

# EUROCONTROL



## **SUMMARY OF RESPONSES (SOR) DOCUMENT FOR THE**

Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II - ASM to ASM Systems Interface Requirements

Formal Consultation 9 July 2019 – 27 September 2019

## DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document

| Edition Number | Edition Date    | Reason for Change | Pages Affected |
|----------------|-----------------|-------------------|----------------|
| <b>0.1</b>     | 5 November 2019 | First draft       | <b>All</b>     |
| <b>1.0</b>     | 5 December 2019 | Final edition     | <b>All</b>     |

## INTRODUCTION

### 1. General

The Draft EUROCONTROL Specification for Airspace Management (ASM ) Support System Requirements supporting the ASM processes at local and FAB level - Part II - ASM to ASM Systems Interface Requirements.

### 2. Scope of consultation

As required by the EUROCONTROL Regulatory and Advisory Framework (ERAF), the draft Specification was circulated for comment between 9 July 2019 and 27 September 2019 using the EUROCONTROL Standards Development Process mechanism for formal consultation. The formal consultation allows all States, Stakeholders and interested parties to express their formal views on the draft EUROCONTROL Specification.

The consultation documentation comprised the draft Specification and two Annexes. The addressees of this consultation were asked to express their formal view on the draft Specification. Copies were sent directly to the following:

- Civil and Military regulatory authorities and key ATS providers of each EUROCONTROL Member State;
- Regulatory authorities of States' observers at the Provisional Council;
- EC, EASA, ECAC, FAA, ICAO, NATO;
- International Organisations having observer status at the Provisional Council;
- Key trade and professional associations having observer status at the Provisional Council;

The documentation was also made available through existing working arrangements and to members of the public via the EUROCONTROL web site.

### 3. Purpose and structure of the document

The purpose of this Summary of Responses (SOR) document is to provide a consolidation of the main comments received as part of the formal consultation activity, as well as to provide EUROCONTROL's responses to, and disposal of, those comments.

The responses section (of the document is structured as follows:

*General Response* – providing a general analysis of the comments received;

*Consolidated Comments and Responses* – summarising the comments made and providing the associated responses.

Two annexes are provided with the document as follows:

*Annex A* contains a list of those Stakeholders that provided comments on the draft Specification;

*Annex B* provides a table containing all of the comments provided by Stakeholders, the proposed 'disposal' by EUROCONTROL and cross-references to the responses within the main body of the document.

## Outcome of formal consultation

### 4. General Response

A total of 6 Stakeholders responded to the consultation. Out of these 6 Stakeholders, 5 were Air Navigation Service Providers (ANSPs) and 1 Civil Aviation Authority (CAA). The 6 Stakeholders provided a total of 23 separate comments.

The Stakeholders responding to the consultation considered for most of them the Specification to be acceptable although could be improved submitted some proposals for improvement. No Stakeholder stated that the Specification was not acceptable under all circumstances.

The following table shows the distribution of the overall result of the comments across the Stakeholder categories:

| Response category                      | A | B | C | D | Total by stakeholder |
|--|---|---|---|---|----------------------|
| <b>Stakeholder category</b>            |   |   |   |   |                      |
| <b>ANSP</b>                            | 3 | 1 | 1 | 0 | 5                    |
| <b>CAA</b>                             | 0 | 1 | 0 | 0 | 1                    |
| <b>Industry</b>                        | 0 | 0 | 0 | 0 | 0                    |
| <b>Airports</b>                        | 0 | 0 | 0 | 0 | 0                    |
| <b>Airspace User</b>                   | 0 | 0 | 0 | 0 | 0                    |
| <b>Military</b>                        | 0 | 0 | 0 | 0 | 0                    |
| <b>Responses received per category</b> | 3 | 2 | 1 | 0 | 6                    |

Legend:

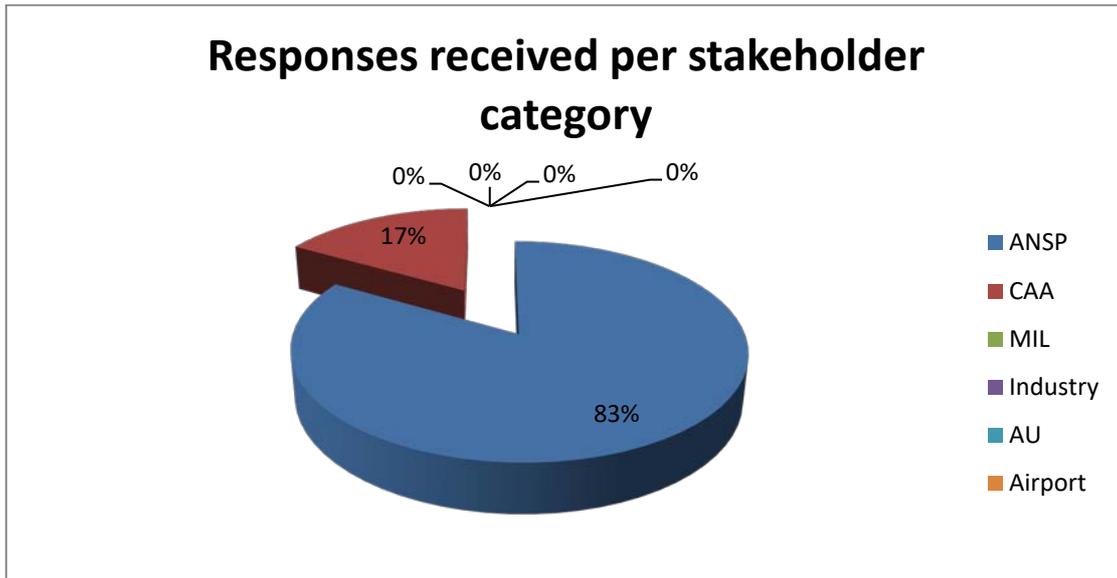
A = Acceptable without amendment

B = Acceptable but would be improved with amendments

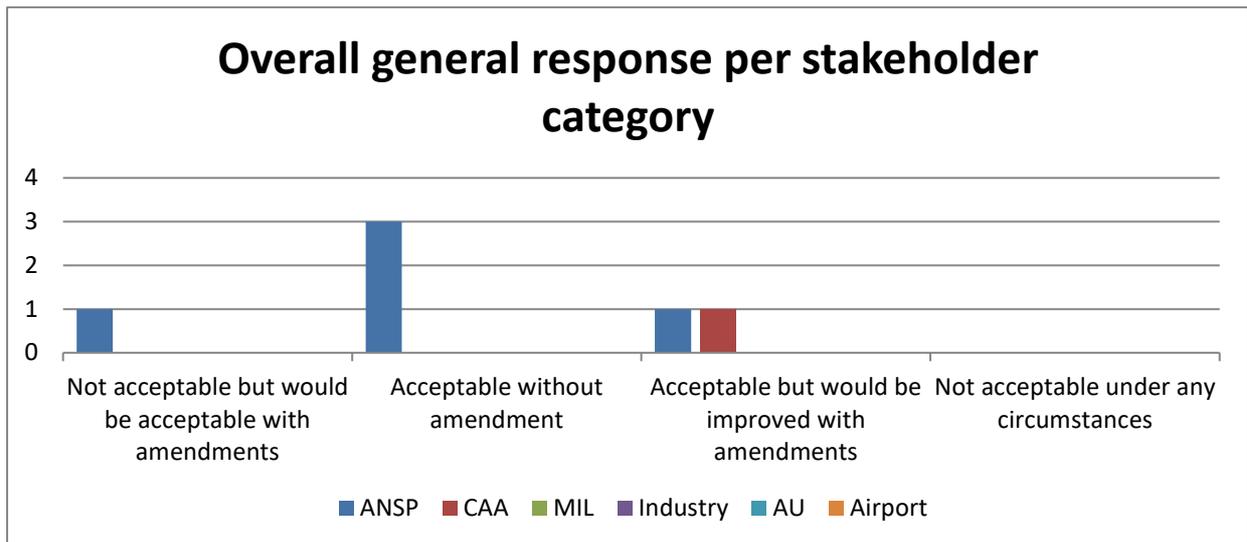
C = Not acceptable but would be acceptable with amendments

D = Not acceptable under any circumstances

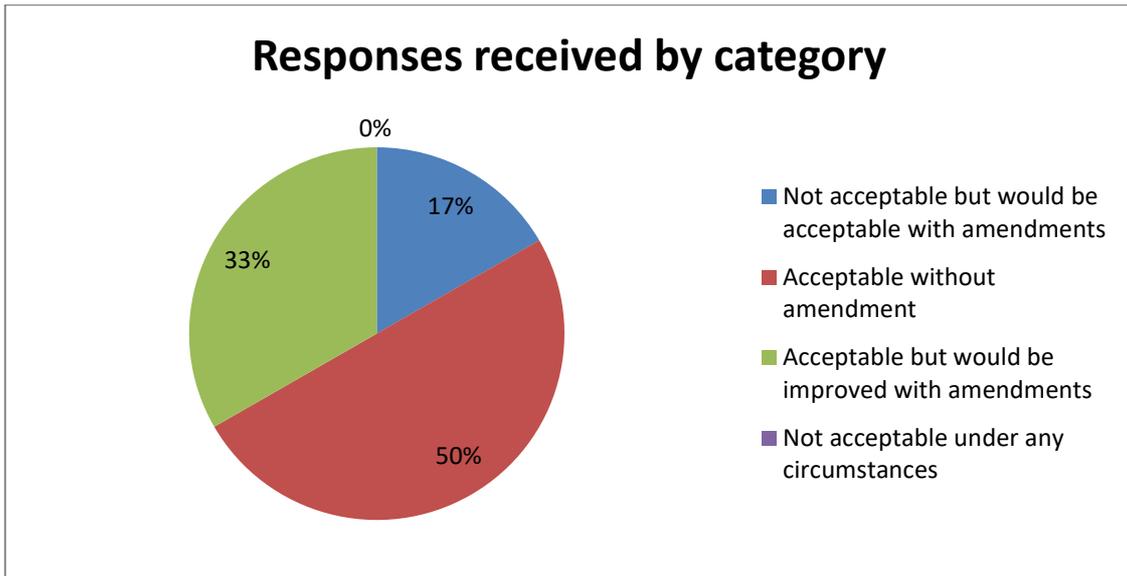
The distribution of the Stakeholders that submitted comments during the consultation period is shown in the chart below.



The breakdown of the overall general responses about the draft Specification is shown in the chart below.



The detailed breakdown per stakeholder type of the overall general responses about the draft Specification is shown in the chart below.



## 5. Consolidated responses

### 5.1. Introduction

This section summarises the main issues arising from the consultation on the contents of the Draft EUROCONTROL Specification for Airspace Management (ASM) Support System Requirements supporting the ASM processes at local and FAB level - Part II - ASM to ASM Systems Interface Requirements. Other comments, including those of a supportive nature, those correcting minor spelling or grammatical errors, those outside of the scope of the draft Specification and/or those not requiring a response have not been included for the sake of brevity. However, all comments submitted are included verbatim in the table at Annex B with their corresponding response.

