



DAMPS

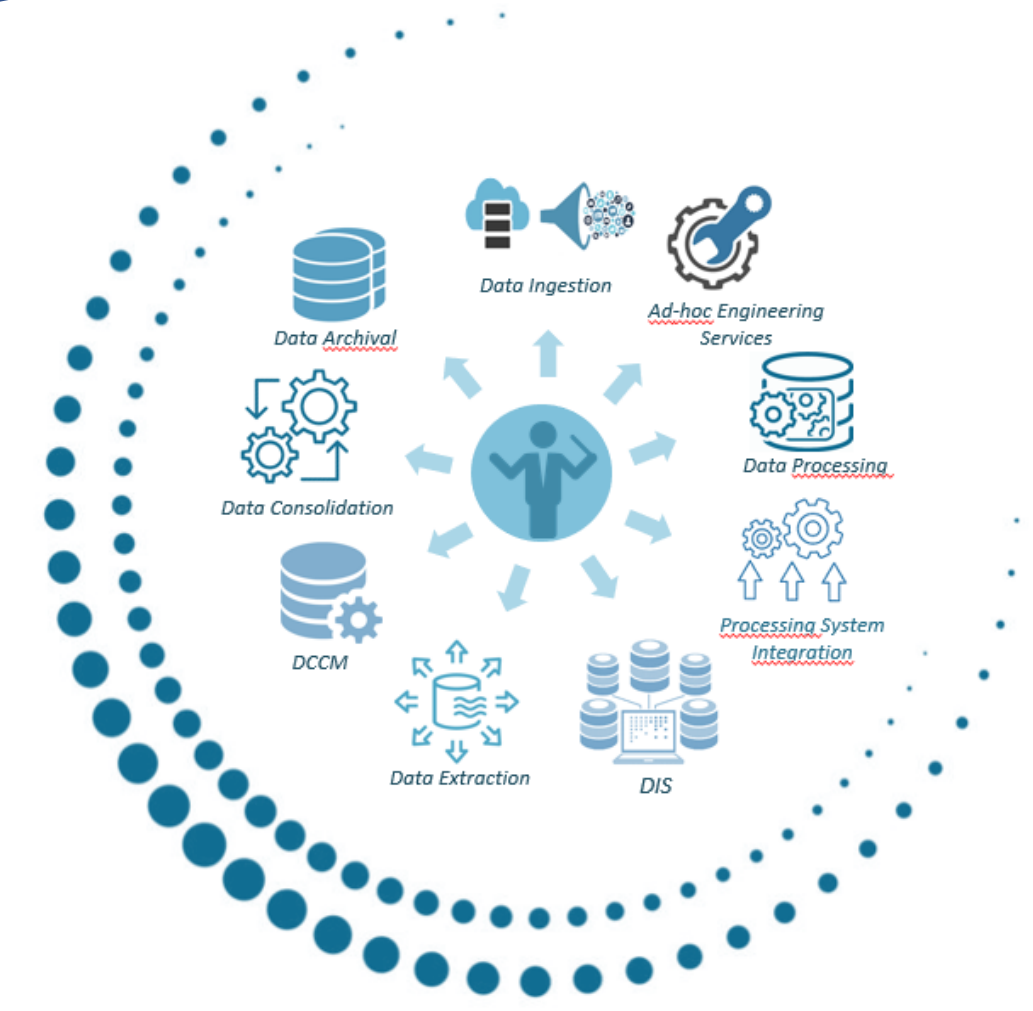
DAMPS, an ESA Service of EO data Archival, Retrieval, Maintenance, Consolidation and (re)Processing

Introduction

DAMPS, whose acronym means D[ata] A[rchival], M[anagement] & P[rocessing] S[ervices] has been commissioned in 2021 by the European Space Agency (ESA) under various programmes including Long-Term Data Preservation.

DAMPS provides a secure and reliable archive, data configuration management, retrieval/collection, maintenance, consolidation and (re-)processing and formatting of ESA's Earth Observation data. The purpose of the activity is the delivery of services to cover a coherent set of value-adding activities focused on the data.

