



Supporting
European
Aviation



Session 2.3: FIXM

Data exchange model in support of FF-ICE (FIXM)



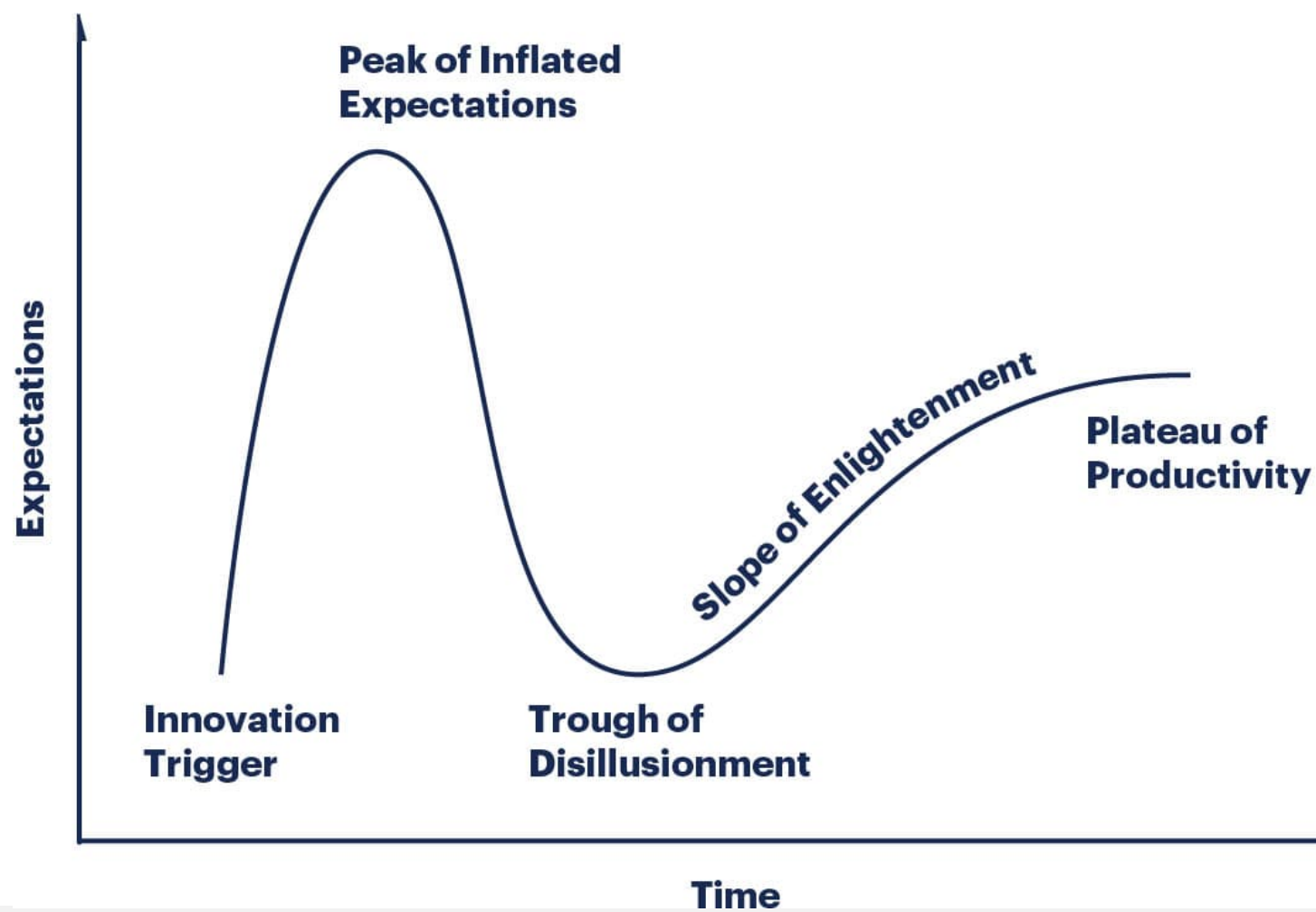
 <p>FIXM Applications Contain metadata about the message exchange in addition to guidance for constructing messages, such as XML templates. Sits as a layer above Core.</p> <p>DOWNLOAD MESSAGING SUPPORT</p>	 <p>FIXM Core Contains basic flight data that are globally applicable and which are endorsed by the FIXM CCS.</p> <p>DOWNLOAD BASIC FLIGHT DATA</p>	 <p>FIXM Extensions Support localized requirements from particular communities of interest. Extends basic flight data and/or applications.</p> <p>DOWNLOAD REGIONAL SUPPLEMENTS</p>
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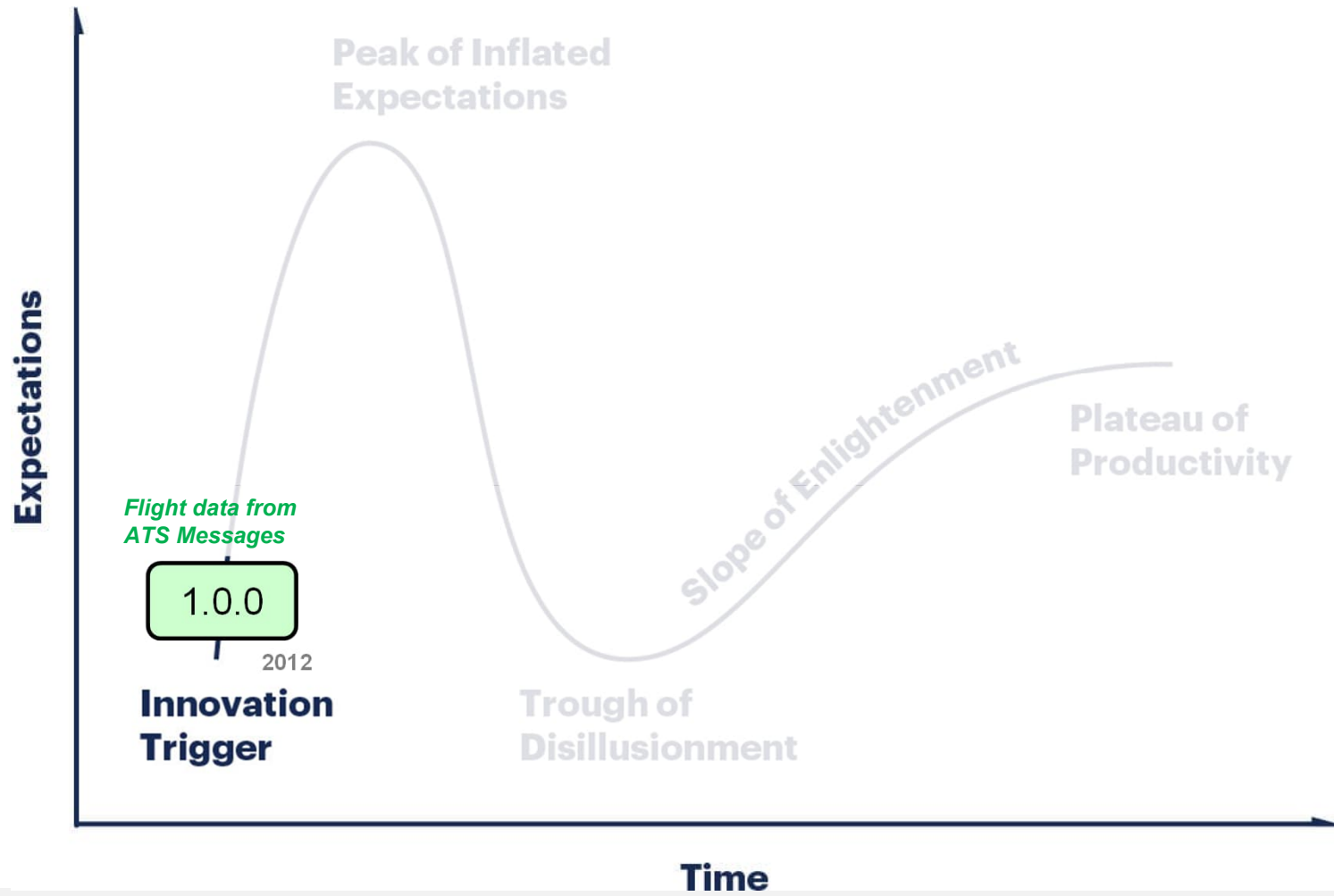
is a brand. It has several components.

