progress in implementation of A-CDM was achieved in 2015. The majority of airports plan full completion in 2016, however only six (6) airports plan their integration into network (Paris Orly, Amsterdam, Milan Linate, Geneva, Copenhagen, Stockholm Arlanda). Eight (8) additional airports have completed the implementation of the A-CDM in 2015, leading to a total of 18 CDM airports in Europe (including Berlin Schonefeld (SXF) and Stuttgart (STR) Airport are considered as CDM airports which are not part of LSSIP reporting). Additional 19 airports in the ECAC region plan to complete the A-CDM by the end of 2016. However, according to Network Manager data, focus in 2016 is to bring only six (6) airports . Regarding the PCP airports, out of 25 airports mentioned in PCP IR, 12 have implemented A-CDM. The Remaining 10 are planning full completion by end 2016-mid 2017.Nice Airport (LFMN) and London Stansted Airport (EGSS) are planning a bit more time for full completion, 12/2018 and 12/2020.

FOC: 12/2016

Estimated achievement: 12/2016

Risk of delay

Completion Rate Evolution
(% of Airports completed the objective)

16% 20% 38% 80% 91% 93%

2012 2013 2014 2015 2016 2017

2. Status for remaining States

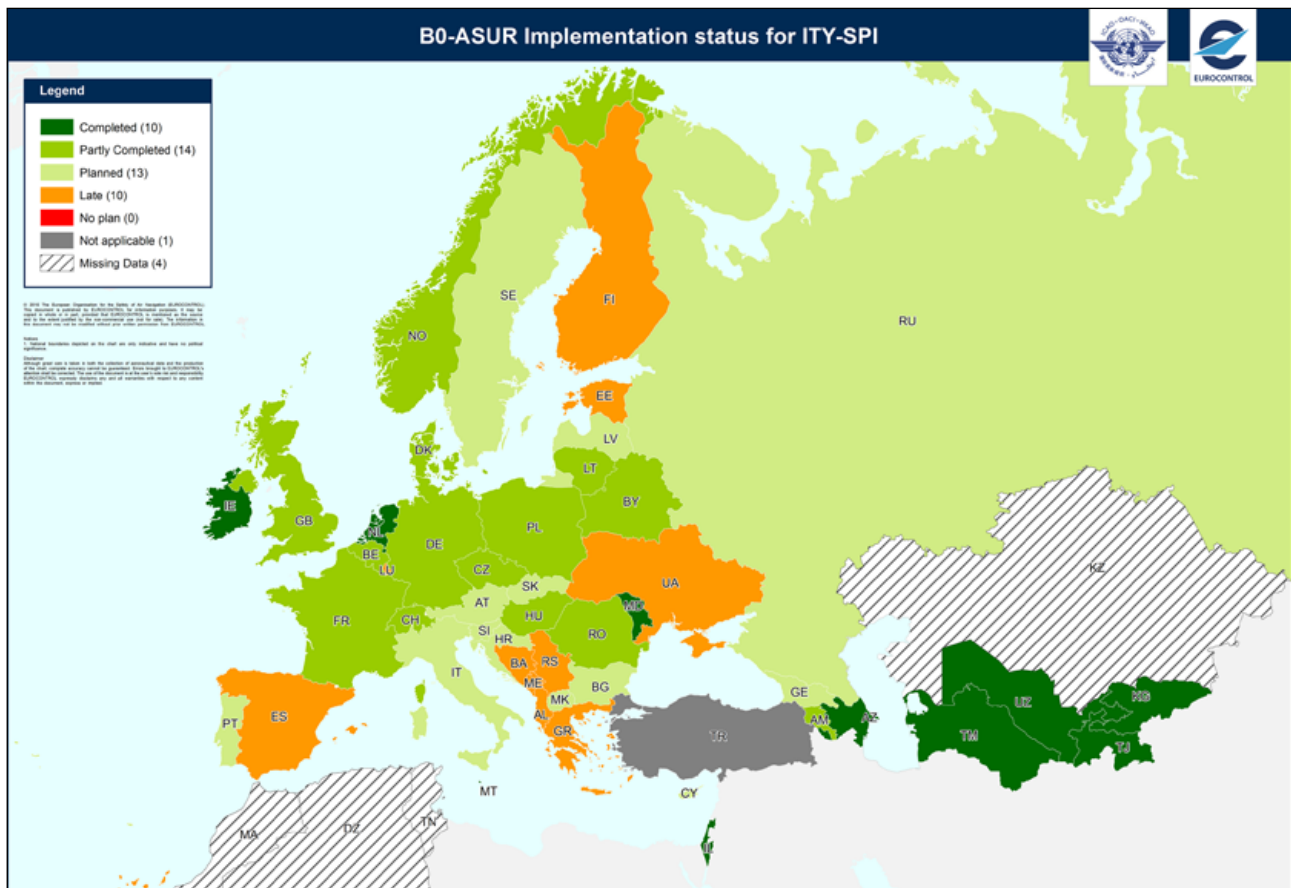|		
Algeria		Missing Data
Belarus		No Plan
Israel	The Israeli Airports Authority (IAA) is the operator of the aerodromes and it is also the ANSP. There is a LoA in each one of the airports in Israel between the airport operator and the ANSP. However, these LoAs should be improved in order to relate to ACDM. CAAI will instruct the IAA to improve their LoAs in order to include SMS safety board meetings, runway safety board meetings etc. Completion date: 1.1.2017 CAAI will instruct the IAA to create such procedures and will approve them no later than 1.1.2017 All of the airports in Israel do not enable flexibility in taxiing procedures Low Visibility Procedures (LVP) are implemented in all of the airports in Israel, and they include coordination between the ANSP and the airport operator. The LVP are approved by CAAI and inspected by it. Conditions of Anti-icing/De-icing are not applicable in Israel and in the rare event of ice or snow at an aerodrome – it will be closed by NOTAM.	Partly Completed 01/01/2017
Kazakhstan		Missing Data
Kyrgyzstan	LoAs with airport operator and airport stakeholders (for airport functions) for coordination/cooperation are in place. Consultation with airspace users is currently done via bi-lateral meetings (ANSP-AO or Airport-AO). Overarching MoU still pending	Partly Completed 31/12/2016
Morocco		Missing Data
Russian Federation	CDM in Sheremetyevo and Domodedovo airport are being implemented.	Partly Completed 31/12/2018
Tajikistan	Instructions and special procedures for coordination/cooperation between airports and ANSP are in place. Formalisation of arrangements with airspace users (as described in CDM functionality) need to be finalised.	Partly Completed 31/12/2016
Tunisia		Missing Data
Turkmenistan	Consultation with airspace users is currently done via bi-lateral meetings (ANSP-AO or Airport-AO) and on a more ad-hoc/when necessary basis.	Not Applicable
Uzbekistan	No implementation planned for aerodromes of Uzbekistan, as all aerodromes, the national airline (Uzbekistan airlines) and ANSP are in one company. Discussions with foreign airlines are done on an ad/hoc or when necessary basis.	Not Applicable

4.1.2.2 B0-ASUR

INITIAL CAPABILITY FOR GROUND SURVEILLANCE	
ITY-SPI	Surveillance performance and interoperability

Global Implementation

B0-ASUR Implementation status for ITY-SPI

Legend
- Completed (10)
- Partly Completed (14)
- Planned (13)
- Late (10)
- No plan (0)
- Not applicable (1)
- Missing Data (4)

1. Progress for States in the ESSIP/LSSIP mechanism
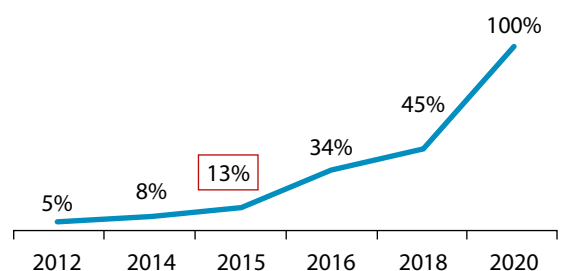
Main 2015 developments:

Within the applicability area, the overall implementation progress is good. However, it is observed that several (EU) States have missed the 2015 implementation milestone and are currently late. Because of this, the overall status is at risk of delay. Based on the reported plans, it is expected that they will catch up with this delay in 2016. There is also good visibility from the Military stakeholders with regard the equipage plans of their fleets. It should be noted that the level of implementation of the objective does not provide a full picture with regard the level of implementation of the Regulation (EU) No 1207/2011, as amended, and multiple sources of information, in particular at State level, should be corroborated in order to obtain a complete picture of the implementation. It is also encouraging to observe that voluntary implementation is taking place outside the Applicability Area, which is EU+.

FOC: 06/2020

Estimated achievement: 06/2020

Risk of delay

Completion Rate Evolution
(% of States completed the objective)

2012	2014	2015	2016	2018	2020
5%	8%	13%	34%	45%	100%

2. Status for remaining States

|		
Algeria		Missing Data
Belarus	5 secondary radars with Mode S "Enhanced" capability have been installed at Grodno, Mogilev, Minsk-2, Gomel and Brest aerodromes. Aircraft position data coming from these radars are processed by multisensory (tertiary) processing system and then displayed at ATCO positions of ATC Automated System of Minsk-2 aerodrome. Display of additional data in Mode S at the ATCO positions is being implemented in the ATC Automated System of Minsk-2 aerodrome.	Partly Completed 31/12/2019
Israel	Surveillance infrastructure is in place. All Tel-Aviv FIR is covered by a variety of surveillance infrastructure – PSR/SSR/Mode S and MLAT.	Completed
Kazakhstan		Missing Data
Kyrgyzstan	Kyrgyzstan has installed SSR radars at Manas, Osh and Issykkul airport. A MLAT system (SAAB-Sensis) covering the whole FIR was installed in 2014. Surveillance data is shared between Osh and Bishkek. SSR is used for Issykkul. Discussions with Dushanbe ACC on possible MLAT data sharing.	Completed 31/12/2014
Morocco		Missing Data
Russian Federation		Planned
Tajikistan	Tajikistan has installed SSR radar at Dushanbe and Hujand airport. A MLAT system (ERA) covering the whole FIR was installed in 2013. Surveillance data is shared with all other airports.	Completed 31/12/2013
Tunisia		Missing Data
Turkmenistan	The airspace over Turkmenistan is covered with SSR Mode 3A/C surveillance radars (range up to 400 km). At all 5 aerodromes additional PSR radars (range 110-120 km) were installed. There are no plans for ADS-B, ADS-C or MLAT installations.	Completed 31/12/2000
Uzbekistan	Uzaeronavigation has installed SSR Mode 3A/C and PSR radars which cover most (90%) of the airspace over Uzbekistan. At Tashkent airport an ASR has been installed with 80 NM coverage. The Mode 3A/C surveillance radars coverage is up to 200 NM and PSR coverage is also around 200 NM. 7 aerodromes have a SSR or PSR/SSR radar installation and 4 aerodromes (Fergana, Namangan, Karshi and Andizan) have no radar installed. There are currently no plans for ADS-B, ADS-C or MLAT installations.	Completed 31/12/2010

4.1.2.3 B0-CDO

IMPROVED FLEXIBILITY AND EFFICIENCY IN DESCENT PROFILES (CDO)	
ENV01	Implement Continuous Descent Operations (CDO) techniques for environmental improvements

