



WG - 104

# SWIM Services - Standardisation

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ATIEC

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**DFS** Deutsche Flugsicherung



# WG-104 Overview

- WG-104 Task & Deliverables
- WG-104 Organisation
- Standardising the Extended AMAN Service
- Deliverable: Services for future Standardisation
- Outlook



# WG-104 Deliverables

## Work Programme

- Prioritised list of Services for future standardisation

## Concept for service standardising

- „SWIM service covering Extended horizon AMAN coordination“ dealing with AMAN SWIM upstream service

## Guidelines

- Guidance Material how to standardise future services

## Lessons Learnt

- Description of the pitfalls and the problems which came up during the standardisation of the AMAN service



# WG-104 Organisation

- Initiated beginning of 2016
- Tasked to deliver a concept for standardisation of SWIM Services – with the following members

## ANSPs

- DFS
- DSNA
- ENAV
- Hungarocontrol
- *LFV*
- *NATS*

## Industry

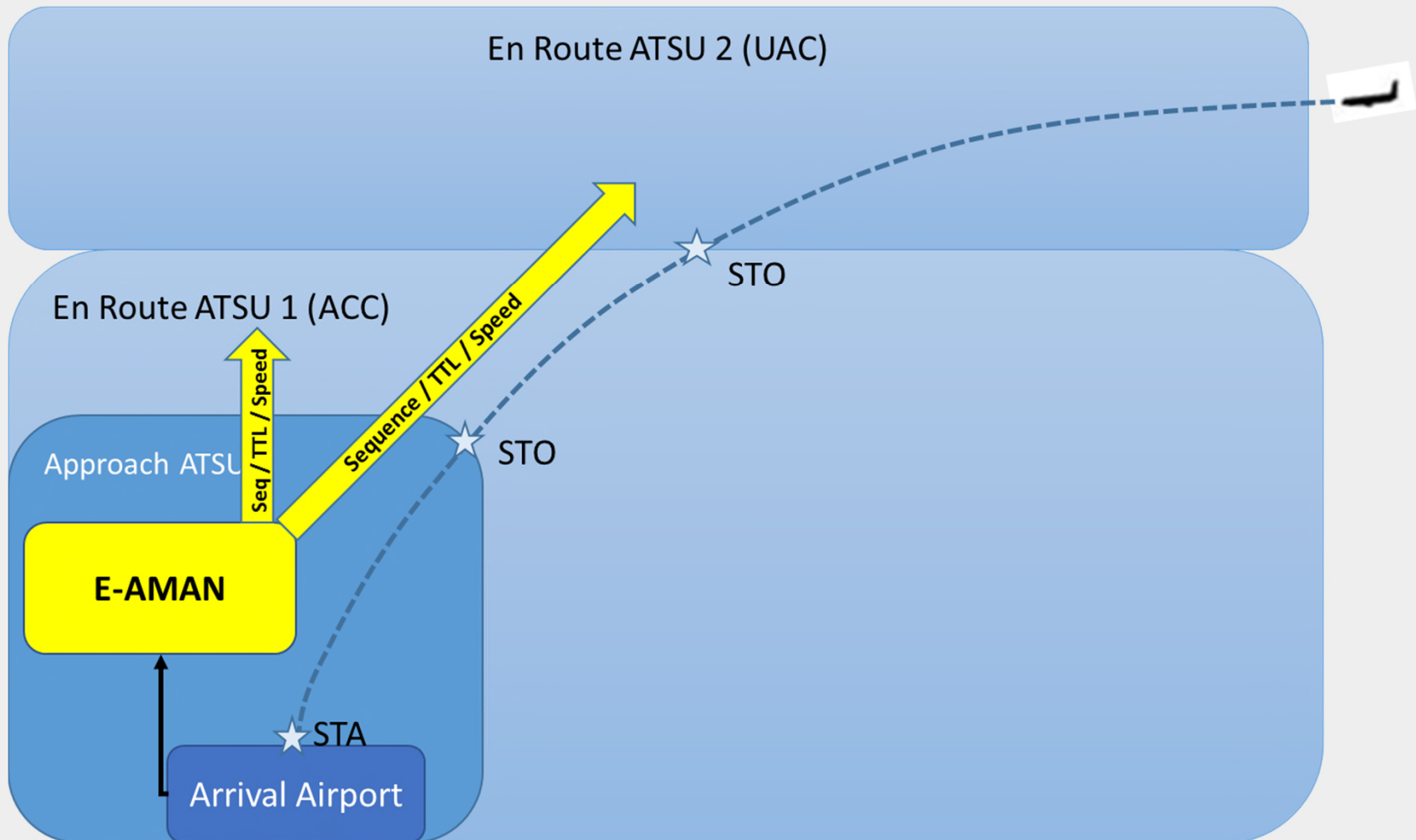
- Frequentis
- Harris
- Indra
- *Leonardo*
- *Thales*

