

For Immediate Release

3D Vision Company TYZX Partners with NASA Ames to Help Rovers "See"

*New Stereo Vision System To Boost Unmanned Mobile Robot's Ability
To Navigate Unstructured Terrain*

MENLO PARK, Calif., Oct. 23, 2007 – TYZX, Inc., the 3D vision technology company, today announced that they are working with the National Aerospace and Science Administration (NASA) to improve navigation and obstacle avoidance capabilities of mobile robotic test platforms through the use of faster stereovision processing targets.

TYZX is working with NASA Ames Research Center's Intelligent Robotics Group and their K10 rover platform. The K10, a mobile robot with four-wheel drive and four-wheel steering, is being used to conduct geophysical site surveys of lunar and Martian analog sites on Earth. Going forward, such surveys will focus on resource prospecting, including subsurface structure mapping and water detection with a ground-penetrating radar, as well as charting terrain topography with stereovision and 3D lidar.

"Working with TYZX, NASA hopes to achieve faster stereo vision processing and enhanced surface-modeling capabilities, both directly applicable to future Mars missions," said Lisa Lockyer, Chief of the Technology Partnerships Office at NASA Ames. "This partnership is an excellent example of technology transfer in both directions that enhances NASA missions, improves the quality of life on Earth, and leverages taxpayer dollars."

One of the key challenges in mobile robot navigation is determining which areas of the local environment are safe for driving. In particular, the robot has to identify regions that are hazardous to traverse due to slope, obstacles, depressions, etc. For navigation purposes, therefore, NASA needs to analyze the traversability of the site, assessing how easy it is to drive through various locations. This information is useful both for local obstacle avoidance and global path planning.

Using Tyzx's G2 System and VNK API on the K10 rover, Tyzx and NASA are testing and evaluating the ability to produce "higher-level" data types useful for improving robot or unmanned ground vehicle land navigation by enhancing the controller's guidance (zones/areas, arcs, headings, speeds, etc.) about where to drive or avoid. TYZX VNK is a lightweight application-programming interface built upon the TYZX Stereo Vision System. VNK provides a set of functions that enable a vehicle controller to quickly assess nearby terrain to determine if a particular area is collision-free over a specified distance. VNK does this by transforming 3D point clouds into a local Digital Elevation Map, upon which local traversability analysis can be performed. A variety of metrics can be analyzed, including slope, roughness, step size and collision-free distance.

"The TYZX Stereo Vision System is a small, high-performance, embedded stereo camera and processor that can be deployed in applications and products where traditional workstations cannot be used," said Ron Buck, CEO of TYZX. "The TYZX solution is especially useful for mobile platforms such as service robots and automobiles, which require small, low-power systems to perform complex vision tasks in dynamic, variably lit, real-world environments."

The NASA Ames K10 Rover, fitted with a TYZX G2 stereo vision camera, will be on display at the RoboDevelopment Conference and Expo, October 25-26, 2007, at the San Jose McHenry Convention Center in San Jose, Calif.

About TYZX, Inc.

TYZX is a 3D vision company that provides a platform of hardware, software and services for building products that see and interact with the world in three dimensions. TYZX delivers high volume, cost-effective 3D vision solutions to industry leaders in the automotive, consumer electronics, robotics and security markets. The privately funded company was founded in 2002, and is based in Menlo Park, Calif.

TYZX received a \$4 million investment from Takata, the global manufacturer of automotive safety systems; following an earlier investment by Microsoft co-founder Paul Allen. For more information, please visit www.tyzx.com

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Editorial contact

Teresa Davis
Page One PR for TYZX
teresa@pageonepr.com
Phone: 650-543-4706