it² Calit2

Collaborative Research Pioneers at Calit2 Use LifeSize HD as their 'Everyday' Video System

The California Institute for Telecommunications and Information Technology uses LifeSize to connect researchers, increase productivity, reduce travel

Organization

Calit2, University of California, San Diego and Irvine, USA

Launched in 2000, Calit2 is a partnership between UC San Diego and UC Irvine and is one of four California Institutes for Science and Innovation.

An experiment in inventing the collaborative research environment for the digital future, the institute creates research teams consisting of members from multiple academic departments, often across multiple campuses. These teams integrate individuals' expertise to enable more comprehensive studies and they also extend involvement beyond faculty to students, industry, government, and community partners.

Calit2 uses LifeSize systems to support collaboration on the development of new visualization systems such as this immersive, 3D StarCAVE virtual-reality environment

Calit2's innovative philosophy has created new design principles for their physical space. Using $100 million from the State of California, Calit2 designed and constructed two buildings, at UC San Diego and UC Irvine. These state-of-the-art buildings are considered 'living laboratories.' The roof of the UCSD building, for example, features an "antenna garden" to support wireless experiments. The UCI building has been instrumented by the U.S. Geological Survey with more than 40 vibration sensors to monitor the building's movements in response to earthquakes. These buildings also have unique capabilities, including clean rooms, MEMS labs, immersive virtual reality facilities, and a digital cinema theater.

The Calit2 facilities also have tons of bandwidth. The UCSD building, for example, boasts nearly two million feet of gigabit Ethernet cable and 150 optical fibers linking the building with UCSD campus networks.

And the institute is conducting robust research in areas like nanotechnology (including development of devices and sensors), life sciences (including bio-micro-electro-mechanical systems), information technology (especially supporting large data sets and visualization of that data), and telecommunications (wireless and optical).

CHALLENGE

An 'everyday' video communications tool that would allow researchers to collaborate and stay connected across the country and around the world; one that could help accelerate research, not get in the way.

SOLUTION

LifeSize® Room™ and LifeSize® Express™ HD video communications systems deployed throughout UC San Diego and UC Irvine. Key factors were superior HD quality, price-performance and built-in H.239 data-sharing capability.

RESULTS

LifeSize systems are now used every day. Specific projects: the CAMERA ecological metagenomics research project, PRAGMA, a cyberinfrastructure effort, and Calit2's research on ultra-high-resolution displays such as HIPerSpace.

Challenge

Visualization is very important to Calit2 researchers. In fact, even their building is designed to support visualization, not only from a bandwidth standpoint, but also functionally, as many work rooms are outfitted with modular furniture that can be easily moved around to create a different environment at a moment's notice. As an institution, video conferencing has played an important role in the research and development of many Calit2 projects over the years.

But for the over 900 researchers within the institution, seamless communication between groups working out of multiple campuses around the country – and around the world – is key. Calit2 needed an 'everyday' video communications system - one that would give the best possible visual clarity.

> **"...we found that the features-packed LifeSize Room system offered significant quality improvement over traditional SD systems, at a reasonable price."**
>
> **– HECTOR BRACHO, SR. PRODUCER/ DIRECTOR, CALIT2**

Solution

LifeSize® Room™ and LifeSize® Express™ HD video systems were introduced to UC San Diego and UC Irvine campuses to rave reviews from administrators, faculty and students.

"After reviewing several HD videoconferencing systems, we found that the features-packed Lifesize Room system offered a significant image quality improvement over traditional SD systems, at a reasonable price," said Hector Bracho, Sr. Producer/Director at Calit2. "The affordability of Lifesize products allowed us to quickly deploy the units in our building , keeping in line with Calit2's philosophy of working at the cutting-edge of technology."

Results

Since the implementation, LifeSize HD video systems have been put to good use.

"Video is a part of our core collaborative efforts and LifeSize has an 'always on' capability that works very well for us," said Doug Ramsey, Calit2's Director of Communications. "Because it's reliable and easy to handle, we use it everyday."

Calit2's HIPerSpace displays nearly 287 million pixels.

The institute built two of the world's three highest-resolution scientific display systems, which are basically huge video walls which allow scientists to explore data visually and collaboratively. At UC San Diego, the Highly Interactive Parallelized Display Space (HIPerSpace) is a 32'-by-7.5' display (70 monitors) with nearly 287 million pixels of screen resolution. LifeSize systems are used in troubleshooting efforts to keep communication channels clear as engineers code. Calit2's Community Cyberinfrastructure for Advanced Marine Microbial Ecology Research (CAMERA) project utilizes LifeSize video systems to connect multiple research groups and share information. The $24M project brought together Calit2, the Scripps Institution of Oceanography, and the J. Craig Venter Institute in Rockville, MD, to build a state-of-the-art computational resource and develop software tools over seven years to decipher the genetic code of communities of microbial life in the world's oceans. Calit2 is also home base for the Pacific Rim Applications and Grid Middleware Assembly (PRAGMA), and LifeSize systems are used routinely to let UCSD researchers collaborate with counterparts at institutions in Asia and Australia.

⇕ LifeSize®

Experience Communication in High Definition