

# SWIM User Group Webinar

Organized by:  
**EUROCONTROL** and **SESAR Deployment Manager**  
Supported by **A6**

*June 22<sup>nd</sup>, 2021*



Supported by



# 1st Webinar agenda: 22nd June

## Agenda 9:30 – 12:30

- 9:30-9:45      **Welcome and Introduction (NM and SDM)**
- 9:45-10:10    **Supporting material (NM)**
- 10:10-10:20   **What is a SWIM service consumer and what is a SWIM service provider (SDM and NM)**
- 10:20-11:20   **How to get your SWIM Service compliant and into the SWIM Registry. Use case (DSNA/ENAV)**
- 11:20-12:05   **Topics to be addressed in next webinars, Q&A raised from participants NM as moderator and round table with Stakeholders (NM, Stakeholders)**
- 12:05-12:25   **Next steps (NM)**
- 12:25-12:30   **AOB (SDM)**

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**9:30-9:45 Welcome and Introduction - Denis Hart (NM), Cristian Pradera (SDM)**

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12:05-12:25 Next steps (NM)

12:25-12:30 AOB (SDM)

# Welcome and Introduction

- Welcome by EUROCONTROL and SDM, supported by A6
- Consent to record the Webinar
- **IMPORTANT: muting / un-muting**
  - ⊕ Microphone on mute
  - ⊕ Unmute only when you are requested
- **Ask to comment and or questions**
  - ⊕ Using chat
- Moderators to address the questions
- All participants to be concise so that every participant has time to share their views and/or ask questions



*These rules will assure a meeting hopefully without everyone interrupting each other, a respectful tone and a successful meeting*

# History – PCP Context



## SWIM Common infrastructure components - *Family 5.1.4*:

- A common **SWIM Registry**
- A common **SWIM Public Key Infrastructure (PKI)**
- **SWIM Governance**

# SWIM Common Components

## SWIM Registry



Project Leader: EUROCONTROL

CEF Call 2014

Timeframe: 2015 – 2020

Project Contributors: EUROCONTROL

Objectives:

Deployment, Customization, Support and Maintenance of the SWIM Registry

Current progress

Completed

## SWIM Governance



Project Leader: DSN

CEF Call 2016

Timeframe: 2017 – 2020

Project Contributors: AU, Airport, ANSP, Met providers, Militaries

Objectives:

- Improving interoperability through services enabling management and exchange of ATM information;
- Establishing a collaborative approach for a controlled evolution of SWIM;
- Building trust among the SWIM stakeholders
- Supporting SWIM implementation

Current progress

Completed

## SWIM Common PKI



Project Leader: EUROCONTROL

CEF Call 2017

Timeframe: 2018 – 2021

Project Contributors: AU, Airport, ANSP, Met providers, Militaries

Objectives:

- Improve security throughout aviation value chain
- Trust Framework (governance, policies, procedures)
- Common service reducing costs & providing:
  - ✓ Certificates
  - ✓ Interoperability between existing PKI

Current progress

70%

# Webinar Objectives

All inclusive work



Address SWIM Implementation issues



Promote SWIM implementation and CP1 Compliance



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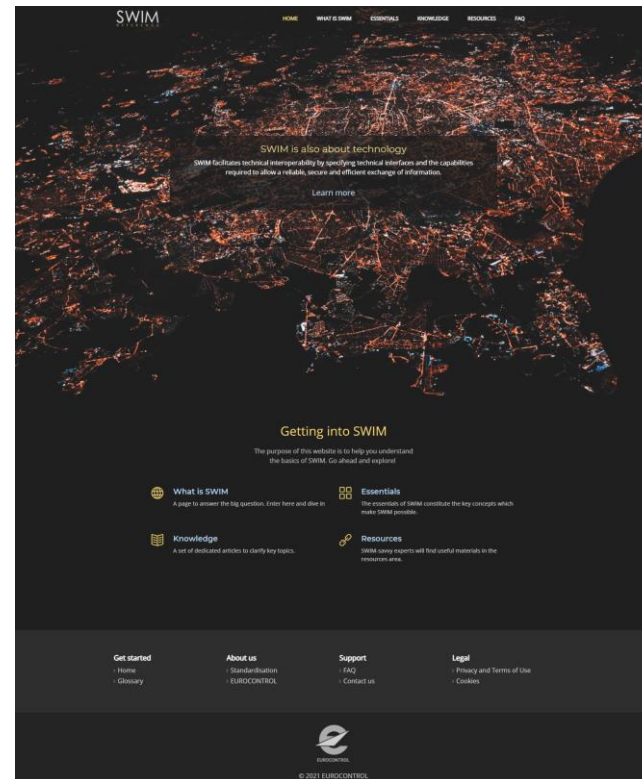
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12:25-12:30 AOB (SDM)



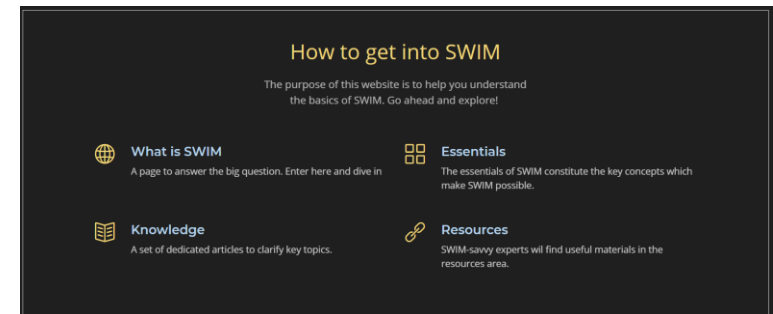
# Introduction

- **What**
  - ✦ <https://reference.swim.aero/>
- **Why**
  - ✦ Supporting the implementation of SWIM with supporting material
- **How**
  - ✦ Provided by EUROCONTROL based on the contributions done in the SWIM Communities of Interest
    - SSCONE (Services)
    - SITCON (Information)
    - SWIM-TEC (Infrastructure)



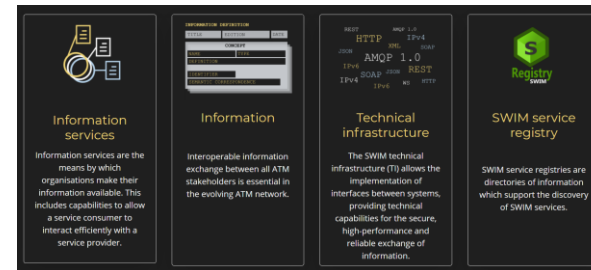
# Structure

- **What is SWIM**
  - ⊕ Basic understanding of SWIM
- **Essentials**
  - ⊕ Comprehensive description of main aspects to be considered in each of the following categories: Services, Information, Infrastructure, Registry.
- **Knowledge**
  - ⊕ Transversal aspects applicable to all essential areas of SWIM (e.g. Basic steps to SWIM implementation)
- **Resources**
  - ⊕ Consolidated list of resources referenced in previous sections.



