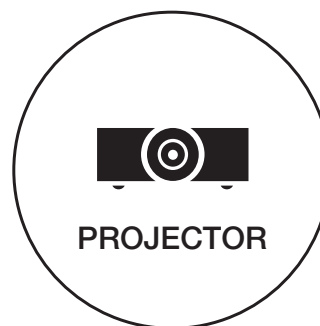


Panasonic
BUSINESS



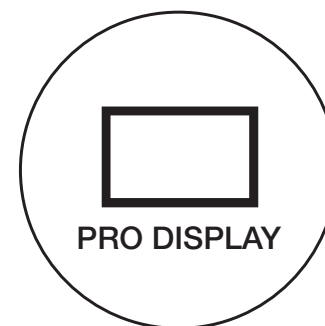
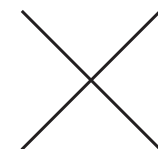
PROJECTOR



For more information about Panasonic projectors
panasonic.net/avc/projector/

Panasonic projectors: facebook page
www.facebook.com/panasonicprojector

Panasonic projectors: YouTube channel
www.youtube.com/user/PanasonicProjector



PRO DISPLAY



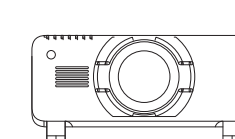
For more information about Panasonic prodisplays
Panasonic.net/prodisplays

Panasonic prodisplays: YouTube channel
www.youtube.com/PanasonicProDisplay



CELEBRATING THE SPIRIT OF RIO 2016

Panasonic Visual Systems Case Studies



Panasonic Visual Systems Share the Passion of the Olympic and Paralympic Games Rio 2016

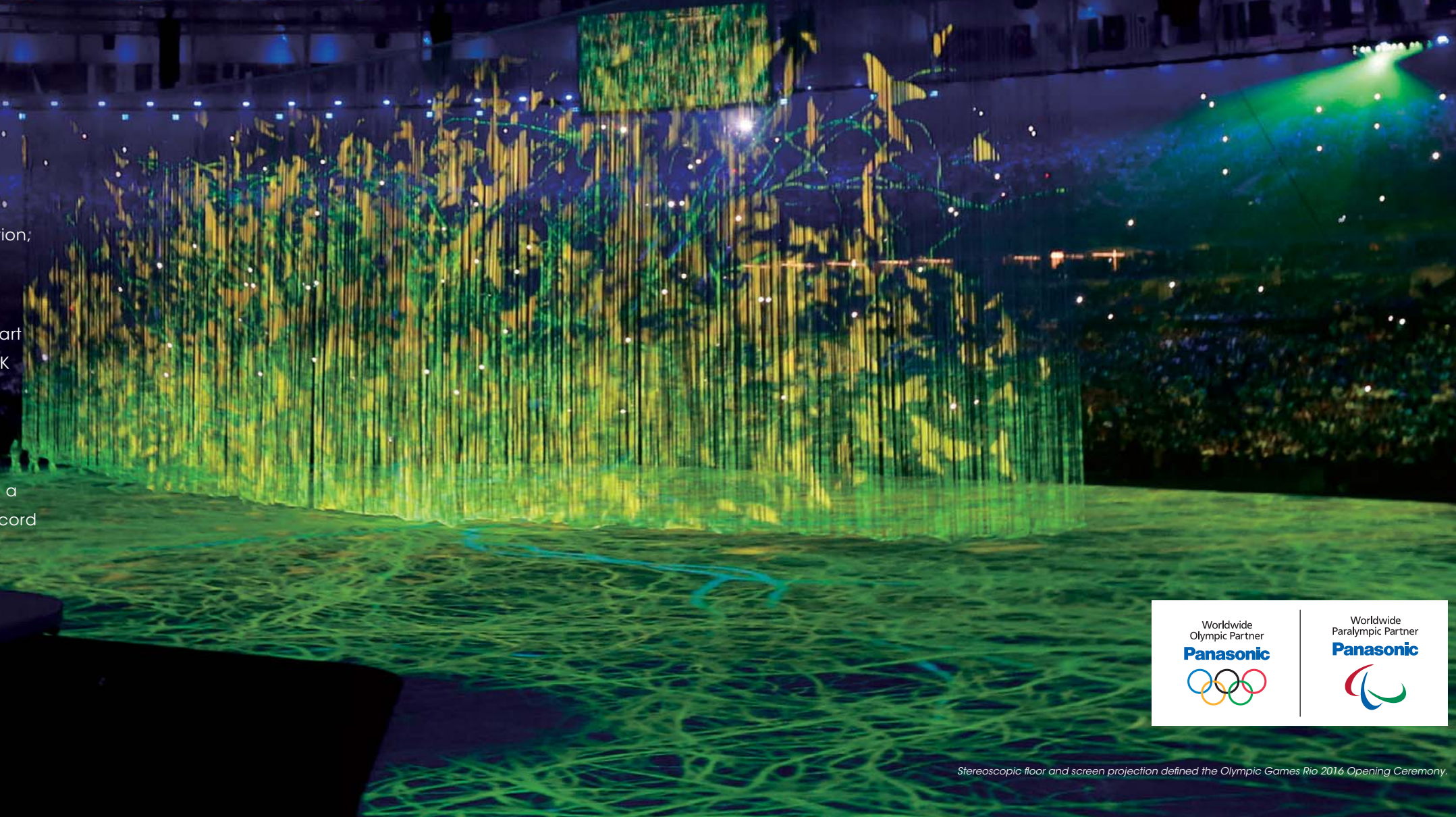
With all eyes on Rio de Janeiro as the Olympic and Paralympic Games Rio 2016 unfolded from August 5 to September 18, the pressure was on to ensure the Opening and Closing Ceremonies ran smoothly.

