AIRM

ATM Information Reference Model

AIRM

Status update

Presented to: ATIEC 2019

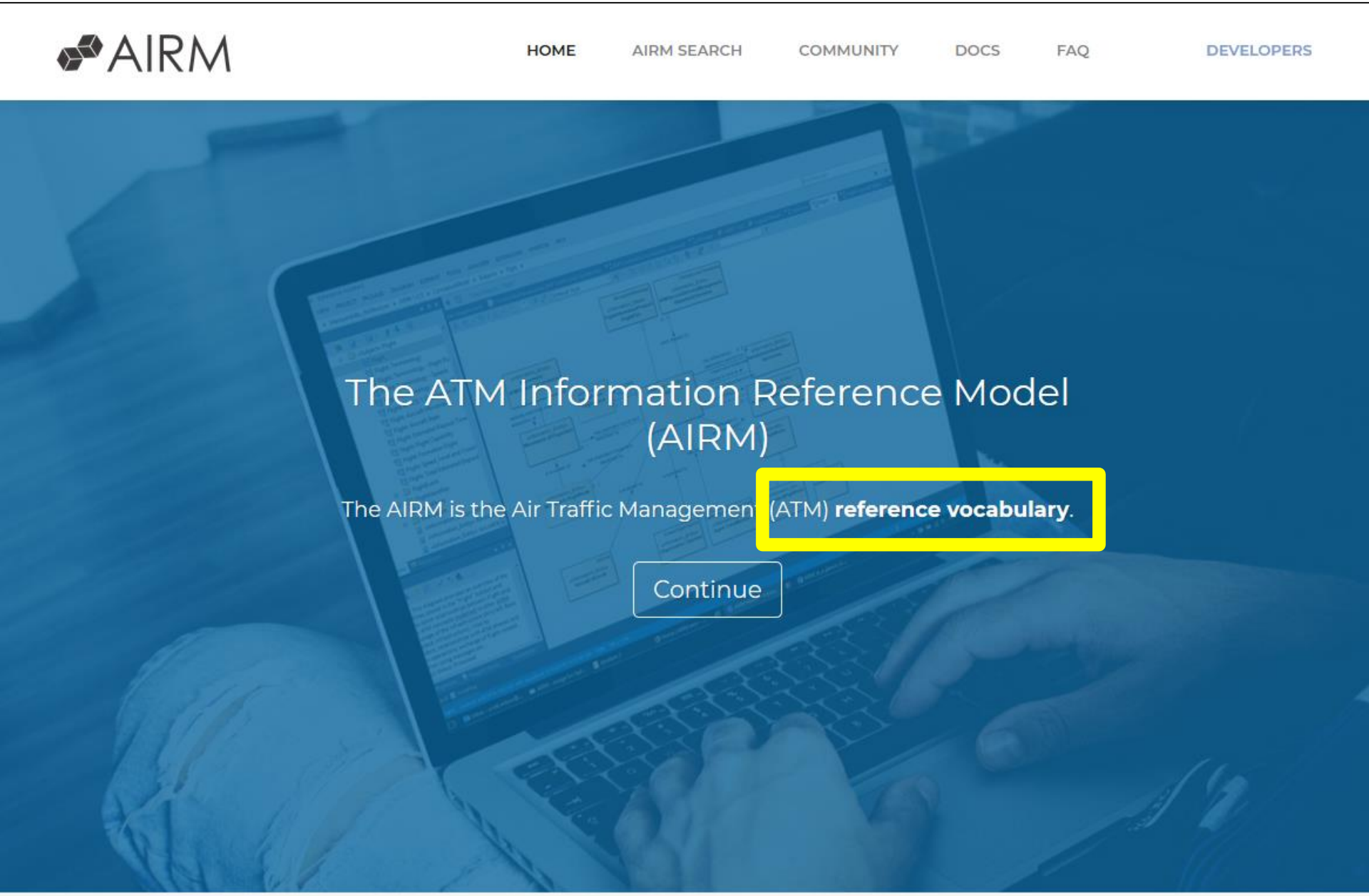
By: Hubert LEPORI, EUROCONTROL

Date: 24-Sept-2019

Aviation Information World – Forecasting the Future

What is the AIRM?