# Essentials and Resources

- Essentials describe the fundamental aspects to be considered for SWIM Implementation



- Resources are specific materials with concrete requirements/guidance.



# Contact

- Let us know:
  - ✦ Contributions
  - ✦ Questions/Request for material
  - ✦ ...

**Contact Us**

If you have any other questions, do not hesitate to contact us.

Name

Subject

Email

**Get started**  
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# SDP AF5 Requirements



**SESAR  
DEPLOYMENT  
PROGRAMME**

Main scenario	Scenario1: Adopting an existing service to provide a SWIM service	Scenario2: Providing a new SWIM service	Scenario3: Consuming a SWIM service
ROLE	SWIM service provider	SWIM service provider	SWIM service consumer

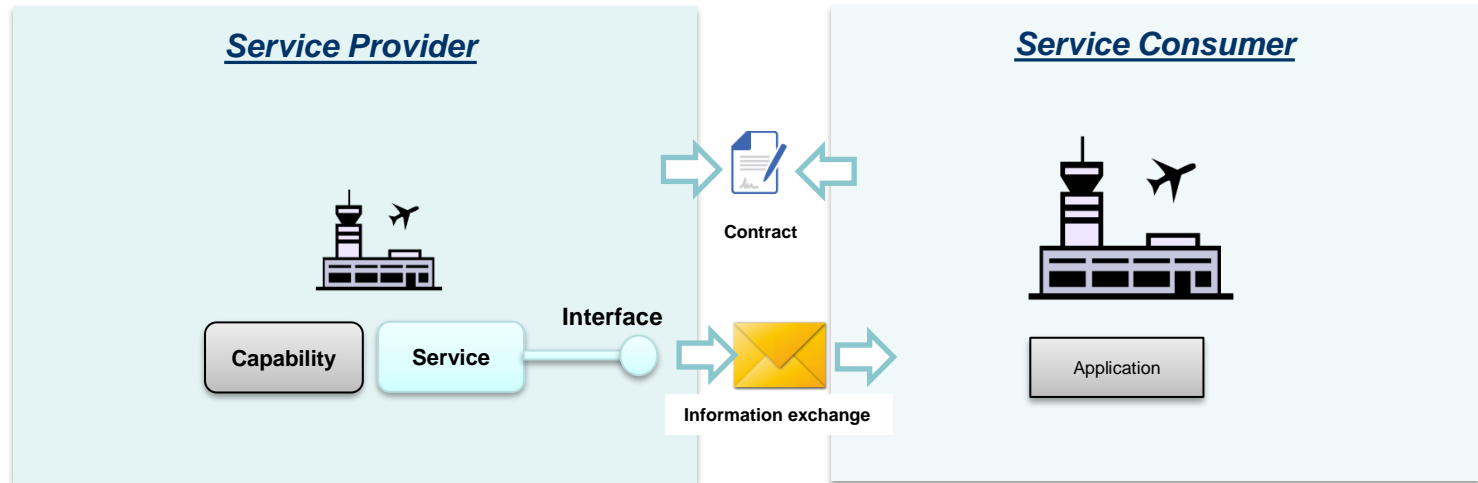


- EACH MILESTONE DEPENDS ON THE ROLE AND ON THE SERVICE
- THE ROLE OF SERVICE PROVIDER REQUIRES A HIGHER EFFORT COMPARED TO SERVICE CONSUMER'S ROLE
- 6 STEPS TOWARDS **SWIM COMPLIANCE (SDP)**

SERVICE PROVIDER WILL DOCUMENT THE TECHNICAL STEPS FOR THE IMPLEMENTATION TO BE DONE BY THE SERVICE CONSUMER (AND SUPPORT THE CONSUMERS ON THEIR IMPLEMENTATION).

# What is SWIM?

## Information services



### Service Providers:

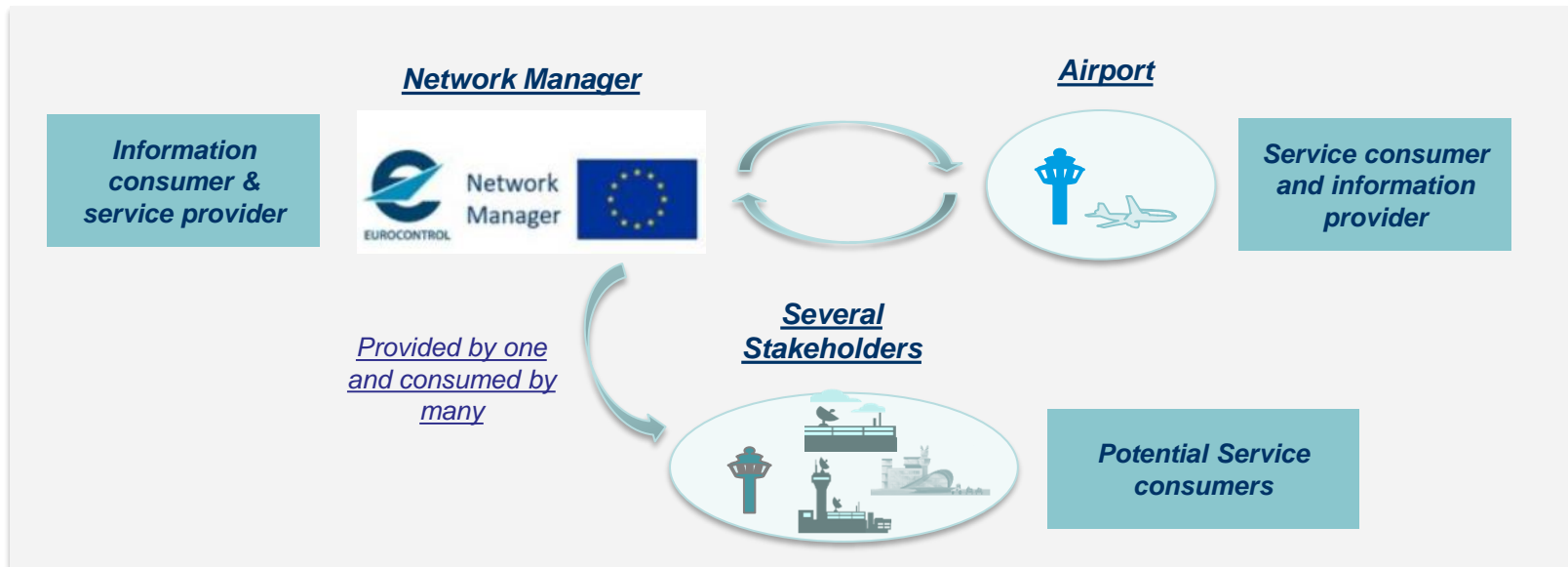
- Provides a service, giving access to a **capability e.g like** :
  - Access to Information (request METARs)
  - Access to a Function (request validation of flight plan)