WHAT ARE THESE COMPONENTS?

The FIXM history perfectly exemplifies the *Gartner hype cycle*



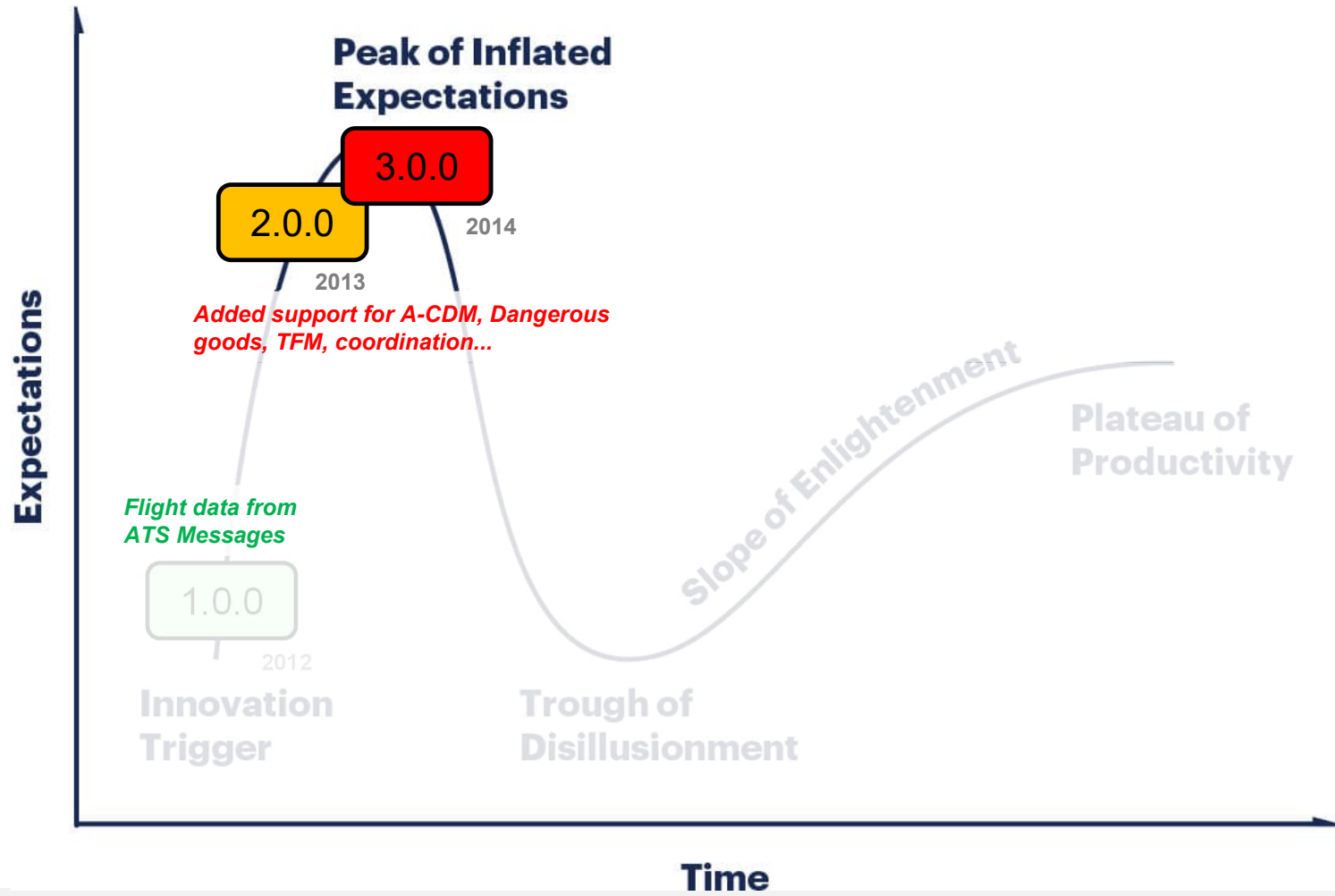
The FIXM history perfectly exemplifies the *Gartner hype cycle*



