

# Actuality Demonstrates 20 Megapixel Image from Single 0.8 Megapixel Microdisplay

## **Actuality Systems, Inc's Proprietary Super-Resolution Technologies to Enable Low-Cost High-Resolution Digital Projectors for Control Rooms, Hospitals, and Geophysics**

BEDFORD, Mass. – June 19 (SEND2PRESS NEWSWIRE) – Actuality Systems, Inc., the leader in software and 3-D optical hardware for medical visualization and guidance, today announced the demonstration of a proprietary optical technology that multiplies the pixel count of digital projectors. In February, Actuality used a single XGA-resolution (1024 x 768) microdisplay to project a 2-D image with the equivalent of 25 XGA screens (5,120 x 3,840).

“Visual data has grown much faster than that of our display devices,” said Michael Goldstein, Actuality’s President and CEO. “This is a real leap in performance, since it allows anyone from surgeons to motion picture producers to increase the image quality 25 times with little cost impact.”

Traditionally, the market is forced to buy multiple monitors or groups of projectors whose imagery must be calibrated by additional hardware and software – a proposition costing even more than the resolution-multiplication factor. Alternatively, incumbent technologies that purport to enhance resolution really don’t; they manipulate large pixel blocks in an attempt to make the image appear higher resolution. Actuality’s technology truly increases the addressable pixel count and the number of optically-generated pixels while reducing the size of each pixel; the pixels abut each other – they don’t overlap unless it is desired to do so.

“Radiologists, surgeons, geophysicists, and those engaged in high performance visualization all need better ways to visualize the information they have in front of them,” said Gregg Favalora, Actuality’s CTO, “imagine an operating room with one wall-sized, film-quality display instead of the 5 to 10 small monitors used today.”

Actuality’s super-resolution demonstration incorporated Texas Instruments Digital Light Processing technology, a fast microdisplay driver, a proprietary optical resolution multiplication module, and image processing software. The technique is intended for high frame-rate microdisplay platforms. Actuality’s technology is now in the June issue of Scientific American.

The resolution multiplication technology is a result of Actuality’s R&D in high-resolution three-dimensional displays, under a large grant from the prestigious NIST Advanced Technology Program. Applications of super-resolution include radiology displays, control room visualization, geophysics, and large-scale displays. The super-resolution technologies are

available for licensing to OEMs who want to differentiate their digital projector offerings by radically increasing pixel count.

### **About Actuality Systems**

Actuality develops medical procedure planning and surgical guidance products that reduce treatment-related costs, are less invasive to the patient, and reduce side effects. Through the application of proprietary 3-D visualization, treatment planning, and intraoperative 3-D surgical guidance, the company is developing a suite of cancer therapy products for breast, prostate, and other sites.

### **Disclaimers, Trademarks**

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More information: [actuality-systems.com](http://actuality-systems.com).

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