## Others

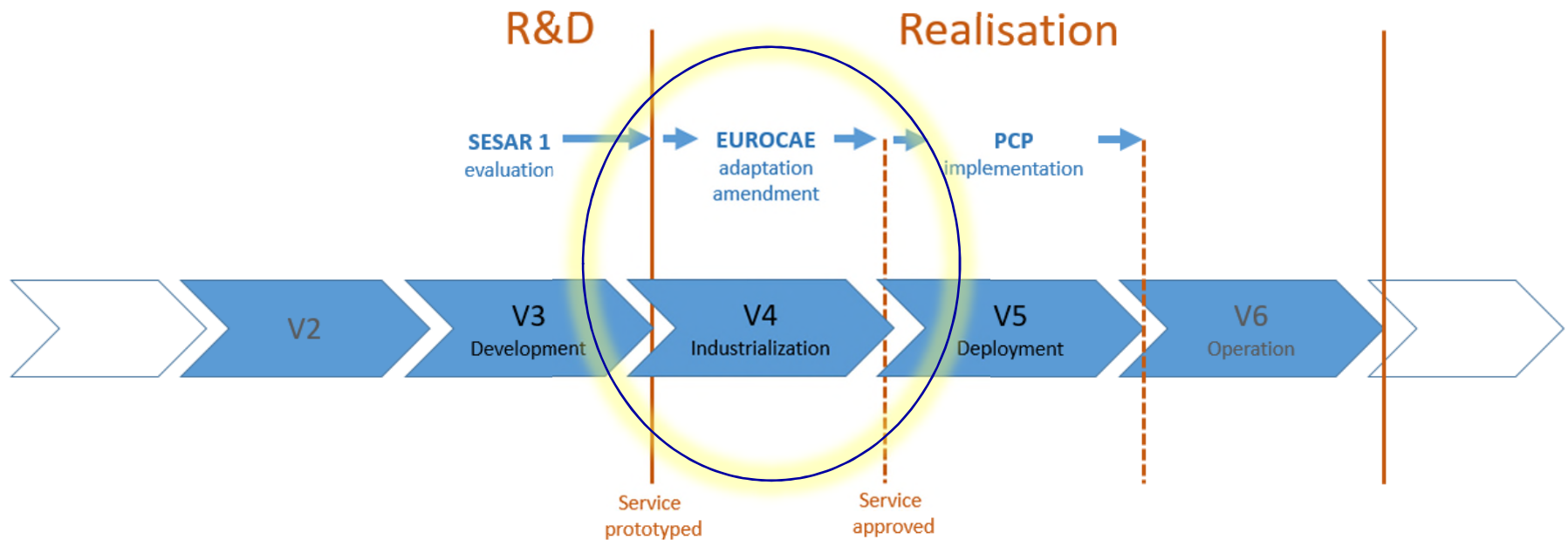
- Eurocontrol
- EASA
- Fraport
- SJU



# The E-AMAN concept



## The SWIM Service in the E-OCVM Concept Lifecycle Model



\* E-OCVM – European Operational Concept Validation Methodology (comparable to TRL)



# Standardization Process I

## INPUT

- Operational Concept
- Service Description
  - SDD (Service Description Document)
    - Service Identification
    - Operational Context
    - Service Functions and Service Interfaces
  - UML – Model
- Eurocontrol Specifications for SWIM
  - Strong co-ordination already at a very early stage



