ASBU Implementation Monitoring Report

ICAO EUR States

Reference Period 2016

MONITORING ATM IMPLEMENTATION

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 Global Air Navigation Plan (GANP) represents a rolling, 15-year strategic methodology which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. The GANP'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.

A first updated version of the GANP, with a new planning horizon from 2016 to 2030, was endorsed at the 39th ICAO Assembly in October 2016.

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 2016. The region covers 55 States and all of them provided monitoring information that was collected either through the ESSIP/LSSIP mechanism (41 States) or 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 outlook for implementation foreseen by 2019 and 2020, in accordance with planning dates reported by States. A chart indicating the evolution of implementation progress achieved in these last two years of reporting is included as well.

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Disclaimer

Note

This report was created by EUROCONTROL for the ICAO EUR/NAT Office and includes data from the LSSIP Database reference period 2016.

Table of content

Executive summary

The third edition of the ICAO ASBU implementation monitoring report for the ICAO EUR Region(reference date December 2016) addresses the deployment status for a selected number of ASBU Block 0 Modules and includes detailed progress and status implementation for all 55 States that are accredited to the ICAO EUR Region.

Two complementary processes were used to collect the monitoring data required for the preparation of this report. On one hand it used the information submitted by States participating in the ESSIP/LSSIP mechanism and on the other hand it used the data that was received from the ASBU implementation monitoring questionnaires for the 11 States of the ICAO EUR Region that are outside the ESSIP/LSSIP reporting mechanism.

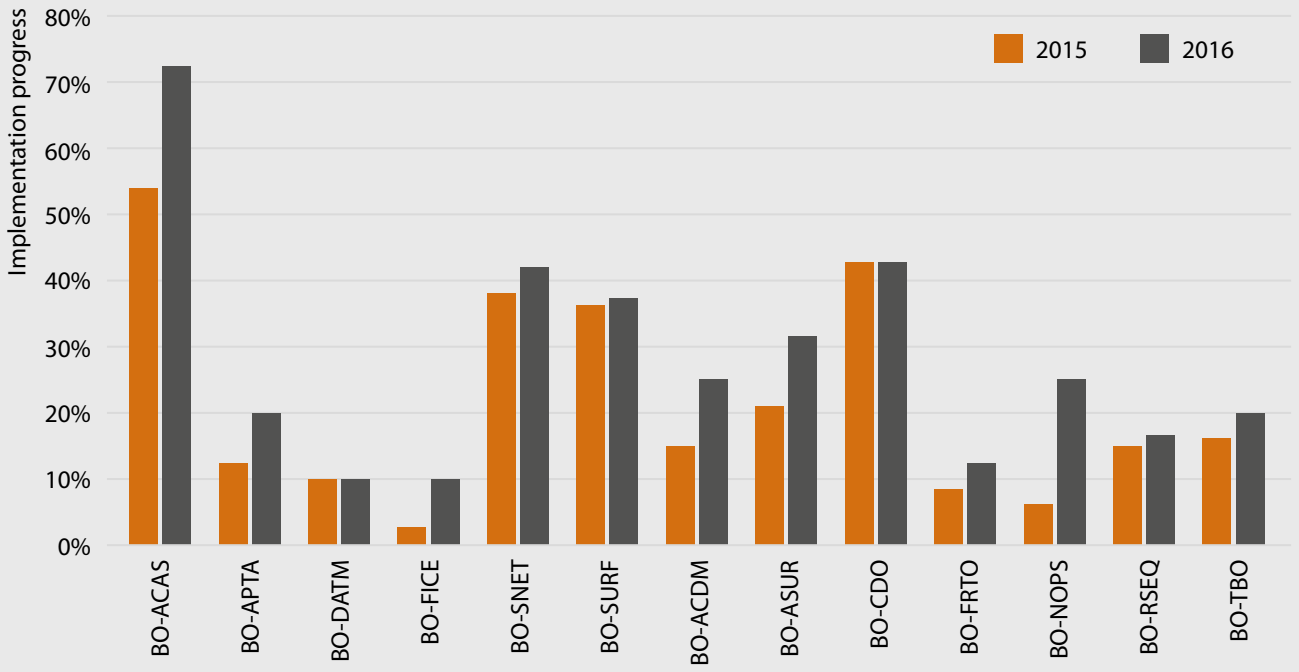
The core of the document includes two main chapters. Chapter 3 gives a consolidated view of the planning dates foreseen by States to finalise the implementation of each individual ASBU Block 0 module.

This 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 module.

To summarize the implementation status and progress of ASBU Block 0 Modules, self-explanatory tables were developed, which are aimed at giving an overall and straightforward understanding of the ASBUs deployment so far.

The **ASBU Block 0 Implementation Dashboard 2016** (below) presents the number of States that have achieved full implementation and gives the overall rate of "Completion" status by the end of 2016. It excludes those States where the module is considered as "Not Applicable".

ASBU B0 Module	Number of States Completed by the end of 2016	Not Applicable	Completion by the end of 2016 (%) - Excludes States where the module is Not Applicable
ACAS	38	0	73%
APTA	10	1	20%
DATM	5	0	10%
FICE	5	1	10%
SNET	22	0	42%
SURF	14	14	37%
ACDM	8	20	25%
ASUR	16	2	32%
CDO	17	13	43%
FRTO	6	1	12%
NOPS	13	0	25%
RSEQ	5	20	16%
TBO	8	12	20%
CCO	9	5	19%



The Implementation Progress chart for 2015 and 2016 summarizes the overall deployment achieved and provides a comparative evolution of the progress in these last two cycles.

ICAO EUR B0 Modules
Implementation Progress
in 2015 and 2016

There was a significant evolution of the monitoring report over the last years thanks to the important contribution and commitment by States.

MONITORING ATM IMPLEMENTATION

1. Introduction

1.1 Objective and intended audience of the report

The 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 2016.

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 11 States within the ICAO EUR Region that reported their status and plans using a dedicated questionnaire, either included in their regular State Reports for the Air Traffic Management Group – Eastern part of the ICAO EUR Region (ATMGE) meetings, or during special GANP ASBU implementation workshops.

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.

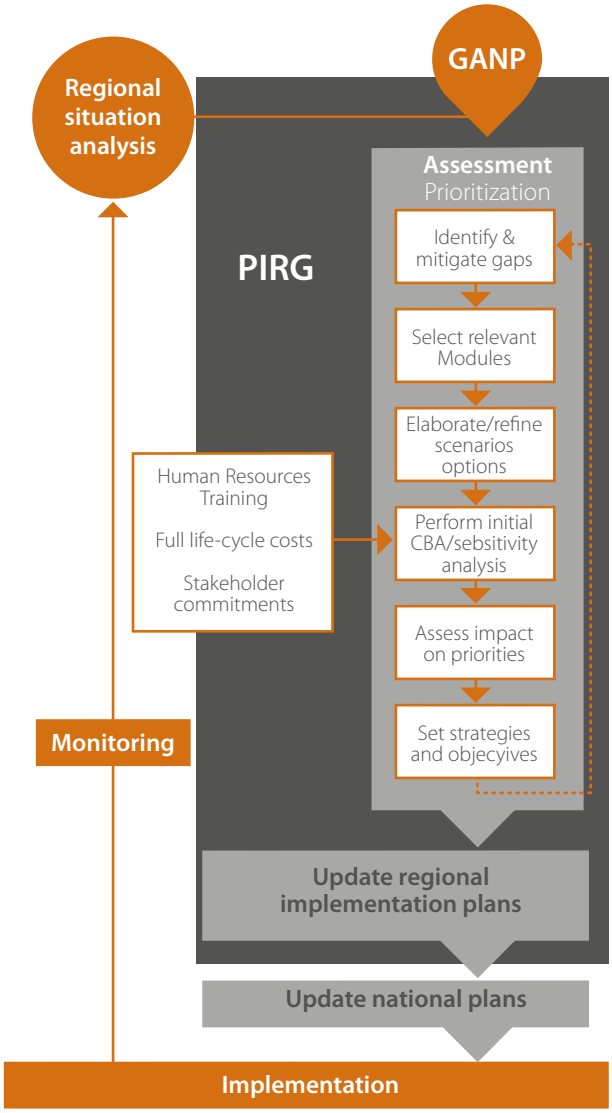


Fig 1 – Regional Planning

This report was developed by EUROCONTROL in cooperation with the ICAO EUR/NAT Office and it will be presented on an annual basis to the EANPG for endorsement. It is a successful example of cooperation using combined efforts and existing resources/processes, thus avoiding unnecessary duplication of work amongst the involved aviation stakeholders.

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 and deployment actions can be coordinated across the regions and global interoperability can be ensured at the highest level.The data from the report has also been used for the development of the Air Navigation Implementation App on the global ICAO iSTARS portal.

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 then prepared during the year 2015 for the reporting/reference 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 concluded to optimize the reporting process and 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.

A revised version of the ASBU implementation questionnaire was developed in 2016, which introduced more detailed guidance material, practical examples and specific explanations on the implementation activities/status that needed to be reported. This new questionnaire was then used for the development of the second report (reference period 2015) in order to increase the number of responses and enhance the quality of the reported information from those States that were not covered by the LSSIP mechanism.

At the 39th ICAO Assembly, the new (5th version) of the GANP with updates on the ATM logical infrastructure, the introduction of a minimum path and the performance based implementation concept was endorsed in October 2016. The ICAO Assembly Resolution A39-12 calls upon States, planning and implementation regional groups (PIRGs), and the aviation industry to utilize the guidance provided in the GANP for planning and implementation activities which establish priorities, targets and indicators

consistent with globally-harmonized objectives, taking into account operational needs. The 5th version of the Global Air Navigation Plan (2016-2030):

- Obliges States to map their national or regional programmes against the harmonized GANP, but provides them with far greater certainty of investment.
- Requires active collaboration among States through the PIRGs in order to coordinate initiatives within applicable regional Air Navigation Plans.
- Provides required tools for States and Regions to develop comprehensive business case analyses as they seek to realize their specific operational improvements.
- Provides a vision of the evolution of the Global ATM system and the potential requirements to industry, for better anticipation in its products.

The 2015 ICAO/EUROCONTROL ASBU implementation monitoring report was presented at the EANPG/58 meeting in November 2016. The EANPG/58 noted that from the 11 States outside the LSSIP process, 8 States replied to the revised monitoring questionnaire with detailed explanations on their status of ASBU implementation. The EANPG/58 also appreciated that the number and quality of the replies received from the questionnaire represented a considerable improvement in relation to the information obtained on the previous year and did allow a considerable enhancement of the 2015 report. The EANPG/58 highlighted that, as the Global Air Navigation Plan requires States to report the status of their ASBU implementation, this report was a key document for the EANPG to monitor and analyse the ASBU implementation within the EUR Region. The EANPG/58 finally endorsed the 2015 ICAO/EUROCONTROL ASBU implementation monitoring report with Statement 58/01.

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, which had become one of the key ICAO GANP priorities and its implementation was successfully completed in some States, or B0-AMET which is implemented by a number of States in the Region under the METG work programme objectives, the proposed inclusion of those two B0 modules into the implementation monitoring mechanisms for the 2016 reference period was supported by the meeting with EANPG Conclusion 58/22.

Furthermore, the EANPG/58 noted that the endorsed ASBU implementation monitoring report would be forwarded as one of the contributions from the ICAO EUR Region to the annual ICAO Global Air Navigation Report and that relevant parts of the report had been used for the ICAO EUR eANP Vol III.

1.3 Scope of the report

This report addresses the deployment status, with reference date December 2016, for most ASBU Block 0 Modules. It is separated in two different paragraphs, one for Block 0 modules that were considered "Priority" and the other for Block 0 Modules with less priority as initially approved by EANPG 55 and revised by EANPG/58 (See Reference Table in Annex1).

The report is based, on one hand, from the information submitted by the 41 States which are participating in the ESSIP/LSSIP mechanism and on the other hand from the data which is reported in the ASBU implementation monitoring questionnaires for the 11 States within the ICAO EUR Region that are outside the ESSIP/LSSIP reporting mechanism. The questionnaire is fully aligned with the ESSIP objectives and has been continuously improved for every edition of the report (for more details on the questionnaire see Chapter 2 and Annex 2).

In response to the EANPG Conclusion 58/22, 7 States submitted their ASBU implementation questionnaire to the ATMGE/23 meeting in March 2017. As a result of a specific GANP ASBU implementation workshop, which was organized jointly with the Arab Civil Aviation Commission, 3 additional States submitted their ASBU implementation questionnaires in April 2017. One State reported the progress/status of implementation of ASBU Block 0 modules in the framework of several bi-lateral meetings at/with the ICAO EUR/NAT Office.

Consequently, it must be highlighted that this report includes the progress/status of implementation of ASBU Block 0 modules (reference period 2016) for all 55 States that are accredited to the ICAO EUR Region.

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

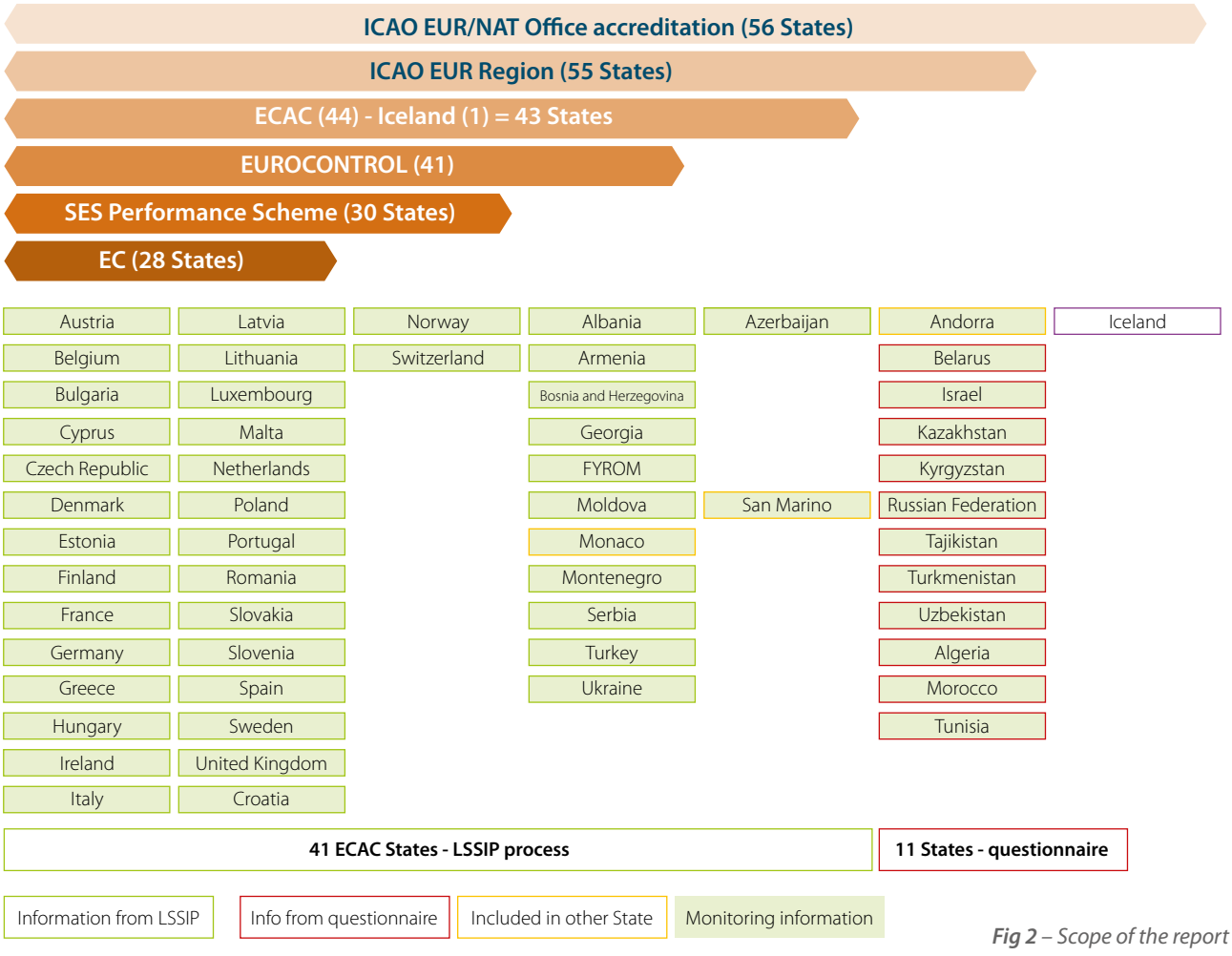


Fig 2 – Scope of the report

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 2016**" and a projection of the "Completion" status rates foreseen to be achieved by the end 2019 and 2020 – "**ASBU Block 0 Modules Implementation Outlook**".

Using the information coming from the ASBU Monitoring Dashboard of the previous monitoring exercise (2015) and the information reported by States for this cycle 2016, this report presents, as well, a chart indicating the evolution of implementation progress achieved in these last two years of reporting.

The focus, in general, is on the most important observations coming from this 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
Progress achieved (percentage) for B0 Modules in each of the 41 States participating in the LSSIP mechanism

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 accredited to the ICAO EUR Region.

Both processes are briefly described in the paragraphs below.

To note that in the context of the SESAR Joint Undertaking (SJU) Programme a change in terminology was decided concerning some Master Plan related deliverables. The ESSIP Plan is now called "European ATM Master Plan Level 3 Implementation Plan" and the ESSIP Report changed to "Master Plan Level 3 Implementation Report". The scope and overall content of the deliverables remain the same.

In this ICAO Report we use the old terminology for continuity of previous reports and a better understanding of the context, giving due attention to those stakeholders outside the SJU framework that are not familiar with the new terminology.

Concerning the monitoring data related to B0-AMET it shall be noted that the main source of information was the ICAO EUR METG.

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

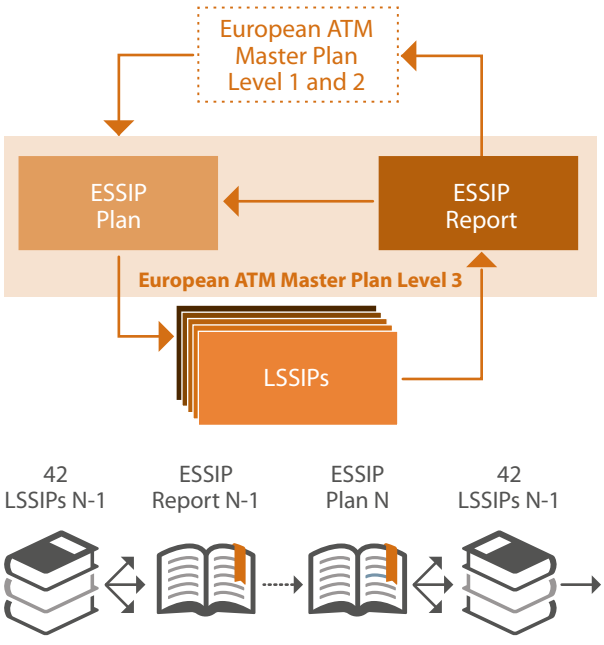
3. Deployment reporting and monitoring at European level: ESSIP Report Web site: http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report

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 implementation results.



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 at the ATMGE/22 meeting in order to increase the number of responses and enhance the quality of the reported information. This version (v.3) was presented and endorsed at EANPG/57 so that States could use it for the 2015 reference period of the ASBU implementation monitoring report.

Following the discussions from the ATMGE/23 meeting, an updated version of the ASBU implementation questionnaire was developed which introduced more detailed guidance material, practical examples and specific explanations on the implementation activities/ status that needed to be reported. The further revised ASBU implementation report questionnaire (v.4 from 17.11.2016) was presented to the EANPG/58 that agreed the new version of the questionnaire would be attached to the ATMGE State Report format. The EANPG/58 also recommended that the progress/status of implementation of ASBU Block 0 modules is reported, for monitoring purposes, by States regardless of their assigned priority in the EANPG/55 conclusions.

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 EANPG/58 invited States to use the revised ATMGE State Report format with the updated questionnaireand requested all States to provide their ASBU implementation data to the next ATMGE/23 meeting in March 2017, so that the 2016 version of the ASBU implementation monitoring report could be presented at EANPG/59 in November 2017.

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 date. 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.

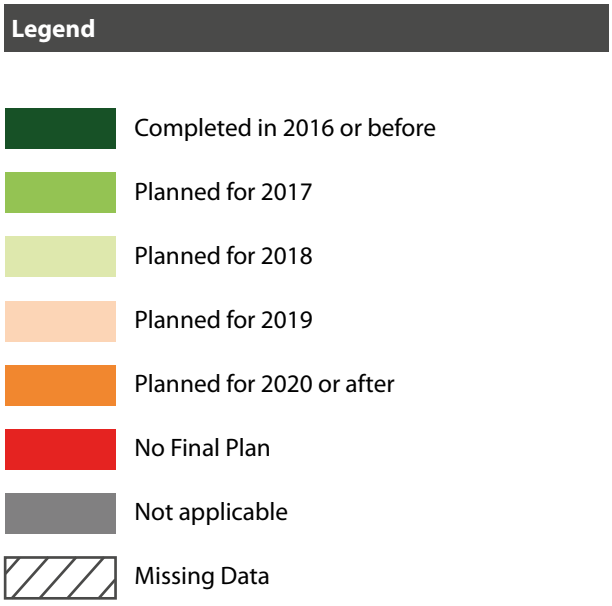
This chapter of the report gives an overview, mainly in the form of maps and statistics, of the dates when States plan to conclude, or have already completed, each of the ASBU Module Block 0.

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 and EANPG 58 [1].

The following colour scheme is used:



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, Ongoing, Planned, etc.) was indicated by the State.

It must also be noted that the status of "Not applicable" is used when an operational improvement or system is not seen as necessary or beneficial within a State and therefore can be considered as equivalent to a "Completed" status.

1 *Non priority Modules B0-WAKE, B0-ASEP, and B0-OFPL are not addressed as concluded by the EANPG.*

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.

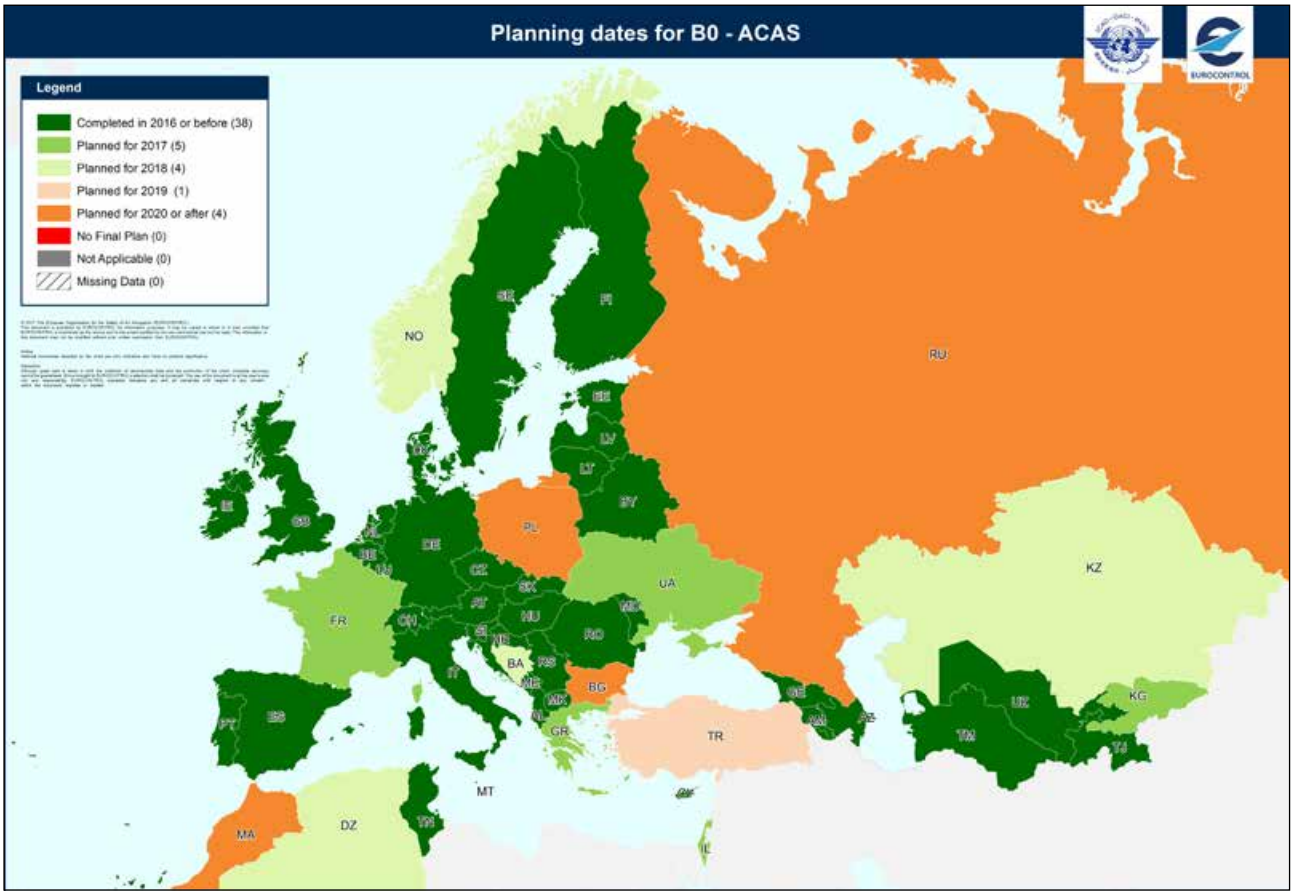
3.1.1 B0-ACAS

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	73%
Planned for 2017	9%
Planned for 2018	8%
Planned for 2019	2%
Planned for 2020 or after	8%
Not applicable	0%
Missing Data	0%
No final Plan	0%

The progress of B0-ACAS can be considered very good. There was an increase of 19% in the completion rate when compared to previous reporting period. By 2018 about 90% of States are expected to have completed the implementation of this module.



3.1.2 B0-APTA

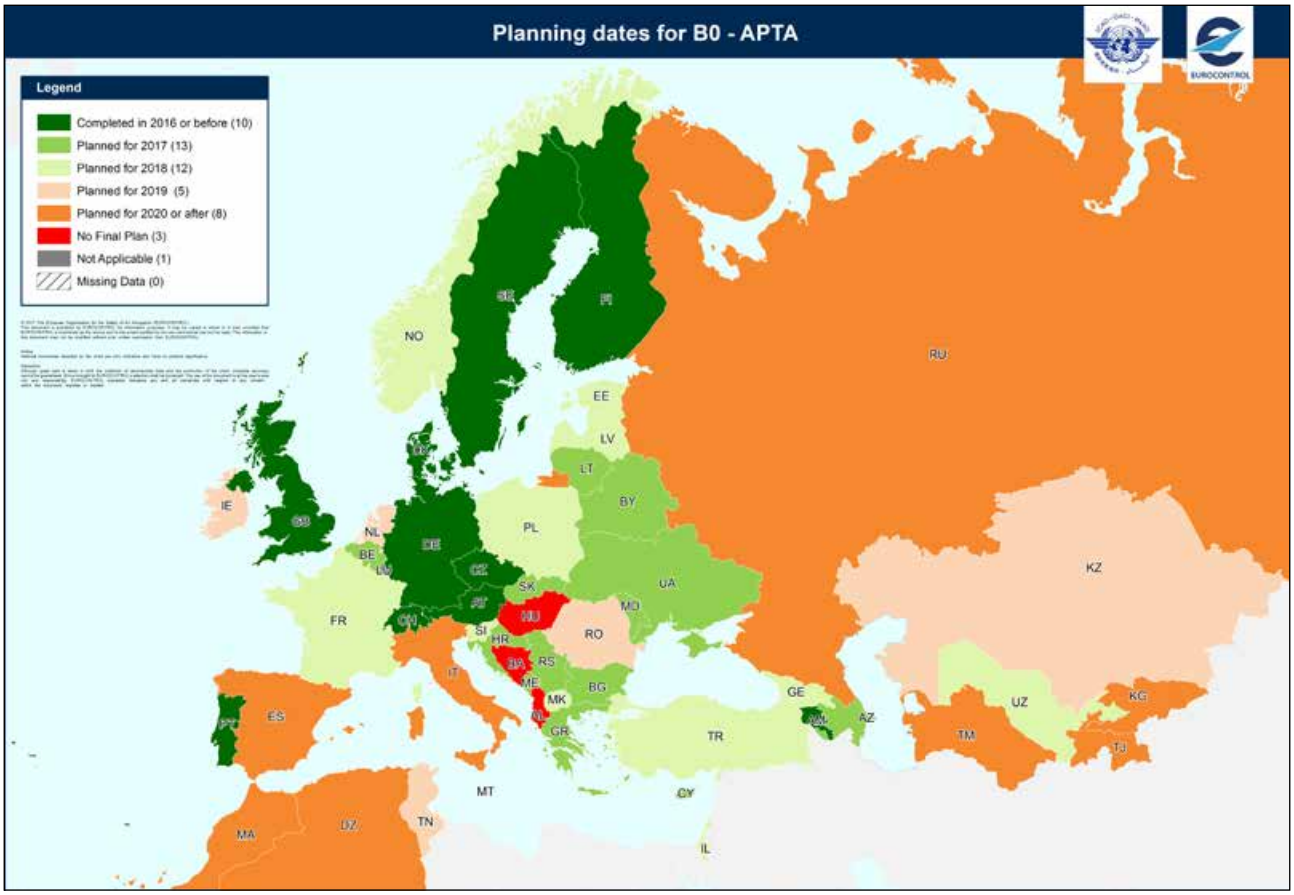
Optimization of Approach Procedures including vertical guidance.

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:

Completed	19%
Planned for 2017	**25%**
Planned for 2018	**23%**
Planned for 2019	10%
Planned for 2020 or after	15%
Not applicable	2%
Missing Data	0%
No final Plan	6%

The progress for B0-APTA remains slow (19% Completed) with an increase of 7% in the current reporting period. It is expected that by the end of 2018 about 67% of States will achieve completion.



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 and the table indicate the status and the progress achieved for B0-DATM.

Completed	10%
Planned for 2017	**36%**
Planned for 2018	**27%**
Planned for 2019	10%
Planned for 2020 or after	17%
Not applicable	0%
Missing Data	0%
No final Plan	0%

Progress of B0-DATM is **extremely slow** and there was **no evolution from 2016** in the current reporting period. The completion rate remains at 10%, however by 2018 the forecast is for 73% of implementation completed.

3.1.4 B0-FICE

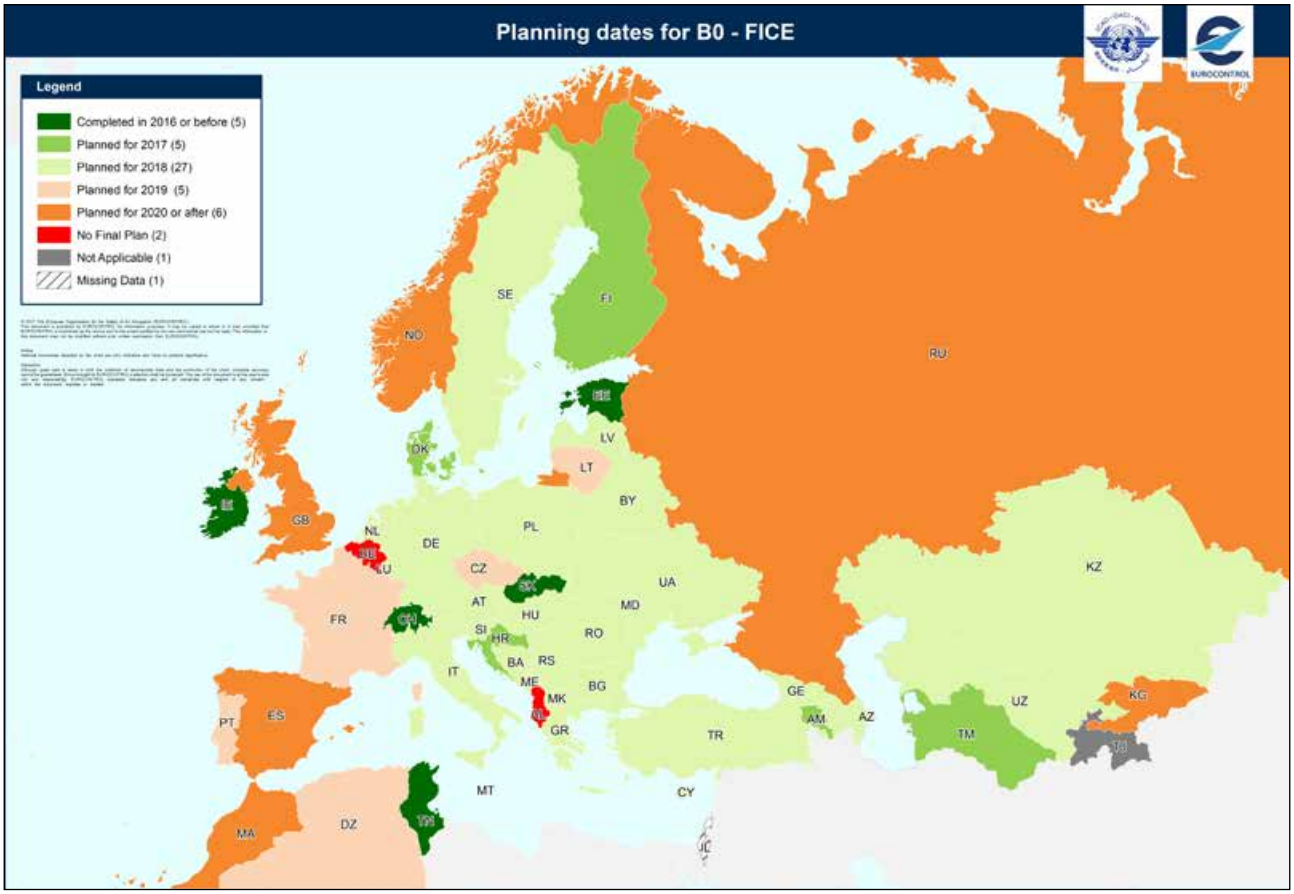
This module concerns increased Interoperability, Efficiency and Capacity through Ground-Ground Integration.

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:

Completed	10%
Planned for 2017	10%
Planned for 2018	**52%**
Planned for 2019	10%
Planned for 2020 or after	11%
Not applicable	2%
Missing Data	2%
No final Plan	3%

Progress of B0-FICE is slow, only 10% have completed implementation. However, there was an increase of 8% completion from previous year. By **2018 about 72%** of States plan to achieve the required activities.



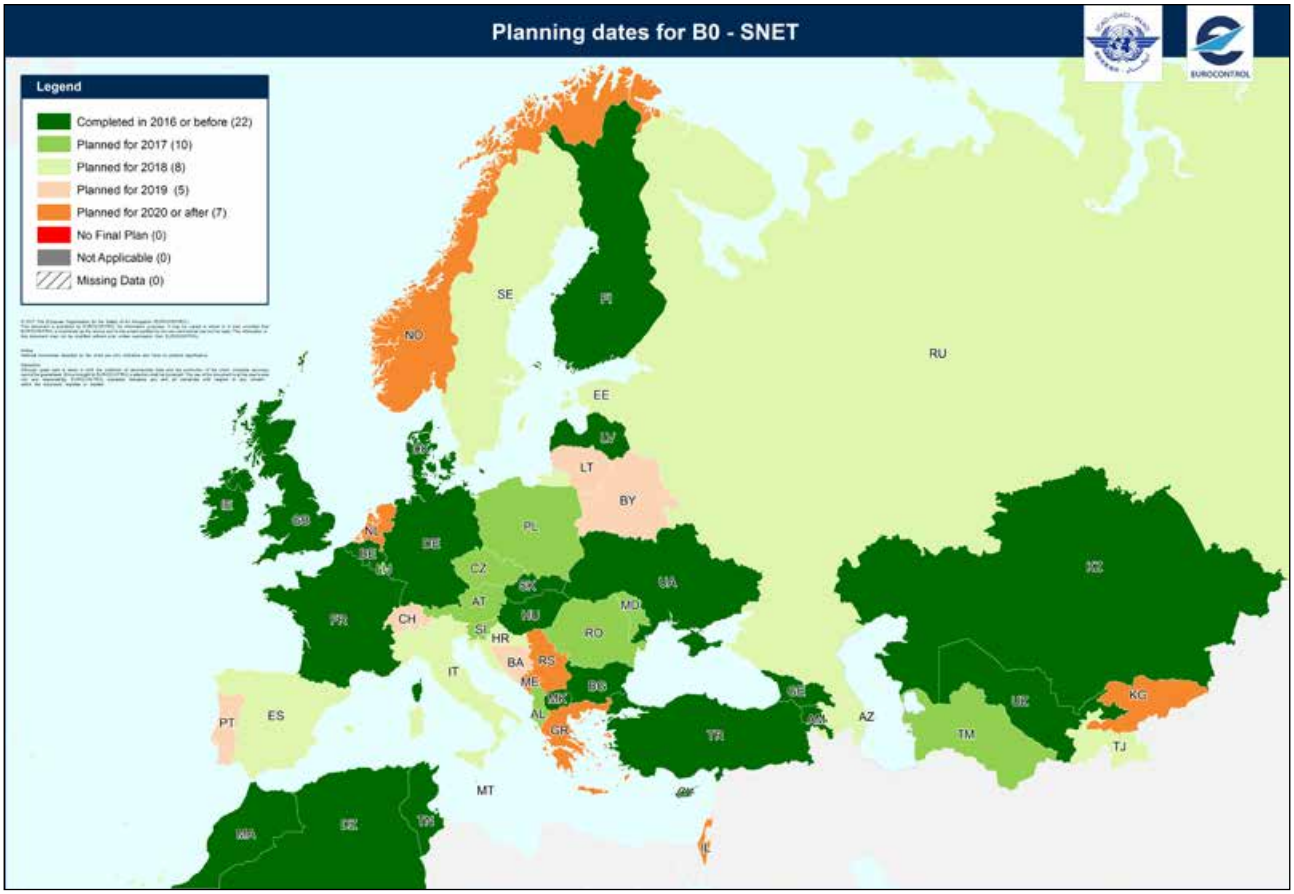
3.1.5 B0-SNET

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:

Completed	42%
Planned for 2017	19%
Planned for 2018	16%
Planned for 2019	10%
Planned for 2020 or after	13%
Not applicable	0%
Missing Data	0%
No final Plan	0%

The progress of B0-SNET can be considered relatively good, 42 % completed in 2016. By the end of 2017 about 61% of States are expected to have completed the implementation of the module.



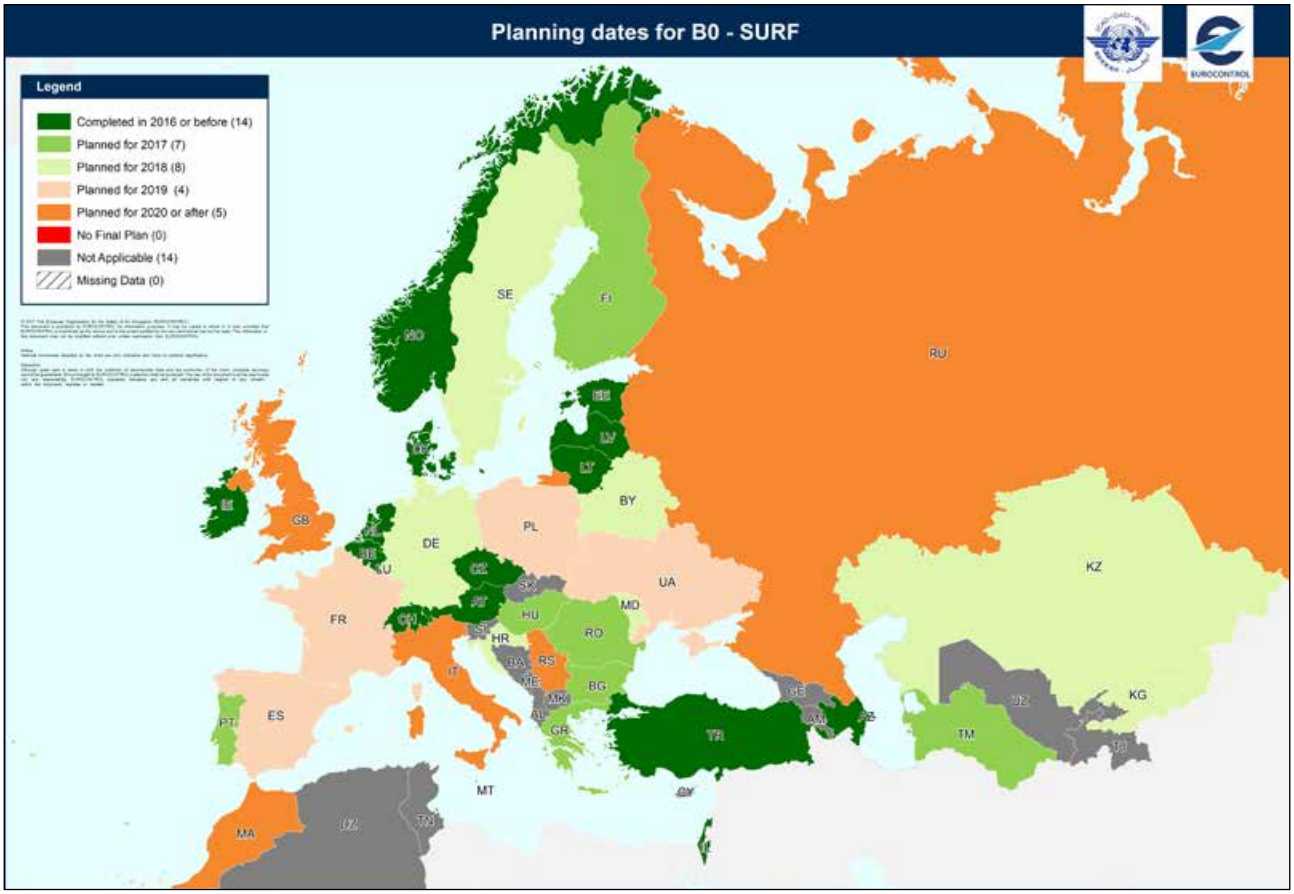
3.1.6 B0-SURF

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:

Completed	27%
Planned for 2017	13%
Planned for 2018	15%
Planned for 2019	8%
Planned for 2020 or after	10%
Not applicable	**27%**
Missing Data	0%
No final Plan	0%

About **27% of States have** already "**Completed**" the implementation therefore the progress up to now can be considered relatively **good**. To note that for **27% of States** the B0-SURF module is reported as "**Not applicable**".



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.

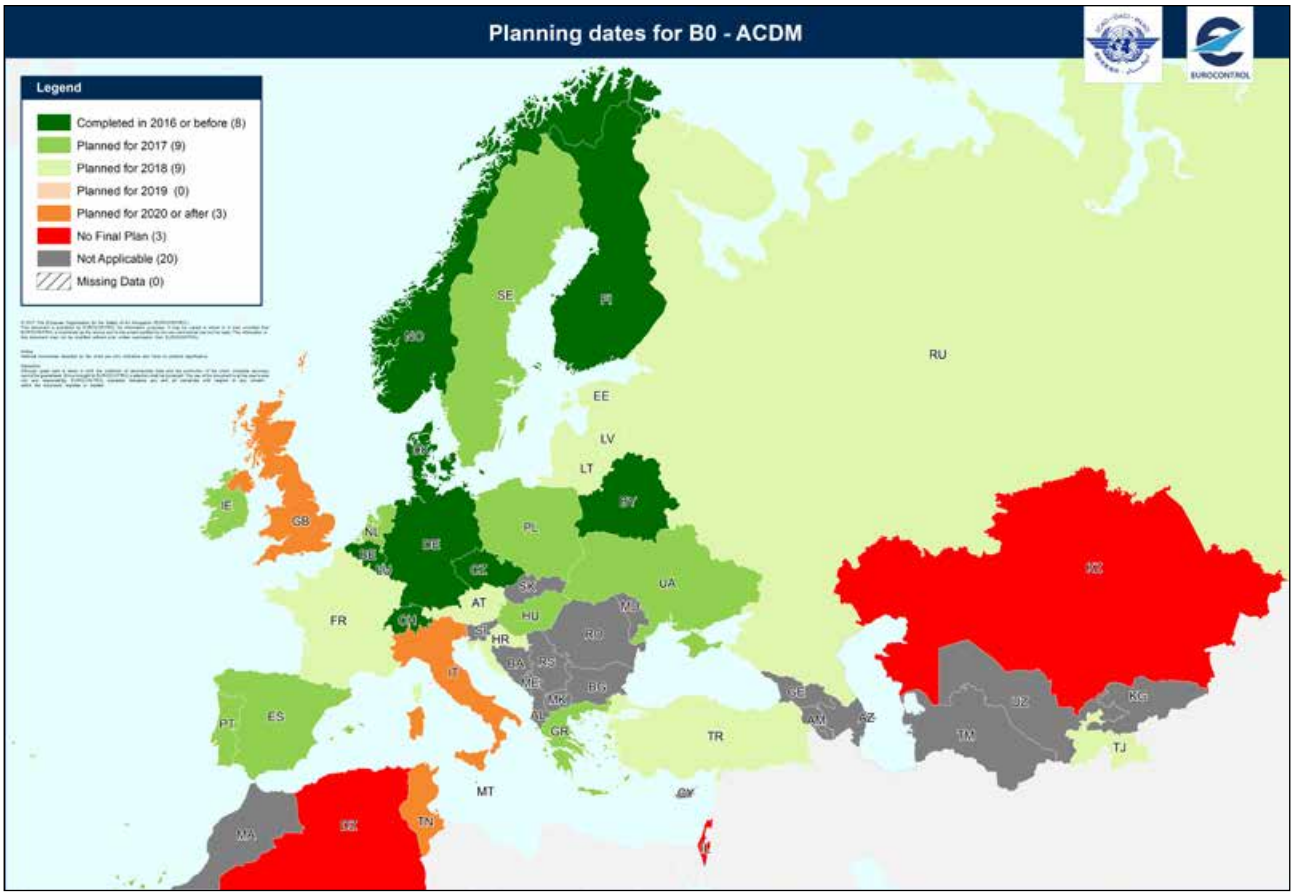
3.2.1 B0-ACDM

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-ACDM module planning dates corresponding approximately to the following statistics:

Completed	16%
Planned for 2017	17%
Planned for 2018	17%
Planned for 2019	0%
Planned for 2020 or after	6%
Not applicable	**38%**
Missing Data	0%
No final Plan	6%

The **progress** up to 2016 can be considered **slow**, however improvements are expected in 2017 and 2018 (17% per year). To note that for **38% of States** the B0-ACDM module is reported as **Not applicable**.



