Subject matter and scope

The AIS and MET information provided to pilots and dispatchers as pre-flight briefing products and services needs to become more user-friendly: easier to understand, better prioritised, with the aim to improve the pilot awareness and to reduce the workload.

Traditionally, the pre-flight briefing takes the form of a “Pre-flight Information Bulletin (PIB), which may comprise up to 30-40 pages of NOTAM messages, all in upper case. Filtering and prioritisation are significantly limited by the free text nature of the NOTAM message. MET messages may be embedded in textual format as well, while weather maps are presented separately.

This implementation objective consists of an innovative approach to pilot briefing through the use of digital aeronautical data, in particular Digital NOTAM (encoded as “events” in AIXM format), and digital MET data (METAR, TAF, SIGMET in the ICAO IWXXM format). The AIS and MET information provided to pilots and dispatchers in the form of digital briefing products and services, will be merged (joint) with the geographical and planned flight trajectory information, and presented (visualised) in a graphical way.

The digital integrated briefing will introduce the following key changes:
- generation of the briefing products from digital aeronautical data (in particular from Digital NOTAM) instead of providing a list of NOTAM messages;
- extensive graphical presentation of the information that affects elements that are usually displayed on aeronautical maps (taxiway/runway/apron closures, navaids unserviceable, temporary obstacles, airspace restrictions, etc.);
- use of normal sentence case for the textual/tabular part of the briefing;
- joint presentation of the aeronautical and MET events that may have a combined effect on the flight trajectory (such as airspace restrictions and significant weather);
- the possibility for interactive briefing, thus allowing the pilot/dispatcher to highlight/prioritise information that is more relevant for each individual flight.

The digital integrated briefing is currently targeted for ground use (FOC/WOC, pre-flight briefing rooms and ARO offices). Some enablers (Digital NOTAM and digital MET data) support the use in the cockpit, in all phases of flight, while enablers for transmission into the cockpit are not yet mature (see IS-0206 Digital Integrated Briefing during flight execution phase).

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) & Operating Environment

<table>
<thead>
<tr>
<th>Applicability Area</th>
<th>Subject to local need.</th>
</tr>
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<tbody>
<tr>
<td>Timescales:</td>
<td>From:</td>
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<tr>
<td>Initial operational capability</td>
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<tr>
<td>Full operational capability</td>
<td>N/A</td>
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European ATM Master Plan

SESAR Solution: SESAR Solution #34 – Digital Integrated Briefing

OI step - [IS-0205] - Digital Integrated Briefing for pre-flight phase

<table>
<thead>
<tr>
<th>Enablers -</th>
<th>AIMS-06</th>
<th>AIMS-07a</th>
<th>AIMS-19a</th>
<th>METEO-04b INFO8.1</th>
<th>METEO-05b INFO8.1</th>
<th>REG-0301</th>
<th>SWIM-APS-01a INFO8.1</th>
<th>SWIM-APS-02a INFO8.1</th>
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</table>

Legend: Wxyz-001 Covered by SLoA(s) in this objective Wxyz-002 Covered by SLoA(s) in another objective Wxyz-003 Not covered in the Implementation Plan

References

References:

European ATM Master Plan

SESAR Solution: SESAR Solution #34 – Digital Integrated Briefing
Applicable legislation

The EC implementing Regulation No 73/2010 (Aeronautical Data Quality) is going to be repealed by the EASA RMT.0477 for which EASA issued Opinion No 02/2018 (Specific requirements for providers of meteorological services, aeronautical information services/aeronautical information management) and which covers Digital NOTAM.