http://airm.aero



AIRM

ATM Information Reference Model

SINCE THE LAST AIRM UPDATE DURING ATIEC 2017 …

AIRM **is in transition**

from R&D

to DEPLOYMENT

AIRM
ATM Information Reference Model

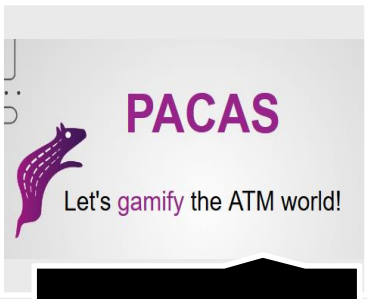
Examples of references or use

EUROCAE ED-254

MET-GATE services

EATMA

BEST



PACAS

ICAO · OACI · ИКАО
国际民航组织

Procedures for
Air Navigation Services

Information Management

DRAFT

Volume I
System Wide Information Management

Version Draft – July 12th, 2019
Working Copy for Inter-Panel Coordination

DRAFT

3.2 SEMANTIC INTEROPERABILITY

3.2.1 Semantic interoperability of the information service payload is achieved by aligning the meaning of the information exchanged with a common reference. The definitions of the information exchanged in an information service payload should be aligned with the Air Traffic Management Information Reference Model (AIRM).

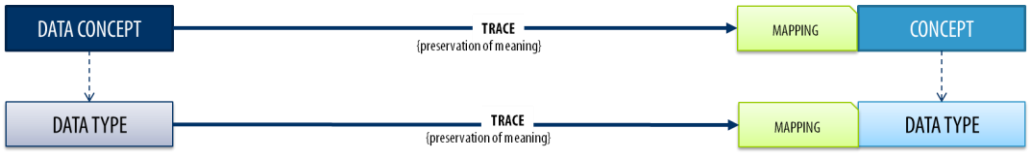
Note – The AIRM is available at the following location: www.airm.aero.

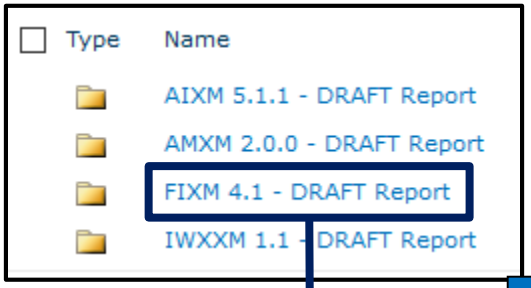
3.2.3 Alignment with the AIRM may be achieved by defining the information exchanged in an information service payload according to an information exchange model that is already aligned with the AIRM.

Note – Guidance on the alignment of the information in an information service payload with the AIRM is provided in Doc 10039 Volume II.

Semantic alignment exercises

Requirements to establish semantic correspondences to the AIRM





ICAO METP has taken ownership of the IWXXM 3.0 mapping to AIRM.

FIXM Property	Class/Type	FIXM Property Definition	AIRM URI
UomFrequency.KHZ	Enum value	Indicates this radio frequency is measured in kHz.	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:DataTy…tsOfMeasure:CodeUomFrequencyType@KHZ
UomFrequency.MHZ	Enum value	Indicates this radio frequency is measured in MHz.	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel:Dat…OfMeasure:CodeUomFrequencyType@MHZ
LastContact.lastContactTime	Time	The time of the last two-way contact between the aircraft and an ATS unit. The time is given in UTC.	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@timeOfLastTwoWayContact
LastContact.lastContactUnit	AtcUnitName	The last ATS unit which had two-way contact with the aircraft.	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@lastContactUnit
LastPositionReport.position	SignificantPoint	The position of the aircraft last known to ATS.	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@lastReportedPosition
LastPositionReport.timeAtPosition	Time	Timestamp corresponding to the last known position.	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@timeAtLastReportedPosition
FlightEmergency.otherInformation	CharacterString	Other pertinent information not captured elsewhere needed to notify appropriate organizations regarding aircraft in need of search and rescue.	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@annotation
FlightEmergency.phase	EmergencyPhase	A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase. [ICAO Annex 11] This is the stage of emergency the flight is currently under or an indication the emergency has been cancelled, as designated by an ATS unit. [FIXM]	urn:x-ses:sesarju:airm:v410:Consolidated…encyOperations:EmergencyPhase@type
EmergencyPhase.ALERFA	Enum value	The code word used to designate an alert phase. [ICAO Annex 11]	urn:x-ses:sesarju:airm:v410:Consolidated…sts:CodeEmergencyPhaseType@ALERFA

AIRM

ATM Information Reference Model

http://airm.aero/community.html

Join the community

There is a role for you.