3.2.2 B0-ASUR

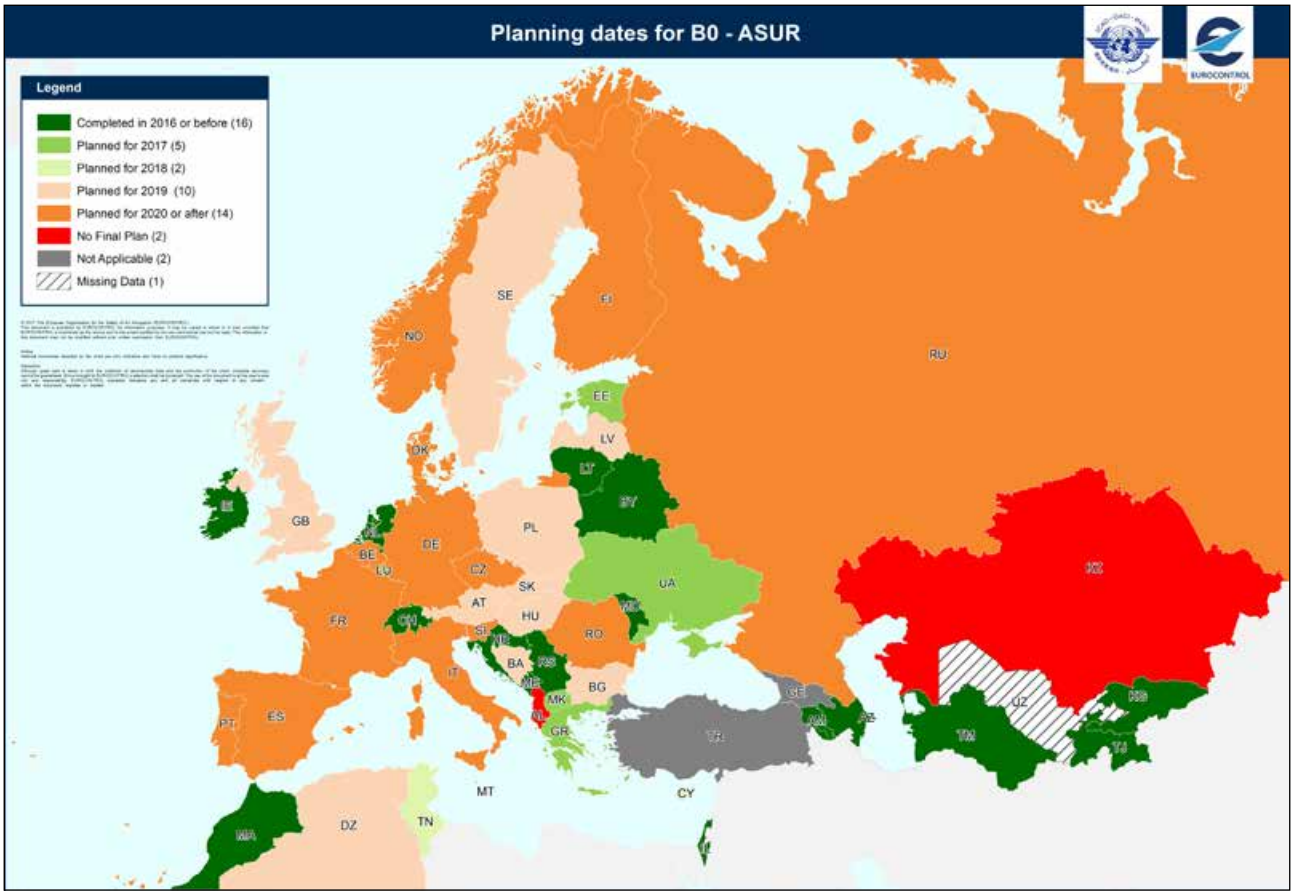
It addresses initial Capability for Ground Surveillance.

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:

Completed	31%
Planned for 2017	9%
Planned for 2018	4%
Planned for 2019	19%
Planned for 2020 or after	**27%**
Not applicable	4%
Missing Data	2%
No final Plan	4%

This module is progressing **relatively well**, about (31%) completed. From the previous reporting cycle there was an increase of 10% in the completion rate.



3.2.3 B0-CDO

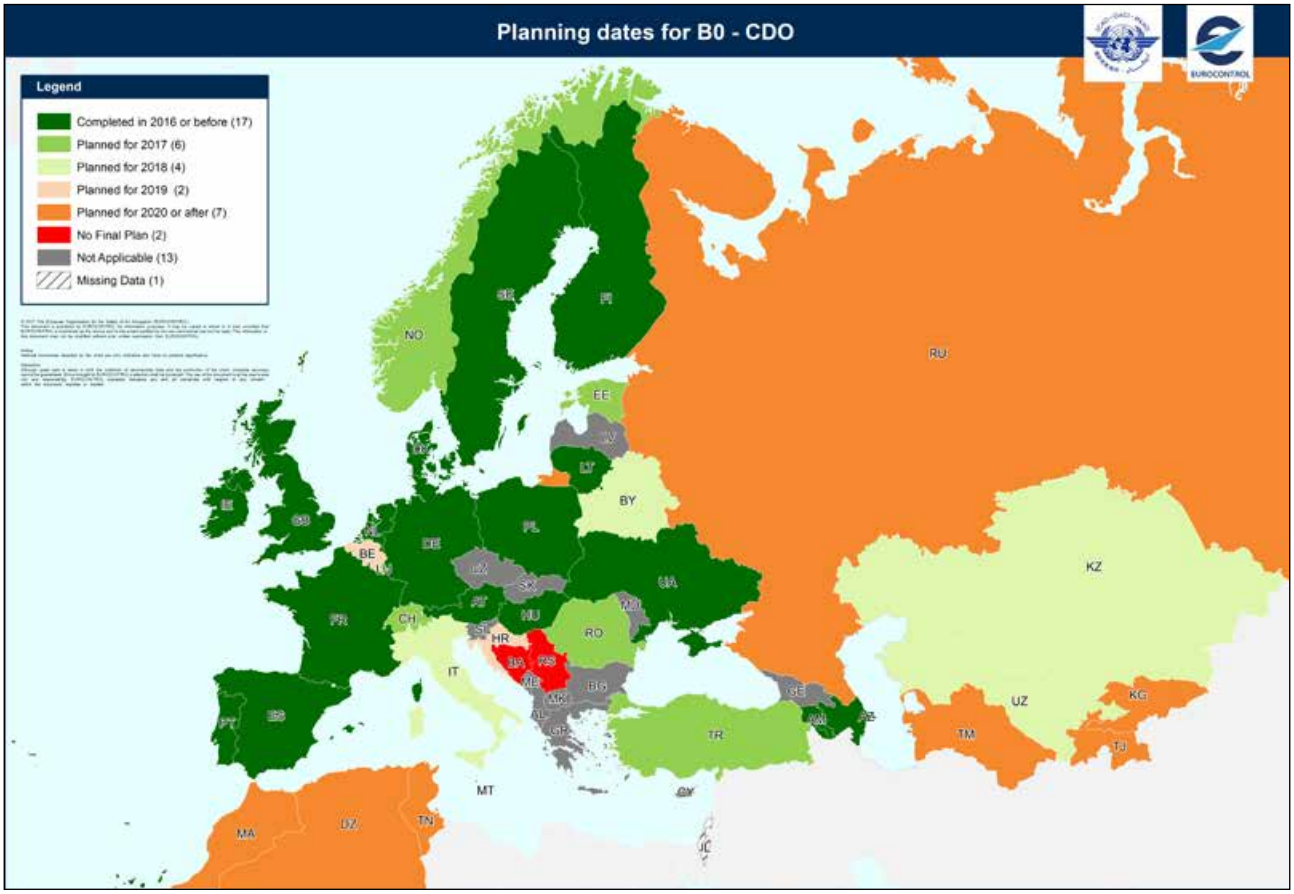
This module covers Improved Flexibility and Efficiency in Descent Profiles (CDO).

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:

Completed	33%
Planned for 2017	11%
Planned for 2018	8%
Planned for 2019	4%
Planned for 2020 or after	13%
Not applicable	**25%**
Missing Data	2%
No final Plan	4%

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



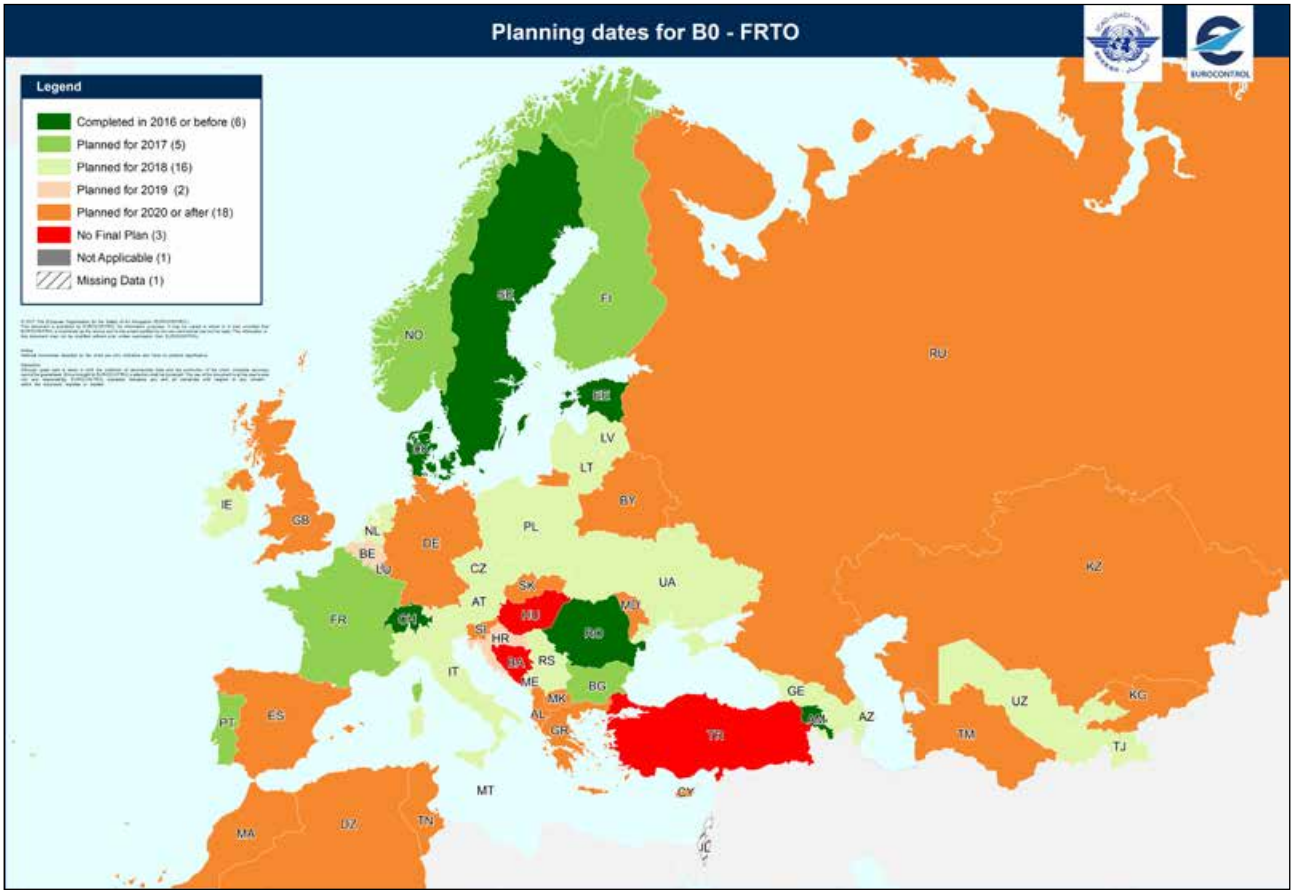
3.2.4 B0-FRTO

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:

Completed	12%
Planned for 2017	10%
Planned for 2018	**31%**
Planned for 2019	4%
Planned for 2020 or after	**34%**
Not applicable	2%
Missing Data	2%
No final Plan	5%

Slow progress up to now with only 12% of completion rate with an important **improvement** expected by 2018 (31%).



3.2.5 B0-NOPS

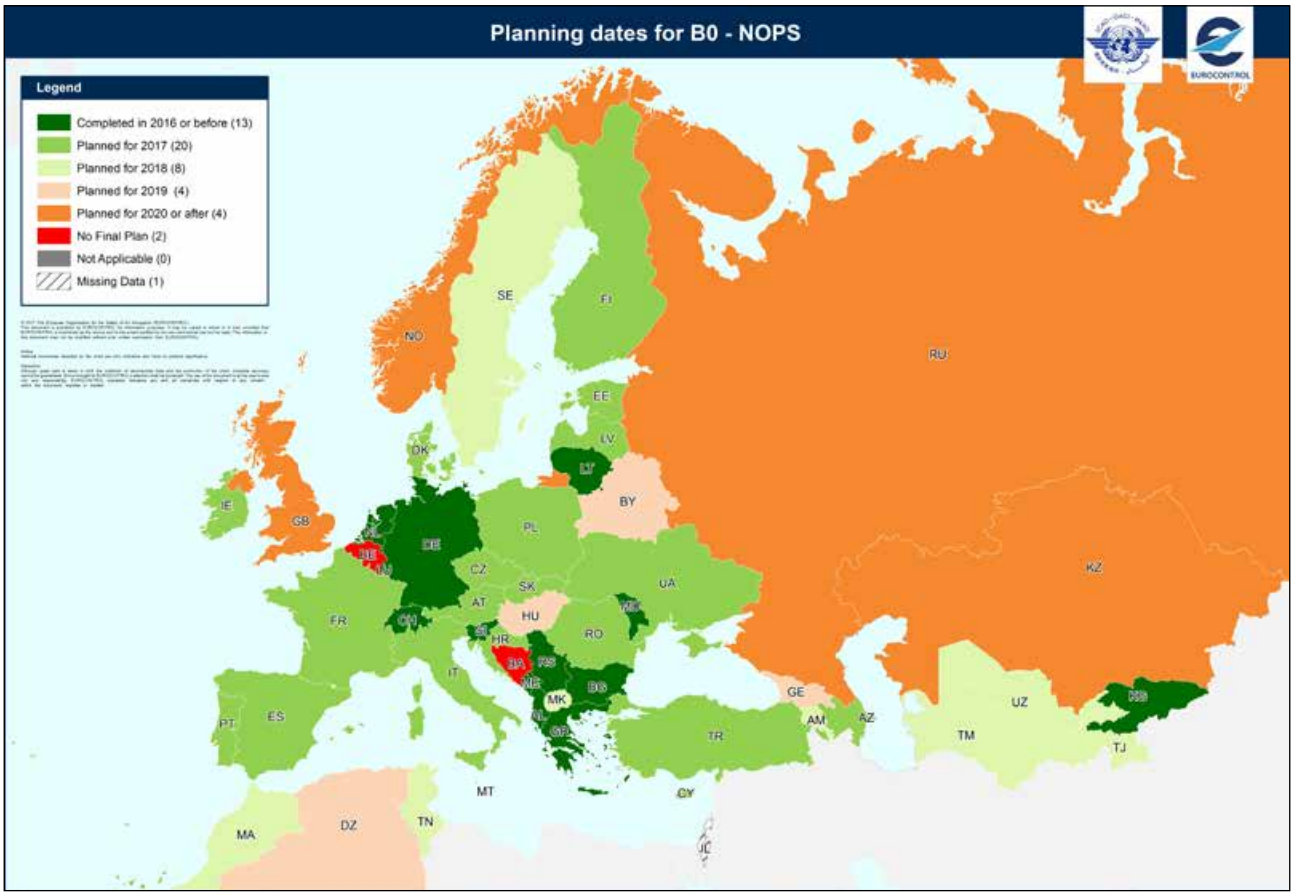
This module is about improved Flow Performance through Planning based on a Network- Wide view.

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:

Completed	25%
Planned for 2017	**38%**
Planned for 2018	15%
Planned for 2019	8%
Planned for 2020 or after	8%
Not applicable	0%
Missing Data	2%
No final Plan	4%

This module showed an important evolution from last year with **an increase of 19% in the implementation rate. For 2017 the outlook is**, as well, **very good** with a planned implementation rate of **38%**.



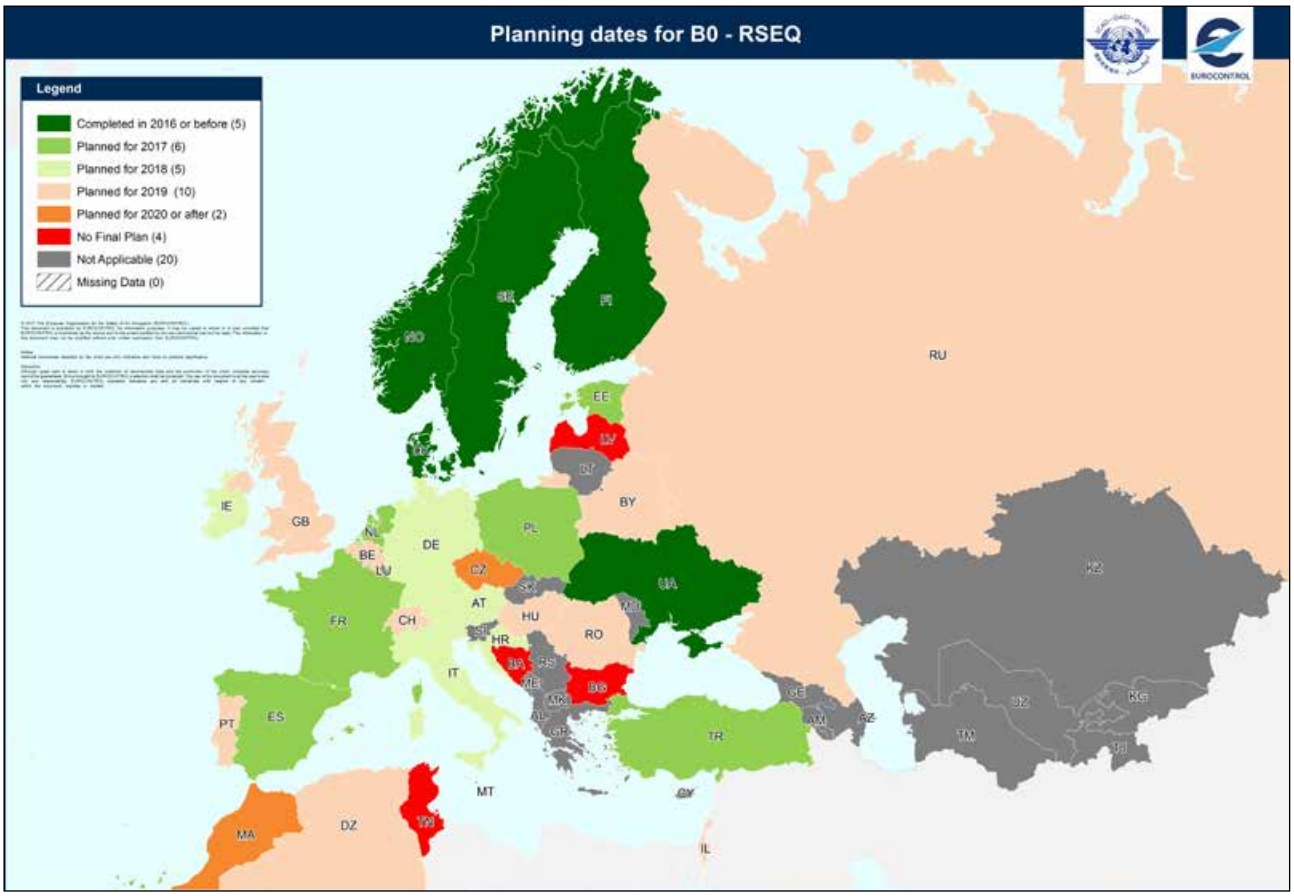
3.2.6 B0-RSEQ

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:

Completed	10%
Planned for 2017	12%
Planned for 2018	**10%**
Planned for 2019	19%
Planned for 2020 or after	4%
Not applicable	**38%**
Missing Data	0%
No final Plan	7%

The **progress is very slow** with only **10% completed in 2016**, the same rate as in the previous cycle. To note that for **38% of States** the B0-RSEQ module is reported as **Not applicable**.



3.2.7 B0-TBO

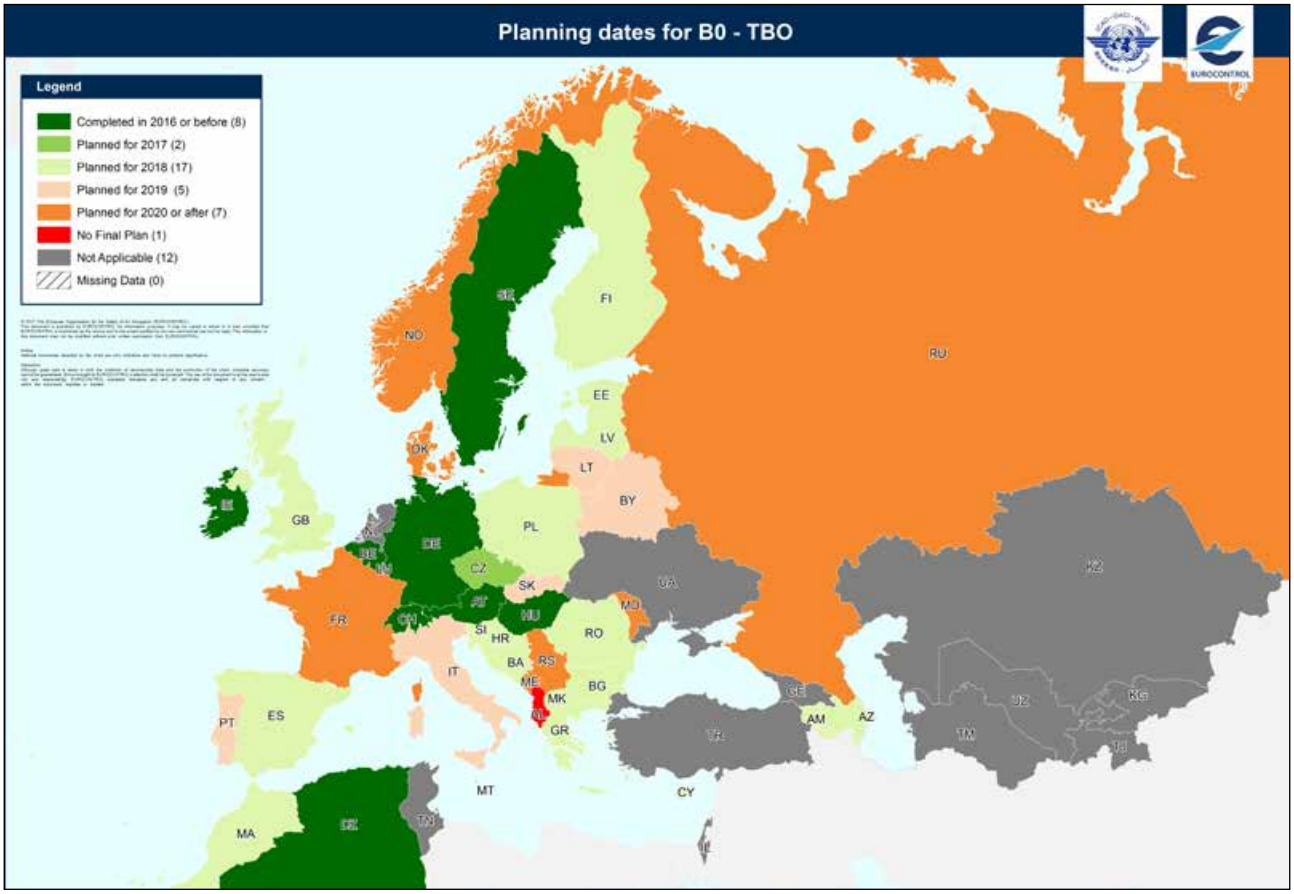
This module is about Improved Safety and Efficiency through the initial application of Data Link En-Route.

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.

Completed	15%
Planned for 2017	4%
Planned for 2018	**33%**
Planned for 2019	10%
Planned for 2020 or after	13%
Not applicable	**23%**
Missing Data	0%
No final Plan	2%

A **slow progress for B0-TBO (15%)** and an important increase in progress expected for 2018 (33%). To note that **23%** of States declared being **Not applicable**.



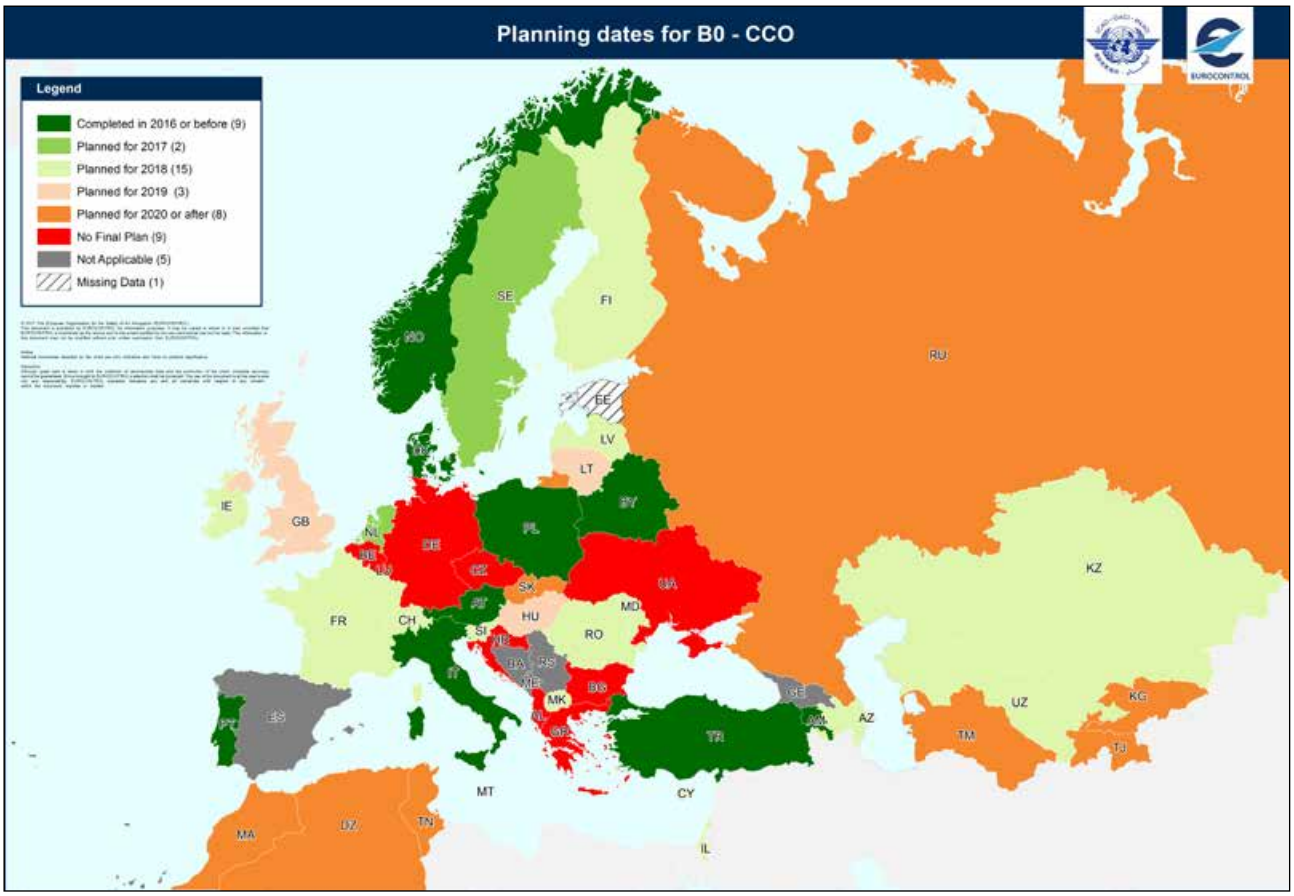
3.2.8 B0-CCO

This module is about improved flexibility and efficiency in departure profiles - continuous climb operations (CCO). It consists in the deployment of departure procedures that allow an aircraft to fly its optimum aircraft profile taking account of airspace and traffic complexity with continuous climb operations.

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

Completed	17%
Planned for 2017	4%
Planned for 2018	**29%**
Planned for 2019	6%
Planned for 2020 or after	15%
Not applicable	10%
Missing Data	2%
No final Plan	17%

A slow progress for B0-CCO (17%) and an important increase in progress expected by 2018 (29%). To note that 10% of States declared this module as "Not applicable" and 17% have no final Plan yet.



4. Implementation progress view

4.1 Global implementation per ASBU Module

This chapter presents a global view (in the form of a map) of the implementation Status for all ICAO EUR States concerning the ESSIP objectives included in each ASBU module (see mapping on Annex 1).

For those States that are part of the LSSIP mechanism the data taken as reference to prepare the maps was extracted from the LSSIP database for the cycle 2016. For the remaining 11 States, not included in that mechanism, data was extracted from the questionnaire mentioned before and presented in Annex 2.

In addition to the global Implementation Status this chapter also addresses the evolution of progress achieved from previous reporting cycles, for each objective and for those States inside the ESSIP/LSSP mechanism. Concerning the other remaining 11 States it is indicated only the current progress status.

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, ATC07.1 and CCO modules, 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 and EANPG/58. [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
- Ongoing
- Planned
- Late
- No Plan
- Not Applicable
- Missing Data

2 *Non priority Modules B0-WAKE, B0-ASEP, and B0-OFPL are not addressed as decided by the EANPG.*

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

"PROGRESS"	"PROGRESS" DEFINITION
COMPLETED (100%)	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).
ONGOING (1-99%)	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 (0%)	A planned schedule and proper (approved and committed budgeted) actions are specified within the agreed date for completion but implementation has not yet kicked off.
LATE (0-99%)	• 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 • The implementation is ongoing but will be achieved later than that date; or • The target date is already exceeded.
NO PLAN	1) The Stakeholder has not yet defined a project plan with assigned financial and human resources but has the intention to implement it; 2) The Stakeholder can not develop a project plan with relevant financial or human resources for the implementation due, for instance, to austerity measures but has the general intention to implement it; 3) The Stakeholder is in the scoping phase where he is developing a feasibility study including a cost benefit analysis and therefore has not yet started the project plan definition.
NOT APPLICABLE	The SLoA or Objective is found to be not applicable for this Stakeholder or State. It must also be noted that the status of "Not applicable" is used when an operational improvement or system is not seen as necessary or beneficial within a State and therefore can be considered as equivalent to a "Completed" status.
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 2016. 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.

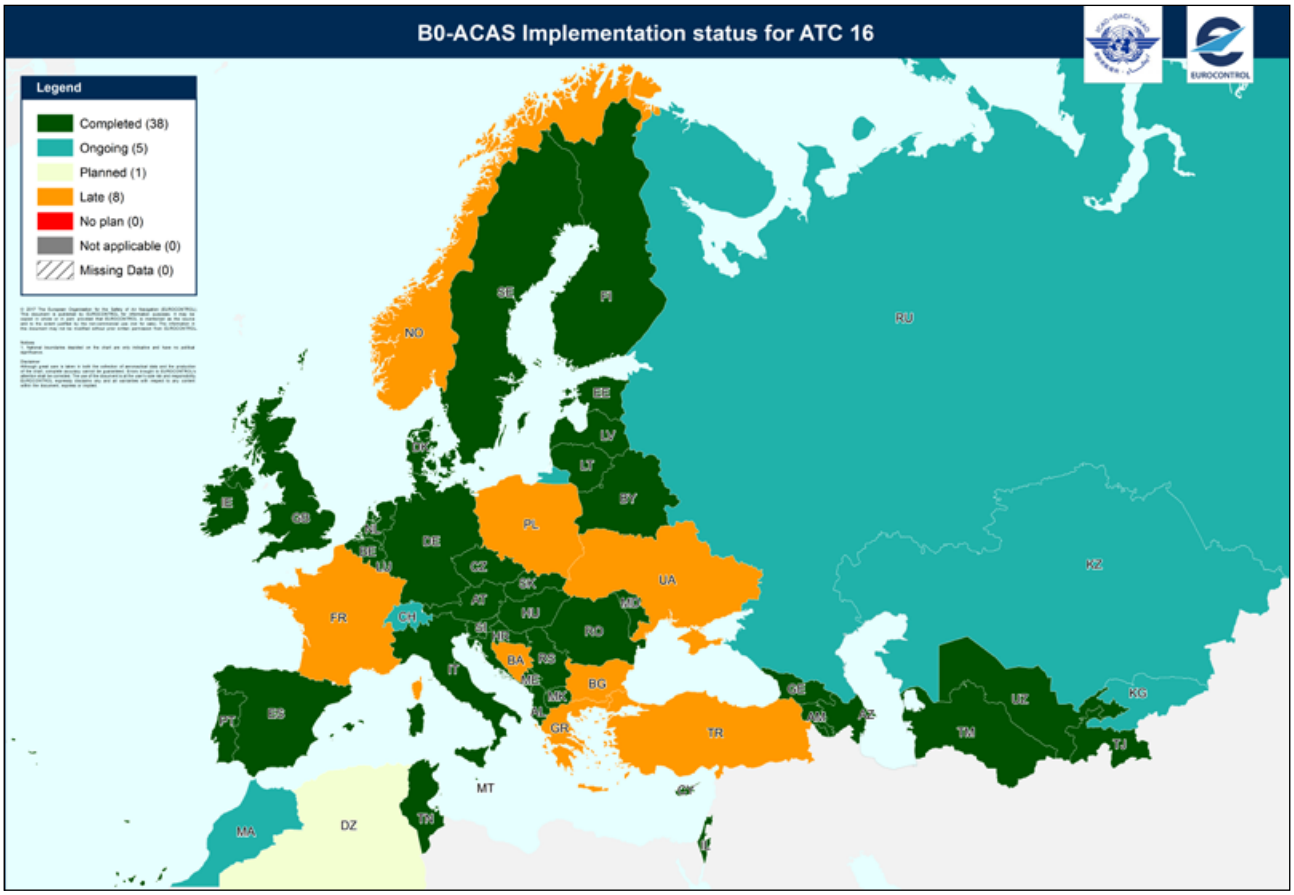
ON TIME	Implementation progress is on time. No delays expected.
RISK OF DELAY	The estimated achievement date is in line with the FOC date, but there are risks which could jeopardise timely implementation of the implementation objective.
PLANNED DELAY	The estimated achievement date is beyond the FOC date. Stakeholders already envisage delays in implementation. FOC date is still in the future, some corrective measures can still be taken to achieve the objective in line with its FOC date.
LATE	The estimated achievement date is beyond the FOC date and the FOC date is in the past.
ACHIEVED	Objective has fulfilled the achievement criteria (80% completion in the applicability area). For some objectives (PCP/SES/ICAO ASBU related) the objective may be monitored until 100% achievement.
CLOSED !	Objective can be declared as closed because it is replaced or renamed, or it is considered as no longer relevant nor contribution 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.

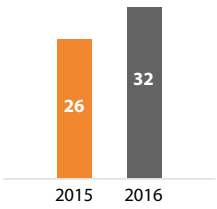


1. Progress for States in the ESSIP/LSSIP mechanism

The objective ATC16 reached 80% of achievement in the applicability area and was declared closed after the 2015 cycle. However those States that have not yet completed their activities were requested to update their progress in the LSSIP Database, for ICAO Monitoring purposes.

The following table is a summary of progress achieved in 2015 and 2016.

ATC16				
Status	**2015**	**2016**	**Progress**	**Completed** ↑(6)
Completed	26 (AL, AT, AZ, HR, CY, CZ, DK, EE, FI, GE, DE, HU, IE, IT, LV, LT, LU, MT, MD, ME, NL, PT, RO, RS, SK, SI)	32 (AL, AM, AT, AZ, BE, HR, CY, CZ, DK, EE, FI, FYROM, GE, DE, HU, IE, IT, LV, LT, LU, MT, MD, ME, NL, PT, RO, RS, SK, SI, ES, SE, UK)	AM, FYROM, ES, SE, UK	
Ongoing*	3(ES, SE, CH)	1(CH)	-	
Late	12 (AM, BE, BA, BG, FR, FYROM, GR, NO, PL, TR, UA, UK)	8 (BA, BG, FR, GR, NO, PL, TR, UA)	-	



** Partly Completed for 2015.*

2. Status for remaining States

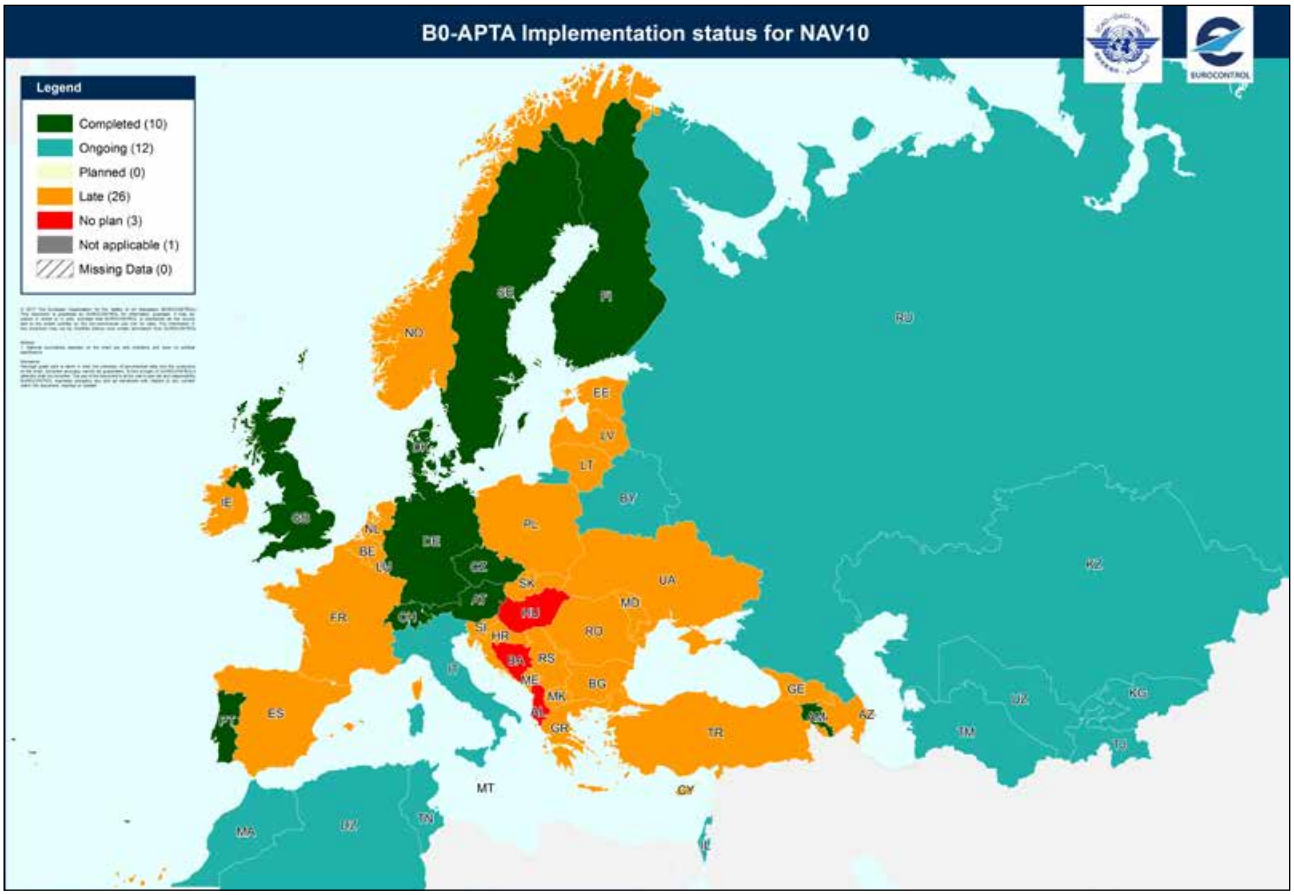
Algeria	The carriage and operation of ACAS is foreseen from 1 January 2017 onwards. A transitional period and derogation measures are foreseen until 31 December 2017. Algeria has published a circular to achieve implementation ACAS 7.1.	Planned 2018
Belarus	Aircraft operators provide regular training for flight crew members based on the training programmes designed for flights with TCAS II version 7.1 (Operations Manual, Part D, Annex 5) approved by the Department of Aviation. Flight procedures using TCAS II version 7.1 (Operations Manual, Part A, Item 17.3.7.) have been developed and approved. Requirement to verify the activation of TCAS II before take-off has been included in the checklists. Aircraft maintenance services and the training of aircraft maintenance technicians are accomplished in accordance with the Aircraft Maintenance Manuals developed by the aircraft operators and approved by the Director of the Department of Aviation. MELs are established per aircraft types and approved by the Director of the Department of Aviation. According to the manufacturer's provisions, ACAS II upgrade (TCAS II version 7.1) does not require introducing amendments into the Aircraft Maintenance Programme and MEL. ACAS II (TCAS II version 7.1) performance monitoring is carried out by the Aircraft Operator's Quality Manager, taking into consideration pilot observations recorded in logbooks.Certification of activities is accomplished pursuant to the existing Aviation Rules AP 6.01-2012 (02190) "Certification of civil aircraft operator activities".	Completed 12/2015
Israel	All Israeli air carriers engaged in commercial int'l air operations are equipped with TCAS II version 7.1, excluding 1 aircraft which is in equipage process and will be equipped by 30 June 2017.	Completed 30/06/2017
Kazakhstan	Amendments have been made into standard evaluation programme of airworthiness, annex 3 to the Rules of the certification and issuance of an airworthiness certificate. There is a requirement about TCAS operation in accordance with the provisions of Volume 4 Annex 10. In compliance with the certification requirements aircraft operator produces changes into all guidelines in a timely manner.	Ongoing (70%) 12/2018
Kyrgyzstan	Full completion will be on 10/10/2017. Total aircraft are 10, 7 aircraft are equipped.	Ongoing (70%) 10/2017
Morocco	An ACAS II version 7.1 Condition is included in the airworthiness certification process. ATC reporting of ACAS RAs is implemented in the ACC.	Ongoing (80%) 12/2020
Russian Federation	Aircrafts of Russian airlines are equipped with TCAS version 7.1 for performing international flights in the airspace of the EU Member States. There are not defined requirements for compulsory equipment of TCAS 7.1 for aircrafts operating in the airspace of the Russian Federation.	Ongoing (30%) 2020
Tajikistan	All aircraft registered in Tajikistan have installed TCAS 7.1.	Completed 2016
Tunisia	Tunisian registered aircraft are all equipped TCAS version 7.1 Regarding the monitoring, Air operators are invited to comply with manufacture procedures ATC RA monitoring provision implemented.	Completed 2015

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.	Completed 12/2015
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 2015

4.1.1.2 B0-APTA

OPTIMIZATION OF APPROACH PROCEDURES INCLUDING VERTICAL GUIDANCE	
NAV10	Implement APV procedures

Global Implementation.



1. Progress for States in the ESSIP/LSSIP mechanism

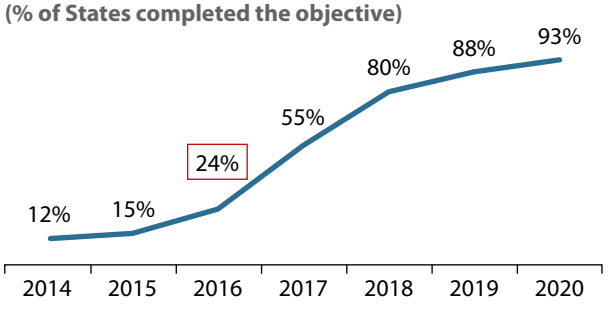
Main 2016 developments:

Additional four (4) States have completed this implementation objective in 2016 (CH, DK, FI and UK). Quite few States are very close to completion (FR at 99%, SK at 90%, IT at 84%, BE at 93%). Despite this steady implementation progress recorded in 2016, objective is assessed as 'late' at ECAC level, as the official FOC date was reached at the end of 2016. It should be mentioned that some reluctance in implementation probably exist because PBN IR is still not published. Most Stakeholders that reported delays are setting up national deployment plans in accordance with ICAO 3711 resolution. Three (3) States have reported 'no plan' status, BA because no reliable plan has been set up, AL is reviewing the functionality, and HU has completed ASP actions and has no plan for REG actions According to the EUROCONTROL PRISME CNS business intelligence, over 50% of the flights had APV capabilities (53% RNP BARO and 2,2% LPV SBAS).