ICAO Annex 3 Meteorological Service for International Air Navigation (including Amendment 77-A)

ICAO Annex 15 Aeronautical Information Services

Procedures for Air Navigation Services - Aeronautical Information Management (PANS-AIM)

ICAO GANP – ASBUs

B1-DATM Service Improvement through Integration of all Digital ATM Information

B1-SWIM Performance improvement through the application of SWIM

Deployment Programme

-none-

Network Strategy Plan

SO2/5 - Implement the European ATM Information Management Service (EAIMS) as the common reference for aeronautical and airspace data

EPAS

TBA

Operating Environment: Airport, Network

Stakeholder Lines of Action (SLoAs)

<table>
<thead>
<tr>
<th>SloA ref.</th>
<th>Title</th>
<th>From</th>
<th>By</th>
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</thead>
<tbody>
<tr>
<td>INF09-INT01</td>
<td>Develop the standards for the use of digital NOTAM</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>INF09-INT02</td>
<td>Develop regulatory material for the use of digital NOTAM</td>
<td>N/A</td>
<td>N/A</td>
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<td>INF09-ASP01</td>
<td>Update the systems to receive and distribute AIS and MET information electronically</td>
<td>N/A</td>
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<tr>
<td>INF09-ASP02</td>
<td>Provide airspace users with pre-flight digital integrated briefing</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>INF09-ASP03</td>
<td>Develop a local safety assessment</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>INF09-NM01</td>
<td>Generate and provide pre-flight briefings based on digital data</td>
<td>N/A</td>
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</table>

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

Expected Performance Benefits

Safety:
The issue of very large PIB (20-30 pages for a cross-European flight) is frequently mentioned by pilots as a difficulty when trying to comply with the legal obligation for reading and understanding all the NOTAM that can affect their flight, while they are also under time pressure to fulfil other pre-departure tasks.

The graphical presentation of digital NOTAM data should facilitate the task of finding the relevant information (geospatial and temporal filtering) and understanding the aeronautical and meteorological information relevant for a specific flight. For example, a visual "work in progress" symbol on the airport map is much easier to spot as compared with the same information presented in the PIB text.

This leads to a reduction in the number of incidents that are sometimes due to the lack of informational awareness, such as airspace infringements, attempts to use a closed runway or runway excursions, attempts to use a closed airport surface, temporary changes in operational procedures, etc.

Capacity:

Operational Efficiency:

In terms of benefits, the graphical presentation of digital information, a better filtering and a more logical organisation of the pre-flight information bulletins improve pilot and dispatcher awareness, improve briefing efficiency and reduces the risk of information being misunderstood or missed.

Cost Efficiency:

Environment:
### INF09-INT01
**Develop the standards for the use of digital NOTAM**

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<thead>
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</table>

**Action by:** ICAO??/EUROCONTROL

**Description & purpose:** Develop a Global Specification for the provision of Digital NOTAM including harmonised coding rules, in accordance to the ISO/IEC process and in accordance with existing SWIM specifications (see item * below). This global specification will refine and replace initial Eurocontrol Specifications “For the provision of Digital NOTAM including harmonised coding rules”.

* EUROCONTROL Specifications for:
  - SWIM Service Description
  - SWIM Information Definition
  - SWIM Technical Infrastructure Yellow Profile.

**Supporting material(s):** -

**ATM Master Plan relationship:** -

**Finalisation criteria:** 1 - The Global Specification for the provision of Digital NOTAM including harmonised coding rules has been published

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### INF09-INT02
**Develop regulatory material for the use of digital NOTAM**

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<th>By:</th>
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<td>N/A</td>
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</table>

**Action by:** EASA

**Description & purpose:** Develop and publish Technical requirements and operational procedures for aeronautical information services and aeronautical information management.

**Supporting material(s):** -

**Finalisation criteria:** 1 – Regulatory material for the use of Digital NOTAM has been published

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### INF09-ASP01
**Update the systems to receive and distribute AIS and MET information electronically**

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<thead>
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<tr>
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</table>

**Action by:** ANS Provider

**Description & purpose:** Update the systems to:

a) exchange AIS information using the AIXM format for digital data and electronic form for AIP and NOTAM.

b) exchange MET information METAR, TAF, SIGMET in the ICAO iWXXM format.