### 5.2. Organisation and overall structure of the Specification document

#### *Comment*

Some stakeholders suggested that the draft Specification document should be sub-divided into two sections with one section describing the processes and a second one - describing the technical requirements and specifications. The reasoning behind this suggestion was that the technical specifications, as proposed in the draft, are deemed too general for an

implementation and would require bilateral agreements. It was recommended that the technical Specifications be described in a higher detail. It was suggested that it was sufficient to describe the general procedures and processes and to limit the document to that extend leaving technical implementation details to bilateral agreements and be removed from the document. Overall, it was recommended to reduce the complexity of the document.

### *Response*

The complexity of the document is due to the fact that the interfaces must be SWIM compliant, they have to include Information Exchange Requirements (based on operational requirements), Service definition, Information definition and Technical Infrastructure definition. Moreover, the semantic correspondence of information definition, the Service quality and the Service behavior are key elements of achieving interoperability. The aim of the document is to define an interface standard for ASM Support Systems that enable harmonised implementation of SWIM compliant, interoperable, safe and secure interfaces as required by the PCP Regulation. For this purpose, the definition of required information, the services and the technical infrastructure needs to be specified in sufficient detail moving away from diverse interfaces based on individual bilateral agreements towards sharing of information in line with SWIM principles.

## **5.3. Level of implementation of requirements**

### *Comment*

It was pointed out that certain requirements related to Long-Term Planning, Booking Conflicts, Airspace negotiation and Mission interfaces depended on bilateral agreements between individual stakeholders/FABs and, therefore, should not be mandatory. It was recommended to change the level of implementation of the relevant requirements from Mandatory (SHALL) to Recommended (SHOULD).

### *Response*

It is recognised that requirements that depend on the outcome of bilateral agreements should not be mandatory, therefore, the level of implementation of these requirements has been changed from Mandatory (SHALL) to Recommended (SHOULD).

## 5.4. Terminology

### *Comment*

Some stakeholders expressed the need for some clarifications in the text on the usage of the term “Service Provider”. While the term is clearly defined in the Specification document, its usage in the Booking and ActivityData models and diagrams was deemed inappropriate, therefore it was recommended to use the term “ResponsibleUnit” in the models and the diagrams.

### *Response*

It is recognised that the text will become clearer, therefore, the term “Service Provider” has been replaced by the term “ResponsibleUnit” in the relevant models and diagrams. Consequently, the Semantic Correspondence Report (in ANNEX F) has been updated accordingly.

## 5.5. Interfaces and attributes

### *Comment*

It was pointed out that the proposed structure of Booking allows one booking to have different airspace elements in different altitudes, but all of them must share the same activity time. A modification was recommended to change the structure enabling more flexible approach to Booking, allowing it to contain reservations of different airspace elements in different altitudes and different activity times.

### *Response*

It is agreed that moving the startTime and endTime fields from Booking into AirspaceReservation will provide the necessary flexibility for one booking to contain multiple airspace reservations with different airspace elements and different start and end times. Therefore, the start and end dates/times fields have been moved from the Booking onto the AirspaceReservation in the associated model and diagrams. The text around validation of booking creation and update requests with regards to the times has been updated.

## **ANNEXES**

### **ANNEX A**

Annex A contains a list of those Stakeholders that provided comments on the Draft EUROCONTROL Specification for Airspace Management (ASM) Support System Requirements supporting the ASM processes at local and FAB level - Part II - ASM to ASM Systems Interface Requirements formal consultation.

### **ANNEX B**

Annex B provides a table containing all the comments provided by Stakeholders. The table shows the 'Disposal' of each comment, i.e. 'Accepted', 'Partially Accepted', 'Rejected' or 'Noted' and EUROCONTROL response to each comment.

## ANNEX A

### LIST OF STAKEHOLDERS THAT PROVIDED COMMENTS TO THE FORMAL CONSULTATION

The stakeholders who provided comments on the Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II are listed below:

| Country        | Organisation                       | Contact Name       |
|----------------|------------------------------------|--------------------|
| Czech Republic | ŘLP                                | DVOŘÁKJ Matěj      |
| Germany        | DFS DEUTSCHE<br>FLUGSICHERUNG GMBH | REISER Ralf        |
| Germany        | FMOTI                              | NITSCHKE Dirk      |
| Poland         | PANSA                              | BANASZEK Krzysztof |
| Portugal       | NAV PORTUGAL                       | PIRES Isabel megre |
| United Kingdom | NATS                               | FRANKS Marie       |

## ANNEX B

### TABLE OF RECEIVED COMMENTS

1. The following table details all the comments received as part of the ‘Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II’ Consultation.
2. The table headings are as follows:

| ESDP/19-001 ON THE Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II |      |         |                       |                      |          |          |              |
|--|------|---------|-----------------------|----------------------|----------|----------|--------------|
| #  | § No | Comment | Reason(s) for Comment | Proposed Change/Text | Response | Disposal | Organisation |

- a) The first column refers to the unique number assigned to the comment during the review process.
- b) The ‘**§ No**’ column cross-refers to the relevant paragraph number in the ‘Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II’.
- c) The ‘**Comment**’, ‘**Reason(s) for Comment**’ and ‘**Proposed Change/Text**’ columns copy exactly the textual comments as provided in the Consultation Response Sheet.
- d) The ‘**Response**’ column provides the detailed response to the comment.
- e) The ‘**Disposal**’ column provides information about the way the received comment was treated.
- f) The ‘**Organisation**’ column identifies the source of the comment.