FOC: 12/2016 — **Late**

Estimated achievement: 12/2018

Completion Rate Evolution (% of States completed the objective)



2. Status for remaining States

Algeria	A national PBN implementation plan was developed in 2015. In accordance with the National PBN plan, the ANSP (ENNA) has developed a plan and APV/Baro procedures will be implemented for Approaches of Algiers, Oran, Annaba, Constantine and Hassi Messaoud. All coordinates data are already published in WGS-84.	Ongoing (40%) 2021
Belarus	National PBN Implementation Plan was developed, and it was approved on 24 June 2010. National Airspace Concept was approved on 17 December 2014. Automated aeronautical facilities (flight procedures design system, aeronautical charting system, airspace design system) have been upgraded and adapted to support the Aeronautical Information Exchange Model (AIXM) 5.1. It is planned to design APV procedures and publish them in Belarus AIP. Coordinates data have been being published in Belarus AIP in WGS-84 since 17 December 2009	Ongoing (80%) 12/2017
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 comply with ICAO Annex 10 requirements for APV procedure. All coordinates data published in the AIP are in WGS-84 in accordance with ICAO Annex 15 requirements.	Ongoing (50%) 12/2018
Kazakhstan	All coordinates data in AIP with effective date of 30th of March 2017 are published in WGS-84 in accordance with ICAO Annex 15 requirements. Astana and Almaty airports serving the major of international flights are planned to be introduced with APV/Baro by the end of 2018. Implementation of APV/Baro at the rest airports will be completed by 2019.	Ongoing (20) 12/2019
Kyrgyzstan	Kyrgyz Republic publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements. 1) Kyrgyz Republic designed APV/Baro for international airport Issyk-kul 11.07.2016 – but not published due to redundancy of conventional charts; Kyrgyz Republic published mix charts APV+ILS; Plan GBAS DCPS will be in 2020; 2) Kyrgyz Republic will design APV/Baro for international airport Osh in October 2017. GBAS DCPS will be in 2020; 3) Kyrgyz Republic will design APV/Baro for international airport Manas February 2020. 4) For Kyrgyz international airport Manas GBAS with DCPS will be implemented in 2025 year. According PBN plan implementation in Kyrgyz Republic will implement GBAS only with DCPS service, because our concern is the proximity of the zones with combat activity, impact of these anomalous ionospheric conditions and lack of real-time corrections system like EGNOSS. Kyrgyz Republic has non plan for implementation APV/SBAS procedures due to reasons indicated above.	Ongoing (20%) 2025

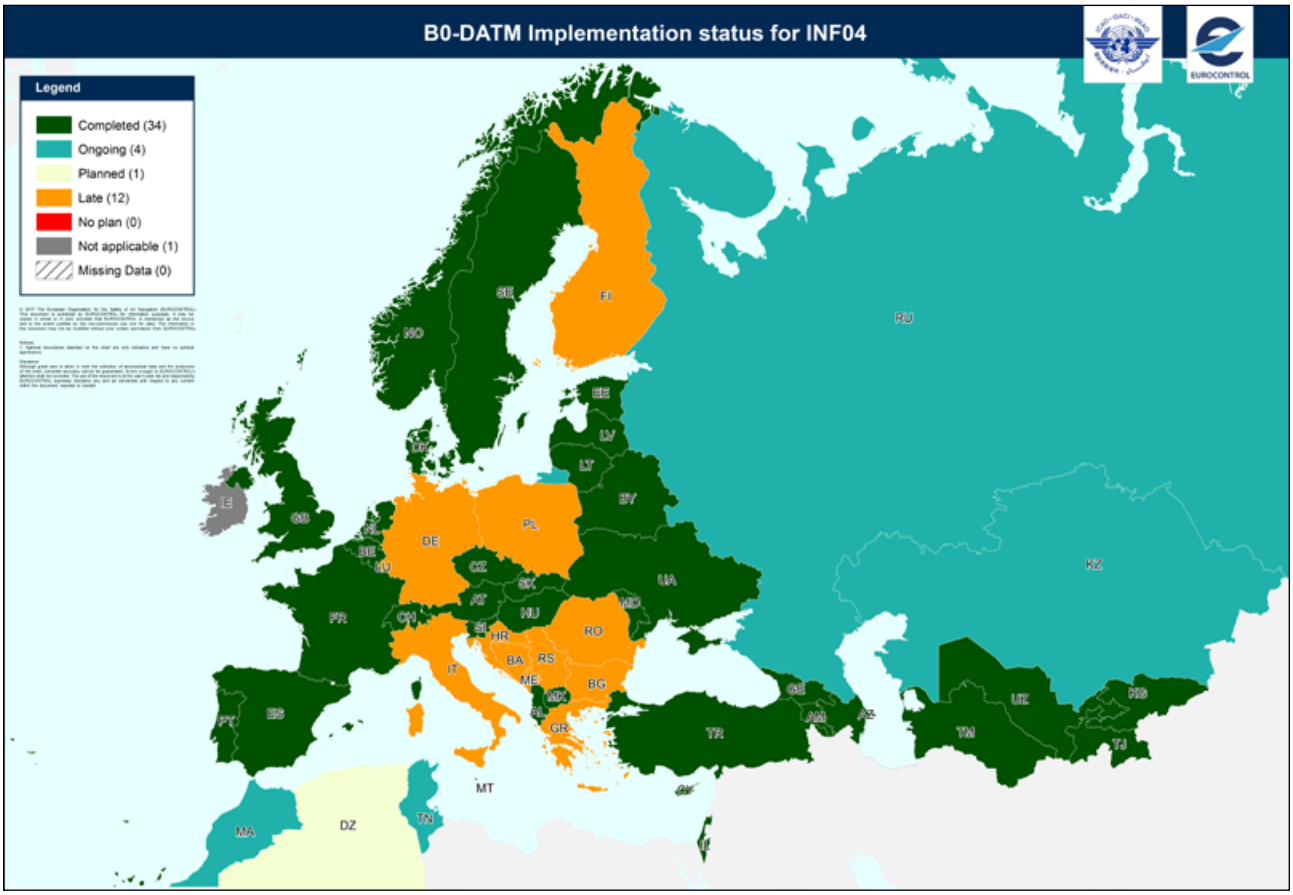
Morocco	There are 17 international airports. Casablanca and Marrakech airports have the major part of the passenger traffic with 68 %. On-going project on the first phase was issued for implementing new PBN procedures including APV/Baro in major airports: - Casablanca airport : Runway 17L/R – 35L/R - Rabat airport : Runway 21 - Benslimane airport : Runway 14/32 The Air navigation capabilities for APV as DME, GPS and SBAS are on going. Moroccan PBN Plan was developed in 2013 and includes the phased implementation of APV/Baro procedures for all runway Thresholds. All coordinates data published in AIP are in WGS-84.	Ongoing (40%) 2023
Russian Federation	Approach procedures are implemented according to the PBN Implementation Plan (2014). Timeline and APV/SBAS area of application shall be determined upon complete installation of SDCM and its operational approval for APV/ SBAS procedure.	Ongoing 2020
Tajikistan	International airport Dushanbe is equipped with ILS, Cat I on RWY09, RWY 27 installation was finished in March 2017. The WGS-84 project (with CAIGA) is going to start in 2017 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 has been developed and the design of GNSS procedures for international airports will be included in national PBN plan, which will start after completion of WGS-84 project.	Ongoing (20%) First phase in 2020
Tunisia	- According to national PBN plan, all international airports in Tunisia will have APV procedures by the end of 2019. - 04 LNAV/VNAV procedures are already designed for Tunis Carthage airport (Approval in progress).	Ongoing (50%) 12/2019

Turkmenistan	A project to implement WGS-84 as geodetic reference system for air navigation purposes in the airspace of Turkmenistan and for all international airports has started in 2016, with Ashgabat airport being finalised in 2017 and with a full completion for all international airports in 2019. Discussions have started on the development of an eTOD data server and a possible migration to EAD. A national PBN implementation plan (GNSS procedures for all international airports) was developed as part of the Mid-Asia PBN project. All 5 international airports in Turkmenistan (Ashgabat 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.	Ongoing (20%) 2021
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 has implemented WGS-84 as geodetic reference system for air navigation purposes in the airspace of Uzbekistan. The development of a national PBN implementation plan has started. GNSS procedures for all international airports reflected in the national PBN plan.	Ongoing (10%) 2018

4.1.1.3 B0-DATM

SERVICE IMPROVEMENT THROUGH DIGITAL AERONAUTICAL INFORMATION MANAGEMENT	
INF04	Implement integrated briefing

Global Implementation.

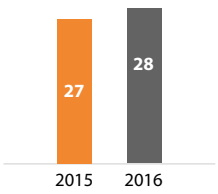


1. Progress for States in the ESSIP/LSSIP mechanism

The objective INF04 was declared closed after the 2015 cycle. However those States that have not yet completed their activities were requested to update their progress in the LSSIP Database for ICAO Monitoring purposes.

The following table is a summary of progress achieved in 2015 and 2016.

INF04				
Status	**2015**	**2016**	**Progress**	**Completed** ↑(1)
Completed	27 (AL, AM, AT, AZ, BE, CY, CZ, EE, DK, FR, FYROM, HU, LV, LT, MT, MD, NL, NO, PT, SK, SI, SE, ES, CH, TR, UA, UK)	28 (AL, AM, AZ, AT, BE, CY, CZ, DK, EE, FR, FYROM, GE, HU, LV, LT, MT, MD, NL, NO, PT, SK, SI, ES, SE, CH, TR, UA, UK)	GE	
Late	13(BA, BG, HR, FI, GE, DE, GR, IT, LU, ME, PL, RO, RS)	12(BA, BG, HR, FI, DE, GR, IT, LU, ME, PL, RO, RS)	-	
Not Applicable	1 (IE)	1 (IE)	-	

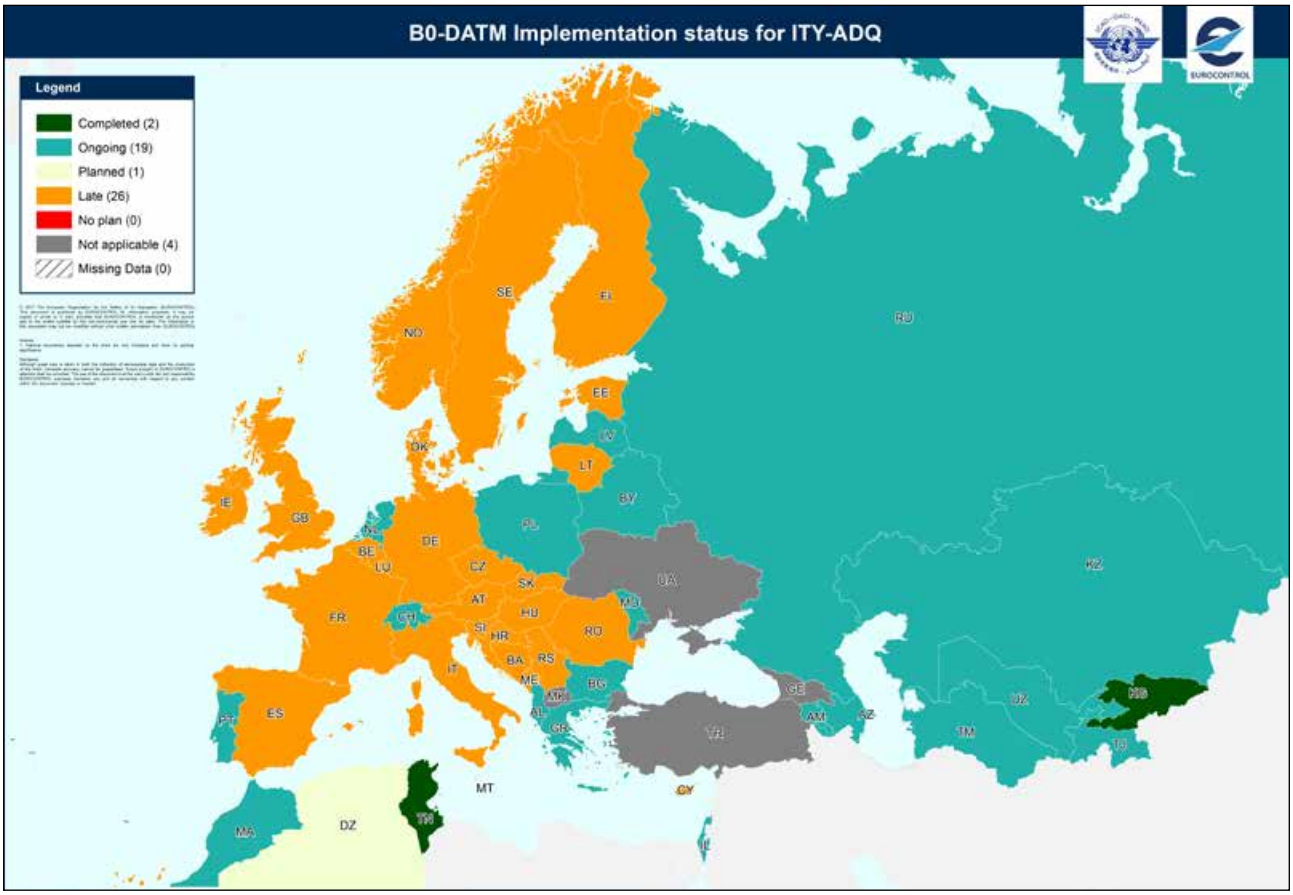


2. Status for remaining States

Algeria	In accordance with the Actions Plan of ENNA: training (during 2017) and upgrade (2018-2019) of the AIS system is planned.	Planned 2019
Belarus	Integrated briefing has been implemented at civil aerodromes in order to provide airspace users with pre-flight information.	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 MET; 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	By the end of 2017, integrated briefing will be introduced in Astana and Almaty airports serving the major of international flights. AIS, FPL, MET and ATFM information will be integrated into one single source. Hardware and software of EAD Briefing Facilities is installed and tested, connection is expected by the end of 2017.	Ongoing (80%) 12/2017
Kyrgyzstan	Kyrgyz Republic will make with EAD Digital AIP plus digital FPL at the end of 2017. At the present moment, the allowed submission of flight plans and the receipt of weather information is done by e-mail in the frames of a special agreement.	Completed 31/12/2014
Morocco	A new digital system for the management of aeronautical information will be installed from mid-2017 till end of 2018; this system will consider the following services: AIS, MET, Flight Plan and ATFM.	Ongoing (20%) 12/2018
Russian Federation	Ongoing activities: installation of hardware and software system in Federal Air Transport Agency, its regional authorities and FSUE "State ATM Corporation". Airports are the next item on the agenda.	Ongoing 12/2020
Tajikistan	Integrated briefing (AIS, FPL, MET and ATFM information) was implemented in all international airports.	Completed 2012
Tunisia	WGS-84 fully implemented. A new survey campaign for eTOD was held in 2016 at Tunisian airports level. QMS fully implemented: Certification of the Management System for the Quality of the AIS and the AIO of the Tunisian Airports according to the international standard ISO 9001 since 2006. e-AIP and Digital NOTAM will be implemented in 2017. Integrated briefing function is planned for Implementation in 2018.	Ongoing (50%) 2019
Turkmenistan	An integrated briefing function (AIS, FPL, MET and partially ATFM information) was implemented in Ashgabat 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 Ashgabat.	Completed 2003
Uzbekistan	An integrated briefing function (AIS, FPL, MET and partially ATFM information for all 11 airports) is part of the national Uzbekistan airlines	Completed 2000

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

Global Implementation.



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

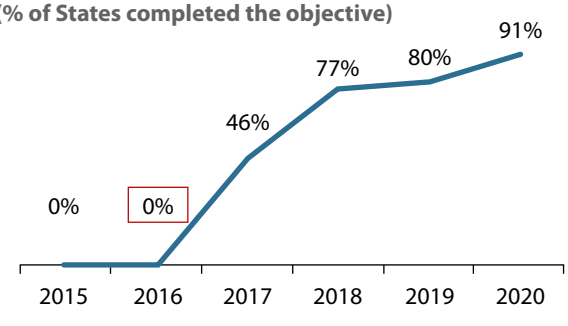
More States have declared being "Late", the number increased from 21 (last cycle) to 26 in the current reporting period. No State has completed the objective, even though the FOC is approaching (06/2017). Some SLoAs that are overdue and on the critical path for ADQ implementation, such as Formal Arrangements (ASP02), did not show relevant progress with 21 ANSP declaring being "Late". It needs to be recognised that a lot of individual progress has been made by many stakeholders, mostly ANSPs, nevertheless no State is yet in the position to declare full compliance. This is notably due to strong dependencies on a range of interfaces (data originators), the extremely challenging requirements, tight deadlines, tool adaptions or lack of mature software solutions and resources. In light of the approaching new EASA rule on AIS/AIM Providers, based on similar Essential Requirements as ADQ, it is very important that States make an effort to recover existing delays since ADQ compliance will provide 39 an optimum basis for later certification by EASA.

FOC: 06/2017

Planned delay

Estimated achievement: 12/2020

Completion Rate Evolution
(% of States completed the objective)



2. Status for remaining States

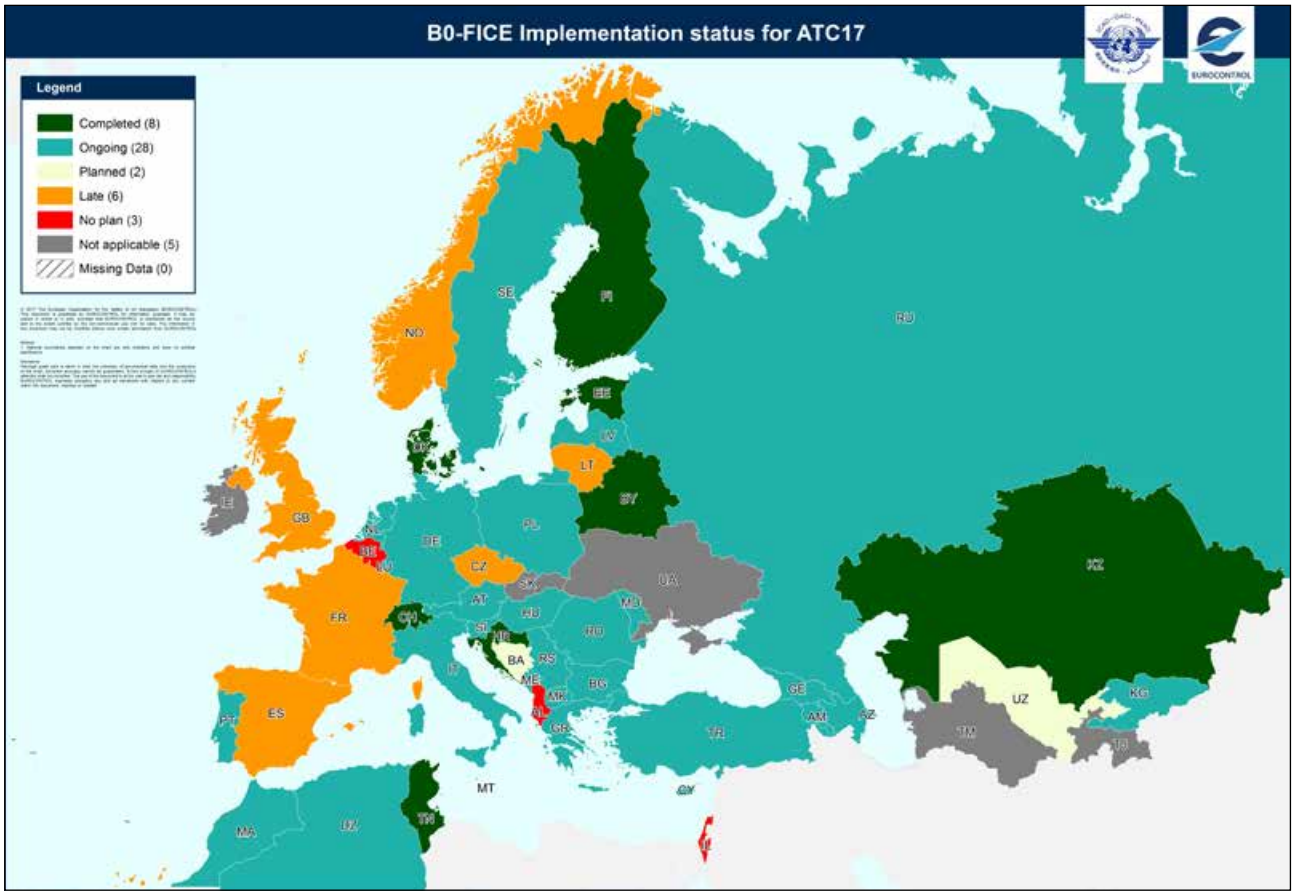
Algeria	In accordance with the Actions Plan of ENNA, QMS will be implemented as part of the planned AIS system upgrade (2018-2019).	Planned 2019
Belarus	QMS for Aeronautical Information Services was implemented in 2014. Certificate No. ISO9001NoUA227572 was issued by Bureau Veritas on 26 August 2014. Additionally safety management and 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, in accordance with the Order of the Department of Aviation No. 139 dd 07 July 2015 "On approval of the regulation for the provision of aeronautical information". Aeronautical data are provided in AIXM 4.5 format. Upon upgrade of the database and software for creation of aeronautical charts the aeronautical data will be provided as datasets (AIP, TOD, Aerodrome Mapping Data) in AIXM 5.1 format, pursuant to Annex 15. Agreements have been concluded between aeronautical information providers and data originators for the exchange of aeronautical data/information, in accordance with the Order of the Department of Aviation No. 139 dd 07 July 2015 "proval of the regulation for the provision of aeronautical information". LoAs for Provision or Aeronautical Information and Data Integration between AIS of Belarus and AIS of Latvia and AIS of Lithuania have been agreed.	Ongoing (80%) 12/2017
Israel	1. Implement a quality management system (QMS) is partially completed. A QMS is fully implemented by CAAI with respect to AIP processes which is a service provided by CAAI (ISO certified). With respect to NOTAM and PIB, which are services provided by the IAA, a QMS implementation process has begun. 2. Implement data quality requirements is completed. 3. Implementation of Common dataset and digital exchange format is planned. Completion date was 12/2017. Israel is in a process of migration to EAD service. 4. Establish formal arrangements is completed. CAAI AIS unit has established a set of procedures regarding the exchange of aeronautical data and information with data originators.	Ongoing (75%) 12/2018
Kazakhstan	Certificate of Quality Management System, including the provision of aeronautical information obtained in 2016 and 2017. ICAO standards on quality requirements for aeronautical information are applied. Agreements with providers of aeronautical information are established, including requirements for the quality of information are on an agenda. At the moment, ANSP is developing an aeronautical information exchange mechanism with the transition to a digital format.	Ongoing (65%) 12/2018
Kyrgyzstan	Kyrgyz Republic Full migration in EAD group.	Completed 2016
Morocco	Quality management system (QMS) is fully implemented since 2009. A new digital system for the management of aeronautical information will be installed from mid-2017 till end of 2018. The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements, resolution and integrity analysis (end of 2020).	Ongoing (30%) 12/2020

Russian Federation	Ongoing activities: installation of software system. Airports are the next item on the agenda. Quality management systems (QMS), data quality requirements and formal arrangements are implemented. Common data set and digital exchange format is 40% implemented.	Ongoing 12/2020
Tajikistan	AIM QMS is planned to start during 2017, cooperation with CAIGA established but QMS aspects need to be verified.	Ongoing (20%) 2018
Tunisia	QMS fully implemented: Certification of the Management System for the Quality of the AIS and the AIO of the Tunisian Airports according to the international standard ISO 9001 since 2006.	Completed 2016
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.	Ongoing (50%) 2018
Uzbekistan	Data quality requirements standards, implementation of common dataset and digital exchange formats, establish formal arrangements satisfied is part of the WGS-84 program, which will be started after State approval. Migration to EAD is approved. Plan of migration is received and is under consideration now. Annual QMS audit is successfully completed.	Ongoing (25%) 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

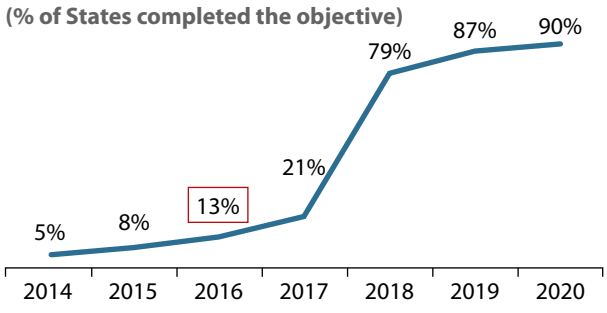
Main 2016 developments:

This objective complements the services implemented with ITY-COTR, regulated provision based on the IR. Most of the States expect the implementation between 2017 and 2018. By the FOC date completion rate should reach 79%, therefore very close to the target of 80% at which the objective would be labelled as 'Achieved'. Still, risks remain that some countries might experience delays with respect to their current plans. Two (2) States (DK and EE) have completed the objective in 2016. Also, the number of 'No Plans' went down from three (3) last year, to two (2) in 2016 (AL and BE). Most OLDI messages are already available in many ATM systems across the applicability area but their operational introduction is pending the signature of an agreement between neighbouring ACCs. Six (6) ANSPs declare themselves as 'Late': three (3) plan to finalise implementation in 2019, 42 (CZ, FR, LT) , one (1) in 2020 (NO) and two (2) in 2021 (ES and UK).

FOC: 12/2018 **Planned delay**

Estimated achievement: 12/2019

Completion Rate Evolution (% of States completed the objective)

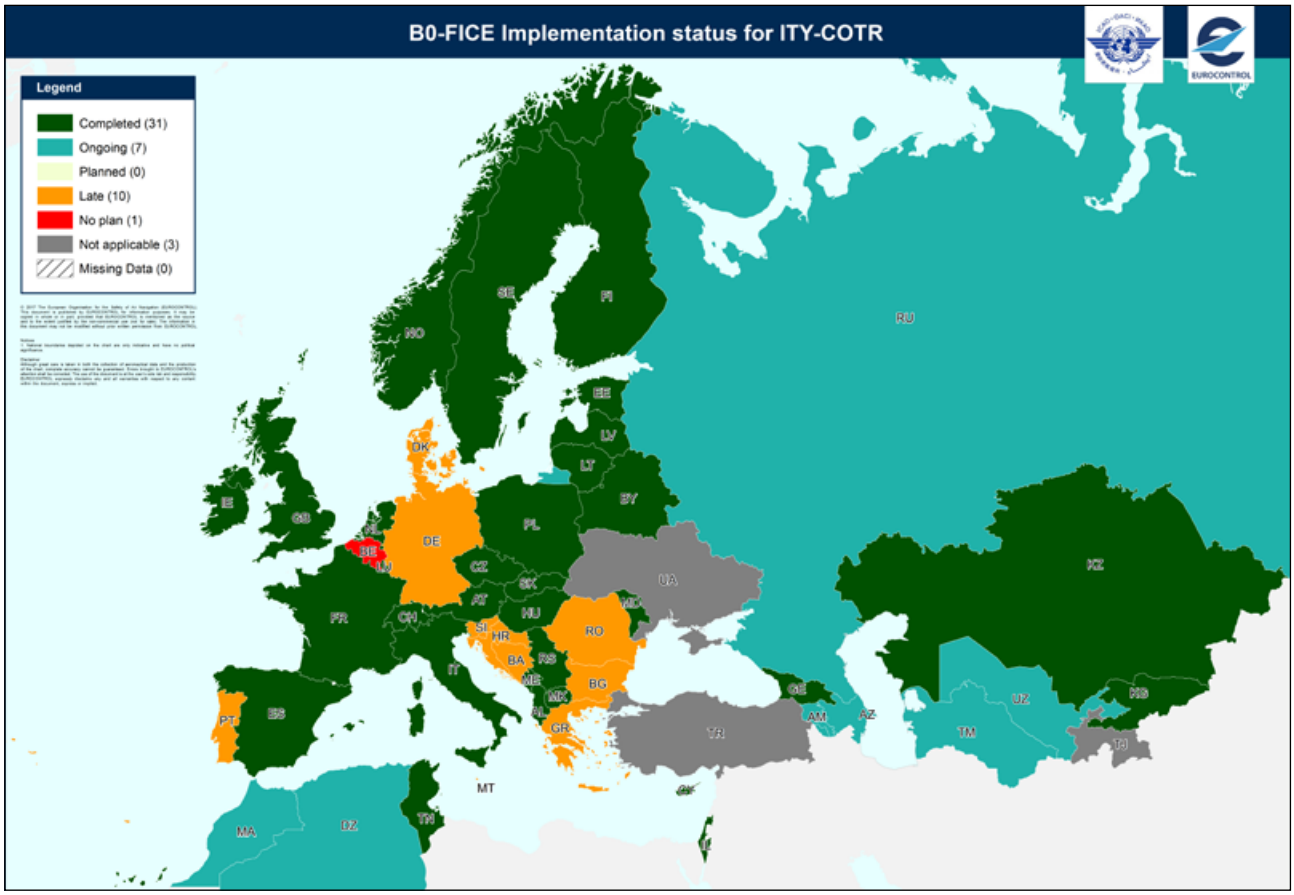


2. Status for remaining States

Algeria	The current system includes Basic OLDI messages. PAC and COD but are not into service, ACT message is operational since 2006 The future ATC system (as part of the PDGEA project) will integrate the Transfer and Coordination messages in ground-ground communication.	Ongoing (30%) 2019
Belarus	The following improvements have been introduced at Minsk ACC and at Minsk Tower: • PAC and COD messages have been implemented. • Electronic dialogue procedures in transfer of control and coordination processes among the ACC sectors and among the adjacent ATS units have been implemented. • Safety assessment is carried out in accordance with national regulations.	Completed 12/2015
Israel	At the moment there is no plan to implement OLDI capability between Israel and any neighbouring ANSPs.	No Plan
Kazakhstan	Ground systems have been upgraded with the functions to support Basic procedure.	Completed 12/2016
Kyrgyzstan	All ATS system in Kyrgyz Republic support the Basic procedure, OLDI (for procedures Coordination and communication) will be implemented with Republic Kazakhstan in 2017. Developing a security assessment for changes has not yet been conducted.	Ongoing (20%) 2017
Morocco	The PAC is implemented since 2007. Implementation of COD and other procedures is planned in the framework of new system of Casablanca ACC implementation. The majority of requirements are related to transfer of communication and coordination dialogue messages. Besides, COD and PAC there are 12 another messages that will be implemented in the ATM systems for radar and flight data processing.	Ongoing (25%) 12/2020
Russian Federation	Electronic dialogue procedure is envisaged in 7 out of 12 Consolidated ACCs. All installed automated ATM systems support OLDI based electronic dialogue procedure.	Ongoing (60%) 2020
Tajikistan	New ATC System (Master from Peleng) was installed in 2012 and ground-ground ATC system functionality was not installed.	Not Applicable
Tunisia	Current FDPs support the different levels of data online exchange (OLDI messages), including COD and PAC.	Completed 2014
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Ashgabat ACC 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 Ashgabat ACC, and with any other neighbouring ACC is done via phone and will also be done in the future via phone.	Not Applicable
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 2018

INCREASED INTEROPERABILITY, EFFICIENCY AND CAPACITY THROUGH GROUND-GROUND INTEGRATION	
ITY-COTR	Implementation of ground-ground automated co-ordination processes

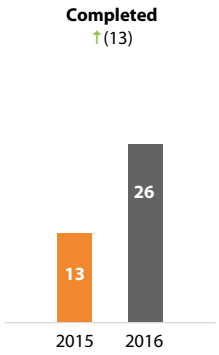
Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

The objective ITY-COTR was declared closed after the 2015 cycle. However those States that have not yet completed their activities were requested to update their progress in the LSSIP database for ICAO Monitoring purposes.
The following is a summary of progress achieved in 2015 and 2016.

ITY-COTR			
Status	**2015**	**2016**	**Progress**
Completed	13 (AL, AT, EE, GE, IE, LU, ME, NL, PL, RS, SE, CH, UK)	26 (AL, AT, CY, CZ, EE, FI, FR, FYROM, GE, HU, IE, IT, LU, LT, LV, MD, ME, NL, NO, PL, RS, SK, ES, SE, CH, UK)	CY, CZ, FI, FR, FYROM, HU, IT, LT, LV, MD, NO, SK, ES
Partly Completed/ Ongoing	14(AM, BE, BG, HR, FI, FYROM, HU, LV, LT, MT, MD, NO, RO, ES)	2(AM, AZ)	AZ
Planned	4 (AZ, CY, CZ, IT)	0	-
Late	8 (BA, DK, FR, DE, GR, PT, SK, SI)	10 (BA, BG, HR, DK, DE, GR, MT, PT, RO, SI)	BG, HR, MT, RO
No plan	-	1 (BE)	BE
Not applicable	2 (TR, UA)	2 (TR, UA)	-

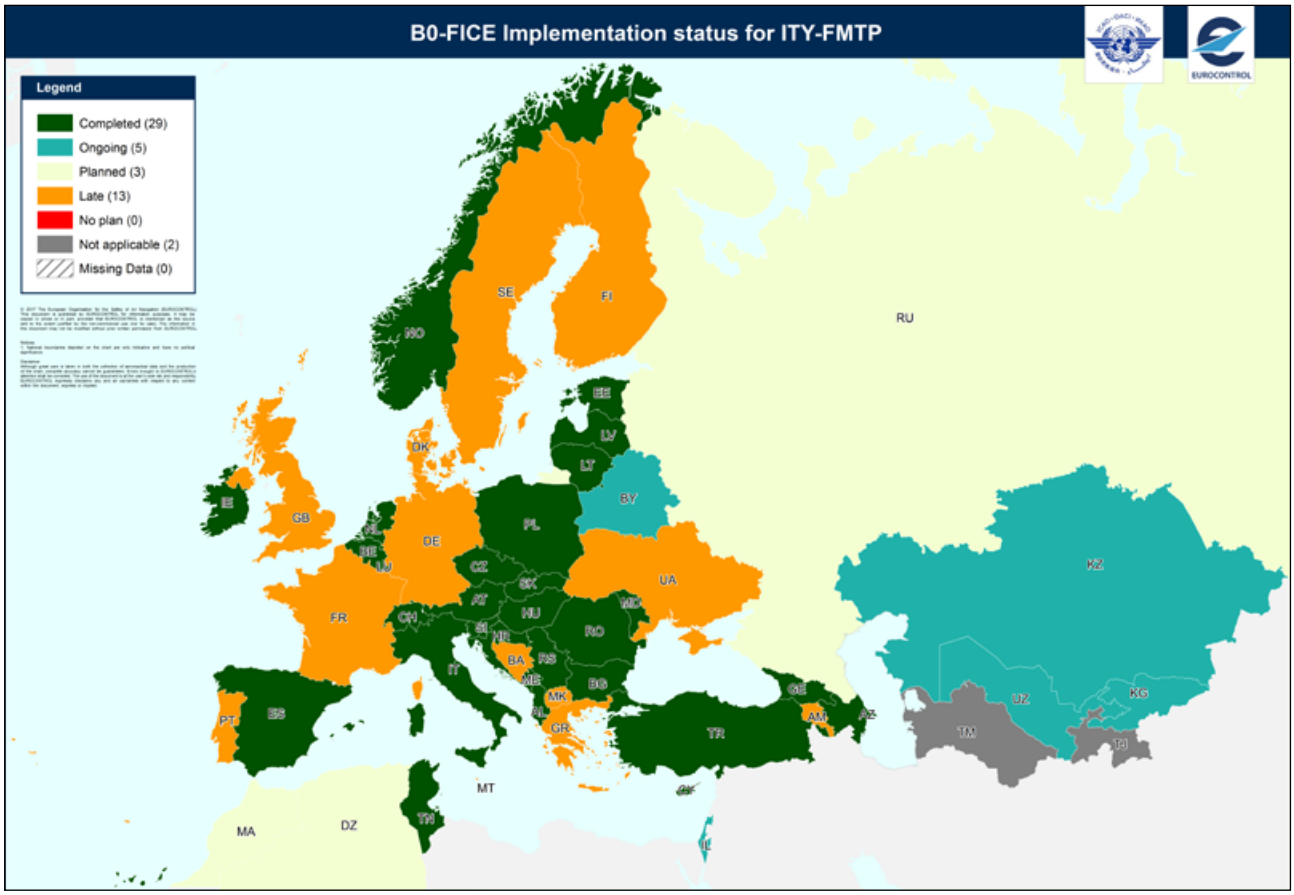


2. Status for remaining States

Algeria	The current system includes Basic OLDI messages (ABI, ACT, PAC, LAM) and some AIDC messages. An OLDI connection exists between Algiers ACC and Aix-en-Provence ACC and is fully operational since 2006. The future ATC system (as part of the PDGEA project) will implement the Full OLDI protocol and the AIDC protocol.	Ongoing (70%) 2019
Belarus	OLDI connection (ABI, ACT, REV, PAC, MAC, LAM) was implemented between Minsk ACC and the following adjacent ATS centres: with Lviv ACC in December 2004, 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 into LoAs with the adjacent ATS Centres.	Completed 12/2015
Israel	The IAA has implemented the Electronic Flight Strip (EFS) since Q3 2015 which provides automated coordination capabilities.	Completed 30/09/2015
Kazakhstan	Completed in 2016.	Completed 12/2016
Kyrgyzstan	All ATC systems in the Kyrgyz Republic meet these requirements.	Completed 2009
Morocco	The OLDI system links Morocco's ACC to those at Canary, Seville and Lisbon. An OLDI link will be established with ALG FIR when they implement required functionality.	Ongoing (80%) 12/2018
Russian Federation	Data exchange between ATS Centres using OLDI is performed according to the plan.	Ongoing (60%) 2020
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and ground-ground ATC system functionality was not installed.	Not Applicable
Tunisia	Current FDPs support and process the different coordination messages.	Completed 2014
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Ashgabat ACC 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 Ashgabat 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 and will be operational during 2017.	Ongoing (80%) 2017
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 will announce tendering (selection of new ATC system in 2017) for new ATC system for Uzbekistan that will include the ground-ground automated co-ordination functionalities.	Ongoing (50%) 2018

INCREASED INTEROPERABILITY, EFFICIENCY AND CAPACITY THROUGH GROUND-GROUND INTEGRATION	
ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

Implementation is late, with three (3) years of delay. No State completed the objective during 2016 despite the fact that last year six (6) of them had reported plans to do so.

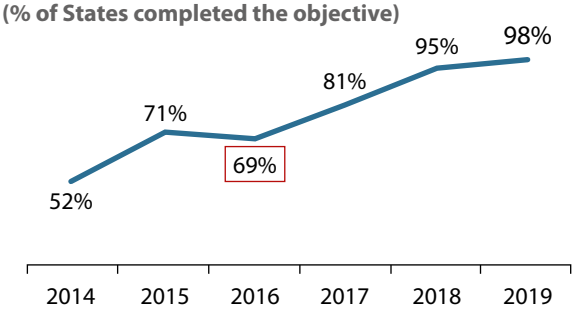
It is to be noted, however, that in three (3) States (DE, DK and UK) only implementation by the military is pending. SE reported the objective late but the objective is completed with all its neighbours except FI who has not yet fully implemented the objective, so it should have been reported completed by SE.

Stakeholders reporting the objective late cite a variety of reasons: cyber security concerns, budget restrictions especially for military ANSPs, having implemented FMTP on IPv4 in a first stage and postponement in implementation plans due to financial crisis.

FOC:	12/2014
Estimated achievement:	12/2017

Late

Completion Rate Evolution (% of States completed the objective)



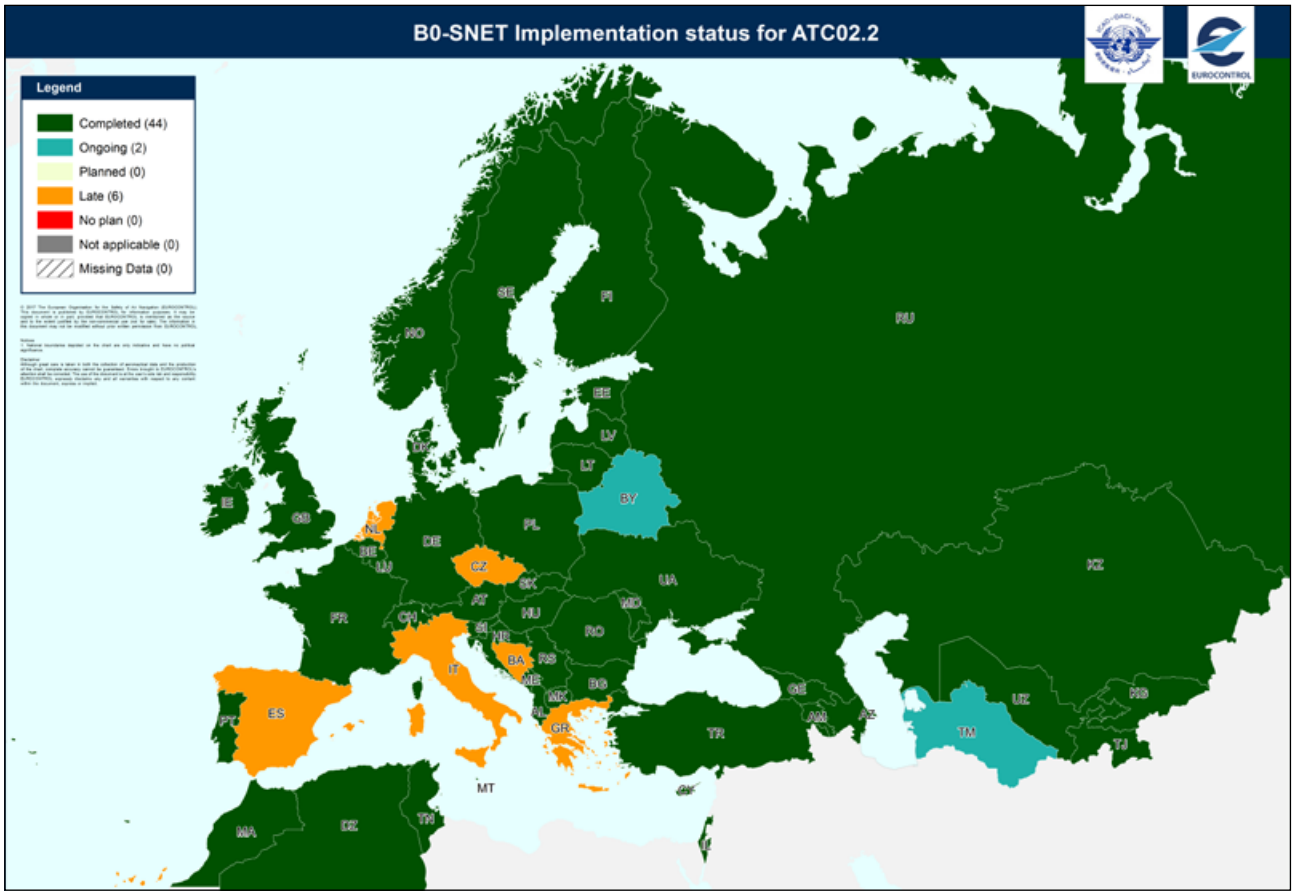
2. Status for remaining States

Algeria	The future ATC system (as part of the PDGEA project) will integrate the Full IP for OLDI protocol (FMTP).	Planned 2019
Belarus	Communication equipment has been upgraded to support FMTP. Information exchange via FMTP has been implemented between Minsk ACC and St- Petersburg ACC. Migration from X.25 protocol to FMTP protocol is accomplished in agreement with the adjacent ATS Centres. Safety assessment is carried out for the migration to FMTP protocol, in accordance with national rules.	Ongoing (80%) 12/2018
Israel	AHMS is fully implemented. OLDI is not implemented yet.	Ongoing (50%)
Kazakhstan	ANSP has planned discussions with ATC systems manufacturers to have FMTP realized by the end of 2018.	Ongoing (10%) 12/2018
Kyrgyzstan	Between all ATC units in Kyrgyz Republic using a peer-to-peer communication mechanism, unfortunately this is not the case with neighbouring countries.	Ongoing (30%) 2025
Morocco	New aeronautical messaging protocols such as FMTP and OLDI over IP will be established as the successor of the classic OLDI(x25).	Planned 12/2018
Russian Federation	OLDI based on FMTP shall be implemented in all Consolidated ACCs. Federal Target Program envisages deployment of communication grid in order to ensure OLDI data exchange.	Planned 2020
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and ground-ground ATC system functionality was not installed.	Not Applicable
Tunisia	Current FDPs support information exchange via FMTP.	Completed 2014
Turkmenistan	A new ATC system upgrade (Thales TopSky) has been installed in the Ashgabat ACC 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 Ashgabat ACC, and with any other neighbouring ACC is done via phone and will also be done in the future via phone.	Not Applicable
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.	Ongoing (30%) 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

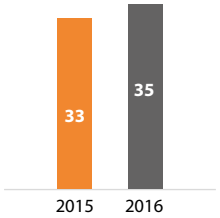
Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

The objective ATC02.2 reached 80% of achievement in the applicability area and was declared closed after the 2014 cycle. However those States that have not yet completed their activities were requested to update their progress in the LSSIP Database for ICAO Monitoring purposes.

