



WINNER

1998 R&D 100 Awards Winner

Cyrax™—Portable, 3-D Laser-Mapping and Imaging System

Features

Cyrax is an integrated hardware and software solution to three-dimensional (3-D) data capture. The laser radar rapidly scans physical structures to acquire accurate geometric descriptions of real scenes, and the software supports visualization, modeling, and export to common 2-D and 3-D computer-aided design programs. Cyrax produces digital images, like those created by a digital camera, but with true and accurate 3-D information so that each data point has precisely known coordinates.

Applications

Cyrax is targeted at several different markets for which the digital capture of the physical world has been difficult, impossible, or cost prohibitive. Among them are the following:

- Architecture/engineering/construction (AEC)
 - document as-built condition of facilities for revamp work
 - site surveying and terrain mapping
 - field positioning and layout
- Manufacturing and mechanical
 - automotive
 - rapid prototyping
 - reverse engineering
 - robotic vision
 - equipment fit-up check for AEC applications
 - 3-D digital cataloging of parts
- General
 - motion picture special effects
 - historical archiving of important structures and artifacts

Benefits

- Performs reality capture even for inaccessible objects that were previously impossible or prohibitively expensive to capture.
- Saves time and cost by an order of magnitude over existing methods.
- Reduces construction time which, in turn, makes manufacturers more competitive.
- Allows geometrical description of historic objects to be captured and shared with scholars and others interested in visualizing or reproducing the objects.
- Allows 3-D information acquired at a site to be sent electronically to engineering and design offices, and allows information to be shared instantly by many experts at diverse locations.