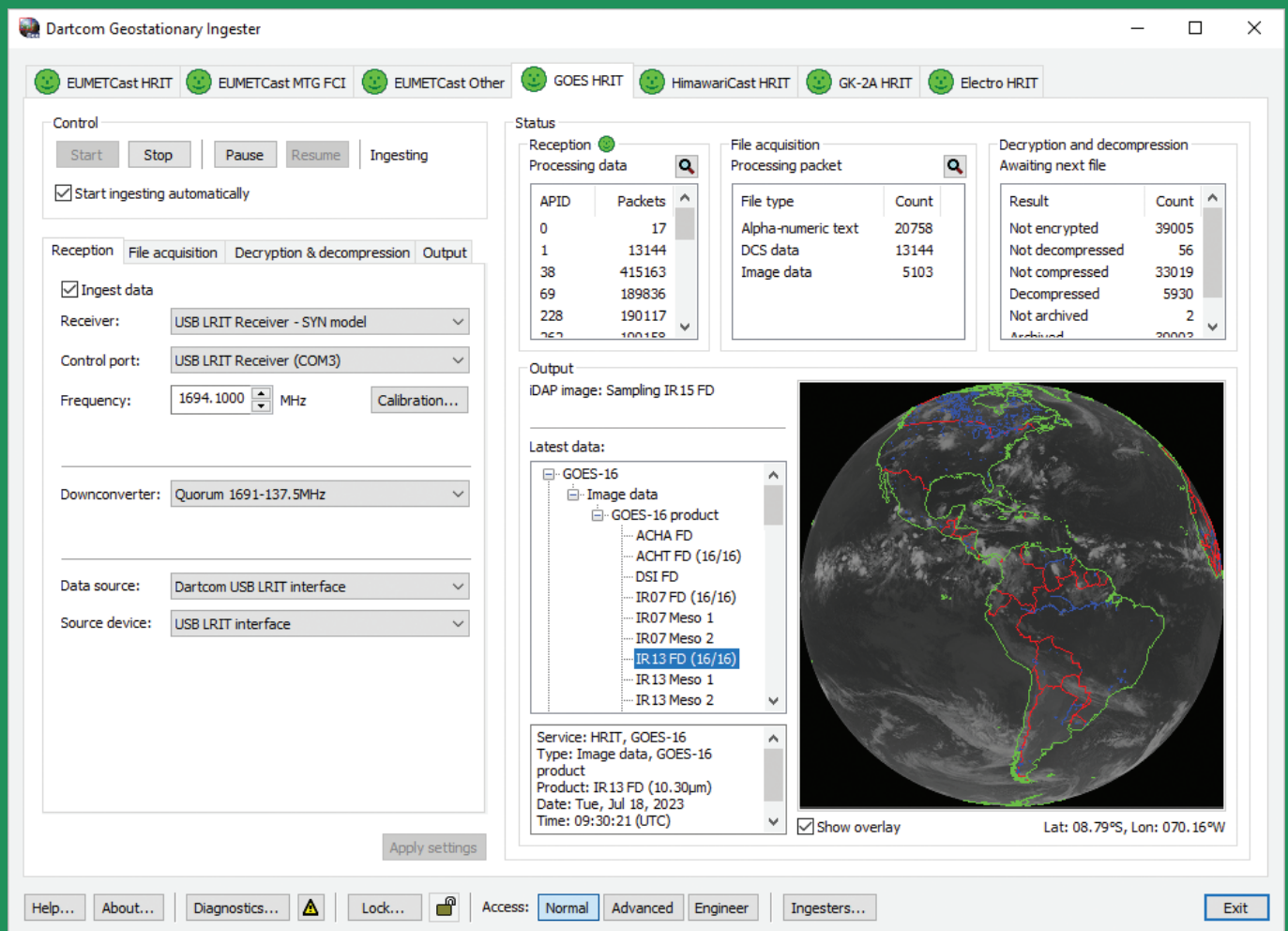# Geostationary Ingester

Ingest software for receiving and processing MTG, LRIT, HRIT, UHRIT, SAF and GOES ABI data from EUMETCast, HimawariCast, GOES and GEO-KOMPSAT-2A (GK-2A)

The Dartcom Geostationary Ingester software automatically ingests, decrypts, decompresses, archives and outputs geostationary satellite data.

Images can be automatically processed and animated using the Dartcom MacroPro software, then displayed and manipulated further using the Dartcom iDAP software.

Features of the Geostationary Ingester software include:

- Handling of MTG, LRIT, HRIT, UHRIT, SAF and GOES ABI data from EUMETCast, HimawariCast, GOES and GK-2A.
- Support for USB, TCP/IP, UDP/IP and DVB data sources.
- Fully automatic ingest, output and archiving.

- Multi-threaded for simultaneous ingest from different services utilising multiple CPU cores.
- Image previews with map overlays and position read-outs.
- Output of image data as Dartcom iDAP images, navigated and calibrated where possible, and with vector map overlays.
- Reprojection and output of image data in PCI Geomatica, ERDAS IMAGINE, ENVI/IDL and GeoTIFF formats.
- Output of MTG LI and GOES GLM lightning flash data to iDAP and MacroPro via a database.
- Output of derived wind speed and direction from MTG FCI level 2 AMV products to iDAP and MacroPro via a database.