**Supporting material(s):** SESAR Solution 34 implementation package: [Url](https://www.sesarju.eu/sesar-solutions/enabling-aviation-infrastructure/digital-integrated-briefing)

**ATM Master Plan relationship:** [AIMS-19a] Aeronautical Information system is interfaced to receive and distribute aeronautical information electronically to/from ANSPS systems

**Finalisation criteria:** 1 – The systems are capable of exchanging information using the AIXM format for digital data and electronic form for AIP and NOTAM

1 – The systems are capable of exchanging MET information METAR, TAF, SIGMET in the ICAO iWXXM format.

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### INF09-ASP02
**Provide airspace users with pre-flight digital integrated briefing**

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<tr>
<td>N/A</td>
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</table>

**Action by:** ANS Provider

**Description & purpose:** Generate pre-flight briefing information/data, based on digital AIS and digital NOTAM data, and provide it to airspace users.

The digital integrated briefing introduces the following key requirements:

- Generation of the pilot and dispatcher briefing based on digital aeronautical and meteorological data (including the Digital NOTAM) provided by SWIM services.
- Extensive and interactive graphical visualisation, filtering, searching and alerting by using the geospatial and temporal aspects of the aeronautical and meteorological information.
- Use of normal sentence case for the textual/tabular part of the briefing, instead of the full upper case presentation of the current Pre-flight Information Bulletins.
- Joint presentation of the aeronautical and MET events that may have a combined effect on the flight trajectory (such as airspace restrictions and significant weather).

All the relevant information exchanges, including the generation and provision of digital NOTAM, shall be compliant with the applicable SWIM specifications.
### INF09

<table>
<thead>
<tr>
<th>Supporting material(s):</th>
<th>SESAR Solution 34 implementation package:</th>
<th>From:</th>
<th>By:</th>
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<tbody>
<tr>
<td></td>
<td>Global Specification for the provision of Digital NOTAM (INT01) / EUROCONTROL Specification for Digital NOTAM</td>
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</tr>
</tbody>
</table>

#### ATM Master Plan relationship:
- [AIMS-07a] Generation of Enhanced Pre-flight Briefing based on digital data
- [METEO-04b] Generate and provide MET information services relevant for Airport and final approach related operations, Step 1
- [METEO-05b] Generate and provide MET information relevant for TMA and En-route related operations, Step 1

#### Notes:
Note that INF08.1-ASP02 and INF08.1-ASP03 are a pre-requisite for the implementation this SLoA.

#### Finalisation criteria:
1 – Airspace users are provided with a pre-flight digital integrated briefing

<table>
<thead>
<tr>
<th>INF09-ASP03</th>
<th>Develop a local safety assessment</th>
<th>From:</th>
<th>By:</th>
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<tbody>
<tr>
<td>Action by:</td>
<td>ANSI Provider</td>
<td>N/A</td>
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</table>

#### Description & purpose:
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):

#### Finalisation criteria:
1 - The safety assessment report for the changes has been developed and delivered to the Regulator/NSA/Competent Authority, as necessary.

<table>
<thead>
<tr>
<th>INF09-NM01</th>
<th>Generate and provide pre-flight briefings based on digital data</th>
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<th>By:</th>
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<tr>
<td>Action by:</td>
<td>Network Manager</td>
<td>N/A</td>
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</table>

#### Description & purpose:
Generate and provide pre-flight briefing information/data, based on digital AIS and digital NOTAM data in accordance with the applicable SWIM specifications.

#### Supporting material(s):
- SESAR Solution 34 implementation package:

#### ATM Master Plan relationship:
- [AIMS-07a] Generation of Enhanced Pre-flight Briefing based on digital data

#### Notes:
Note that INF08.1-NM02 and INF08.1-NM03 are a pre-requisite for the implementation this SLoA.

#### Finalisation criteria:
1 – The generation and provision of pre-flight briefings, including the Digital NOTAM, are compliant with the applicable SWIM specification