The following is a summary of progress achieved in 2015 and 2016.

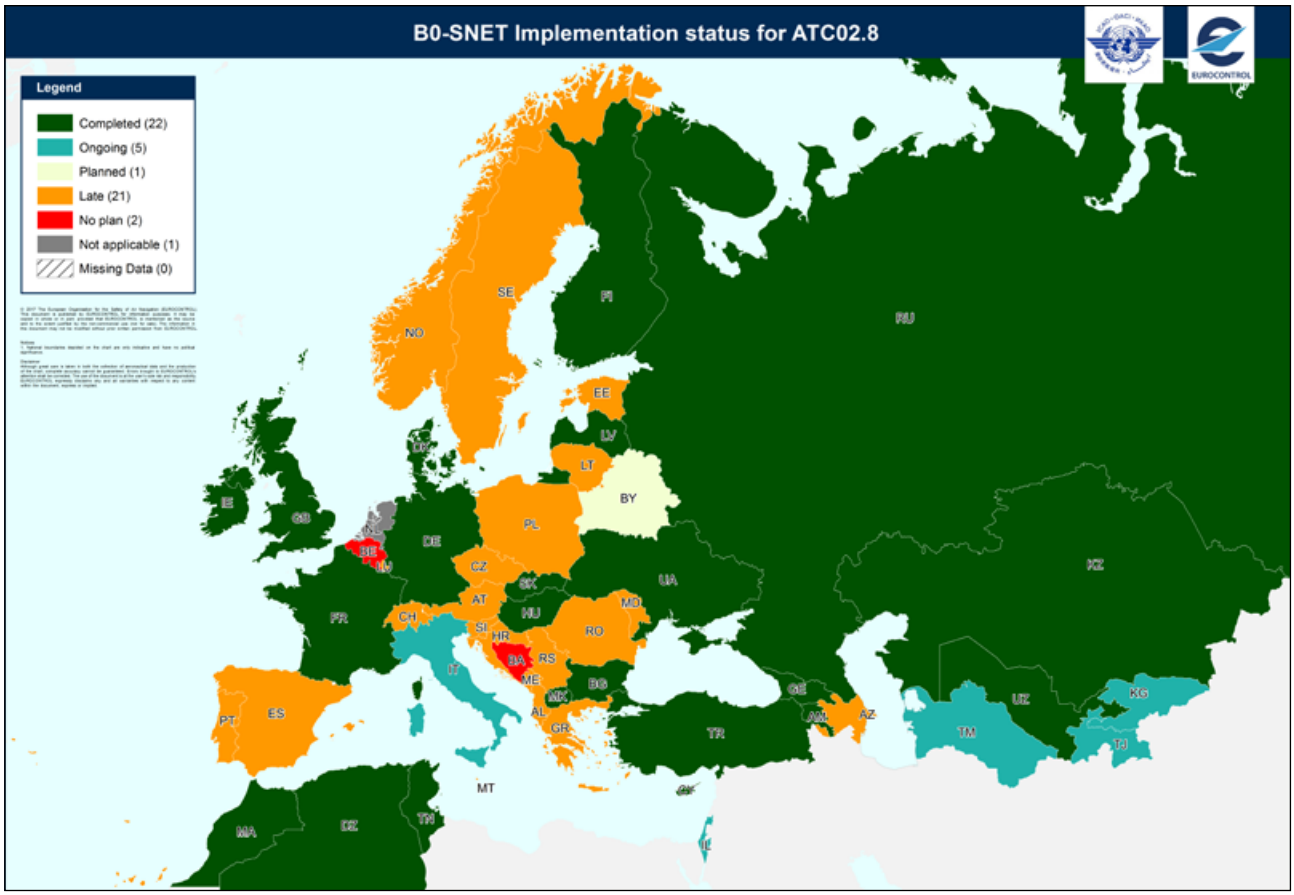
ATCO2.2				
Status	**2015**	**2016**	**Progress**	**Completed ↑(2)**
Completed	33 (AL, AM, AT, AZ, BE, BG, HR, CY, DK, EE, FI, FR, FYROM, DE, HU, IE, LU, LT, LV, MT, MD, ME, NO, PL, PT, RO, RS, SK, SI, SE, CH, UA, UK)	35 (AL, AM, AT, AZ, BE, BG, HR, CY, DK, EE, FI, FR, FYROM, GE, DE, HU, IE, LV, LT, LU, MT, MD, ME, NO, PL, PT, RO, RS, SK, SI, SE, CH, TR, UA, UK)	GE,TR	
Late	8 (BA, CZ, GE, GR, IT, NL, ES, TR)	6 (BA, CZ, GR, IT, NL, ES)	-	

2. Status for remaining States

Algeria	The current system includes the STCA function.	Completed 2004
Belarus	Safety assessment will be accomplished before the implementation. Activities for implementation of STCA Level 2 are in progress. Training of the operational personnel. Level 2 will be implemented at the new Automated ATC system to be put into operation at Minsk-2 aerodrome.	Ongoing (10%) 12/2019
Israel	STCA functions are implemented at all ATM units.	Completed
Kazakhstan	The STCA function and associated procedures have been implemented in line with Kazakhstan regulations at all ATC centres providing radar services throughout the country since 2013 with the exception of Military ATC units.	Completed 2016
Kyrgyzstan	All ATC systems in the Kyrgyzyz Republic meet these requirements.	Completed 2009
Morocco	The STCA function is implemented since 2007. The changes safety oversight equipment is implemented in some approach system since 2014.	Completed 11/2007
Russian Federation	The function is included into standard equipment. All operational automated ATM Systems support this function.	Completed
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and STCA functionality was installed for CWPs in ACC.	Completed 2012
Tunisia	Functionalities implemented through the current RDP system.	Completed 2014
Turkmenistan	STCA has been implemented in Ashgabat ACC since 1998 and in Turkmenbashi ACC since 2010. A new ATC system upgrade (Thales TopSky) has been installed in the Ashgabat ACC in March 2016. The safety net part of the new system includes the STCA functionalities. The same Thales system with the same ATC safety net functions was installed in Dashoguz ACC in February 2017 and will be installed in Turkmenabat ACC before the end of 2017. The new TWR/APP system (ex-ATC system from Ashgabat with 60 km APP range) for Mary will also include this function.	Ongoing (80%) 2017
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 2014

INCREASED EFFECTIVENESS OF GROUND-BASED SAFETY NETS - STCA	
ATC02.8	Implement ground based safety nets - Short Term Conflict Alert (STCA)- level 2

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

This s the first year for which the monitoring of the implementation of three (3) ground-based safety nets (APW, MSAW, APM) has been combined into a single objective. End of the year 2016 was also the target date for completion.

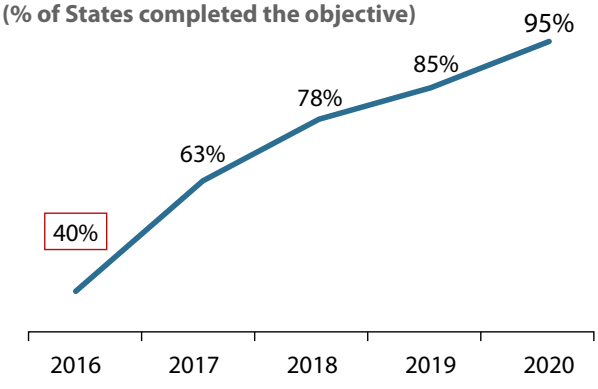
The progress was insufficient to achieve the timely implementation of overall objective.

While the implementation rate has reached seventeen (17) States having completed the objective (~40%), half of the States (21) are now late. This delay is, in several cases, associated to one of the three (3) safety nets (with the others implemented, and in particular APW which is a pre-requisite for Free-Route in PCP), and reported as due to alignment with a major upgrade, or replacement, of the ATM system. In addition, two (2) States (FR, UK) reported that they have put in place alternative systems. The planned overall completion is expected by 2019.

FOC: 12/2016 **Late**

Estimated achievement: 12/2019

Completion Rate Evolution (% of States completed the objective)



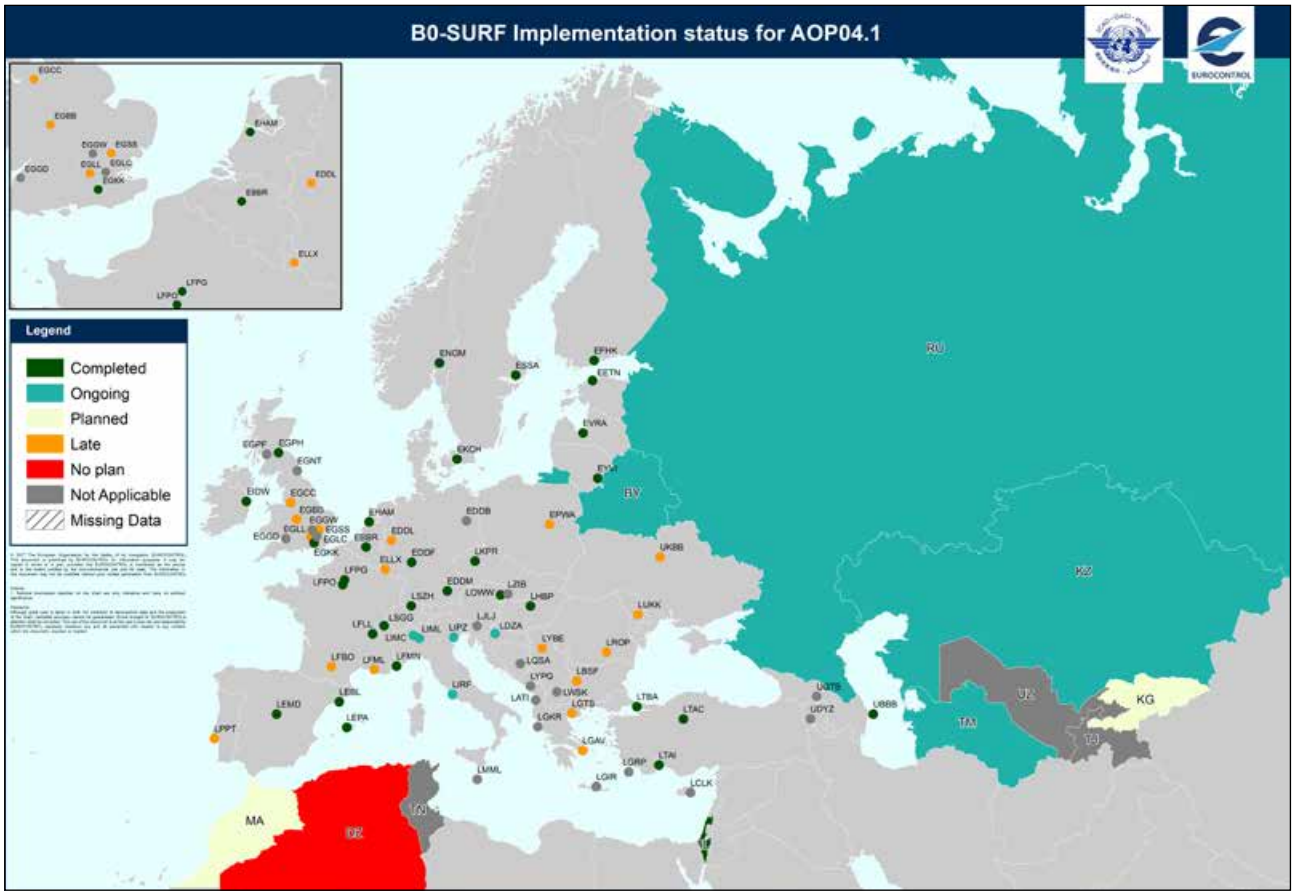
2. Status for remaining States

Algeria	The current system includes the MSAW end APW function.	Completed 2004
Belarus	These actions have not been initiated.	Planned 12/2019
Israel	Implementation of APW function: Estimated Implementation Date: 31/12/2018 for ACCs and 31/12/2022 for Ben- Gurion Airport Implementation of MSAW function: MSAW functions are implemented at Ben-Gurion airport (radar only). MSAW function for ACC is planned to be implemented until 31/12/2022.	Ongoing (30%) 12/2022
Kazakhstan	1. Ground systems have been upgraded to support the APW function. APW function is in operational use. 2. Ground systems have been upgraded to support the MSAW function. MSAW function is in operational use.	Completed 2016
Kyrgyzstan	Minimum Safe Altitude Warning implement - 100% in 2009. Area Proximity Warning implement only in ATS system Issyk-Kul.	Ongoing (60%) 2020
Morocco	The APW and MSAW functions are implemented since 2007.	Completed 11/2007
Russian Federation	Functions are included into standard equipment. All operational automated ATM Systems support this function.	Completed
Tajikistan	New ATC System (Master from Peleng) was installed 2012 and APW functionality was installed for CWPs in ACC. With the new ATC System installation, MSAW was not put into operation (lack of terrain data), the final integration of MSAW could be started after completion of WGS-84 project.	Ongoing (60%) 2018
Tunisia	Functionalities implemented through the current RDP system.	Completed 2014
Turkmenistan	MSAW/APW has been implemented in Ashgabat ACC since 1998 and in Turkmenbashi ACC since 2010. A new ATC system upgrade (Thales TopSky) has been installed in the Ashgabat ACC in March 2016. The safety net part of the new system includes the STCA functionalities. The same Thales system with the same ATC safety net functions was installed in Dashoguz ACC in February 2017 and will be installed in Turkmenabat ACC before the end of 2017. The new TWR/APP system (ex-ATC system from Ashgabat with 60 km APP range) for Mary will also include this function.	Ongoing (80%) 2017
Uzbekistan	The current ATC System (Thomson/Peling Master) system includes ATC system provides MSAW and APW 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 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



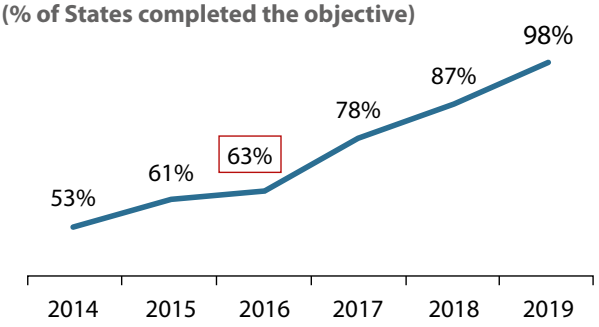
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

A-SMGCS Level 1 is a pre-requisite for PCP AF2 and a first step in order to complete subsequent functions prescribed in implementation objectives AOP04.2, AOP12 and AOP13. According to data reported in 2016, objective is implemented at 29 airports in the ECAC area. Out of 25 PCP airports, six (6) of them have not yet implemented Level 1 A-SMGCS although it is a pre-SESAR functionality. Airports Rome Fiumicino and Manchester are the latest one of the group that plan to complete Level 1 functionality at the end of 2019. Airports Barcelona and Palma de Majorca have completed the implementation in 2016. London Stansted has downgraded its implementation status from "completed" to "late", due to planned purchase of new vehicle transmitters. Italian airports Rome and Milan Malpensa report 'ongoing' status although beyond FOC date. The most challenging aspect of implementation remains the equipage of ground vehicles.

FOC:	12/2011	**Late**
Estimated achievement:	12/2018	

Completion Rate Evolution (% of States completed the objective)

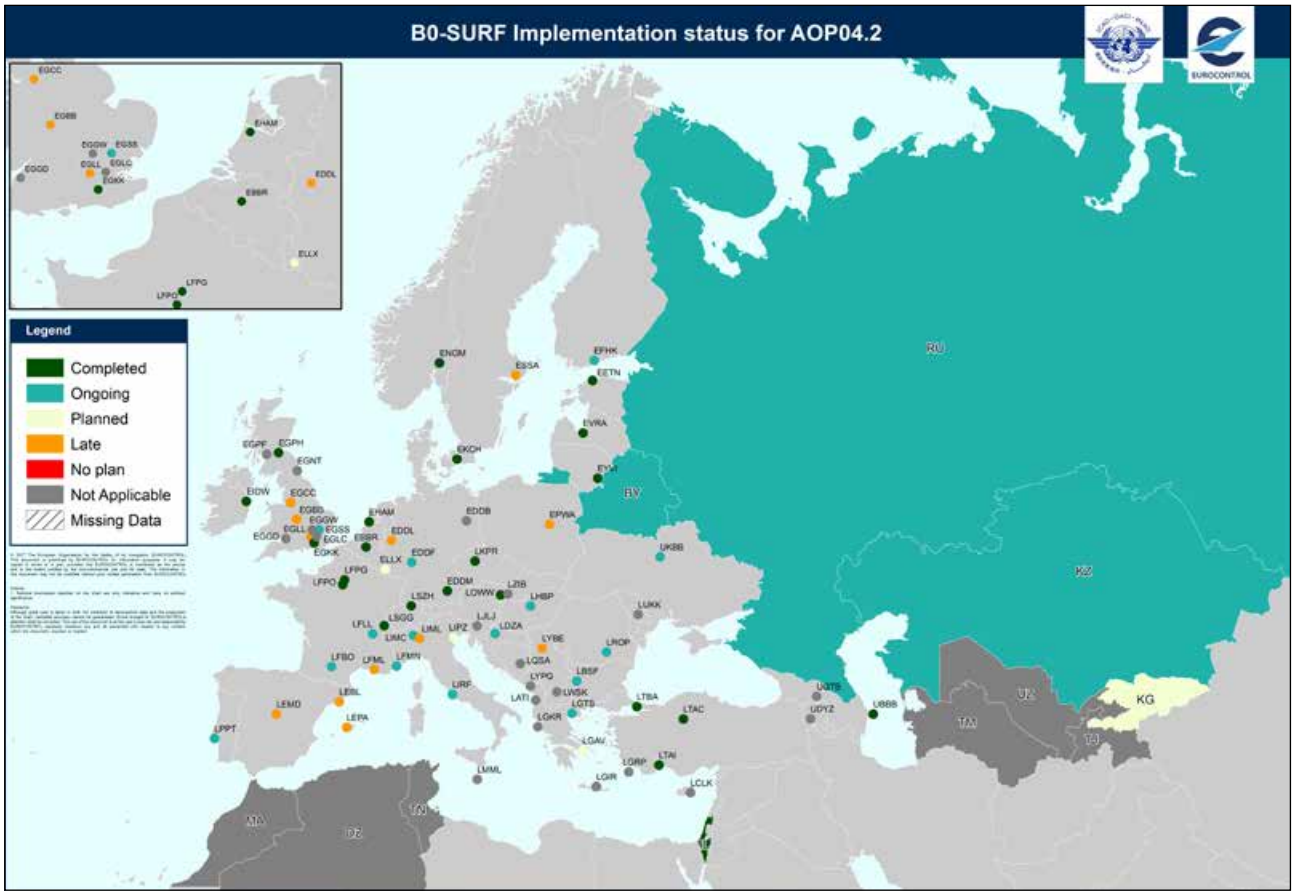


2. Status for remaining States

Algeria	Only SMR equipment currently exists in Algiers Airport, which is not operationally used.	No plan
Belarus	A-SMGCS Level 1 system was put into operation at Minsk-2 aerodrome on 01 September 2016. Information about the implementation of A-SMGCS will be published in Belarus AIP. Ground vehicles have been equipped with transponders. A-SMGCS operational procedures have been implemented. Investigations are carried out for installation of MLAT system for A-SMGCS at Minsk-2 aerodrome.	Ongoing (80%) 12/2018
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 1 is installed at Almaty and Astana. There no plans for A0SVGCS installation at other airports Operational procedures will be developed. A-SMGCS procedures (including transponder operating procedures) are not published in national AIP. Vehicles operating on the maneuvering area of airports equipped with necessary systems.	Ongoing (80%) 12/2018
Kyrgyzstan	Kyrgyz Republic will make it in 2018 and install surveillance equipment at Manas International airport.	Planned 2018
Morocco	Project of new Casablanca tower include the implementation of an A-SMGCS Level1 due to low visibility impact. Planned for Casablanca and Marrakech airports .	Planned 2020
Russian Federation	Ongoing activities: internal plan implies installation of surveillance and aerodrome movement control systems at 20 aerodromes. A-SMGCS equipment already installed at Domodedovo, Pulkovo, Sheremetyevo, Vnukovo and Sochi aerodromes. MLAT installed at Domodedovo, Sochi, technical stations in the maneuvering area are equipped with mode S beacon. Further installation works are under way.	Ongoing (25%) 2020
Tajikistan	No implementation planned for airports in Tajikistan (The largest Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia	No need to implement A-SMGCS in Tunisian airports (no operational requirement for the time being).	Not Applicable
Turkmenistan	Due to low airport traffic figures (around 60 aircraft movements per day in Ashgabat 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 Ashgabat) of LVPs low visibility operations. As part of the runway incursion prevention measures for Ashgabat 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 Ashgabat airport (all vehicles with transponders) has been partially implemented with the opening of the new terminal in September 2016.	Ongoing 2017
Uzbekistan	Due to low traffic implementation no planned for aerodromes of Uzbekistan.	Not Applicable

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

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

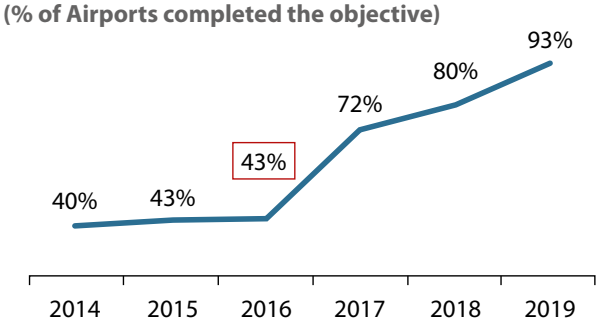
Main 2016 developments:

A-SMGCS RMCA implementation builds on the implementation of AOP04.1 and it is an important pre-requisite towards the implementation of PCP AF2. Due to delays reported in AOP04.1 implementation, delayed implementation of RMCA functionality is inevitable. This is reflected in number of airports that reported delays in implementation in 2016. 21% of airports in the applicability area report late implementation. In addition, not single airport has completed this functionality in 2017. Out of 25 PCP airports, 12 of them have reported the A-SMGCS RMCA as operational. Remaining 13 PCP airports mostly report completion beyond FOC deadline, with Italian airports that report latest implementation dates (Rome Fiumicino 12/2020). Heathrow Airport reports that the A-SMGCS RMCA 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:	12/2019

Planned delay

Completion Rate Evolution
(% of Airports completed the objective)



2. Status for remaining States

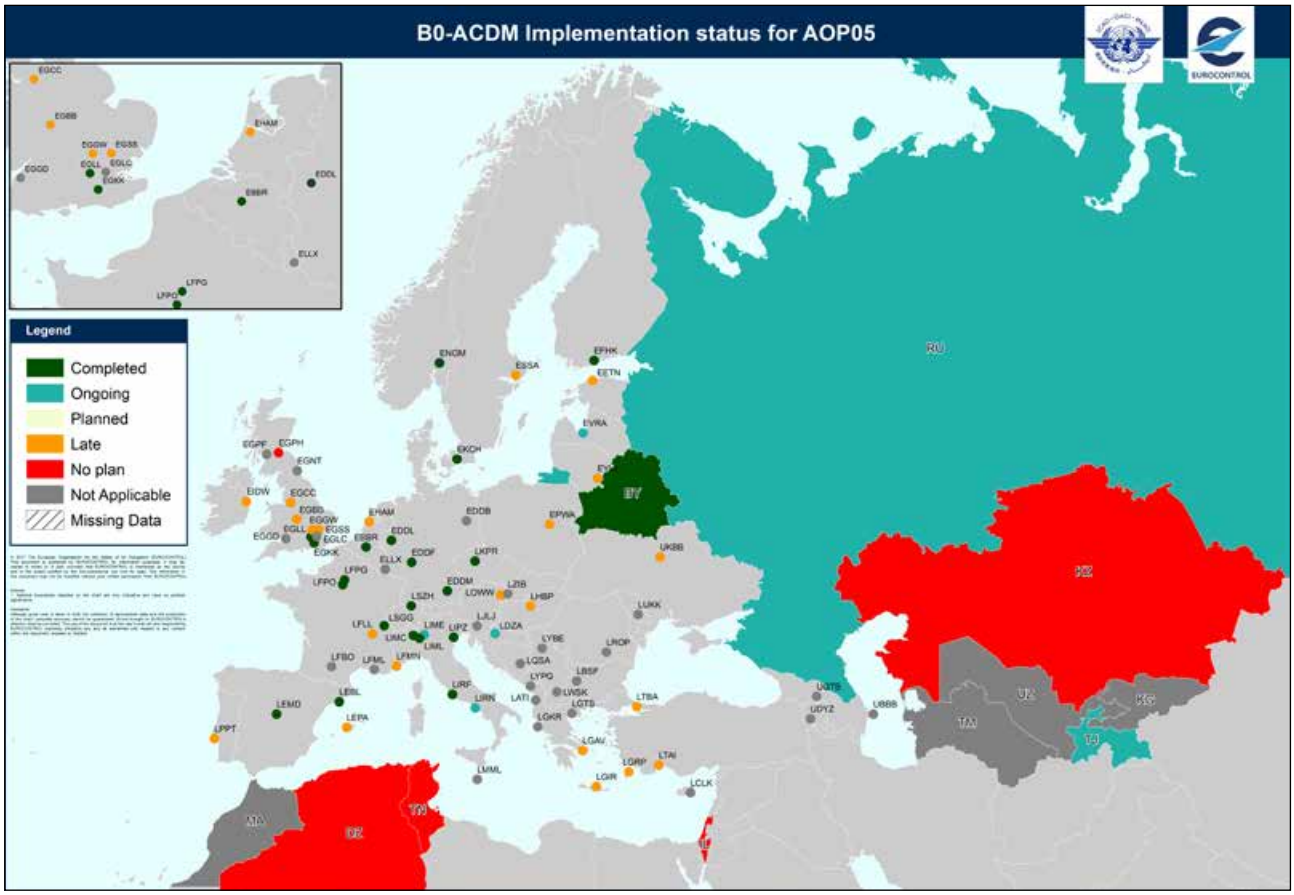
Algeria		Not Applicable
Belarus	Project for the construction of the second runway at Minsk-2 aerodrome has been approved. The project stipulates the installation of A-SMGCS Level 2. Level 2 will be implemented alongside with commissioning of the second runway.	Ongoing (10%) 12/2018
Israel	The IAA implements A-SMGCS level 2 since Q1/2015.	Completed 03/2015
Kazakhstan	A-SMGCS level 2 is implemented at Almaty and Astana. Control function equipment for detection of conflicts and intrusions is installed in accordance with A-SMGCS level 2 requirements.	Ongoing (80%) 12/2018
Kyrgyzstan	SE "Kyrgyzaeronavigatsia" plans system with predict and detect of conflict function at Manas international airport.	Planned 2018
Morocco	After installation of level 1, review of potential extension to level 2 at Casablanca and Marrakech	Not Applicable
Russian Federation	Further A-SMGCS enhancement: carried out at Domodedovo, Pulkovo, Vnukovo and Sheremetyevo airports.	Ongoing (25%) 2020
Tajikistan	No implementation planned for airports in Tajikistan (The largest Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia	No need to implement A-SMGCS in Tunisian airports (no requirement for the time being).	Not Applicable
Turkmenistan	No implementation planned for 5 international or any national airports in Turkmenistan.	Not Applicable
Uzbekistan	Implementation no 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



1. Progress for States in the ESSIP/LSSIP mechanism

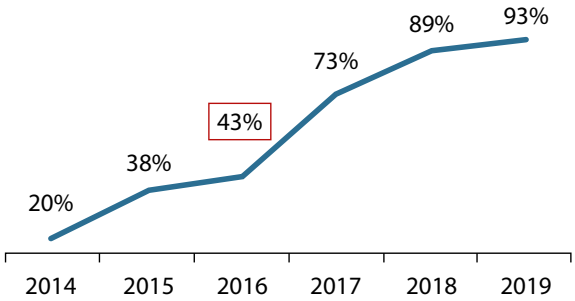
Main 2016 developments:

Three (3) additional Airports (Geneva/LSGG, Paris- Orly/LFPO, Copenhagen/EKCH) have completed the implementation in 2016, leading to a total of 20 A-CDM airports in Europe. Regarding the PCP airports, out of 25 airports mentioned in PCP IR, 14 have now implemented A-CDM and are connected to the Network Manager Operational Centre (NMOC). The implementation is declared as ongoing at four (4) airports: two (2) in Italy (LIME and LIRN – these should actually be considered as late considering the applicable progress criteria) and two (2) outside the applicabilityarea (Riga/EVRA and Zagreb/LDZA), and 22 other airports are now late. Among these, 13 airports are in the process of becoming operationally connected to NMOC (DPI exchanges) during 2017. Nine(9) airports (Nice/LFMN,Vienna/LOWW,Athens/LGAV, Tallin/EETN, Vilnius/EYVI, Birmingham/EGBB, Manchester/EGCC, London Luton/EGGW, and London Stansted/EGSS) are planning for full completion between 12/2018 and 12/2020.

FOC:	12/2016
Estimated achievement:	12/2018

Late

Completion Rate Evolution (% of Airports completed the objective)



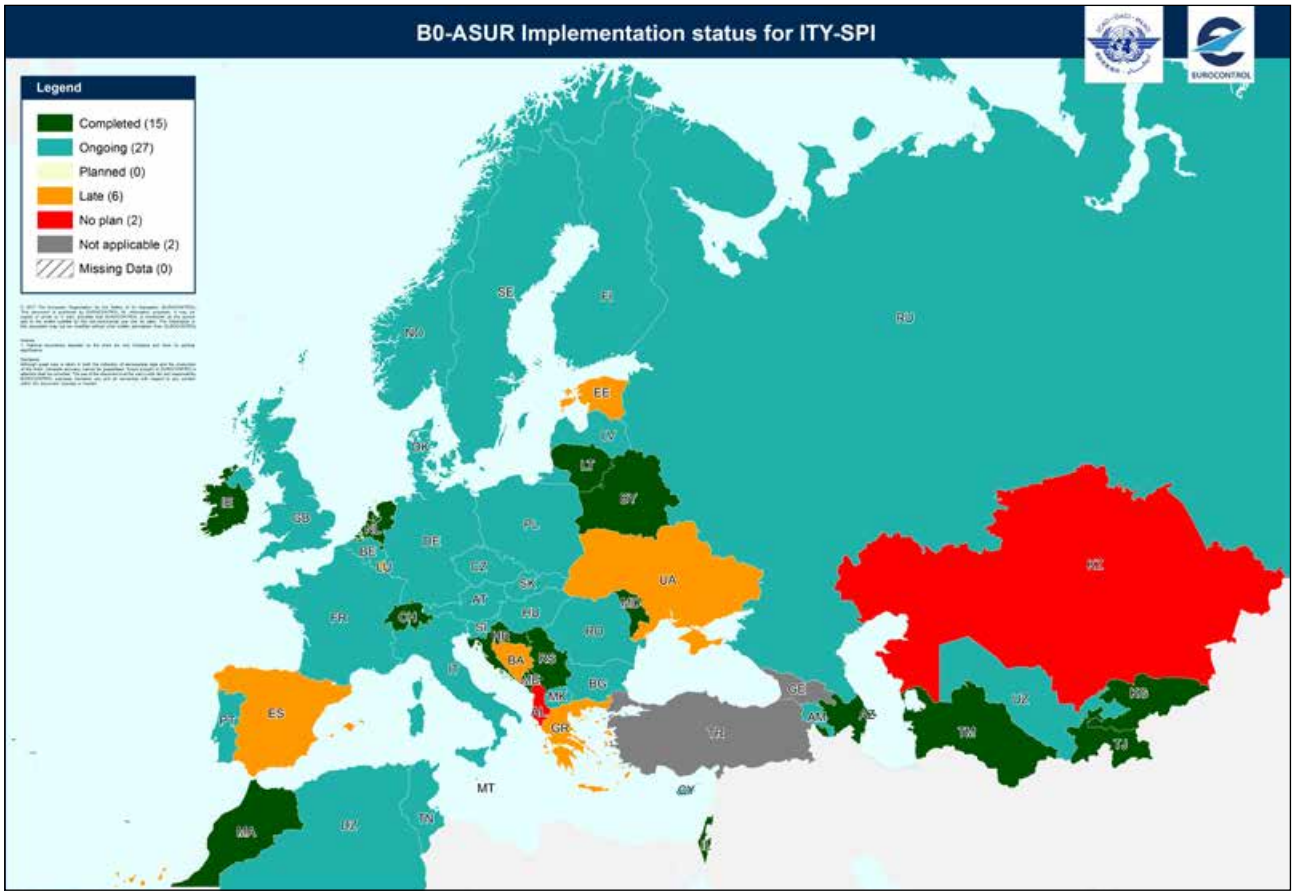
2. Status for remaining States

Algeria		No Plan
Belarus	The following improvements have been achieved at Minsk National Airport: Local Air Navigation Service (ANS) procedures for information sharing have been implemented through Letters of Agreement (LoAs). Special checklists using Kobra automated system have been implemented in order to perform apron operations, monitor the compliance with maintenance schedule and manage the resources available. Agreements between the aerodrome operators and aircraft operators define variable taxi-time and pre-departure sequencing procedure. CDM procedures have been implemented.	Completed 12/2016
Israel	CAAI and IAA are in a process of analysing the possibility of implementation of ACDM for Ben-Gurion airport.	No Plan
Kazakhstan		No Plan
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). Not Applicable in Kyrgyz Republic.	Not Applicable
Morocco	Discussion in Morocco started to assess the eventual need of CDM.	Not Applicable
Russian Federation	Ongoing activities: A-CDM installation at Sheremetyevo, Domodedovo and Vnukovo airports.	Ongoing (25%) 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.	Ongoing (60%) 2018
Tunisia	No current plans, but could be implemented by 2025 in Tunis Carthage, Djerba Zarzis, Monastir H. Bourguiba and Enfidha Hammamet airports, taking into consideration the traffic growth.	No Plan
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



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

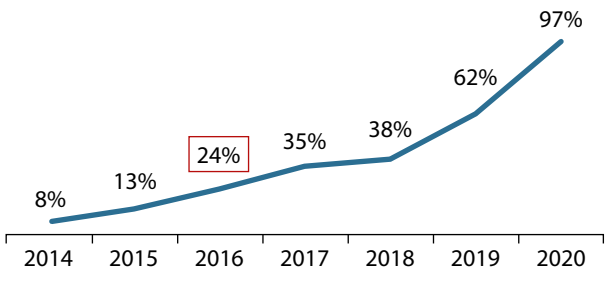
Within the applicability area, the overall implementation progress is good. However, it is observed that several EU States (EE, ES, GR, LU) have missed the 2015 implementation milestones and are currently late. Because of this, the overall status is "Late". Based on the reported plans, it is expected that they will catch up with this delay in 2017. 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 (EU+) making it a truly pan-European implementation.

FOC: 06/2020

Risk of delay

Estimated achievement: 06/2020

Completion Rate Evolution (% of States completed the objective)



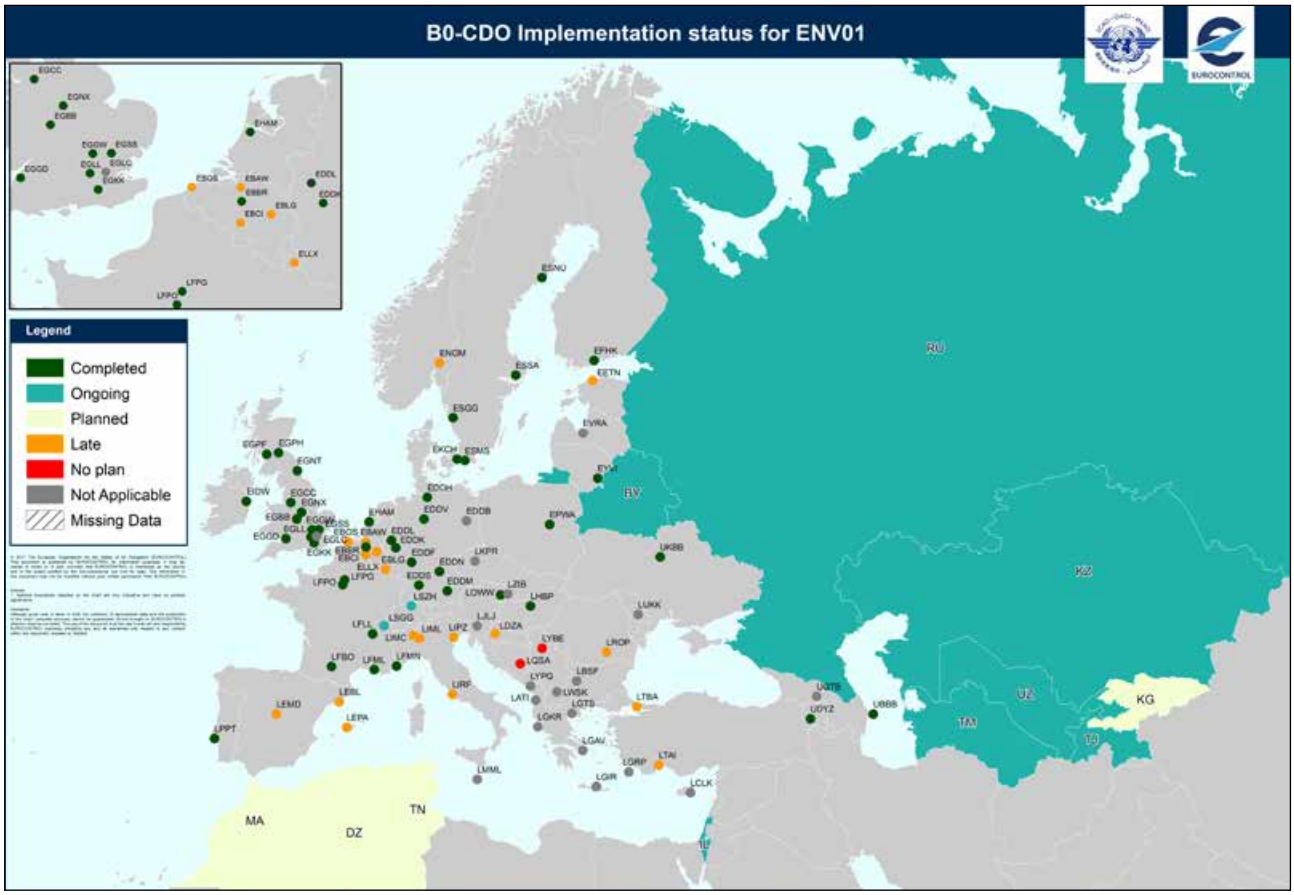
2. Status for remaining States

Algeria	5 SSR Mode C Sensors and 1 PSR are installed in the northern part of Algiers FIR. Since 2008 ADS-C is used for surveillance functions in the southern part of the Algiers FIR. For the southern and northern part of the Algiers FIR the deployment of ADS-B and SSR Mode S ground stations are planned within the framework of the Project PDGEA.	Ongoing (50%) 2019
Belarus	Safety assessment of the existing CNS facilities is carried out in accordance with the national regulations. Interoperability of surveillance data from all ground surveillance systems and relevant surveillance data processing systems is provided. Surveillance data are not transmitted to other ANS providers since this is not required. Safety assessment is carried out for all existing ground surveillance systems, surveillance data processing systems and "ground-ground" communication systems used for dissemination and processing of surveillance data. Safety assessment is accomplished when any changes are introduced into the systems and relevant procedures. State aircraft are not equipped with Mode S Elementary Surveillance equipment and ADS-B Out transponders.	Completed 12/2016
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		No Plan
Kyrgyzstan	Kyrgyz ANSP has surveillance equipment with Mode S and ADS-B.	Completed
Morocco	Mode-S level-2 implemented in 2009. ADS-B for en route implemented 2011. ADS-B as a secondary back-up in some airports (Marrakech, Fes, Tangier, Agadir, Oujda) in 2015.	Completed 2015
Russian Federation	Conduction of Risk Assessment for the existing surveillance systems in various combinations with the existing surveillance infrastructure. Data transmission is performed in accordance with the abovementioned requirements.	Ongoing (10%) 2020
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 2013
Tunisia	New radar stations Mode S and 3 ADS-B will be operational in 2018 (Project in progress) Current ATM information process system (FDPs and RDPs) process Mode S and ADS-B information.	Ongoing (60%) 12/2018
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 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 ADSB/ADSC/MLAT installations.	Ongoing

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



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

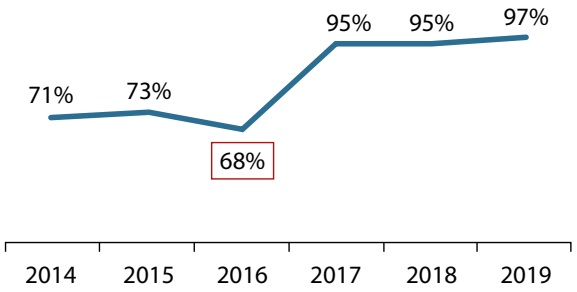
The objective completion was delayed for one more year comparing to last year estimate (12/2017). Also, the overall number of airports that have completed this functionality has reduced. This is because Spanish airports downgraded their implementation status as a result of new activities in this area initiated by the CEM working arrangement recommendation. Around 25% of airports in applicability area report delays in implementation. It seems that action that relates to monitoring of performance is the most challenging for implementation. It was also reported that some airports are performing CDO at the pilot requests, some only at night time. It should also be mentioned that some airports reported an ongoing status instead of late. This is the case for Swiss airports Geneva and Zurich. Some airports (namely Sarajevo and Belgrade) have downgraded their status from "late" in 2015 to "no plan" in 2016.

FOC: 12/2013

Late

Estimated achievement: 12/2017

Completion Rate Evolution (% of Airports completed the objective)

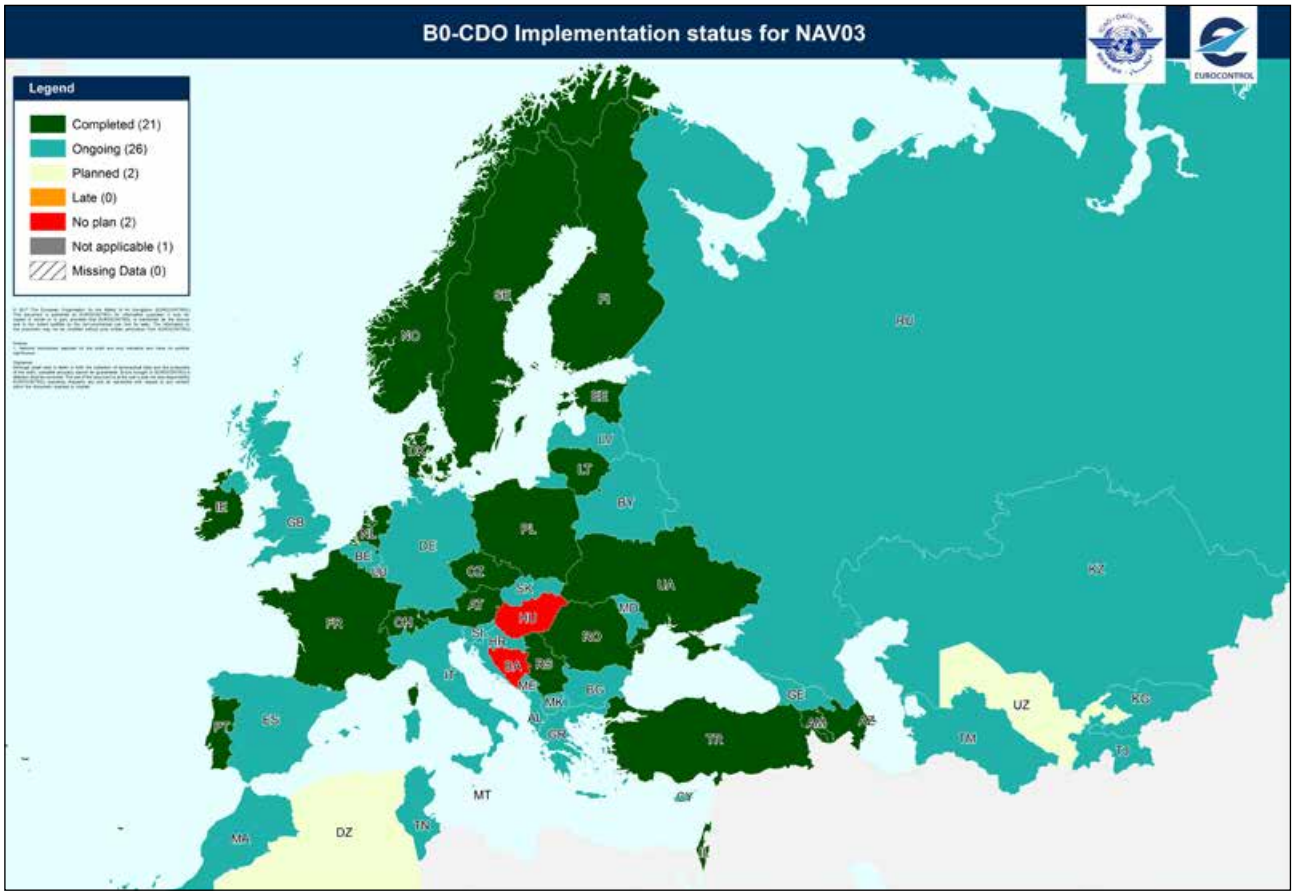


2. Status for remaining States

Algeria	In accordance with the National PBN plan implementation, ENNA plans to implement CDOs for Algiers, Oran, Annaba, Constantine and Hassi Messaoud airports.	Planned 2021
Belarus	Regulations are being updated to include rules and procedures for the application of CDO techniques. CDO techniques are included into the Training Manual for Flight Crew Members.	Ongoing (80%) 12/2018
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.	Ongoing (75%)
Kazakhstan	Astana and Almaty airports serving the major of international flights are planned to be introduced with CDO by the end of 2018. Implementation of CDO in the remaining airports will continue as required.	Ongoing (20%) 12/2018
Kyrgyzstan	CDO/CCO are part of the national PBN Plan.	Planned 2022
Morocco	Implementing new PBN procedures including CDOs is planned.	Planned 2020
Russian Federation	According to the PBN Implementation Plan (2014) procedure, implementation is a part of aerodrome procedure design.	Ongoing (10%) 2020
Tajikistan	National PBN implementation plan has been developed and PBN implementation will be gradually started after completion of WGS-84 data. CCOs/CDOs are a part of the national PBN plan and are expected to be implemented from 2018 onwards.	Ongoing (20%) Phase 1 in 2020
Tunisia	To be developed based on the results of Tunis TMA restructuring that will be carried out (network for 3 airports: Tunis Carthage, Monastir H. Bourguiba, Enfidha Hammamet).	Planned 12/2020
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 are included in national PBN plan.	Ongoing (30%) 2021
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 FL 140 for APP) level-off segment. Departure Clearances can include sometimes the climb up to the filed cruising FL. CCOs/CDOs developments have been included into draft of national PBN plan.	Ongoing 2018

IMPROVED FLEXIBILITY AND EFFICIENCY IN DESCENT PROFILES (CDO)	
NAV03	Implementation of P-RNAV

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

None of the States has reported the completion of this implementation objective in 2016. Germany has downgraded its status from 'completed' to 'ongoing', which leads to slightly worse completion rate comparing to 2015 (51%). This is, most probably, the result of uncertainty related to PBN IR finalisation. On the brighter side, quite few States are very close to completion (UK at 86%, DE at 78%, IT at 70%, BE at 88%, BG at 82%).

