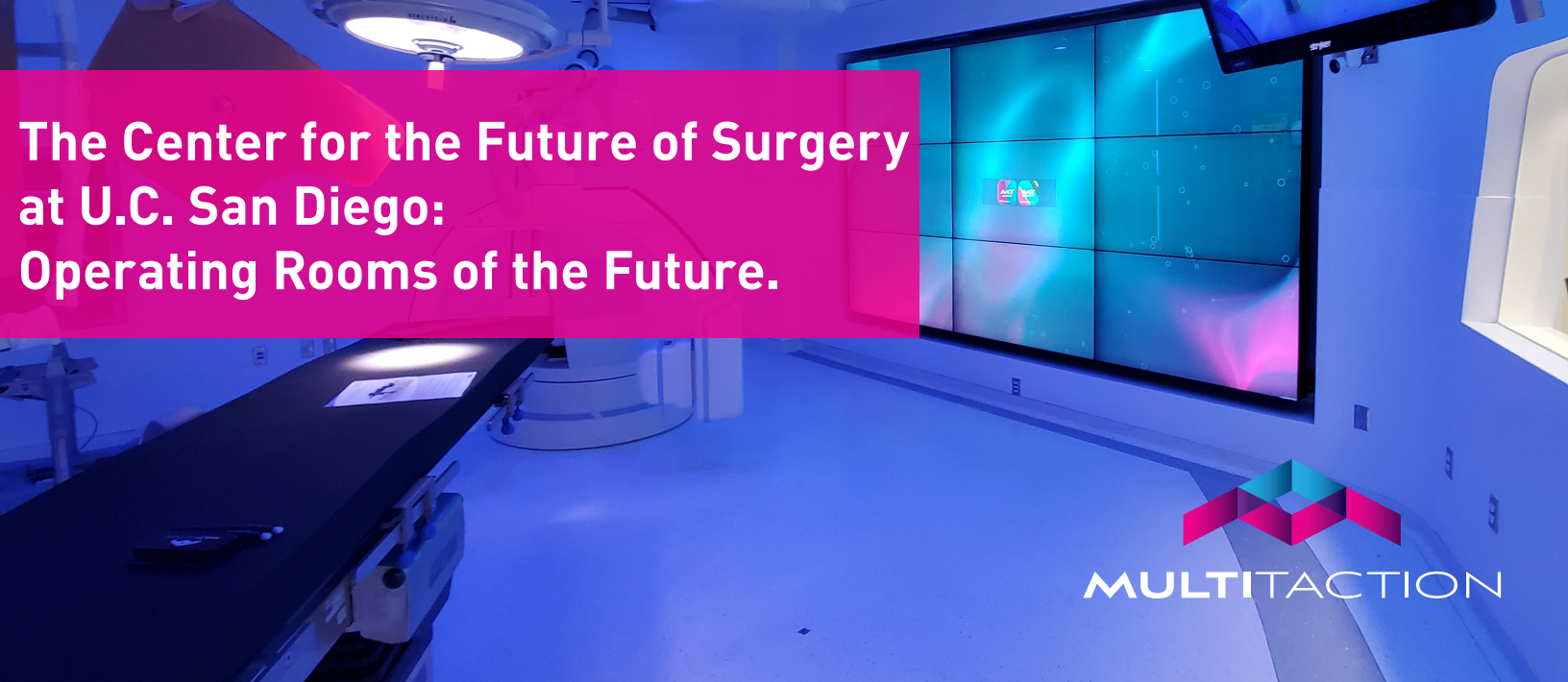


The Center for the Future of Surgery at U.C. San Diego: Operating Rooms of the Future.



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CLIENT PROFILE

The Center for the Future of Surgery (CFS) at University of California, San Diego School of Medicine is a world class facility which is dedicated to advancing surgical techniques. Utilizing high-tech simulated operating rooms, the center allows surgeons to refine their skills, learn and develop cutting edge techniques without any risk to their patients.

The center opened in 2011 and has since trained over 25,000 surgeons, nurses, medical students, and industry partners. It is one of the largest and most advanced facilities of its kind. In fall of 2019, the center underwent a major expansion and incorporated technology to support the latest surgical trends with an emphasis on both brain and nervous system treatments.



THE CHALLENGE

 **Combining imaging and surgery real time, the Hybrid Operating Room melds state of the art AV with advanced medical equipment.**

Two completely new and unique training spaces have been added to the 22,000 square-foot center. The first is a microsurgical suite which enables surgeons to perform incredibly delicate procedures on highly delicate structures - nerves and brain structures are examples. The other space is an advanced hybrid operating room which houses a number of advanced surgical and medical imaging devices and marries them to "The Wall of Knowledge" - a nine screen MultiTaction touch video wall running our complete suite of collaboration and visualization software. The result is a space where live real-time visual information can be captured and explored, analyzed and compared by a surgical team directly in the operating room. It is a game changer for both better instruction and learning as well as for developing and refining new techniques.

