

CASE STUDY

KSAT advances to sensor agnostic automated services to support multi-mission projects.



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EARTH DATA, SIMPLIFIED.



For the past 10 years, CATALYST has been an active and trusted provider of processing workflows to Kongsberg Satellite Services (KSAT).

In response to recent growing client demand for faster, sharper imagery, KSAT approached CATALYST for a new custom ortho-mosaicking workflow with pan-sharpening capabilities.

This new workflow needed to be sensor agnostic, capable of handling multi mission data as well as providing an audit trail for all operations.

The results yielded higher control and capacity for KSAT's services, reducing their data delivery time and making their business more competitive in the market.



Tromsø, Norway. Imagery credit: Airbus D&S

KSAT: Connecting Space and Earth

As a leading provider of Ground Network Services and Earth Observation Services for many years, Kongsberg Satellite Services (KSAT) knows what it takes to operate and deliver fast and reliable services – every day..

Headquartered in Norway, KSAT has a company history spanning more than 50 years, and a 20-year track record providing near real-time advanced monitoring services to its customers all over the world.

KSAT's sophisticated earth observation services, are used for a variety of applications including energy, environmental monitoring, forestry and land monitoring, satellite images and processing and, maritime surveillance and security for both critical and noncritical services.

KSAT has been a user for CATALYST (PCI Geomatics) for nearly 10 years. CATALYST provides orthorectification, DEM extraction, mosaicking, and pansharpening workflows to support KSAT's operational satellite image processing.

In the recent years, additional support for KSAT services was required from CATALYST. More specifically, support in the automation of workflows which would improve the speed and accuracy of KSAT's data.



KSAT knows to stay competitive, it must succeed in two critical areas:

1. Managing demand variability for a growing number of satellite sensors, in a cost-effective manner.
2. Delivering satellite image processing solutions with low order latency and high standards.

To continue to lead the market, though, KSAT wanted a sensor-agnostic solution to improve turn-around times and scale processing capacity as needed, while using industry leading algorithms.

Specifically, they wanted an ortho-mosaicking workflow with pan-sharpening capable of supporting multimission projects and providing a full audit trail of all processing steps and settings.

“We wanted to be able to provide our clients with an automated service from downlink to data delivery. This includes a processing chain, focused on full automation that needed to be auditable. But not only that, it needed to be low latency as well to meet the needs of our customers with time critical requirements, meaning delivery in some cases as quick as 30 minutes from image collection to delivery.”

Because KSAT often creates ortho-mosaics that include multi-mission data and images with varying levels of processing from different providers, it was crucial this workflow could handle and process large volumes of data to consistent standards.

Their system needs to be able to handle multiple sensors, and consistently process the imagery to high standards of positional accuracy and radiometric consistency.

For KSAT’s customers, speed and quality are non-negotiable.

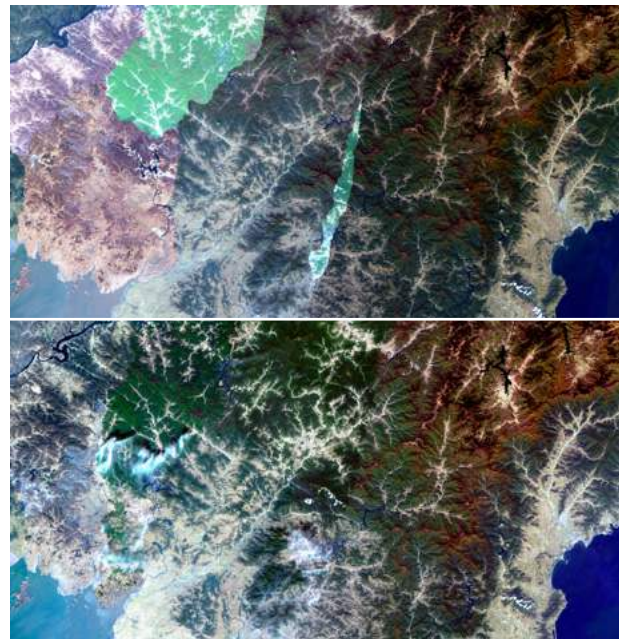
“We knew that CATALYST had all the individual image processing elements we needed,” said Charlotte. “And we trusted they could create a custom workflow with us that would satisfy our requirements.”

CATALYST’S solution

Fortunately, most of what KSAT required was available through CATALYST’s Enterprise solution for automated satellite image processing. KSAT had been successful with existing workflows, however a configuration to optimize logic and processing time was required to further speed up and automate deliveries.

The CATALYST team worked closely with KSAT to configure the solution and provide KSAT with more control over the workflow and full processing audit trails for customer compliance.

The solution is sensor agnostic, processing imagery in different ways from individual sensors through variations of the processing chain, all optimized for each sensor.



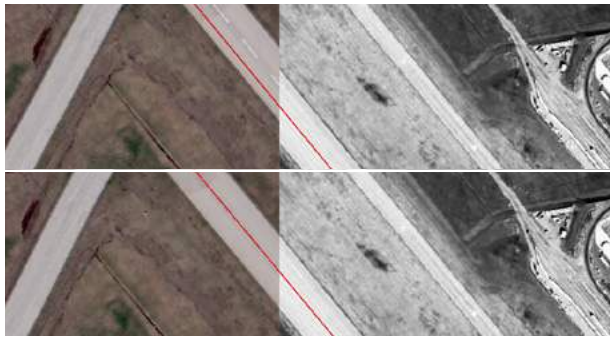
Before (top) and After (below) CATALYST mosaicking workflow. Imagery credit: Planet Labs Inc.

CATALYST is a well-known leader in satellite sensor support, providing out-of-the-box support for over 100 optical as well as SAR sensors.

The KSAT solution made it possible to deliver high quality multi-mission ortho- mosaics.

CATALYST continues to work with KSAT, implementing a data management solution as part of this service to improve support for the specific nuances of KSAT’s dayto- day operations.

Orthorectification and pansharpener workflows



Orthorectification: Non-Orthorectified (top) and Orthorectified (bottom) Improving accuracy (Imagery Credit: Maxar).



Pansharpener: Non-Pansharpener (left), Pansharpener (right) improving quality (Imagery Credit: Maxar).

The results and their impact on the future of KSAT

The impact of CATALYST’s Enterprise solution has been immediate.

KSAT has already leveraged the improved speed, capacity, and quality of imagery processing to win new tenders with clients facing time critical needs, while also using it to bolster offerings to existing clients.

The result has not only been considerably improved revenue and market share, but improved reputational advantage in the market.

“We’ve got capacity that we just didn’t have before and are now in a position where we can launch larger-scale processing jobs that can be automated, because the solution is fully agnostic.

“It doesn’t matter what data it is. The automated system, plugged into KSAT’s own operational set up, picks up the data, knows the correct processing to use, and then drops it off at the delivery site.

“It’s a small customization upgrade but the benefit is that it’s an easy way for us to manage operational requests more easily. It’s all part of this automation goal we’re aiming for, to reduce manual interaction with standard processing services.” Charlotte Bishop.

About Catalyst

CATALYST is a world-leading developer of software and systems for remote sensing, imagery processing and photogrammetry. With 40 years of experience in the geospatial industry, CATALYST is recognized globally for its excellence in providing software for accurately and rapidly processing satellite and aerial imagery. There are more than 30,000 CATALYST licenses, in over 150 countries worldwide.

To learn more, visit www.catalyst.earth