



Press Release

New Cyclone v4.0 Slashes Laser Scanning Project Costs, Improves Output Quality

San Ramon, CA – October 7, 2002. Cyra Technologies, Inc. (a Leica Geosystems company) announced a major, new release of its flagship software, *Cyclone*[™] v4.0. Some beta test customers have already projected field savings up to 50%, office savings up to 25%, and better quality deliverables for many laser scanning projects.

As part of this new release, Cyra has added *Cyclone-SURVEY* v4.0, a trimmed down, more affordable version of *Cyclone-MODEL*, specifically for those organizations that focus on civil/survey types of projects. Cyra has also added *Cyclone-REGISTER* v4.0 as a powerful, standalone module for accurately aligning multiple point clouds together.

Key Cyclone v4.0 Features Benefit All Users

Some new *Cyclone* v4.0 features can benefit all laser scanning projects, while other features are focused on either plant & facilities applications or civil/survey applications.

Accurate Cloud-to-Cloud Registration

Cyra has introduced a powerful, new “cloud-to-cloud” registration capability to accurately register multiple point clouds to each other when they are captured from different scanner positions. “Cloud-to-cloud” registration complements the previously existing capability to register point clouds using targets. Both methods are part of a new, standalone *Cyclone-REGISTER* v4.0 module.

“Cloud-to-cloud” registration automatically fits points from one point cloud to points from overlapping point clouds. The user simply does a rough orientation to get started. Prior to the availability of “cloud-to-cloud” registration, multiple targets had to be placed in each scene, when feasible, to allow accurate registration of multiple clouds. “Cloud-to-cloud” registration has major implications:

- Laser scanning is often used for areas that are largely inaccessible or otherwise hazardous to occupy. As such, placing targets in the scene has often not been practical. Without targets to facilitate registration, the office process of trying to accurately align scans to each other was often very difficult and time-consuming. Now, with cloud-to-cloud registration and with minimal overlap, scans can be accurately aligned to each other with ease.
- Even when it was feasible to place targets within a scene, it was often considered a time consuming extra step. Targets had to be placed, surveyed, scanned, and modeled. With cloud-to-cloud registration, many projects can now be done accurately *without using targets at all*, or with just a few targets for geo-referencing and/or additional QA.

- In cases where a user wants to use targets for all registration activities, cloud-to-cloud registration can provide valuable, additional project QA.

The bottom line is that beta testers have already projected up to 50% field labor savings on projects that previously involved the use of many targets! In some cases, it means being able to perform fieldwork with one person instead of two. Some beta testers have cited even better quality results on projects that they previously did with targets.

True Color Overlay

Using *Cyclone*[™] v4.0 and a camera-calibrated *Cyrax* 2500, a user can now overlay the scanner's true color digital video snapshot *on top of* the captured 3D point cloud. The resulting image can be viewed in 3D. Previously, deliverable options were based on using false colors or gray-scale for the scene. The true color overlay (also known as texture mapping) option can be used for site planning & design, forensic analyses, educational & entertainment applications, and client marketing presentations. One of the key aspects of Cyra's implementation of this feature is the ability to perform this overlay in an intelligent, *geometrically accurate* manner. The texture mapping feature is part of all standalone *Cyclone* modules that include viewing capability.

Texture mapping is also part of **SmartScan Technology^Ô**, a set of features that gives users additional scanning controls and tools to scan sites "intelligently". The ability to scan sites intelligently enables users to apply laser scanning on a wider variety of projects, minimize total project costs, and maximize the quality of project deliverables. [See separate press release, "New, Accurate Color Overlay Feature in *Cyrax* 2500 3D Laser Scanner's SmartScan Technology[™]", Oct. 7, 2002]

New Features for Plant & Facility Applications

Two (2) important new features in *Cyclone*-MODEL v4.0 are specifically designed to improve the use of laser scanning for plant & facility modeling applications:

- Previously, point clouds could be "best fit" to CAD primitives (e.g. cylinders, to represent pipes) for export to plant design CAD applications. Now, in addition to best-fit methods, point clouds can also be **fit to catalogs** for piping and steel geometries per ASME and AISC tables and specifications. In addition to AISC, other international tables and specifications are included in *Cyclone* v4.0 and the user can add new tables. Fitting to catalogs can further reduce office time and ensure more accurate and consistent 3D models.
- A new "**Piping Mode**" feature lets users add important piping information to piping components (including line number, specification, Symbol Key, insulation thickness, etc.). This will reduce the office time and labor involved in creating intelligent 3D CAD models from point clouds.

New Features for Civil/Survey Applications

- ***Cyclone*-SURVEY** v4.0 is a new, standalone module that is a subset of the features in *Cyclone*-MODEL v4.0. *Cyclone*-SURVEY v4.0 contains features specific to surveying and civil engineering projects, such as automatic removal of shrubs and brush, TIN and DTM creation, edge fitting for breaklines, creation of

contours, intelligent surface model decimation, Virtual Surveyor™, and other tools. *Cyclone-SURVEY* is offered at a 50% cost savings compared to *Cyclone-MODEL*. Both *Cyclone-SURVEY* v4.0 and *Cyclone-MODEL* v4.0 contain the following new features:

- Users can now **automatically create topographic breaklines** from rich point clouds using a new “Fit Edge” template tool. This tool, which creates polylines by accurately sweeping across edges (e.g. curb & gutter), promises not only to reduce office time for processing point clouds, but also looks to ensure that breaklines are accurate for civil engineering design use.
- Scans can be quickly and easily **oriented to a local coordinate system** using the new Set Coordinate System function (and new Cyra Twin-Target Pole accessory). This, in turn, enables CloudWorx™ users to slice point clouds vertically and horizontally **to create fast, accurate 2D drawings from point clouds directly in CAD**.

Availability

The new *Cyclone* v4.0, *Cyclone-MODEL* v4.0, *Cyclone-REGISTER* v4.0, and *Cyclone-SURVEY* 4.0 are available October 2002. Pricing information on all software modules and upgrades is available through Cyra representatives.

Additional Information

For additional information on this release, please contact Diane Hum (email to: diane.hum@cyra.com), tel 1-925-790-2300, www.cyra.com.

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About Cyra Technologies, Inc.

Cyra Technologies, Inc. (www.cyra.com) is based in San Ramon, California. The company specializes in the development and manufacture of advanced 3D Laser Scanning Systems and Software. These products are used for performing complex as-built or site surveys and for a variety of 2D & 3D mapping and modeling applications in the AEC and other markets. Cyra Technologies, Inc. was founded in 1993, was acquired in February 2001 by Leica Geosystems AG, and operates as a wholly owned subsidiary. Cyra is the largest vendor in the emerging market for 3D Laser Scanners and related software.

About Leica Geosystems

Leica Geosystems is a world leader in spatial data acquisition and data handling products (www.leica-geosystems.com). The Swiss-headquartered company was founded 1921 and has been a public company since July 2000. Leica Geosystems provides customers with reliable, efficient and easy-to-use products based on innovative and leading-edge technologies. Leica Geosystems is also noted for an excellent global distribution network, reliable customer support, and partnerships with other leading companies in surveying, mapping and GIS. The main markets that Leica Geosystems serves today are topographic and cadastral surveying, engineering and construction surveying, GIS, mining, construction and industrial measurement markets and a number of attractive market segments that have a need for high quality and accurate instrumentation and powerful application software.

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