

# Collaborative workshop objectives – 2025

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4-5 March 2025  
Lisbon

# Setting the scene - Today - 2025

- Operations of the Copernicus Space Component are consistently achieving high performance, driven by the demonstrated efficiency, competitive advantages, and resilience offered by a service-based architecture that leverages European infrastructure.
- DestinE Core Services Platform is in operations since June 2024, offering a portfolio of advanced services and access to digital twin data
- DTE programme is delivering innovative services contributing to DestinE with benefits also for Copernicus, and DTE national initiatives are developing
- Collaborative open source software continues to be evolved and used by a number of National collaborative activities
- A number of Copernicus Collaborative National initiatives are in operations and keep enhancing their services offer and new initiatives are being set-up

# Setting the scene - Today: Another view

Today's scene is the result of a process initiated for Copernicus more than 10 years ago, before the launch of the first Sentinel satellite

It has largely contributed to the success of Copernicus and to the creation of a rich collaborative environment, the development of Copernicus data and services, e.g.

About 70 PB of Sentinel data available open and free

About 1,000,000 registered users since the start of the Copernicus operations

About 800 PB of Downloaded Sentinel data

Continuously increasing applications and operational services relying on Sentinel data

Still:

Potential for improvements exist associated with unnecessary data duplication

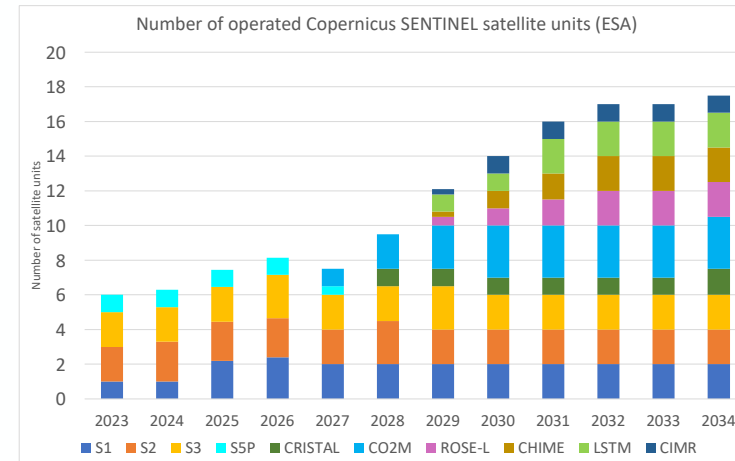
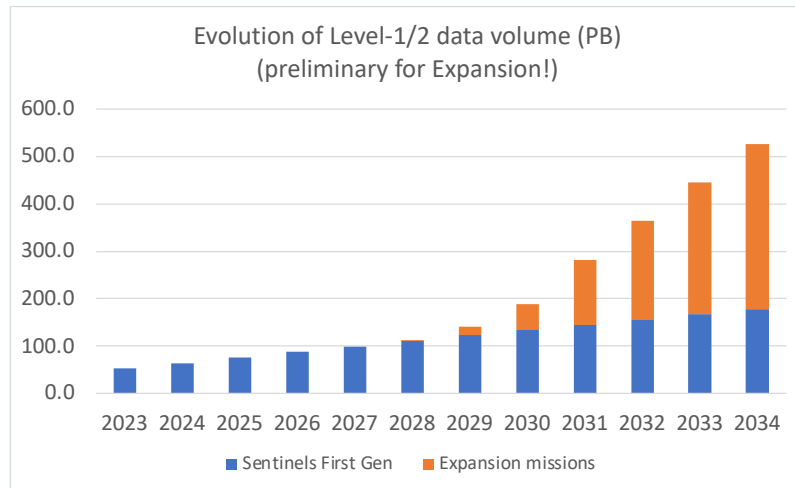
Collaborative data access accounts for about 20% of the data downloaded from the CDSE

It features limited services reuse and chaining & offers limited interoperability

# Setting the scene - Tomorrow - 2030

A lot could be said...but just few highlights:

- Copernicus operations level: 6 new Sentinel Expansion missions & more than twice the number of satellites in operations
- Data volumes generated by Copernicus will become incompatible with a systematic data duplication
- Efficient use of the rich Copernicus data holdings will require innovative data “organisation” and access interfaces



- Copernicus Collaborative: Mere data duplication likely unaffordable
- Technology level: New technologies & capabilities including massive use of AI
- European level: Data spaces architecture & implementation progressively becoming available
- DestinE & DTE level: Increasing digital twin data available (10's PB/Year), on-boarding service industry offers