Global Implementation
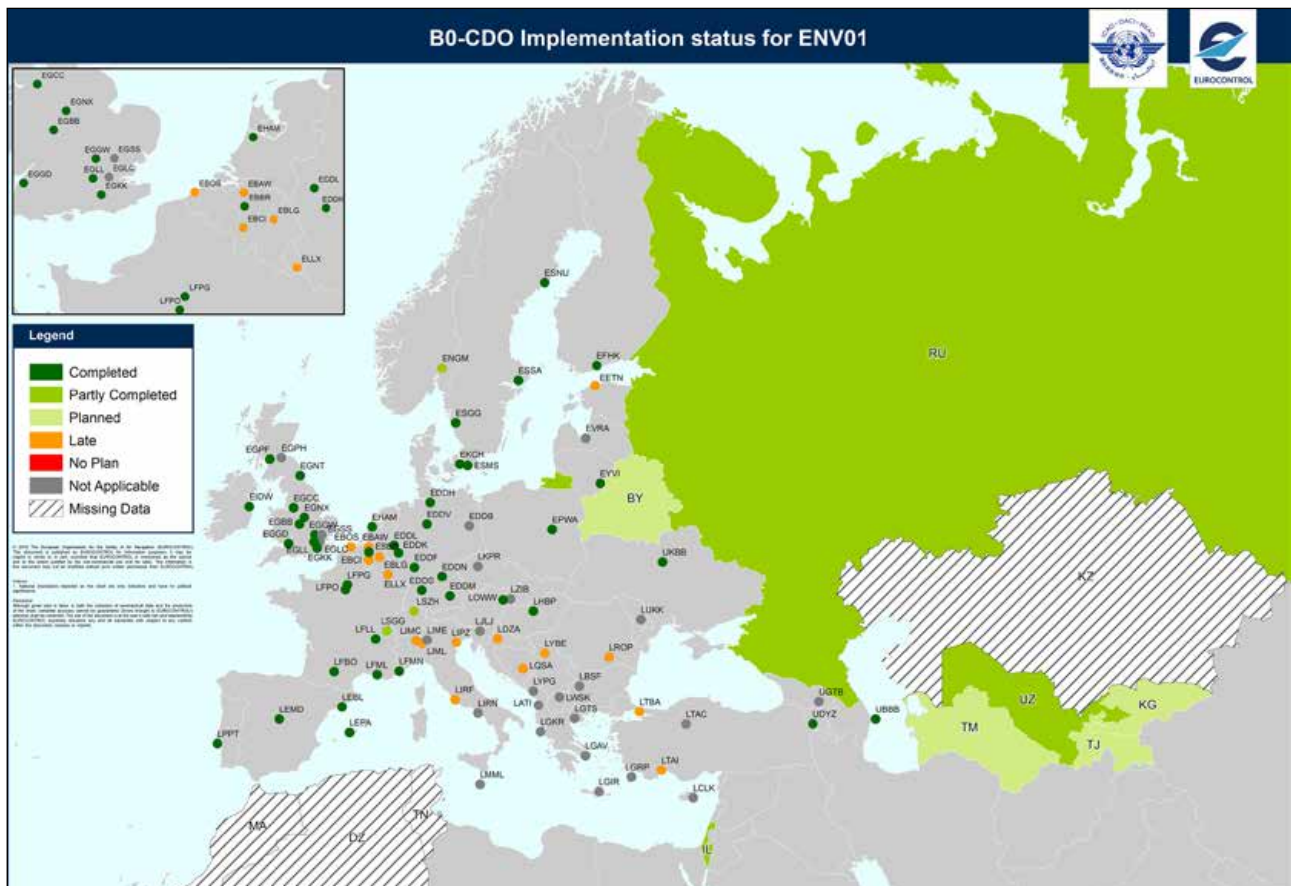
B0-CDO Implementation status for ENV01

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

The progress is slow but steady, leading for estimated completion in 2016. One (1) additional Airport has implemented this objective in 2015. This is Dusseldorf Airport (EDDL). This is a very slow implementation progress, increase of 1% (72%) in completion rate in comparison to 2014 (71%). 13 airports declare delays in implementation. It was reported that some airports are performing CDO at the pilot requests, some only at night time.

Very few airports provided reasons for delayed implementation, mainly found in needed modifications of Airspace configuration and related PRNAV procedures for ANSP's. Some airports reported difficulties in implementation of ENV01-APO01 action related to monitoring of performance.

FOC: 12/2013

Estimated achievement: 12/2016

Late

Completion Rate Evolution (% of Airports completed the objective)

64% 71% 72% 90% 97% 97%
2013 2014 2015 2016 2017 2018

2. Status for remaining States

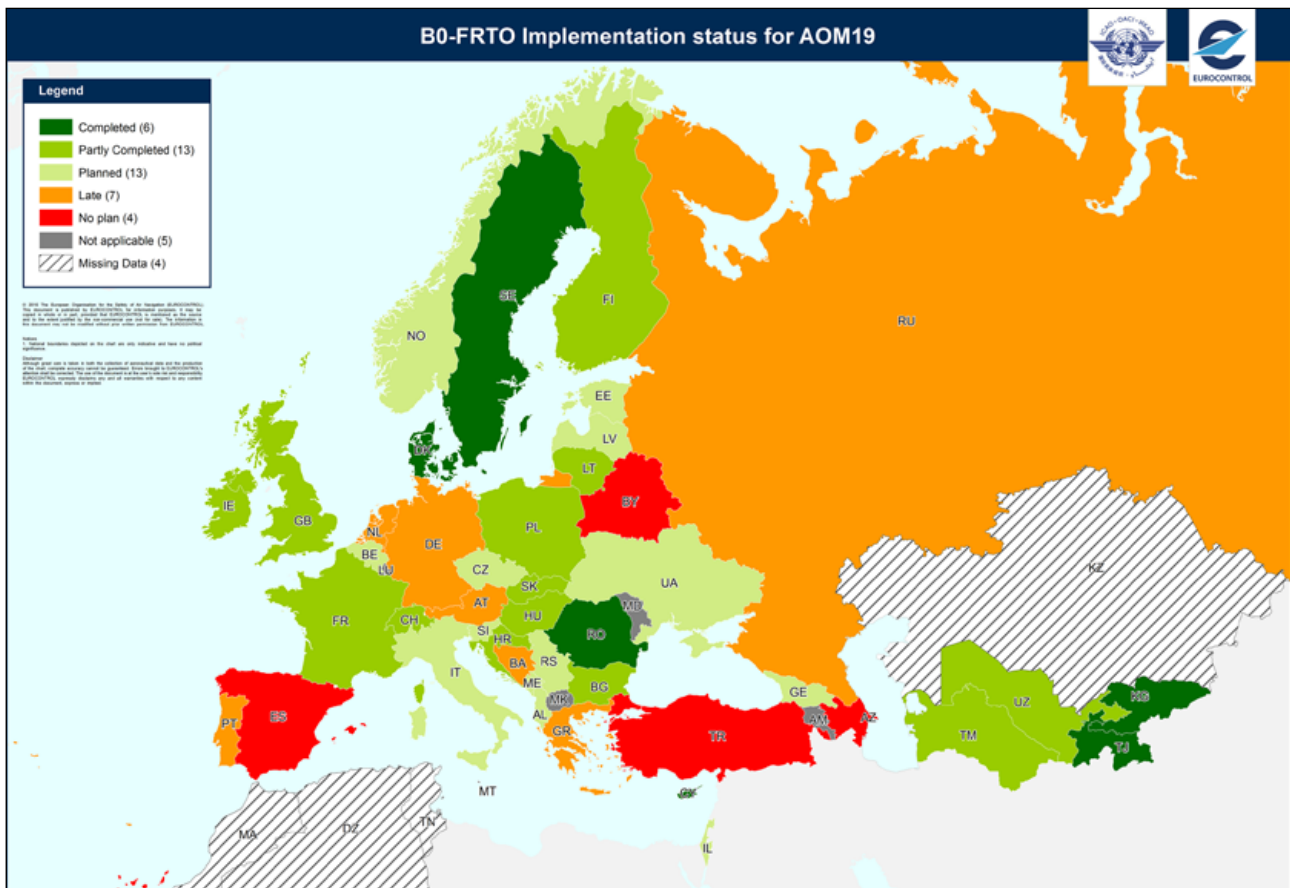| State	Description	Status
Algeria		Missing Data
Belarus		Planned 31/12/2019
Israel	CDOs are implemented wherever possible (in IAPs and STARs) in Israel. CAAI supports the implementation with the ANSP and Israeli operators have full awareness of CDO, and conduct it in daily operations. CAAI is considering receiving reference for a complete CDO plan from ANSP. Regarding the inclusion of CDO techniques in the aircrew training manual and the support of the implementation of CDO – CAAI will confirm the inclusion of those techniques in the aircrew training manual and will encourage the application of CDO techniques.	Partly Completed 31/12/2016
Kazakhstan		Missing Data
Kyrgyzstan	CCOs/CDOs are currently not implemented in Kyrgyzstan. CCOs/CDOs could be included in national PBN plan.	Planned 31/12/2018
Morocco		Missing Data
Russian Federation	Patterns are being developed taking into account CDO on acceptable routes.	Partly Completed 31/12/2018
Tajikistan	National PBN implementation plan will be started after completion of WGS-84 project approximately by end 2017. CDOs could be included in national PBN plan	Planned 31/12/2018
Tunisia		Missing Data
Turkmenistan	Full scale CCOs/CDOs are currently not implemented in Turkmenistan, but aircraft are cleared for STARs without level-offs. Departure Clearances include the climb up to the filed FL. CCOs/CDOs could be included in national PBN plan.	Planned 31/12/2018
Uzbekistan	Full scale CCOs/CDOs are currently not implemented in Uzbekistan, but aircraft are cleared for STARs without level-offs and most SIDs have only a limited number (sometimes only one to FL140 for APP) level-off segment. Departure Clearances can include sometimes the climb up to the filed cruising FL. CCOs/CDOs developments will be included into the national PBN plan.	Partly Completed 31/12/2018

4.1.2.4 B0-FRTO

IMPROVED OPERATIONS THROUGH ENHANCED EN-ROUTE TRAJECTORIES	
AOM19	Implement Advanced Airspace Management

Global Implementation

B0-FRTO Implementation status for AOM19

Legend
- Completed (6)
- Partly Completed (13)
- Planned (13)
- Late (7)
- No plan (4)
- Not applicable (5)
- Missing Data (4)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

This objective shows very low implementation rate and will be delivered with delays. Six (6) States (AT, BA, DE, GR, NL, PT) changed their implementation status to 'late'. One (1) State (CY) reported this objective as 'completed' and two (2) States (GE, RS) changed the status from 'no plan' to 'planned'. The main reason for the delay at State level is later implementation of the full interoperability between the local ASM tools and NM systems. 25 States report delay in interoperability implementation between the local ASM tools and NM systems (ASP-05) and 19 States report delays in deployment of the automated ASM support systems (ASP-09). There is still a marginal number of states which have reported 'not applicable', justified by a negligible number of OAT operations (LU, MD, MK, MT).

FOC: 12/2016

Estimated achievement: 12/2018

Planned delay

Completion Rate Evolution
(% of States completed the objective)

2013	2014	2015	2016	2017	2018
2%	10%	12%	71%	79%	81%

2. Status for remaining States

State	Description	Status
Algeria		Missing Data
Belarus		No Plan
Israel	The Israeli ANSP has begun a major organizational change that should allow fulfilling this objective by 1.1.2017. CDRs are implemented throughout the Israeli ENR map. Continuous coordination with the air force is being performed in order to improve this mechanism. Given the nature of the region, DCT and over flights are the minority of flights. Planning and reservation of Air space is dependent on organizational s steps in the ANSP (have already begun – see answer above. Reserved/segregated airspace utilization is being done in accordance with actual need. reserved/segregated non used airspace is being released as soon as activity stops. Allocation procedure 3 is being used to utilized unused reserved/segregated airspace. In addition, CAAI and the ANSP will be signing by the end of 2015 a comprehensive agreement that will relate to automated ASM support systems.	Planned 01/01/2017
Kazakhstan		Missing Data
Kyrgyzstan	Kyrgyzstan is operating a combined civil military ATFM Unit which provides the describe services. The SAR coordination center is an integrated part of this unit.	Completed 31/12/2015
Morocco		Missing Data
Russian Federation		Late
Tajikistan	The Tajikistan Main Air Navigation Center includes an ATFM Unit which provides the describe services.	Completed 31/12/2012
Tunisia		Missing Data
Turkmenistan	Turkmenistan is operating a combined civil military Airspace Management (ASM) Unit which provides the describe services. Asgabat ACC and Turkmenbashi ACC have also integrated a military CWP. The coordination with adjacent units/ACCs is done verbally and ATFM is done at tactical level (ATC supervisor) only. The main ATFM unit is Asgabat and the coordination with other ATFM units is done via NOTAM and phone.	Partly Completed 31/12/2016
Uzbekistan	Uzaeronavigation has a combined civil military Airspace Management (ASM) Unit which provides some of the ATFM services. All ACCs (Tashkent, Samarkand and Nukus) have an integrated military CWP. The coordination with adjacent units/ACCs is done verbally and ATFM is done at tactical level (ATC supervisor). The main ATFM unit is located in Tashkent and the coordination with other ATFM units is done via phone. No regional coordination is done with Moscow ATFMU or the NMOC in Brussels.	Partly Completed