As a Worldwide Olympic Partner and Worldwide Paralympic Partner with decades of supply experience, Panasonic extended its commitment by providing a “total solution” including visual system design, system installation, operation, and round-the-clock maintenance and monitoring.

In a whirlwind of vibrant color, the Ceremonies came to life with spectacular projection-mapped visuals delivered by over 100 state-of-the-art PT-DZ21K2 projectors. The event also saw the debut of a prototype PT-RZ31K 3-Chip DLP™ SOLID SHINE Laser projector that served 30,000 lm images at WUXGA resolution.

Panasonic’s commitment to “Sharing the Passion” covered visual system provision for competition venues, a Stadium of Wonders pavilion featuring a 4K+ PT-RQ13K projector, and equipment supply at support facilities in a record total deployment of projectors and professional displays.

Leading up to and throughout the Olympic Games period, close collaboration between Panasonic, event organizers, and creative teams transcended cultural boundaries and played a key role in the resounding success of the Olympic and Paralympic Games Rio 2016.



Stereoscopic floor and screen projection defined the Olympic Games Rio 2016 Opening Ceremony.



Perspectives

Supporting the Olympic Games Rio 2016 Opening Ceremony

Organizers of the Olympic Games Rio 2016 Opening Ceremony faced a tough challenge in presenting Brazil to the world. “Given the economic situation, we [didn’t have] the biggest budget,” said Marco Balich, Olympic Ceremonies Executive Producer. “So we decided, let’s go with major projection. “We are very pleased that Panasonic partnered with us in delivering what I consider the best projection ever in an Olympic ceremony.”

Panasonic delivered projection equipment, content planning, installation, and operation—a monumental commitment that saw the largest-ever projector deployment in Olympic history. “I think Panasonic really supported us in all our creative decisions,” said Fabião Soares, Director of Projection Content.

All performances dovetailed in worlds of light, with meticulous projector calibration down to the centimeter. Backup input switching was also adapted to eliminate potential downtime.

“Two or three seconds of default is a very, very long time,” says Patrice Bougeniaux of ETC Paris London. “Your images are seen by billions of people, and you cannot fail. We did testing in Paris, and the result was outstanding. It’s practically seamless.”

The ceremony went off flawlessly with rave reviews centering on Panasonic’s spectacular stereoscopic projection. “We wanted to make an opening ceremony that could translate the passion and the creativity of the Brazilian people,” said Sidney Levy, CEO of the Olympic Games Rio 2016. “We had to make strong use of projections, of the sea, of the mountains, of the people, and for that we used Panasonic projection, which is wonderful. It helped create the whole atmosphere that we needed to show for everybody.”

CEREMONY PROJECTION MAPPING

Olympic and Paralympic Games Rio 2016 Maracanã Stadium, Rio de Janeiro

Debating 30,000 lm SOLID SHINE with Projection-Mapped Visuals

Brazilian culture was illuminated in breathtaking projection-mapped visuals synchronized by about 110 quad-lamp PT-DZ21K2s rigged around the stadium. A prototype PT-RZ31K SOLID SHINE Laser projector generated 30,000 lumens of imaging power at key moments throughout the Olympic Games Rio 2016 Opening Ceremony, vividly demonstrating just some of its capabilities to the world as the mesmerizing tribute to Brazil and its heritage unfolded.