DAMPS is built upon the two successful predecessor services: EODAS: Earth Observation Data Archival Service and DSI: Data Service Initiative



General Services

Data ingestion and archival services:

- Safely archiving of the data in two physical copies in physical sites remote from one another (Luxembourg and France)
- Keeping and publishing an accurate situation of the archive contents through the Data Management System
- Keeping the archival infrastructure in line with constructor recommendations

Data bulk-extraction and delivery service:

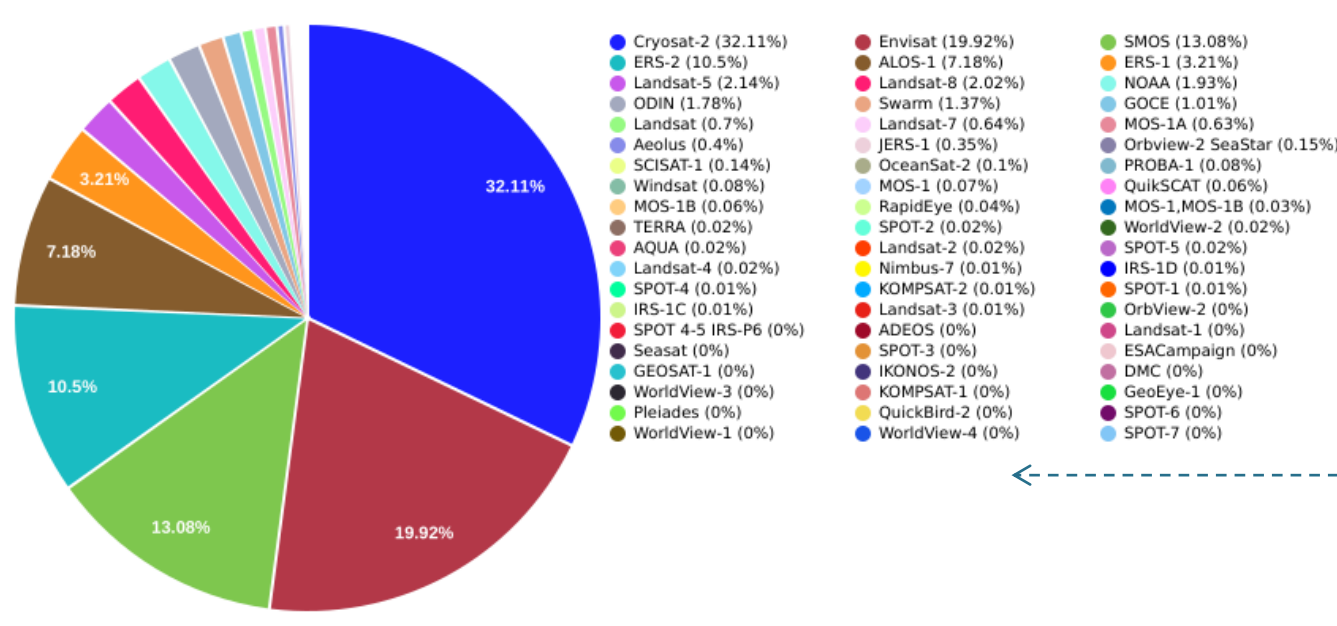
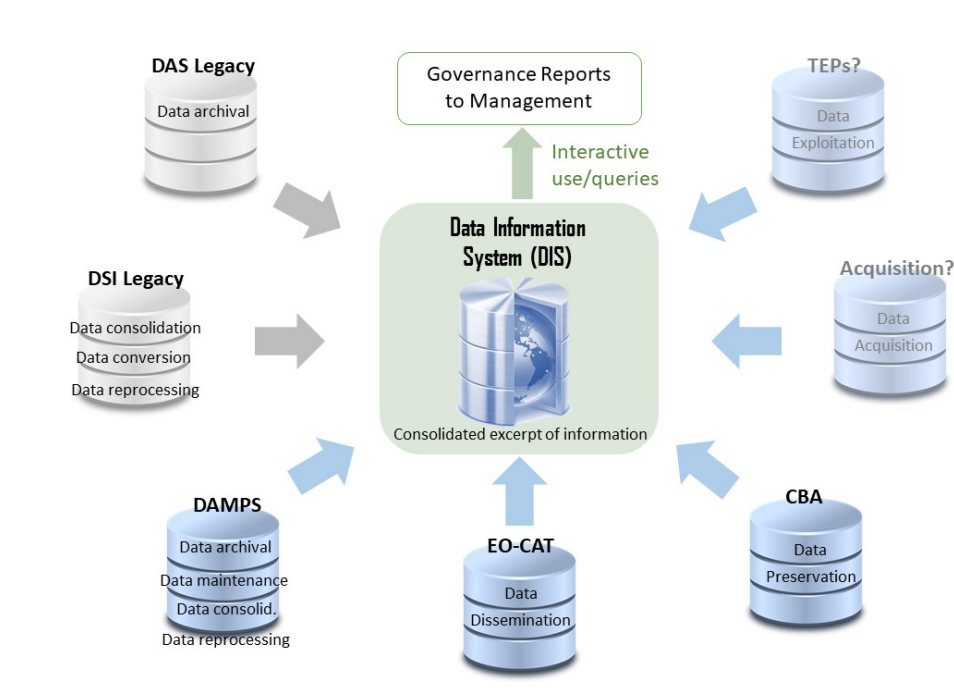
- Reception and acknowledgement of the request for data
- Identification and extraction from the archive of the required data
- Delivery of the data, on media or on-line
- Verification of the data delivery activities
- Production of a data delivery report on monthly basis or upon request

