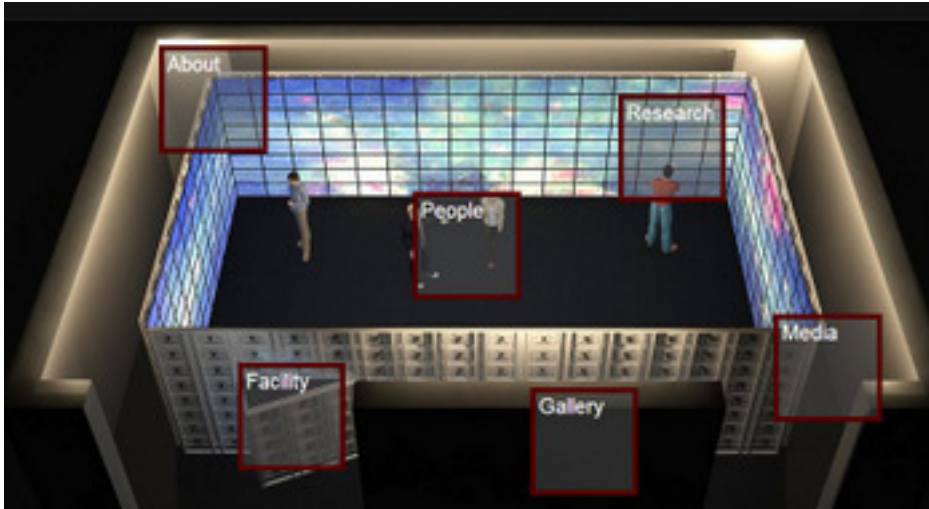


World's First Immersive Gigapixel Resolution Display

Written by Roger Douglas
01 July 2013



Unveiled late last year and now in full swing, America's Stony Brook University in New York runs a **The Reality Deck**: a super-computer driven 1.5 billion pixel resolution immersive display with a 416-screen virtual reality four-walled surround-view theater.

The University claims it is the largest resolution immersive display ever built to be driven by a graphic supercomputer: not only the first to break the 1 billion pixel mark but also with a resolution 5X greater than the second-largest in the world.

The entire United States population could each have their photo taken by satellite, and "there would be enough resolution for each person to be depicted in five pixels in color demonstrating the super-high resolution of the facility."

Or you can just wow your clients by showing large gigapixel panoramic images like a 45 gigapixel photograph of Dubai or a 6 gigapixel Infrared telescope view of the Milky Way. The Reality Deck provides 20/20 vision (so traditional panning or zooming motions become unnecessary and obsolete) where users simply approach the display to see more detail and walk further back to appreciate the overview.

The Reality Deck offers an "infinite canvas" where the user can walk around the Reality Deck's

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360-degree smart screen, never seeing the same image twice, exploring Big Data by walking through it.

How do you build this Reality Deck? Take a \$1.4 million National Science Foundation (NSF) grant and a \$600,000 match from Stony Brook University. Then add...

- 416 high-resolution displays
- An immersive 4-wall layout in a 33'x19'x10' room with a tiled-display door
- The 20-node visualization cluster
- At least 240 CPU cores -- 2.3 TFLOPs performance, 1.2 TB distributed memory
- 80 GPUs for a 220 TFLOPs performance, with 320 GB distributed memory visualization applications
- Some large architectural models so you can work with a 40 million polygon model visualized at interactive frame rates
- 22 speakers and four subwoofers in a high-performance sound system

"This technology will be used for visualizing and analyzing big data, such as advanced medical imaging, protein visualization, nanotechnology, astronomical exploration, micro tomography, architectural design, reconnaissance, satellite imaging, security, defense, detecting suspicious persons in a crowd, news and blog analyses, climate and weather modeling, as well as storm surge mapping to fight flood disasters, such as Superstorm Sandy and global warming," says the University.

It hopes The Reality Deck will make medical breakthroughs, discover groundbreaking new technologies and stimulate greater partnerships with industry that need the academic cooperation. And you don't need to figure out the Big Data on a high resolution screen to see that would mean a lot of new money for University research...

The director of this University facility was a pioneer in developing 3-D Virtual Colonoscopy systems: that proves that to go forward you sometimes need to look behind you.

Go [The Reality Deck](#)

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Watch [The Video of The Reality Deck in Action](#)