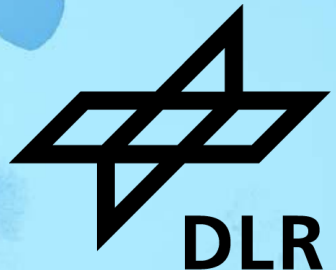


ARCHIVING POLICY AT DLR

Collection Management (DSIG)

Katrin Molch
DLR, German Remote Sensing Data Center, Information Technology

CEOS-WGISS meeting #58
16-17 October 2024
Sioux Falls, U.S.A. & online



DLR EO data management

General objective & strategic principles



- **Preserve, curate**, ensure long-term accessibility and usability for data of national missions and of DLR interest
→ D-SDA long-term archive
- Facilitate EO data **access and use** for DLR scientists
→ IDA & Geofarm (on premise), terrabyte (at an external supercomputing center)
→ Online storage with processing capabilities
- **Publish** geospatial information products generated in-house for external use
→ EOC-Geoservice
→ Online storage and standardized interfaces for discovery, visualization, download, citation: STAC, WMS, HTTP(S), DOI

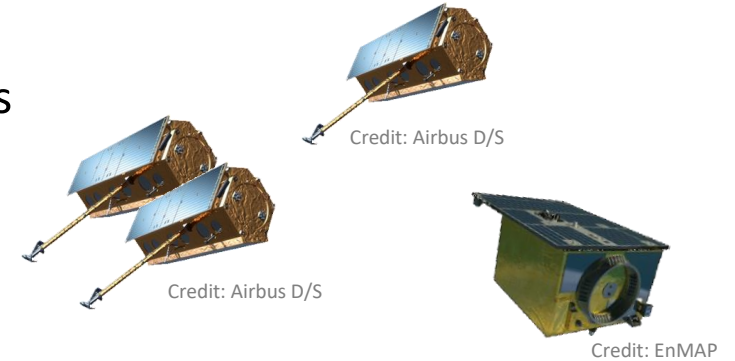


DLR EO data holdings & preservation strategy in D-SDA long-term archive I



▪ National EO mission data

- E.g. SRTM X-SAR, TerraSAR-X, TanDEM-X, EnMAP
- Raw/Level 0 data always; also higher level data/intermediate products for now; tbd. for future missions
- Reprocessing may be proposed in phase F concept
- No time limit; aiming at full geo-redundancy, i.e. one copy each in Oberpfaffenhofen and Neustrelitz → e.g. EnMAP



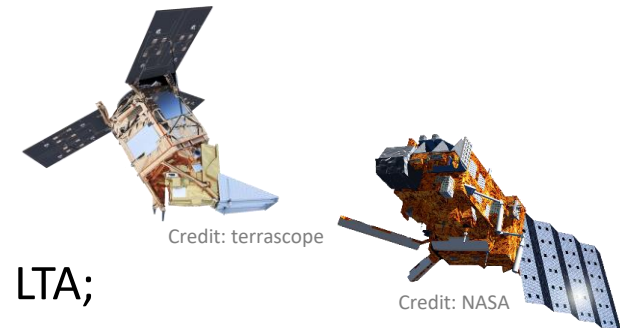
▪ International EO mission data of DLR scientific interest

- E.g. daily NOAA / MetOP AVHRR LAC 1km data over Europe since 1980s
- Currently two copies at one site (either OP or NZ) in different buildings, different archive technologies



▪ EO mission data maintained on contract

- E.g. Sentinel-5 Precursor (ESA), Metop GOME-2 (EUMETSAT)
- Raw and/or higher level data, temporal and spatial coverage as per contract
- E.g. GOME-2: Level-2 reprocessing ~every 5 years → previous version maintained until reprocessed version validated; then (nominally) deleted from LTA; version history maintained in Technical Note