NAV03	Implementation of P-RNAV

Global Implementation

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

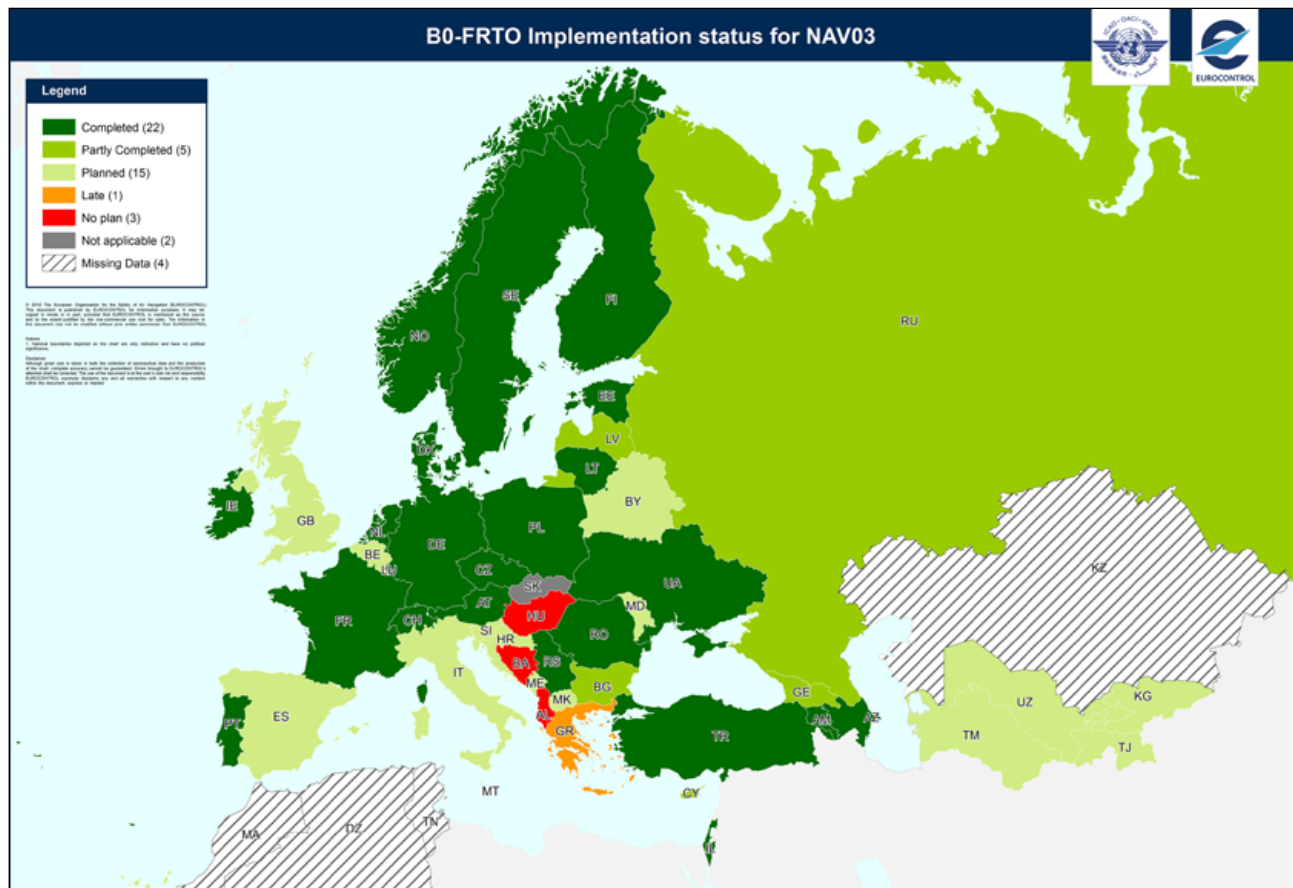Two (2) more states have completed the objective in 2015 (AZ, GE). Four (4) States (BG, CY, GE, LV) have significantly progressed the implementation in 2015. However, there are still three (3) States (AL, BA, HU) which have not yet approved plans for implementation of this objective. The final operational capability for this objective has been postponed and aligned with the ATM Functionality AF1 of Commission Implementing Regulation (EU) No 716/2014 — 'Pilot Common Project' but not the scope of the objective. It is expected that the scope of the objective will be reviewed and most probably amended to be aligned with the forthcoming Commission PBN Implementing Regulation. According to the EUROCONTROL PRISME Fleet database, 66% of the flights in IFPS zone, had RNAV1 capabilities (all permitted sensors) in 2015.

FOC: 12/2023

Estimated achievement: 12/2023

On Time

Completion Rate Evolution (% of States completed the objective)

44% — 51% — 66% — 73% — 79% — 92%

2013 2015 2017 2019 2021 2023

2. Status for remaining States

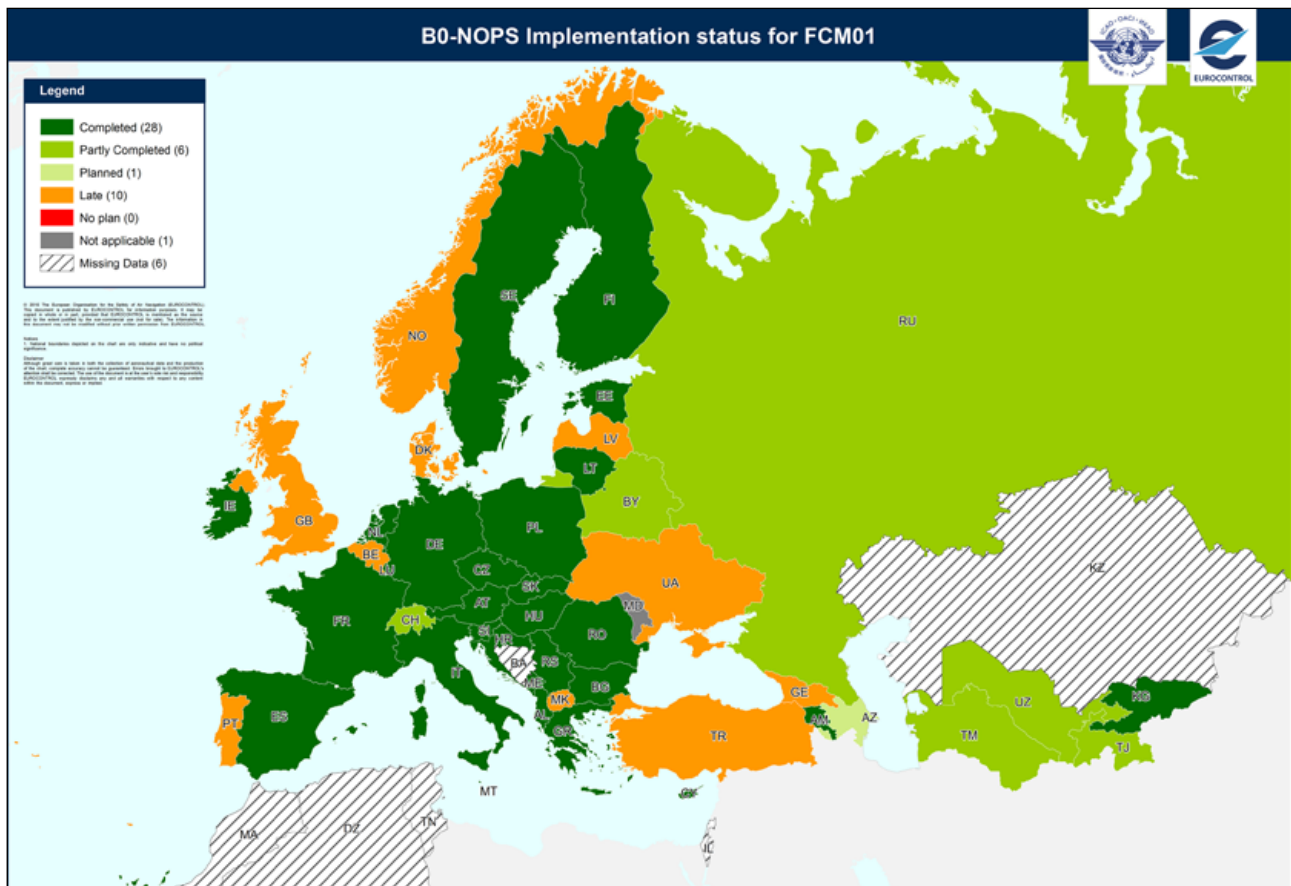|		
Algeria		Missing Data
Belarus		Planned 31/12/2017
Israel	P-RNAV Routes, SIDs, STARs and CDRs are implemented throughout the Israeli airspace. Israel is engaged in advanced action with EC to allow EGNOS SBAS operations as soon as operational coverage will begin. Safety case has been performed per IFP, and a general ESARR compliant Safety case has been recently performed in collaboration with "Helios", in the framework of EC technical assistance team.	Completed
Kazakhstan		Missing Data
Kyrgyzstan	ATS Route are based on terrestrial infrastructure. National PBN plan is still under development and PRNAV routes could be included in national PBN plan.	Planned 31/12/2018
Morocco		Missing Data
Russian Federation	SID/STAR procedures are being developed according to RNAV requirements. Implementation of RNAV-5 specifications via ATC routes is in progress, as well as RNAV-1 via departing and arriving routes (SIDSTAR) and on approach to land according to RNPAPCH specification. (According to PBN implementation plan in the Russian Federation airspace). The PANSOPS criteria are used to develop safety case evaluation.	Partly Completed 31/12/2017
Tajikistan	National PBN implementation plan will be started after completion of WGS-84 project approximately by end 2017. PRNAV routes could be included in national PBN plan.	Planned 31/12/2018
Tunisia		Missing Data
Turkmenistan	All ATS Routes in Turkmenistan are based on terrestrial infrastructure. National PBN plan has not been developed so far, but PRNAV routes could be developed, as part of the future PBN plan, in the airspace structure.	Planned 31/12/2018
Uzbekistan	After WGS-84 implementation, P-RNAV will be planned. The existing ATS Routes are based on terrestrial infrastructure (VOR, DME and NDBs). The airspace structure and ATS routes are based on conventional provisions (e.g. ATS-Route width 10km) and no NavSpecs have been defined so far. The national PBN plan developments will be started after the WGS-84 program approval.	Planned 31/12/2018

4.1.2.5 B0-NOPS

IMPROVED FLOW PERFORMANCE THROUGH PLANNING BASED ON A NETWORK-WIDE VIEW	
FCM01	Implement enhanced tactical flow management services

Global Implementation

B0-NOPS Implementation status for FCM01

Legend
- Completed (28)
- Partly Completed (6)
- Planned (1)
- Late (10)
- No plan (0)
- Not applicable (1)
- Missing Data (6)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

The objective is late, with SLoAs which should have been implemented more than 15 years ago (ASP04 was originally foreseen to be implemented by 12/1999) and are still not finalised by few States. However, the priority SLoAs have been implemented by almost 90% of the States, even if some of these States reported 'late' at the overall objective level. The objective is considered as completed by the NM, as priority actions are implemented in almost all ECAC States. Therefore, it is declared as achieved. Nevertheless, the completion comes 10 years later than its FOC date. The main reason given by the States for delaying the implementation is of a technical nature and lack of operational justification for some of the SLoAs. Implementation is linked to the deployment of new systems or to major upgrades of existing ones. In many instances the objective is perceived as not being operationally justified at local level.
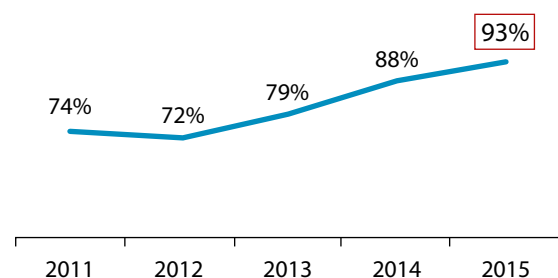
FOC:	12/2006	
Estimated achievement:	12/2015	**Achieved**

Completion Rate Evolution
(% of ANSPs completed ASP04)