Contribute

Propose changes to the AIRM and review proposals from other contributors.

more

Monitor

Follow the latest AIRM discussions and upcoming updates.

more

AIRM CCB Members

Your organisation can request to join the AIRM Change Control Board (CCB)

more

AIRM
ATM Information Reference Model

Establishment of the AIRM CCB with global participation

CURRENT MEMBERS

AIRSERVICES AUSTRALIA
ASBU FOR FUTURE GMBH
AVITECH
DFS
EUROCONTROL
FREQUENTIS
LEONARDO
LFV
METEO-FRANCE
SINTEF

ANSPs
International organisations
States
Airports
Airlines
ATM industry
Military

AIRM CCB Members

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more

Communities established around standardised information exchange models

AIRM
ATM Information Reference Model

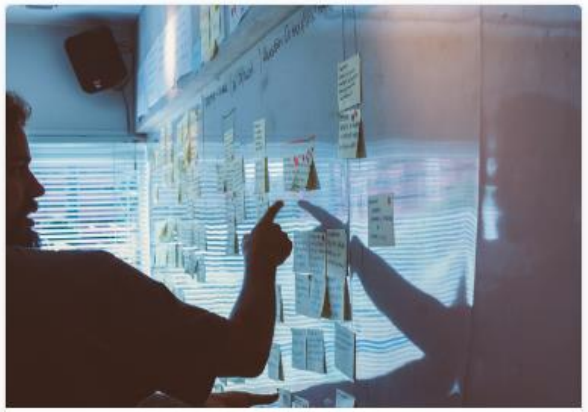
Establishment of the AIRM CCB with global participation

JOIN NOW!

BECOME A MEMBER

JOIN NOW!

To join the AIRM CCB email
airm@eurocontrol.int



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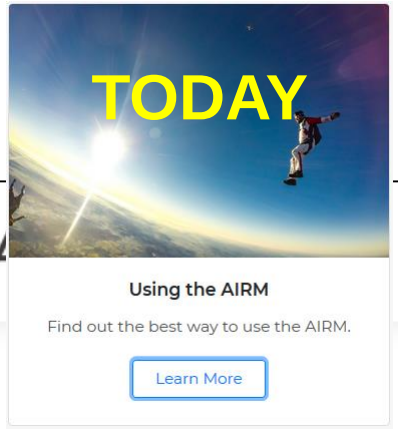
more



http://airm.aero/documentation/using-the-airm.html

http://airm.aero/viewer.html

HOME AIRM VIEWER COMMUNITY DOCS FAQ DEVELOPERS

AIRM Viewer

The AIRM Viewer provides a simplified HTML view of the ATM Information Reference Model (AIRM).

Terms

This lists the terms and definitions from the source documents that were used to build the AIRM. For example, it includes terms from ICAO annexes and docs, the WMO and European Regulations.

Abbreviations

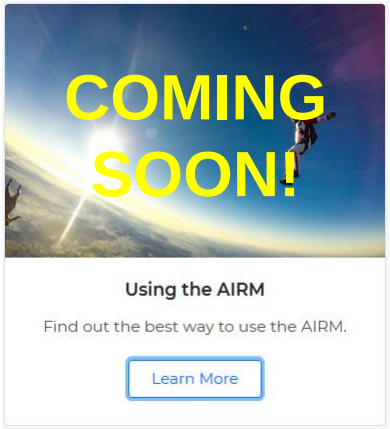
This lists the abbreviations used in the AIRM.

Conceptual Model

This provides a reference of information entities and relationships relevant to the ATM operational discourse. It is intended for use by operational experts. It can be used, for example, in disambiguating terms used in operational documents and developing information exchange requirements.

Logical Model

This provides a reference model of data concepts for service architects and system implementers. It contains the entities necessary to model the shared information of ATM. It can be used in order to construct “derived” logical data models and, indeed, exchange models or physical data models. As such, it can be used to create a model that can be used to build services and operations.



Supporting the users: AIRM as a Service

Lets have a look at some tools!

TOOLS FOR ADVANCED USERS

EXCEL ADD-IN

COMPARE PAYLOADS

airm search Advanced

ONLINE SEARCH

CONFORMANCE CHECK

PAYLOAD DESIGNER

TOOLS FOR BASIC USERS

airm search

ONLINE SEARCH

CHROME EXTENSION

WORD ADD-IN

3RD PARTIES

?