DLR EO data holdings & preservation strategy

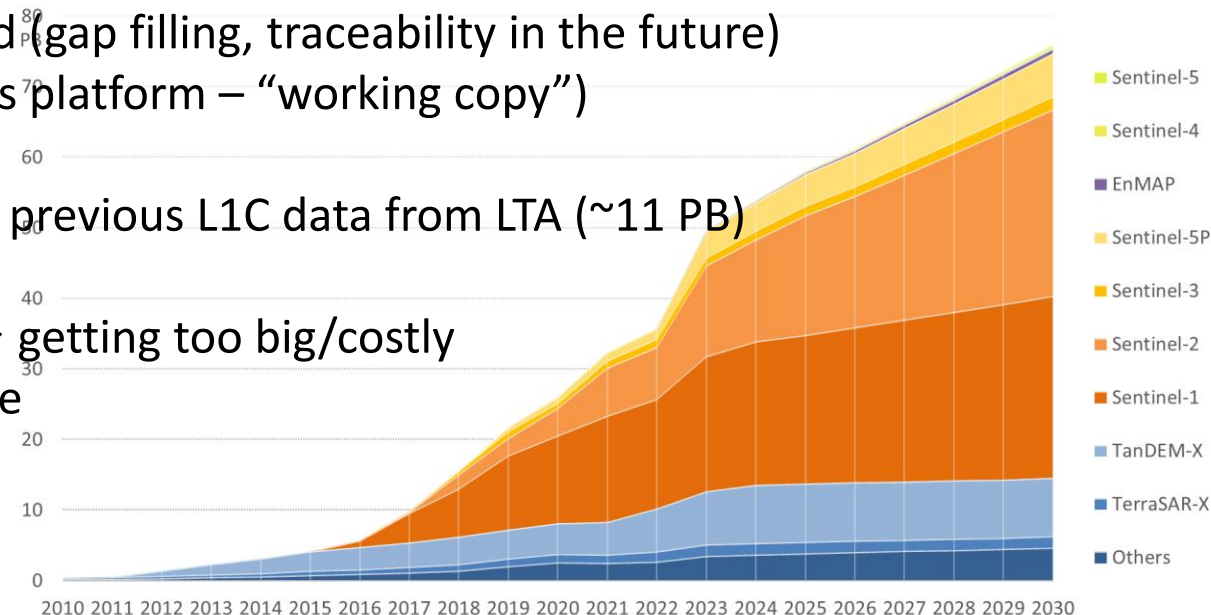
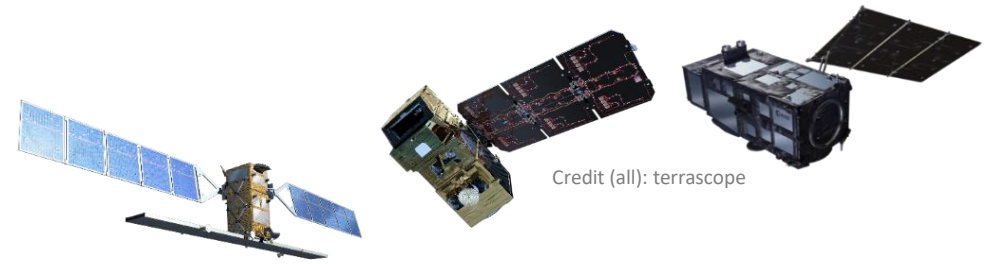
in D-SDA long-term archive II

Significant in-house spatial information products

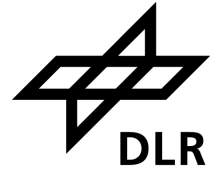
- E.g. Global Urban Footprint, Global Snow Pack, Global Water Pack, AVHRR curation L1-L3 products, ...
- Two copies at one site (either OP or NZ) in different buildings; data volume manageable

Copernicus Sentinel user level data of DLR scientific or commercial interest

- Sentinel-1, -2, -3 OLCI user level data
→ not preserved in LTA under Copernicus program
- Most product types, complete time stack, curated (gap filling, traceability in the future)
- Only 1 copy in LTA (plus selected data on analytics platform – “working copy”)
- Sentinel-2 Collection-1:
 - L1C to LTA, plan to stepwise retire & remove previous L1C data from LTA (~11 PB)
 - L2 to analytics platform only
- Sentinel-1, Sentinel-2 user level data archiving → getting too big/costly
→ Across-agency coordination would be welcome