FIXM's
Information Exchange
Requirements
sources

**ICAO DOC
4444**

The FIXM history perfectly exemplifies the *Gartner hype cycle*

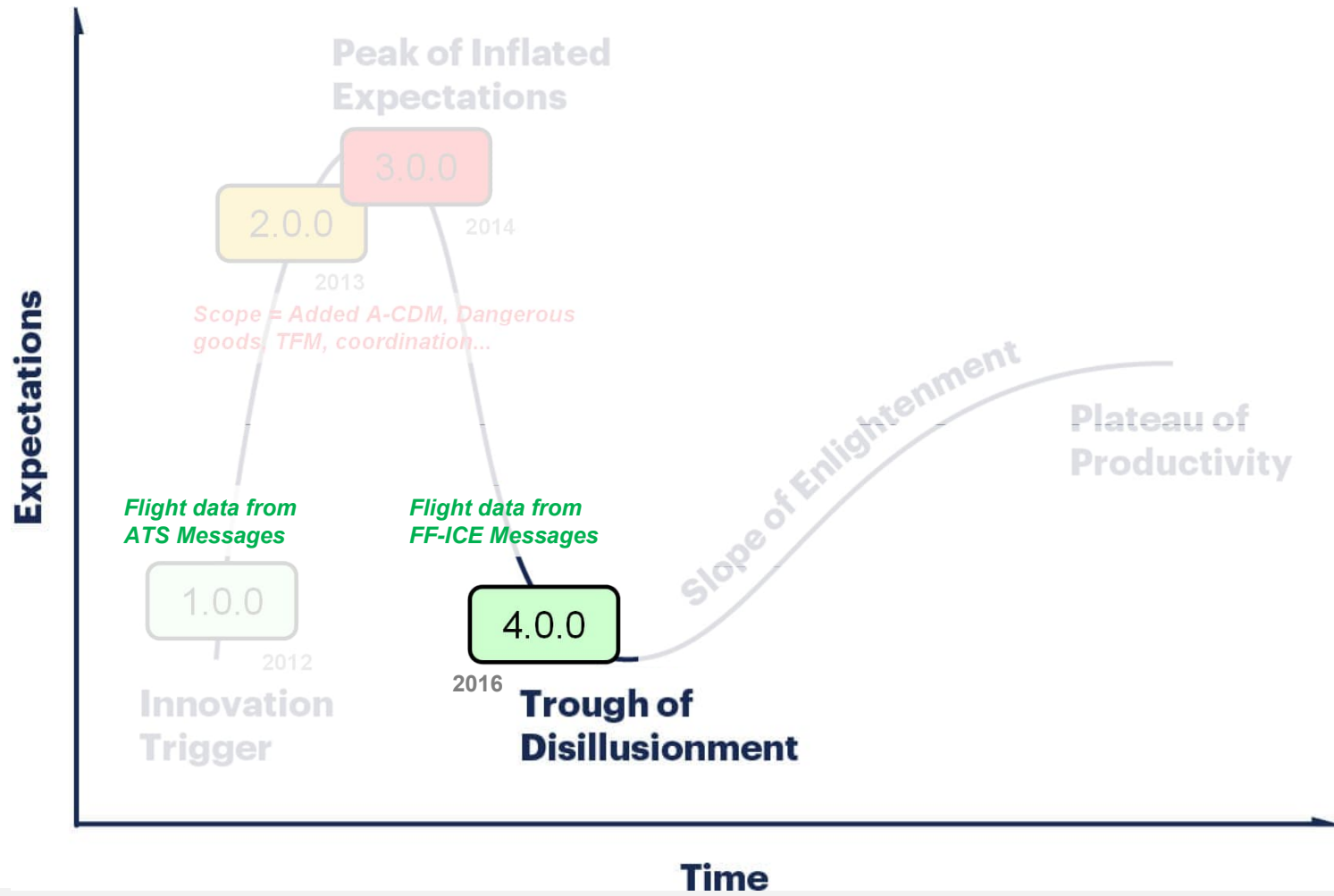


FIXM's
Information Exchange
Requirements
sources

**Non-ICAO
sources**

**ICAO DOC
4444**

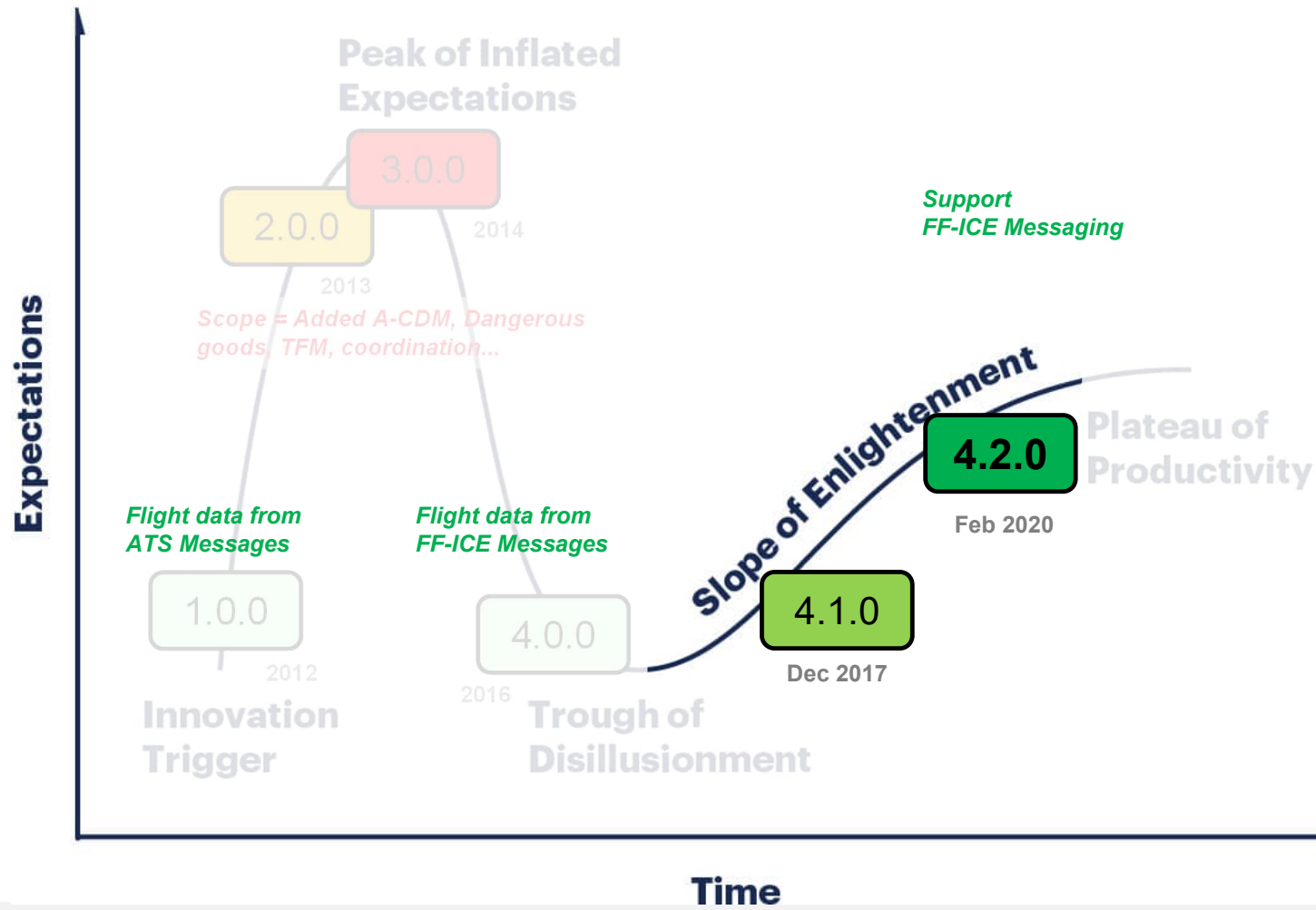
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FIXM's Information Exchange Requirements sources

- ICAO DOC 9965 Ed 2 Volume II DRAFT
- ~~Non-ICAO SOURCES~~
- ICAO DOC 4444