DESIGN ENVIRONMENT

AIRM API

AIRM DATABASE

Supporting the users: AIRM as a Service

Using the AIRM

Find out the best way to use the AIRM.

Learn More

Aerodrome

A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of Aircraft.

Synonyms: AirportHeliport;AirportHeliport;

Sources: ICAO Annex 1; ICAO Annex 15; ICAO;

+ More...

Related

has AerodromeReferencePoint
may provide information for multiple OperationalFlightInformationService
serves City
may be CoordinatedAirport
identified by AerodromeLocationIndicator
uses AltimeterSource
alternate Aerodrome
may be collocated with Aerodrome
has AircraftStand

Start searching

Type any character in search input to find a word.

airm search

▪ONLINE SEARCH

Supporting the users: AIRM as a Service

Using the AIRM

Find out the best way to use the AIRM.

Learn More

Search

Models :

All models

Select targets:

- Classes
- Properties

CodeDatalinkCommunicationCapabilityType

A code indicating the Capability of the Aircraft to communicate or receive data.

Sources: FIXM;

– Less...

Status: Proposed

Urn: urn:aero:airm:1.0.0:LogicalModel:Subjects:Aircraft:Codelists:CodeDatalinkCommunicationCapabilityType Copy urn

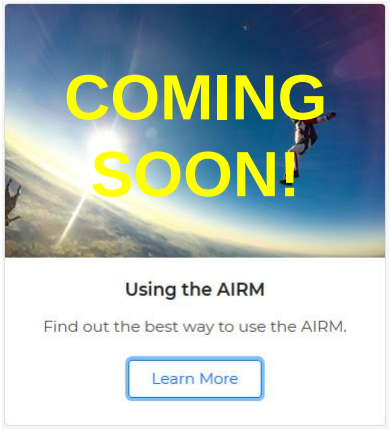
Properties

CPDLC_ATN_VDL_MODE_2	Copy urn	Controller Pilot Data Link Communications ATN VDL Mode 2
CPDLC_FANS_1/A_HFDL	Copy urn	Controller Pilot Data Link Communications FANS 1/A HFDL
CPDLC_FANS_1/A_SATCOM_INMARSAT	Copy urn	Controller Pilot Data Link Communications FANS 1/A SATCOM (INMARSAT)
CPDLC_FANS_1/A_SATCOM_IRIDIUM	Copy urn	Controller Pilot Data Link Communications FANS 1/A SATCOM (Iridium)
CPDLC_FANS_1/A_SATCOM_MTSAT	Copy urn	Controller Pilot Data Link Communications FANS 1/A SATCOM (MTSAT)
CPDLC_FANS_1/A_VDL_MODE_2	Copy urn	Controller Pilot Data Link Communications FANS_1/A_VDL_Mode_2
CPDLC_FANS_1/A_VDL_MODE_4	Copy urn	Controller Pilot Data Link Communications FANS 1/A VDL MODE 4 Capability
CPDLC_FANS_1/A_VDL_MODE_A	Copy urn	Controller Pilot Data Link Communications FANS 1/A VDL Mode A
CPDLC_OVER_VDL_MODE_3	Copy urn	Controller Pilot Data Link Communications over VDL Mode 3
CPDLC_OVER_VDL_MODE_4	Copy urn	Controller Pilot Data Link Communications over VDL Mode 4
CPDLC_RTCA_SC_214	Copy urn	Controller Pilot Data Link Communications RTCA SC 214
FANS_1A/ACARS_DATA_LINK	Copy urn	Controller Pilot Data Link Communications FANS 1A / ACARS