74% 2011
72% 2012
79% 2013
88% 2014
93% 2015

2. Status for remaining States
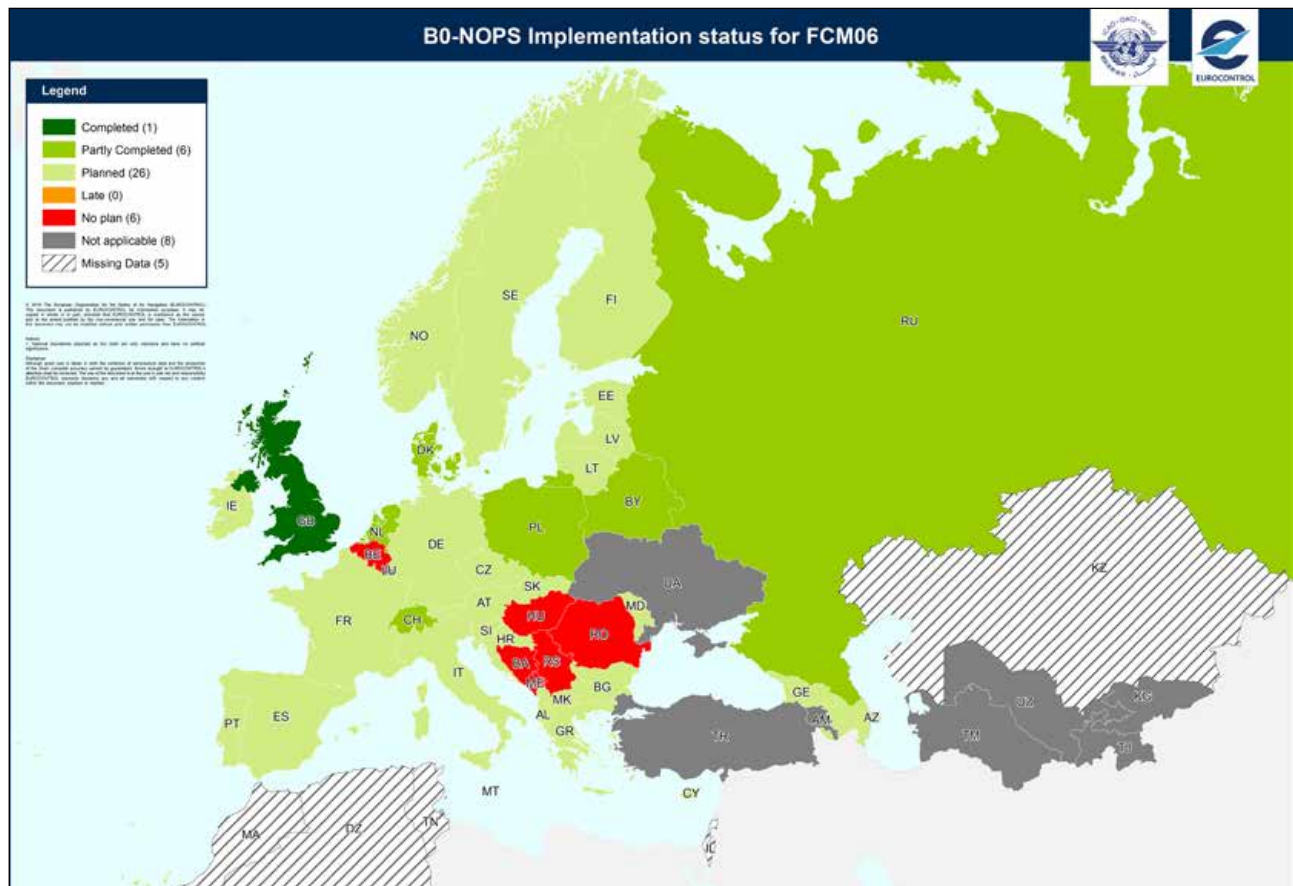
Algeria		Missing Data
Belarus	FMP was established at Minsk ACC in 2010. Information about traffic flows is disseminated by FMP to all interested users. If necessary, ATFM measures can be taken by ATC in Minsk FIR. In order to arrange for applying ATFM measures in Belarus airspace and adjacent states, the following agreements have been concluded: Agreement for Air Traffic Flow Management between EUROCONTROL and the Department of Aviation No. 00/74 dd 05/07/2000 as amended by Protocol dd 31/07/2008, Agreement for Coordination of Flights over Belarus airspace aiming at reducing overload in congested areas within CFMU dd May 2010.	Partly Completed 31/12/2019
Israel	Israel is in a process of to conclude a comprehensive agreement with Eurocontrol and join to Eurocontrol as participating state and receive ATFCM services by NM.	Missing Data
Kazakhstan		Missing Data
Kyrgyzstan	The ATFM unit coordinates a number of ATFM measures with adjacent ATFMUs in neighbouring States and the Moscow Main ATFM Center, by either AFTN, direct phone lines or specific SATCOM lines.	Completed 31/12/2012
Morocco		Missing Data
Russian Federation	In the frame of present modernization of the RF ATM center and the implementation of automated planning of airspace use and flow management, all the above mentioned functions are planned to introduce in the period 2016-2018.	Partly Completed 31/12/2018
Tajikistan	The ATFM unit coordinates a number of ATFM measures with adjacent ATFMUs in neighbouring States and the Moscow Main ATFM Center. Further clarification needed.	Partly Completed
Tunisia		Missing Data
Turkmenistan	The ATFM unit in Asgabat coordinates a number of ATFM measures with all adjacent ATFMUs in neighbouring States.	Partly Completed 31/12/2016
Uzbekistan	A ATFM unit has been established in Tashkent ACC, as published in AIP ENR 1.9, which coordinates with military units and other ACCs. Some of the ATFM functions are performed and ATFM measures are coordinated with all adjacent ATFMUs in neighbouring States. One of the activities of the Eurasia coordination council is the establishment of a sub-regional ATFM Center and Uzbekistan is supporting these developments.	Partly Completed

Global Implementation

B0-NOPS Implementation status for FCM06

Legend
- Completed (1)
- Partly Completed (6)
- Planned (26)
- Late (0)
- No plan (6)
- Not applicable (8)
- Missing Data (5)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Year 2015 was the first year of this objective being monitored so no comprehensive assessment of progress can be done. First results show very good stakeholder awareness. Already one (1) ANSP (NATS) reports it completed and four partly completed. No issues have been yet reported by stakeholders. Only there is still a certain lack of clarity on the metrics to be applied, which depend on each ANSP.

Some ANSPs have not yet drawn concrete plans and/or are waiting for further developments by the Network Manager. It is still early in the implementation timeframe (FOC:12/2021), there are no major issues to raise at this stage.

FOC: 12/2021

Estimated achievement: not available

Completion Rate Evolution (% of States completed the objective)

2015	2016	2017	2018	2019	2020
3%	5%	5%	11%	13%	18%

2. Status for remaining States

Algeria		Missing Data
Belarus	FMP has the capability of distributing air traffic load within Belarus airspace, and this function is operational.	Partly Completed 31/12/2021
Israel	Israel is in a process of to conclude a comprehensive agreement with Eurocontrol and join to Eurocontrol as participating state and receive ATFCM services by NM.	Missing Data
Kazakhstan		Missing Data
Kyrgyzstan	No implementation planned for airports in Kyrgyzstan (Bishkek airport has currently 40-45 movements per day, Osh airport around 20-25 movements per day).	Not Applicable
Morocco		Missing Data
Russian Federation	In the frame of present modernization of the RF ATM center and the implementation of automated planning of airspace use and flow management, all the above mentioned functions are planned to introduce in the period 2016-2018.	Partly Completed 31/12/2020
Tajikistan	Not planned, because the potential of the existing ATS allows multiple increase in the flow.	Not Applicable
Tunisia		Missing Data
Turkmenistan	No implementation planned for international airports and ACCs in Turkmenistan, but the new ATC system would offer this TLM functionality.	Not Applicable
Uzbekistan	Due to the low air traffic figures (Tashkent has several peak hours of ARR/DEP traffic with 20-30 aircraft movements in those 2 hours for 6 times during a week) this use of the TLM tool is not planned so far. As part of the new ATC system developments, TLM could be included into the future ATC system functionality.	Not Applicable

4.1.2.6 B0-RSEQ

IMPROVE TRAFFIC FLOW THROUGH RUNWAY SEQUENCING (AMAN/DMAN)	
ATC07.1	Implement arrival management tools

Global Implementation
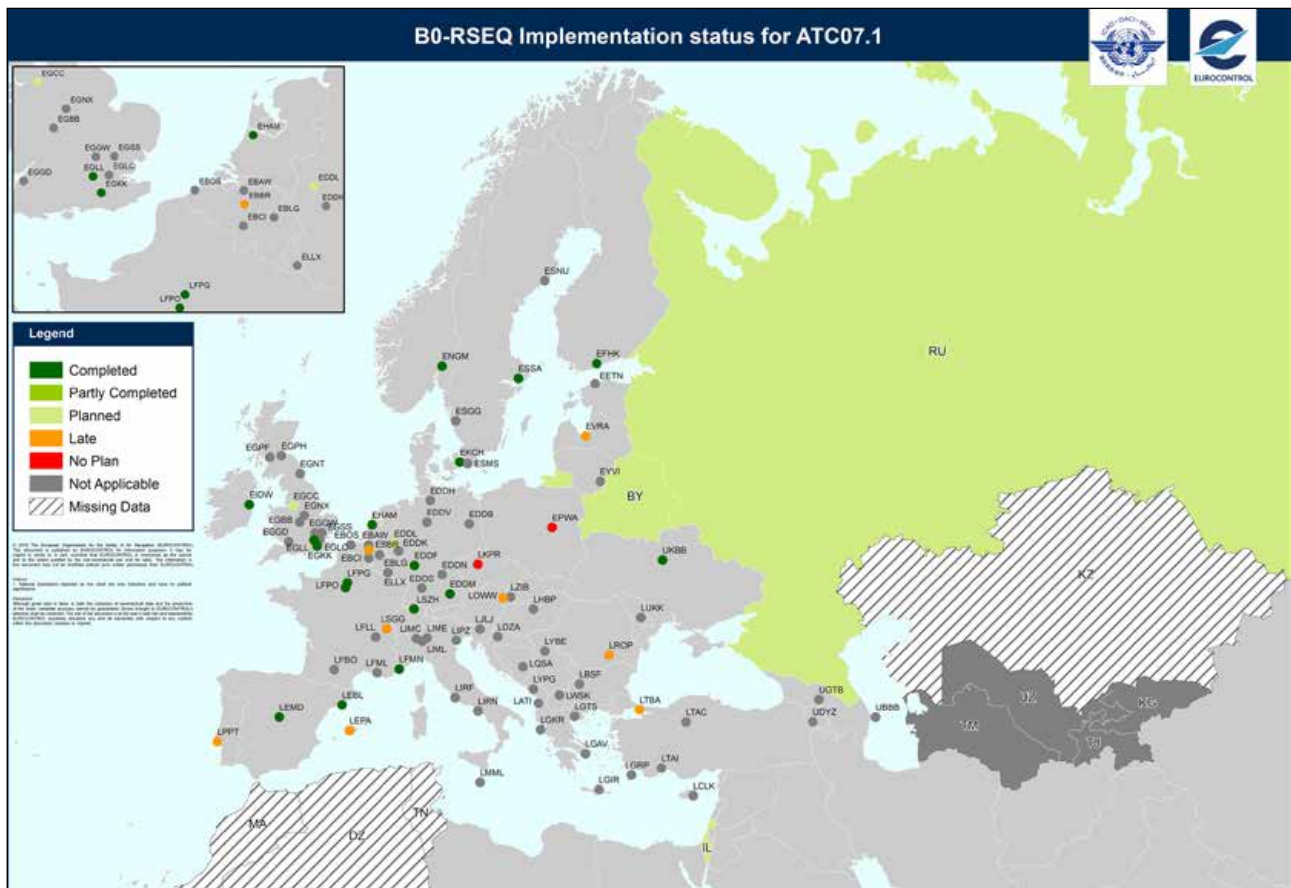
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Significant improvements are recorded in the rate of completion, now beyond 50% across the applicable area. Those service providers showing a delayed progress already have firm plans (LPPT Lisbon, LKPR Prague). In one case (LOWW Vienna), arrival manager has been introduced procedurally since 2009, now awaiting for the full system to be implemented. It should be noted that some airports report the ambition to immediately implement upgraded functionalities of extended AMAN. These are mainly Italian Airports (Rome Fiumicino LIRF and Milan Malpensa LIMC), and they have declared basic AMAN functionalities as "not applicable". According to implementation plan reported by the stakeholders, achievement rate of 80% will be reached in 2019 in the applicability area. That means an overall delay of almost 4 years.

