

## System Wide Information Management SWIM



### What is SWIM in a nutshell?

ICAO defines System Wide Information Management (SWIM) as: **“Standards, infrastructure and governance enabling the management of ATM related information and its exchange between qualified parties via interoperable services.”**

SWIM enables:

- global aviation information exchange and future collaborative processes;
- the provision of the right information, to the right people at the right time;
- the modernisation and digitalisation of the networked global air navigation system.

### Why SWIM?

#### The global dimension

Building upon service orientation practice SWIM is an enabler of the ATM Global Air Traffic Management Operational Concept.

Future Trajectory Based Operations (TBO) depend on the seamless exchange of aeronautical, weather and flight information in accordance with the standards and practices of SWIM.

### Enabling the Digital European Sky

The Global Air Navigation Plan and its ATM System Block Upgrades modules reference SWIM but the implementation of SWIM happens at regional and local levels.

The future vision of the European ATM Masterplan sets the **Digital European Sky** as an evolutionary objective and introduces the notion of **“digital transformation”** in which SWIM plays a foundational and enabling role.

SWIM unleashes new opportunities provided by the decoupling of service provision from local infrastructure and by the progressive increase of collaboration and automation, including virtualisation.

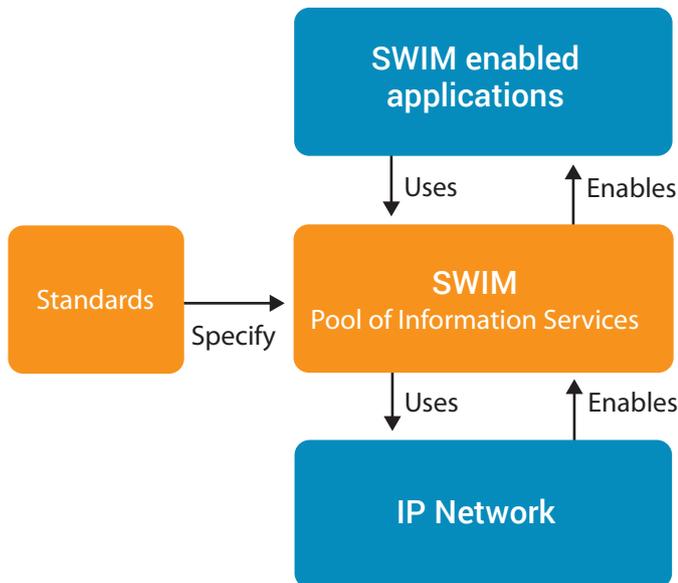
Shortly put, **SWIM is a key enabler for the realisation of the Digital European Sky.**

### What are the benefits of SWIM?

From an information service consumer viewpoint, SWIM removes data silos and fosters data integration.

The consistent use of data and preservation of meaning when information is exchanged improves collaborative decision making and shared situational awareness.

The increased levels of interoperability lower maintenance costs and vendor lock-in.



The common standards that apply in Europe are set in the context of the CP1 Implementing Rule with the EUROCONTROL specifications for SWIM as a means of compliance.

- **Information:** the aim is to ensure common understanding of the information being exchanged through information services.
- **Information Service:** the aim is to harmonise the information about information services, e.g. what an information service does, 'how it works', 'how to access an information service'.
- **Technical Infrastructure:** the aim is to harmonise the groupings of technology protocols to be used when implementing information services.

## What is the scope of SWIM?

SWIM adds to the information management practices the requirements to exchange data using information services based on:

- the transversal requirements, i.e. applicable to all;
- the domain specific requirements for specific information service aspects.

Whilst closely related, both application and IP network infrastructure aspects are not in the scope of SWIM.

The scope of SWIM is defined by its concept which puts information services at its centre, including information and technical infrastructure.

Together SWIM information services form a pool of information

services that convey standardised information using technical infrastructure capabilities.

## What does it mean to implement SWIM?

"Implementing SWIM" means providing and/or consuming information services. Implementing SWIM is more than implementing a messaging solution only. It is also about understanding the future operational processes and identifying the needed information exchanges in support of collaborative applications.

The most commonly known European SWIM information services are the EUROCONTROL Network Manager B2B services used to exchange and share information at the network level with the European Network Manager.

Over engineered service orientation processes: agile developments are important to keep time to market low.

Assignment of SWIM architect roles: SWIM service and information architects foster the digital transformation.

Underestimation of collaboration and communication: SWIM depends on a culture of collaboration, away from silos.

## What is service orientation?

Service orientation is the approach taken in determining the information services. Good service orientation leads to better understanding of what the information exchange needs are.

Information services can emerge from top-down architecture work or bottom-up agile developments depending on the diverse realities that exist.

Existing on-line services may become SWIM information services when fulfilling the requirements of SWIM, hence leveraging earlier digitalisation efforts.

## What should I care about when moving into SWIM?

Analysis of future business processes: if failed this may potentially lead to missed cost saving opportunities.

## What are the requirements of SWIM?

Practically, the applicable requirements are based on future global, regional and local requirements. The EUROCONTROL specifications for SWIM cover requirements for:

## Where can I find more information on SWIM?

The SWIM reference is available at [reference.swim.aero](http://reference.swim.aero)