FIXM Change Management Charter

The Flight Information Exchange Model (FIXM) is an exchange model capturing Flight and Flow information that is globally standardised. The requirement for FIXM was identified by the International Civil Aviation Organisation (ICAO) Air Traffic Management Requirements and Performance Panel (ATMRPP), was endorsed at the 12th Air Navigation Conference as part of the Aviation System Block Upgrades (ASBU), and is described in ICAO Doc 9965, Manual on Flight and Flow -- Information for a Collaborative Environment (FF-ICE).

A formal change management process is required in order to ensure that the content and design of FIXM is unambiguously understood and endorsed by the FIXM stakeholders. This charter formalizes the FIXM governance and its operating procedures.
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The authoritative reference for FIXM is www.FIXM.aero.

Details on Airservices Australia: http://www.airservicesaustralia.com/
Details on DSNA: http://www.aviation-civile.gouv.fr/
Details on EUROCONTROL: http://www.eurocontrol.int/
Details on IATA: http://www.iata.org/Pages/default.aspx
Details on NATS Limited: http://www.nats.co.uk/
Details on NAV CANADA: http://www.navcanada.ca/
Details on the SESAR JU and its members: http://www.sesarju.eu/
Details on the US FAA: http://www.faa.gov/
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Document History

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<tr>
<td>1.0</td>
<td>Final</td>
<td>FIXM CCB</td>
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**Article 1 – Objective**

1.1. The evolution of the Flight Information Exchange Model (FIXM) shall be managed in the interest of the largest number of FIXM stakeholders (“Stakeholders”), including the accommodation of necessary extensions.

1.2. A Change Control Board (“CCB”) with international participation is therefore established and will act under the provision of this Change Management Charter (“Charter”). The purpose of the CCB is to ensure that the strategic objectives for FIXM, described in the FIXM Strategy [1], are satisfied.

1.3. The objective of this Charter is to support the information needs of the FIXM user community and of the larger aviation community through a disciplined, inclusive, and transparent approach to developing and approving new FIXM versions.

**Article 2 – The Change Control Board (“CCB”)**

**CCB Roles & Scope**

2.1. The CCB is the body that decides on the evolution of FIXM. This includes:

   a) The FIXM Strategy.
   
   b) The FIXM CCB Charter (this document).
   
   c) The FIXM Roadmap.
   
   d) The FIXM components described in the FIXM Strategy [1], chapter 2.2.
   
   c) The description of the FIXM Setup; i.e., the description of the interactions between the groups that may influence the FIXM development (FIXM CCB, ICAO ATMRPP, other stakeholders’ arrangements etc.). This will include in particular a detailed description of the work process for achieving a FIXM release.
   
   f) Any communication materials about FIXM issued on behalf of the FIXM community, including, but not limited to, Information Papers about FIXM for ICAO, materials supporting FIXM seminars and workshops etc.
   
   g) The content of the www.FIXM.aero web site that is globally applicable.

   Note: www.FIXM.aero may contain additional pages capturing information relevant to individual stakeholder’s activities related to FIXM. Those pages will be clearly separated from the core part.

2.2. The CCB:

   a) Sets the main principles that will guide the FIXM development as described in the FIXM Strategy.
   
   b) Has overall responsibility for the evolution of FIXM to: ensure core provisions from ICAO are met; maintain its components; and, ensure consistency with the FIXM Strategy.
   
   c) Schedules the FIXM versions and provides governance for the changes to be included in new versions.
   
   d) Endorses, or rejects, proposals for FIXM. Chapter 2.1 provides the detailed list of FIXM items subject to CCB endorsement.
c) Considers proposals for inclusion in the FIXM specification and decides whether elements are included in the FIXM core. The criteria used for making these decisions are described in Appendix A.