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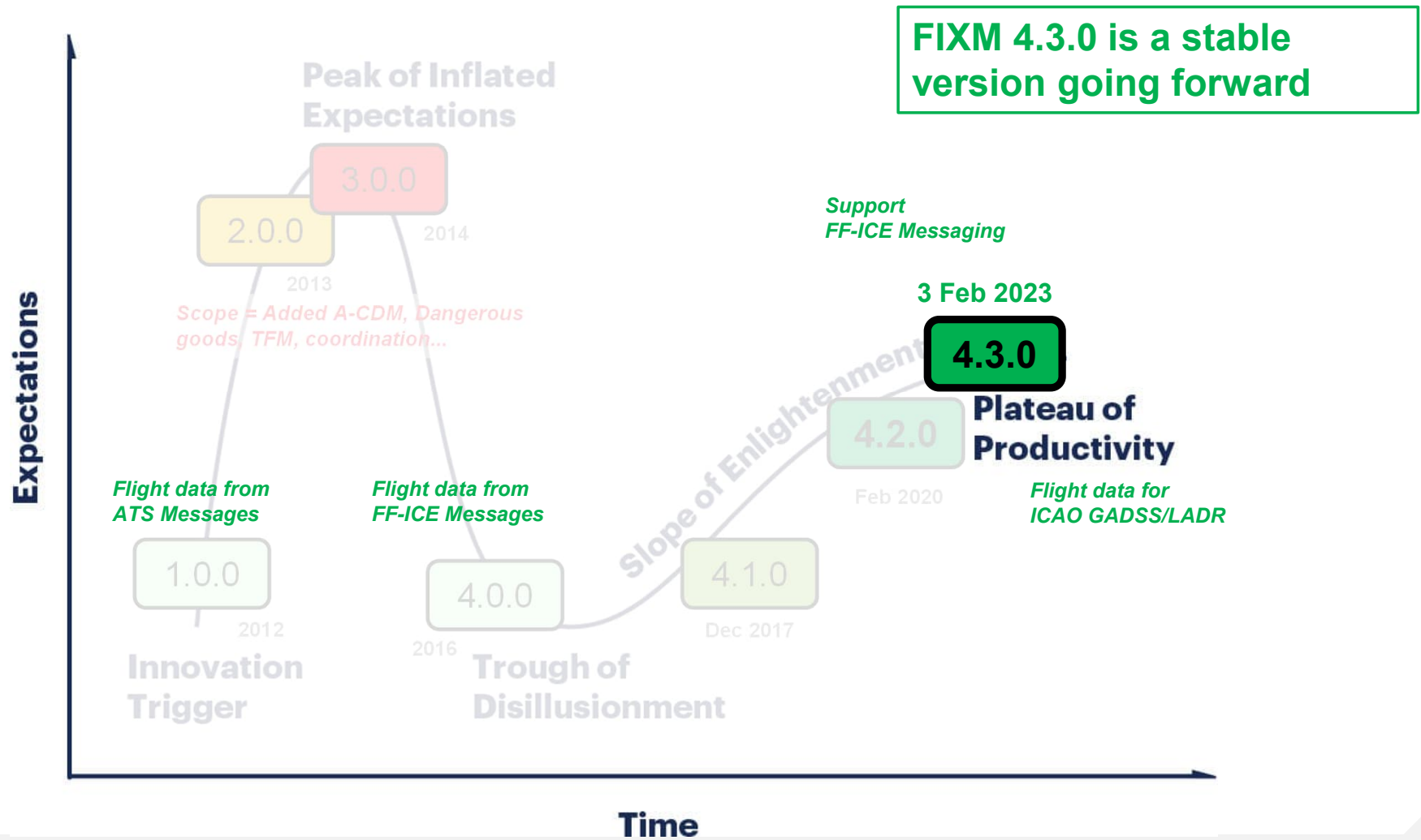


FIXM's Information Exchange Requirements sources

ICAO DOC 9965 Ed 2 Volume II DRAFT

ICAO DOC 4444

The FIXM history perfectly exemplifies the *Gartner hype cycle*



FIXM's Information Exchange Requirements sources
ICAO DOC 9965 Ed 2 Volume II DRAFT 0.994
ICAO DOC 10150 Ed 1
ICAO DOC 4444



FIXM Core

Contains basic flight data that are globally applicable and which are endorsed by the FIXM CCB.