### Service Consumers Consumes the services through

- Uses a prescribed **interface** (that defines the operations allowed by the service and protocols for communication)
- Exercised based on a **contract** describing service constraints and policies

# Family 5.5.1 example

Service	Service Provider	Service Consumer
ATFCM Tactical Updates Service (Airport Capacity and Enroute)	NM	ANSP <sup>35</sup>
<b>Flight Management Service (Slots and NOP/AOP integration)</b>	NM	AO <sup>36</sup> , AU, ANSP
Measures Service (Traffic Regulation)	NM	ANSP, AU
Short term ATFCM measures services (MCDM, eHelpdesk, STAM measures)	NM	ANSP, AU
Counts Service (ATFCM Congestion Points)	NM	ANSP





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**10:20-11:20 How to get your SWIM Service compliant and into the SWIM Registry. Use case «coflight cloud services» - Charlotte Chambelin (DSNA), Andrea Quaresima (ENAV)**

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12:05-12:25      **Next steps (NM)**

# Agenda/ Welcome

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- Presentation of CCS
  - ⊕ CCS services description
  - ⊕ CCS achievements
- CCS swim services registration
  - ⊕ Registration process
  - ⊕ Next Steps
- CCS lessons learned

# How to get your SWIM Service compliant and into the SWIM Registry. Use case

## CCS PRESENTATION

## Coflight Cloud Services

originates with the idea of Virtual Center: decoupling Controller HMIs and FDP systems to allow for the use of FDP services across several ANSPs without the need of developing a physical system.

Guarantee **access to a high-performance FDP as Coflight** to all ANSP regardless their size, allowing interoperability, reducing costs and environmental impact »

Following an innovative collaborative approach, CCS is **designed by ANSPs for ANSPs**, developed by DSNA and ENAV in close cooperation with skyguide acting as client, and to meet industry requirements »

» CCS has proved the conformity of its first service for registration, and is now **the first SWIM service European Candidate**

» With the aim of anticipating needs and modernizing current ATM systems, CCS is **developed on an industrial basis in parallel with the SESAR program**, as part of the activities related to the Virtual Center

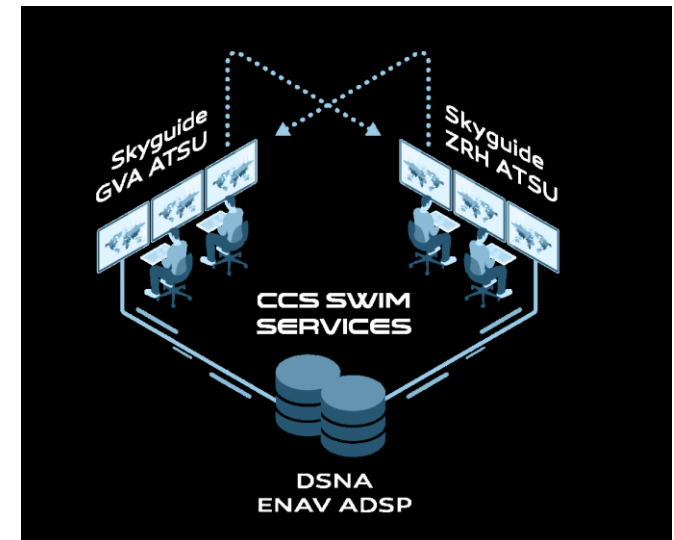


DSNA and ENAV ADSP located in PARIS and Rome ACC delivering **ATM flight data services** based on:

- “Coflight”, new generation of FDP developed by Thales & Leonardo
- European open services (AMQP/Protobuf format, SWIM compliant)
- European interfaces from SESAR allowing interoperability

Main CCS Customer are ATSUs that want to share cost of infrastructure and still benefit from the latest innovations

- small and medium ANSPs in Europe
- skyguide acting as the first customer



# CCS Roadmap (1/2)

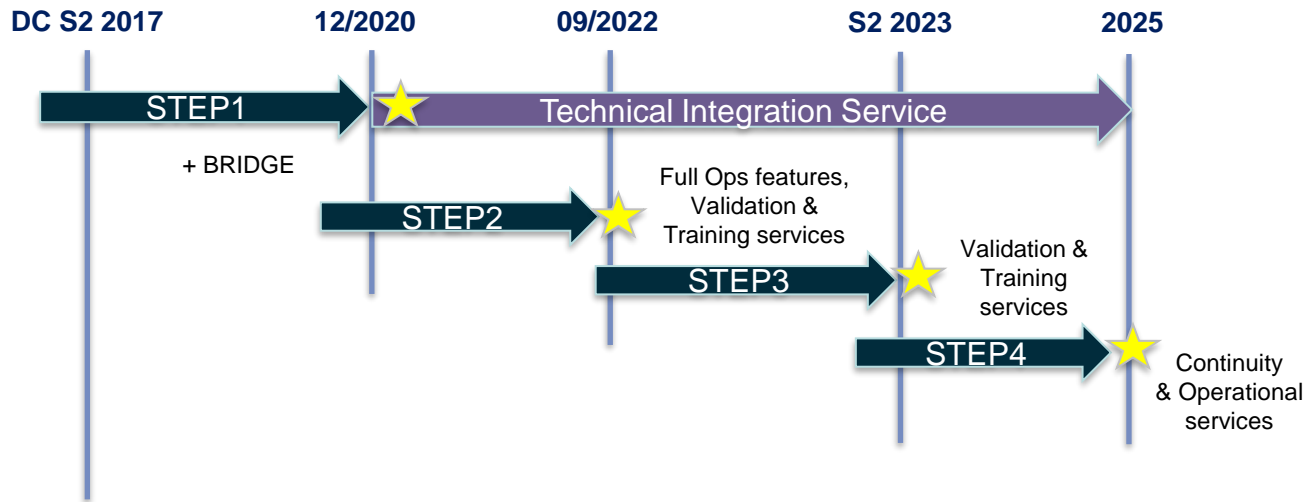
5 modular **business services** (built by ANSPs for ANSPs):