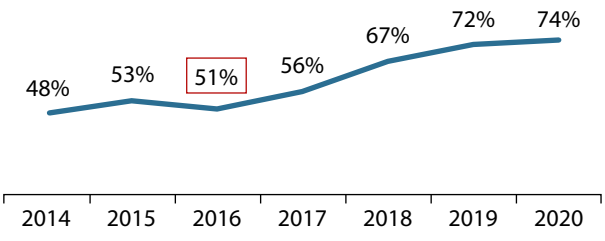
Taking into account quite long FOC date, no delays are expected at this time. Hungary and Bosnia and Herzegovina are the only two States that reported 'no plan' status. In case of Hungary, the reason is MIL implementation status, while civil side is very advanced (almost at 80%). Bosnia and Herzegovina reported that no stable plans are defined yet. Slovak Republic is outside of applicability area of this objective but reports quite well advanced implementation of RNAV1 (almost at 50%).

FOC: 12/2023

On Time

Estimated achievement: 12/2023

Completion Rate Evolution (% of States completed the objective)



2. Status for remaining States

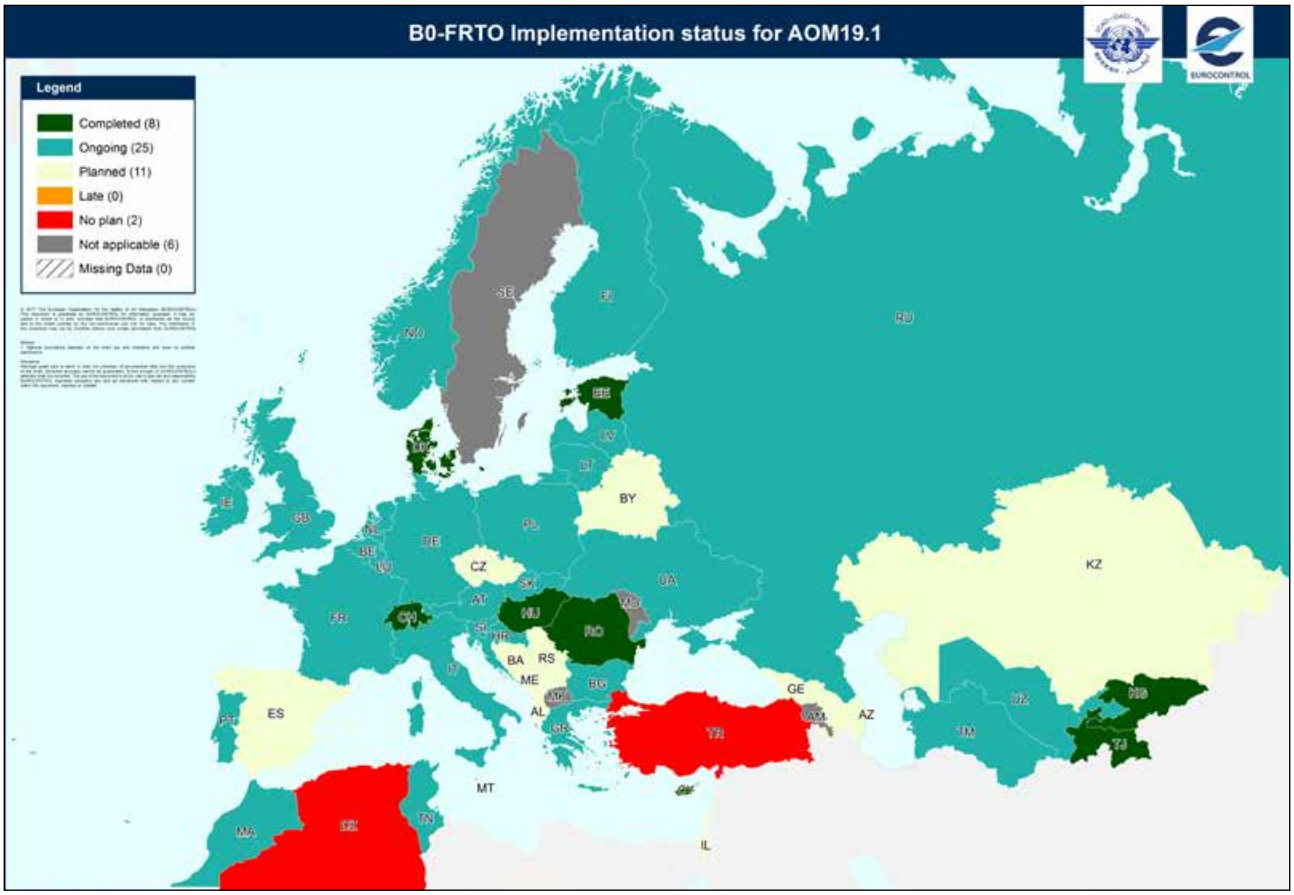
Algeria	In accordance with the National PBN plan implementation, the implementation of RNAV5 ATS Routes has planned.	Planned 2021
Belarus	RNAV arrival and departure procedures for P-RNAV approved aircraft are being developed. Marketing and technical estimations have been made regarding the plan to install 4 DME station in Minsk TMA and 1 DME station at Mozyr site in order to implement RNAV2 specification in Belarus airspace.	Ongoing (40%) 12/2018
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	Astana and Almaty airports serving the major of international flights are planned to be introduced with P-RNAV(RNAV 1) by the end of 2018. Implementation of P-RNAV(RNAV 1)in the rest airports will be completed by2025.	Ongoing (20%) 2018
Kyrgyzstan	Ongoing within the framework of PBN plan implementation in Kyrgyz Republic.	Ongoing (30%) 2025
Morocco	RNAV1/RNP1 procedures have been implemented in all major airports. The implementation of RNAV5 routes in Casablanca UIR. DME-DME study conducted to assess the feasibility of RNAV5 specification implementation. DME-DME study conducted to assess the feasibility of RNAV1 specification implementation. Further following actions include the migration to RNAV5 specification for all routes in upper airspace. Safety case studies are done on a project basis.	Ongoing (60%) 2018
Russian Federation	According to the PBN Implementation Plan (2014) procedure implementation is a part of aerodrome procedure design.	Ongoing (10%) 2020
Tajikistan	National PBN implementation plan has been developed and PBN implementation will be gradually started after completion of WGS-84 data. RNAV 5 routes are a part of the national PBN plan and are expected to be implemented from 2018 onwards.	Ongoing (20%) 2018

Tunisia	RNAV5 is implemented above FL155. RNAV5 implementation will be expanded down to FL095 by 2018.	Ongoing (80%) 2018
Turkmenistan	All ATS Routes in Turkmenistan are based on terrestrial infrastructure. As described in the national PBN plan, RNAV routes (RNAV-5) could be developed, as part of the future PBN developments and the airspace structure/concept evolution.	Ongoing (50%) 2021
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 is under consideration by Aviation Administration.	Planned 2018

4.1.2.4 B0-FRTO

IMPROVED OPERATIONS THROUGH ENHANCED EN-ROUTE TRAJECTORIES	
AOM19.1	Implement ASM tools to support A-FUA

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

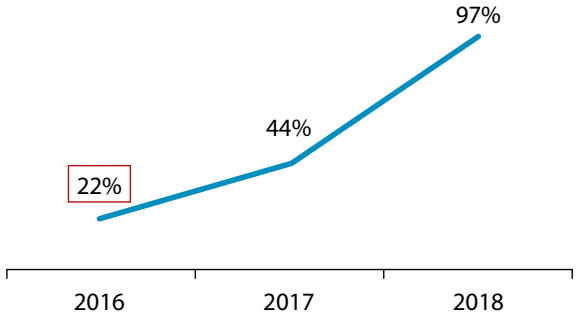
Main 2016 developments:

The oobjective takes over some implementation actions from its predecessor in the previous MPL3 edition (AOM19), however both content and deadline for these objectives are different so comparison with previous years might not be relevant. The objective is an important enabler for the PCP sub-functionality 3.1 and is progressing within the agreed timelines. Eight (8) States have already completed it (BE, CH, CY, DK, EE, HU, MAS and RO) and all others within the applicability area have reported plans to implement by Dec/2018 except two (2) (SE, TR), which are still considering the need for its implementation. Although some States are implementing local solutions, a majority of them rely on LARA (Local and sub-Regional ASM Support System) and for these, the information provided by States is in line with the information available in EUROCONTROL, also with regards to the interoperability of the ASM tools with NM systems.

FOC:	12/2018
Estimated achievement:	12/2018

On Time

Completion Rate Evolution (% of States completed the objective)

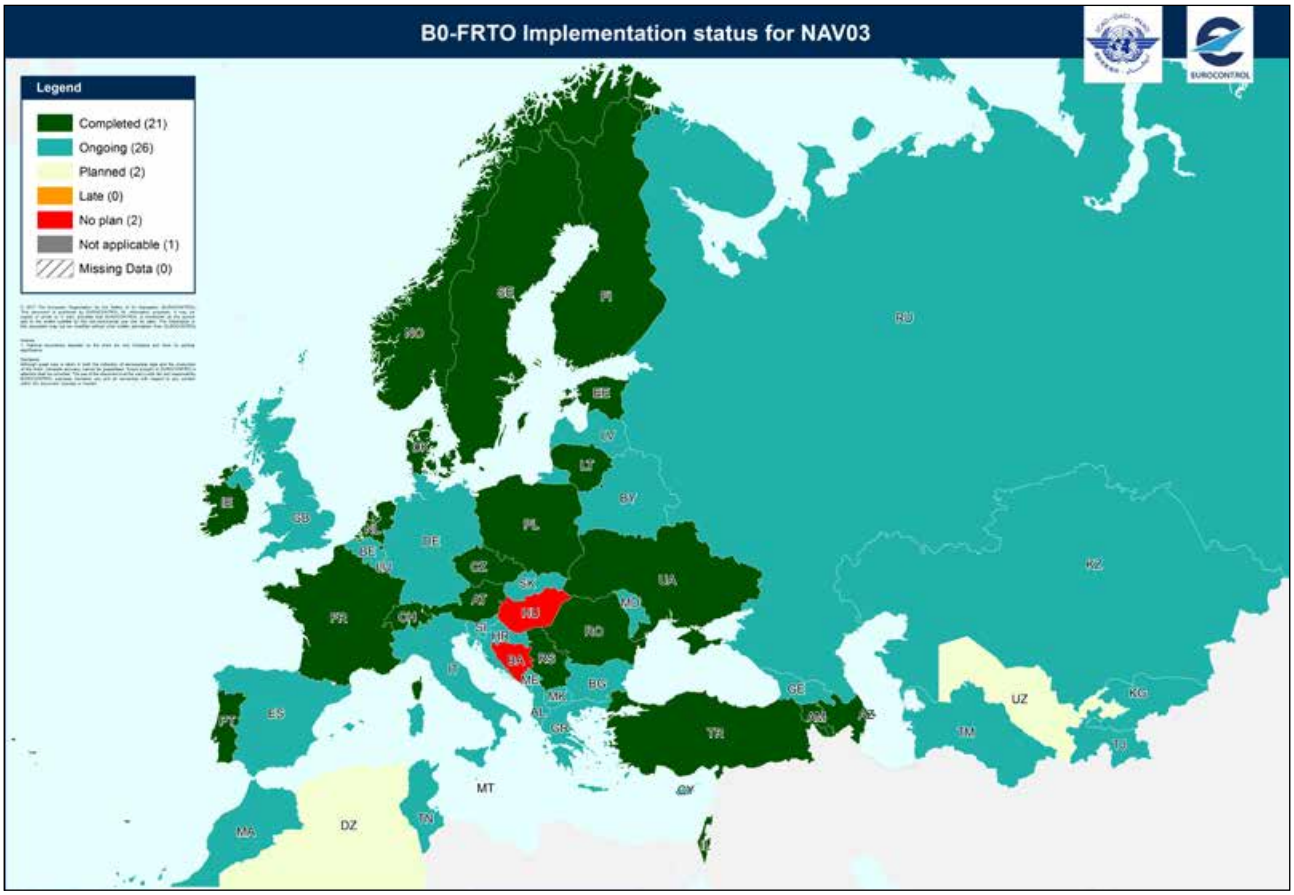


2. Status for remaining States

Algeria	There is a national Airspace management board made up of highly civil and military personal where FUA enhancements are under discussion. LoAs have been established between the civil and military aviation stakeholders and coordination of ASM is done in regular quarterly meetings.	No Plan
Belarus	We intend to implement ASM support tools to support A-FUA at a later stage.	Planned after2020
Israel	Civil-Military team has been established in order to achieve FUA level 2, including the deployment of ASM support systems and improved airspace allocation and interoperability of local ASM systems with NM system.	Planned
Kazakhstan	Kazakhstan ASM systems supporting the airspace planning and allocation will be deployed by 2022.	Planned 12/2022
Kyrgyzstan	Kyrgyzstan is operating a combined civil military ATFM Unit which provides the describe services. The SAR coordination canter is an integrated part of this unit.	Completed
Morocco	Implementation of FUA is planned in the "AREA-M" project in three phases. FMP is implemented in Casablanca since 2007.	Ongoing (40%) 2025
Russian Federation	The system is operational, next level of automation comparable to LARA functionality.	Ongoing (50%) 2018
Tajikistan	The Tajikistan Main Air Navigation Center includes an ATFM Unit which provides the describe services.	Completed 31/12/2012
Tunisia	Basic coordination for ASM aspects are currently conducted by Tunis FMP. Strategic and pre-tactical levels are implemented. To be developed with EUROCONTROL to ensure the process of advanced ASM activities.	Ongoing (60%) 2020
Turkmenistan	Turkmenistan is operating a combined civil military Airspace Management (ASM) Unit which provides the describe services. Ashgabat 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 Ashgabat and the coordination with other ATFM units is done via NOTAM and phone.	Ongoing (75%) 2018
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.	Ongoing

IMPROVED OPERATIONS THROUGH ENHANCED EN-ROUTE TRAJECTORIES	
NAV03	Implementation of P-RNAV

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

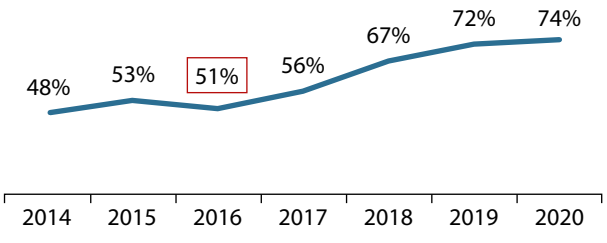
Main 2016 developments:

None of the States has reported the completion of this implementation objective in 2016. Germany has downgraded its status from 'completed' to 'ongoing', which leads to slightly worse completion rate comparing to 2015 (51%). This is, most probably, the result of uncertainty related to PBN IR finalisation. On the brighter side, quite few States are very close to completion (UK at 86%, DE at 78%, IT at 70%, BE at 88%, BG at 82%). Taking into account quite long FOC date, no delays are expected at this time. Hungary and Bosnia and Herzegovina are the only two States that reported 'no plan' status. In case of Hungary, the reason is MIL implementation status, while civil side is very advanced (almost at 80%). Bosnia and Herzegovina reported that no stable plans are defined yet. Slovak Republic is outside of applicability area of this objective but reports quite well advanced implementation of RNAV1 (almost at 50%).

FOC: 12/2023 **On Time**

Estimated achievement: 12/2023

Completion Rate Evolution (% of States completed the objective)



2. Status for remaining States

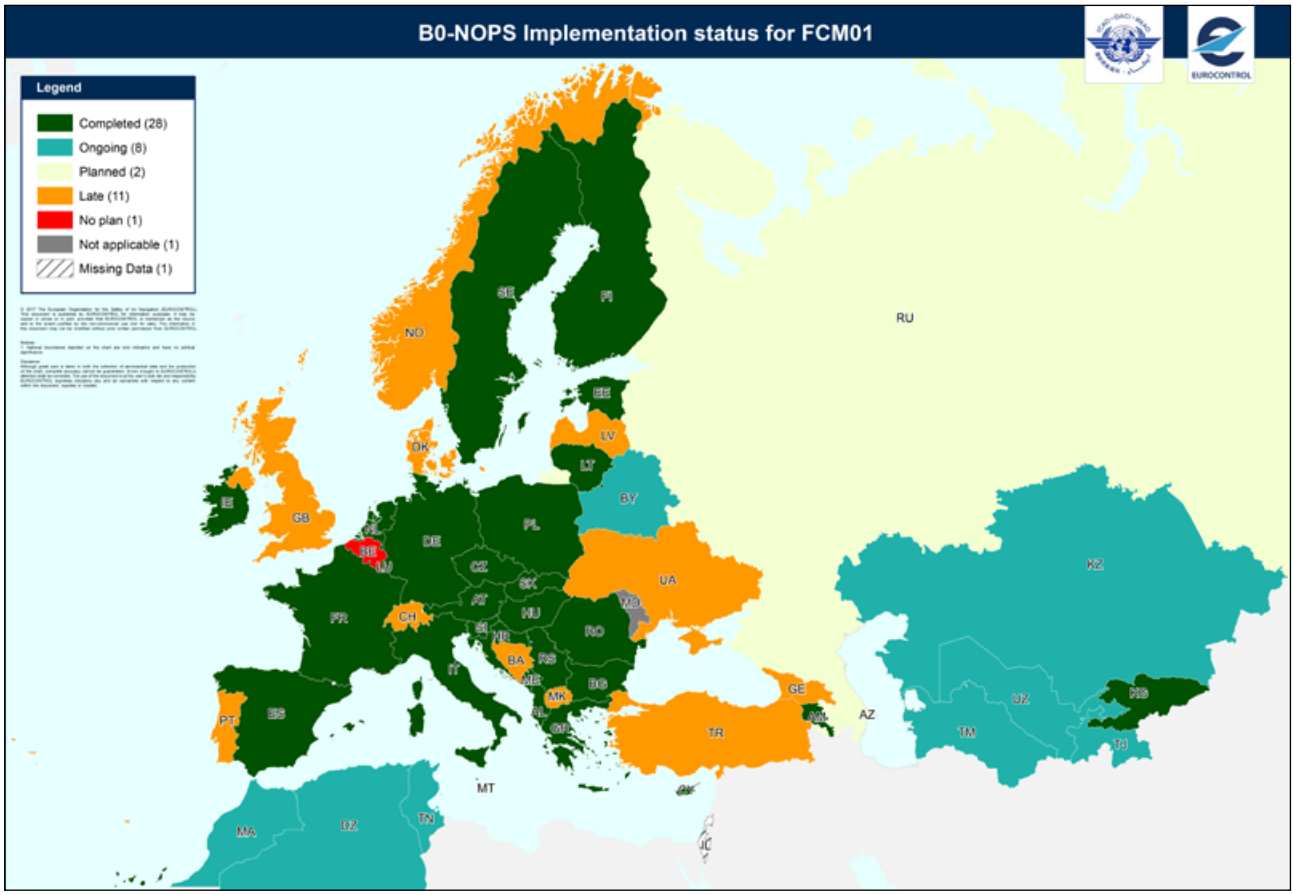
Algeria	In accordance with the National PBN plan implementation, the implementation of RNAV5 ATS Routes has planned.	Planned 2021
Belarus	RNAV arrival and departure procedures for P-RNAV approved aircraft are being developed. Marketing and technical estimations have been made regarding the plan to install 4 DME station in Minsk TMA and 1 DME station at Mozyr site in order to implement RNAV2 specification in Belarus airspace.	Ongoing 12/2018
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	Astana and Almaty airports serving the major international flights are planned to be introduced with P-RNAV(RNAV 1) by the end of 2018. Implementation of P-RNAV(RNAV 1)in the rest airports will be completed by2025.	Ongoing (20%) 12/2018
Kyrgyzstan	Ongoing. Within the framework of PBN plan implementation in Kyrgyz Republic.	Ongoing (30%) 2025
Morocco	RNAV1/RNP1 procedures have been implemented in all major airports. The implementation of RNAV5 routes in Casablanca UIR. DME-DME study conducted to assess the feasibility of RNAV5 specification implementation. DME-DME study conducted to assess the feasibility of RNAV1 specification implementation. Further following actions include the migration to RNAV5 specification for all routes in upper airspace. Safety case studies are done on a project basis.	Ongoing (60%) 2018
Russian Federation	According to the PBN Implementation Plan (2014) procedure implementation is a part of aerodrome procedure design.	Ongoing (10%) 2020
Tajikistan	National PBN implementation plan has been developed and PBN implementation will be gradually started after completion of WGS-84 data. RNAV 5 routes are a part of the national PBN plan and are expected to be implemented from 2018 onwards.	Ongoing (20%) 2018

Tunisia	RNAV5 is implemented above FL155. RNAV5 implementation will be expanded down to FL095 by 2018.	Ongoing (80%) 2018
Turkmenistan	All ATS Routes in Turkmenistan are based on terrestrial infrastructure. As described in the national PBN plan, RNAV routes (RNAV-5) could be developed, as part of the future PBN developments and the airspace structure/concept evolution.	Ongoing (50%) 2021
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 is under consideration by Aviation Administration.	Planned 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

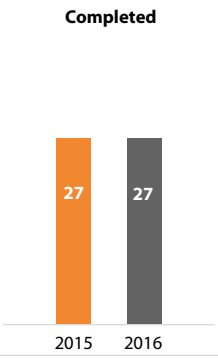
Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

The objective FCM01 was declared closed after the 2015 cycle. However those States that have not yet completed their activities were requested to update their progress in the LSSIP Database for ICAO Monitoring purposes.
The following is a summary of progress achieved in 2015 and 2016.

FCM01				
Status	**2015**	**2016**	**Progress**	**Completed**
Completed	27 (AL, AM, AT, BG, HR, CY, CZ, EE, FI, FR, DE, GR, HU, IE, IT, LT, LU, MT, ME, NL, PL, RO, RS, SK, SI, ES, SE)	27 (AL, AM, AT, BG, HR, CY, CZ, EE, FI, FR, DE, GR, HU, IE, IT, LT, LU, MT, ME, NL, PL, RO, RS, SK, SI, ES, SE)	-	
Planned	1 (AZ)	1 (AZ)	-	
Late	10 (BE, DK, FYROM, GE, LV, NO, PT, TR, UA, UK)	11 (ABA, DK, FYROM, GE, LV, NO, PT, CH, TR, UA, UK)	BA, CH	
No plan	0	1 (BE)	BE	
Not applicable	1 (MD)	1 (MD)	-	



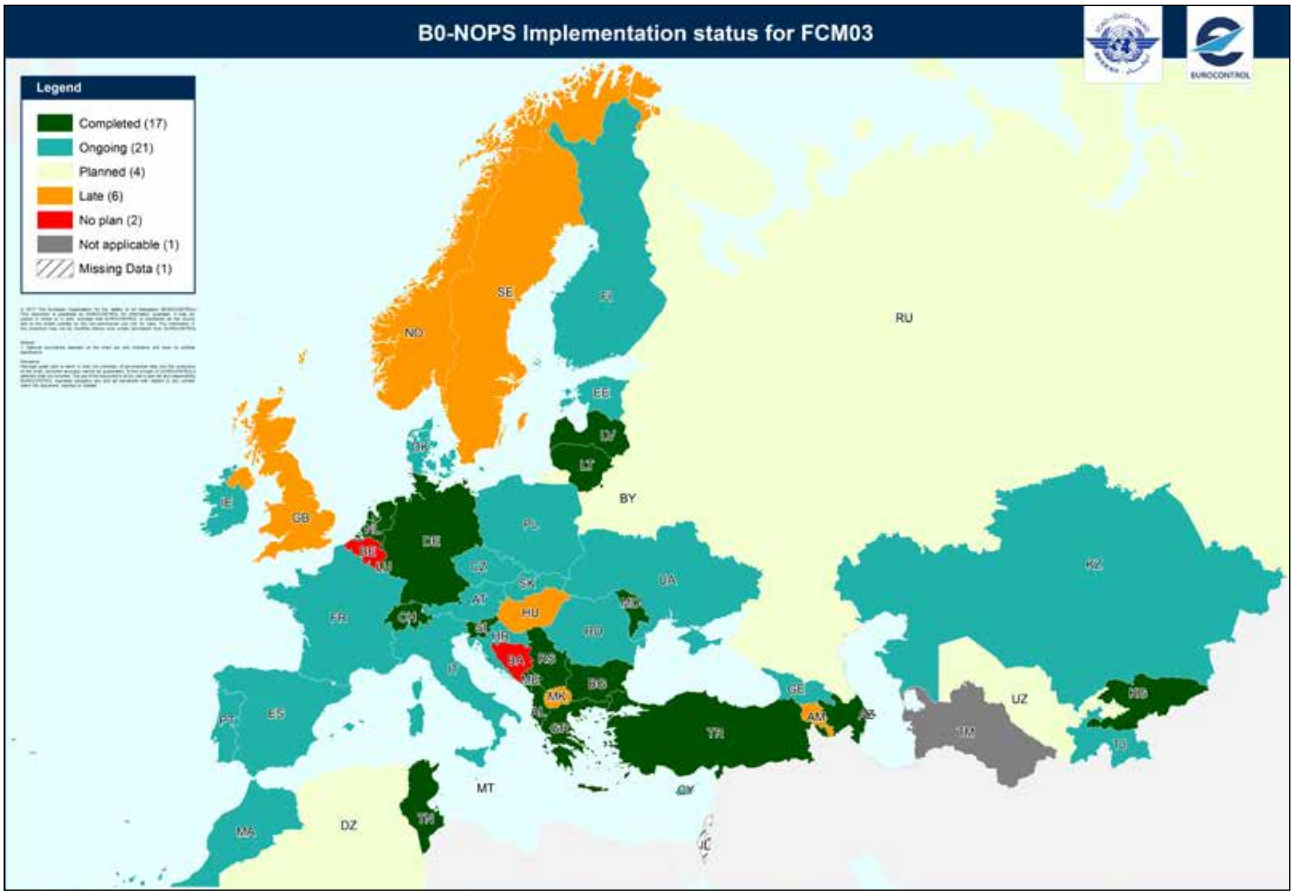
2. Status for remaining States

Algeria	An Eurocontrol FMP has been installed in Algiers ACC and Algiers ACC is considered as an adjacent area for operational purposes. We include in the PDGEA project the following elements of the present Module: - Receive and process ATFM data from the NM - Inform NM of flight activations and estimates for ATFM purposes The remaining elements (re-routings inside FDPA ,aircraft holding, Departure Planning Information) are not applicable and therefore not planned.	Ongoing (10%) 2019
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 zone dd May 2010.	Ongoing (60%) 12/2019
Israel	Israel has concluded a comprehensive agreement with Eurocontrol, joining as participating state and will receive ATFCM services by NM.	Missing Data
Kazakhstan	ANSP has planned discussions with Automated Traffic Flow Management system manufacturer. Technical specifications are being developed (Preliminary stage).	Ongoing (10%) 12/2022
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. New functions are planned with the upgrade of the ATS system in 2022.	Completed
Morocco	FMP implemented in Casablanca since 2007. FSA messages are provided by Moroccan ATM system since 2011. The provision of CPR messages to the ETFMS is planned for 2017/2018. CPR will be implemented during year 2018.	Ongoing (80%) 2018
Russian Federation	Modernization of Main Centre and all zonal centres envisages implementation of the abovementioned functions.	Planned 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 is needed if this relates to the EURASIA CC regional ATFM project.	Ongoing (60%) 2018

Tunisia	Tunis FMP linked to ETFMS system through CIFLO. ATFM activities are provided as an adjacent FMP. FSA messages are sent by Tunis and Djerba FDPs to the NM ETFMS operational system since July 2016.	Ongoing (80%) 12/2018
Turkmenistan	The ATFM unit in Ashgabat coordinates a number of ATFM measures with all adjacent ATFMUs in neighbouring States.	Ongoing (50%) 2018
Uzbekistan	An 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.	Ongoing (50%)

IMPROVED FLOW PERFORMANCE THROUGH PLANNING BASED ON A NETWORK-WIDE VIEW	
FCM03	Collaborative Flight Planning

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

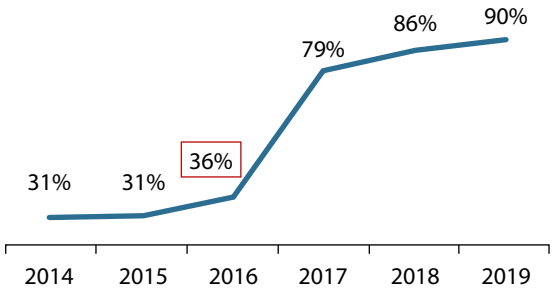
Implementation is slow in particular taking into account that the objective is a pre-SESAR one and that it has suffered several postponements of its FOC date over the last years. It is expected that 2017 will see a surge in implementation, getting close to 80% completion rate. However, full implementation over the entire area of applicability is expected only in 2020. The main challenge in implementation is the fact that there is a need for a major system upgrade to implement the functionality. Another, but less important reason for the longer implementation time, is that the objective is considered implemented when the NM has integrated the received AFP messages in the operational NM system. This requires not only the capability of the local ANSP systems to generate and transmit AFP messages but also a testing and validation period with the NM. It is noted that for several States (AZ, DE, ME, TR, RS, SL) having claimed completion, the integration within NM has not yet been tested or the tests have failed and AFP 70 messages are not integrated in the operational NM system.

FOC: 12/2017

Planned Delay

Estimated achievement: 12/2018

Completion Rate Evolution (% of States completed the objective)



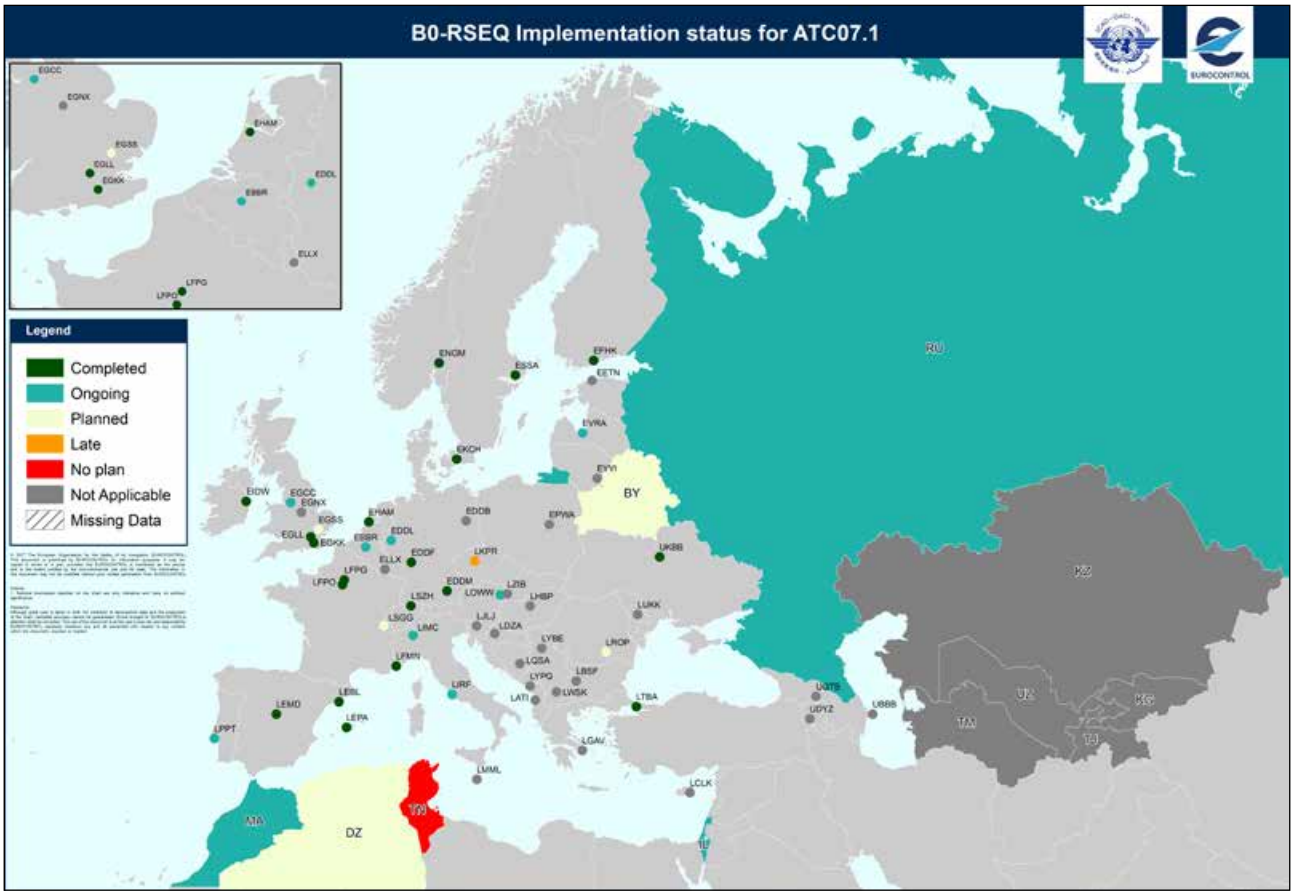
2. Status for remaining States

Algeria	Current system process FPLs derived from RPLs, FPL handling is managed by a converter. Other functions will be included in the new system (PDGEA).	Planned 2019
Belarus	Flight plan messages in ICAO format are processed manually. FPL and ACH messages are processed manually. Flight plan message processing in ADEXP format is not provided. Automatically provision of AFP messages is not accomplished.	Planned 12/2019
Israel	Israel has concluded a comprehensive agreement with EUROCONTROL, joining as participating state and will receive ATFCM services by NM.	Missing Data
Kazakhstan	The Automated Traffic Flow Management system provides part of specified functions of Collaborative Flight Planning. - AFP message for a change of flight rules or flight type is not applicable - AFP message for a change of requested cruising level is not applicable - AFP message for change of aircraft equipment is not applicable	Ongoing (50%) 2022
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. New functions are planned with the upgrade of the ATS system in 2022.	Completed
Morocco	Morocco integrated IFPS zone since 2007. All FPLs and associated messages are processing by IFPS since 2008 and our ATC system process automatically in ADEXP format. Automatically process FPLs derived from RPLs is received from IFPS. Processing of APL and ACH messages in ATC. The implementation of other messages is planned in the framework of the new system (acquisition of new ATC system in 2017) of Casablanca ACC.	Ongoing (60%) 2018
Russian Federation	Message processing is performed in accordance with ICAO SARPS. Flight plan message processing in ADEXP format shall be available not earlier than 2020. AFP messages shall not be provided as coordination procedures between air traffic planning units and airspace users are based on national regulations.	Planned 2020
Tajikistan	ICAO FPLs are processed but not in ADEXP format.	Ongoing (50%) 2018
Tunisia	Latest functions implemented through new FDPs systems in 2014.	Completed 2014
Turkmenistan	No implementation planned.	Not Applicable
Uzbekistan	After new ATC system for Uzbekistan will be operational.	Planned 2018

4.1.2.6 B0-RSEQ

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

Global Implementation



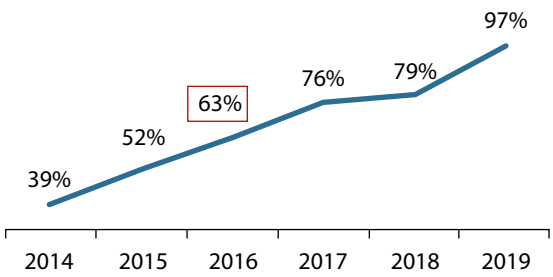
1. Progress for States in the ESSIP/LSSIP mechanism

Main 2016 developments:

The positive trend in the implementation of basic AMAN is confirmed in 2016, at similar pace than in 2015. The completion rate is set at 63% of the total, against 52% in 2015. Furthermore, the number of airports declaring to be late in implementation has dropped from three (3) in 2015, to only one (1) in 2016 (LKPR Prague).It is worth noting that the objective is now in the plans of 29 airports, against 19 in 2015. Three (3) airports (EGSS Stansted; LSGG Geneva and LROP Bucharest), while reporting the objective as 'Planned" (i.e. the project was not yet started in 2016), announce a completion date in line with the FOC of the objective (12/2019).

FOC:	12/2019	**On Time**
Estimated achievement:	12/2019	

Completion Rate Evolution
(% of Airports completed the objective)

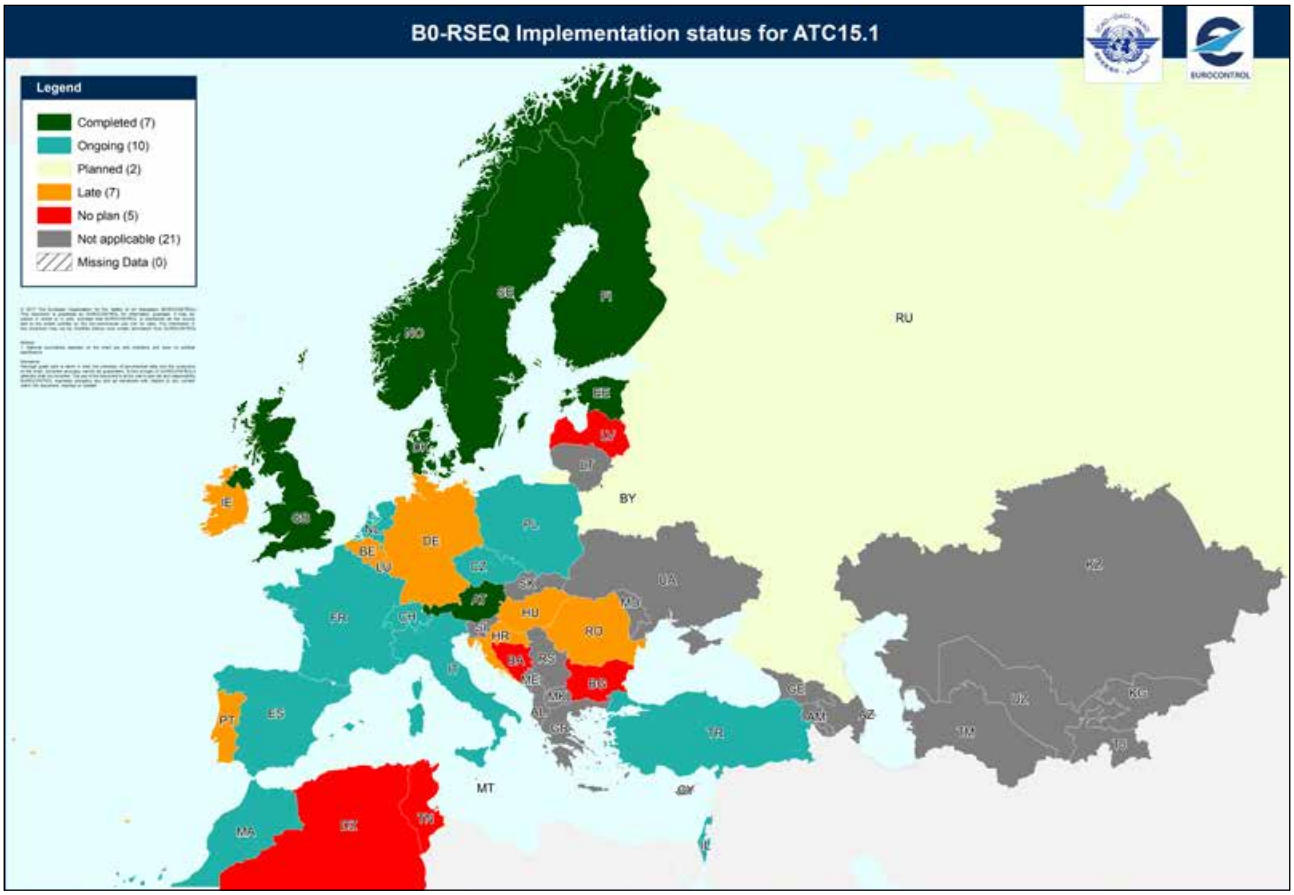


2. Status for remaining States

Algeria	The future system (PDGEA) will integrate the Arrival sequencing function for Airports with Approach services, especially for Algiers Approach.	Planned
Belarus	AMAN/DMAN functions will be implemented at the new Automated ATC System to be put into operation at Minsk-2 aerodrome.	Planned 12/2019
Israel	The IAA has already started a process of examination the needs and existing solutions.	Ongoing (10%) 12/2019
Kazakhstan		Not Applicable
Kyrgyzstan	No implementation planned for airports in Kyrgzystan (Bishkek airport has currently 40-45 aircraft movements per day, Osh airport around 20-25 movements per day).	Not Applicable
Morocco	The implementation is planned in the new system (acquisition of new ATC system in 2017) of Casablanca ACC and in some airport. The acquisition and installation are planned from 2018 on.	Ongoing (10%) 2020
Russian Federation	Implementation of AMAN/DMAN is underway. Ongoing activities: adaptation of AMAN at Moscow Automated ATC Centre, engineering design for DMAN installation at Domodedovo, Sheremetyevo and Vnukovo airports. AMAN/DMAN is planned to be implemented in 7 Aerodrome Control Centres serving Russian largest airports.	Ongoing (10%) 2019
Tajikistan	No implementation planned for airports in Tajikistan (Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia	To be implemented in Tunis Carthage, DjerbaZarzis, Monastir H. Bourguiba and Enfidha Hammamet airports, taking into consideration the traffic growth (by 2025).	No Plan
Turkmenistan	No implementation planned for the international airports in Turkmenistan (Ashgabat 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

IMPROVE TRAFFIC FLOW THROUGH RUNWAY SEQUENCING (AMAN/DMAN)	
ATC15.1	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations

Global Implementation



1. Progress for States in the ESSIP/LSSIP mechanism

FOC: 12/2017

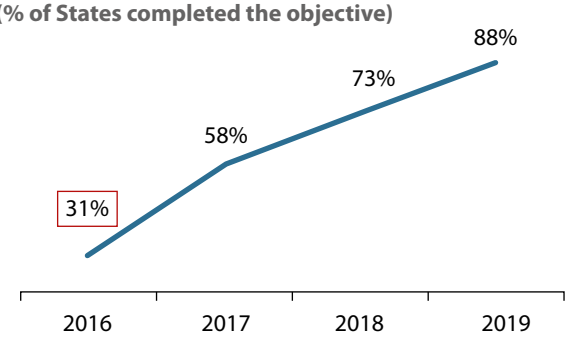
Estimated achievement: 12/2019

Planned delay

Main 2016 developments:

The objective requires information exchange between AMAN systems supporting the respective TMAs and the first upstream ATS systems of the surrounding en-route control sectors. There is a very limited improvement in the implementation progress (eight (8) States, against seven (7) in 2015). The biggest implementation step is expected in 2017, where plans show a target completion for 15 States. Delays are so far reported by seven (7) States: Belgium, Croatia, Germany, Hungary for which plans are linked to coordination with Austrocontrol, Ireland (within Ireland; whereas it is implemented with UK since 2014), Portugal and Romania. No specific risks have been identified. Three(3)States report no plans for implementation: Bosnia Herzegovina will assess it in 2017; Bulgaria for which planning dates are further to be discussed and aligned with the deployment of the AMAN in Istanbul airport; and Latvia.