EO data & information management in D-SDA long-term archive



Product model & formats

- Product levels: L0, L1, L2, L3 as required by mission or project
- Product model in data management database (“Product Library”) specifically designed for each new collection (i.e. data type)
- Simple standardized product model (similar to ESA EO-SIP) also used
- Taxonomy (nomenclature): collection → products → components (primary data, quicklook(s), metadata) → files (any format)
- Native formats plus metadata

CEOS Data Preservation Guidelines compliance

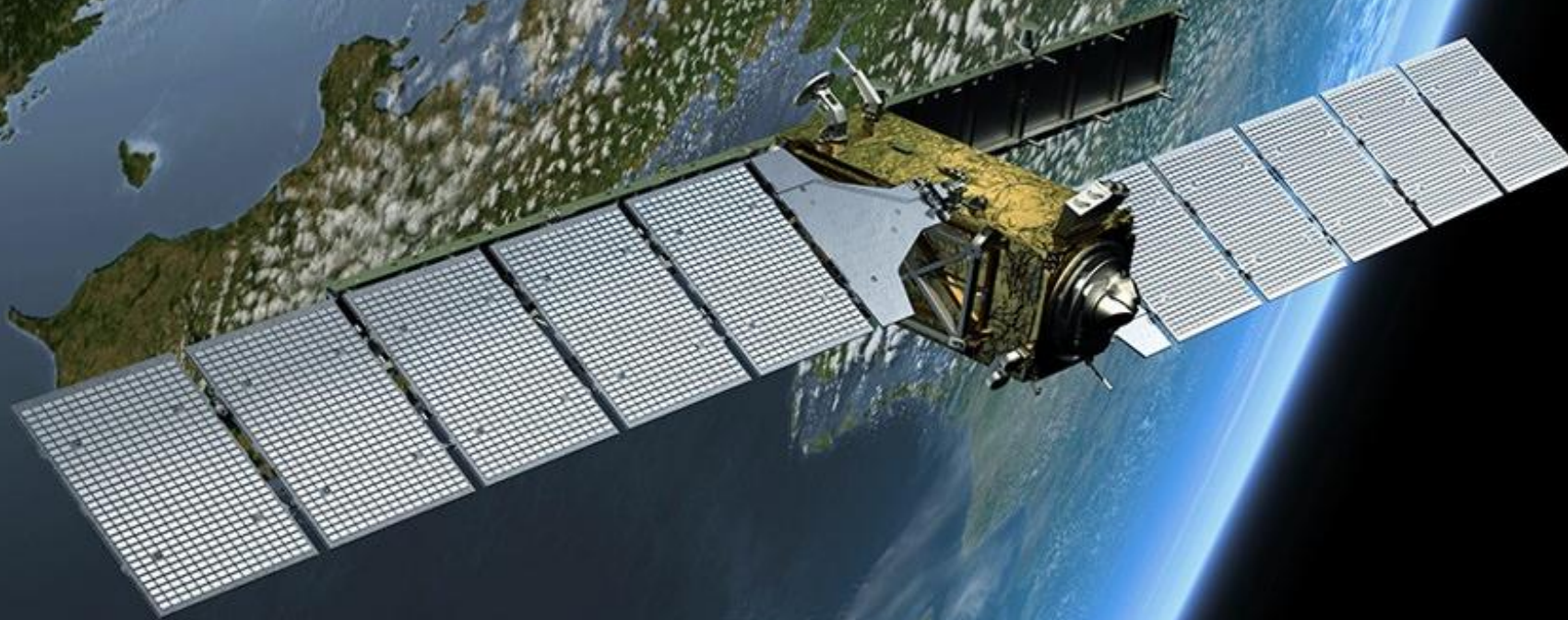
- 80% on average (up from 75% in 2012)

Preservation of technical documentation and/or relevant software

- No concrete activities yet; getting urgent for TerraSAR-X and TanDEM-X missions; to be included in Phase F plan (tbw.)

Guideline theme	% compliant
Preserved data set composition	23
Archive operations and organization	93
Archive security	86
Data ingestion	74
Archive maintenance	79
Data access and interoperability	85
Data exploitation and re-processing	74
Data appraisal and purge prevention	100
Average compliance	80

Questions?



Katrin Molch
DLR German Remote Sensing Data Center
Information Technology
Katrin.molch@dlr.de