Note: « Technical Integration Service » is in use since 07/2020

# CCS Roadmap (2/2)

## Focus on **CCS** ongoing activities



**Step 1 + Bridge from 2017 to 12/2020**

To specify, develop and deploy “Technical Integration service”

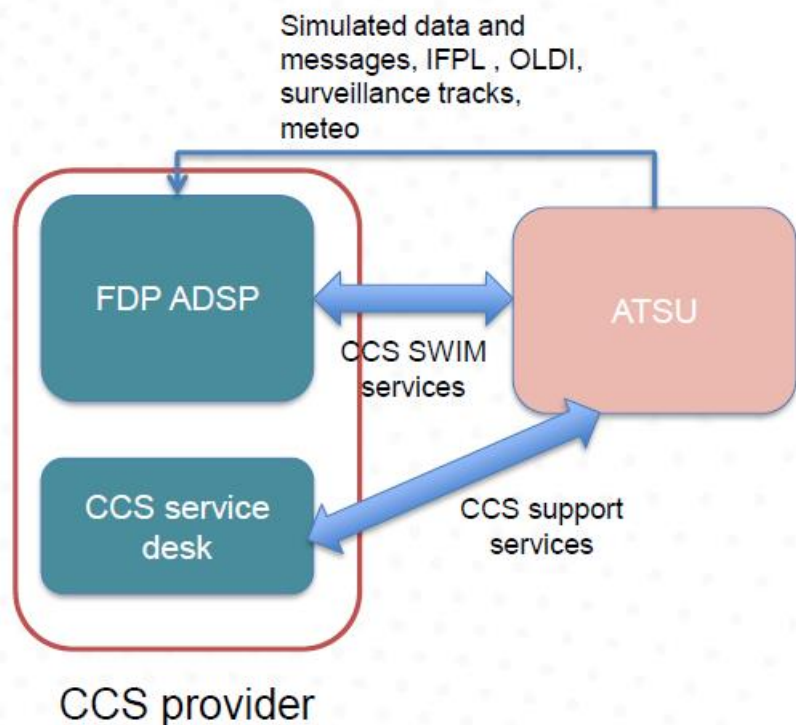
**Technical Integration Service**

To enable the customer to test its own ATM system modification while taking into account CCS

**Step 2, from 2021 to 09/2022**

- Develop initial Validation Services
- Dataset preparation
- Test automation

# CCS Technical Integration Architecture and Services



## CCS SWIM Services Portfolio

Flight data  
distribution

Flight data  
management

Coordination  
and transfer  
management

Correlation  
management

Correlation  
distribution

Airspace  
status  
distribution

Operational  
supervision  
management

Operational  
supervision  
distribution

Technical  
supervision  
distribution

Simulation  
management

FDO  
Management  
(FDD + FDM)