Completion Rate Evolution
(% of States completed the objective)



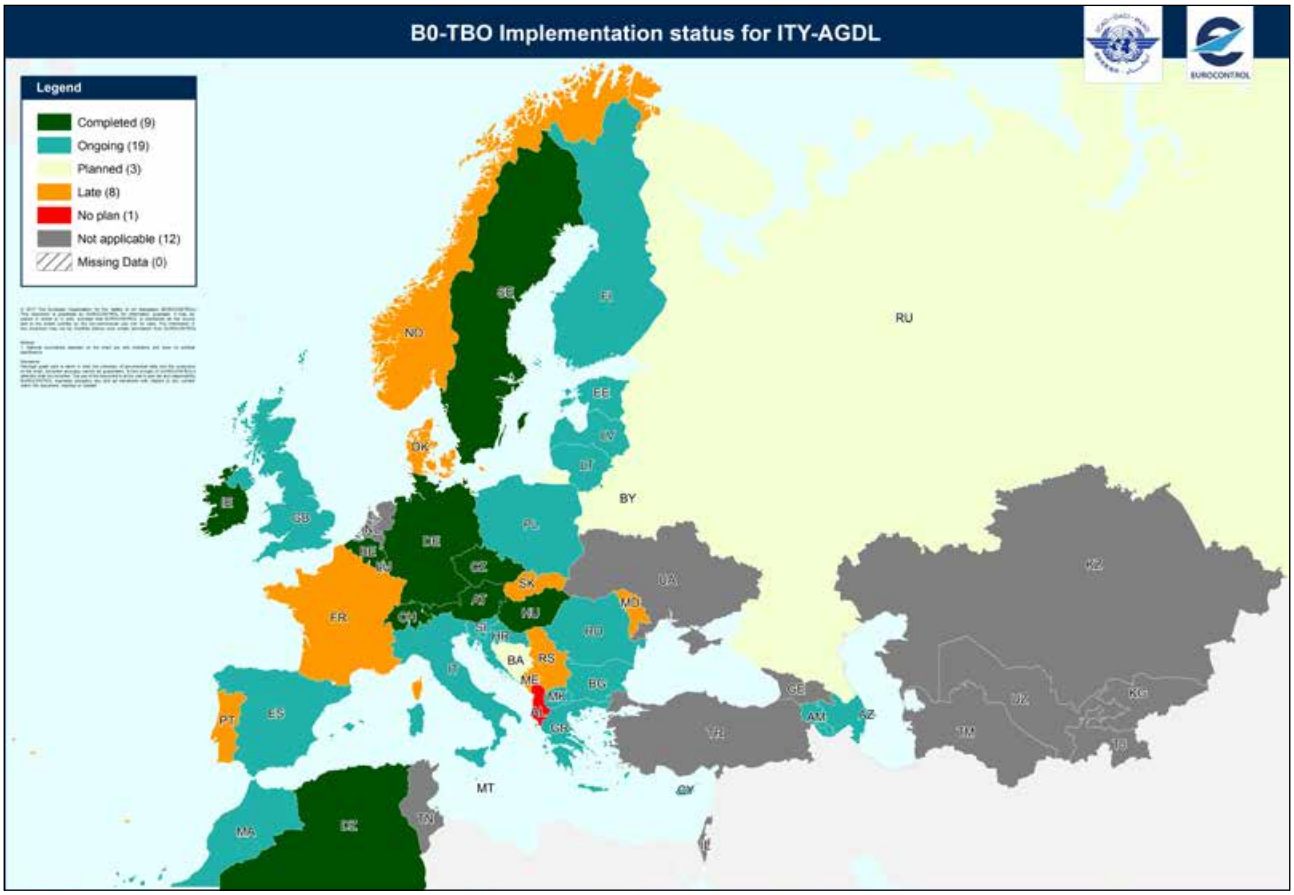
2. Status for remaining States

Algeria		No Plan
Belarus	AMAN/DMAN functions will be implemented at the new Automated ATC System to be put into operation at Minsk-2 aerodrome.	Planned 12/2019
Israel	Refer to ATC07.1 action plan.	Ongoing 12/2019
Kazakhstan		Not Applicable
Kyrgyzstan	No implementation planned for airports in Kyrgzystan (Bishkek airport has currently 40-45 aircraft movements per day, Osh airport around 20-25 movements per day). Could be planned with upgrade of new ATS system.	Not Applicable
Morocco	The implementation is planned in the new system (acquisition of new ATC system in 2017) of Casablanca ACC and in some airport. The acquisition and installation are planned from 2018 on.	Ongoing (10%) 2020
Russian Federation	Further refinement of air traffic planning system in all consolidated ACCs envisages implementation.	Planned 2019
Tajikistan	No implementation planned for airports in Tajikistan (Dushanbe airport has currently 40-45 flight per day).	Not Applicable
Tunisia	To be implemented in Tunis Carthage, DjerbaZarzis, Monastir H. Bourguiba and Enfidha Hammamet airports, taking into consideration the traffic growth (by 2025).	No Plan
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 APPLICATION 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 2016 developments:

2016 was a pivotal year for Data Link Services (DLS) implementation; the SJU finalised the ELSA Consortium Study addressing the recommendations made by EASA in their report from 2014 on data-link's technical issues. Also in 2016, the SESAR Deployment Manager has been mandated by the EC to act as Data Link Services Implementation Project Manager and on this basis the SDM developed a DLS Recovery Plan aiming to set a realistic path from today's DLS implementation status in Europe.

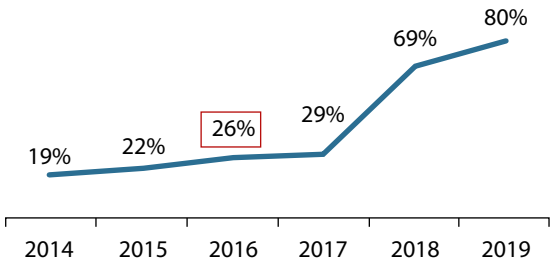
It is not surprising that implementation has not progressed much during 2016 as stakeholders were expecting the results of the ELSA study. Only one (1) State (CZ) has completed the objective in 2016 and stakeholders have started to adjust their plans which implies a delay in the estimated achievement date from 02/2018 last year, to 12/2019 this year.

ATS unit ops. Capability 02/2018
Aircraft capability 02/2020

Planned delay

Estimated achievement: 12/2019

Completion Rate Evolution
(% of States completed the objective)

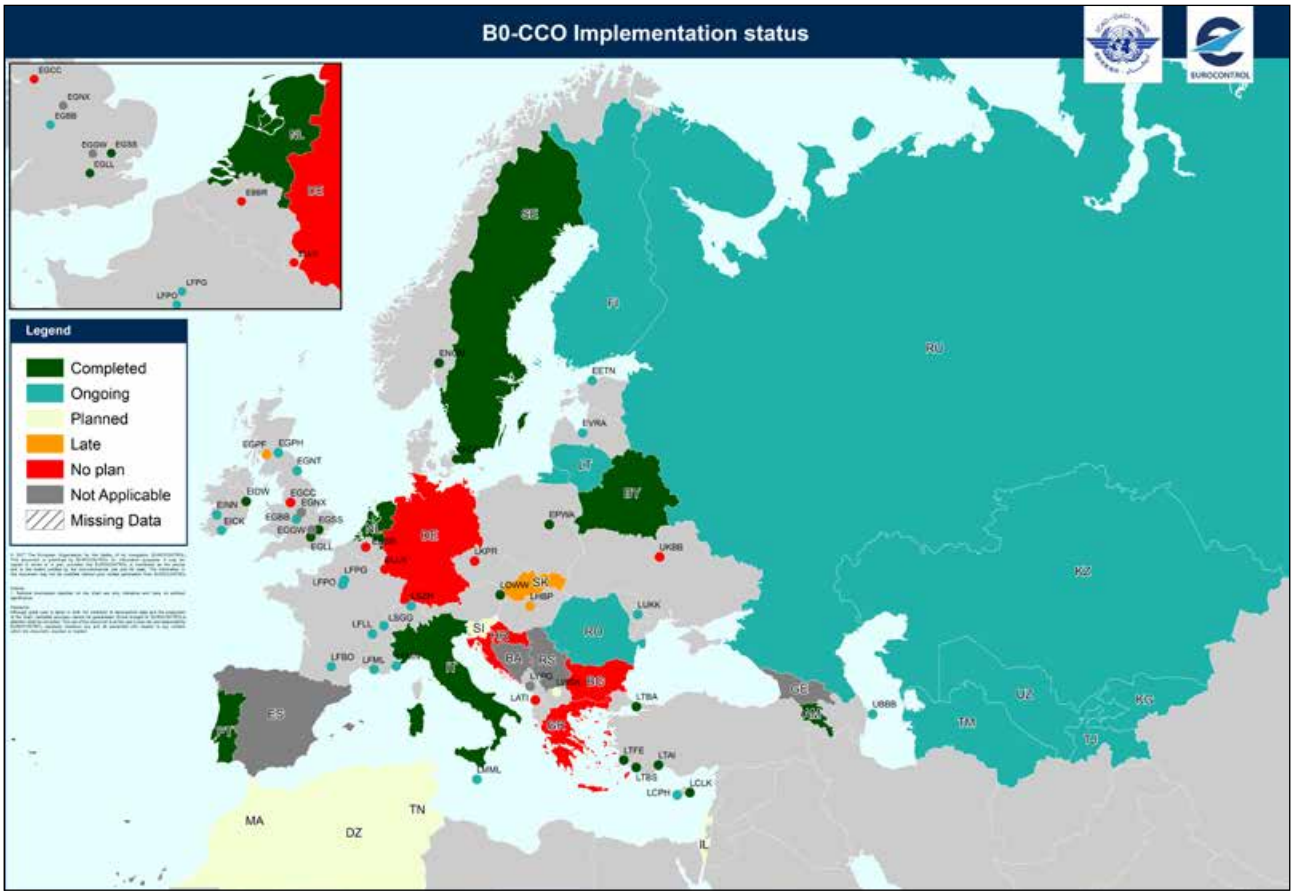


Algeria	The current system includes Data-link services using FANS/ACARS since 2011 for CPDLC, especially for the operations in the southern part of Algiers FIR. The future system will integrate ATN protocol for data-link services, no plan for VDL2 equipments.	Completed
Belarus	These actions have been planned.	Planned 12/2019
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.	Not Applicable
Kazakhstan		Not Applicable
Kyrgyzstan		Not Applicable
Morocco	ADS-C implemented. Air ground data link services CPDLC interface has been implemented in Casablanca ACC; The ONDA/ARINC (ATN data link) Contract implementation will be effective in 2018 and the CPDLC will be fully implemented with 4 services (DLIC, ACM. AMC and ACL) in the following airports: • Phase 1: Casablanca/Mohammed V, Tangier/Ibn-Batouta, Oujda/Angads , Fès/Saiss, Marrakech/Ménara and Agadir/Al Massira • Phase 2 : other airports are planned next following years	Ongoing (80%) 2018
Russian Federation	Moscow airspace structure: pilot project initiation (fragment of CPDLC digital communication) based on VDL-2 datalink.	Planned 2020
Tajikistan	Not planned. There are no interested users.	Not Applicable
Tunisia	Functionality is in the new ATC system, will be used according to traffic growth and ATC capacities needs.	Not Applicable
Turkmenistan	No implementation planned for Turkmenistan.	Not Applicable
Uzbekistan	No implementation is planned for Uzbekistan.	Not Applicable

4.1.2.8 B0-CCO

IMPROVED FLEXIBILITY AND EFFICIENCY DEPARTURE PROFILES – CONTINUOUS CLIMB OPERATIONS

Global Implementation



1. Status for States in the ESSIP/LSSIP mechanism

This is the first year that this objective is monitored therefore is not possible to assess evolution of progress. The table below summarizes the status reported by States at the end of the reporting year, December 2016.

Status	Country/Airport	Progress
Completed	AM, AT, DK, IT, NL, NO, PL, PT, SE, TR	24%
Ongoing	AZ, CY, EE, FI, FR, IE, LV, LT, MT, MD, RO, CH, UK	32%
Planned	FYROM, SI	5%
Late	HU, SK	5%
Not Applicable	BA, GE, ME, RS, ES	12%
No Plan	AL, BE, BG, HR, CZ, DE, GR, LU, UA	22%
Missing Data	-	0%

2. Status for remaining States

Algeria	In accordance with the National PBN plan implementation, ENNA plans to implement CCOs for Algiers, Oran, Annaba, Constantine and Hassi Messaoud airports	Planned 2021
Belarus		Completed 12/2016
Israel	Israel ANSP intends to redesign all SIDs and implement PBN criteria with respect to all of them, including implementation of CCO – whenever practicable. Include CCO techniques in the aircrew training manual and support its implementation wherever possible.	Planned 12/2018
Kazakhstan	Astana and Almaty airports serving the major of international flights are planned to be introduced with CCO by the end of 2018. Implementation of CCO in the remaining airports will continue as required.	Ongoing (20%) 12/2018
Kyrgyzstan	CDO/CCO are part of the national PBN Plan.	Ongoing 2022
Morocco	Implementing new PBN procedures including CCOs is planned.	Planned 2020
Russian Federation	According to the PBN Implementation Plan (2014) procedure, implementation is a part of aerodrome procedure design.	Ongoing (10%) 2020
Tajikistan	National PBN implementation plan has been developed and PBN implementation will be gradually started after completion of WGS-84 data. CCOs/CDOs are a part of the national PBN plan and are expected to be implemented from 2018 onwards	Ongoing (20%) Phase 1 in 2020
Tunisia	To be developed based on the results of Tunis TMA restructuring that will be carried out (network for 3 airports: Tunis Carthage, Monastir H. Bourguiba, Enfidha Hammamet).	Planned 12/2020
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 are included in national PBN plan.	Ongoing (50%) 2021
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 have been included into draft the national PBN plan.	Ongoing 2018

4.1.2.9 B0-AMET

METEOROLOGICAL INFORMATION SUPPORTING ENHANCED OPERATIONAL EFFICIENCY AND SAFETY

This module is about global, regional and local meteorological information including:

a) forecasts provided by world area forecast centres (WAFC), volcanic ash advisory centres (VAAC) and tropical cyclone advisory centres (TCAC);

b) aerodrome warnings to give concise information of meteorological conditions that could adversely affect all aircraft at an aerodrome including wind shear; and

c) SIGMETs to provide information on occurrence or expected occurrence of specific en-route weather phenomena which may affect the safety of aircraft operations and other operational meteorological (OPMET) information, including METAR/SPECI and TAF, to provide routine and special observations and forecasts of meteorological conditions occurring or expected to occur at the aerodrome.

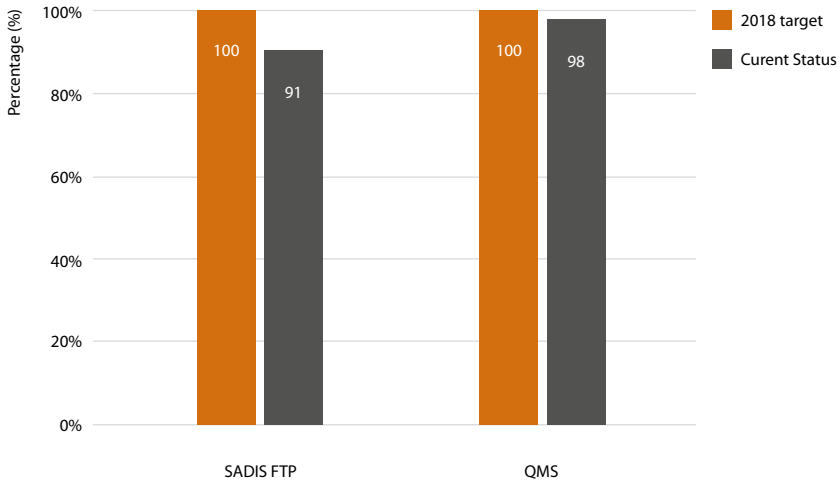
The source of the monitoring information for B0-AMET indicated in this chapter is the ICAO EUR METG.

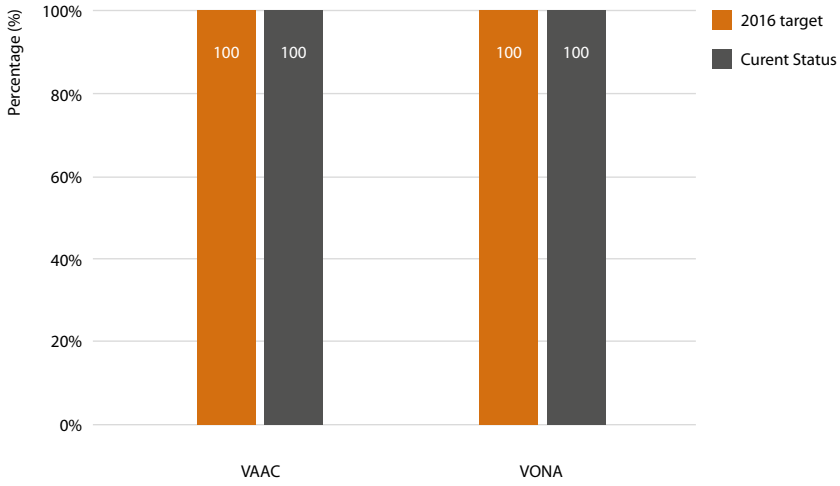
The overall progress for B0-AMET is very good with approximately 94% implementation as indicated in the elements of the tables and graphs below.

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety			
Elements	**Applicability**	**Performance Indicators**	**Targets**
SADIS FTP	All States	**Indicator:** % of States having implemented SADIS FTP service. Supporting metric: number of States having implemented SADIS FTP service.	100% by Dec. 2018
QMS	All States	**Indicator:** % of States having implemented QMS for MET. Supporting metric: number of States having implemented QMS for MET.	100% by Dec. 2018
VAAC	France, United Kingdom	**Indicator:** % of VAACs in or serving the EUR Region that provide Annex 3 volcanic ash products (Volcanic Ash Advisories (VAA) and Volcanic Ash Advisories in Graphic Form (VAG)). **Supporting metric:** number of States hosting a VAAC having implemented VAA/VAG.	100% by Dec. 2016
VONA	Italy, Russian Federation, Spain	**Indicator:** % of Volcano Observatories in the EUR Region that provide volcano observatory notice for aviation (VONA) as per the Handbook on the International Airways Watch (IAVW) (Doc 9766). **Supporting metric:** number of States with Volcano Observatory having implemented VONA.	100% by Dec. 2016

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety			
Elements	**Applicability**	**Performance Indicators**	**Targets**
OPMET	All States	**Indicator:** % availability of METAR and TAF as per requirements in EUR eANP VOL II Table MET II-2. **Indicator:** % timeliness of METAR and TAF. **Note:** This data is still under review, EUR Data Management Group will develop monitoring methodology in 2017 and populate the tables by September 2018.	95% by Dec 2018 (availability and timeliness)
SIGMET	All States	**Indicator:** % availability of SIGMET as per requirements in EUR eANP VOL II Table MET II-1 **Note:** This data is still under review, EUR Data Management Group will develop monitoring methodology in 2017 and populate the tables by September 2018.	98% by Dec 2018 (availability)

BO-AMET Status of implementation in the EUR Region





State	Elements			
	SADIS FTP	QMS	VAAC	VONA
Albania	■	■		
Algeria	■	■		
Armenia	■	■		
Austria	■	■		
Azerbaijan	■	■		
Belarus	■	■		
Belgium	■	■		
Bosnia and Herzegovina	■	■		
Bulgaria	■	■		
Croatia	■	■		
Cyprus	■	■		
Czech Republic	■	■		
Denmark	■	■		
Estonia	■	■		
Finland	■	■		
France	■	■	■	
Georgia	■	■		
Germany	■	■		
Greece	■	■		
Hungary	■	■		
Ireland	■	■		
Israel	■	■		
Italy	■	■		■
Kazakhstan	■	■		
Kyrgyzstan	■	■		

State	Elements			
	SADIS FTP	QMS	VAAC	VONA
Latvia	■	■		
Lithuania	■	■		
Luxembourg	■	■		
Malta	■	■		
Montenegro	■	■		
Morocco	■	■		
Netherlands	■	■		
Norway	■	■		
Poland	■	■		
Portugal	■	■		
Republic of Moldova	■	■		
Romania	■	■		
Russian Federation	■	■		■
Serbia	■	■		
Slovakia	■	■		
Slovenia	■	■		
Spain	■	■		■
Sweden	■	■		
Switzerland	■	■		
Tajikistan	■	■		
FYROM	■	■		
Tunisia	■	■		
Turkey	■	■		
Turkmenistan	■	■		
Ukraine	■	■		
United Kingdom	■	■	■	
Uzbekistan	■	■		

■ Completed

■ Not Completed

Detailed Status information of B0-AMET implementation for the following States:

To note that the table below does not address specifically activities related to SADIS implementation.

Algeria	The forecasts provided by the various forecast centers are distributed by the ONM Office National Meteorologique Algerienne. No aerodrome is equipped with wind shear warning and alert systems. SIGMETS, METAR/SPECI, TAF and operational meteorological information are available.	Ongoing (60%)
Belarus		Completed 12/2016
Israel	The Israel Airports Authority has not installed any systems to provide wind shear warnings and alerts. All other requirements of B0-AMET are fully implemented.	Ongoing (90%)
Kazakhstan	Forecast WAFC and advisory centres VAAC are available for meteorological Service of Kazakhstan. SIGMET and OPMET information are available to the aeronautical users (International BAMD, AFTN). The installation of the meteorological radars at the airports of Kazakhstan is in the process and planned to be completed by 2021.	Completed 12/2016
Kyrgyzstan	Synoptic situation: Volcanic ash and tropical cyclone not applicable in Kyrgyz republic. Systems to provide wind shear warnings will be installed in Issyk-Kul international airport in 2018.	Ongoing (60%) 2019
Morocco	All forecasts provided by WAFAC, VACC and TCAC and operational meteorological information are available through agreement signed between ANSP and Direction of National Meteorology. A study conducted by ANSP and Direction of National Meteorology proved that wind shear phenomena is very rare in Morocco therefore we don't need that kind of information.	Completed
Russian Federation		Completed 2016

Tajikistan	TAN MET receive info from world area forecast centres (WAFC) using "GIS Meteo" programme since 2005. TAN MET receive volcanic ash info by AFTN. TAN MET receive tropical cyclone info by AFTN upon request. Info on SIGMET and other OPMET info (METAR, SPECI and TAF) are available. All the international banks of meteo information receive our information. Provision of Windshear warnings and alerts to be further investigated.	Ongoing
Tunisia	QMS fully implemented: The National Meteorology Institute (INM) has been attributed the ISO 9001 certification in the area of air navigation meteorology services since 2010.	Completed 2014
Turkmenistan	Messages VACC and TCAC are taken through the AFTN line. Turkmenistan does not have a wind shear warning system, planned in 2020. Wind shear warnings are compiled on the basis of crew reports. SIGMET METAR/SPECI and TAF information are issued by the meteorological service on the prevention of flight routes and transmitted through the AFTN for transfer to other airports and international banks.	Ongoing (80%) 2020
Uzbekistan	ATS units are providing all necessary information.	Completed 2016

5. Conclusions and recommendations

In order to summarize the information presented in the last two chapters, namely the planning views and implementation progress, the following self-explanatory tables were developed, which are aiming to give an overall and straightforward understanding of the ASBUs Implementation status so far.

Dashboard 2016:

The first table (Table 1) presents the number of States that have achieved full implementation and gives the overall rate of "Completion" status by the end of 2016. It excludes those States where the module is considered as "Not Applicable".

The "**ASBU Block 0 Implementation Dashboard**" can be used to compare, in a simple way, the evolution of implementation progress (see paragraph below).

__Table 1__ – ASBU Block 0 Modules Implementation Dashboard 2016

ASBU B0 Module	Number of States Completed by the end of 2016	Not Applicable States	Completion by the end of 2016 (%) - Excludes States where the module is Not Applicable
ACAS	38	0	73%
APTA	10	1	20%
DATM	5	0	10%
FICE	5	1	10%
SNET	22	0	42%
SURF	14	14	37%
ACDM	8	20	25%
ASUR	16	2	32%
CDO	17	13	43%
FRTO	6	1	12%
NOPS	13	0	25%
RSEQ	5	20	16%
TBO	8	12	20%
CCO	9	5	19%

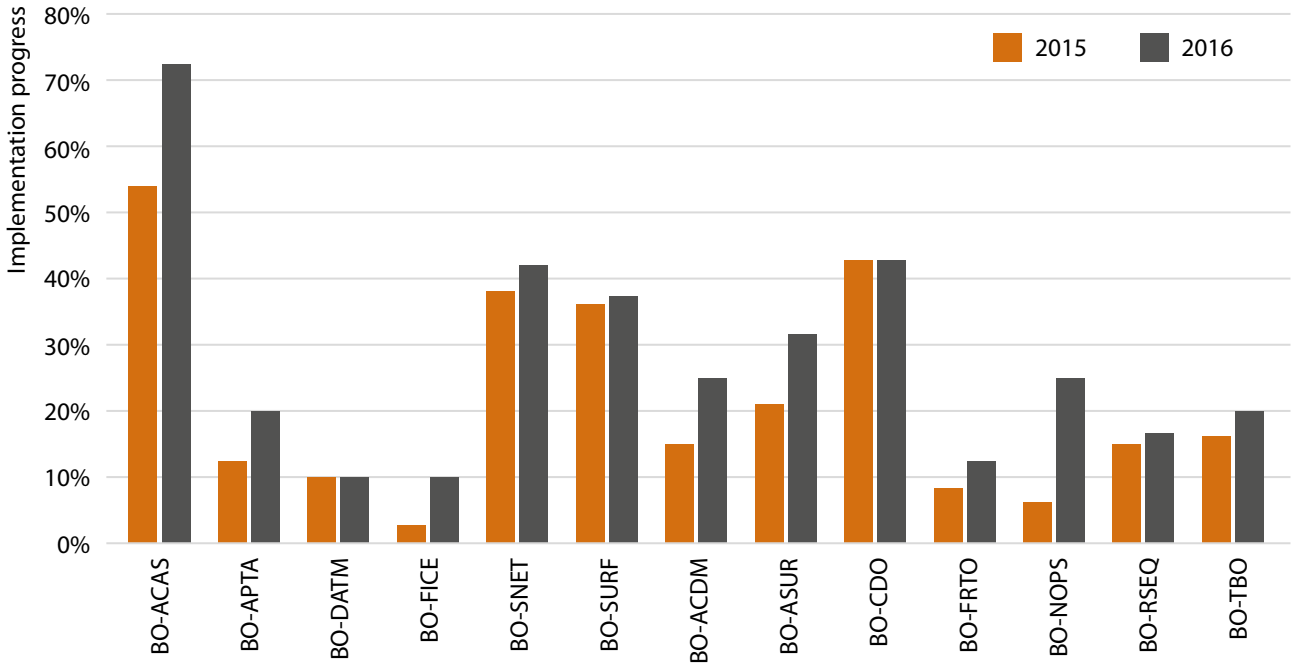
Dark orange: Completion rate above 50% by the end of 2016 in accordance with the data reported by States.

Light orange: Completion rate between 30% and 50% by the end of 2016 in accordance with the data reported by States.

Evolution of Implementation Progress:

Using the information from the ASBU Monitoring Dashboard of the previous reference period (2015) and the information reported by States for the 2016 reference cycle, the following comparative evolution of implementation progress can be presented:

Figure 1 *– ICAO EUR B0 Modules - Implementation Progress in 2015 and 2016*



Outlook 2019 and 2020:

The second and third tables (Table 2 and 3) present the "Completion" status (number of States and rates) that is expected to be achieved by the end of 2019 and 2020, in accordance with the planning dates reported by States in the ICAO EUR Region. The aim of these tables is to project implementation scenarios for 2019 and 2020 based on the plans and data indicated by States.

"**ASBU Block 0 Modules Implementation Outlook 2019 and 2020**".

Table 2 – ASBU Block 0 Modules Implementation Outlook for 2019

ASBU B0 Module	Number of States foreseen to be Completed by the end of 2019	Not Applicable States	Completion foreseen by the end of 2019 (%) - Excludes States where the module is Not Applicable
ACAS	48	0	92%
APTA	40	1	78%
DATM	43	0	83%
FICE	42	1	82%
SNET	45	0	87%
SURF	33	14	87%
ACDM	26	20	81%
ASUR	33	2	66%
CDO	29	13	74%
FRTO	29	1	57%
NOPS	45	0	87%
RSEQ	26	20	81%
TBO	32	12	80%
CCO	29	5	62%

Table 3 – ASBU Block 0 Modules Implementation Outlook for 2020

ASBU B0 Module	Number of States foreseen to be Completed by the end of 2020	Not Applicable States	Completion foreseen by the end of 2020 (%) - Excludes States where the module is Not Applicable
ACAS	52	0	100%
APTA	44	1	86%
DATM	49	0	94%
FICE	45	1	88%
SNET	51	0	98%
SURF	36	14	95%
ACDM	28	20	88%
ASUR	47	2	94%
CDO	33	13	85%
FRTO	34	1	67%
NOPS	48	0	92%
RSEQ	27	20	84%
TBO	37	12	93%
CCO	34	5	72%

Shaded grey: Completion rate below 80%

Recommendations:

This 3rd edition of the ICAO ASBU monitoring report is the first report that includes the data on the status of ASBU Block 0 implementation from all 55 States within the ICAO EUR Region. It addresses a complete and comprehensive analysis of the overall implementation situation of the relevant 15 ASBU Block 0modules within the ICAO EUR Region.

Based on the analysis of the reported implementation status and the lessons learned from the development of this version of the report, the following high level recommendations are proposed:

- Continue to ensure that no duplication of reporting activities will be requested from States , meaning that the data available through existing reporting mechanisms such as the ESSIP/LSSIP shall be always used.
- The significant evolution of the monitoring report and the important contribution and commitment by States are recognised and appreciated. In an effort to improve this even further, States should be invited to address carefully the quality of the reported data and the consistency of their projects and implementation plans. In this respect it must also be understood that major national ATM system upgrade or infrastructure/airspace improvement programs will have their own timelines/schedules, which might not be identical to the implementation dates within the GANP.
- 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.
- Continue with the awareness workshops in individual States or group of States. They proved to be very successful and were instrumental to promote the collaborative implementation monitoring approach.
- The existing monitoring questionnaire and the information process should be updated in accordance with required evolution and changes in the activities linked to and in the scope of the ASBU Block 0 modules
- Clarify how the data from Algeria, Morocco, Tunisia and Israel can be included in the future as all 4 States are formally not ATMGE members.

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 2016 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 by States	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; ATC02.8

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 by States		AOP05
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	Selected Airports by States		ATC07,1; ATC15.1
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	EUR		AOM19.1; NAV03
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	EUR		FCM01; FCM03
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 by States		ENV01; NAV03
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	EUR for defined FIRs		ITY-AGDL (ground systems)
B0-CCO	Improved Flexibility and Efficiency Departure Profiles-Continuous Climb Operations (CCO)	Selected Airports by States		None
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	EUR		Monitored by: ICAO/EUR EANPG (METG)

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.

More information on the questionnaire including the detailed Annexes is available at the following EUROCONTROL website: http://www.eurocontrol.int/articles/icao-asbu

Please fill in the information highlighted in light orange.

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 actions can be found in Annex B and Annex C of the questionnaire and on the European ATM Mater Plan Level 3 Implementation Plan (ESSIP Plan 2016), Engineering View and Implementation View:

1 http://www.eurocontrol.int/sites/default/files/content/documents/official-documents/guidance/2016-implementationobjectives_detailed.pdf

2 http://www.eurocontrol.int/sites/default/files/content/documents/official- documents/reports/2016-masterplan-implementationplan.pdf

Requested information on Block 0, Priority 1 Modules

<STATE>

B0-ACAS

ATC16	IMPLEMENT ACAS II COMPLIANT WITH TCAS II CHANGE 7.1	
ACAS Improvements		**<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>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

B0-APTA

NAV10	IMPLEMENT APV PROCEDURES	
Optimization of Approach Procedures including vertical guidance		**<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	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

B0-DATM

INF04	IMPLEMENT INTEGRATED BRIEFING	
Service Improvement through Digital Aeronautical Information Management		**<Status>**
Relevant actions: ▪ Implement integrated briefing	**<Completion Date>**	**<Percentage of completion (%)>**
<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		**<Status>**
Relevant actions: ▪ Implement a quality management system (QMS ▪ Implement data quality requirements ▪ Implement the common dataset and digital exchange format ▪ Establish formal arrangements	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

B0-FICE

ATC17	ELECTRONIC DIALOGUE AS AUTOMATED ASSISTANCE TO CONTROLLER DURING COORDINATION AND TRANSFER	
Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		**<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>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

ITY- COTR	IMPLEMENTATION OF GROUND-GROUND AUTOMATED CO- ORDINATION PROCESSES	
Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		**<Status>**
Relevant actions: ▪ Implement flight data processing and exchange systems ▪ Implement processes such as, Notification; Initial Coordination; Revision of Coordination, etc.	**<Completion Date>**	**<Percentage of completion (%)>**
<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		**<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>**	**<Percentage of completion (%)>**
<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		**<Status>**
Relevant actions: ▪ Conduct safety oversight of the changes ▪ Implement the STCA function ▪ Develop safety assessment of the changes	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

ATC02.8	IMPLEMENT GROUND BASED SAFETY NETS (LEVEL 2) OF - AREA PROXIMITY WARNING, MINIMUM SAFE ALTITUDE WARNING	
Increased Effectiveness of Ground-Based Safety Nets – APW, MSAW		**<Status>**
Relevant actions: ▪ Implement the APW function ▪ Implement the MSAW function	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

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)		**<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>**	**<Percentage of completion (%)>**
<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)		**<Status>**
Relevant actions: ▪ Install required A-SMGCS control function equipment ▪ Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

Additional information on other Block 0 Modules

B0-ACDM

AOP05	IMPLEMENT AIRPORT COLLABORATIVE DECISION MAKING (CDM)	
Improved Airport Operations through Airport- CDM		**<Status>**
Relevant actions: ▪ Define and implement local Air Navigation Service (ANS) procedures for ▪ information sharing through Letters of Agreement (LoAs) and/or Memorandum 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>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

B0-ASUR

ITY-SPI	SURVEILLANCE PERFORMANCE AND INTEROPERABILITY	
Initial capability for ground surveillance		**<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 infrastructure ▪ Carriage and operation of Mode S Elementary Surveillance ▪ Carriage and operation of ADS-B Out	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

B0-FRTO

AOM19.1	ASM SUPPORT TOOLS TO SUPPORT A-FUA	
Improved Operations through Enhanced En-Route Trajectories		**<Status>**
Relevant actions: ▪ Deploy automated ASM support systems ▪ Improve planning and allocation of airspace booking ▪ Implement interoperability of local ASM support system with NM system	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

NAV03	IMPLEMENTATION OF P-RNAV	
Improved Operations through Enhanced En-Route Trajectories		**<Status>**
Relevant actions: ▪ Develop and implement RNAV arrival and departure procedures for P-RNAV 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>**	**<Percentage of completion (%)>**
<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)		**<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 implementation wherever possible	**<Completion Date>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

NAV03	IMPLEMENTATION OF P-RNAV	
Improved Flexibility and Efficiency in Descent Profiles (CDO)		**<Status>**
Relevant actions: ▪ Develop and implement RNAV arrival and departure procedures for P-RNAV 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>**	**<Percentage of completion (%)>**
<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 view		**<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>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

FCM03	COLLABORATIVE FLIGHT PLANNING	
Improved Flow Performance through Planning based on a Network-Wide view		**<Status>**
Relevant actions: ▪ Provide flight plan message processing in ICAO format ▪ Automatically process FPLs derived from RPLs ▪ Provide flight plan message processing in ADEXP format ▪ Processing of APL and ACH messages ▪ Automatically provide AFP for missing flight plans ▪ Automatically provide AFP message for change of route ▪ Automatically provide AFP message for a diversion ▪ Automatically provide AFP message for a change of flight rules or flight type ▪ Automatically provide AFP message for a change of requested cruising level ▪ Automatically provide AFP message for change of aircraft type ▪ Automatically provide AFP message for change of aircraft equipment	**<Completion Date>**	**<Percentage of completion (%)>**
<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)		**<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>**	**<Percentage of completion (%)>**
<Explain how and when you intend to complete this objective>		

ATC15.1	IMPLEMENT, IN EN-ROUTE OPERATIONS, INFORMATION EXCHANGE MECHANISMS, TOOLS AND PROCEDURES IN SUPPORT OF BASIC AMAN	
Improve Traffic flow through Runway Sequencing (AMAN/DMAN)		**<Status>**
Relevant actions: ▪ 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 ▪ Develop safety assessment for the changes	**<Completion Date>**	**<Percentage of completion (%)>**
<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		<Status>
Relevant actions: ▪ Ensure the publication of relevant information in the national aeronautical information publication ▪ Ensure ATN/VDL-2 availability, security policy and address management 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 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>	<Percentage of completion (%)>
<Explain how and when you intend to complete this objective>		

B0-CCO

Improved Flexibility and Efficiency Departure Profiles – Continuous Climb Operations		<Status>
Relevant actions: ▪ Coordinate activities and implement rules and procedures for the application of CCO techniques (e.g. develop and implement PBN SIDs) whenever practicable in Terminal Area Control Service in close cooperation with aircraft operators ▪ Support CCO measures, implement route changes to facilitate CCOs, implement monitoring of performance and feedback to ANSP and users where equipment is available. Provide the main link with the local community ▪ Include CCO techniques in the aircrew training manual and support its implementation wherever possible	<Completion Date>	<Percentage of completion (%)>
<Explain how and when you intend to complete this objective>		

B0-AMET

Meteorological Information supporting enhanced operational efficiency and safety		**<Status>**

Relevant actions:
 	
■ Availability of forecasts provided by:
  ■ world area forecast centres (WAFC)
  ■ volcanic ash advisory centres (VAAC)
  ■ tropical cyclone advisory centres (TCAC)
 	
■ Implement required systems to provide aerodrome warnings including wind shear warnings and alerts
 	
■ Make available at least the following operational meteorological information:
  ■ SIGMETs to provide information on occurrence of specific en-route weather phenomena
  ■ Other OPMET information, including METAR/SPECI and TAF, to provide routine and special observations and forecasts of meteorological conditions occurring or expected to occur at the aerodrome.
	<Completion Date>	**<Percentage of completion (%)>**

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

ANNEX 3
Progress achieved (percentage) for each B0 Module in 41 States of the LSSIP mechanism

This annex covers only the 41 States that report their monitoring information using the LSSIP mechanism.

The following tables show for each of the ASBU Block 0 modules, the overall status, the final date foreseen for completion and the percentage of progress achieved in the current cycle, reference date December 2016.

These results were calculated using the LSSIP Year 2016 declared statuses and progress of the relevant Implementation objectives in accordance with the mapping ASBUs Block 0 and ESSIP objectives approved by ICAO EUR EANPG/58 (European Air Navigation Planning Group).

The information related to each individual State, as indicated in the following pages, was extracted from the LSSIP documents dully signed by designated State authorities. These documents can be consulted at the following EUROCONTROL site:

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

The top bar on the table gives the average progress achieved in that particular State for all Block 0 modules, taking into account the progress of each individual module detailed inside the table.

