SCULPT: Scientific Construction of Satellite Data Products Toolkit

Introducing APRIL's satellite data processing as a service, an offering integrated within our proprietary software suite, SCULPT (Scientific Construction of Satellite Data Products Toolkit). It is designed for clients seeking to leverage APRIL's unparalleled expertise, SCULPT transforms raw satellite data into actionable, analytics-ready data products. This service provides automated data processing and archiving, streamlining operations for our valued customers. Our team comprises seasoned specialists in image and signal processing, boasting extensive experience spanning decades in generating data products from the most challenging earth observation payloads.

Payloads served:

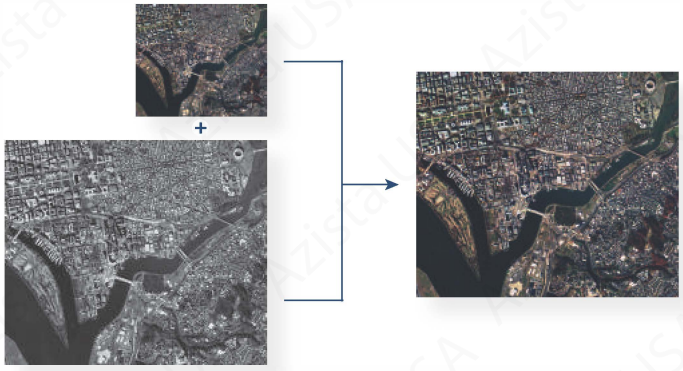
- Panchromatic (Sub-Meter to Coarse Resolution)
- Multi-spectral Imagery
- Hyper-spectral Imagery
- Infrared Imagery
- Synthetic Aperture Radar Imagery

Salient Features of SCULPT

- Completely automated Data Processing for generation of Analytics Ready Data Products
- No investment in infrastructure and resources for generation of data products.
- Tailor-made software services to fit into your satellites.
- In-flight as well as ground data calibration, both radiometric and geometric.
- Extensive step-by-step documentation of all processes.
- Enhanced user experience in using the data.
- Reduced turn-around time.
- Easy installation along with regular updates to the software.
- Parallel processing chains
- Expert advice and step-by-step guidance from mission concept design to payload calibration.
- Round the clock support for correction of anomalies.
- Image enhancement services.
- Data Repository, Tasking APIs and archival systems.
- Quality, Cost Effectiveness and Time-bound deliveries

Highlights of our package include:

Image Deblurring	Image Denoising	Image Mosaicking/ Optical Butting Correction
Pan Sharpening	Super Resolution	Atmospheric Correction
Flat-field and Radiance Correction	Exposure Fusion	Geometric Tagging & Resampling
Precision & Relief Correction	Data Masks	Band-to-Band Registration
Standardized Data Formatting	Data Dissemination Platform	Ground Operations Software



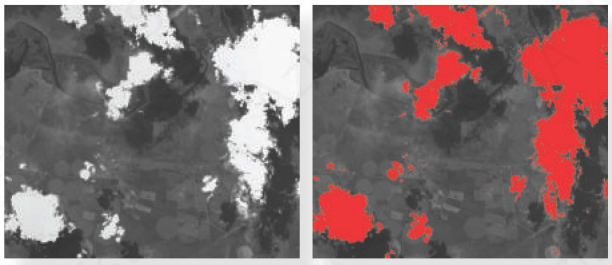
Before and after Pan-sharpening

Before and After Image Deblurring

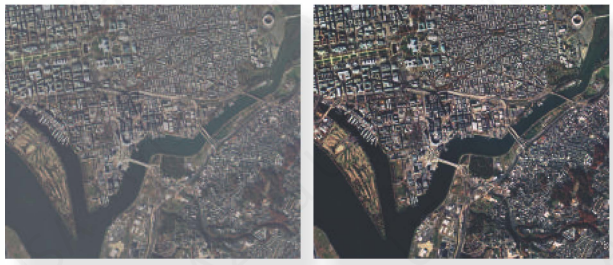
Before and After Image Denoising

The following table outlines the various levels of data processing:

Data Level	Description
Level 0	Raw data captured by the satellite's payload
Level 1	Radiance Product which involves radiometric correction and precision geometric corrections applied to the L0 product
Level 2	Reflectance Product, i.e., the L1 product which has been atmospherically corrected and with reflectance generated for the same
Level 3 (Higher Level)	Pan sharpened product with spatial output sampling of panchromatic bands as well as colour from the multispectral channels



Data Masks (Cloud Mask)



Before and After Atmospheric Correction

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