HYBRID SOLUTIONS FOR IMMERSIVE MUSEUM
California Academy of Sciences

Facilitating Experiences with Q-SYS at the California Academy of Sciences

 San Francisco, CA

The California Academy of Sciences is a museum in San Francisco where guests can journey through deep space in the planetarium, delve into the mysteries of the ocean in the aquarium, climb into the canopy of a living rainforest, or come nose-to-beak with African penguins. Not just a daytime destination, the Academy hosts vibrant NightLife events, engaging lectures, hands-on workshops, and sleepovers. To facilitate these experiences in their 100,000 sq ft of public floor space, the Academy relies on Q-SYS for building-wide audio and control functionality, as well as automation so they can keep the excitement going from dawn till dusk, seven days a week.

 photo courtesy of California Academy of Sciences

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Matthew Wrenne,
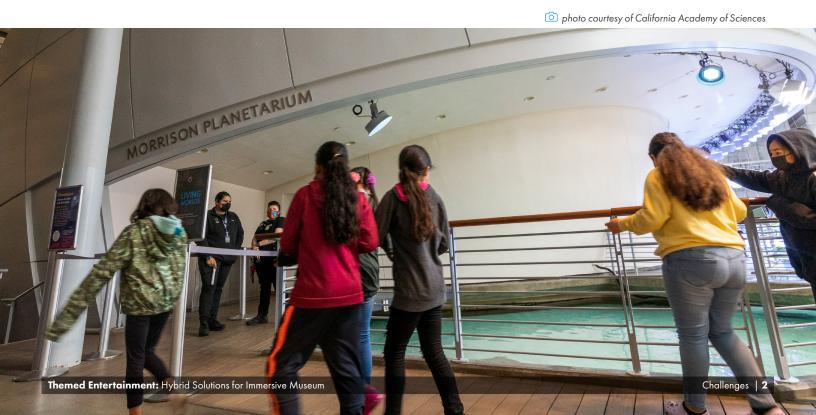*Lead A/V Planetarium Engineer, California Academy of Sciences*

Challenges

Turning an Unconventional Idea into a Reality

Early on, the Academy wrestled with disparate show control systems from three different vendors, leading to communication breakdowns and manual interventions during live events. Matthew Wrenne, Lead A/V Planetarium Engineer said, "Most of our equipment didn't play well together without a widget. Once every four or five weeks, a power cycle on the rack was necessary because at least one device would lose communication. The live events team became accustomed to jumping out of their seats and manually running over to control a non-responsive device. We also needed far more sources and destinations than the original system design, which had zero flexibility. Despite continuously adding more audio and video cables, multiple patch bays, and video splitters, the team found themselves regularly needing to re-patch components behind the rack. We were forced to operate by the seat of our pants, which is not a sustainable solution. Ultimately, Q-SYS was chosen as a holistic audio, video, and control platform that seamlessly integrates and scales because of its software/network-based approach. We partnered with The Farm for project drafting and support, and after extensive testing and system preparation, we installed and smoothly transitioned to Q-SYS in just three days."

THE FARM
Enterprise AV

photo courtesy of California Academy of Sciences

Solutions

At the California Academy of Sciences, the goal is to achieve an uptime of over 99% for all deployed Q-SYS systems. They achieve this by utilizing a hybrid setup of Q-SYS Cores throughout the facility. This configuration features redundant Q-SYS Core 610 processors in Morrison Planetarium, redundant Core 510is (now available as the updated Q-SYS Core 610) spread out building-wide, and Core 110fs deployed in different exhibits to handle processing and audio distribution. The team wrangles all these together for a seamless visitor experience.