Data Configuration Management, Change Management and Maintenance service:

- Collecting EO products metadata and storing it in the Data Management System (DMS) identifying, managing, and exploiting the data information to use across DAMPS and other external entities
- Improving the data and corresponding documentation in a controlled approach (data maintenance)
- Checking data alignment, verifying possible replications across the different data repositories

Data Information Service (DIS)

- Collecting EO products metadata from various contributing systems and services including DAMPS itself and others (currently CBA and EOCAT)
- Providing a centralized repository and user view of all the data information under the direct control of the organization
- Providing information regarding the data as well as added value elements coming from other services (e.g., tracing of the provenance of the data, its history etc.)



56 Data Maintenance governed by service requests
 21 Data Maintenance governed by DCR (Data Change Request)
 20 Extractions 2.2 M Products 250 TB

Project-based Services

Data consolidation:

- Collection and analysis of the inputs
- Consolidation in terms of completeness and coverage including consistency of the file naming convention
- Production of statistics, completeness analysis and alignment with external repositories

Processor system integration:

- Preparing the processing environment (Data & Infrastructure)
- Installing and integrating the Processing System on the appropriate service-provided infrastructure and run the system on a selected test dataset
- Updating / tuning the processor, parameters and input data
- Iterating until the processor is in Operational Status