4.3.0

*Flight data from
ATS Messages*

*Flight data from
FF-ICE Messages*

*Flight data for
ICAO GADSS/LADR*

FIXM's
Information Exchange
Requirements
sources




**ICAO DOC
9965
Ed 2
Volume II
DRAFT 0.994**

**ICAO DOC
10150
Ed 1**

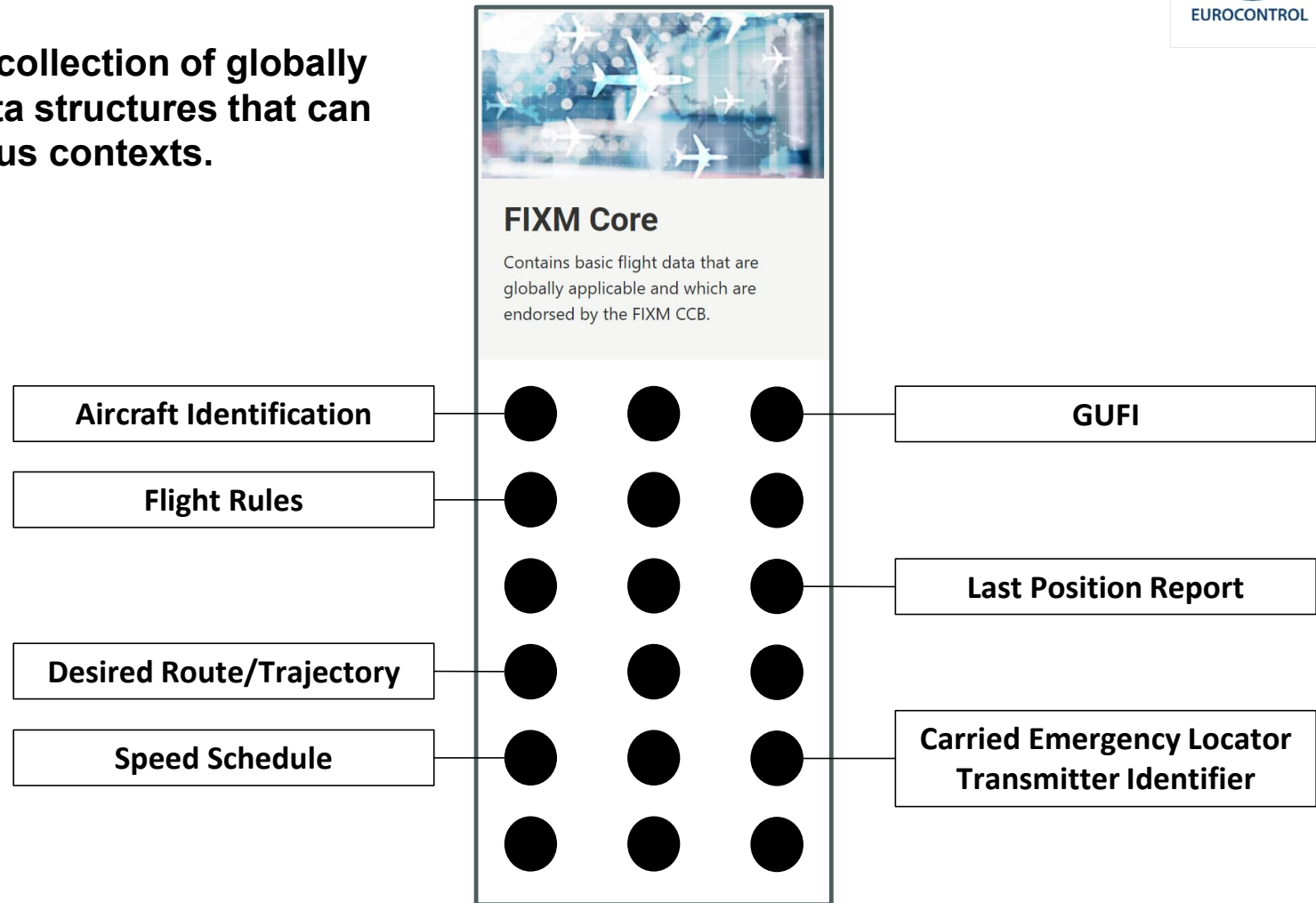
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Ed 16**

SCOPE DECLARATION

FIXM Core provides a collection of globally standardised flight data structures exchanged in the context of

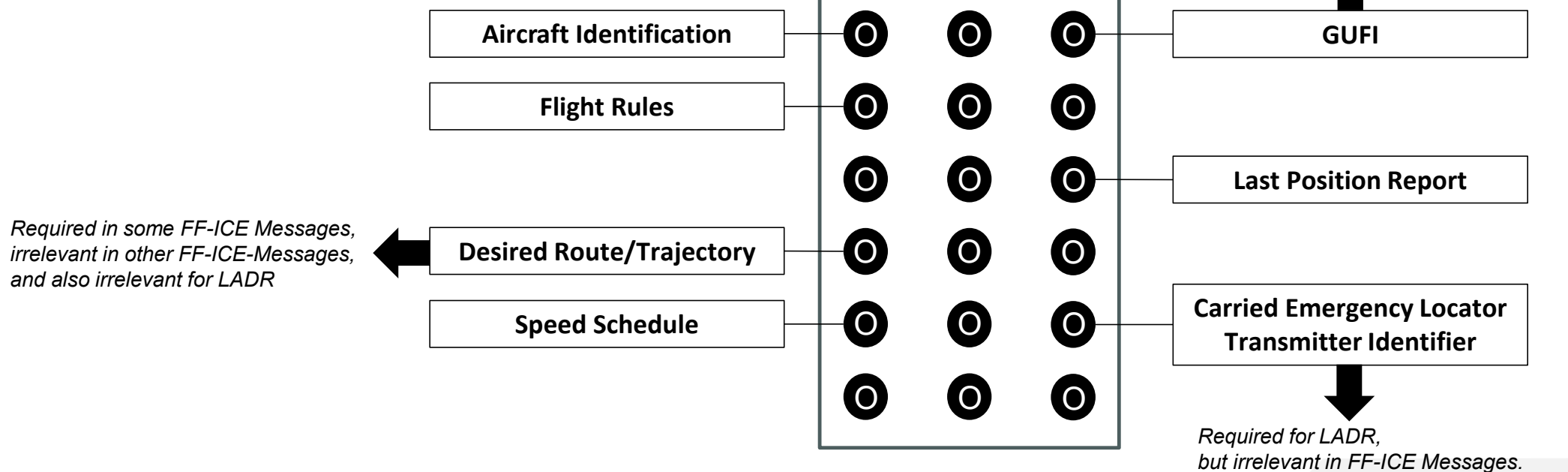
-  ICAO GADSS / LADR
-  FF-ICE/R1 messages
-  legacy ATS messages