Steinhart Aquarium

At Steinhart Aquarium, visitors not only get an unprecedented view of underwater and terrestrial habitats, they also see divers explore the underwater world and share insights about marine life and habitats through a live presentation. Q-SYS is an integral part of these dive talks. These talks feature a wireless microphone-equipped presenter communicating with a diver 25 feet underwater, which is live-streamed using Q-SYS. Additionally, 80% of bubble and underwater noise is reduced using gates and compressors in Q-SYS.
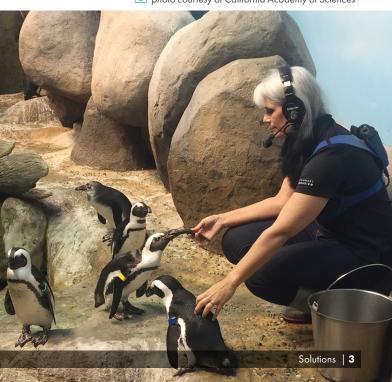
Identical in setup is the African Penguin exhibit, which uses Q-SYS to filter out the sound of the penguins in the background. "These two experiences, the dive talks and the penguin feedings, happen daily and are facilitated without any intervention," said Tosh Chiang, Manager of Exhibits & Electronics Engineering. "It's all self-service and that's how we utilize the Q-SYS system. If someone walks up and uses a microphone, it's all completely automated so that we, the engineers, aren't doing anything to support that most of the time."

Morrison Planetarium

Morrison Planetarium is one of the largest all-digital planetariums in the world, featuring a 75-foot-diameter screen that displays high-resolution images of the night sky, planets, and other astronomical phenomena like the Big Bang. Not only is it an immersive theater space but it also serves as a versatile presentation space hosting panel discussions and live-streamed special lecture series. In the Planetarium, redundant Q-SYS Core 610 processors provide automated audio and video routing, as well as show control. NV-32-H Network Video Endpoints have been instrumental in simplifying presentation content sharing onto the planetarium system. When guests come in for a presentation, they can simply connect their laptop and Q-SYS handles the rest.

photo courtesy of California Academy of Sciences

Solutions

Smooth Event Sounds

A key aspect of Q-SYS is the ability to remotely manage audio across the entire museum, enabling the team to easily mute over 400 devices at once for different events and activities. This feature ensures a peaceful environment for certain evening events, such as a sleepover with children. The system's reliability and automation capabilities are vital in facilitating large-scale events and corporate rentals. "We are open daily 365 days a year," said Chiang. "You can imagine what it's like to be the technical team supporting not only the daytime activities but lectures, workshops and NightLife events. The majority of our events require a technician to adjust audio levels in real-time using an iPad with a Q-SYS UCI. We also utilize automation in certain instances. For example, during a temporary art installation in our Africa Hall exhibit which featured a live stream of DJs from Africa, we programmed the system to switch to pre-recorded audio if the DJs were not available and automatically lowered the volume when our penguin show was on. This level of control and customization is one of the many advantages of using Q-SYS in our museum."

Hybrid Harmony

The feedback on Q-SYS has been positive, with presenters appreciating the ease of use. The events team is currently upgrading the boardroom space to create a more versatile hybrid setup and implementing Q-SYS technology to support a new California exhibit. There are also ongoing improvements to enhance visitor experiences and expand simulcast capabilities for large events, as well as integrating more venues for overflow viewing. Overall, Q-SYS has proven to be a vital tool in facilitating experiences at the California Academy of Sciences, showcasing the importance of comprehensive AV solutions in creating immersive and impactful visitor interactions.

Matthew Wrenne expressed his admiration of Q-SYS. "I like that Q-SYS has the ability to cater to the wide range of applications we have throughout our museum. Because it's a complete audio, video and control solution, it's much simpler for us to integrate and scale. But most importantly, it allows us to deliver the best experience possible for museum guests."

photo courtesy of California Academy of Sciences

Q-SYS

Q-SYS is a globally recognized manufacturer of audio, video and control (AV&C) solutions for huddle rooms to stadiums—and everything in between. Our systems make it easy for your team to design and integrate flexible, scalable solutions and deliver the native IT integration and standards-based technology your customers expect.

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