"The Center for the Future of Surgery is now the largest, most comprehensive training facility in the U.S. This is where we develop and evaluate new surgical techniques and devices with the ultimate goal of providing the highest level of care for patients - less pain, quicker recoveries and better outcomes."




Dr. Santiago Horgan, MD,
CFS Director



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KEY REQUIREMENTS

-  **True Multi-user Environment.** CFS needed a solution that could be leveraged by multiple users simultaneously while performing separate tasks and also while collaborating in teams.
-  **High Performance** The touch technology needed to be intuitive and highly responsive and the solution needed to capture video output from a myriad of medical devices and cameras.
-  **Robust system.** They needed a system designed for a critical environment with constant heavy use by multiple teams of surgeons, researchers, and educators.

THE VISION

The Hybrid Operating Room contains a 3x3 MultiTaction unlimited touch, interactive video wall, dubbed “The Wall of Knowledge” which ties together multiple video and computer sources and allows surgical teams to plan, review, and collaborate in real-time.

Dr. Horgan is both the director of the center, and the visionary driving new technology into the operating room. He first experienced MultiTaction’s touch technology during a visit to Stryker Corporation where several MultiTaction panels were installed in their California headquarters. He could immediately see how having an interactive wall in the hybrid OR would add functionality for both the surgeons teaching courses and for those learning.

The camera-based touch was a standout and set the stage for the wall to be incorporated into the hybrid operating room. Working with [Fluid Sound](#), an established AV leader in San Diego, and MultiTaction Partner, they designed the wall into the space along with a myriad of other AV technology.

It took over six years in planning and a year of development for Dr. Horgan and his team to bring CFS 2.0 into existence, but the results have been well worth the effort. The CFS Hybrid Operating Room remains, in Dr. Horgan’s words, “...the most advanced in the country and worldwide.”

THE INTEGRATORS

A project of this scale requires a lot of planning, and plenty of infrastructure behind the scenes. Getting a room to work organically and intuitively requires having a partner that has a passion for the details and that shares the vision of the project.



[Fluid Sound](#) was UCSD’s choice and is a leading design/build audiovisual company based in San Diego and one of our most valued partners. They were able to leverage their experience to make the space a cohesive digital experience that ties medical and AV devices together into a complete solution that is as functional as it is high-tech.



THE SOLUTION

Incorporating a large touch video wall into an operating room comes with certain challenges. The wall needs to be responsive to both gloved and ungloved hands, and it needs to have a touch system that allows for many people to be working simultaneously and quickly. It needs to have a robust touch system that can stand up to hard everyday use and have the best possible uptime and connectivity. Live video feeds will need to be captured and manipulated easily, and the software solution needs to allow cross referencing archived data with live data, access to web content, remote controlling network connected computers, plus allow for seamless annotation while multiple users are operating the wall in different ways.

MultiTaction has truly the only solution that can meet these requirements without compromise. Our displays have integrated camera-based IR touch with 32 cameras embedded into each display panel. This allows for extremely responsive touch for all hands, gloved or otherwise. Our panels are each independent of one another (unlike traditional IR bezel systems) and so no amount of misalignment will lead to phantom-touches or reduced touch performance. Our touch communication uses standard ethernet (not usb) ensuring maximum uptime in any environment and endless expandability. This is especially vital in critical environments such as this.



MultiTaction is proud to be involved in this project. Seeing how MultiTaction technology was able to combine functionality with cutting-edge technology to this space that would be impossible otherwise is truly amazing. Not one to just sit back and relax, Dr. Horgan has said that in the next 10 years he hopes to have CFS 3.0 the next iteration of the Center and the most advanced robotic surgery facility in the world. One can only imagine what that will look like!

The hybrid operating room at The Center for the Future of Surgery is not a museum space – it is designed as a working operating room simulation where procedures can be practiced and developed without risk to a live patient.

As Dr. Horgan explains, “The Center offers surgeons of all specialties a rare opportunity to train on the newest techniques and technologies outside of a live operating room. This is where the next generation of surgeons is acquiring hands-on knowledge and experience to provide patients with the best, safest operations possible.”

THE SOFTWARE

MultiTaction’s Canvas software provides the ability to combine live video feeds, archived videos, images, PDFs, websites and more and have all these assets available for multiple users to interact with concurrently. The system accepts live streaming feeds, RDP connections to remote machines and more. To further expand capabilities the center has the option to add a Canvas Connect server, which adds the ability to link sites or allow multiple remote users to connect to a collaboration session.



MultiTaction’s Showcase presentation software was also installed on the wall to address the center’s need to build interactive and engaging presentations for visitors and guests to the facility. Showcase allows CFS to produce, customize and update this content like this in-house quickly and easily to further enhance the visitor experience.

Visit [MultiTaction.com](https://www.multitaction.com)

or contact sales@multitaction.com for more information

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