FIXM Core provides a collection of globally standardised flight data structures that can be exchanged in various contexts.



FIXM Core provides a collection of globally standardised flight data structures that can be exchanged in various contexts.

All flight data items are optional in FIXM Core, because FIXM Core supports multiple contexts of exchanges.



An FF-ICE Message has:

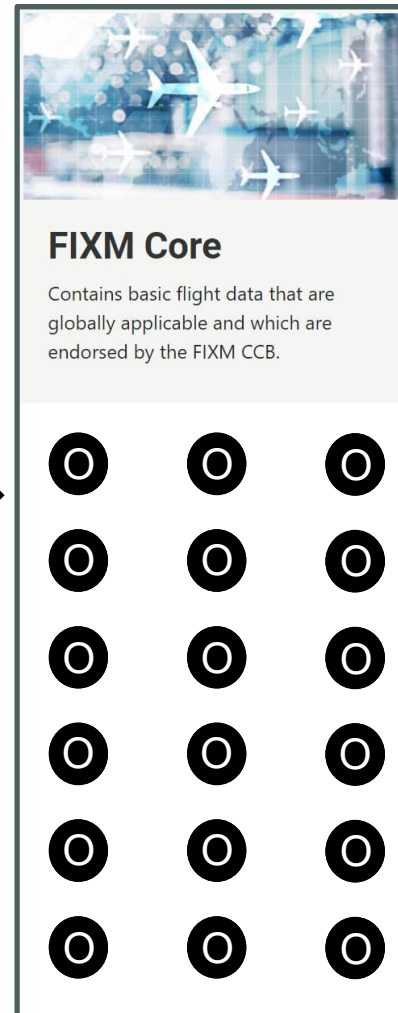
- Message data items

C-4 Filed Flight Plan

Table 12 Filed Flight Plan

Data Category	Data Item	Requirement	Reference	Guidance
Message Information	List of Recipients	Mandatory (Note 1)	B-2.28	Identify each Relevant eASP for the flight.
	Message Originator	Mandatory (Note 1)	B-2.28	Identify who sent the message.
Flight Identification	GUFI	Mandatory	B-2.29	
	Aircraft Identification	Mandatory	B-2.6	
Flight Status	Operator Flight Plan Version	Mandatory	B-2.14	An initial submission should be identified as version 1 except when a PFP was submitted before. A subsequent submission intending to replace the previous flight plan should indicate a version one greater than the previously submitted plan or update.
Flight Characteristics	Flight Rules	Mandatory	B-2.7	
	Type of Flight	Optional	B-2.19	
	Special Handling	Optional	B-2.20	Allow multiple expressions of special handling.
	Flight Plan Originator	Optional	B-2.13 B-2.12	
	Remarks	Optional	B-2.30	
	Operator	Optional	B-2.31	
	Equipment and Capabilities	Mandatory	B-2.10	
	Supplementary Information Source	Optional	B-2.32	

- Flight data items
- Business rules addressing the expected presence of the flight and message data items in the message



More is required on top of FIXM Core to provide a grammar for the FF-ICE Messages.

The **FF-ICE Message Application** puts FIXM Core in FF-ICE context.