d) Maintains an overview of FIXM extensions with the objectives of:
   (i) Raising awareness about on-going FIXM extensions’ developments;
   (ii) Reconciling, to the extent possible, the content of overlapping extensions developed by different FIXM Stakeholders which would cover equivalent business needs;
   (iii) Optimising the movement of data elements between FIXM core and extensions.

g) Endorses, or rejects, proposals for physical representations of the FIXM Logical Model to be recognised for common use.

h) Aims to ensure the transparency of change management for all Stakeholders.

i) Acts as de facto focal point for collecting the operational drivers for FIXM, unless other arrangements are decided.

j) Arbitrates the integration of the different Stakeholders’ needs and views.

k) If and when needed, prioritises FIXM Change Proposals and change activities.

l) When needed, issues and/or endorses FIXM evolution related items such as:
   (i) Lists of new operational (data encoding) capabilities supported by new FIXM versions - enabling stakeholders to make informed decisions on their need to migrate an existing system to the new version or remain with the current version;
   (ii) A proposed implementation timeline - facilitating the synchronization between the different system upgrades to ensure interoperability;
   (iii) Mapping guidelines on changes between versions - in particular when changes to the model result in major restructuring of concept elements.

m) When needed, includes the release of formal conformance testing specifications, which enable an implementer to check and gain compliance with a FIXM version.

n) Establishes and maintains relations with similar groups, or bodies, that are responsible for the other ATM information domain models (AIM, MET, etc.) and for the ICAO ATM Information Reference Model (AIM-ERM).

o) Reports regularly to ICAO on the progress of core developments and extensions, and consults on proposals for core changes identified by either party from the development of extensions.

p) Monitors the evolutions in the ATM domain in order to trigger appropriate changes to FIXM.

q) Tracks the progress of FIXM change activities against the strategy.

**CCB Membership**

2.3. Whilst there is currently no formal ICAO mandate, or remit, for the governance of FIXM and its development, the CCB Members, as set up under this charter, aim to represent the ATM community, provide the governance necessary for FIXM to evolve, and address FIXM-related technical and operational background needs.
2.4. It is recognised that the current CCB members’ participation is provided on a voluntary basis for the purpose of mutual, and wider, ATM benefit.

2.5. As of the publication date of this document, the CCB is comprised by the following organisations: Airservices Australia, DSNA, EUROCONTROL, IATA, JCAB, NATS, NAV CANADA, the SESAR Joint Undertaking, and the US FAA.

2.6. The rules for expanding CCB membership are the following:

   a) The CCB is by default inclusive; this is necessary in so far as FIXM is aimed to be a global standard.

   b) Until the first FIXM version is released that fully realises FF-ICE/1, FIXM CCB membership may be expanded only to new stakeholders that are in a position to provide direct sponsorship, including, but not limited to providing: resources to build the FIXM components over time; operational inputs to drive the FIXM development; and, improved synergies with relevant ATM communities of interest, particularly those identified in chapter 2.4 of the FIXM Strategy.

   c) Once the first FIXM version is released that fully realises FF-ICE/1, FIXM CCB membership may be expanded, upon request, to any stakeholders that have a verifiable interest in the content and use of FIXM.

   Note: As FIXM becomes globally implemented and the FIXM CCB expands, a FIXM Change Control Advisory Board may be established. See Appendix B for details.

2.7. CCB Members agree to respect the following code of conduct when participating in the CCB and other FIXM activities:

   a) Behave courteously;

   b) Convey messages accurately, succinctly, and with specificity;

   c) Limit focus and discussions to FIXM topics;

   d) Ensure that contribution is based on the global community needs, not the needs of the member’s organisation;

   e) Do not violate other members, or third parties, intellectual property rights.

2.8. No CCB participant shall exert undue pressure in order to influence an outcome that has a bias to any one or more regions to the detriment of the objective of global interoperability.

2.9. A CCB Member may be excluded for serious violation of the Charter. A proposal for exclusion must be brought forward by another CCB Member and will require consensus agreement of the remaining CCB members in order to take effect.

