

## Geomatica 10.0.2

PCI Geomatics is pleased to announce the release of Geomatica version 10.0.2, an update with significant enhancements to the Geomatica 10 suite. In addition to fixes of customer-identified bugs, this update includes many new features, along with improvements in the reliability, performance, usability, and functionality of Geomatica 10.

---

### Supported Platforms

- Windows 2000, Windows 2000Server, Windows 2003Server, Windows XP
- Linux SUSE 9.3, Red Hat Workstation 4
- Solaris 8, 9, 10

### Licensing and Installation

- This package includes an easy-to-follow manual to guide you through the entire installation procedure.
- Geomatica 10 requires a new license code, which is included in this package. If you cannot find the printed license codes, contact [license@pcigeomatics.com](mailto:license@pcigeomatics.com) and quote your customer number.

---

## New Features in Geomatica 10.0.2

### **Geomatica is certified to support CARTOSAT-1 satellite imagery**

PCI Geomatics has achieved full certification for its flagship software, Geomatica®, from the Indian government-contracted ANTRIX Corporation. Geomatica can now be used for processing data from the CARTOSAT-1 satellite.

CARTOSAT-1 was launched on May 5, 2005 by the Indian Space Research Organization (ISRO). With two panchromatic cameras that deliver a spatial resolution of 2.5 meters, CARTOSAT-1 provides stereo data suitable for advanced, large-scale mapping applications. The data are optimal for generating digital terrain models (DTMs) and digital elevation models (DEMs).

With this certification, Geomatica Version 10.0.2 has complied with all of the six identified levels:

- Image import and image processing
- Single image triangulation
- Stereo pair triangulation
- Block triangulation for mono imagery

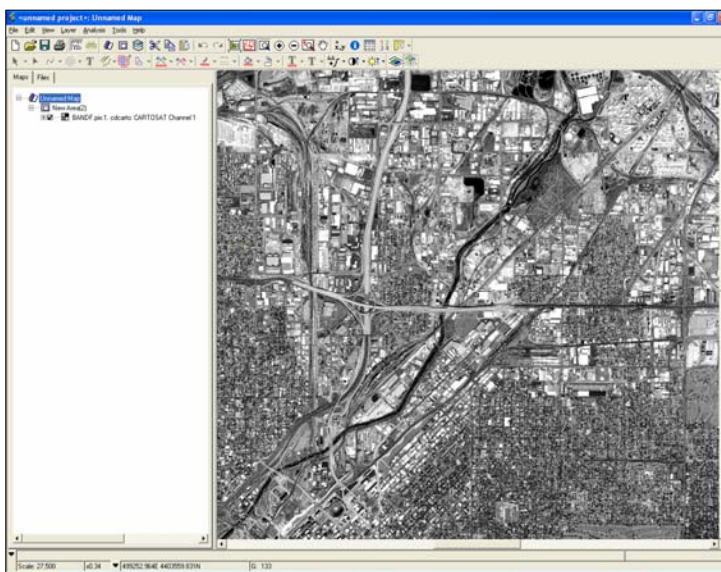


Figure A: CARTOSAT Imagery in Focus Viewer  
(Imagery courtesy of Antrix Corporation, Bangalore India, and Space Applications Centre, Anmehdabad India)

- Block triangulation for stereo imagery
- Digital topographic mapping

Geomatica now provides image processing tools and applications on CARTOSAT-1 imagery data in the following applications:

- **Read CARTOSAT data directly from the distribution CD**
  - The CDCARTOSAT algorithm reads channels and the satellite ephemeris data (orbital information) from the CD and saves it to a PCIDSK file.
  - The CDCARTOSAT algorithm is an operation that can be included in a script workflow.
  - The CDCARTOSAT algorithm requires a Geomatica Core license.
- **Read and orthorectify CARTOSAT-1 data using the Rigorous Math Model**
  - The Rigorous Math Model was developed by Dr. Toutin from the Canadian Center of Remote Sensing. This type of modeling is well known for both low and high resolution satellite sensors including ASTER, AVHRR, IKONOS, SPOT, IRS, and Quickbird.
  - Rigorous orthorectification of CARTOSAT-1 data requires a High-Resolution Satellite Model license.
- **Read and orthorectify CARTOSAT-1 data using the Rational Functions Math Model**
  - The Rational Functions Math Model uses the ratio of two polynomial functions to compute the image row, and a similar ratio to compute the image column.
  - This model provides the option to import the encoded rational polynomial coefficients (RPC) information distributed with the imagery data into the OrthoEngine application.