| ESDP/19-001 ON THE Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II |  |   |                       |  |              |  |          |
|--|--|---|-----------------------|--|--------------|--|----------|
| #  | § No   | Comment   | Reason(s) for Comment | Proposed Change/Text   | Organisation | Response   | Disposal |
| 1  | General remark regarding exchange of static data / bilateral agreements signed between individual stakeholders | <p>1. General remark regarding exchange of static data:</p> <p>Static data is under domain of AIS/AIM Systems. ASM systems are not the source of the static AIS/AIM data. Static data and relevant UUIIDs shall be imported from AIS/AIM Services or databases to avoid mismatch of UUIIDs between ASM systems. ASM systems shall have possibility to import static data from trusted sources like ANSP Service, EAD or future SWIM. This is related to the following requirements:</p> <ul style="list-style-type: none"> <li>· ASM-INTF-LAS-010</li> <li>· ASM-INTF-LAS-020</li> <li>· ASM-INTF-LAS-030</li> <li>· ASM-INTF-LAS-040</li> <li>· ASM-INTF-LAS-050</li> </ul> <p>2. The requirements</p> |                       | <p>1. General remark regarding exchange of static data:</p> <p>Static data is under domain of AIS/AIM Systems. ASM systems are not the source of the static AIS/AIM data. Static data and relevant UUIIDs shall be imported from AIS/AIM Services or databases to avoid mismatch of UUIIDs between ASM systems. ASM systems shall have possibility to import static data from trusted sources like ANSP Service, EAD or future SWIM. This is related to the following requirements:</p> <ul style="list-style-type: none"> <li>· ASM-INTF-LAS-010</li> <li>· ASM-INTF-LAS-020</li> <li>· ASM-INTF-LAS-030</li> <li>· ASM-INTF-LAS-040</li> <li>· ASM-INTF-LAS-050</li> </ul> <p>2. The requirements below should result directly from bilateral agreements signed between individual stakeholders/FABs and should be changed from SHALL to SHOULD:</p> <ul style="list-style-type: none"> <li>· ASM-INTF-LTPL-010: ASMtoASM Service should be supported by the Long Term Planning</li> </ul> | PANSA        | <p>1. Noted:<br/>The comment is linked to the following requirements in Part I of the Specs: ASM-DB-FUN-010; ASM-DB-CON-030;</p> <p>ASM-DB-FUN-010 specifies that the ASM system uses data from the relevant regional DB which in fact is maintained by the national AIS/AIM systems.</p> <p>In the context of the ASMtoASM service, Local Airspace Structure interface, the requirement is that the definition of the local area and its responsible unit are provided to the foreign ASM system via this interface. I.e. Foreign ASM system does not access the local DB.<br/>The term "local" in ASM-INTF-LAS-010 refers to national/regional trusted data sources.</p> <p>2. Accepted:<br/>The requirements will be updated by changing SHALL to SHOULD.</p> | Accepted |

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|--|------|---|-----------------------|---|--------------|----------|----------|
| #  | § No | Comment   | Reason(s) for Comment | Proposed Change/Text  | Organisation | Response | Disposal |
|  |      | <p>below should result directly from bilateral agreements signed between individual stakeholders/FABs and should be changed from SHALL to SHOULD:</p> <ul style="list-style-type: none"> <li>· ASM-INTF-LTPL-010: ASMtoASM Service should be supported by the Long Term Planning interface to manage the events.</li> <li>· ASM-INTF-CON-010: ASMtoASM Service should be supported by the Booking Conflicts interface to manage booking conflicts.</li> <li>· ASM-INTF-NEG-010: ASMtoASM Service should be supported by the Airspace Negotiation interface to manage the reservations.</li> </ul> |                       | <p>interface to manage the events.</p> <ul style="list-style-type: none"> <li>· ASM-INTF-CON-010: ASMtoASM Service should be supported by the Booking Conflicts interface to manage booking conflicts.</li> <li>· ASM-INTF-NEG-010: ASMtoASM Service should be supported by the Airspace Negotiation interface to manage the reservations.</li> <li>· ASM-INTF-MIS-010: ASMtoASM service should be supported by the Mission Interface to manage the exchange of mission information.</li> </ul> |              |          |          |

| ESDP/19-001 ON THE Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II |                                       |  |                       |  |              |  |          |
|--|---------------------------------------|--|-----------------------|--|--------------|--|----------|
| #  | § No                                  | Comment  | Reason(s) for Comment | Proposed Change/Text   | Organisation | Response   | Disposal |
|  |                                       | <p>ASM-INTF-MIS-010<br/>                     ASMtoASM service should be supported by the Mission Interface to manage the exchange of mission information.</p>  |                       |  |              |  |          |
| 2  | Remark to: 2.7.4.7 Booking            | <p>1. Remark to: 2.7.4.7 Booking</p> <p>Presented structure of Booking allows one booking to have different airspace elements in different altitudes, but all must share the same activity time.</p> |                       | <p>We suggest either</p> <ul style="list-style-type: none"> <li>- adding startTime and endTime fields to AirspaceReservation</li> <li>- removing startTime and endTime fields from Booking</li> </ul> <p>as this solution would enable much more flexible approach to Booking, allowing it to contain reservations of different airspace elements in different altitudes and different activity times</p> <p>or</p> <ul style="list-style-type: none"> <li>- changing Booking to contain single AirspaceReservation instead of an array of AirspaceReservations</li> </ul> <p>as this solution would simplify the model.</p> | PANSA        | <p>Option 1 is accepted: StartTime and EndTime will be added to AirspaceReservation and will be removed from the Booking.</p>  | Accepted |
| 3  | Figure 18: Booking Interface Overview | <p>Who is the responsible agency / service provider in the booking field (Figure 18: Booking Interface Overview) – is it</p>   |                       |  | PANSA        | <p>“Responsible agency/ service provider” is the entity that is responsible for the activation/de-activation of the airspace structure. It could be a specific airspace user, the AMC, the ANSP/SUP, etc.,</p> | Noted    |