General

- Automatic ingest and output of MTG, LRIT, HRIT, UHRIT, SAF and GOES ABI data from EUMETCast, HimawariCast, GOES-East/West and GEO-KOMPSAT-2A (GK-2A) services, with no user intervention required after configuration.

- Multi-threaded, layered architecture allowing simultaneous ingest from different services utilising multiple CPU cores.

- Comprehensive software user guide and help system.

File acquisition

- Automatic data transfer from Dartcom USB LRIT/HRIT receivers with Reed-Solomon decoding, derandomisation and file assembly.

- Automatic frame acquisition from TCP/IP and UDP/IP streams with unicast and multicast support.

- Automatic file acquisition from DVB software.

- Archiving of acquired raw files covering up to 7 days.

- Filtering by service, file type, data type and product, allowing unwanted data to be discarded collectively or selectively.

Decryption and decompression

- Automatic file decryption with archiving covering up to 7 days.

- Automatic file decompression with archiving covering up to 366 days in folders by type, date and time if required.

Outputs

- Automatic preview creation, with map overlays and geographical position read-outs on image previews.

- Extraction of GOES EMWIN data for further processing using software such as *Weather Message*.

- Output of image data as single plane (greyscale) or multi-plane (false colour) Dartcom iDAP images, navigated and calibrated where possible, with area selection, sub-sampling by factor or to a specific size, enhancement and vector map overlays.

- Output of meteorological charts and products as iDAP images.

- Reprojection and output of image data in PCI Geomatica, ERDAS IMAGINE, ENVI/IDL and GeoTIFF formats.

- Output of image data as PGM files, with 8-bit or 16-bit data.

- Output of lightning flash and wind speed and direction data to a database for iDAP/MacroPro.

- Output of text data (such as service messages) and binary data to files, or via email, serial port or TCP/IP socket.

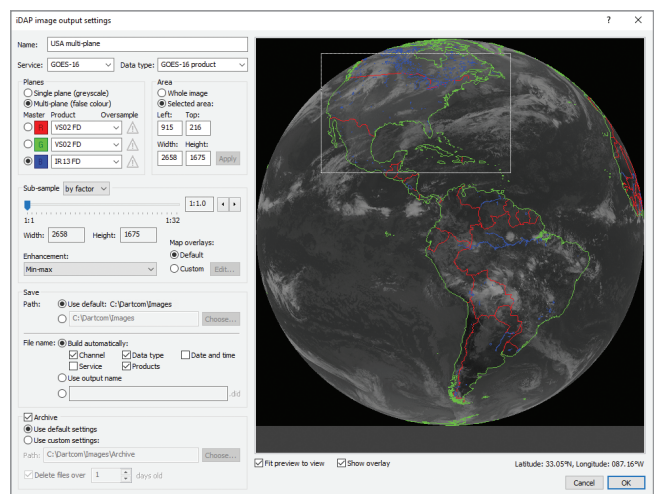- Archiving of output files covering up to 366 days.

Monitoring and diagnostics

- Detailed activity logging, on-screen alarms and email alarms.

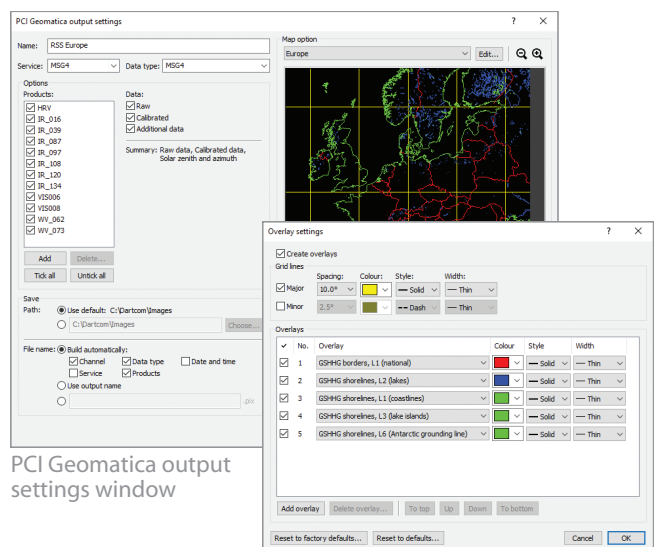- Monitoring of storage space and breaks in data reception.
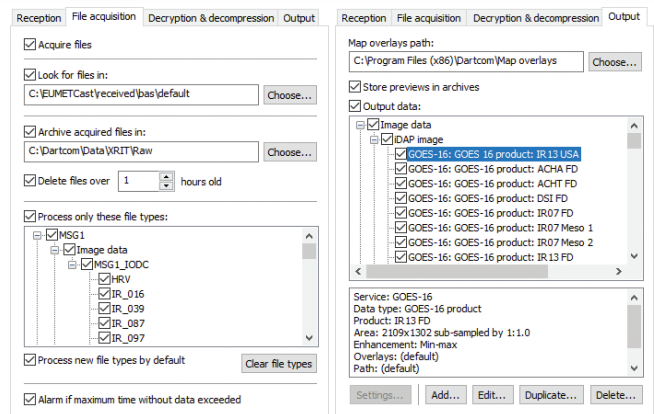
File acquisition settings tab

Output settings tab

Dartcom iDAP image output settings window

PCI Geomatica output settings window

Map overlay settings window