

## CASE STUDY: LIBERTY SCIENCE CENTER

# Panasonic Visual Technology Inspires Innovative Exhibits at LSC

### Challenge

Help facilitate the LSC's reemergence as one of a global handful of museums employing cutting-edge technologies to encourage visitors to explore and experience in new ways.

### Solution

Deployment of a wide variety of Panasonic projection and flat panel display solutions, including a NOAA Science On a Sphere® (SOS) globe powered by four PT-RZ570 projectors. Other significant Panasonic contributions to the Center's high-tech arsenal include a PT-JX200 Space Player™ spotlight projector turning even corridors into immersive experiences, and numerous Panasonic 55-inch, flat-panel HD displays, in stand-alone applications as well as in ultra-narrow-bezel 4K video walls. Finally, thanks to its faultless reliability, the Center has been able to retain four lamp-based Panasonic projectors in a Skyscraper-themed exhibit without a single service issue for ten years.

### Result

Immersive exhibits that bring science to life and 'wow' patrons, powered by reliable, mission-critical AV technologies that 'wow' AV staff.

Opened in 1993 in Jersey City, New Jersey, just across the Hudson River from NYC's iconic skyline, the aptly named Liberty Science Center (LSC) shattered the mold of traditional "science and industry" museums with nearly 200,000 ft<sup>2</sup> of exhibit space uniquely blending natural history, science, and "world we live in" entertainment and learning experiences.

Two years and \$109 million later it reopened: bigger, by 100,000 square feet, and better, with virtually all new interactive exhibits and immersive experiences, many using Panasonic projection and flat-panel technologies to heighten their impact.





## PANASONIC-POWERED NOAA SCIENCE ON A SPHERE® BECOMES 'MUST VISIT' EXHIBIT

Chief among the new, exciting exhibits is a National Oceanic and Atmospheric Administration (NOAA) Science on a Sphere® globe, one of only a handful internationally, which is located in the Weston Family Lab for Earth and Space Exploration.

Built around a seemingly free-floating, six-foot-diameter sphere, the globe uses four NOAA-endorsed Panasonic PT-RZ570U, WUXGA (1920 x 1200) resolution Solid Shine Laser projectors throwing edge-blended images onto four mirrors to display, among many other things, highly engaging, grade-targeted classroom lessons and brilliantly animated images graphically de-mystifying such complex environmental processes as climate change, atmospheric storm developments, and ocean temperature variations.

Featuring full-spectrum, single-chip DLP color output, hermetically sealed dual-laser modules, a quiet, efficient heat-pipe and heat-sink cooling system, and a Panasonic 2x zoom, wide-range-shift lens, the PT-RZ570U is one of only three projectors supported by NOAA for use with the sphere (the other two are the Panasonic PT-RZ470U and Panasonic PT-RZ370U).<sup>1</sup>

"The two biggest obstacles here were visibility and geometry," said Rudy De La Uz, account executive at

technology integrator Diversified, which engineered and installed the exhibit. "The potential for loss of impact or video detail caused by having to mount the sphere in a relatively well-lit area was easily overcome by the PT-RZ570U's 5400lm output and Daylight View Basic technology," while the geometry issues were handled by use of NOAA correction software and cameras focused on the sphere itself.

Easily visible from both the classroom and visitors' queue areas as well as a large lower-level exhibition space known as Governor's Hall, an angled, ceiling-mounted video wall comprised of four Panasonic ultra-narrow-bezel TH-55LFV8 4K-resolution display panels provides animated information about ongoing exhibits, upcoming events, current and future planetarium shows and "under construction" attractions, including another spherical exhibition currently being developed by LSC's in-house designers and a team of engineers from Panasonic.

The sphere, designed in-house, is expected to "top out" at seven- to-eight feet in diameter. "What we're working on is a single projector mounted on the underside of this huge sphere projecting a computer-corrected image through a fisheye lens," Tom Kaminski, senior exhibit technician at LSC said. "To reproduce the giant, giant format NASA images from the planets we want to display a projector has to be very, very bright and very, very accurate. The only unit we could find that meets the specs is the (12,000lm, 3-chip DLP Solid Shine laser) PT-RZ12K which will be paired with the ET-D3LEF70 fish eye lens.