The following Legend applies:

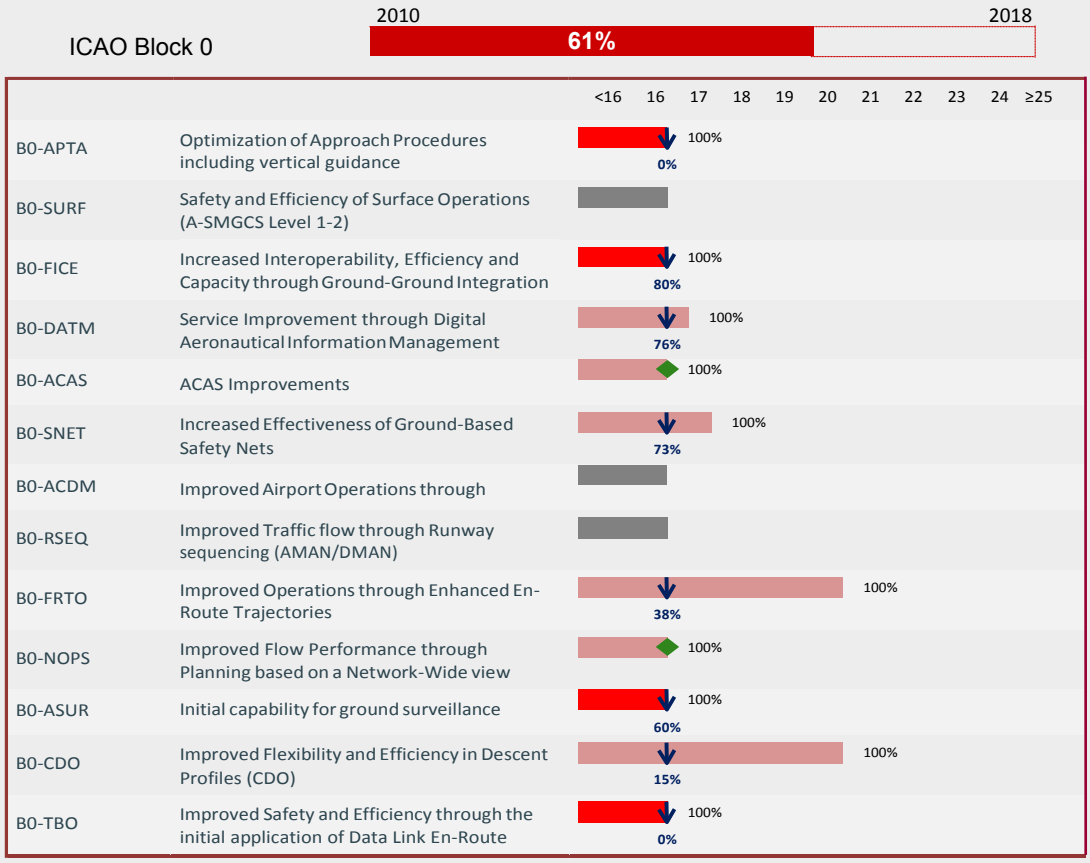
Completed (during 2016 or before)

Progress achieved in 2016

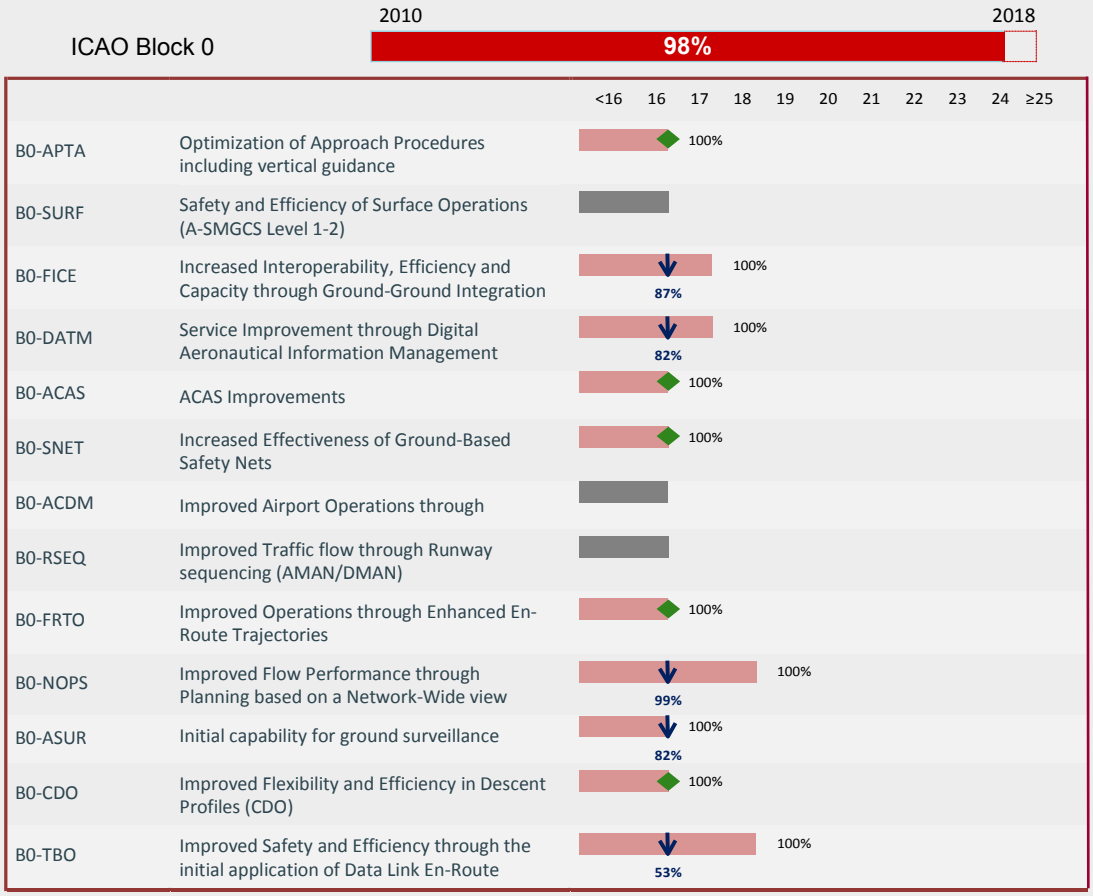
Missing planning date

Not applicable

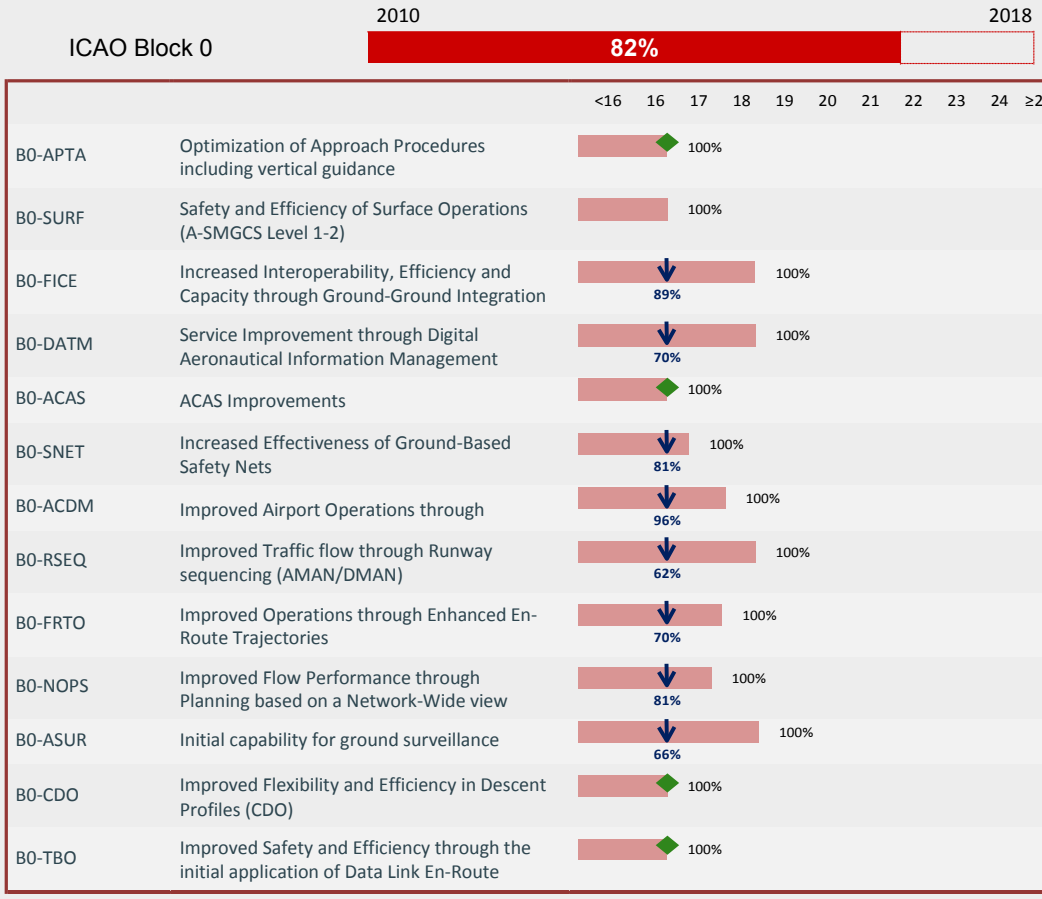
Albania(AL)



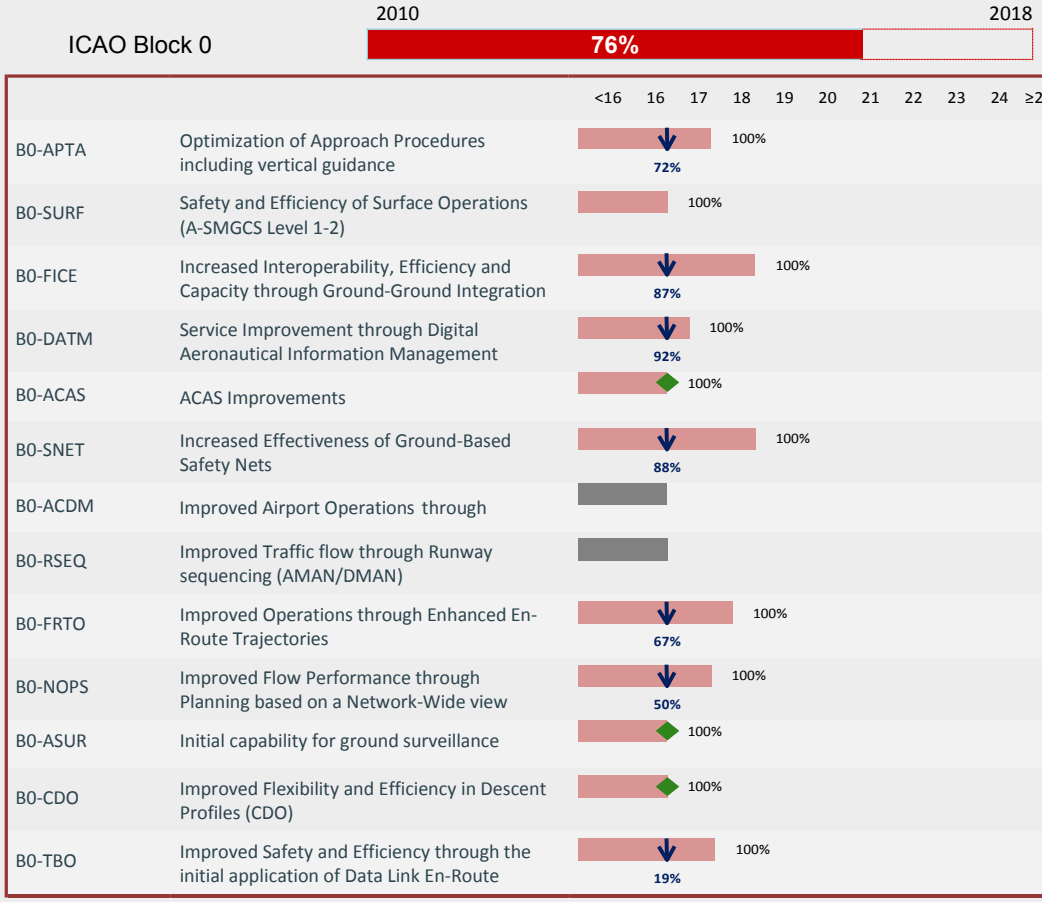
Armenia(AM)



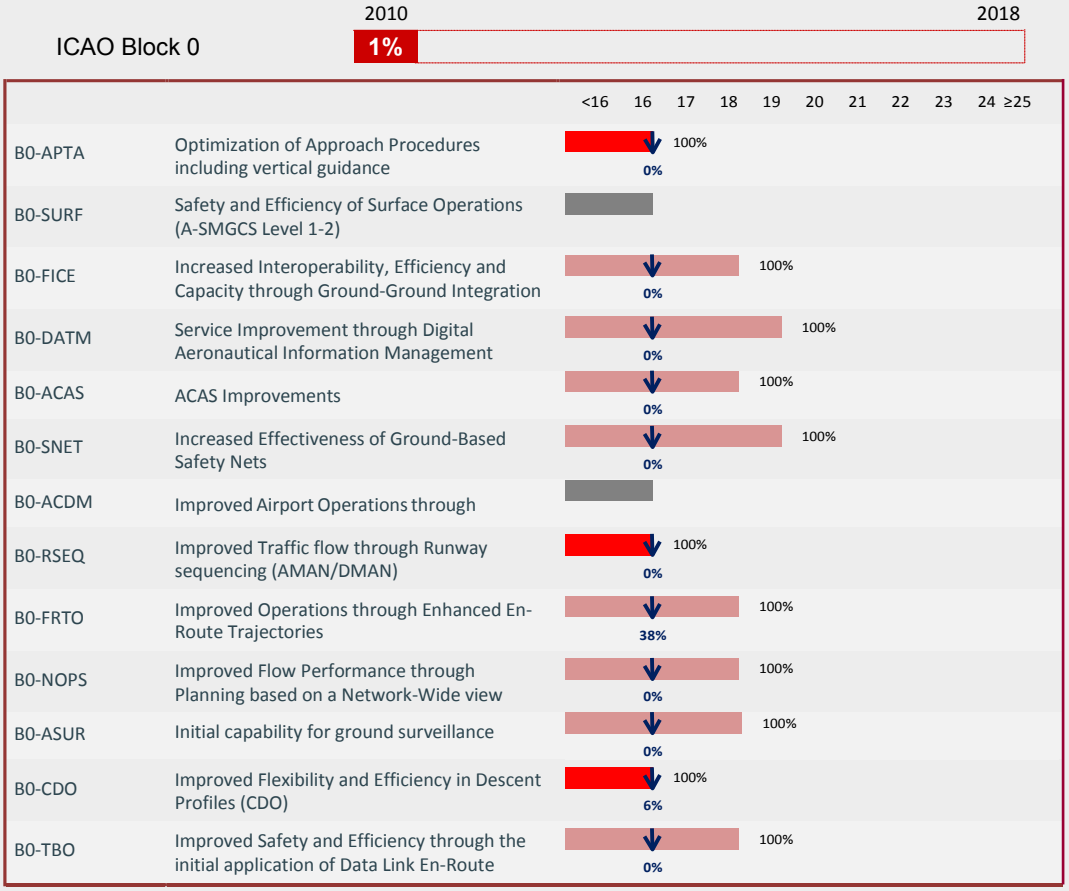
Austria(AT)



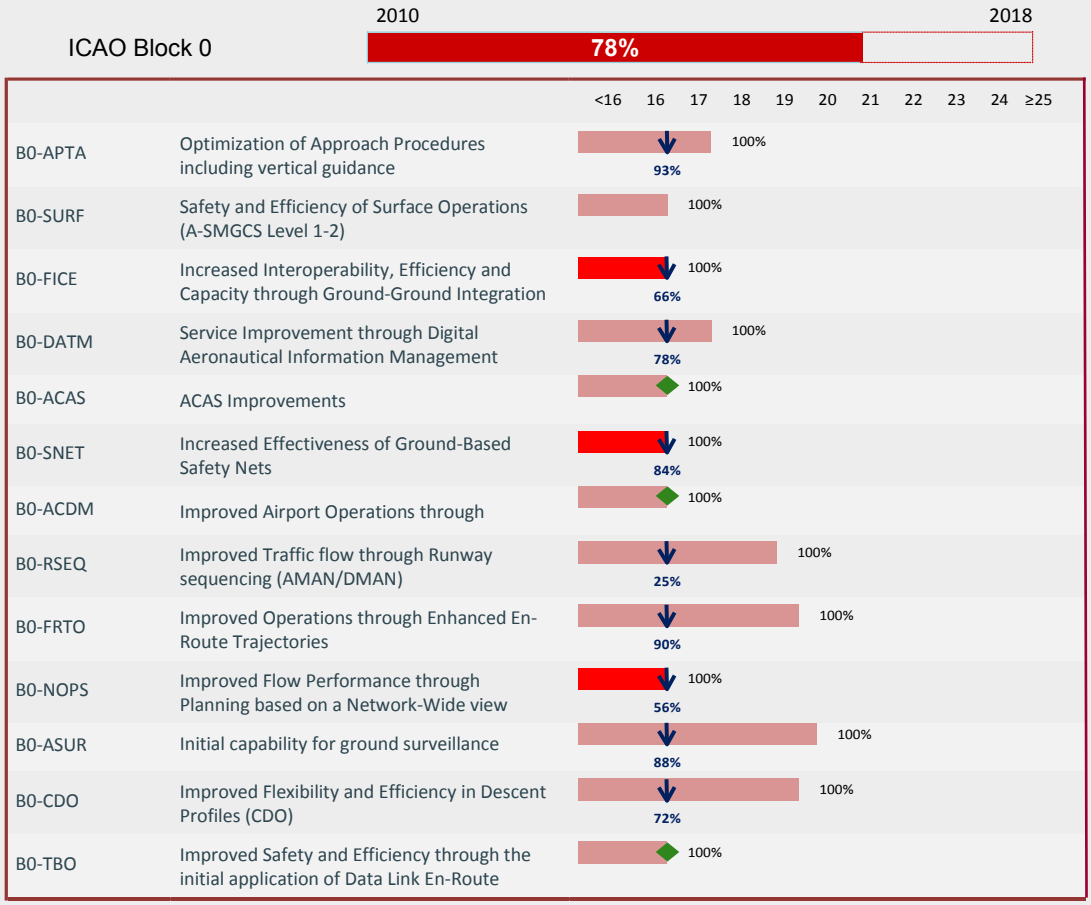
Azerbejan(AZ)



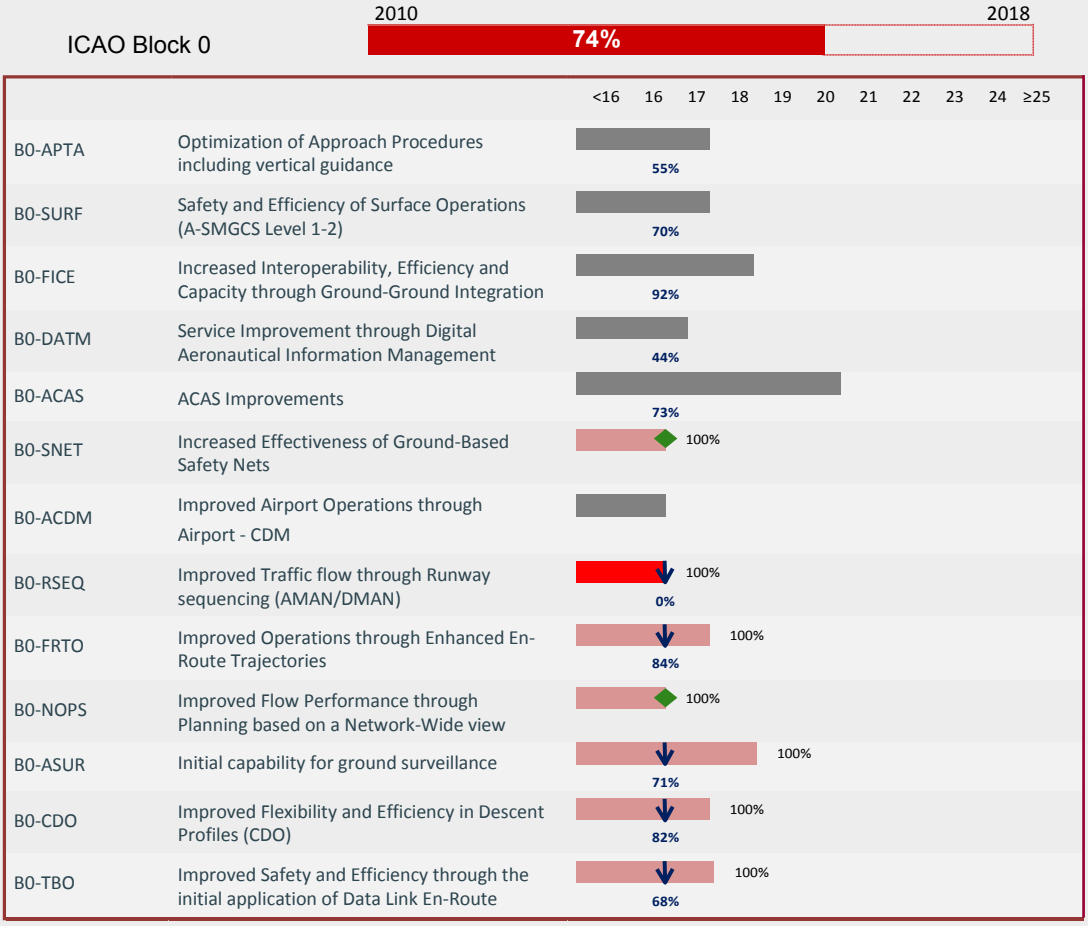
Bosnia and Herzegovina(BA)



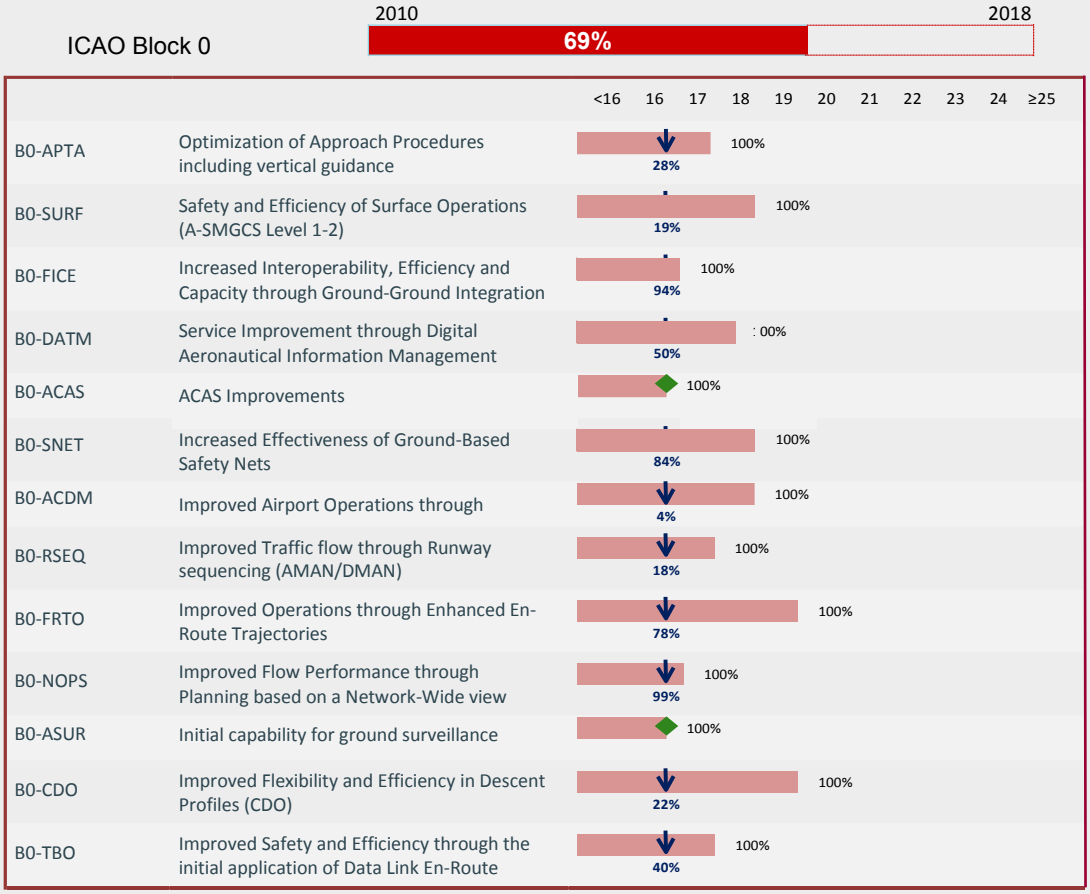
Belgium(BE)



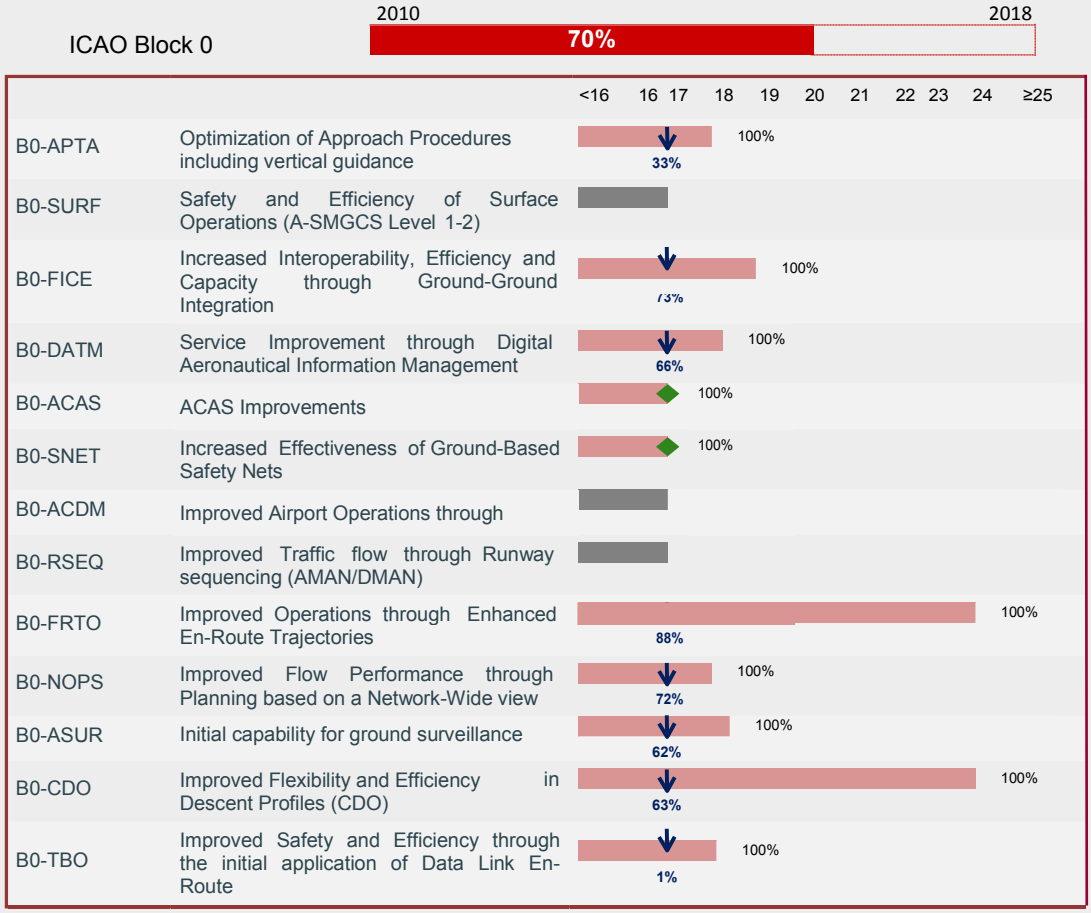
Bulgaria(BG)



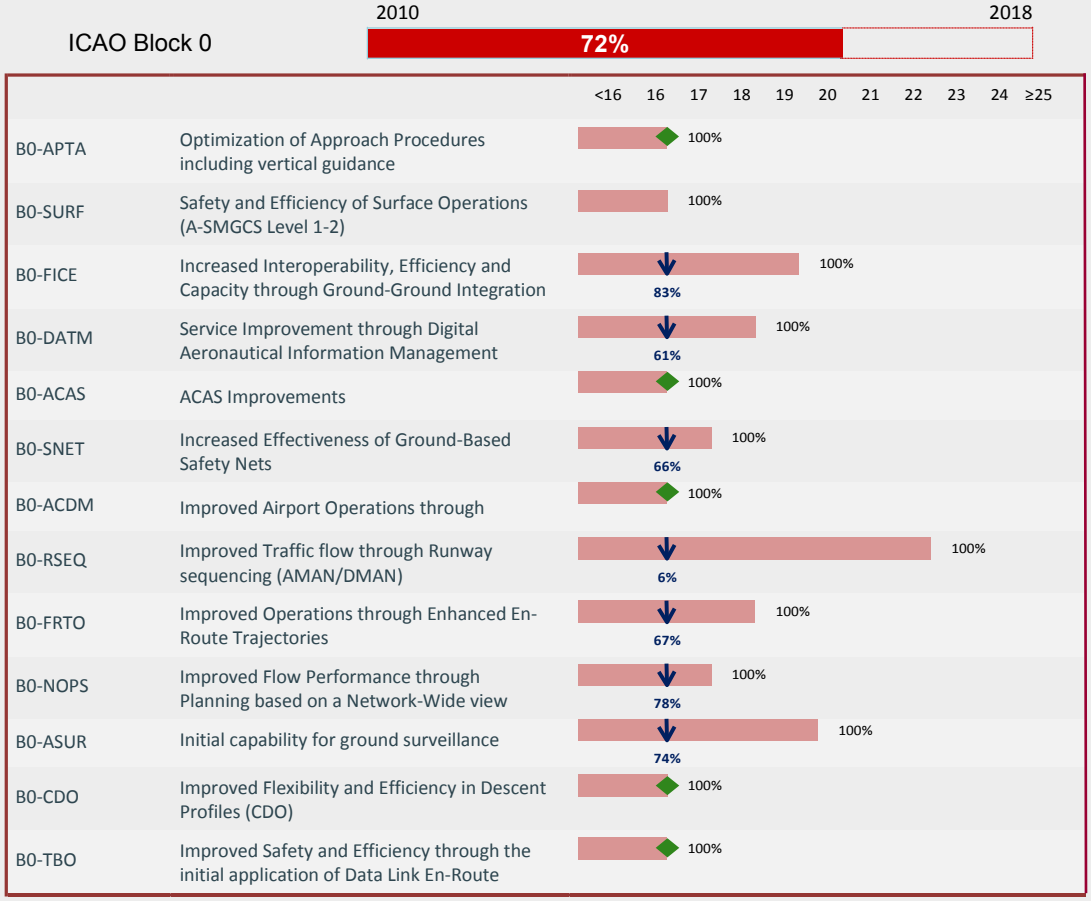
Croatia(HR)



Cyprus(CY)



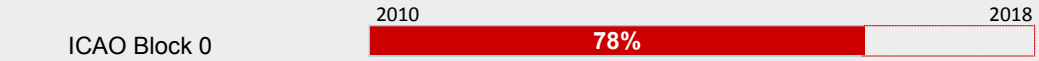
Czech Republic(CZ)



Denmark(DK)

		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	100%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	100% 94%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	100% 56%
B0-ACAS	ACAS Improvements	100%
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100%
B0-ACDM	Improved Airport Operations through	100%
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	100%
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100% 87%
B0-ASUR	Initial capability for ground surveillance	100% 89%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100% 91%

Estonia(EE)

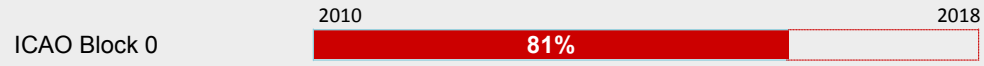


		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100% 0%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	100%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	100%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	100% 86%
B0-ACAS	ACAS Improvements	100%
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100% 66%
B0-ACDM	Improved Airport Operations through	100% 0%
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	100%
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100% 68%
B0-ASUR	Initial capability for ground surveillance	100% 86%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100% 85%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100% 52%

Finland(FI)

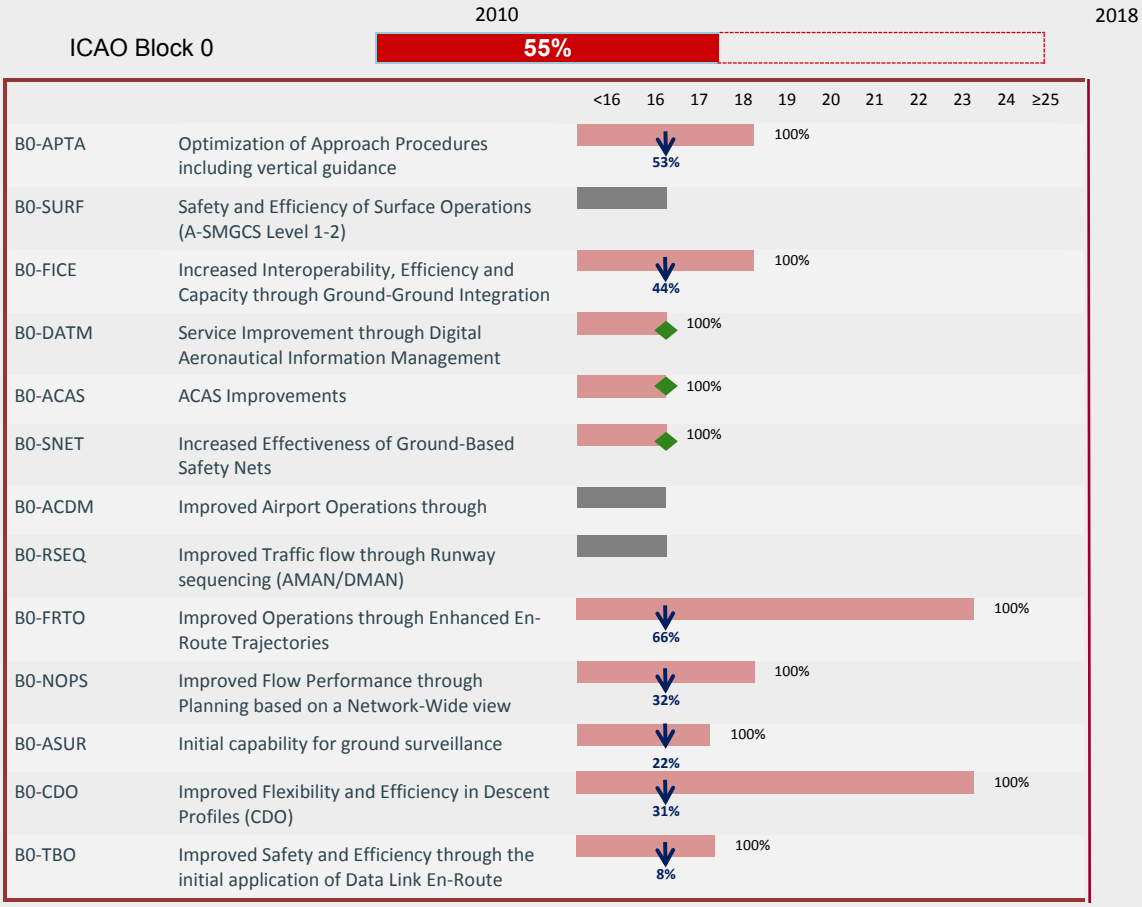
		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance		100%									
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		82%	100%								
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		81%	100%								
B0-DATM	Service Improvement through Digital Aeronautical Information Management		24%				100%					
B0-ACAS	ACAS Improvements		100%									
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets		100%									
B0-ACDM	Improved Airport Operations through		100%									
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)		100%									
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories		94%	100%								
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view		99%	100%								
B0-ASUR	Initial capability for ground surveillance		86%					100%				
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)		100%									
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route		38%	100%								

France(FR)

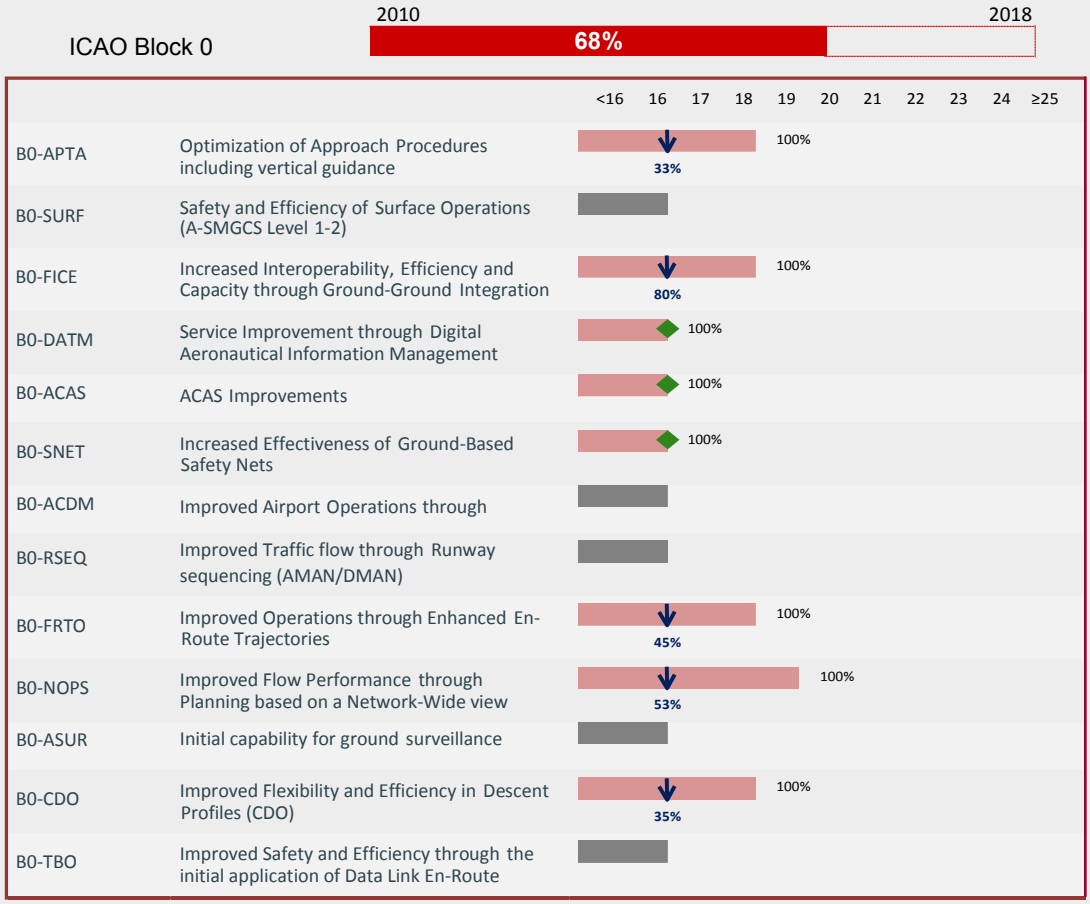


		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance		99%	100%								
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		60%				100%					
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		59%				100%					
B0-DATM	Service Improvement through Digital Aeronautical Information Management		62%							100%		
B0-ACAS	ACAS Improvements		95%	100%								
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets		100%									
B0-ACDM	Improved Airport Operations through		75%	100%								
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)		89%	100%								
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories		94%	100%								
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view		86%	100%								
B0-ASUR	Initial capability for ground surveillance		81%					100%				
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)		100%									
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route		90%							100%		

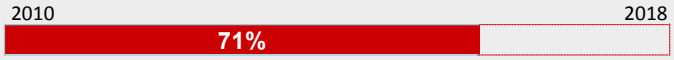
FYROM(MK)



Georgia(GE)



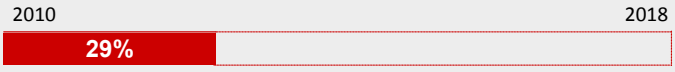
Germany(DE)



ICAO Block 0

		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	100% 66%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	100% 77%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	100% 34%
B0-ACAS	ACAS Improvements	100%
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100%
B0-ACDM	Improved Airport Operations through	100%
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	100% 62%
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100% 80%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100%
B0-ASUR	Initial capability for ground surveillance	100% 64%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100% 89%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100%

Greece(GR)



ICAO Block 0

		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100% 11%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	100% 28%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	100% 26%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	100% 12%
B0-ACAS	ACAS Improvements	100% 93%
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100% 4%
B0-ACDM	Improved Airport Operations through	100% 0%
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100% 45%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100%
B0-ASUR	Initial capability for ground surveillance	100% 13%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100% 33%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100% 11%

Hungary(HU)

ICAO Block 0

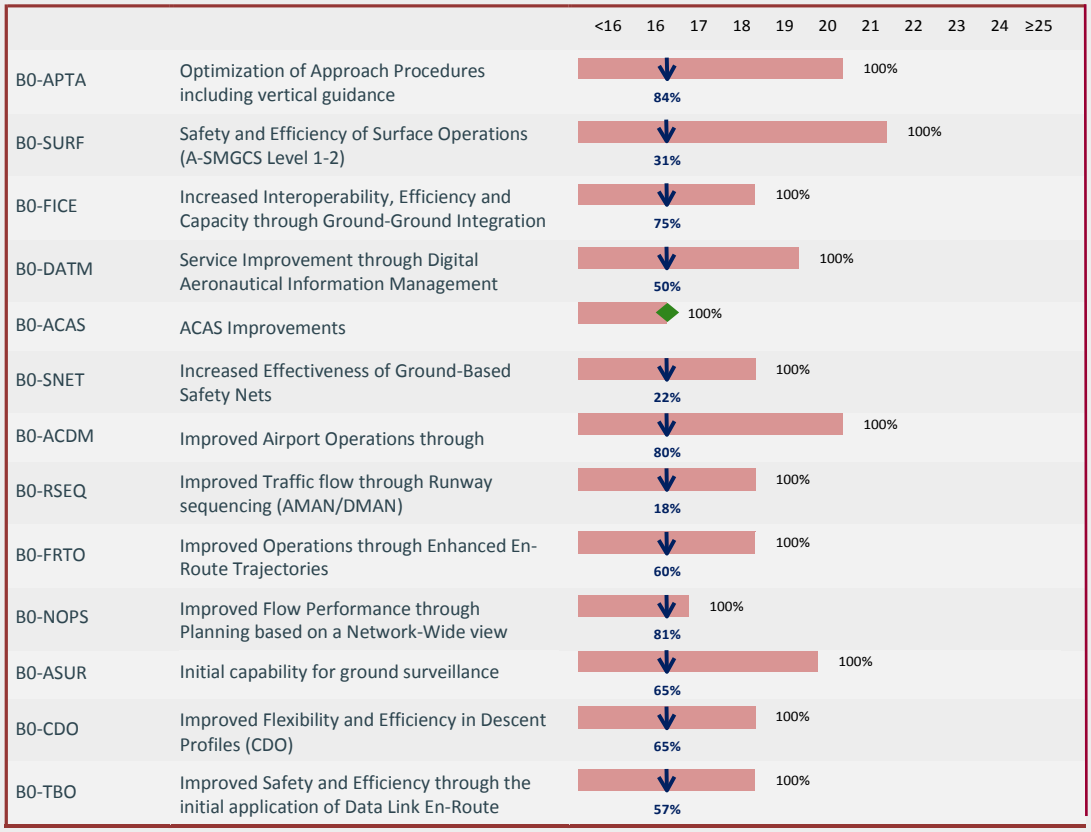
		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100% 67%										
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		100% 75%									
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		100% 67%									
B0-DATM	Service Improvement through Digital Aeronautical Information Management		100% 39%									
B0-ACAS	ACAS Improvements			100%								
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets			100%								
B0-ACDM	Improved Airport Operations through		100% 38%									
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)			100% 18%								
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100% 90%										
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view			100% 81%								
B0-ASUR	Initial capability for ground surveillance			100% 81%								
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100% 84%										
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route				100%							

Ireland(IE)

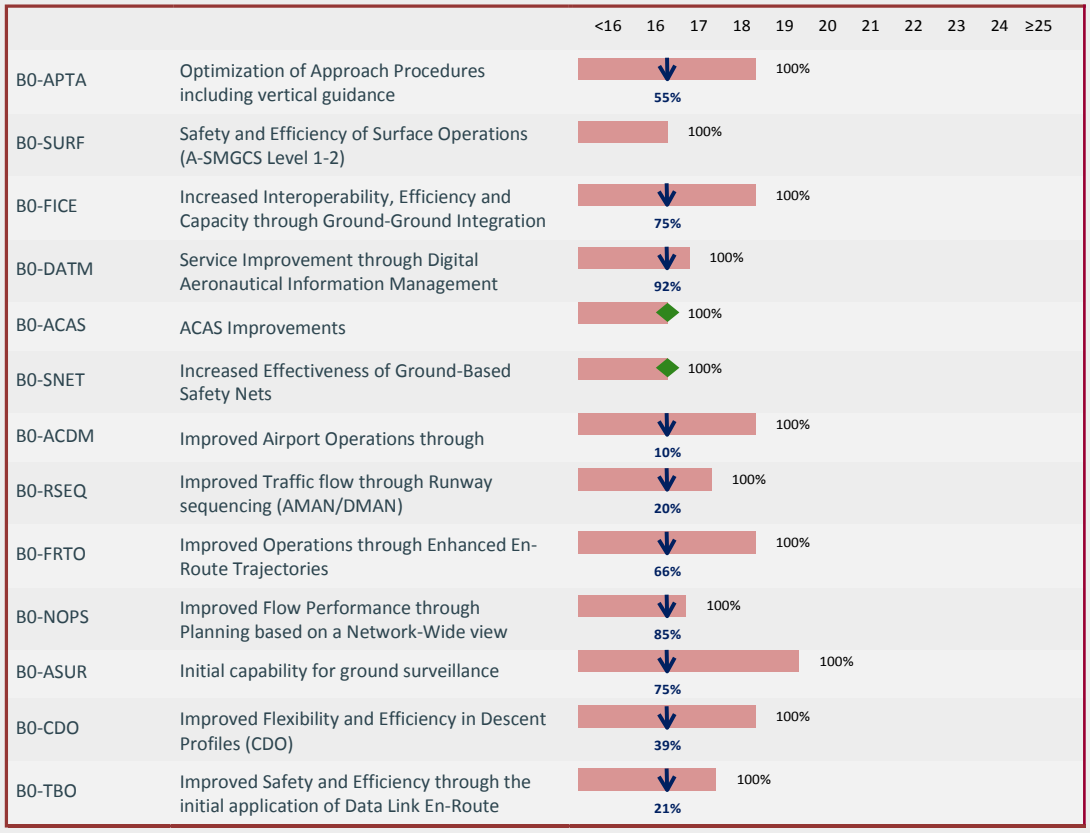
ICAO Block 0

		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance		100% 78%									
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)			100%								
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration			100%								
B0-DATM	Service Improvement through Digital Aeronautical Information Management			100% 54%								
B0-ACAS	ACAS Improvements			100%								
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets			100%								
B0-ACDM	Improved Airport Operations through			100% 65%								
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)				100% 92%							
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories				100% 78%							
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view				100% 88%							
B0-ASUR	Initial capability for ground surveillance				100%							
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)				100%							
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route				100%							

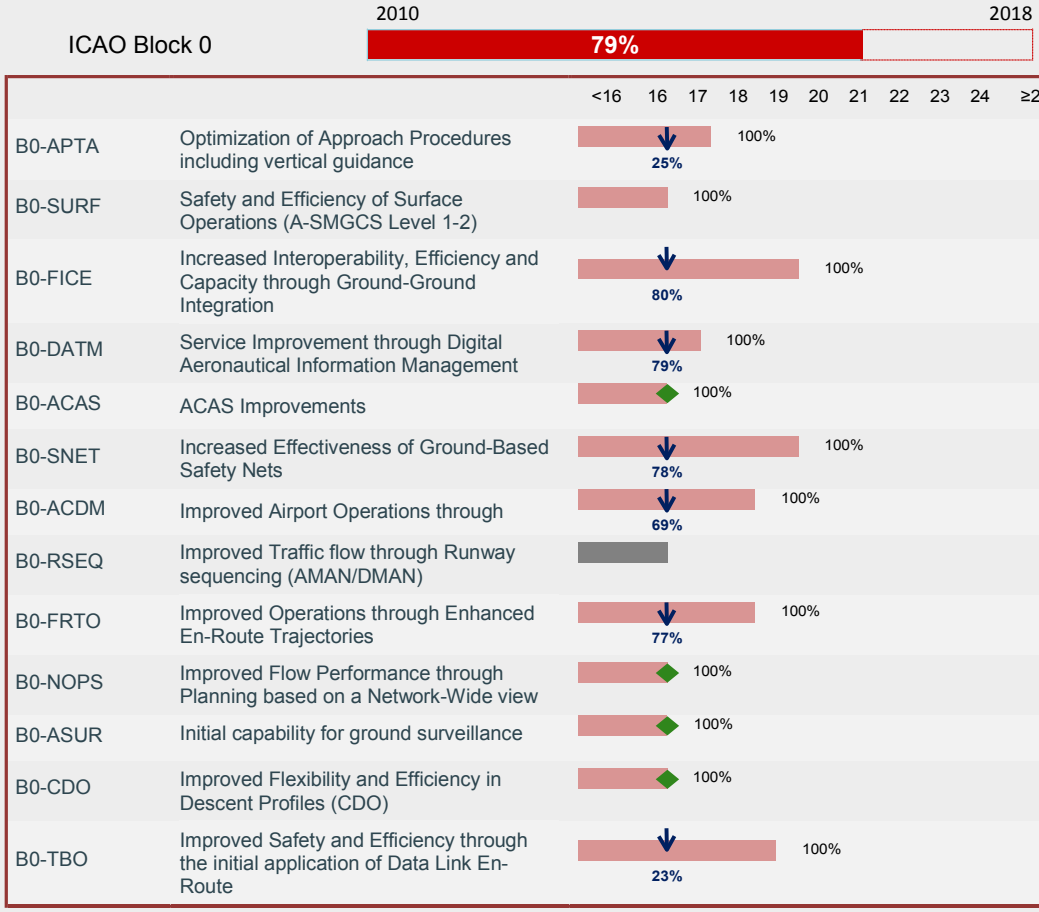
Italy(IT)