airm search

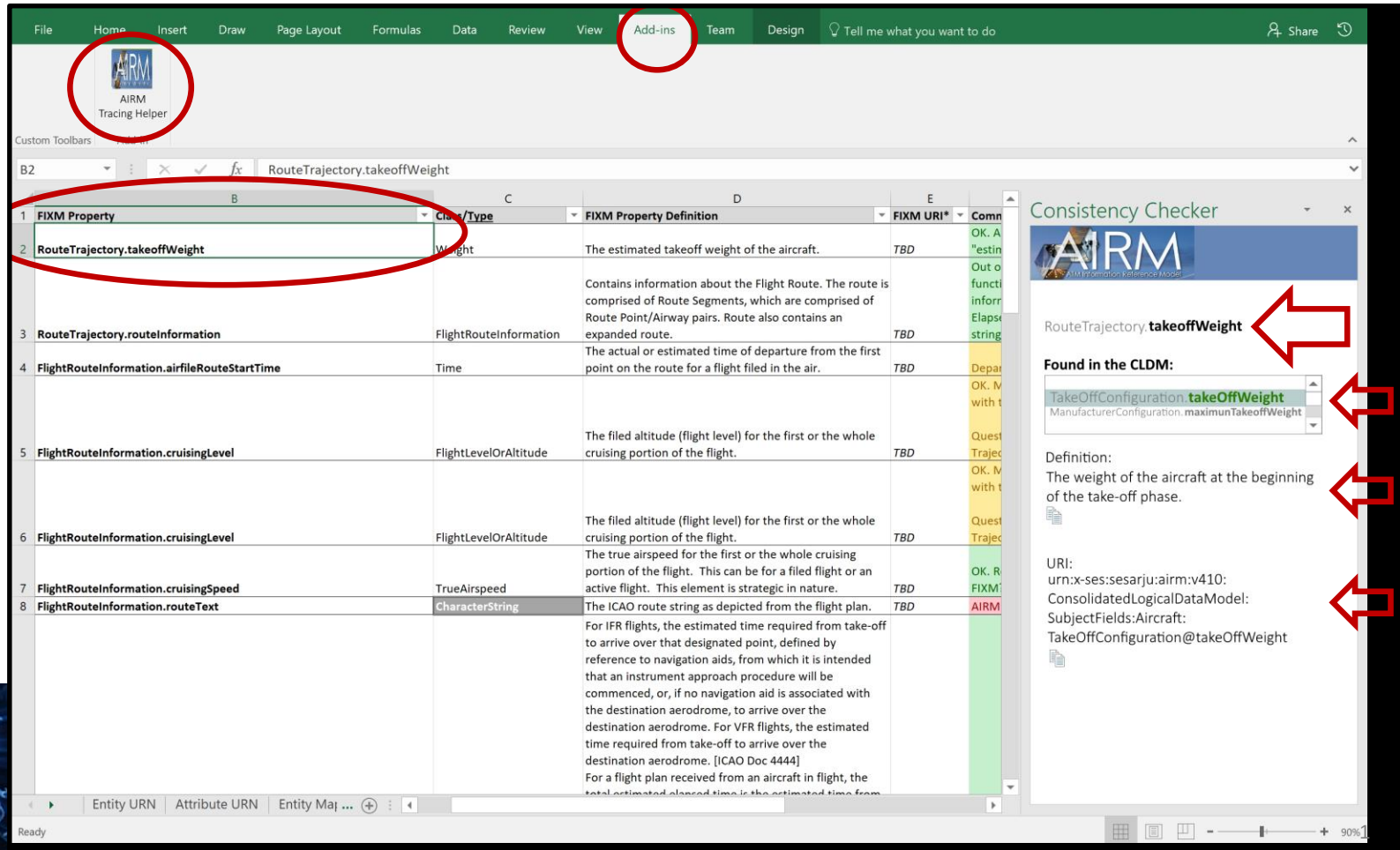
Advanced

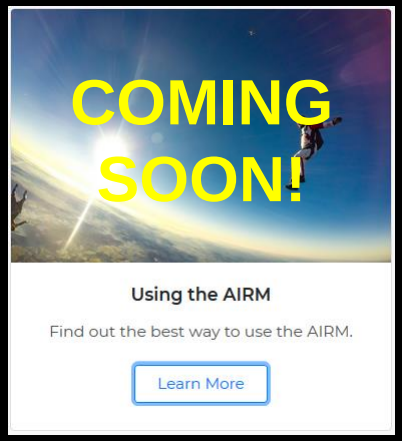
- ONLINE SEARCH



Supporting the users: AIRM as a Service

▪EXCEL ADD-IN



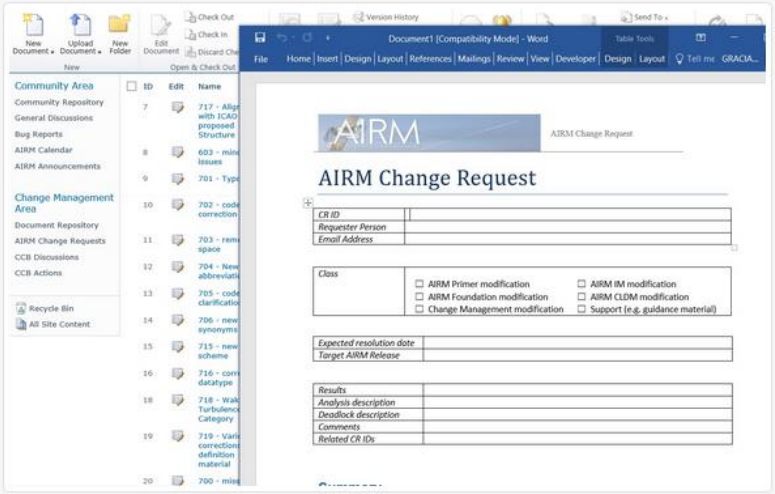


Connect your software with the

AIRM API

to retrieve terms, definitions, URNs and much more!

AIRM API



Contribute

Propose changes to the AIRM and review proposals from other contributors.

Any member of the AIRM Community can submit a change request.

Register now if you haven't done it yet, or access to the work area:

Access

http://airm.aero/community.html

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Follow the latest AIRM discussions and upcoming updates.

Take advantage of the advanced features like personalised alerts.

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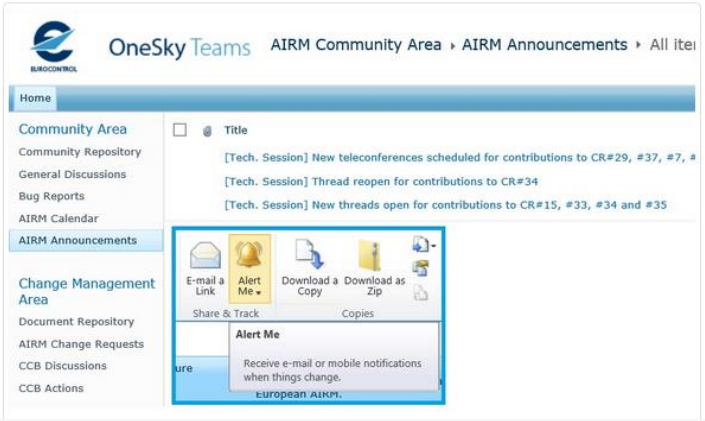

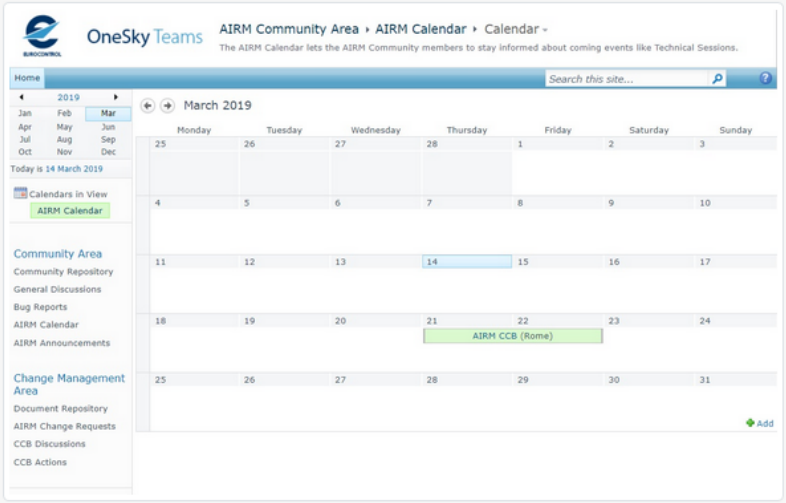

AIRM CCB Members

Your organisation can request to join the AIRM Change Control Board (CCB)

Becoming an AIRM CCB member allows you to help guide the AIRM so that it continues to be effective for you and the wider AIRM community.

Register now if you haven't done it yet, or access to the work area:

Access

http://airm.aero/faq.html

What is the AIRM?

The AIRM is the Air Traffic Management reference vocabulary. It constitutes the knowledge on information and data that is exchanged within the ATM community.

Using the AIRM promotes semantic interoperability - the ability to exchange information with unambiguous, shared *meaning*. The AIRM therefore serves a role in the overall interoperability improvements achieved by SWIM.

More about the AIRM

I can't find my concepts in the AIRM. Will that impact my ability to exchange information?

Who is behind the AIRM?

How much the AIRM cost?