User Guide: Terramonitor Sentinel-2 Analysis-Ready Service

Service Description

The Terramonitor Sentinel-2 Analysis-Ready Mosaic service is a Docker-based processing component designed to generate cloud-minimized, analysis-ready Sentinel-2 mosaics for forestry and land-cover applications. The service ingests Sentinel-2 Level-2A (surface reflectance) imagery and combines multiple acquisitions into a single, harmonized mosaic for one Sentinel-2 tile over a user-defined time period.

The processing workflow applies cloud filtering based on image metadata, performs pixel-wise temporal compositing and produces a spatially consistent mosaic optimized for further analysis, visualization, and downstream processing. The service is optimized for scalable execution within the F-TEP infrastructure and is suitable for repeated or batch processing of large forested areas.

Processing Characteristics

- Input data: Sentinel-2 Level-2A (BOA reflectance)
- Spatial unit: Single Sentinel-2 tile (e.g., T35VNE)
- Output: Analysis-ready raster mosaic suitable for GIS and EO analytics
- Execution environment: Docker container integrated into F-TEP processing workflows

Input Parameters

Parameter Name	Description	Type / Format	Example
tile	Identifier of the Sentinel-2 tile to be processed	String (TMS grid code)	`T35VNE`
timeranges	Beginning and end of the time range for image selection	String	`2022-05-01:2023-07-08`
cloud_coverage	Maximum allowed cloud cover percentage per input scene (from metadata)	Integer (%)	`20`

data_coverage	Minimum allowed data cover percentage per input scene (from metadata)	Integer (%)	70
min_median_coverage	Minimum allowed median number of valid observations per pixel	Integer	4
bands	The bands to be used in the AR process	String	B02-B03-B04-B05-B08-B11-B12
resolution	Pixel resolution of the output GeoTiff	Integer (10 or 60)	10

Output

The service produces a single cloud-minimized, analysis-ready Sentinel-2 mosaic covering the specified tile and time range. The output is suitable for direct use in forestry analyses such as vegetation monitoring, change detection, and index computation, and can be visualized or exported through F-TEP-supported tools and services.