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|--|--------------------------------------|--|--|---|--|---|---|
| #  | § No                                 | Comment  | Reason(s) for Comment  | Proposed Change/Text  | Organisation   | Response  | Disposal                                      |
|  |                                      | an airspace user or it might be AMC as well?   |  |   |  | depending on the national implementation.<br><br>For better clarity, the Specification will be updated as follows:<br>Service Provider will be replaced by Responsible Unit   |   |
| 4  | General comment on the document      | The document should be subdivided into two sections with one section describing the processes and a second section describing the technical requirements and specifications.   | The technical specifications are too general for an implementation and would require bilateral agreements about specifications in detail depending on the ASM-systems in use.  | 1) Technical Specifications shall be described in a higher detail.<br><br>2) It is sufficient to describe the general procedures and processes and to limit the document to that extent. Details concerning the technical implementation could be left to bilateral agreements and be exempted. | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | The aim of the document is to define an interface standard for ASM Support Systems.<br><br>The Specification will enable harmonised implementation of SWIM compliant, interoperable, safe and secure interfaces as required by the PCP Regulation. For this purpose, the definition of required information, the services and the technical infrastructure needs to be specified in sufficient detail moving away from diverse interfaces based on individual bilateral agreements. | Rejected                                      |
| 5  | General issues with the architecture | (1)The interface for modification is by definition incomplete, because it needs to describe a common subset of all ASM systems. As such, it cannot provide a better service than creating and updating bookings directly in the target ASM system. | The comment is a general view on issues related to the overall architecture that appears to be too complex and requires too much effort to implement, when compared to the envisioned benefits. There are easier ways that achieve similar benefits. | Reduce complexity of document.  | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | (1)The common subset of all ASM systems is specified in Part I of the Specification where the baseline functionalities are set out. The complexity of the document is due to the fact that the interfaces must be SWIM compliant, they have to include Information exchange requirements (based on operational requirements), Service definition, Information definition and Technical infrastructure definition. Moreover, the semantic correspondence of information              | (1, 3, 4, and 5)<br>Rejected<br><br>(2) Noted |

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|--|------|--|-----------------------|----------------------|--------------|--|----------|
| #  | § No | Comment  | Reason(s) for Comment | Proposed Change/Text | Organisation | Response   | Disposal |
|  |      | <p>(2)Providing direct access to the target ASM system, using its original client, would be simpler and provide the full feature set. This is especially true for a web application like ACOS, where a browser is all that is needed on client side and no native client needs to be installed.</p> <p>(3)Removing all modification services from the interface, the remaining interface would have value.</p> |                       |                      |              | <p>definition, the Service quality and the Service behavior are key elements of achieving interoperability.</p> <p>(2)Agree that "Providing direct access to the target ASM system, using its original client, would be simpler and provide the full feature set.". However,</p> <ul style="list-style-type: none"> <li>- an ASM user is not expected to access several ASM systems via their native clients in order to access the required information</li> <li>- in absence of harmonisation, remote user would need to be trained for using the remote web clients relevant to the host system</li> <li>- the interface is foreseen to enable exchange/use of data, on system level</li> </ul> <p>(3)All modification are required to address operational requirements, e.g. a foreign system would be interested in few airspace structures of a foreign system that could effect national operations – there is no need to overload users with data. Another example is linked to data sensitivity – a foreign user will be given access only to certain airspace structures, etc.</p> |          |

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|--|------|--|-----------------------|----------------------|--------------|---|----------|
| #  | § No | Comment  | Reason(s) for Comment | Proposed Change/Text | Organisation | Response  | Disposal |
|  |      | <p>(4)It would be a pure query interface of one ASM system from another ASM system, to provide a merged common view. However, this would mean that fewer queries are needed.</p> <p>(5)Some queries, such as queryActivityData List are not relevant to the other ASM system; they are only needed to construct correct modification requests. Then, only three queries are actually interesting for an ASM system: airspaces (basicdata), bookings and conflicts. However, querying those in separate requests risks receiving a slightly out-of-sync dataset, e.g. the booking list and conflict list might not fit, because a</p> |                       |                      |              | <p>(4) Pure query interface of one ASM system from another ASM system is not sufficient to meet all operational requirements (see Annex B, Part II).</p> <p>(5)Activity Data covers the Airspace ID and the Responsible Unit attributes. These attributes are mandatory for the ARES as specified in Part I Requirement "ASM-DB-FUN-160".</p> <p>Querying booking conflict returns conflicts involving the Booking (ID) identified in the request.</p> <p>Regarding the conflicts as a result of updates to the booking, the Conflict Notification message shall cover it.</p> <p>The implementation of filters is subject to operational needs. A country surrounded by, for example, 5 different countries, does not need to upload the 5 systems' DBs as the users could be most probably interested in no more than 30 to 50 airspace structures. Sensitivity of data also shall be considered.</p> |          |

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|--|------|--|-----------------------|----------------------|--------------|----------|----------|
| #  | § No | Comment  | Reason(s) for Comment | Proposed Change/Text | Organisation | Response | Disposal |
|  |      | <p>booking was changed in between. It would be better to combine them in a single request, to ensure that the result is always a consistent picture. Moreover, no filters are needed, as loading the whole dataset for a day, including basicdata geometries, is relatively small (about a few megabytes). The same holds for the messaging, which is low-traffic and hence doesn't need filters, either. Every consumer could consume the same, unfiltered topic for receiving updates. This would require almost no subscription management. Overall, without losing much, the interface could be reduced to a single query request, as well as a single subscription that</p> |                       |                      |              |          |          |