FOC: 12/2015

Estimated achievement: 12/2019

Late

Completion Rate Evolution (% of States completed the objective)

2. Status for remaining States

Algeria		Missing Data
Belarus		Planned 31/12/2017
Israel	The IAA has already started a process of examination the needs and existing solutions.	Planned 31/12/2018
Kazakhstan		Missing Data
Kyrgyzstan	No implementation planned for airports in Kyrgyzstan (Bishkek airport has currently 40-45 aircraft movements per day, Osh airport around 20-25 movements per day).	Not Applicable
Morocco		Missing Data
Russian Federation	AMAN implementation is being planned.	Planned 31/12/2016
Tajikistan	No implementation planned for airports in Tajikistan (Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia		Missing Data
Turkmenistan	No implementation planned for the international airports in Turkmenistan (Asgabat airport has currently 60 aircraft movements per day, Turkmenbashi airport has around 20 movements per day, Turkmenabat and Dashoguz airports have around 15 movements per day and Mary airport has 10 movements per day).	Not Applicable
Uzbekistan	No implementation planned for aerodromes of Uzbekistan due to low traffic figures.	Not Applicable

ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations

Global Implementation

B0-RSEQ Implementation status for ATC15

Legend
- Completed (6)
- Partly Completed (4)
- Planned (13)
- Late (2)
- No plan (3)
- Not applicable (20)
- Missing Data (4)

1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

Slight delay in implementation of extended AMAN is envisaged. There is almost no improvement in the implementation comparing to 2014. The overall completion rate stagnates around 25% (seven (7) States have declared the objective as completed) and there is no completion planned for next year. In a number of cases, the implementation of extended AMAN relies on a coordination with neighbouring ANSPs and some negotiations among ANSP are still ongoing. Delays are so far reported by Spain and Portugal where extended AMAN function is planned to be implemented sequentially (deadline end 2018). Remaining States still report that full completion will be within the overall deadline prescribed by the objective.

FOC: 12/2017

Estimated achievement: 12/2018

Planned delay

Completion Rate Evolution
(% of States completed the objective)

2013	2014	2015	2016	2017	2018
20%	23%	26%	26%	70%	85%

73

2. Status for remaining States

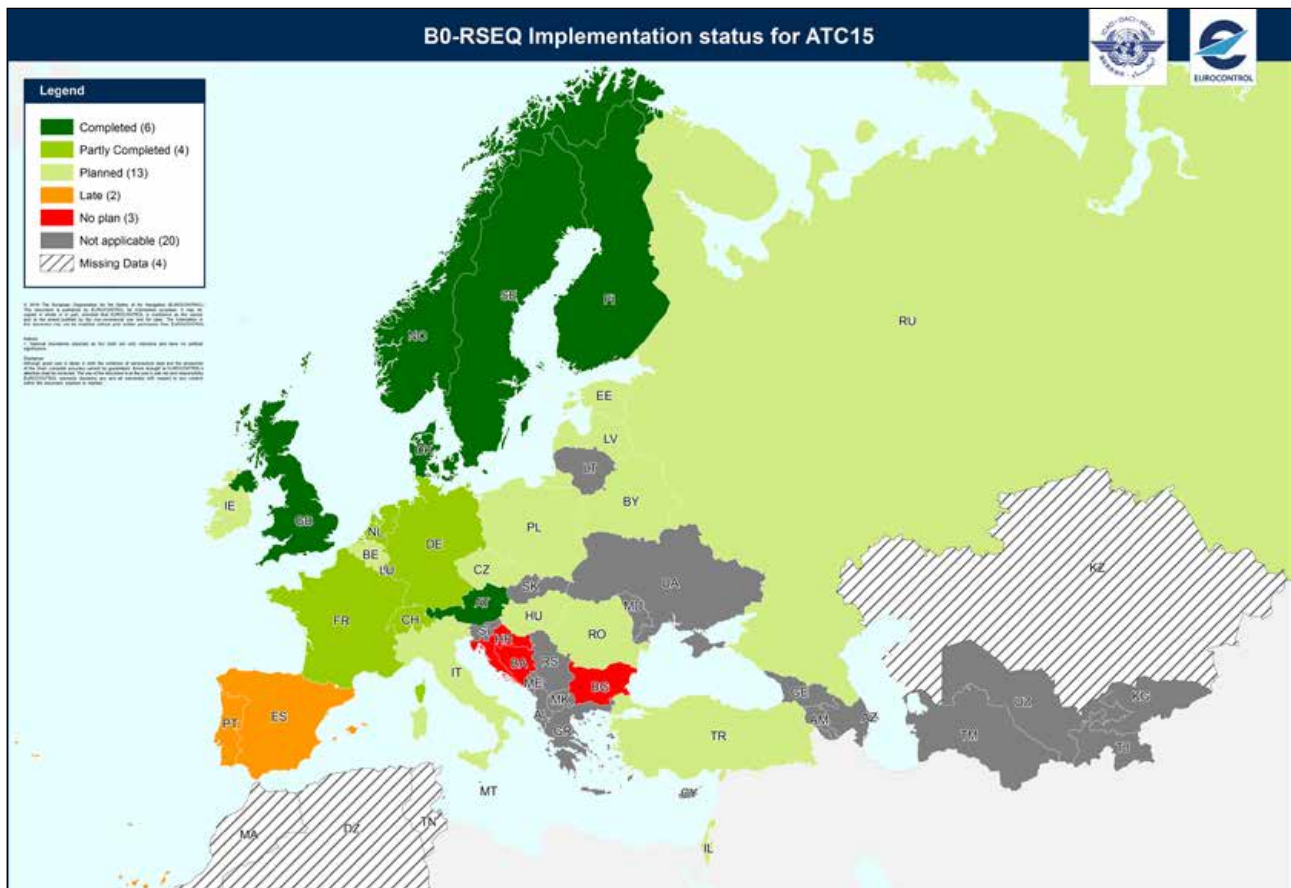| State	Description	Status
Algeria		Missing Data
Belarus		Planned 31/12/2017
Israel	The IAA has already started a process of examination the needs and existing solutions.	Planned
Kazakhstan		Missing Data
Kyrgyzstan	No implementation planned for airports in Kyrgyzstan (Bishkek airport has currently 40-45 aircraft movements per day, Osh airport around 20-25 movements per day).	Not Applicable
Morocco		Missing Data
Russian Federation	AMAN implementation is being planned.	Planned 31/12/2016
Tajikistan	No implementation planned for airports in Tajikistan (Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia		Missing Data
Turkmenistan	No implementation planned for the international airports in Turkmenistan (Asgabat airport has currently 60 aircraft movements per day, Turkmenbashi airport has around 20 movements per day, Turkmenabat and Dashoguz airports have around 15 movements per day and Mary airport has 10 movements per day).	Not Applicable
Uzbekistan	No implementation planned for aerodromes of Uzbekistan due to low traffic figures.	Not Applicable

4.1.2.7 B0-TBO

IMPROVED SAFETY AND EFFICIENCY THROUGH THE INITIAL AP-PLICATION OF DATA LINK EN-ROUTE	
ITY-AGDL	Initial ATC air-ground data link services above FL-285

Global Implementation
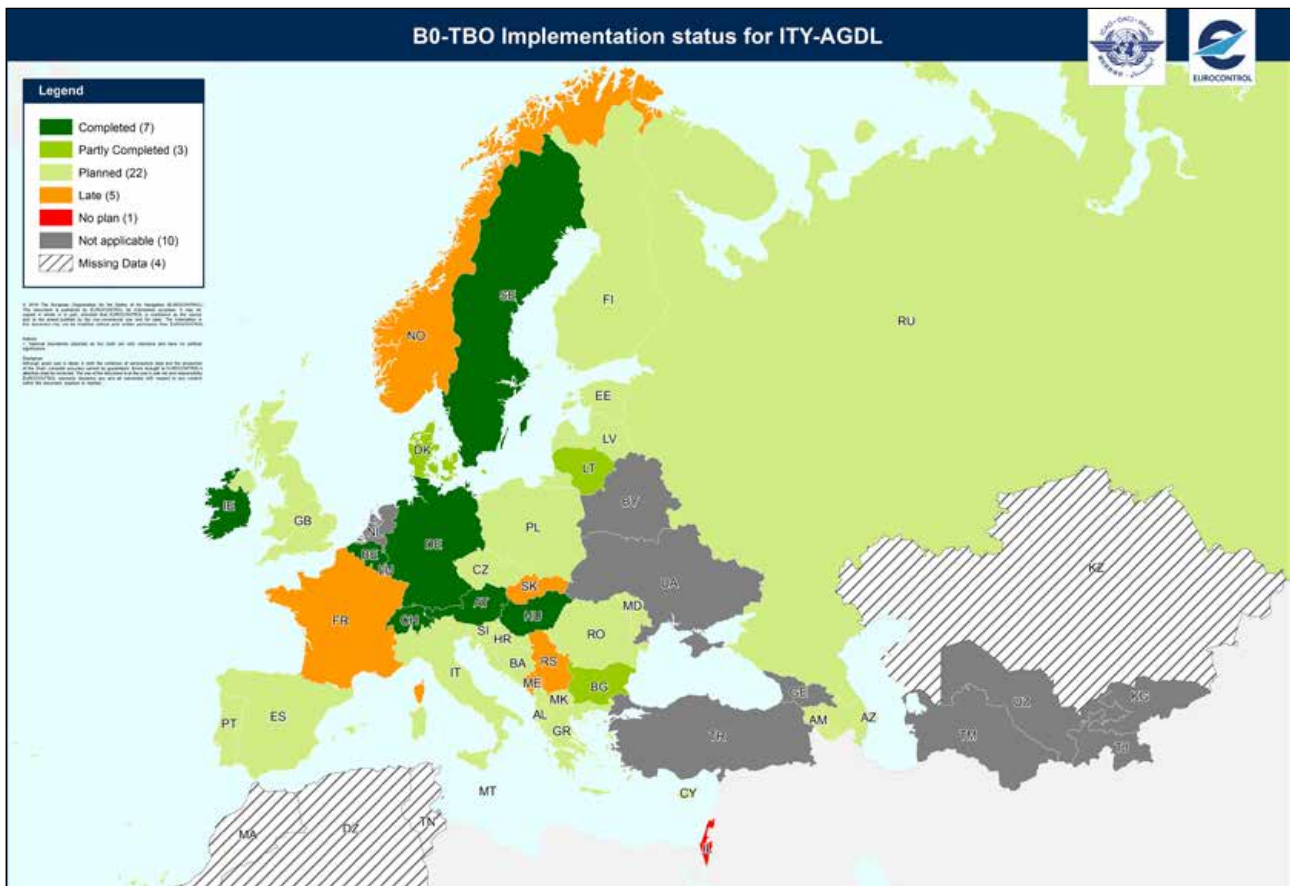
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2015 developments:

The overall progress is slow but it is estimated that the objective will be completed on time. Two (2) more Sates have completed the objective in 2015 (SE, HU). In addition, the ANSP and the REG of Denmark have completed the objective in 2015. This is a very small improvement in comparison with 2014 when completion level was at 19%. It should however, be noted that performance concerns were identified during early operation of datalink due to technical issues which were investigated and the way forward proposed by EASA. EC tasked the SESAR Joint Undertaking (SJU) to prepare a plan to execute the EASA recommendations and also amended the regulation by the postponement of deadlines for ground infrastructure to 5 February 2018 and for airborne to 5 February 2020. According to the EUROCONTROL PRISME Fleet database, 52% of the flights in IFPS zone, had datalink capabilities in 2015.