## It's time to prepare for the future

Evolutions foreseen in the frame of the Copernicus operations to introduce innovations in data management and support efficient access to large volumes of data

Evolutions also needed in the Collaborative scenario to adapt to the future challenges

### It's time to:



- address the “jungle of platforms”
- prepare for European interoperability “by design”
- prepare for the future evolution of Copernicus missions data volumes

# “jungle of platforms”



## The Platform Jungle

- Copernicus Hubs
- DIAS
- Copernicus Data Space Ecosystem
- Copernicus Services
- CGS
- Data Cubes
- GEE/AWS/MS
- ESA Earth Online  
(DestinE)



A “quote” from our past collaborative exchanges

# “jungle of platforms”

## “the platform jungle”:

**Jungle:** A place of bewildering complexity or brutal competitiveness.

Associated with

**The law of the jungle** the principle that those who are strong and apply ruthless self-interest will be most successful.

**The contrary of a Collaborative place!**

# What are the challenges

**How to build powerful and efficient distributed environment in which services, data and users can be managed without introducing mere duplication?**

*=> The data relays demonstrated that it is possible*

*=> not sufficient for the new generation of usage:*

*users communities are diversified with overlaps*

*services are less and less large monolithic applications*

**How to transition from unified and collaborative access to data, towards an ecosystem of interoperable set of decentralised and collaborative services maintaining their own identity and control?**

*In simpler words: How to enable autonomous control by operational communities avoiding unnecessary duplications and benefiting from an ecosystem of services and data?*



## How to offer innovation, stability and security to users and services?

*We are not alone!: Some large and dense jungles exist out there*

*Profit from European solutions and context*

## How to enable and offer strategic advantage to our partners respecting MS initiatives without being lost in the forest of constraints or creating competitions where not needed

*MS communities have different operational contexts, and constraints: How to respect them all*

*ESA shall offer an enabling environment providing strategic advantages to MS whenever they like to reuse*

# Prepare for European interoperability “by design”

ESA Copernicus and DestinE managed operations are established following similar principles and architecture guidelines

These generic principles and architecture are being consolidated in the form of an “**ESA Observation Framework**” (EOF), instantiated by each Programme in line with its specificities, benefiting from European interoperability “by design”

**EOF aligns with the best practices established by the European Commission to *accelerate the formation of sovereign data spaces***

## European Dataspaces (European Commission)

***“Interoperable framework, based on common governance principles, standards, practices and enabling services, that enables trusted data transactions between participants”.***

*Data Space Support Centre (DSSC): European Commission initiative to define common requirements and establish best practices to accelerate the formation of sovereign data spaces*

## ESA Observation Framework (EOF)

***Define guiding principles, architectural drivers and service integration strategies established for European industry by the Agency to manage the operations of space observations derived datasets and services***

Gradual adoption and instantiation in the frame of

Copernicus Space Component operations

ESA DestinE Core Services Platform (DESP)

ESA DTE

ESA Earth Explorer operations and data access

Collaborative Workshop:

Share state of play between partners

introduce some of the initiatives that should answer the above

Trigger exchanges on the subject

Following the last two years of preparation we are collectively ready to tackle the platform jungle and the future challenges

## TUESDAY 4<sup>th</sup> MARCH – PLEASE NOTE [TIMES ARE CET-1h](#)

09:30 – 09:45 Welcome

09:45 – 10:15 ESA workshop scope and introduction

10:15 – 10:45 MS presentations

- Sweden
- France

10:45 – 11:15 Coffee

11:15 – 11:30 MS presentations

- Austria

11:30 – 12:30 Copernicus Operations and DTE state of play

12:30 – 13:30 Lunch

13:30 – 14:10 MS presentations

- Portugal
- Cyprus

14:10 – 15:10 EOF Open-Source Roadmap

15:10 – 15:40 MS presentations

- Germany
- Czech

15:40 – 16:00 Coffee

16:00 – 17:00 EOF Onboarding Scenarios

## WEDNESDAY 5<sup>th</sup> MARCH – PLEASE NOTE TIMES ARE CET-1h

09:30 – 10:30 EOPF Sentinel Data Processor Re-engineering status and plans

10:30 – 11:00 MS presentations

- Luxembourg
- Norway

11:00 – 11:15 Coffee

11:15 – 11:45 MS presentations

- Belgium
- Greece

11:45 – 12:15 Workshop Wrap-up and Way Forward