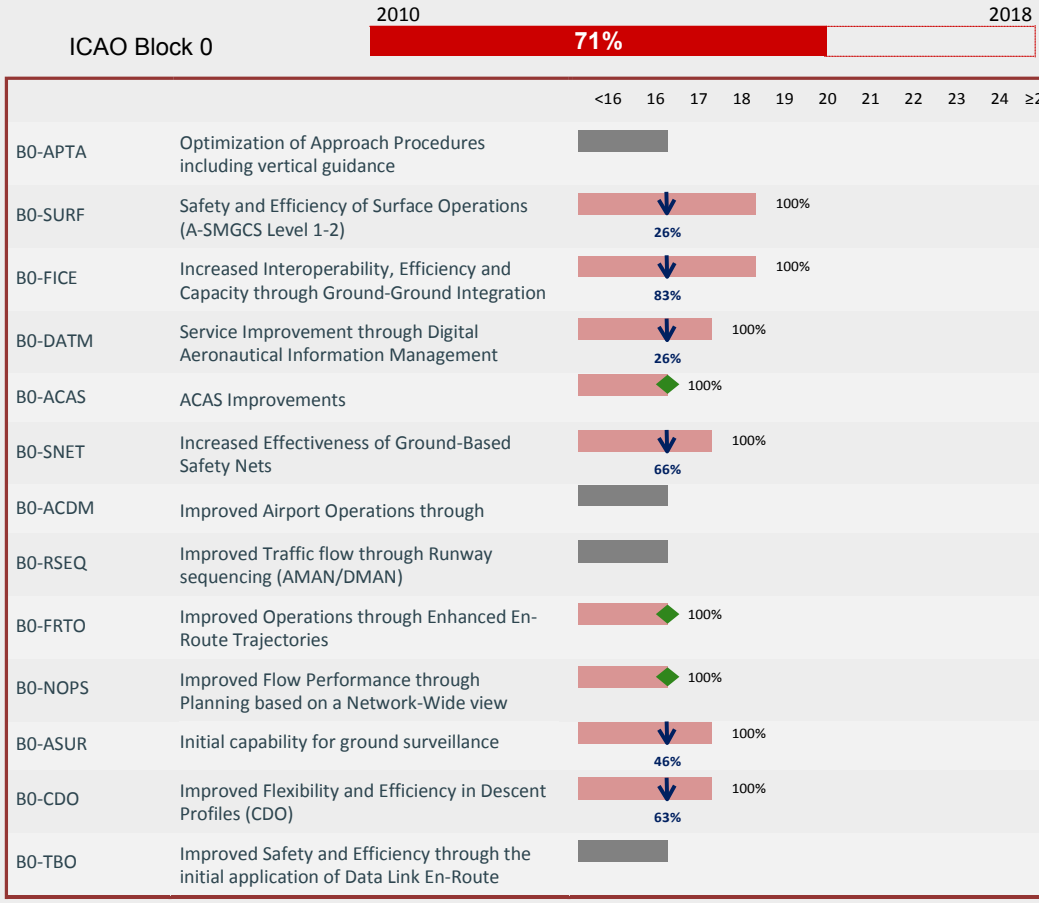
Latvia(LV)



Lithuania(LT)



Luxembourg(LU)



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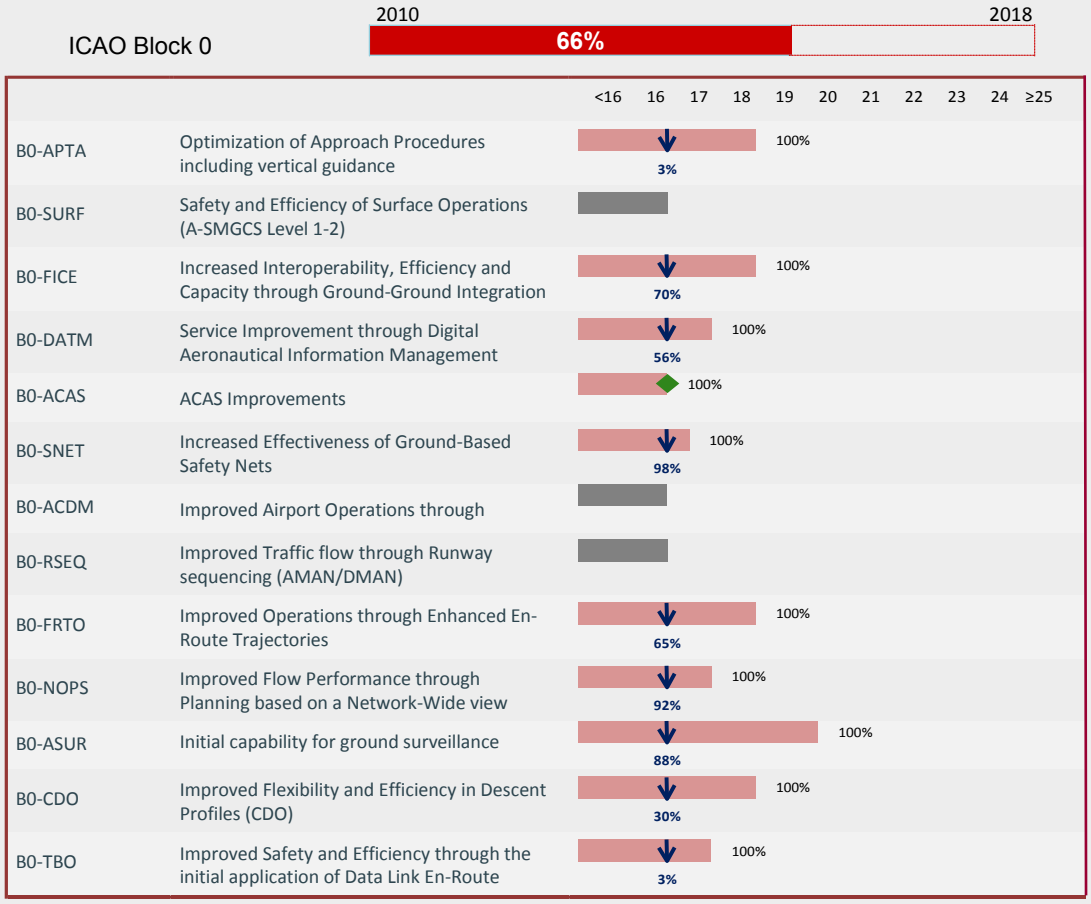
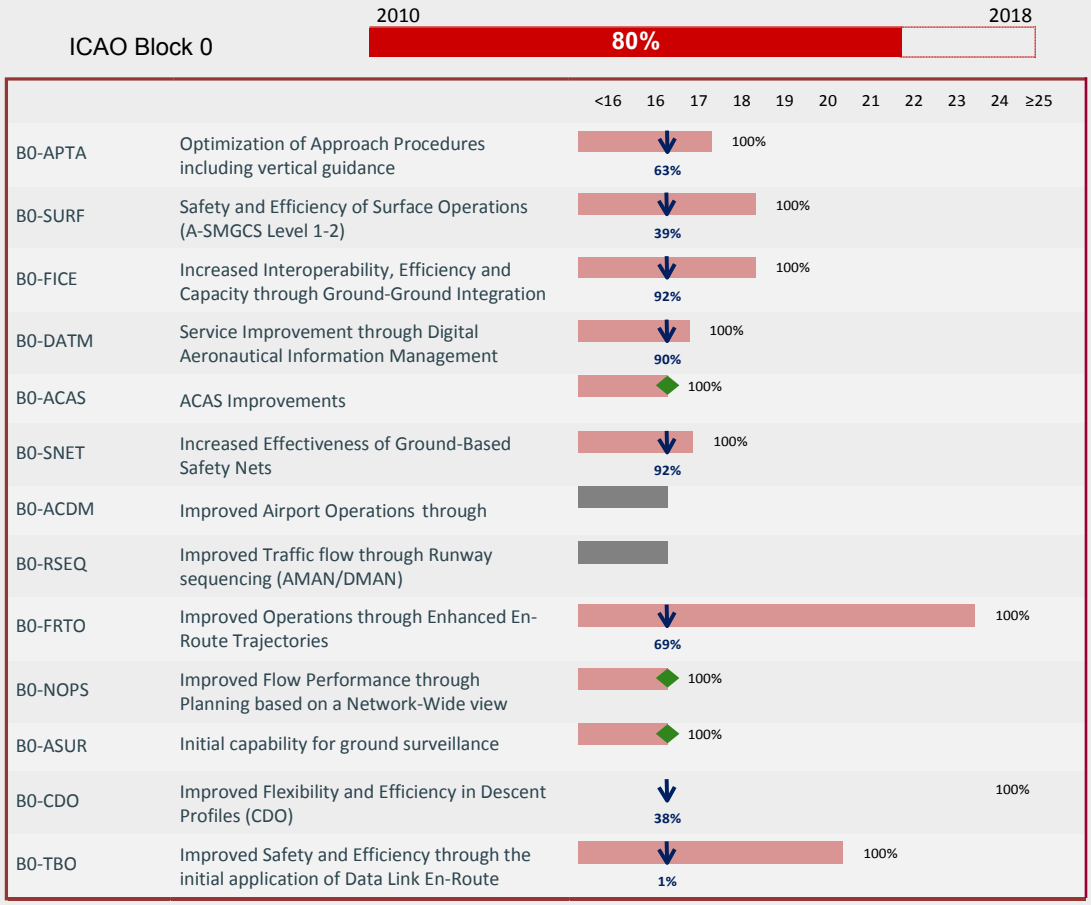


Moldova(MD)



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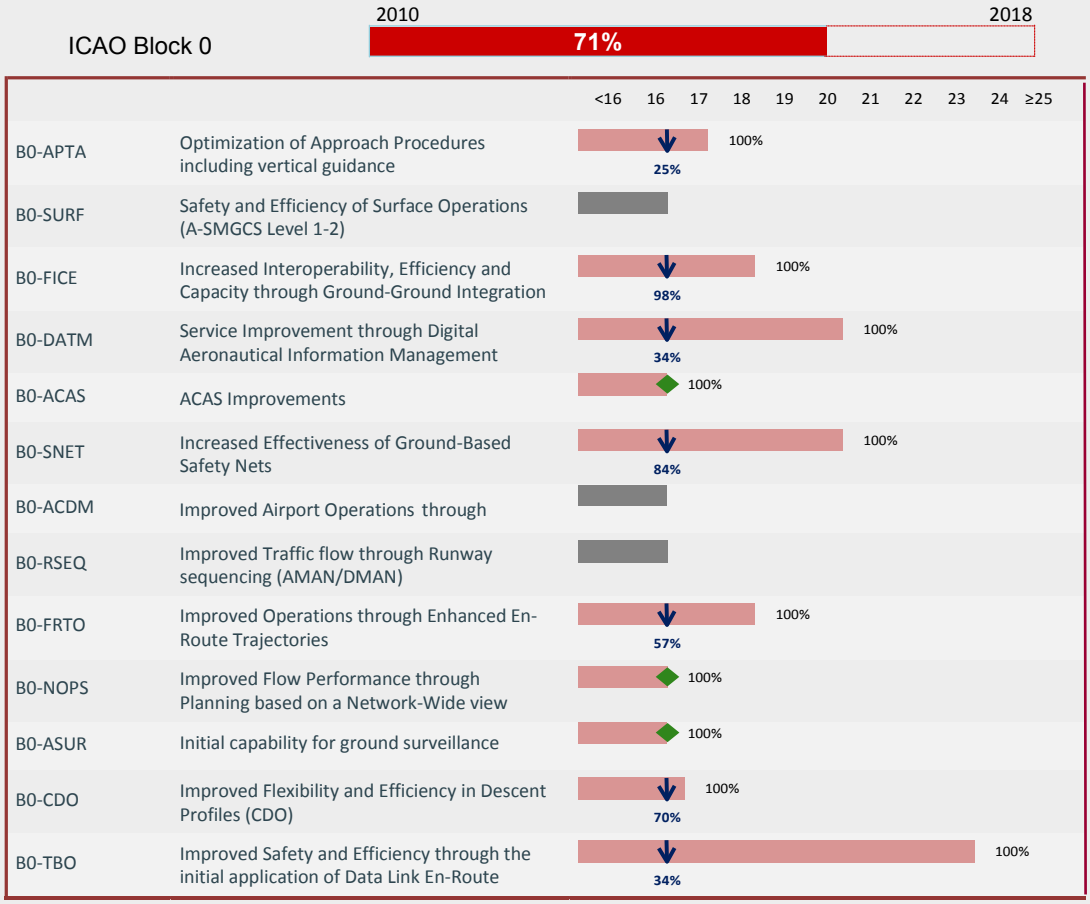
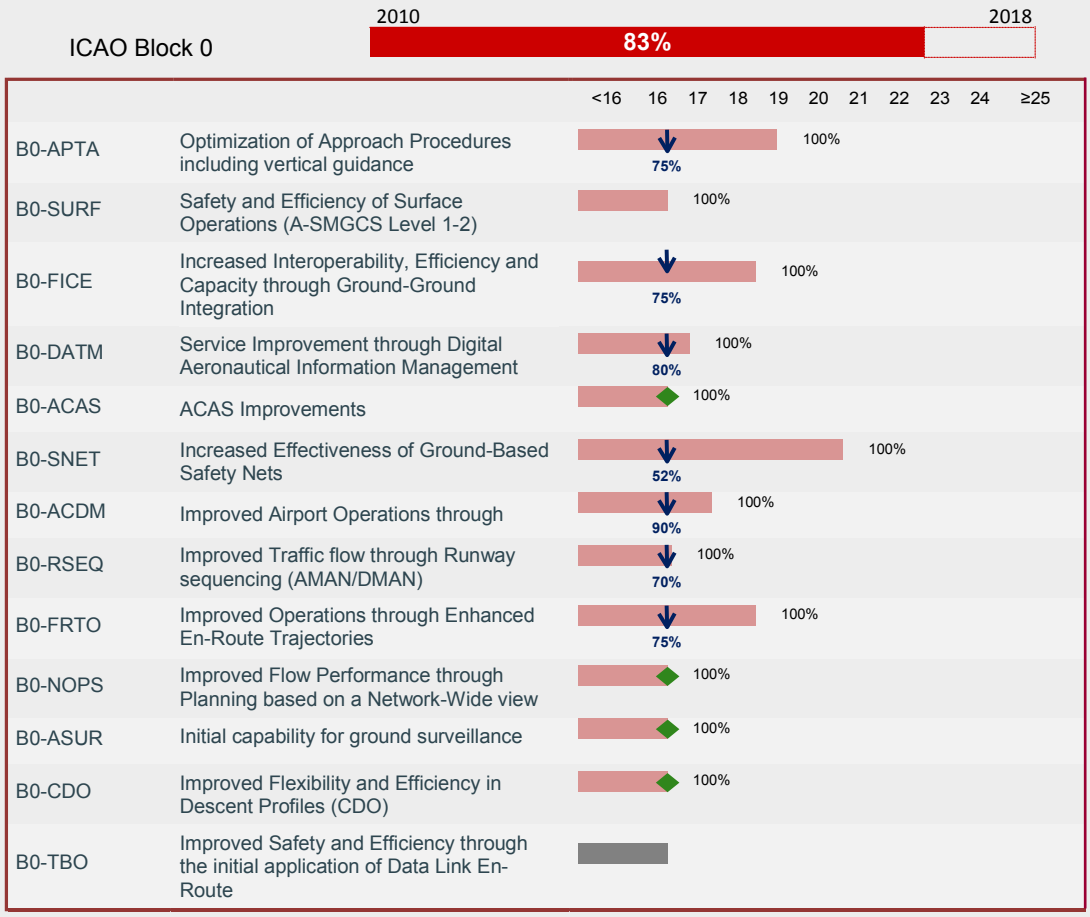


Netherlands(NL)



Norway(NO)

ICAO Block 0

		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance		60%		100%							
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)				100%							
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		70%				100%					
B0-DATM	Service Improvement through Digital Aeronautical Information Management		68%		100%							
B0-ACAS	ACAS Improvements		87%		100%							
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets		55%				100%					
B0-ACDM	Improved Airport Operations through		100%									
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)		100%									
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories		87%		100%							
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view		66%				100%					
B0-ASUR	Initial capability for ground surveillance		71%				100%					
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)		92%		100%							
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route		12%				100%					

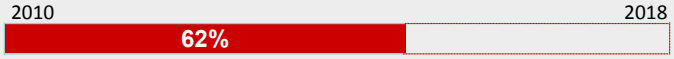
Poland(PL)

ICAO Block 0

		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance		78%		100%							
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)		6%		100%							
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		77%		100%							
B0-DATM	Service Improvement through Digital Aeronautical Information Management		53%		100%							
B0-ACAS	ACAS Improvements		87%				100%					
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets		95%		100%							
B0-ACDM	Improved Airport Operations through		85%		100%							
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)		5%		100%							
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories		87%		100%							
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view		92%		100%							
B0-ASUR	Initial capability for ground surveillance		65%				100%					
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)		100%									
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route		43%		100%							

Portugal(PT)

ICAO Block 0



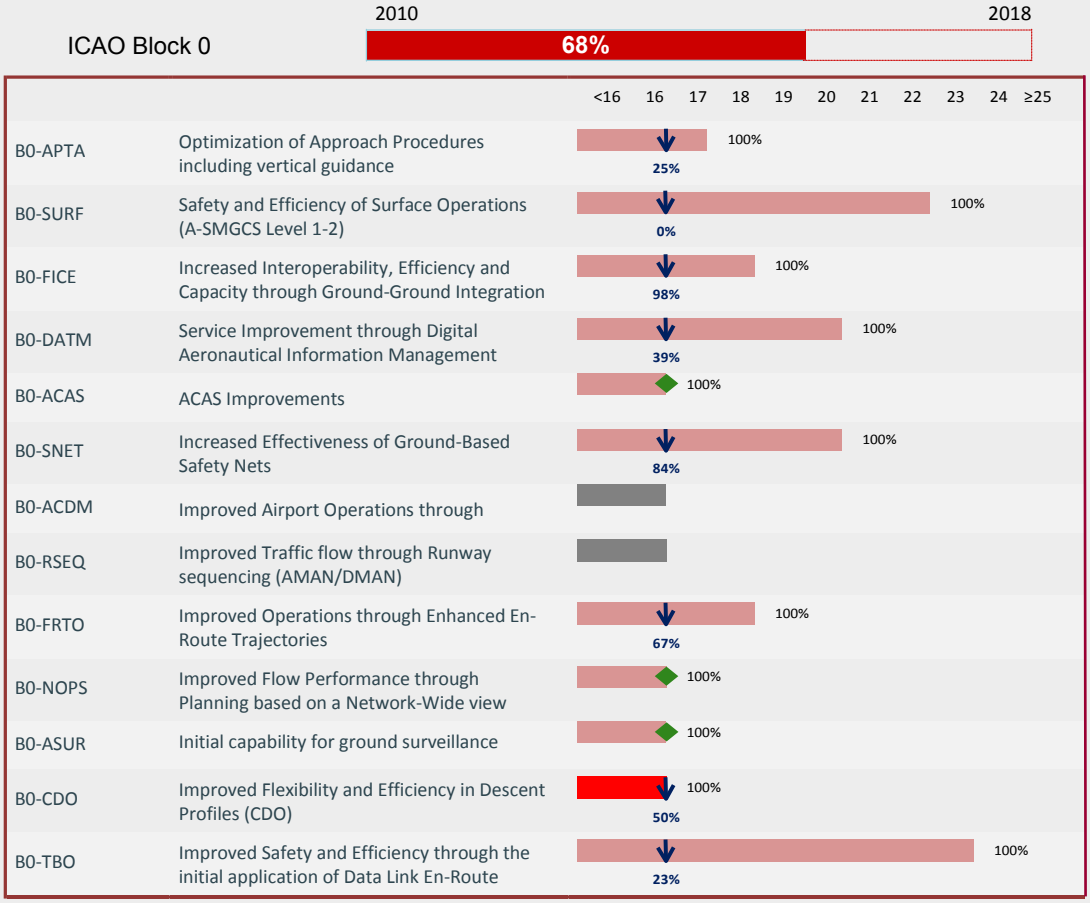
		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	100%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	100% 50%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	100% 27%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	100% 78%
B0-ACAS	ACAS Improvements	100%
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100% 66%
B0-ACDM	Improved Airport Operations through Airport - CDM	100% 63%
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	100% 20%
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100% 73%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100% 94%
B0-ASUR	Initial capability for ground surveillance	100% 93%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100% 27%

Romania(RO)

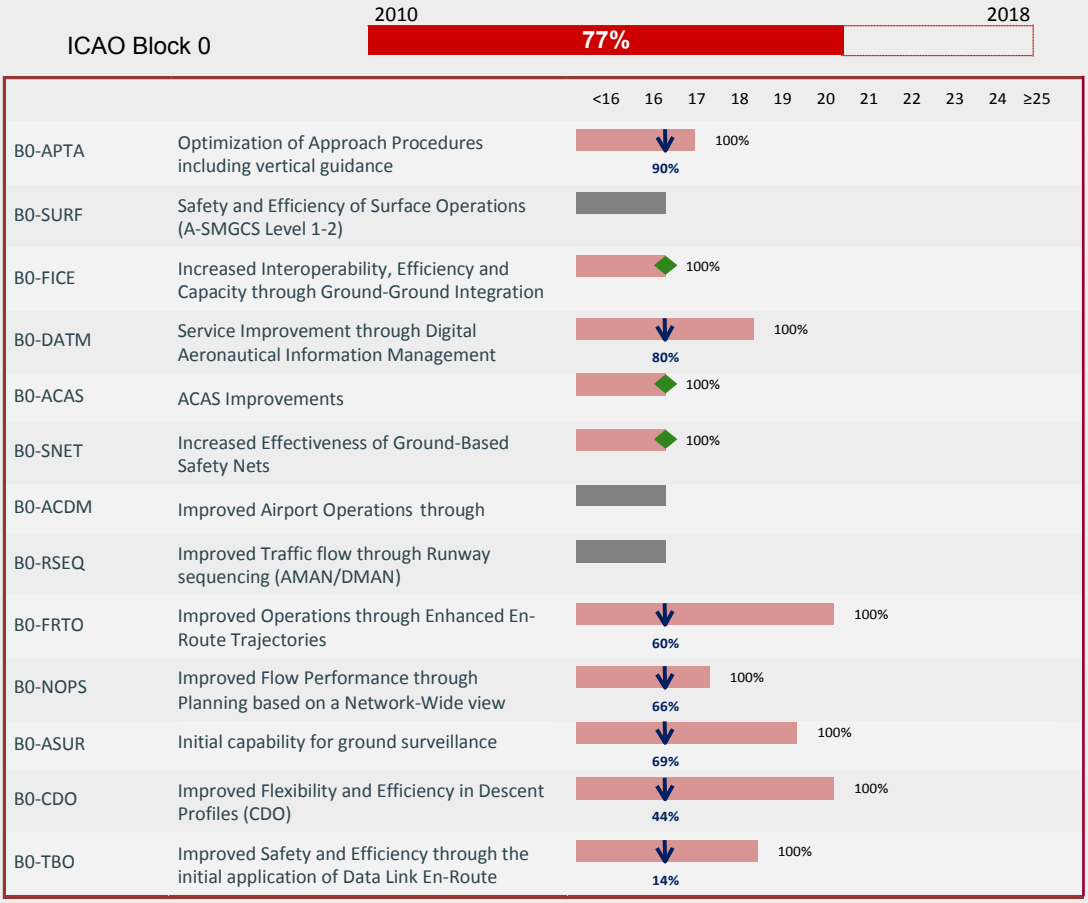
ICAO Block 0

		<16 16 17 18 19 20 21 22 23 24 ≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance	59%
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	76%
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	95%
B0-DATM	Service Improvement through Digital Aeronautical Information Management	28%
B0-ACAS	ACAS Improvements	
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	100% 88%
B0-ACDM	Improved Airport Operations through	
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)	100% 2%
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	100%
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	100% 96%
B0-ASUR	Initial capability for ground surveillance	100% 76%
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	100% 72%
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	100% 31%

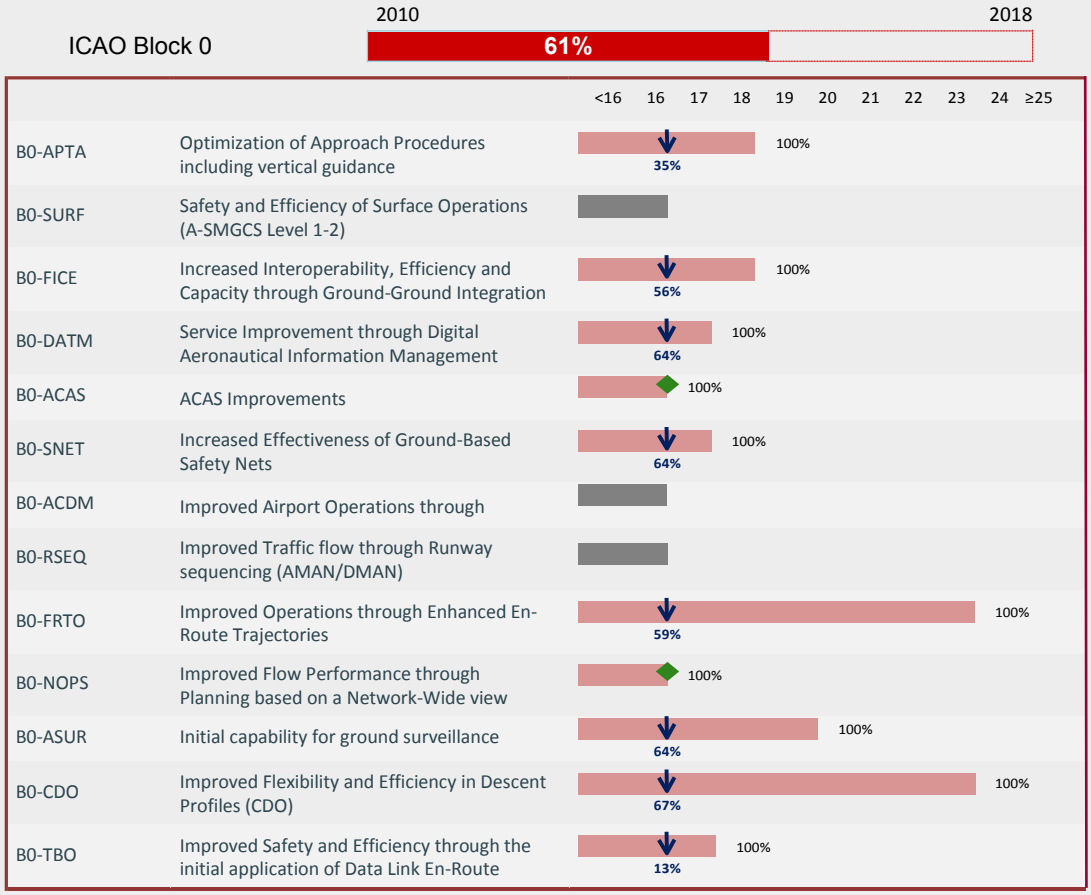
Serbia(RS)



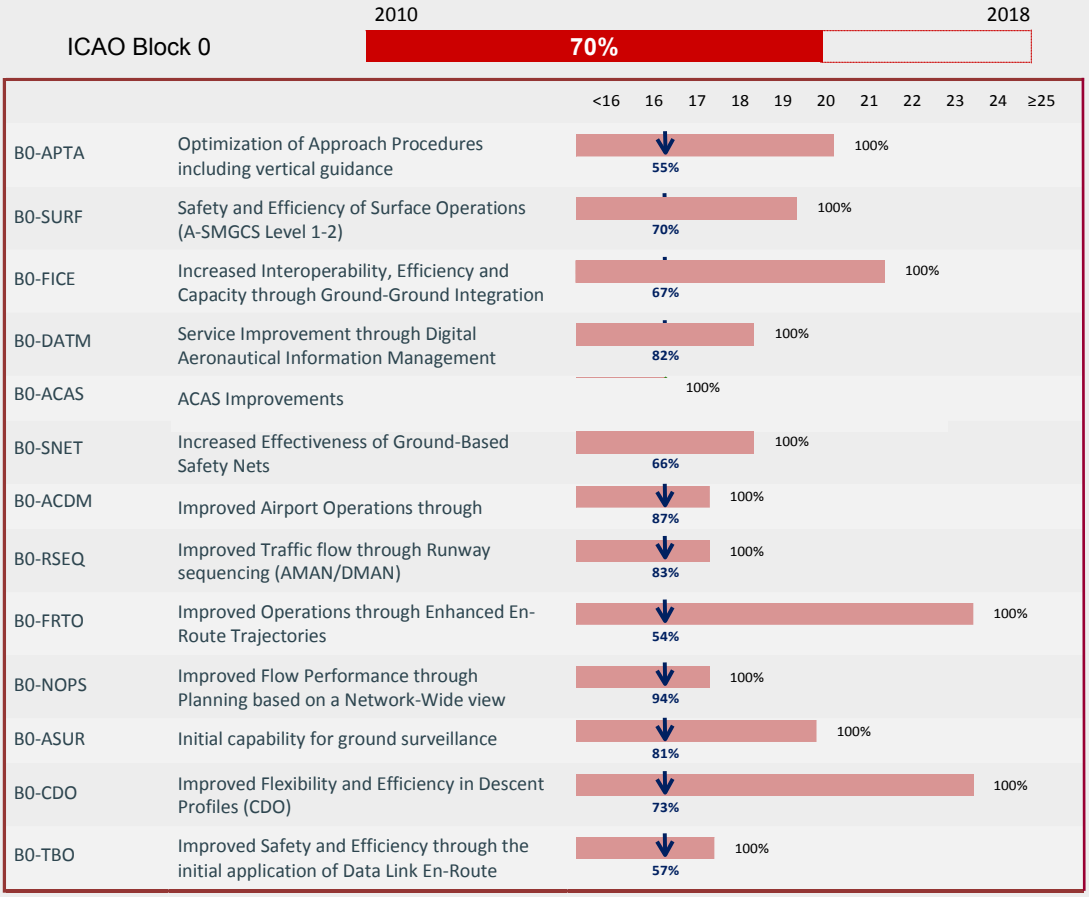
Slovak Republic(SK)



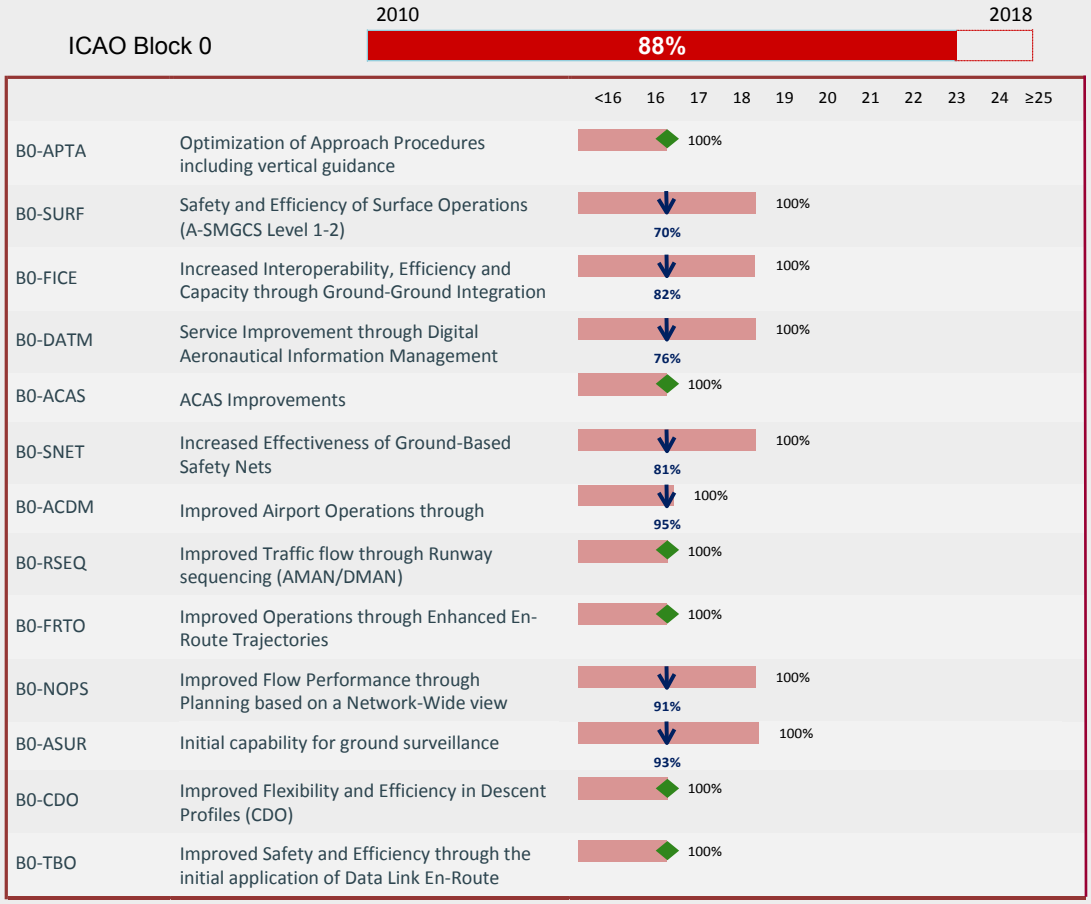
Slovenia(SI)



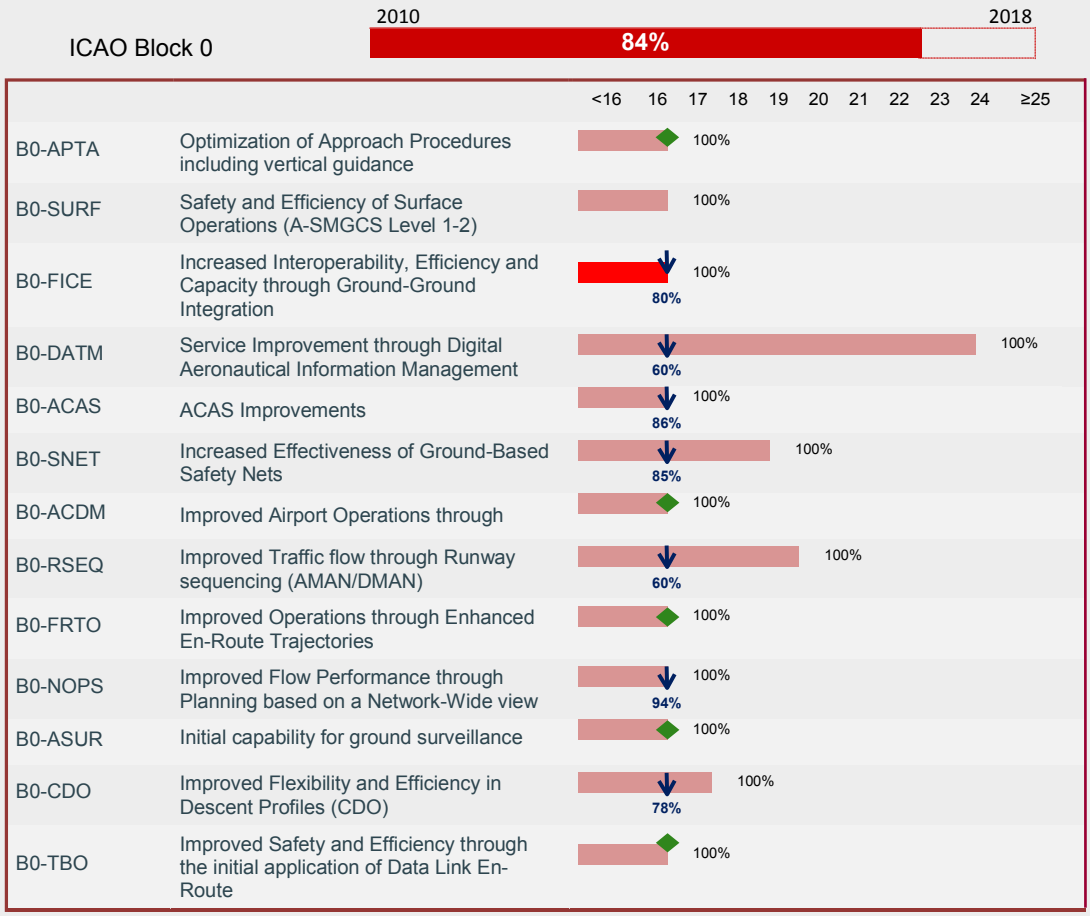
Spain(ES)



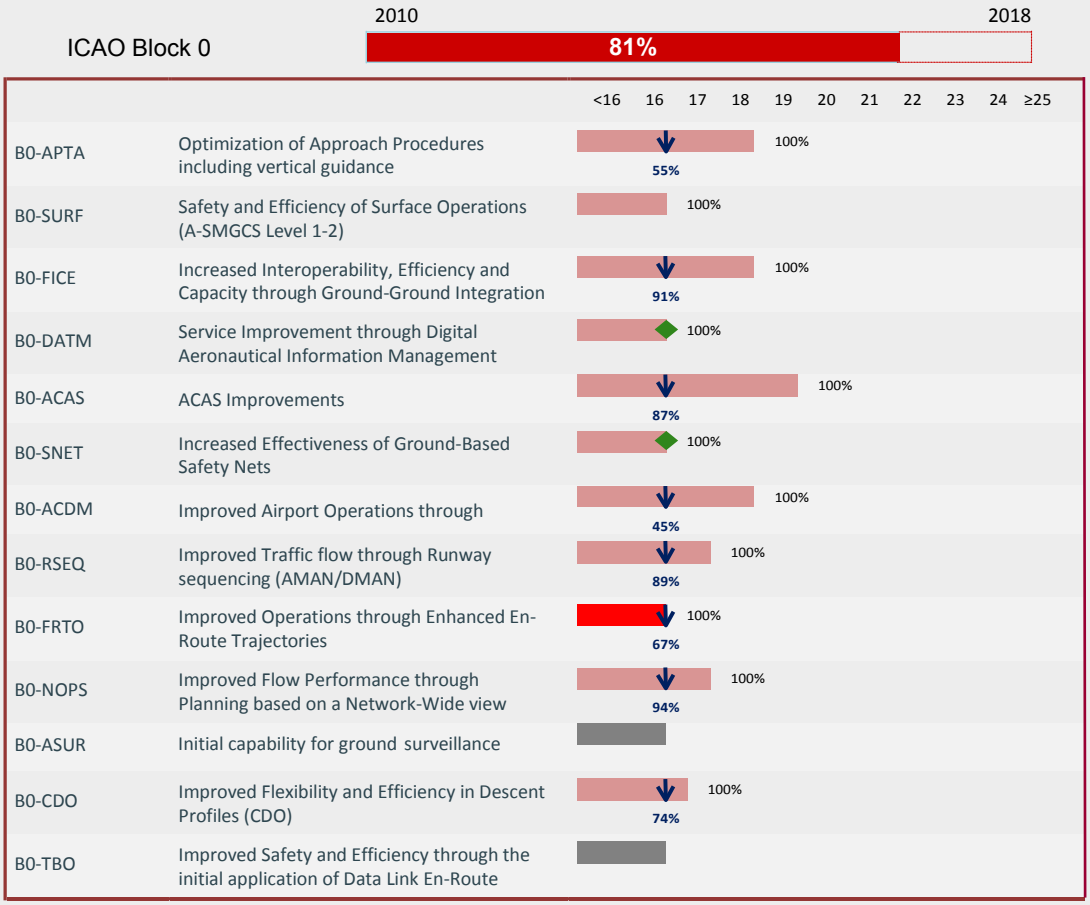
Sweden(SE)



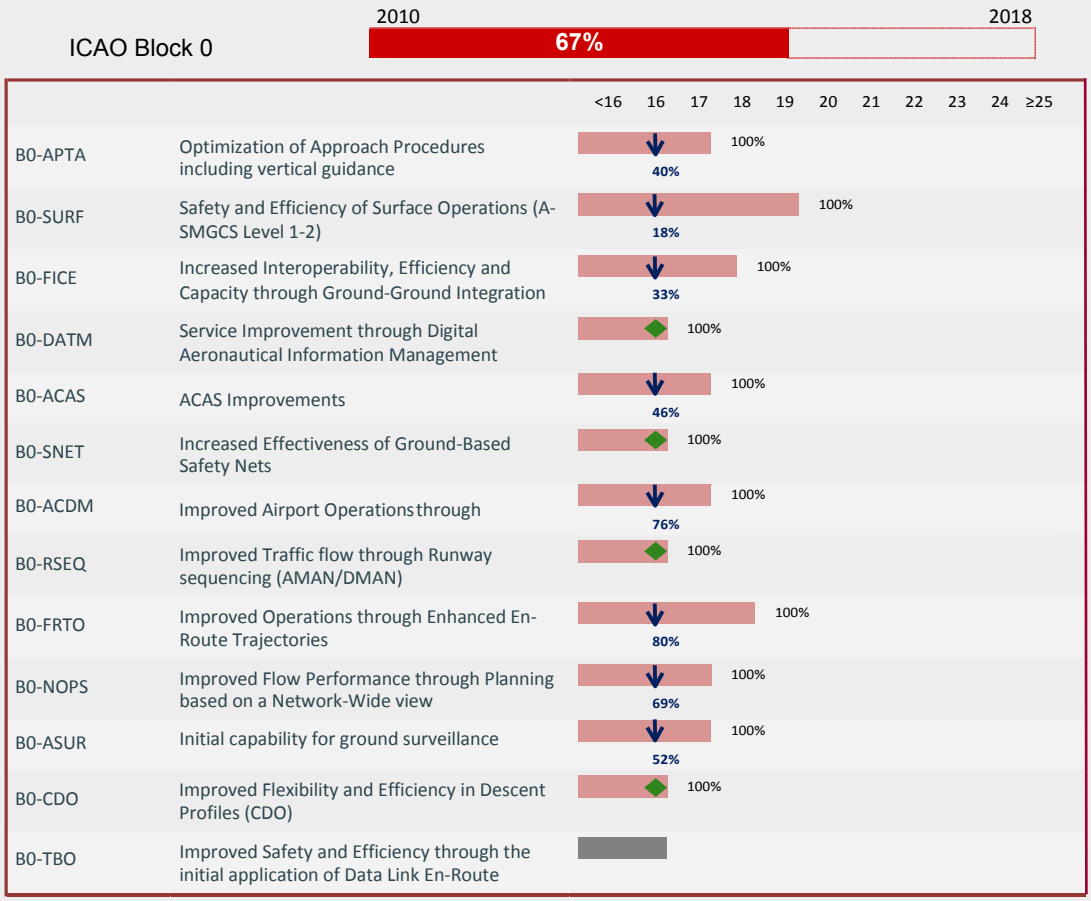
Switzerland(CH)



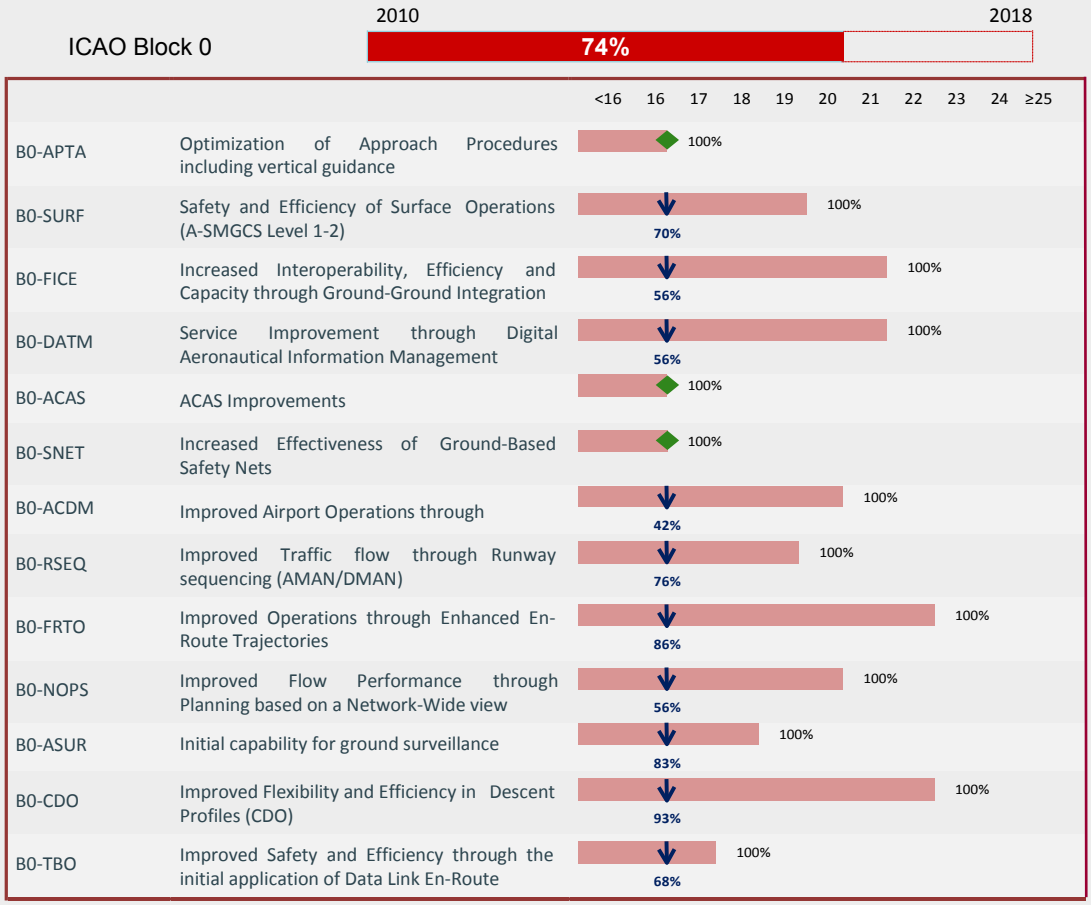
Turkey(TR)



Ukraine(UA)



United Kingdom(UK)



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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