FOC: 02/2020

Estimated achievement: 12/2018

On Time

Completion Rate Evolution (% of States completed the objective)

2013	2014	2015	2016	2017	2018
13%	19%	21%	26%	29%	86%

2. Status for remaining States

State	Description	Status
Algeria		Missing Data
Belarus		Not Applicable
Israel	Since the volume of over flight operations over Israel is relatively very low, there is no plan at the moment to implement ATC air to ground data link above FL-285.	No Plan
Kazakhstan		Missing Data
Kyrgyzstan	No implementation planned for Kyrgyzstan.	Not Applicable
Morocco		Missing Data
Russian Federation	In Moscow airspace a piloting project " The fragment of digital communication CPDLC system " has been started on the base of data relay line VDL-2 use.	Planned 31/12/2018
Tajikistan	Not planned. There are no interested users.	Not Applicable
Tunisia		Missing Data
Turkmenistan	No implementation planned for Turkmenistan.	Not Applicable
Uzbekistan	No implementation is planned for Uzbekistan.	Not Applicable

5. CONCLUSIONS AND RECOMMENDATIONS

To summarize the information presented in the last two chapters, namely the planning views and implementation progress, two self-explanatory tables were developed and aimed at giving an overall and straightforward understanding of the ASBUs Implementation status so far.

The first table (Table 1) presents the number of States that have achieved implementation and gives the overall rate of "Completion" status by the end of 2015, excluding those States where is "Not Applicable". We called it "**ASBU Block 0 Implementation Dashboard**" because it can be used to compare, in a simple way, the progress achieved in different ICAO Regions.

It can be used as well at next reporting period (2016) as a reference table to compare and assess the implementation evolution achieved in that elapsed time.

Table 1 – *ASBU Block 0 Modules Implementation Dashboard 2015*

ASBU B0 MODULE	NUMBER OF STATES COMPLETED BY THE END OF 2015	NOT APPLICABLE STATES	COMPLETION BY THE END OF 2015 (%) - EXCLUDES STATES WHERE THE MODULE IS NOT APPLICABLE
ACAS	28	0	**54%**
APTA	6	1	12%
DATM	5	0	10%
FICE	1	0	2%
SNET	20	0	38%
SURF	13	16	36%
ACDM	5	19	15%
ASUR	11	1	21%
CDO	17	13	43%
FRTO	4	1	8%
NOPS	3	0	6%
RSEQ	5	18	15%
TBO	7	10	16%

In bold and shaded green: Completion rate above 50% by the end of 2015 in accordance with the data reported by States.

Shaded orange: Completion rate between 30% and 50% by the end of 2015 in accordance with the data reported by States.

The second table (Table 2) presents the "Completion" status (number of States and rates)   foreseen to be achieved by the end of 2018, in accordance with the planning dates reported by States in the ICAO EUR Region. It is understood that 2018 is a reference date and milestone for the implementation of ASBU Block 0 modules therefore the aim of this table is to project an implementation scenario for 2018 in accordance with the plans and data indicated by States. For that reason we called it "A**SBU Block 0 Modules Implementation Outlook for 2018**".

This table will be useful to assess if there was a relevant change in planning dates and postponements of plans taking as reference the reporting year 2015.

Table 2 – *ASBU Block 0 Modules Implementation Outlook for 2018*

ASBU B0 MODULE	NUMBER OF STATES FORESEEN TO BE COMPLETED BY THE END OF 2018	NOT APPLICABLE STATES	COMPLETION FORESEEN BY THE END OF 2018 (%) - EXCLUDES STATES WHERE THE MODULE IS NOT APPLICABLE
ACAS	45	0	**87%**
APTA	39	1	76%
DATM	47	0	**90%**
FICE	40	0	77%
SNET	40	0	77%
SURF	30	16	**83%**
ACDM	27	19	**82%**
ASUR	24	1	47%
CDO	33	13	**85%**
FRTO	34	1	66%
NOPS	9	0	18%
RSEQ	22	18	65%
TBO	32	10	76%

In bold and shaded green: Completion rate above 80% by the end of 2018 in accordance with the Planning dates reported by States.

Shaded orange: Completion rate between 70% and 80% by the end of 2018 in accordance with the Planning dates reported by States.

Recommendations:

This is the first ICAO ASBU monitoring report containing data from almost all ICAO EUR States (three States missing) and where a more complete and comprehensive analysis of the overall implementation situation was done. Therefore as a result of this analysis and lessons learned from the activities performed during the reporting cycle covered by this report, a few high level recommendations are ensued:

- Undertake the necessary actions to ensure that all ICAO EUR States, specifically the 3 missing ones, will report their activities and provide their contributions, within the schedule, with detailed information about their plans and completion dates.

- Ensure that no duplication of reporting activities will be requested to States namely the ECAC ones, meaning that the data available through existing reporting mechanisms such as the ESSIP/LSSIP shall be always used.

- Consider change the notion of ASBU "Priority 1 Modules" as applicable today following EANPG/55. It is recommended that one single list of modules (which are important for the EUR Region) shall be addressed without prioritisation, as all modules and related activities are equally important to be timely implemented in order to achieve the GANP/ICAO objectives on a global perspective.

- The significant evolution of the monitoring report and the important contribution and commitment by States are recognised and appreciated. In an effort to improve it even further States are recommended to address carefully and seriously the quality of the reported data and the consistency of their projects and plans.

- Ensure that all States have a clear and common understanding of the scope and the details of the activities entailed in each ASBU Block 0 modules and associated elements. States are encouraged to develop and update their National ASBUs Implementation Plans.

- The existing monitoring questionnaire and information process to be updated in accordance with required evolution and changes in the activities linked to and in the scope of the ASBU Block 0 modules. s

ANNEX 1 Block 0 Modules EUR Implementation Plan and Mapping

The following tables show the link between ASBU B0 Modules and ESSIP objectives and some target dates for overall implementation. These tables are adapted from the Appendix G to EANPG/55 meeting report and updated in accordance with ESSIP Plan 2015 edition.

ASBU Block 0 Modules – Priority 1

MODULE CODE	MODULE TITLE	APPLICABILITY AREA	PRIORITY	MONITORING (ESSIP)
B0-APTA	Optimization of Approach Procedures including vertical guidance	EUR	1	NAV10
B0-SURF	Safety and Efficiency of Surface Operations (A- SMGCS Level 1-2)	Selected Aerodromes (list to be established in coordination with AU and ANSPs)	1	AOP04.1; AOP04.2
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	EUR – AIDC/OLDI	1	ATC17; ITY-COTR; ITY-FMTP
B0-DATM	Service Improvement through Digital Aeronautical Information Management	EUR	1	INF04; ITY-ADQ
B0-ACAS	ACAS Improvements	EUR	1	ATC16
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	EUR – STCA Level 2	1	ATC02.2; ATC02.5; ATC02.6

Other (non priority) ASBU Block 0 Modules

MODULE CODE	MODULE TITLE	APPLICABILITY AREA	PRIORITY	MONITORING (ESSIP)
B0-ACDM	Improved Airport Operations through Airport-CDM	Selected Airports (list to be established in coordination with AU and ANSPs)		AOP05
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	Selected Airports/TMA/ACC (list to be established in coordination with AU and ANSPs)		ATC07.1; ATC15
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	EUR		AOM19; NAV03
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	EUR		FCM01; FCM06
B0-ASUR	Initial capability for ground surveillance	EUR Deployment dependent on local configuration gaps		ITY-SPI
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	Selected Airports (list to be established in coordination with AU and ANSPs)		ENV01
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	EUR for defined FIRs		ITY-AGDL (ground systems)

ANNEX 2 ICAO ASBU Implementation Monitoring Questionnaire

The attached questionnaire was developed to gather monitoring information from the ICAO EUR States not participating in the ESSIP/LSSIP reporting mechanism.

Please fill in the information highlighted in light blue.

In each Module, a number of relevant actions is provided that define the actions to be taken in order to implement the concerning Module. Please note the list of relevant actions is not exhaustive, more information related to the relevant actions can be found in the ESSIP Plan 2015:
http://www.eurocontrol.int/publications/european-single-sky-implementation-essip-plan-edition-2015

Requested information on Block 0, Priority 1 Modules

<STATE>

B0-APTA

NAV10	IMPLEMENT APV PROCEDURES		
Optimization of Approach Procedures including vertical guidance		12/2018	**<Status>**
Relevant actions: ■ Design and Publish APV/Baro and/or APV/SBAS procedures ■ Publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements **<Explain how and when you intend to complete this objective>**		**<Completion Date>**	

B0-SURF

AOP04.1	IMPLEMENT ADVANCED SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM (A-SMGCS) LEVEL1		
Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		12/2018	**\<Status\>**

Relevant actions:

- Install required surveillance equipment
- Publish A-SMGCS Level 1 procedures (including transponder operating
- procedures) in national aeronautical information publications
- Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS
- Equip Ground vehicles
- Mandate the carriage of required equipment

\<Completion Date\>

\<Explain how and when you intend to complete this objective\>

AOP04.2	IMPLEMENT ADVANCED SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM (A-SMGCS) LEVEL 2		
Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		12/2018	**\<Status\>**

Relevant actions:

- Install required A-SMGCS control function equipment
- Implement approved A-SMGCS Level 2 operational procedures at airports
    1. equipped with A-SMGCS Level 2

\<Completion Date\>

\<Explain how and when you intend to complete this objective\>

B0-FICE

ITY-COTR	IMPLEMENTATION OF GROUND-GROUND AUTOMATED CO-ORDINATION PROCESSES		
Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		12/2015	**<Status>**
Relevant actions: ■ Implement flight data processing and exchange systems ■ Implement processes such as, Notification; Initial 2. Coordination; Revision of Coordination, etc.		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

ATC17	ELECTRONIC DIALOGUE AS AUTOMATED ASSISTANCE TO CONTROLLER DURING COORDINATION AND TRANSFER		
Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		12/2015	**<Status>**
Relevant actions: ■ Upgrade and put into service ATC system to support the Basic procedure (specifically PAC and COD) ■ Upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process ■ Upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process ■ Develop safety assessment for the changes		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

ITY-FMTP	APPLY A COMMON FLIGHT MESSAGE TRANSFER PROTOCOL (FMTP)		
Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		12/2015	**<Status>**
Relevant actions: ■ Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination and transfer of the flights between ATC units ■ Develop safety assessment for the changes		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

B0-DATM

INF04	IMPLEMENT INTEGRATED BRIEFING		
Service Improvement through Digital Aeronautical Information Management		12/2015	**<Status>**
Relevant actions: ■ Implement integrated briefing		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

ITY-ADQ	ENSURE QUALITY OF AERONAUTICAL DATA AND AERONAUTICAL INFORMATION		
Service Improvement through Digital Aeronautical Information Management		12/2015	
Relevant actions:			
■ Implement a quality management system (QMS)		**<Completion Date>**	**<Status>**
■ Implement data quality requirements		**<Completion Date>**	**<Status>**
■ Implement the common dataset and digital exchange format		**<Completion Date>**	**<Status>**
■ Establish formal arrangements		**<Completion Date>**	**<Status>**
<Explain how and when you intend to complete this objective>		**<Final Completion Date>**	**<Overall Status>**

B0-ACAS

ATC16	IMPLEMENT ACAS II COMPLIANT WITH TCAS II CHANGE 7.1		
ACAS Improvements		12/2015	**<Status>**
Relevant actions: ■ Deliver operational approval for ACAS II version 7.1 equipped aircraft ■ Establish ACAS II (TCAS II version 7.1) performance monitoring ■ Obtain airworthiness certification for ACAS II version 7.1 equipped aircraft ■ Obtain operational approval for ACAS II version 7.1 equipped aircraft		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

B0-SNET

ATC02.2	IMPLEMENT GROUND BASED SAFETY NETS – SHORT TERM CONFLICT ALERT (STCA) - LEVEL 2		
Increased Effectiveness of Ground-Based Safety Nets – STCA		12/2018	**\<Status\>**
Relevant actions: ■ Conduct safety oversight of the changes ■ Implement the STCA function ■ Develop safety assessment of the changes **\<Explain how and when you intend to complete this objective\>**		**\<Completion Date\>**	

ATC02.5	IMPLEMENT GROUND BASED SAFETY NETS - AREA PROXIMITY WARNING - LEVEL 2		
Increased Effectiveness of Ground-Based Safety Nets – APW		12/2018	**\<Status\>**
Relevant actions: ■ Implement the APW function **\<Explain how and when you intend to complete this objective\>**		**\<Completion Date\>**	

ATC02.6	IMPLEMENT GROUND BASED SAFETY NETS - MINIMUM SAFE ALTITUDE WARNING - LEVEL 2		
Increased Effectiveness of Ground-Based Safety Nets – APW		12/2018	**\<Status\>**
Relevant actions: ■ Implement the MSAW function **\<Explain how and when you intend to complete this objective\>**		**\<Completion Date\>**	