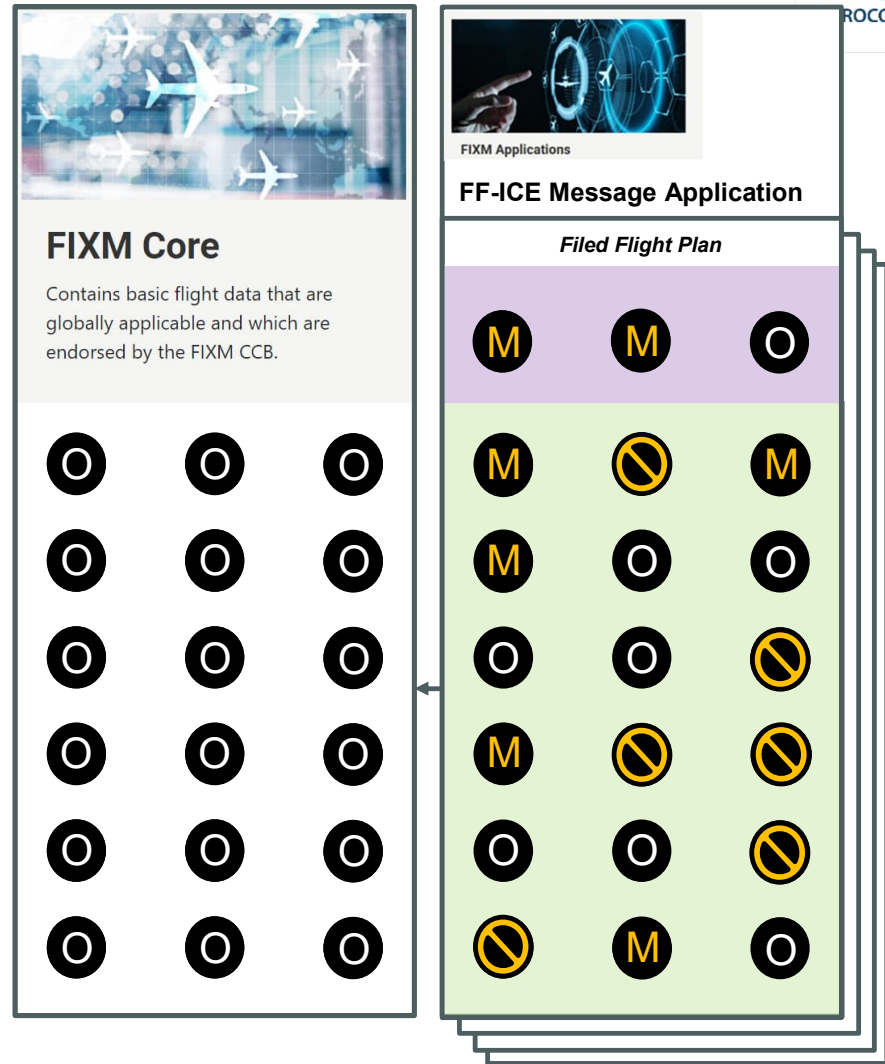


C-4 Filed Flight Plan

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	Equipment and Capabilities	Mandatory	B-2.10	
Supplementary Information Source	Optional	B-2.32		

It provides the grammar for the 13 individual FF-ICE Message, under the form of message templates.
 Each FF-ICE message template involves a **restricted subset of FIXM Core**.



From ICAO Doc 9965 Ed2 Vol II draft 0.994

FIXM Core provides a collection of globally standardised flight data structures that can be exchanged in various contexts.



2.5.3 Exchanged Information

2.5.3.6 **FIXM**, the **Flight Information Exchange Model**, is an information exchange model capturing Flight and Flow information that is globally standardised. FIXM is the recommended domain specific Information Exchange Model for implementing FF-ICE information exchanges in accordance with the PANS-IM requirements on information⁴.



is a brand. It has several components.

The **FF-ICE Message Application** puts FIXM Core in FF-ICE context. It provides the grammar for the 13 individual FF-ICE Message, under the form of message templates.

From ICAO Doc 9965 Ed2 Vol II draft 0.994

2.5.4 Information Services used by the FF-ICE Services

- For field 'Information Exchange Models', specify **FIXM "FF-ICE Message" Application [version]** (if this SWIM enabler is used). Also indicate the name of any extension(s) to FIXM used by the service, if applicable.

Note: the FIXM "FF-ICE Message" Application is explicitly mentioned here as it provides the recommended exchange schemas for the FF-ICE Messages and ensures common understanding of the FF-ICE exchange schemas used.

FIXM Extensions can be used to enrich FIXM Core in a localised way, to support local/regional needs.



FIXM Applications
Contain metadata about the message exchange in addition to guidance for constructing messages, such as XML templates.
Sits as a layer above Core.
[DOWNLOAD MESSAGING SUPPORT](#)

FIXM Core
Contains basic flight data that are globally applicable and which are endorsed by the FIXM CCS.
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Online FIXM Resources

Main FIXM website

www.FIXM.aero

- Authoritative reference for downloading the FIXM components

FIXM User Manual

- FIXM Implementation guidance
- FIXM Data samples
- FIXM Development Tool Compatibility

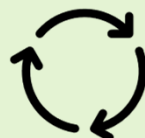
FIXM Work Area

- FIXM Change Requests
- Bug reports
- Discussion Forum for implementers
- Technical meeting announcements



ICAO
ATMRPP

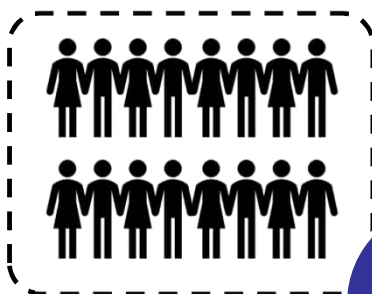
- Defines the FF-ICE IERs
- Provides operational oversight



- Decides on the evolution of FIXM. Endorses CRs. Decides on the publication of new FIXM Releases.

FIXM CCB

FIXM Change Management



FIXM
Community

FIXM
Change
Management

FIXM
Secretariat

- Issues, consolidates, and submits Change Requests for improving FIXM, to be endorsed by the FIXM CCB.

- Support the FIXM evolution activities: management of FIXM CRs, maintenance of FIXM components, maintenance of online resources





<https://docs.fixm.aero/#/strategic-docs/strategy>

<https://docs.fixm.aero/#/strategic-docs/charter>



FIXM Strategy

Introduction

FIXM Requirements

- FIXM Change Management
- FIXM Components and Artifacts
- FIXM, One of Many ATM Standards
- FIXM Scope and Schedule
- ...