Datalink  
management

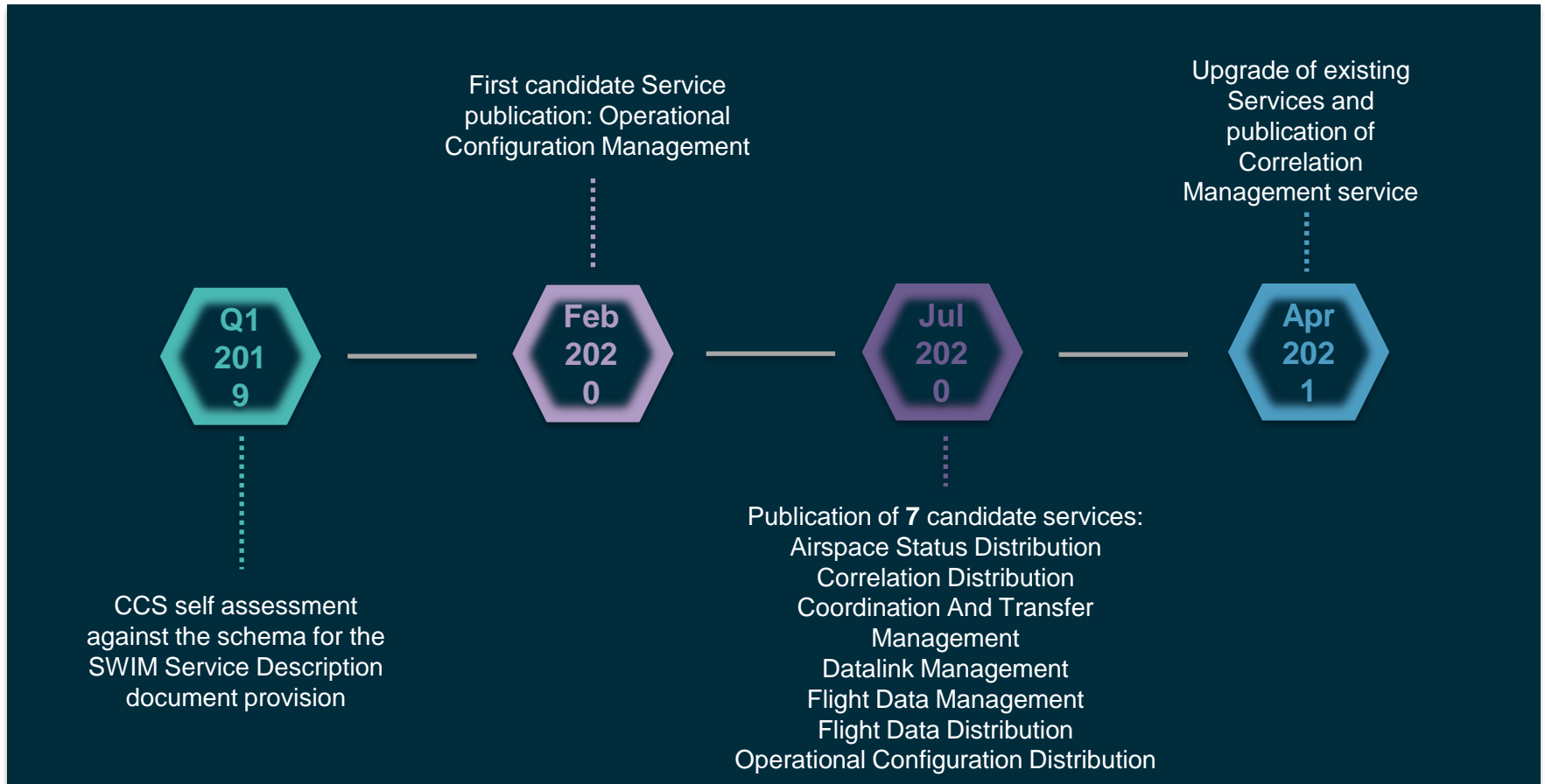


# How to get your SWIM Service compliant and into the SWIM Registry. Use case

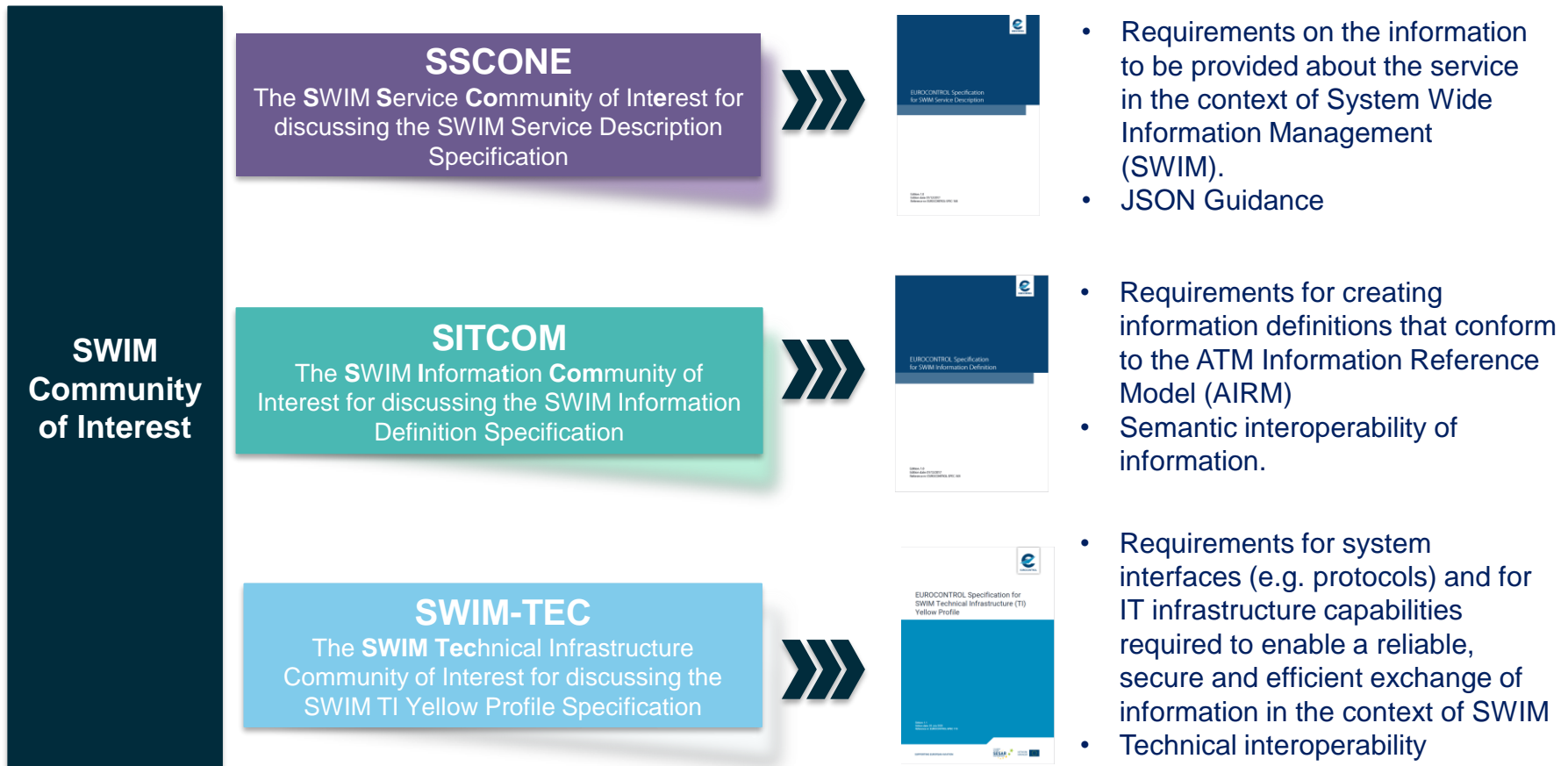
## CCS SWIM service registration

- CCS SWIM Service registration – main milestones
- Reference sources
- CCS SWIM Service Description document generation process
- Registration process and collaboration with EUROCONTROL
- CCS published services
- Next steps
- Lessons learned

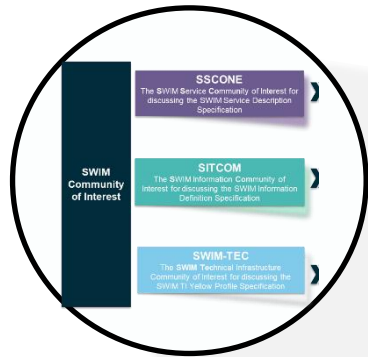
# CCS SWIM Registration – main milestones



# CCS reference documentation – Eurocontrol specifications



# CCS reference documentation – JSON Guidance



## Guidance for JSON service description



- Supporting material published on a dedicated page of the SWIM Reference website
- Public Confluence space managed by the SWIM Community of interest working groups