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|--|-------------------------------|---|--|--|--|--|----------|
| #  | § No                          | Comment   | Reason(s) for Comment  | Proposed Change/Text   | Organisation   | Response   | Disposal |
|  |                               | returns a single, unfiltered queue.   |  |  |  |  |          |
| 6  | 1.4 Applicability, p. 13      | Airspace Use Plans (AUP, UUP) are only available on ASM Levels 2 and 3.   | It is unclear, why ASM Level 1 is mentioned in the context of the AUP.                           | Change to: (Updated) Airspace Use Plans (AUP, UUP) – ASM level 2 and 3 | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | The text you are referring to is cited from the PCP Regulation and as such cannot be changed.<br>Strictly speaking, AUP/UUP are part of Level 2 only. However, in the context of PCP, Level 1, 2 and 3 represent the overall continuation of the ASM process – from the strategic decisions and planning to the final execution of the plan.   | Rejected |
| 7  | 2.3 Use of the service, p. 27 | What is the exact meaning of the arrows, why is there a bi-directional flow only possible between different ASM Server Interface providers? | The significance of Figure 1 is not clear enough and leaves questions like mentioned above open. | Please clarify.  | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | <ul style="list-style-type: none"> <li>The arrow points from a service consumer to a service provider. It indicates a client using a service.</li> <li>A bi-directional arrow is between two ASM systems. It indicates that each of the two ASM systems plays two roles: it is the consumer of the service provided by the other ASM system and it is the provider of the service that the other ASM system consumes.</li> </ul> <p>In other words, the ASM support systems both connect to each other acting as both a client and a server to the other, whereas the clients only connect directly to their own ASM support system. Data flow between the client and server is still clearly bidirectional.</p> | Accepted |

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|--|--|---|---|--|---|--|----------|
| #  | § No   | Comment   | Reason(s) for Comment                                       | Proposed Change/Text   | Organisation  | Response   | Disposal |
|  |  |   |   |  |   | This will be made clear in the Specification document.   |          |
| 8  | 2.3.2 External ASM User – ASM Support System, p. 27/28, paragraph 2                | <p>Why is the configuration 2.3.2 only "applicable for external client tools (...) that belong to the same state"?</p> <p>Why is it important to distinguish between "same state" and "different states"?</p> | The reason for the above made distinctions remains unclear. | Please clarify.  | <p>Federal Ministry of Transport and Digital Infrastructure, Germany</p> <p>DFS DEUTSCHE FLUGSICHERUNG GMBH</p> | <p>In this paragraph the focus is on the option of the service to be used by any ASM Service Client that is not a client to the ASM Support System, e.g. a mission management system could be a client to the ASM Support System. In this context, the presumption is that both ASM and MMS are belonging to the same state.</p> <p>This will be made clear in the document.</p>   | Accepted |
| 9  | 2.3.2 External ASM User – ASM Support System, p. 27/28, paragraph 3, last sentence | What is the difference between "providing service" and "being managed through service interfaces"?  | The meaning of the sentence is unclear.                     | Specify the difference between "providing service" and "being managed through service interfaces". | <p>Federal Ministry of Transport and Digital Infrastructure, Germany</p> <p>DFS DEUTSCHE FLUGSICHERUNG GMBH</p> | <p>This paragraph explains that the ASM Support System that provides the service "decides" what data to be provided to which user; the interface just convey the data.</p> <p>The sentence is made of 2 parts</p> <ul style="list-style-type: none"> <li>• "This differentiation in privileges is the responsibility of the ASM Support System providing the service."                             <ul style="list-style-type: none"> <li>○ an instance of an information service, such as the ASMtoASM service, is made available by an information service provider</li> </ul> </li> </ul> | Noted    |

| ESDP/19-001 ON THE Draft EUROCONTROL Specification for Airspace Management Support System Requirements supporting the ASM processes at local and FAB level - Part II |  |   |   |  |  |  |          |
|--|--|---|---|--|--|--|----------|
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|  |  |   |   |  |  | <ul style="list-style-type: none"> <li>o that service can be used by several information service consumers</li> <li>o What this sentence says: defining what each service consumer can do is the responsibility of the provider of that service instance.</li> <li>• "This differentiation in privileges is not managed directly through the service interfaces."                             <ul style="list-style-type: none"> <li>o What this sentence says: the privileges are system parameters of the ASM Support System, these parameters cannot be accessed / modified using (the interface of) this service.</li> </ul> </li> </ul> |          |
| 10   | 2.4.1 Service Interfaces Overview, p. 32 | (1)What is the definition/meaning of the function "LongTermPlanning" and what is meant with "events"? | In ACOS, there is no concept of a long-term planning "Event" as described in ASMtoASM. Long term planning happens either outside of ACOS, | 1) Describe the function "LongTermPlanning" and the reason for including it in the specifications.<br><br>2) Solution 1: Do not provide any Events in ACOS. That is, | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | (1)Reference to the ERNIP Part 3, the ASM Handbook: "Strategic/Long term airspace planning:<br><ul style="list-style-type: none"> <li>• Civil and Military authorities draft and share the planning of major exercises and events with each other and the Network Manager.</li> </ul>  | Noted    |