FIXM Relationship to Services and Messages



FIXM Change Management Charter

Objective

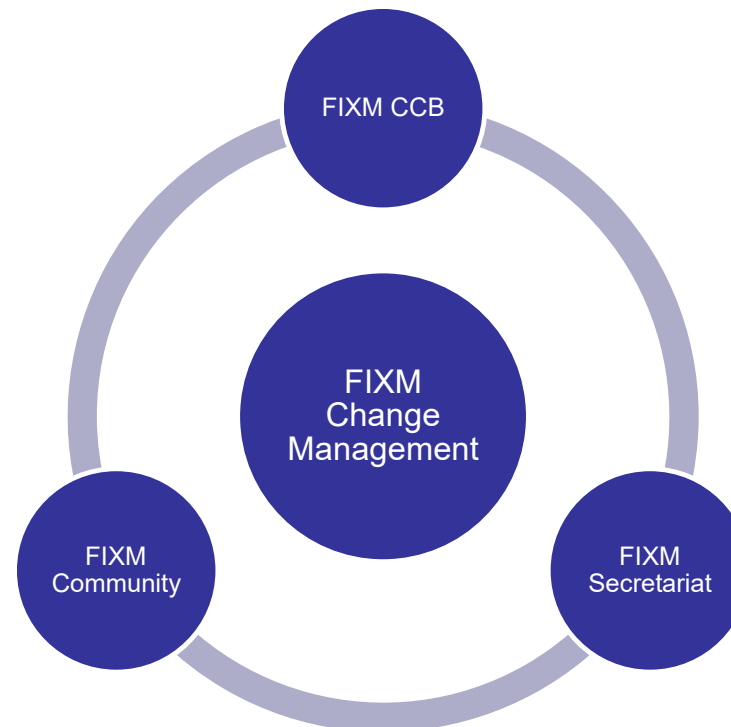
The Change Control Board

The CCB Secretariat

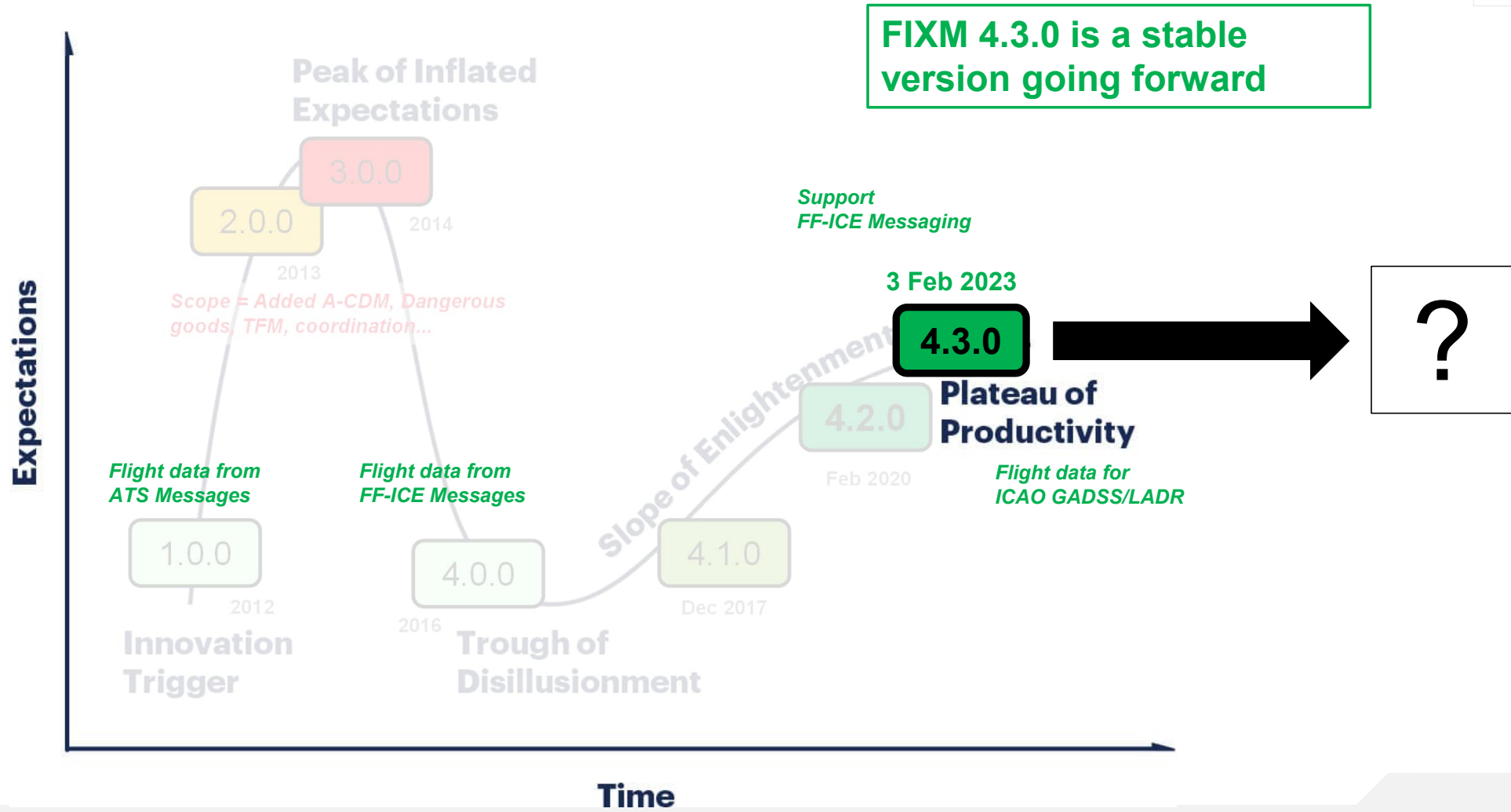
The FIXM Community of Interest

Change Management Process

- FIXM Bugs
- FIXM Change Requests



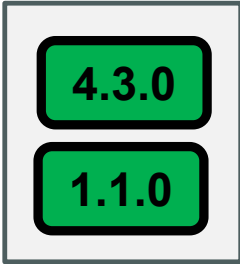
Future of FIXM

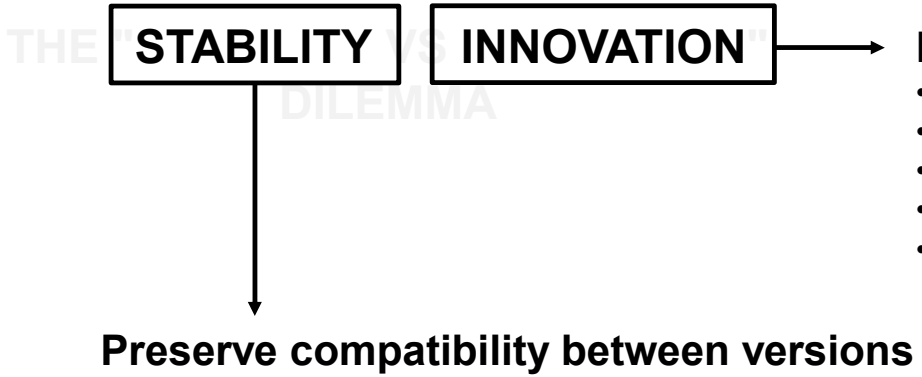


THE "STABILITY VS INNOVATION" DILEMMA



CORE
FF-ICE Message





- Future evolution** of FIXM will be driven by
- *Need for technical optimizations related to FF-ICE/R1*
 - *New / updated requirements on FF-ICE/R1 messages*
 - *Emerging requirements for FF-ICE/R2*
 - *Need to accommodate alternative physical representations (JSON?)*
 - ...

