

GXL

SATELLITE

The Geolmaging Accelerator (GXL) is the latest evolution in image processing and analysis technology specifically designed to address industry needs for high levels of automation and production capacity.

GXL combines the power and precision of Graphics Processing Units (GPUs) and distributed multi-threaded processors to deliver improved data handling with the accuracy and expedience of automated workflows. The result is a cost-effective image processing system that provides a significant improvement in speed and efficiency over traditional image-processing techniques.

The Power of Multi CPU/GPU Processing

GXL is designed to take advantage of multi-core Central Processing Units (CPU) and Graphical Processing Units combined with advanced load-balance monitoring, so that all available computing resources are used when available. PCI has re-engineered the software to not only make it possible to distribute the workload through parallel processing, but also to speed up the computations across your workflows.

Built-in Scalability

The GXL system can be deployed on readily available hardware, making full use of processing speed available. Processing nodes can be configured and added to the GXL system as needed, allowing your system to expand, alongside your production requirements.

Incredible Results

With GXL-Satellite, high quality output can be obtained in record time for a variety of satellite sensors. Production throughput will increase exponentially over conventional desktop orthorectification and mosaicking speeds while maintaining pixel-perfect accuracy and stunning image quality.

Sensor	GB/day	Km ² /day
RapidEye	840 GB/day	1 400 000 km ² /day at 6.5m
Ikonos	120 GB/day	18 000 km ² /hour at 1m
QuickBird	144 GB/day	9 000 km ² /day at 0.6m
WorldView-2	140 GB/day	8 000 km ² /day at 0.5m

ACCELERATE YOUR PRODUCTION AUTOMATICALLY

Powerful

Proprietary algorithms are uniquely suited to leverage multi-core CPUs and GPU's to deliver incredible increases in Speed

Scalable

Scale your system up or down depending on throughput requirements while advanced load balancing maintains maximum efficiency.

Incredible

Cost-effectively process terabytes of data and create flawless mosaics from thousands of images with ease.



Features and Benefits

- **Multi GPU/CPU and Distributed Parallel Processing** deliver fast, accurate and cost effective processing
- **Built in Scalability** lets users easy scale up in the future by adding readily available commercial off the shelf hardware
- **Automated Workflows:** simple to process complete workflows with a minimum of operator interaction
- A wide range of **Quality Assurance** tools ensure excellent results
- **Open Architecture** lets users integrate other workflows easily without having to purchase a complete new system
- **Multi-User Access** via web browser increases productivity and improves QA
- **Lightning fast processing times and rapid return on investment:** Process significantly more data per year than using traditional desktop approaches.



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GXL Satellite Capabilities

■ Automatic Rational Function Model Calculation

High-accuracy, fully automated model calculation with or without additional ground control

■ High Speed Satellite Orthorectification

Calculate your satellite orthos at full 1:1 sampling faster than ever before, thanks to advanced GPU processing

■ Job and process management

GXL's Job Processing System defines and automates job classes, user permissions, priorities, and node management.

■ Integrated workflow

Due to the flexible GXL architecture, additional workflows can be easily added to complete your project.

Supported Sensors

Provider	Sensor	Level	Pan Res (M)	MS Res (M)
CNSA/INPE	CBERS-1/2/2B	1a		2.7-20
DigitalGlobe	Worldview-1	1-3	0.5	
	Worldview-2	1-3	0.46	1.84
	Quickbird	1b	.061	2.4
ESA	MERIS (ENVI-SAT)	1b		260
GeoEye	Geoeye-1	Mono/Stereo	0.41	1.65
	IKONOS	Geo, Geo Ortho Kit	0.82	4
	OrbView-3	1a	1	4
Imagesat Int	EROS-A	1a	1.8	
	EROS-B	1a	0.7	
ISRO	CARTOSAT-1	1,2,3,4,6	2.5	
JAXA	ALOS AVNIR/PRISM	1a, 1b1, 1b2r, 1b hdf	2.5	10
	GOSAT	1b		500
KARI	KOMPSAT-1	1a equivalent, 1r	6.6	
	KOMPSAT-2	1a equivalent, 1r	1	
LandSat	LandSat 1-5/7	4,5,8,1g	15	30 (60 IR)
NASA	ASTER	1a, 1b hdf		15-90
	MODIS	1a, 1b hdf		250-1000
NSPO	FORMOSAT-2	1a	0.41	1.65
RapidEye AG	RapidEye 1-5	1b, 3a		6.5
SPOT	SPOT 1-3, 4-5	0,1,1a, 1b	2.5-5	10-20

Seeing is Believing

Our Benchmark Centre Program allows prospective clients to evaluate the GXL system and witness processing in real time. Let us show you the benefits of GXL in person (in our Toronto-based facility) or through a web meeting. You can choose among the completed GXL metrics, or send us a sample dataset for your evaluation. Contact us for more information at gxl@pcigeomatics.com.