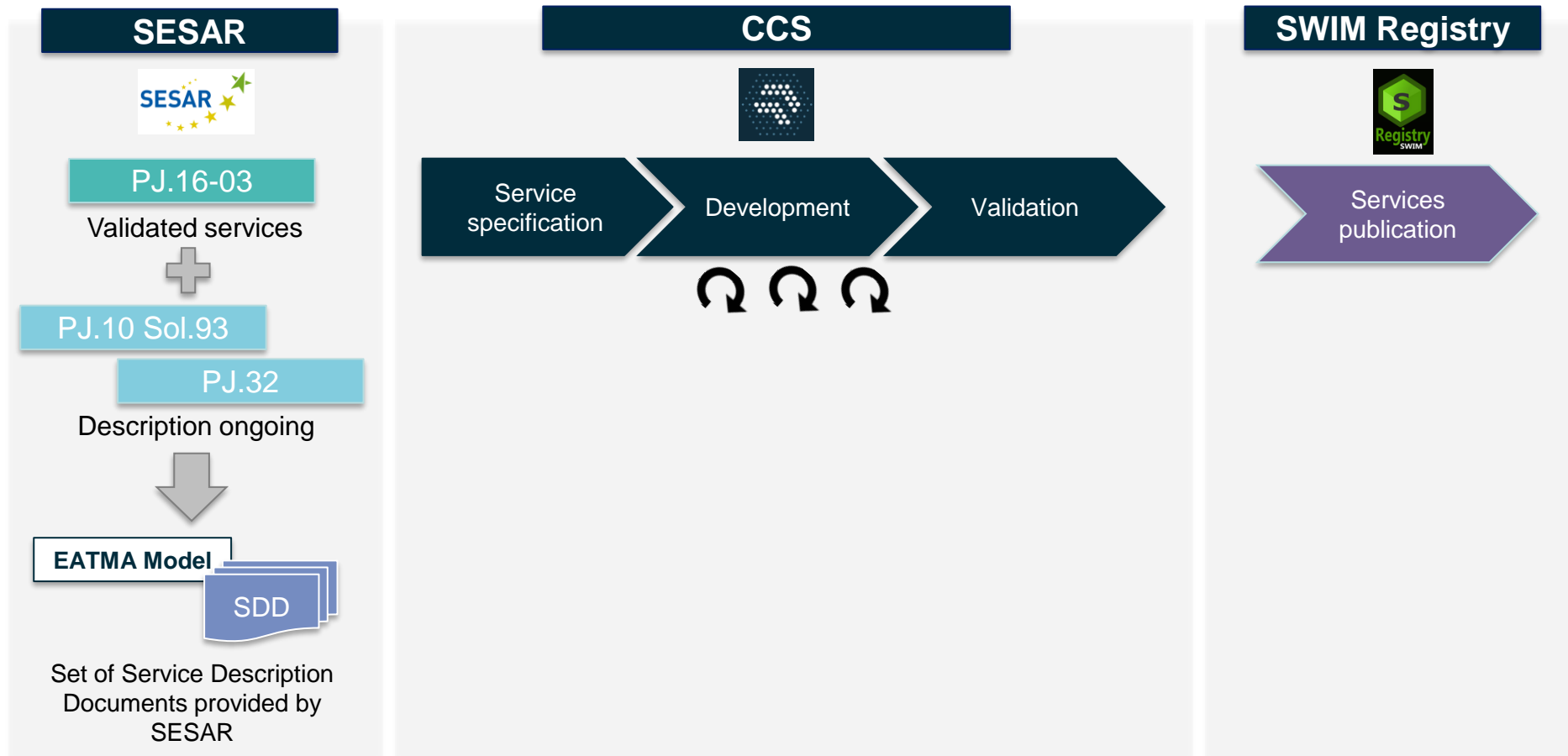


- Two kinds of schema depending on mandatory information expected for each SWIM Service Description compliance level:
- Candidate
  - Compliant

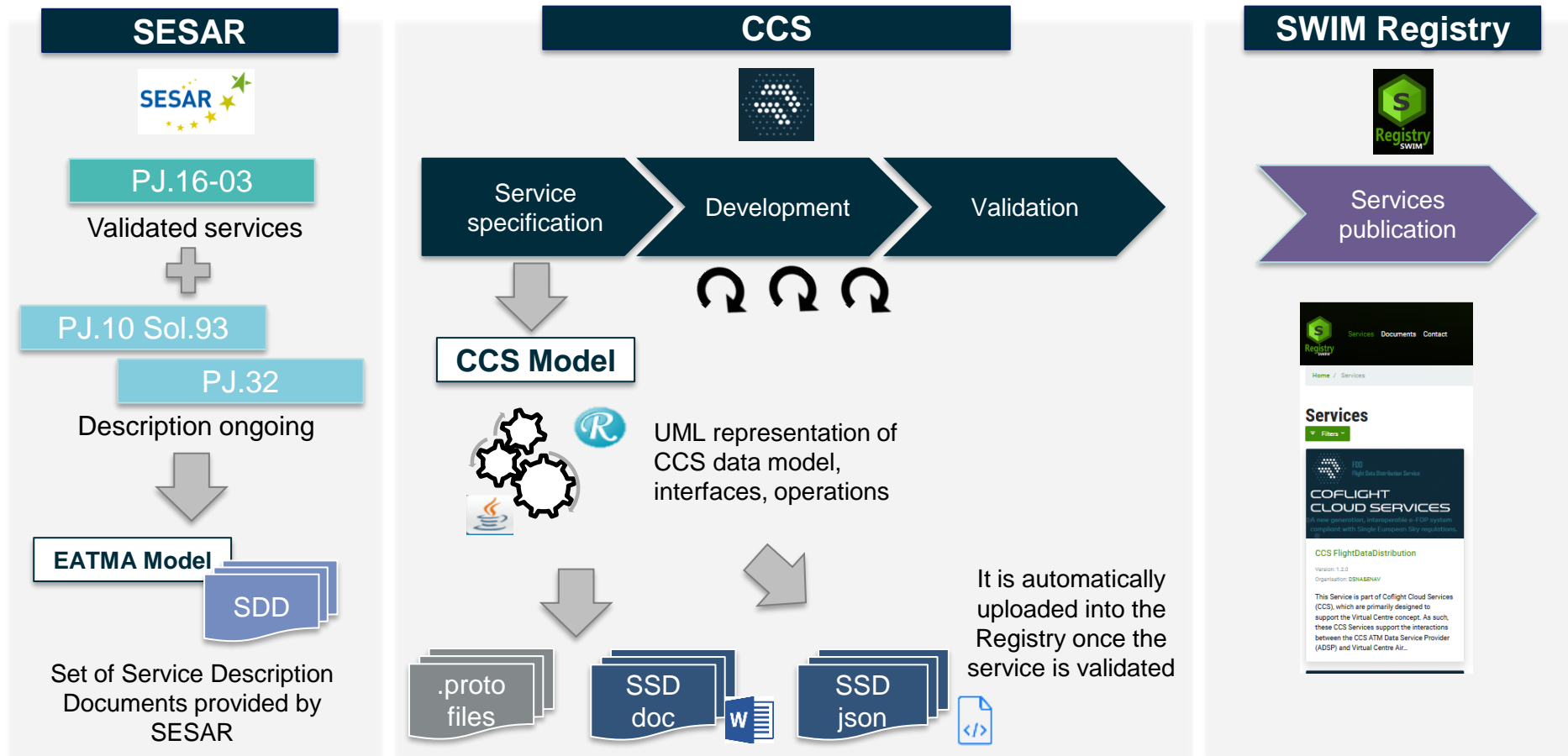


Validation rules implemented by the SWIM Registry application

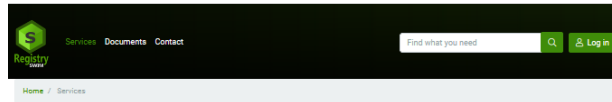
# CCS SSD generation process



# CCS SSD generation process



# CCS published services (1/2)



CCS candidate services published into the [SWIM Registry](#)

**Services**

Filters

**COFLIGHT CLOUD SERVICES**  
A new generation, interoperable e-FDP system compliant with Single European Sky regulations.

