



# IPT

## IMAGE PROCESSING TOOL

### TRANSFORM RAW SATELLITE DATA INTO ACTIONABLE IMAGERY

#### END-TO-END IMAGE PROCESSING

Earth observation satellites collect vast amounts of data for environmental monitoring, agriculture, urban planning, and disaster management. IPT transforms this raw data into calibrated, analysis-ready products.



#### SATELLITE-READY

Handling multispectral and hyperspectral payloads



#### MULTI-LEVEL PROCESSING

From raw L0 data through radiometrically and geometrically corrected L1B to fully orthorectified L1C products



#### PRECISE GEOREFERENCING

Direct georeferencing using satellite telemetry with GPS positioning and star tracker attitudes

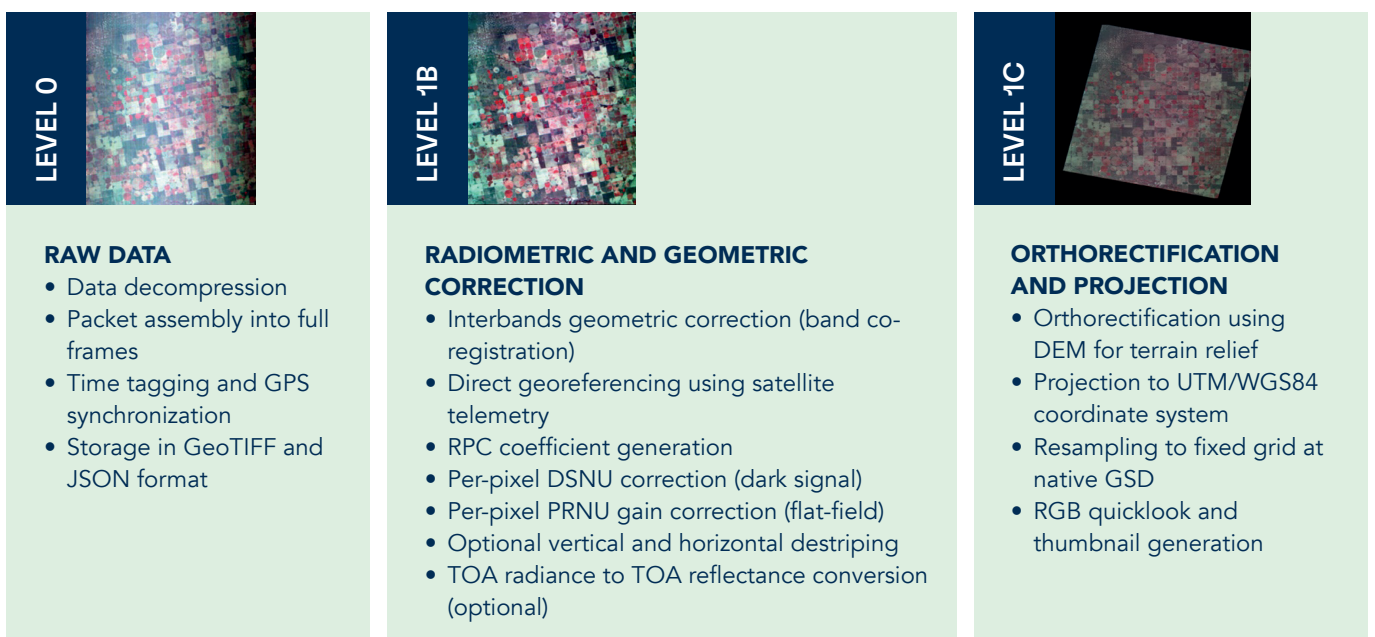


#### CALIBRATED RADIOMETRY

Convert raw digital numbers to TOA radiance or reflectance with per-pixel DSNU and PRNU corrections

#### FROM RAW DATA TO ANALYSIS-READY PRODUCTS

Professional-grade image processing. From raw Level 0 data to orthorectified, radiometrically calibrated products.



On request, VITO can provide atmospheric correction software iCOR tool, which produces Top of Canopy (TOC) surface reflectance products.

## TWO POWERFUL OFFERINGS

Choose the processing level that matches your application requirements.



### EXPRESS IMAGE PROCESSING

**Rapid** processing for a first glance at image characteristics. Uses ancillary satellite/camera metadata for geolocation and preflight characterization for basic radiometric correction.

- ✓ Fast turnaround for quick image assessment
- ✓ Pre-flight calibration coefficients
- ✓ Satellite telemetry-based geolocation
- ✓ L1B and L1C product generation
- ✓ Interbands geometric correction
- ✓ Direct georeferencing with RPC generation



### ADVANCED IMAGE PROCESSING

**End-to-end** solution with vicarious calibration powered by VITO. In-flight calibration refines radiometric and geometric coefficients for high-accuracy products suitable for downstream applications.

- ✓ Everything in Express, plus:
- ✓ Vicarious in-flight radiometric calibration
  - ✓ Dark current update from night-time orbits
  - ✓ Absolute calibration using Libya-4, Niger-2, RadCalnet sites
  - ✓ Cross-validation with Sentinel-2
- ✓ Geometric calibration with bundle adjustment and GCPs

## BUILT FOR REAL-WORLD APPLICATIONS



Environmental  
Monitoring



Urban  
Planning



Disaster  
Management



Scientific  
Research



Data Archival  
and Reprocessing



Higher-Level  
Products

## INTERESTED IN IPT FOR YOUR SATELLITE MISSION?



More (technical) information & FAQ's:  
[remotesensing.vito.be/services/image-processing-tool](https://remotesensing.vito.be/services/image-processing-tool)  
[remotesensing.vito.be](https://remotesensing.vito.be)

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