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|  |      |         | <p>or by creating ACOS bookings, which are no different from regular bookings.</p> <p>(2)The definition and the term of the function "LongTermPlanning" is not known to us. The reason for its implementation</p> | <p>queryEventList always returns an empty list, and createEvent as well as updateEvent always return an INVALID_INPUT error.</p> |              | <ul style="list-style-type: none"> <li>• Civil and Military authorities continuously update their strategic planning.</li> <li>• NM collects and includes the local plans into the NOP.</li> <li>• NM negotiates, as required, the local plans to ensure consistency at Pan-European level."</li> </ul> <p>- Annex 12 of the ASM Hand book requires ASM System to manage events as well.</p> <p>- Part I of the Specifications refer to the ASM Support System long term/event functionalities:<br/>                     "ASM-DB-FUN-100 The ASM Support System shall display ARES and Event Schedules allowing long, medium and short term planning.<br/>                     ASM-DB-FUN-110 The ASM Support System shall provide functionality to create, edit and cancel events.<br/>                     ASM-DB-FUN-120 The ASM Support System shall ensure that events have as a minimum attributes of location, title, description, start-time, end-time, a list of associated ARES."</p> <p>(2)If the the ASM System does not support certain functionality then this interface may not be implemented.</p> <p>Note that none of the interfaces of the ASMtoASM Service is mandatory.</p> |          |

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|  |  |  | does not become apparent through the document                          |   |  | However, if the interface is to be deployed the requirements specified in the Specs shall be complied with in full.<br><br>This will be made clear in the document.  |          |
| 11   | 2.4.3.3 Interface Functions, p. 40                       | The meaning of the sentence is unclear.  | The meaning and the aim of the item is unclear.                        | Specify the meaning of the item ASM-INTF-PUB-30.                      | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | The subscriber will be notified of the publication only in case they have subscribed to this data,<br>or<br>the subscriber will be notified of the publication as the changes to the data are now falling within the filters of their interest<br>or<br>the subscriber was previously notified of data which has now changed to be outside of the filters in which case they should be notified as such.<br><br>This will be made clear in the document. | Accepted |
| 12   | 2.4.5.4.2 queryActivity DataList, p. 47                  | No ActivityData concept in ACOS: the specifications in the document differ from the ACOS workaround. | In ACOS, there is no concept of ActivityData as described in ASMtoASM. | Please clarify the requirements.                                      | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | Activity Data covers the Airspace ID and the Responsible Unit attributes. These attributes are mandatory for the ARES as described in Part I "ASM-DB-FUN-160". This implies that the ASM systems has this information.<br>In Part II, the Activity data is described in 2.7.4.4.   | Noted    |
| 13   | 2.4.9 Airspace Negotiation Interface, p. 60, paragraph 2 | The idea behind the "Negotiation Interface" remains unclear, especially the                          | The meaning and the aim of the item is unclear. The main concern in    | Specify the idea of the "Airspace Negotiation Interface" and describe | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | Negotiation is part of FUA process, e.g. a user requires an airspace structure for a period of two hours 10-12; in line with the L1 agreed procedure, the AMC could  | Noted    |

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|  |                                   | meaning of the sentence "A proposal refers to a specific reservation and effectively re-defines a subset of the reservation data." (2.4.9) | connection with 2.11.3 is that the handling of "proposals" is not described and it remains unclear how this will actually be implemented. | the handling of "proposals".   |  | propose to move the slot with 30 min further in time, i.e. 1030-1230; it is up to the user to accept or reject.<br><br>Handling a proposal involves accepting, rejecting or making another counter-proposal.<br><br>None of the interfaces is mandatory. However, if the interface is required to be implemented, then the requirements specified in the document shall be complied with.  |          |
| 14   | 2.5.1 "Interface Bindings", p. 66 | Concerns were raised about the technical status of SOAP (Simple Object Access Protocol).   | As for our understanding, the SOAP is technically outdated and the single use of HTTP is desirable.                                       | Check for the requirement of future SOAP support and redefine the Interface binding to HTTP only, if applicable. | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | SOAP is not technically outdated and the protocol will be supported in the foreseeable future. SOAP meets all the criteria of the SWIM TI Yellow Profile Specification.<br><br>The following considerations have been taken into account when selecting SOAP implementation in the Specification:<br><br>- <b>Interface Standardisation:</b> based on the WSDL, service clients can be easily developed, maintaining a rigid coupling between service provider and service consumer. | Noted    |

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| 15   | 2.7.4.7 Bookings, p. 78   | Activations with different times in ACOS: the specifications in the document differ from the ACOS workaround. | In ASMtoASM, all activations of a booking must have the same time period. However, in ACOS the activations of a booking may have different times.              | 1) Solution 1: Move fields startTime and endTime from Booking to AirspaceReservation.<br><br>2) Solution 2: Add field startTime and endTime to AirspaceReservation, but keep them in Booking as optional fields to communicate the total booking time. | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | StartTime and EndTime will be added to AirspaceReservation and will be removed from the Booking.   | Accepted |
| 16   | 2.7.4.7 Bookings, p. 78, Value i. int numberOfAircraft (Optional) | numberOfAircraft per aircraftType: the specifications in the document differ from the ACOS workaround.        | ACOS bookings contain multiple numberOfAircraft, one for each type of aircraft. However, ASMtoASM provides only one single numberOfAircraft field per Booking. | Introduce a list of pairs of numberOfAircraft and aircraftType into the asm2asm Booking structure.   | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | Number and type of Aircraft are optional attributes to ARES. Therefore, there is no need to be covered in the Specification. The ACOS workaround is not affected in anyway by this requirement. Part I of the Spec, requirement ASM-DB-FUN-350 specifies: "The ASM Support System may have additional functionality necessary to satisfy national requirements." | Rejected |