**CCS FlightDataDistribution**  
Version: 1.2.0  
Organisation: CNSA/ENAV

This Service is part of Coflight Cloud Services (CCS), which are primarily designed to support the Virtual Centre concept. As such, these CCS Services support the interactions between the CCS ATM Data Service Provider (ADSP) and Virtual Centre Air...

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**CCS OperationalConfigurationDL...**  
Version: 1.2.1  
Organisation: CNSA/ENAV

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**CCS OperationalConfigurationMa...**  
Version: 1.4.0  
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A new generation, interoperable e-FDP system compliant with Single European Sky regulations.

**CCS CoordinationAndTransferMan...**  
Version: 1.3.1  
Organisation: CNSA/ENAV

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**COFLIGHT CLOUD SERVICES**  
A new generation, interoperable e-FDP system compliant with Single European Sky regulations.

**CCS AirspaceStatusDistribution**  
Version: 1.0.0  
Organisation: CNSA/ENAV

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**CCS DatalinkManagement**  
Version: 1.0.1  
Organisation: CNSA/ENAV

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**CCS CorrelationDistribution**  
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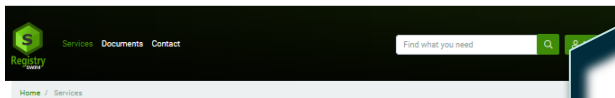
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# CCS published services (2/2)



CCS candidate services published into the [SWIM Registry](#)

## Services

**COFLIGHT CLOUD SERVICES**

A new generation, interoperable e-FDP system compliant with Single European Sky regulations.

**CCS FlightDataDistribution**

Version: 1.2.0  
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Version: 1.1.1  
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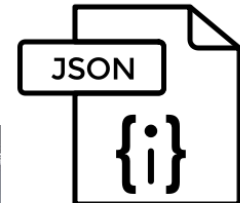
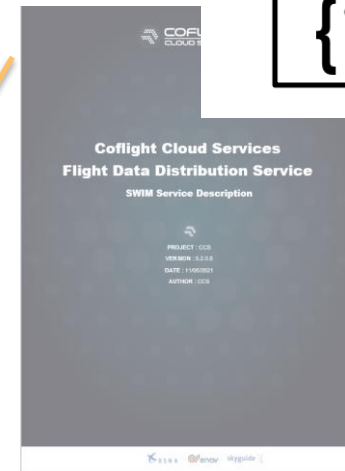
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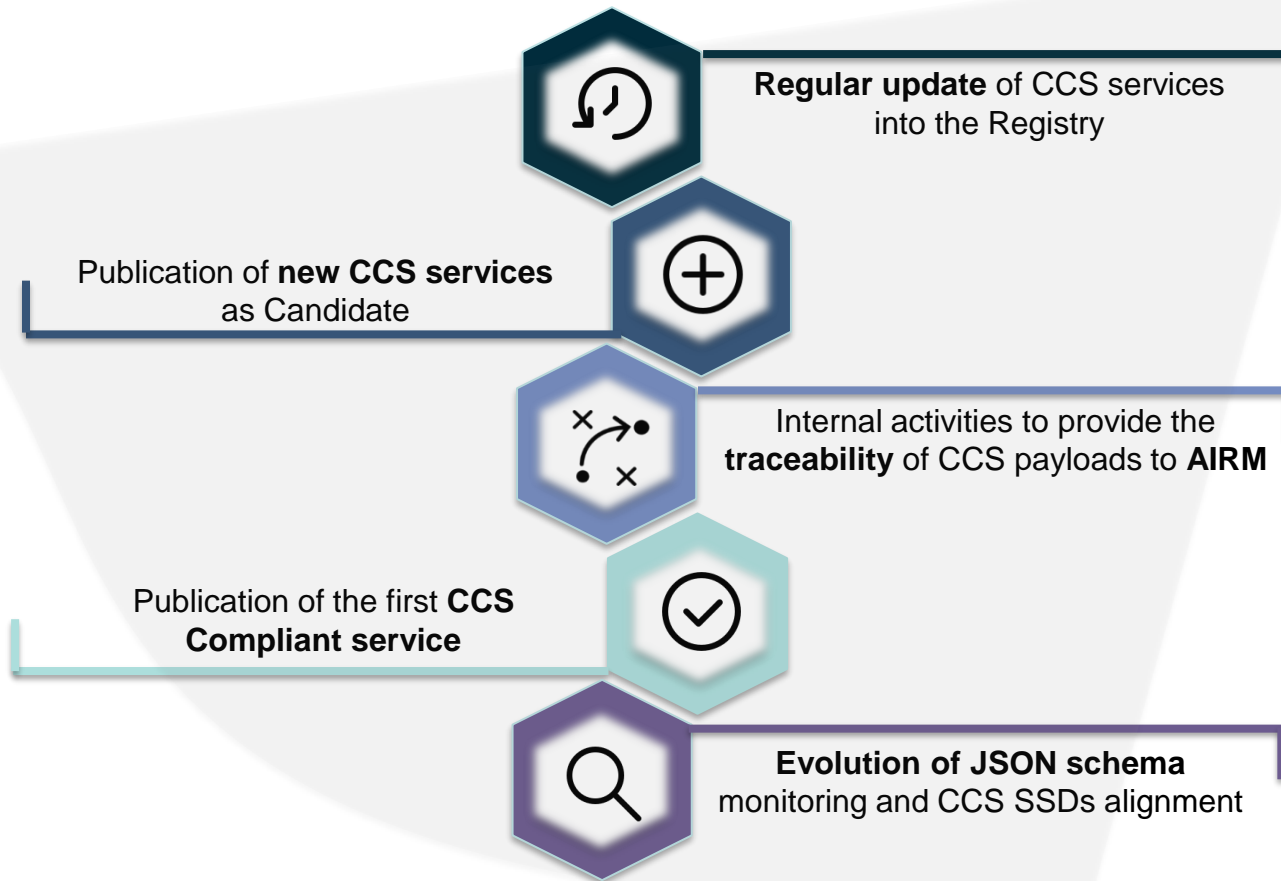
**CCS FlightDataManagement**