Additional information on other Block 0 Modules

B0-ACDM

AOP05	IMPLEMENT AIRPORT COLLABORATIVE DECISION MAKING (CDM)		
Improved Airport Operations through Airport- CDM		01/2016	**<Status>**
Relevant actions: ■ Define and implement local Air Navigation Service (ANS) procedures for ■ information sharing through Letters of Agreement (LoAs) and/or Memo randum of Understanding (MoU) ■ Define and implement local procedures for turnaround processes ■ Define and implement variable taxi-time and pre-departure sequencing procedure ■ Define and implement procedures for CDM in adverse conditions, including the de-icing		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

B0-RSEQ

ATC07.1	IMPLEMENT ARRIVAL MANAGEMENT TOOLS		
Improve Traffic flow through Runway Sequencing (AMAN/DMAN)		12/2015	**<Status>**
Relevant actions: ■ Implement initial basic arrival management tools ■ Implement initial basic AMAN procedures ■ Adapt TMA organisation to accommodate use of basic AMAN ■ Implement basic AMAN functions		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

ATC15	IMPLEMENT, IN EN-ROUTE OPERATIONS, INFORMATION EXCHANGE MECHANISMS, TOOLS AND PROCEDURES IN SUPPORT OF BASIC AMAN OPERATIONS		
Improve Traffic flow through Runway Sequencing (AMAN/DMAN)		12/2017	**<Status>**
Relevant actions: ■ Develop safety assessment for the changes ■ Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs ■ Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

B0-FRTO

AOM19	IMPLEMENT ADVANCED AIRSPACE MANAGEMENT		
Improved Operations through Enhanced En-Route Trajectories		12/2016	**<Status>**
Relevant actions: ■ Implement Rolling ASM/ATFCM process ■ Optimise flexible airspace structure design and availability ■ Improve accuracy of airspace booking. ■ Implement an improved Notification Process supporting the Rolling ASM ATFCM process ■ Deploy automated ASM support systems		**<Completion Date>**	
<Explain how and when you intend to complete this objective>			

NAV03	IMPLEMENTATION OF P-RNAV		
Improved Operations through Enhanced En-Route Trajectories		12/2012	**\<Status>**

Relevant actions:

- Develop and implement RNAV arrival and departure procedures for P-RNAV
  3.   approved aircraft
- Provide appropriate terrestrial navigation infrastructure to support RNAV operations
- Install appropriate RNAV equipment
- Implement P-RNAV routes where identified as providing benefit
- Develop a Local P-RNAV Safety Case

\<Completion Date>

\<Explain how and when you intend to complete this objective>

B0-NOPS

FCM01	IMPLEMENT ENHANCED TACTICAL FLOW MANAGEMENT SERVICES		
Improved Flow Performance through Planning based on a Network-Wide vie		12/2006	**\<Status>**

Relevant actions:

- Supply ETFMS (Enhanced Tactical Flow Management System) with Basic Correlated Position Data
- Supply ETFMS with Standard Correlated Position Data
- Receive and process ATFM data from the NM
- Inform NM of flight activations and estimates for ATFM purposes
- Inform NM of re-routings inside FDPA for ATFM purposes
- Inform NM of aircraft holding for ATFM purposes
- Supply NM with Departure Planning Information (DPI)

\<Completion Date>

\<Explain how and when you intend to complete this objective>

FCM06	TRAFFIC COMPLEXITY ASSESSMENT		
Improve Traffic flow through Runway Sequencing (AMAN/DMAN)		12/2021	**\<Status\>**
Relevant actions: ■ Implement Local Traffic Load Management tool ■ Implement Local Traffic Complexity tools and procedures ■ Provide EFD (ETFMS Flight Data) to the local traffic complexity tools		**\<Completion Date\>**	
\<Explain how and when you intend to complete this objective\>			

B0-ASUR

ITY-SPI	SURVEILLANCE PERFORMANCE AND INTEROPERABILITY		
Improved Operations through Enhanced En-Route Trajectories		12/2019	**\<Status\>**
Relevant actions: ■ Conduct safety oversight for the existing surveillance chain ■ Ensure interoperability of surveillance data ■ Conduct Safety Assessment for the existing surveillance chain ■ Conduct Safety Assessment for changes introduced to the surveillance 4. infrastructure ■ Carriage and operation of Mode S Elementary Surveillance ■ Carriage and operation of ADS-B Out		**\<Completion Date\>**	
\<Explain how and when you intend to complete this objective\>			

B0-CDO

ENV01	IMPLEMENT CONTINUOUS DESCENT OPERATIONS (CDO) TECHNIQUES FOR ENVIRONMENTAL IMPROVEMENTS		
Improved Flexibility and Efficiency in Descent Profiles (CDO)		12/2013	**<Status>**

Relevant actions:

- Coordinate activities and implement rules and procedures for the application of CDO techniques whenever practicable in Approach Control Service in close cooperation with aircraft operators
- Support CDO measures, implement monitoring of performance and feedback to ANSP and users where equipment is available. Provide the main link with the local community
- Include CDO techniques in the aircrew training manual and support its
  5. implementation wherever possible

<Completion Date>

<Explain how and when you intend to complete this objective>

B0-TBO

ITY-AGDL	INITIAL ATC AIR-GROUND DATA LINK SERVICES ABOVE FL-285		
Improved Safety and Efficiency through the initial application of Data Link En-Route		02/2015	**<Status>**

Relevant actions:

- Ensure the publication of relevant information in the national aeronautical
  6. information publication
- Ensure ATN/VDL-2 availability, security policy and address management
  7. Procedures
- Ensure ground communication systems comply with air-ground communication requirements
- Deploy communication infrastructure to handle air-ground data link services
- Ensure the conformity of communications, flight data and initial flight plan
  8. processing systems and associated procedures
- Equip aircraft with data link equipment supporting the identified services
- Specify relevant operational procedures
- Arrange air-ground ATS data link service provision

<Completion Date>

<Explain how and when you intend to complete this objective>

ANNEX 3 General Implementation overview

Priority 1 Modules

States in the ESSIP/LSSIP mechanism

		Completed	Partly Completed	Planned	Late	No Plan	Not applicable	Missing Data
ACAS	ATC16	26	3	0	12	0	0	0
APTA	NAV10	6	11	11	6	6	1	0
DATM	INF04	27	0	0	13	0	1	0
	ITY-ADQ	0	1	15	21	0	4	0
FICE	ATC17	3	8	22	3	3	2	0
	ITY-COTR	13	14	4	8	0	2	0
	ITY-FMTP	29	2	0	10	0	0	0
SNET	ATC02.2	33	0	0	8	0	0	0
	ATC02.5	23	2	10	2	3	1	0
	ATC02.6	21	2	9	4	2	3	0
SURF	AOP04.1	28	0	4	14	0	1	0
	AOP04.2	20	4	15	7	0	1	0
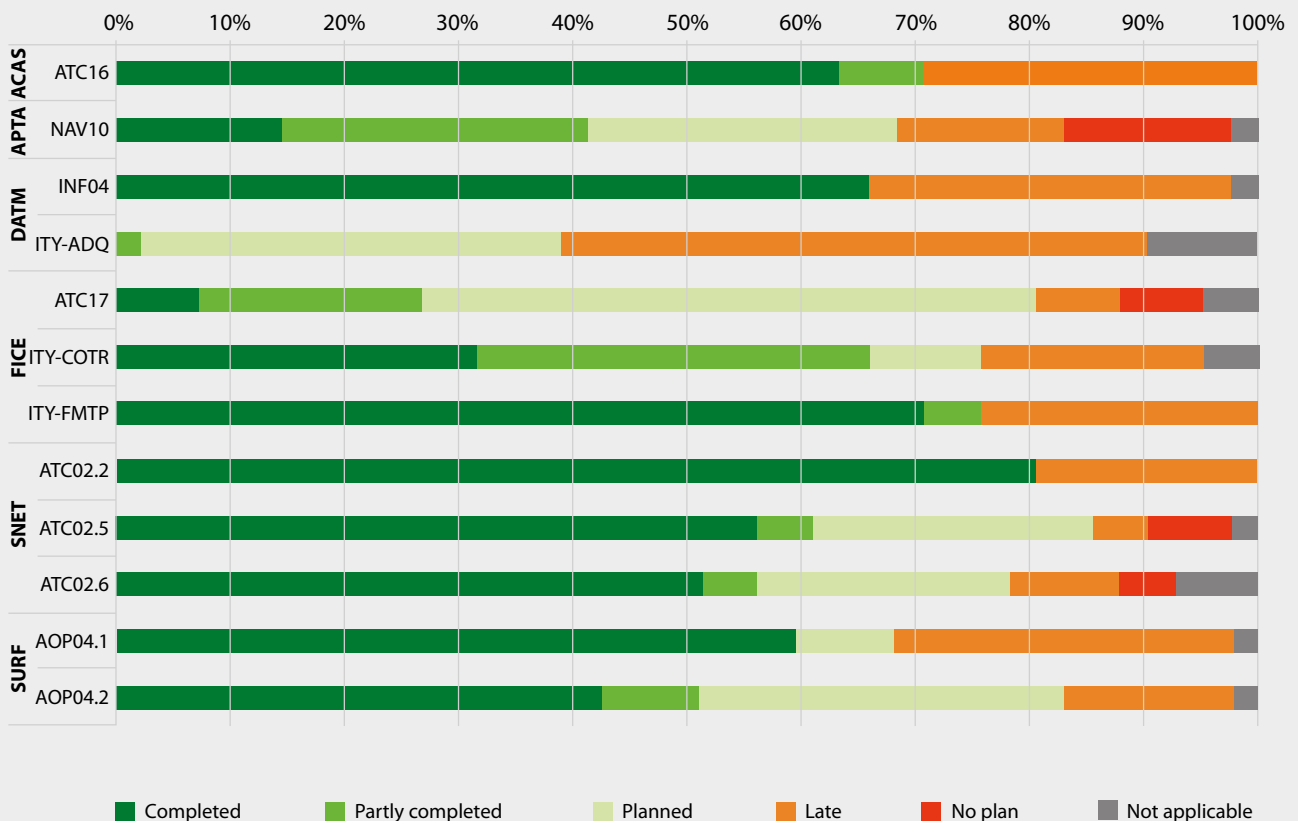
Legend: Completed, Partly completed, Planned, Late, No plan, Not applicable

States outside ESSIP/LSSIP mechanism

		Completed	Partly Completed	Planned	Late	No Plan	Not applicable	Missing Data
ACAS	ATC16	1	3	3	0	0	0	4
APTA	NAV10	0	2	6	0	0	0	3
DATM	INF04	6	0	1	1	0	0	3
	ITY-ADQ	1	2	4	1	0	0	3
FICE	ATC17	0	3	1	0	4	0	3
	ITY-COTR	2	4	0	0	2	0	3
	ITY-FMTP	0	2	1	1	3	1	3
SNET	ATC02.2	3	3	1	0	1	0	3
	ATC02.5	4	2	1	0	1	0	3
	ATC02.6	2	3	2	0	1	0	3
SURF	AOP04.1	1	4	0	0	0	3	3
	AOP04.2	1	1	2	0	1	3	3