2.10. CCB Members are invited to inform the FIXM CCB about their plans for developing FIXM extensions and to share publicly these extensions using FIXM resources. A FIXM extension that is not registered in this way will not be considered by the FIXM CCB when carrying out the activities described in chapter 2.2.f).
Decision making process

2.11. CCB Members aim to actively support FIXM evolution activities and thus, members agree to participate in supporting the decision making processes.

2.12. Decisions will be made during CCB meetings (see 2.19 & 2.20).

2.13. Decision making in the CCB will be by consensus\(^1\) in order to represent the best interests of the ATM community through:
   a) Unanimity, if all CCB members are present, spoken for, and in agreement;
   b) Unanimous consent by members who have spoken and silence by the others;
   c) Recording of a decision as a formal action with its associated due date. Lack of response by the due date is deemed concurrence.

2.14. Objections shall be supported by clear arguments, in particular for business impacts, in order that other CCB Members may understand the objections and issues to be resolved. Current and immediate term operational reality should be considered as the prevailing arguments for the adoption of change proposals. Those that reflect future operational concepts will be subject to consideration of the operational needs and expectations, and may require further supporting evidence of concept agreement, or validation, for applicability at the international level. In such a case, the use of extensions as described in [1] should be considered as mitigation.

2.15. In the absence of consensus, the FIXM CCB will escalate the problem to the FIXM Advisory Board for resolution - See Appendix B.

CCB Procedures

2.16. The working language of FIXM CCB is (Oxford Dictionary) English.

2.17. All CCB activities will be conducted using on-line tools to which all CCB Members shall have access, including:
   a) The distribution list, FIXM.CCB@eurocontrol.int, which is used for internal CCB communication and serves as the primary means for external stakeholders to contact the FIXM CCB members. This distribution list will support the decision making-process (see 2.12).
   b) The FIXM CCB folder on www.FIXM.aero, which is used for storing the main FIXM CCB materials (minutes of meetings, working documents, etc.). Access to this folder is restricted to FIXM CCB members only.

2.18. In order to effectively apply the provisions of this Charter, a change management process will be put in place and will be supported via on-line tools. It will be configured in order to ensure that FIXM change proposals are captured, analysed and, when required, escalated to the FIXM CCB for resolution. The change management process will be described in Article 4 – Change Management Process.

Note: as of the publication date of this document, the FIXM CCB is exploring different options for the FIXM change management process. In particular, the FIXM CCB is assessing the AIXM resources that currently support the AIXM change management process [3], which could be easily “extended” for an equivalent usage in support of FIXM.

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\(^1\) Defined as “group decision making process that seeks the consent, not necessarily the agreement of participants and the resolution of objections”
2.19. Dedicated CCB meetings should be organised on a regular basis. A CCB meeting can consist of a face-to-face meeting (for instance, held in conjunction with other FIXM events), a teleconference, or an email discussion about a specific topic using the full CCB distribution list. The conclusions of such meetings must be recorded in order to capture individual issues/change proposals.

2.20. CCB meetings can take place at any time during the year, depending on the CCB members’ availability. As a good practice, the CCB will organise monthly teleconferences scheduled for the third Thursday of each month.

2.21. CCB organisation will be controlled and performed by the CCB members with the support of a CCB Secretariat (see Article 3 – CCB Secretariat (“CCBS”)), which remains under the direction of the CCB.

**Article 3 – CCB Secretariat (“CCBS”)**

**CCBS Roles & Scope**

3.1. The role of the CCB Secretariat is to support the CCB and FIXM evolution activities. The CCBS will provide the technical and human resources for:

- a) The management of FIXM Change Proposals;
- b) The maintenance of the FIXM model(s) and associated documentation;
- c) The maintenance of the communication means (Web site, FIXM Discussion Board, Change Submission and Tracking System, etc.).