Version: 1.0.2  
Organisation: **DSNAENAV**

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# Next Steps



# How to get your SWIM Service compliant and into the SWIM Registry. Use case

## CCS Lessons Learned

- ✓ Reference documentation **easily accessible, clear and usable**
- ✓ Cost of being pioneer on the subject requires **agility, proactivity, times and significant investment** to understand and launch processes.
- ✓ During the preliminary phase (from November 2019 to May 2020) need to perform **alignment /adaptation** to comply with the reference schema which was under consolidation. **Good coordination** in place between CCS and SWIM Registry teams to support the process and an Agile approach as CCS development methodology which is a plus to enhance team flexibility and efficiency.
- ✓ Starting from the nominal phase (from July 2020) **the process of service registration is running smoothly** thanks to the familiarization on CCS side with the SWIM Registry application and to the support provided by EUROCONTROL team

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Use case (DSNA/ENAV/EUROCONTROL/NM)*

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from participants NM as moderator and round table with  
Stakeholders - Denis Hart (NM), Stakeholders**

12:05-12:25      **Next steps (NM)**

12:25-12:30      **AOB (SDM)**

# Q&A





# POLL

[www.sli.do](https://www.sli.do/#222901)  
#222901

**Joining as a participant?**

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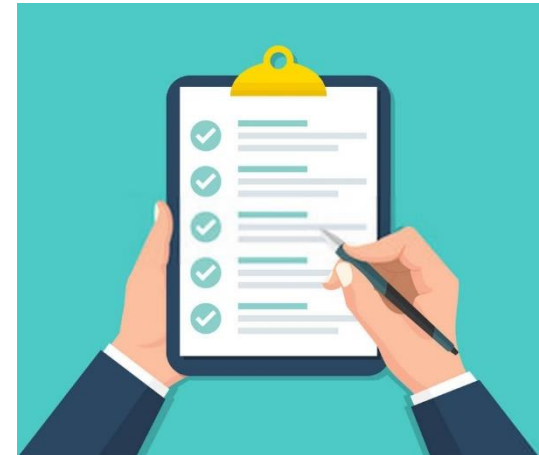
# Next Steps





# Based on Feedback

- **Survey**
  - ✦ Evaluation of this event
  - ✦ Identification of concrete needs for future webinars
  - ✦ ...
- **Decision for next step based on survey**
  - ✦ Evaluation on the need of future events/content
    - Initial ideas already identified
    - Tentative next webinar after the summer



# Focused on improved communication

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- **Creating awareness on:**
  - ✦ CP1 expectations
  - ✦ Deployment Program View
  - ✦ Supporting material
  - ✦ Implementation experience

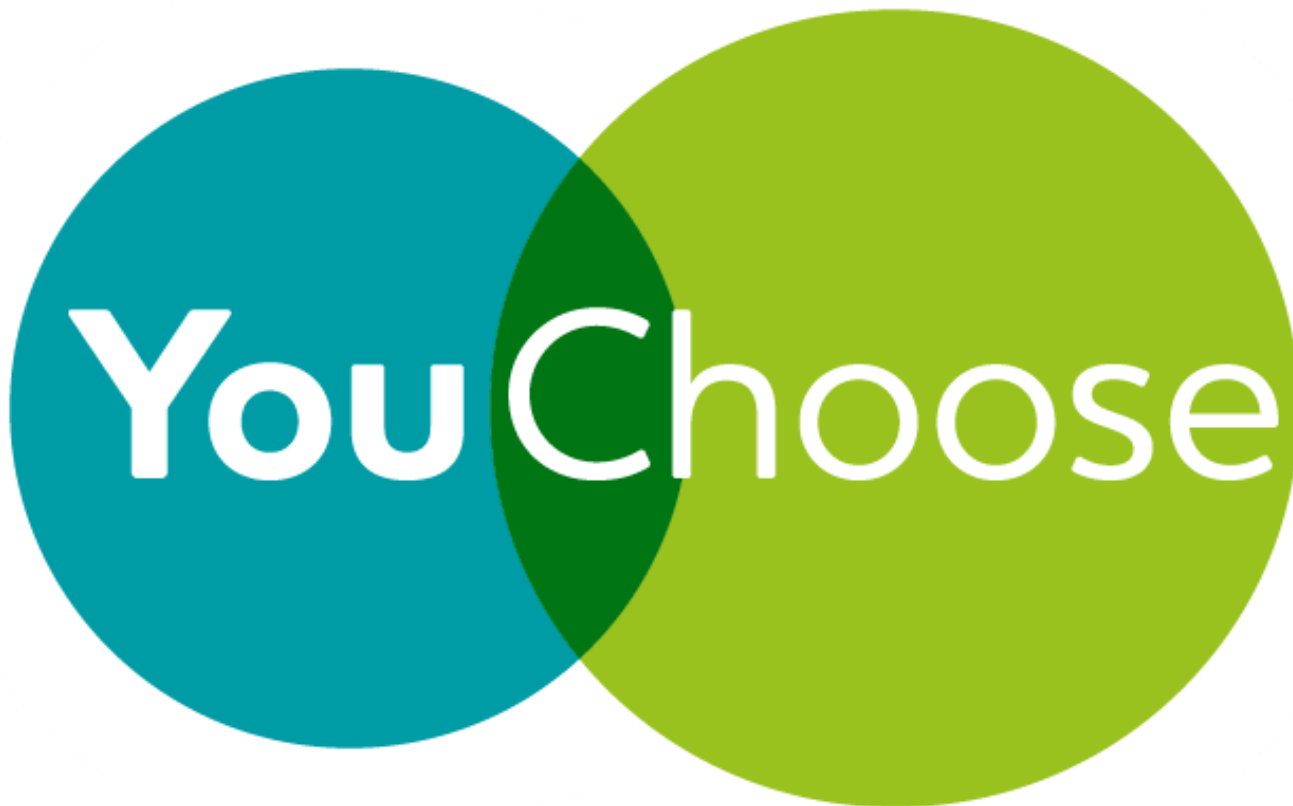


# Webinars are Complementary to current activities

- Current ongoing work includes:
  - ⊕ SESAR Deployment Program (SDP) Review/Communication
  - ⊕ SDP Bilateral awareness meetings
  - ⊕ Deployment Committee (DCOM – EU- US MoC )
  - ⊕ EACP Awareness Campaign
  - ⊕ Collaboration on SWIM Specifications and supporting material (SWIM Col)
  - ⊕ Bilateral Service Implementation/Verification Support (SWIM Col)
  - ⊕ Information Domain discussions (AIMG, FPFDE,..)
  - ⊕ SWIM Component Discussions (AIXM-CCB, FIXM-CCB, Registry CCB,..)
  - ⊕ Transversal Information Management Discussions (NDTECH/IMT)
  - ⊕ ...

# You Choose

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# AoB