Legend: Completed · Partly completed · Planned · Late · No plan · Not applicable · Missing data
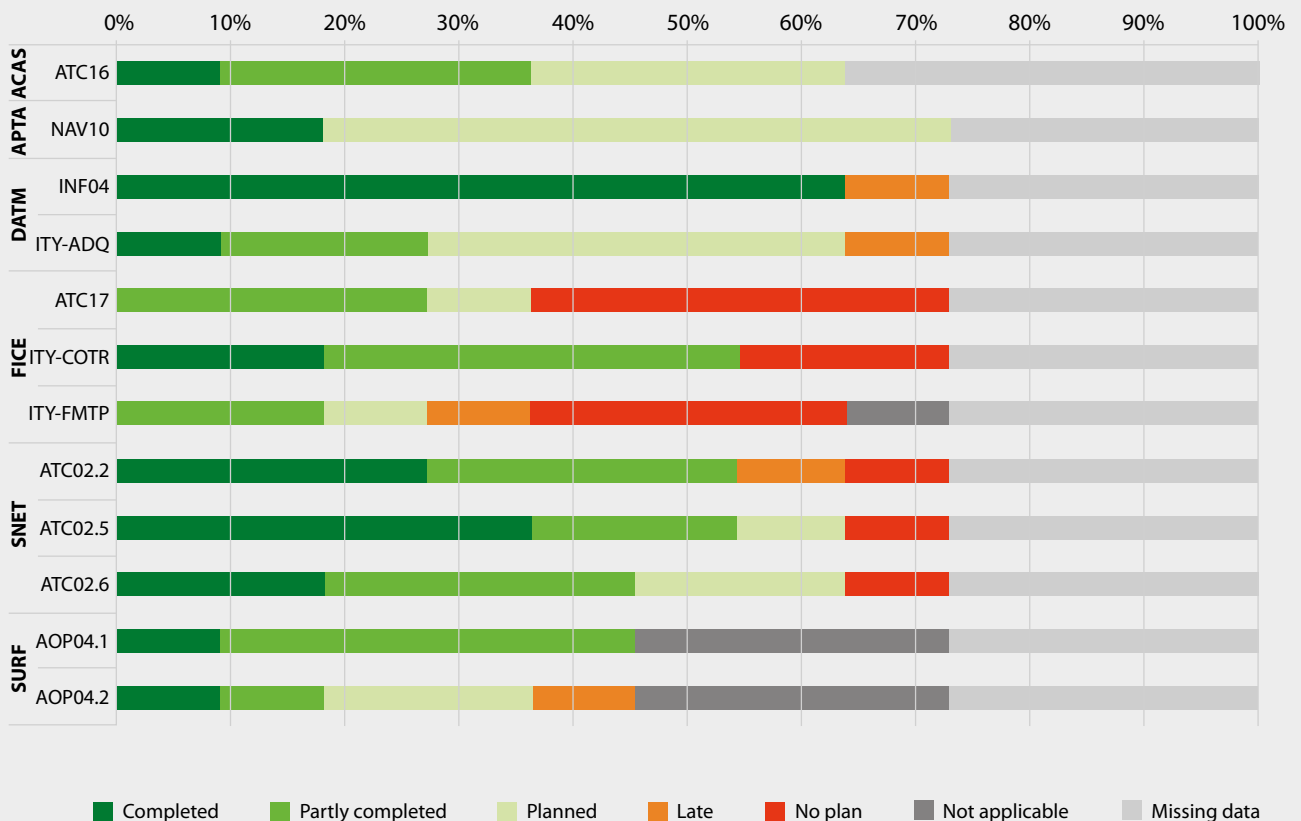
Other Modules

States in the ESSIP/LSSIP mechanism

		Completed	Partly Completed	Planned	Late	No Plan	Not applicable	Missing Data
ACDM	AOP05	17	10	8	9	0	1	0
ASUR	ITY-SPI	5	13	12	10	0	1	0
CDO	ENV01	43	3	0	13	0	1	0
FRTO	AOM19	4	11	12	6	3	5	0
	NAV03	21	4	10	1	3	2	0
NOPS	FCM01	27	1	1	10	0	1	1
	FCM06	1	4	26	0	6	4	0
RSEQ	ATC07.1	17	0	3	8	2	3	0
	ATC15	6	4	10	2	3	16	0
TBO	ITY-AGDL	7	3	21	5	0	5	0
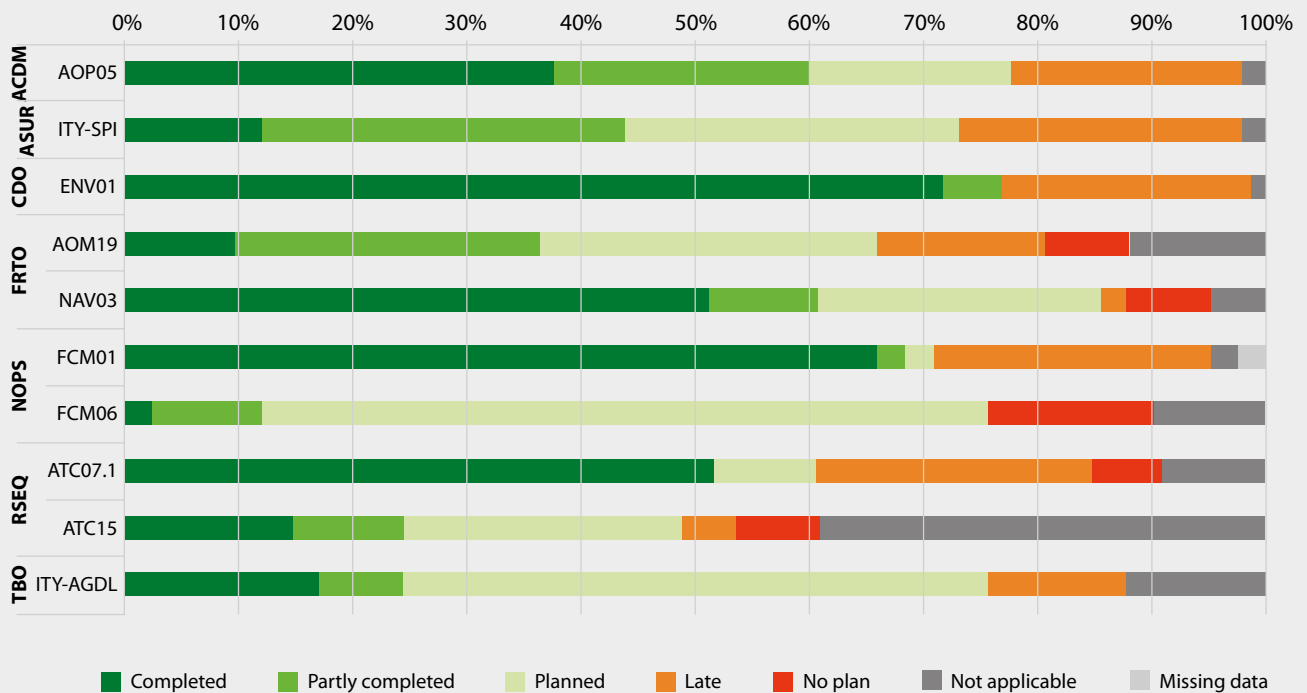
States outside ESSIP/LSSIP mechanism

		Completed	Partly Completed	Planned	Late	No Plan	Not applicable	Missing Data
ACDM	AOP05	0	4	0	0	1	2	4
ASUR	ITY-SPI	5	1	1	0	0	0	4
CDO	ENV01	0	3	4	0	0	0	4
FRTO	AOM19	2	2	1	1	1	0	4
	NAV03	1	1	5	0	0	0	4
NOPS	FCM01	1	5	0	0	0	0	5
	FCM06	0	2	0	0	0	4	5
RSEQ	ATC07.1	0	0	3	0	0	4	4
	ATC15	0	0	3	0	0	4	4
TBO	ITY-AGDL	0	0	1	0	1	5	4
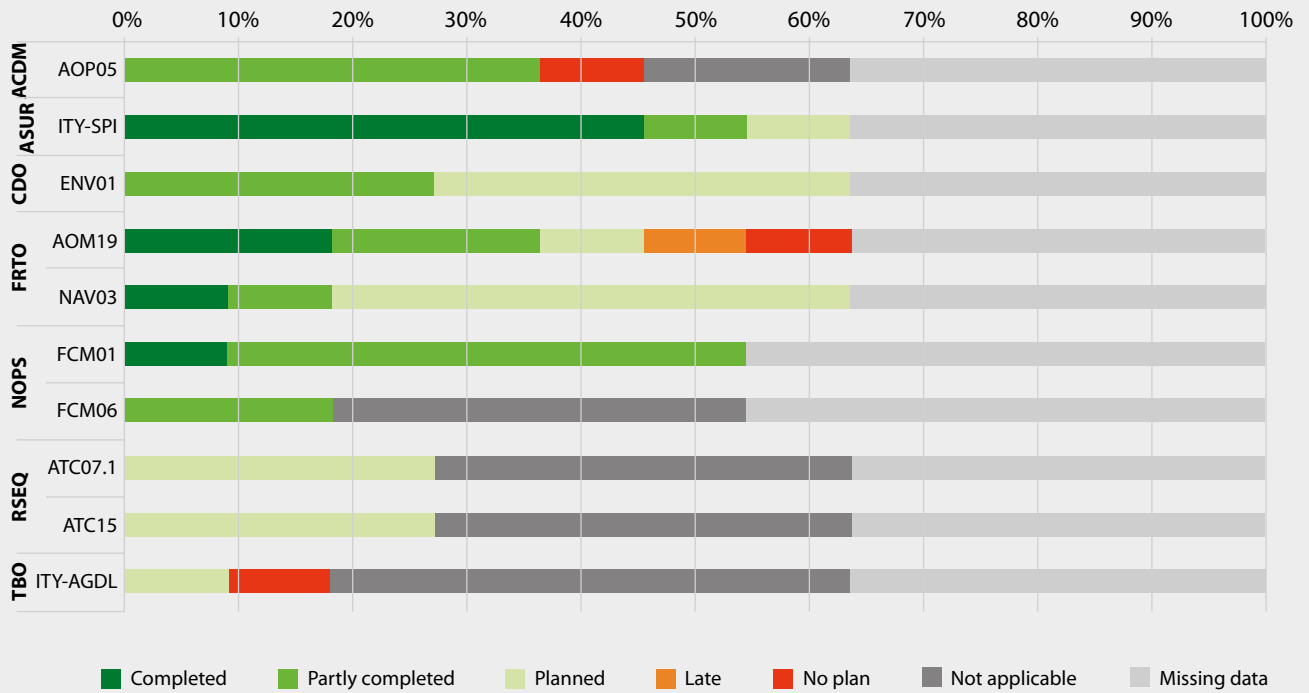
6. ACRONYMS

A	
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
A-CDM	Airport Collaborative Decision Making
ADQ	Aeronautical Data Quality
ADS-B	Automatic Dependent Surveillance – Broadcast
AGDL	Air-Ground Data Link
AMAN	Arrival Manager
ANSP	Air Navigation Service Provider
AOP	Airport Operations
APTA	Airport Accessibility
APV	Approach with Vertical Guidance
ASBU	Aviation System Block Upgrades
ASM	Airspace Management
A-SMGCS	Advanced Surface Movement Guidance and Control System
ASUR	Alternative Surveillance
ATC	Air Traffic Control
ATM	Air Traffic Management
ATMGE	Air Traffic Management Group-East
AU	Airspace Users

C	
CDO	Continuous Descent Operations
COTR	Coordination and Transfer

D	
DATM	Digital Aeronautical Information Management
DMAN	Departure Manager

E	
EAD	European AIS Database
EANPG	European Air Navigation Planning Group
EASA	European Aviation Safety Agency
EC	European Commission
ECAC	European Civil Aviation Conference
ENV	Environment
ESSIP	European Single Sky Implementation
EU	European Union

F	
FCM	Flow and Capacity Management
FICE	Flight and Flow Information for a Collaborative Environment
FIR	Flight Information Region
FMTP	Flight Message Transfer Protocol
FOC	Full Operational Capability
FRTO	Free-Route Operations

G	
GANP	Global Air Navigation Plan

I	
ICAO	International Civil Aviation Organisation
IFPS	Initial Flight Plan Processing System
INF	Information Management
IP	Internet Protocol
IR	Implementing Rule
ITY	Interoperability

L	
LPV	Localizer Performance with Vertical Guidance
LSSIP	Local Single Sky Implementation

M	
MIL	Military Authorities
MUAC	Maastricht Upper Area Control Centre

N	
NAV	Navigation
NM	Network Manager
NOPS	Network Operations

O	
OI	Operational Improvements
OLDI	On-Line Data Interchange

P	
PBN	Performance Based Navigation
PCP	Pilot Common Project
PIRG	Planning and Implementation Regional Group
PRISME	Pan-European Repository of Information Supporting the Management of EATM

R	
RATS	Remote Air Traffic Services
REG	Regulatory Authorities
RNAV	Required Navigation Performance
RSEQ	Runway Sequencing

S	
SBAS	Satellite-Based Augmentation System
SES	Single European Sky
SESAR	Single European Sky ATM Research
SLoA	Stakeholder Lines of Actions
SNET	Safety NETs
SPI	Surveillance Performance and Interoperability
SURF	Surface Operation
SWIM	System-Wide Information Management

T	
TBO	Trajectory-Based Operations
TCAS	Traffic Alert and Collision Avoidance System
TMA	Terminal Control Area

V	
VDL	VHF Digital Link

W	
WAKE	WAKE Turbulence Separation

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Note

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