## PANASONIC SPACE PLAYER LIGHTS UP THE BEEWAY

At LSC, the distance between the lonely expanse of Jupiter and the hyper-active interior of a living bee hive is but a short stroll down a corridor to the Bees-To-Bots exhibit, which involves a multi-chamber, see-through “hive” with honeybees flitting in and out through Plexiglas tubes. But given the Center’s focus on making every moment an immersive learning experience, the four-person wide corridor itself has become something of an exhibit. Illuminated by a Panasonic PT-JX200 Space Player™, exhibit attendees including awestruck grade school children, entranced adults, and engineers researching ways to create miniaturized drones and robots, can watch video content related to bee behavior as they approach the exhibit. “Since we are pretty vehemently anti-typical here, we decided to deploy the Space Player™ to enhance the ambient lighting of the space while simultaneously giving people video insights into a bee’s world” Kaminski said.

Based upon a single-chip DLP laser light source and short-throw 2.2x zoom lens, the compact PT-JX200 is a unique projection lighting device that outputs 2,000lm of traditional lighting while also projecting distortion-free, color correct images, image-mapped objects and/or text onto virtually any two or three-dimensional surface.

Kaminski also noted that the Space Player™ has proven so popular in lighting the path to the bees, that additional units are being considered for areas undergoing a makeover.

## LIGHTING UP SKYSCRAPERS, TEN YEARS ON

If beehives present one example of an efficient working “hive”, the 20th Century skyscraper, with its working areas connected and bisected by a myriad of corridors, is another.

LSC’s premier exhibit upon its re-opening in 2007, “Skyscraper! Achievement & Impact” pays 13,000 square

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– Tom Kaminski,  
Senior Exhibit Technician

feet of homage to those incredible artifacts of an age when bigger was always better and less was never, ever more.

Perhaps surprisingly, one of the most popular of the exhibit’s 46 interactive displays is a plain, blank wall trailing almost out of sight to the exhibit’s 30-foot high, two-story ceiling. But the surprise quickly changes to awe when a visitor standing at a kiosk dials up true-to-scale images of and facts about scores of the world’s most iconic high-rises past and present.

“Skyscraper uses four Panasonic edge-blending projectors that have performed flawlessly since their installation in 2007,” Kaminsky says. “It’s incredibly easy for us to get those projectors to brightness, contrast and color match. About all we ever need to do to retain the seamless look of the building projections is change the lamps out on schedule.”

Trouble-free or not, even the best decade-plus old instruments are prone to being made redundant by “latest, greatest” technologies.

“A very positive element in our talks about upgrading the Skyscraper projection to laser brightness and color purity is the painlessness of the transition,” Kaminski said.

“Thanks to Panasonic’s commitment to continued support for the 4:3 aspect ratio, all we would have to do is buy new projector bodies, install our existing Panasonic lenses and turn on the laser lights,” he added. “Were we using projectors from companies who’ve abandoned the 4:3 standard we’d have to shut down and reconfigure that attraction and quite possibly several others adjacent to it.”

Though no one currently with the Center recalls why it was decided to use only Panasonic projectors in 2007, Kaminski, for one, has a simple explanation for why they’ve never strayed from Panasonic during subsequent limited or overhaul renovations and new exhibit deployments: “We’ve stayed with Panasonic because we’ve never had a problem,” he said. “It’s as simple as that.” In fact, the Center has not had to think of the generous Panasonic service model at all, which boasts parts assemblies available up to 8 years and component level up to 10 years, beginning after last factory production.

“The first time we flipped the switch on the NOAA sphere I was amazed how brilliant the image looked, bright as an actual star but with all the text and image details perfectly revealed, not washed away by the sheer glow power of the globe,” Kaminski said. “I looked it at the way a casual visitor would, in its final form surrounded by the rest of the display and all I could say was ‘wow.’ After that, I took a deep breath and said it a few more times. I’m not sure if I was the first person to describe it that way, but I’ve certainly heard the word a lot since.

I’ve also been ‘wowed’ by the durability of the projectors and lamps. We’re open seven days a week from eight in the morning to 5:30 or 6 o’clock and sometimes to midnight for camp-ins and other special events,” he noted. “I’ve been with the museum ten years, and from then until now is an awful lot of runtime without any problems. I’ve worked with products from many other manufacturers in the past and can’t cite a single one that could, in my opinion, compete with that record.”

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