# Standardization Process II

## Main Activities

- Validation of material from SESAR 1 (SDD, UML Model)
- Transfer of UML model into unambiguous Requirements
- Service Design – specific to the Extended AMAN service
  - Service Structure - How does the service look like (Interfaces, Operations, Messages)
  - Service Behaviour – How does the service work (nominal and non-nominal behaviour)
  - Data Catalogue – What are the data elements the service exchanges (semantics, cardinalities, value ranges, constrains, error classes, error codes, mapping to AIRM)





# Standardization Process II

## Main Activities

- Non Functional Requirements
  - Which Service Quality can the consumer expect (Availability, Response Time, ...)
- Technical Service Design
  - What are the chosen technical Solutions (Service Interface Bindings, Profile Parts, ...)
  - Error handling
  - Filtering and queue handling



# Standardization Process IV

## Results

- Full Set of Requirements which enables the implementation of standardized Extended AMAN service
- Guidance Material how to standardize future services



# List of proposed services

- **MET Services**

- METHazardEnRouteObservation, METHazardEnRouteForecast, METAR, METREPORT, TAF

- **A-CDM Services**

- AiportFlightInformationPublication, CalculatedPreDepartureSequenceDelivery, PreDepartureSequenceSetting, TargetOffBlockTimeSetting

- **AIM Services**

- AerodromeMapInformation, AeronauticalInformationFeature, AeronauticalInformationMap

- **AMAN Services**

- Arrival Planning Information



## WG-104 - Outlook

- Finalisation of deliverables by end of 2017
- External Consultation
- Request from SESAR 2020 PJ15-02 for the use of the standardised E-AMAN service
- Preparation of EUROCAE call for standardisation of future services



# WG-104 SWIM Services

Thank you for your Attention

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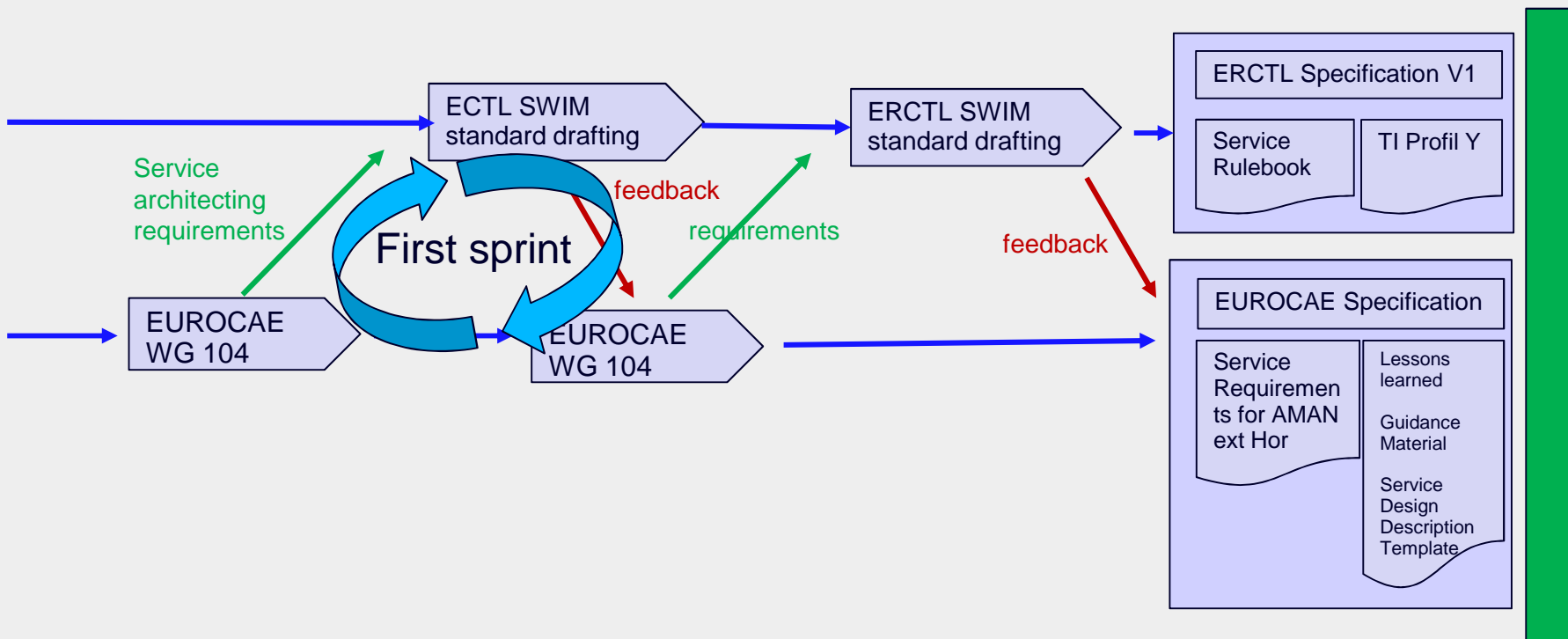