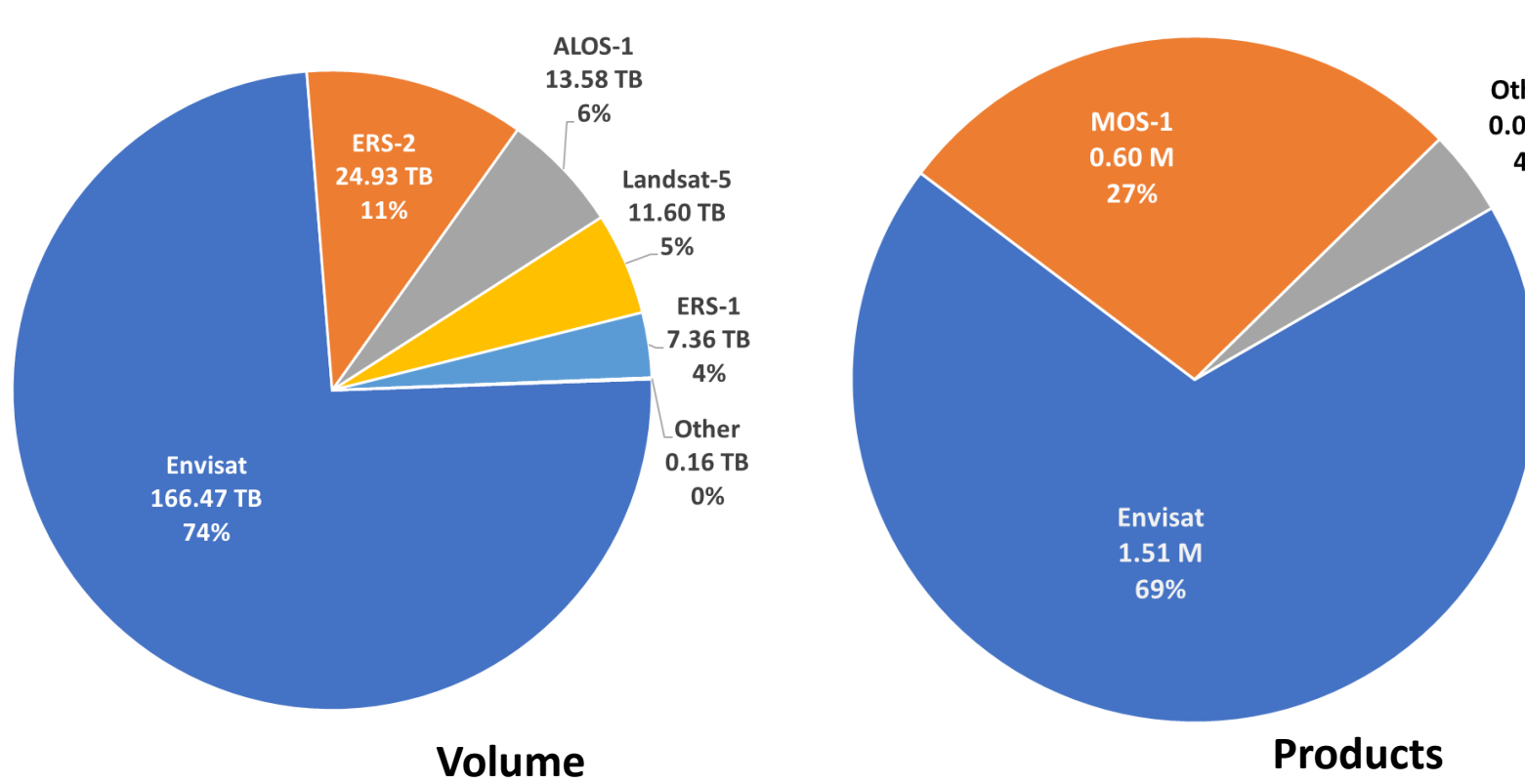
Bulk processing:

- Execute and monitor the operational processing of the required datasets
- Data verification and release