Within the Geomatica environment, you can take advantage of the stereoscopic 2.5-meter high-resolution panchromatic imagery for 3-D feature extraction, which lets you generate an accurate digital elevation model and create cartographic mapping applications.

## ***AUTOGCP algorithm improvements***

The AUTOGCP algorithm automatically extracts ground control points (GCPs) for a given image with respect to a geocoded reference image. With recent improvements to this algorithm, AUTOGCP can now do more:

- Align two geocoded images by generating a GCP segment between the two images.
- Register a raw image to a geocoded image by generating a GCP segment between the two images.
  - This operation requires the raw image to have an orbit or math model segment to define its approximate orientation with respect to the geo-coded reference image.
- Create a GCP segment using a Digital Elevation Model (DEM) to produce a complete set of coordinates.
  - GCP segments that include image coordinates (pixels and lines).
  - GCP segments that include an elevation value (z) for each ground point (x,y).
- The improved AUTOGCP algorithm not only has the same functionality as the AUTOIMG algorithm, but moreover outperforms AUTOIMG with respect to both speed and the quality of results.

You can use AUTOGCP as a precursor to a data fuse operation (e.g., PANSHARP) for aligning different data with different resolutions, or include the AUTOGCP algorithm for automatic GCP collection within an orthorectification workflow.

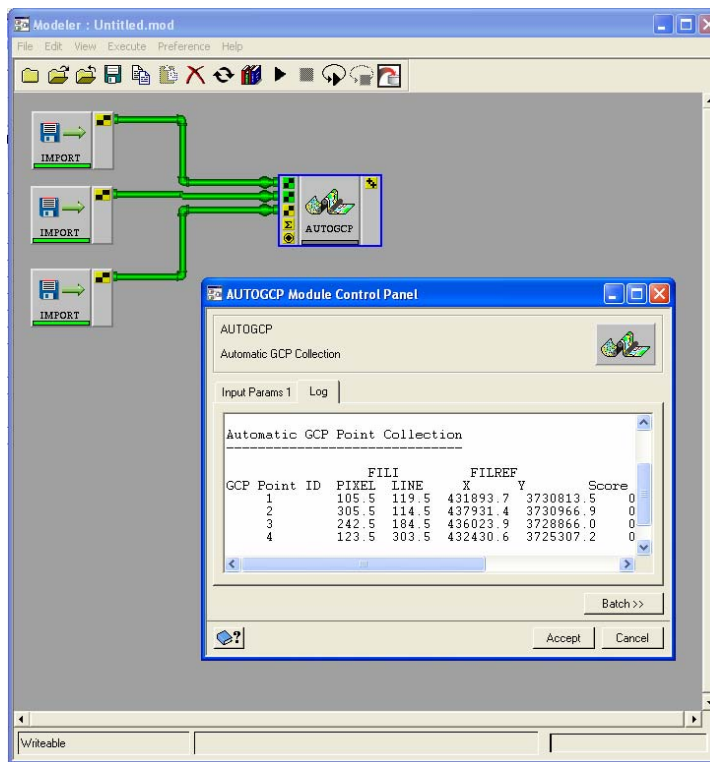


Figure B. AUTOGCP Algorithm in Modeller

## **New Zealand Map Grid Projection (NZMG)**

You can more easily view and reproject data to and from the NZMG projection. An enhancement in response to customer demand, this projection maintains the conformal projection properties for New Zealand.

## **Geomatica V10.0.2 is now available in French and Spanish**

All of Geomatica's graphical user interface (GUI) application environments are available in English, French, and Spanish. We will be adding Chinese language support by the end of the year 2006.

The French and Spanish environments can be enabled through the Geomatica desktop icon. Simply right-click on the icon to access the Properties panel, and change the Target field as follows to enable the desired language:

"C:\Program Files\Geomatica\_V100\exe\geomatica.exe" -language spanish

"C:\Program Files\Geomatica\_V100\exe\geomatica.exe" -language french

## ***Geomatica V10.0.2 is now supported on Windows 64-bit XP***

We have upgraded our operating system support to include Windows 64-bit XP.

## ***More upgrades in Geomatica V10.0.2***

Geomatica version 10.0.2 not only contains the new features highlighted above, but also includes fixes to customer-identified bugs and improvements in the software's reliability, performance, usability, and functionality.