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| 17   | 2.7.4.19<br>ServiceProvider, p. 83                               | No ServiceProvider concept in ACOS: the specifications in the document differ from the ACOS workaround. | ACOS has no concept of a ServiceProvider as described in ASMtoASM. ACOS provides exactly one ServiceProvider that is used for all Airspace basicdata and all bookings. However, in ASMtoASM every Booking needs to be provided with ServiceProvider through the mandatory responsibleAgency field. | Change field responsibleAgency in Booking from mandatory to optional.                         | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | Service provider will be replaced with Responsible Unit as referred to in Part I ASM-DB-FUN-160. The Responsible Unit is a mandatory attribute to ARES and represents the entity responsible for the tactical management of the airspace structures. In the case of ACOS workaround, the Responsible unit will be always the same.                          | Rejected |
| 18   | 2.7.5.8<br><<enumeration>><br>BookingStatus, p. 85, Value h.     | Replace "CANCEL" with "CANCELLED"   | Wrong Value.   | Replace "CANCEL" with "CANCELLED".  | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | "CANCEL" will be replaced with "CANCELLED"  | Accepted |
| 19   | 2.11.2<br>Booking and Booking Conflict Behaviour, p. 96, point 3 | What are those actions? How are these actions provided?   | A description of the desired actions is required.  | Provide a description of the desired actions and define how these actions should be provided. | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | As per 1.9 Definitions:<br>Action: A specific permission to interact with a booking via the interfaces offered by this service. Actions may change with time and the state of the booking. Different actions may be performed via the same service operation in which case the modifiable data fields may be restricted by the currently available actions. | Accepted |

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|  |      |         |                       |                      |              | <p>The <b>BookingActionNotification</b> message provides the consumer with the list of allowed actions.</p> <p>The <b>BookingActionType</b> enumerates the kinds of action defined.</p> <p><b>BookingActionNotification</b> Message notified to an Action subscription as the result of a change to one or more actions resulting from a change to a booking.<br/>                     Attributes:<br/>                     a. BookingAction[] allowedActions (Mandatory)<br/>                     All newly available actions.<br/>                     b. BookingAction[] disallowedActions (Mandatory)<br/>                     All pre-existing actions that are no longer allowed.</p> <p>&lt;&lt;enumeration&gt;&gt; <b>BookingActionType</b><br/>                     Enumerates the possible types of BookingAction available.<br/>                     Values:<br/>                     a. MAJOR_EDIT Allows a full edit of all fields of the booking<br/>                     b. MINOR_EDIT Allows editing of non-essential fields, editing of times, airspace and levels is not allowed.<br/>                     c. ACTIVE_EDIT Allows editing of the booking while it is in the state ACTIVE, editing of the start time is not allowed.<br/>                     d. HANDLE_PROPOSAL Allows accepting or rejecting the proposal associated with the booking.<br/>                     e. EDIT_REMARKS Allows</p> |          |

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|  |   |  |  |   |  | addition of a new remark to the booking.<br>f. CANCEL Allows the booking to be cancelled   |          |
| 20   | 2.11.2 Booking and Booking Conflict Behaviour, p. 96, paragraph 2 and 3 | The meaning of the paragraphs 2 and 3 ("The Service Consumer creates a booking without having subscribed (...) to the Service Consumer.") remains unclear. | The meaning and the aim of the item is unclear.  | Check if the paragraphs are required and delete if not necessary. | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | These are separate descriptions of uses of the service and the expected behavior. In paragraph 2 "The Service Consumer..." the consumer has not subscribed for data and so must rely on request/reply when they create a booking, as shown in the linked section.<br><br>Paragraph 3 "A User of the..." describes a case where the Service Consumer has subscribed to data and another local user creates a Booking.<br><br>The text in the Specification will be adapted accordingly to provide clarity.                          | Accepted |
| 21   | Files: asm2asm/messages.xsd ; asm2asm/filters.xsd                       | No restriction of filters in XML schema.   | The schema allows all possible filters for every query request. For example, it allows for filtering by Booking UUID even when just querying Airspace basicdata. | Please revise the filter functions in the mentioned files.        | Federal Ministry of Transport and Digital Infrastructure, Germany<br><br>DFS DEUTSCHE FLUGSICHERUNG GMBH | This was a choice made to prevent a proliferation of filter requests and subscription interfaces allowing for the same filters to be easily used in a request and subscription for the same data to ensure alignment in the data provided by the service.<br><br>The definition of an 'and' filter for instance would be more difficult if the filters were strictly typed.<br><br>The implementing system clearly needs to validate the requests it receives to determine whether it can fulfill them but there is nothing in the | Rejected |

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|  |      |  |                       |                      |              | document to prevent the system returning the definitions of the airspace referenced by the Booking with the given UUID if the example request was made. A MissionID filter could be treated similarly. |          |
| 22   |      | <p>NATS welcomes the opportunity to comment on the Draft EUROCONTROL specification for Airspace Management (ASM) Support System Requirements supporting the ASM processes at local and FAB level, and notes that this is essentially a technical document in support of ASM setting baseline specifications for systems to support ASM.</p> <p>We believe that the specification describes system connectivity and behaviours that are either achievable or currently happen. NATS uses LARA</p> |                       |                      | NATS UK      |  | Noted    |

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|  |      | as its ASM support system which allows us to manage airspace in accordance with EC IR 2150/2005. Given that this tool is designed and developed by EUROCONTROL it complies with all that the System Requirements Specification calls for. Future connectivity to allow airspace bookings' at source and connect LARA to sub-regional ASM systems and NM is all planned for and feasible with this system. Therefore, NATS is happy to support the Draft EUROCONTROL specification for Airspace Management (ASM) Support System Requirements as presented in this consultation |                       |                      |  |          |          |
| 23   |      | Well prepared material  |                       |                      | ŘLP<br>Air Navigation Services of the Czech Republic |          | Noted    |