# WG-104 SWIM Services

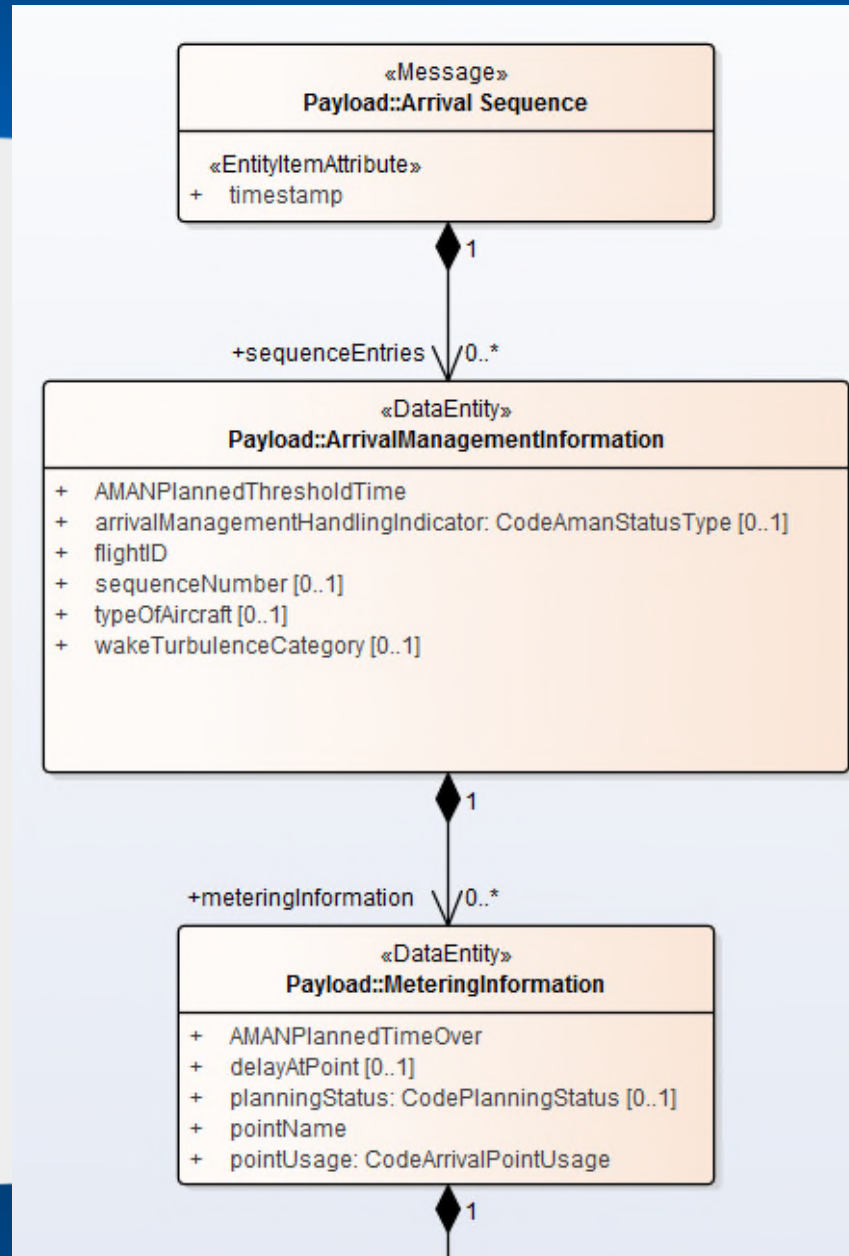
B A C K U P

## How to synchronise the first versions ?

Compliant versions by end of 2017

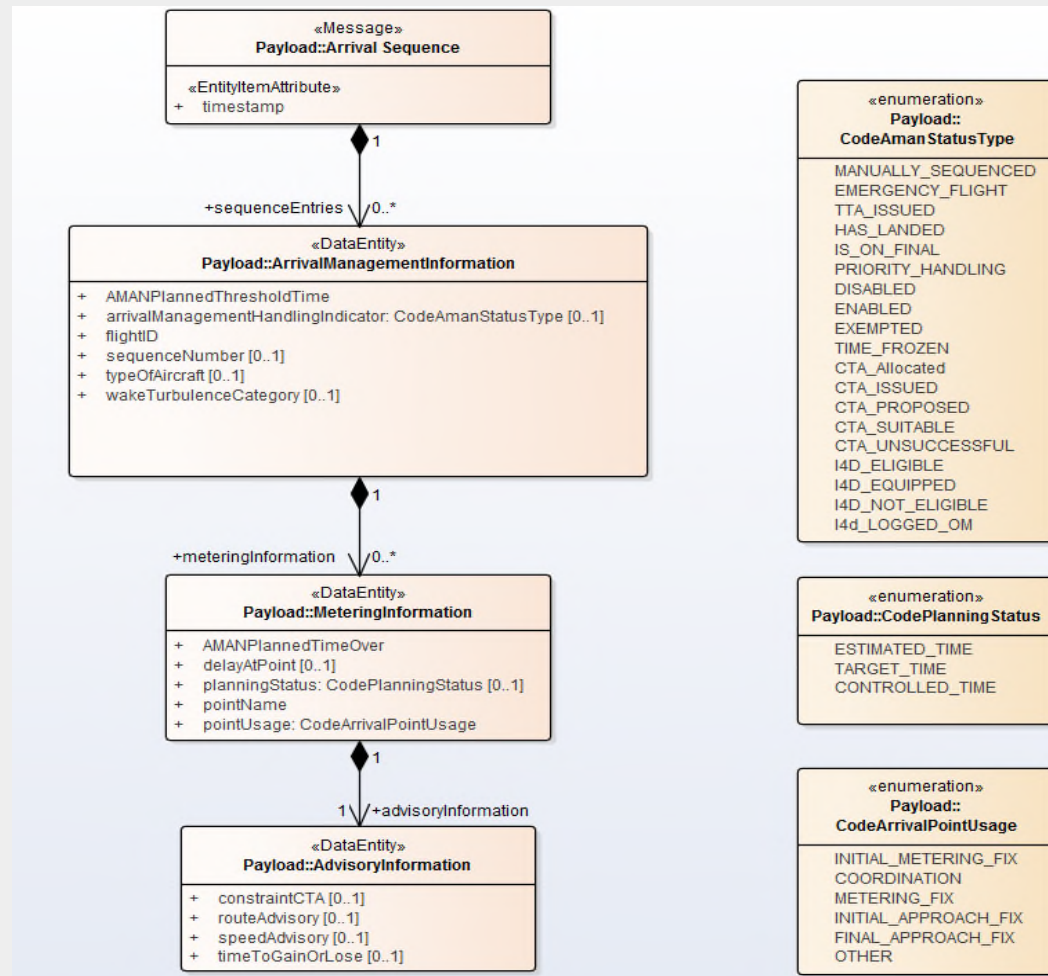


... one extract from the payload





# ... one extract from the payload + enumeration





# ... one example from the data catalogue

<b>Definition</b>	Aircraft Type as codified by ICAO Doc 8643		
<b>Mandatory</b>	no		
<b>Cardinality</b>	[0..1]		
<b>Nilable</b>	no		
<b>Acronym</b>	ARCTYP		
<b>ISO 19103 type</b>	CharacterString		
	<b>Additional Constraints</b>	<b>Error Class</b>	<b>Error Code</b>
	Pattern: [A-Z][A-Z0-9]{1,3}	WARNING	PATTERN_VIOLATION
<b>AIRM Mapping</b>			
<b>SemanticTrace</b>	urn:x-ses:sesarju:airm:v410:ConsolidatedLogicalDataModel: SubjectFields:Aircraft: AircraftType@icaoIdentifier		