Subject matter and scope

Implement, in en-route operations in selected ACCs, information exchange mechanisms, tools and procedures in support of basic AMAN operations in adjacent ACCs and/or subjacent TMAs (including, where relevant, support for AMAN operations involving airports located in adjacent ATSUs).

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

Applicability Area(s) & Timescale(s)

<table>
<thead>
<tr>
<th>Applicability Area</th>
<th>All EU States except: Cyprus, Greece, Latvia, Lithuania, Luxembourg, Malta, Slovak Republic, Slovenia. Plus: Bosnia and Herzegovina, Maastricht UAC, Norway, Switzerland, Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timescales:</td>
<td></td>
</tr>
<tr>
<td>Initial operational capability</td>
<td>From: 01/01/2012</td>
</tr>
<tr>
<td>Full operational capability</td>
<td>From: 31/12/2019</td>
</tr>
</tbody>
</table>

References

European ATM Master Plan

OJ step - [TS-0305]-Arrival Management Extended to En-Route Airspace

Enablers - ER APP ATC 111 HUM-TS-0305 PRO-052

Legend:

WXYZ-001 Covered by SLOA(s) in this objective
WXYZ-002 Covered by SLOA(s) in another objective
WXYZ-03 Not covered in the Implementation Plan

Applicable legislation

- none -

ICAO GANP – ASBUs

B0-RSEQ Improved Runway Traffic Flow through Sequencing (AMAN/DMAN)

Deployment Programme

1.1.2 AMAN Upgrade to include Extended Horizon function

Stakeholder Lines of Action (SLOAs)

<table>
<thead>
<tr>
<th>SloA ref.</th>
<th>Title</th>
<th>From</th>
<th>By</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATC15.1-ASP01</td>
<td>Develop safety assessment for the changes</td>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
<tr>
<td>ATC15.1-ASP02</td>
<td>Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs</td>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
<tr>
<td>ATC15.1-ASP03</td>
<td>Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality</td>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
<tr>
<td>ATC15.1-ASP04</td>
<td>Train operational and technical staff and update Training Plans</td>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
<tr>
<td>ATC15.1-ASP05</td>
<td>Revise and publish Aeronautical Information documents</td>
<td>DELETED</td>
<td></td>
</tr>
</tbody>
</table>

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Implementation Plan Edition 2018
## Safety:
Maintained or improved.

## Capacity:
Improved airport/TMA capacity.

## Operational Efficiency:
Reduction in holding and in low-level vectoring, by applying delay management at an early stage of flight, reduces delay and has a positive effect on fuel burn.

## Cost Efficiency:
-

## Environment:
Reduction in holding and in low-level vectoring, by applying delay management at an early stage of flight, has a positive environmental effect in terms of noise and CO2 emissions.

## Security:
N/A

### Detailed SLoA Descriptions

#### ATC15.1-ASP01
**Develop safety assessment for the changes**

<table>
<thead>
<tr>
<th>From:</th>
<th>To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
</tbody>
</table>

**Action by:** ANS Providers

**Description & purpose:**
Develop safety assessment of the changes, notably ATC systems and procedures that will implement arrival management functionality in En-Route sectors and associated procedures.

The tasks to be done are as follows:
- Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks;
- Develop safety assessment;
- Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2.

This safety assessment shall be based on fully validated/recognised method.

**Supporting material(s):**
  - [Url](http://www.eurocontrol.int/articles/safety-assessment-methodology-sam)
- EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001
  - [Url](http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm)
- EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010
  - [Url](http://www.eurocontrol.int/articles/safety-assessment-methodology-sam)

**Finalisation criteria:**
1 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.

#### ATC15.1-ASP02
**Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs**

<table>
<thead>
<tr>
<th>From:</th>
<th>To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
</tbody>
</table>

**Action by:** ANS Providers

**Description & purpose:**
Implement, in selected ATC systems, the necessary functionality and information exchanges to support the use of AMAN information in En-Route sectors requiring data exchange generated from AMAN systems and operations in adjacent/subjacent TMAs.

**Supporting material(s):**
- EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations - Edition 1.0 / 06/2009
  - [Url](http://www.eurocontrol.int/articles/fasti-documents)
- EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999
  - [Url](http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)

**ATM Master Plan relationship:**
[ER APP ATC 111]-Enhance AMAN to provide arrival sequence time information into En-Route decision making.

**Finalisation criteria:**
1 - ATC systems are either:
   - Already compliant to AMAN use in En-Route; or
   - have functionality implemented to support the necessary exchange of information needed to support AMAN operations in En-Route airspace that is interfacing with AMANs in adjacent/subjacent areas.
2 - ANSPs have described the level of system support and functionality with direct reference to the relevant complexity level as defined in the AMAN Information Extension to En-Route Sectors- Concept - documentation.

#### ATC15.1-ASP03
**Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality**

<table>
<thead>
<tr>
<th>From:</th>
<th>To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/2012</td>
<td>31/12/2019</td>
</tr>
</tbody>
</table>

**Action by:** ANS Providers

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*Implementation Plan Edition 2018*
<table>
<thead>
<tr>
<th>ATC15.1</th>
<th>Information Exchange with En-route in Support of AMAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description &amp; purpose:</strong></td>
<td>Define, validate and implement the necessary ATC procedures in selected En-Route airspace/sectors, to support the use of AMAN information in En-Route sectors that are interfacing with AMAN systems operating in adjacent/subjacent TMAs.</td>
</tr>
</tbody>
</table>
| **Supporting material(s):** | EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations - Edition 1.0 / 06/2009  
Url: [http://www.eurocontrol.int/articles/fasti-documents](http://www.eurocontrol.int/articles/fasti-documents)  
EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999  
| **ATM Master Plan relationship:** | (PRO-052): ATC Procedures for extending sequencing for TMA into the en-route sectors |
| **Finalisation criteria:** | 1 - Procedures have been implemented, documented and are in operational use.  
2 - ANSPs have defined, validated and implemented procedures directly related to the relevant complexity level chosen (ref. SLoA ATC15-ASP02), as defined in the AMAN Information Extension to En-Route Sectors Concept documentation. |

<table>
<thead>
<tr>
<th>ATC15.1-ASP04</th>
<th>Train operational and technical staff and update Training Plans</th>
<th>From: 01/01/2012</th>
<th>By: 31/12/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action by:</strong></td>
<td>ANS Providers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Description & purpose:** | Train operational staff in the use of ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality in support of AMAN in adjacent/subjacent TMAs.  
The tasks to be done are as follows:  
- Develop a training package (material);  
- Update the training plans;  
- Determine staff population to be trained;  
- Apply the training plans. |
| **Finalisation criteria:** | 1 - The training plans have been updated and a training package has been developed by the ANSP.  
2 - All concerned personnel have been trained. |