3.2. The CCBS shall:

- a) Support and facilitate discussions at the CCB level with a view towards reaching consensus on needs and proposals;
- b) Provide mediation for FIXM activity;
- c) Support FIXM development;
- d) Support the development of strategy and supporting items on behalf of the CCB;
- e) Track the progress of FIXM change activities against strategy, and track other FIXM relevant ATM domain activities, in order to support the CCB role of monitoring and triggering appropriate changes to FIXM.

**CCBS Membership**

3.3. Currently, there is no formal ICAO mandate, or remit, for an organisation to support the FIXM CCB and FIXM development. Thus, CCBS activities are currently being performed, voluntarily, by the FAA and SESAR. However, the CCBS role may be further supported by other members, or rotated amongst the FIXM stakeholders, subject to availability of financial and human resources.

**Article 4 – Change Management Process**

Intentionally left blank. This chapter will be populated in a future release of the Charter.

**Article 5 - FIXM version policy**

3.4. The objective of the change management process is to develop new FIXM versions. Three levels are foreseen:
a) **Major Version** (v.5, v.6, etc.) includes major conceptual changes to the model, which do not permit a mechanical conversion between that version and the previous version;

b) **Intermediate Version** (v.5.x, v.6.x, etc.) – includes only changes that allow a two-way mechanical conversion with the previous version (including by the use of an extension of the previous version); no capabilities are removed, just deprecated; new features or properties can be added in the model;

c) **Minor Version** (v.5.1.x, v.5.2.x, etc.) – limited to bug fixing, spelling corrections, corrections to UML that do not affect the XML schema, corrections of definitions; mechanical and full two-way conversion shall be possible.

**Article 6 – Changes to the Change Management Charter**

5.1 This Charter may be changed at any time by the FIXM CCB, in compliance with the Decision Making Process described in chapter Article 2 – The Change Control Board (“CCB”).
References

[1] FIXM Strategy v1.0


[3] AIXM CCB Charter
### Definitions

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIRM</td>
<td>ATM Information Reference Model</td>
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<tr>
<td>AIXM</td>
<td>Aeronautical Information Exchange Model</td>
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<tr>
<td>ASBU</td>
<td>Aviation System Block Upgrade</td>
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<tr>
<td>ATMRPP</td>
<td>Air Traffic Management Requirements and Performance Panel</td>
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<tr>
<td>CCB</td>
<td>Change Control Board</td>
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<tr>
<td>CCBS</td>
<td>CCB Secretariat</td>
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<td>FF-ICE</td>
<td>Flight and Flow – Information for a Collaborative Environment</td>
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<tr>
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<td>Flight Information Exchange Model</td>
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<td>ICAO</td>
<td>International Civil Aviation Organisation</td>
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<tr>
<td>XML</td>
<td>Extensible Markup Language</td>
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* * *
Appendix A - Criteria for deciding what is in core FIXM vs what is in Extension

Intentionally left blank. The appendix will be populated in a future release of the Charter.
Appendix B - Consideration about the FIXM Advisory Board

This appendix captures initial consideration about the FIXM Advisory board; it does not elaborate on the exact membership rules or decision making process of this group. These aspects will be detailed in a future version of the Charter.

As of the publication date of this document, the foreseen objectives of the FIXM Advisory Board are:

- To steer the evolution of FIXM in a way that it can answer the evolving requirements of the Stakeholders;\(^2\)

- To guide and support FIXM CCB activities, including providing a platform for escalating issues and for making decisions about FIXM in the absence of consensus within the FIXM CCB.

It is envisaged that the FIXM Advisory Board will be formed by a limited number of members representing key categories of FIXM Stakeholders, and that it will have a balanced representation between ICAO regions. Voting may be used in order to decide on a change proposal to FIXM.

\(^2\) An AIXM Change Control Advisory Board is established already in order to provide the AIXM CCB with similar guidance, but it has not met as of the publication date of this document. See [3].