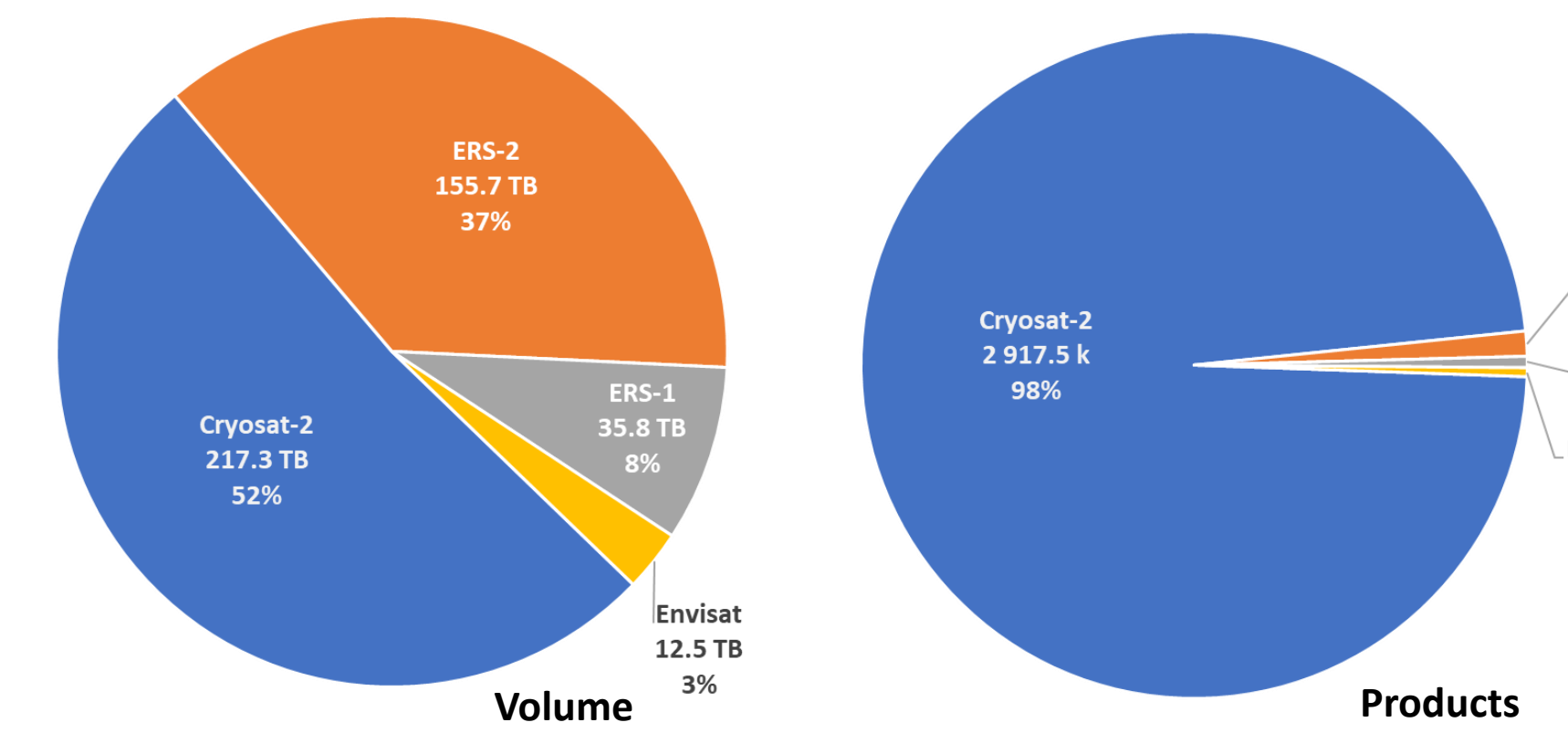
DAMPS website includes:

- A description of the services
- The archive content
- The ingestion monitoring
- A dedicated space to DIS for various communications and/or news including a link to the operational DIS platform
- A description of the retrieval requests
- The list of projects completed, on-going and completed
- The list of all data maintenances and DCR
- View of the latest news

Data dissemination by service



Data dissemination for projects



Ongoing Project-based Services

I. CryoSat-2 Baseline E reprocessing

Installation, integration and operation of the Processor System within the DAMPS Platform, using configurations and data input as per requirements. Data type are: LRM, SAR, SARIN; levels: 1B, 1FBR, 2, 2I, GDR. The operations include data collection, data completeness, gap analysis, testing, readiness verification, performance assessment and sequential bulk processing phase

I. SNOW-CCI

Processing the data from missions ERS-1, ERS-2 and Envisat, which include SAR Image mode, ASAR Image Mode and ASAR Alternating Polarization Mode Level 0. The operations include two main steps: an integration phase covering data collection, gap analysis, testing, readiness verification, performance assessment and a sequential bulk processing phase. The quality of the full output datasets is assessed by QA4EO. The data are repatriated to ESA through an ftp server.

I. ERS, Envisat EO-SIP Development and Conversion:

Conversion of ERS1/ERS2 and Envisat datasets in EO-SIP format including the development of associated tools.



9.735 Peta bytes
PRODUCTS DATA

62
MISSIONS

1346
DATASETS

66.797 Million
PRODUCTS