PT-DZ21K2 3-CHIP DLP™ PROJECTORS

PT-RZ31K SOLID SHINE LASER PROJECTOR (PROTOTYPE)

Panasonic used these projectors for the following reasons:

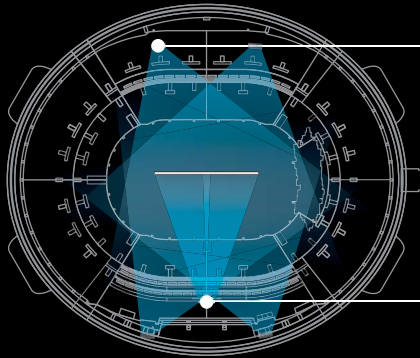
- PT-DZ21K2 delivers 20,000 lm of brightness at WUXGA resolution
- PT-DZ21K2 features reliable quad-lamp system to reduce cost of maintenance
- PT-DZ21K2 and PT-RZ31K are compact and lightweight with specialized mounting frames for easy rigging
- PT-DZ21K2 has Portrait Mode, and PT-RZ31K 360-degree flexibility
- PT-DZ21K2 includes a backup input mode. In the event of signal distribution failure, the projector automatically switches to a backup input signal
- Both harness 3-Chip DLP™ imaging for accurate color and resolution



PROJECTION LAYOUT (MARACANÃ STADIUM)



TM IOC.



Projection from four directions created realistic and immersive visuals.



Flagship projection formed the lynchpin of the Olympic Games Rio 2016 Opening Ceremony.



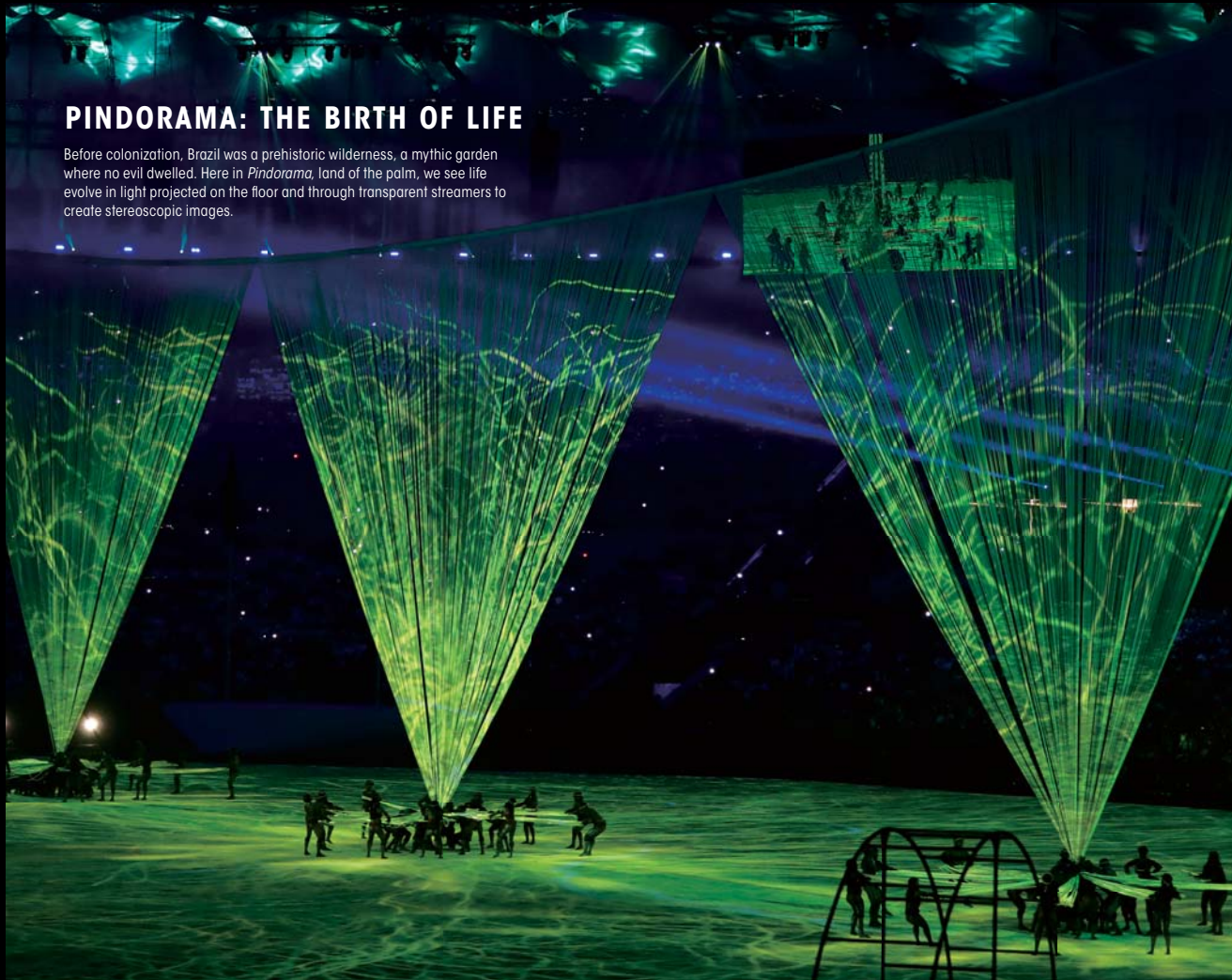
PT-RZ31K SOLID SHINE Laser projector (prototype).



Ceremony projection, created by the projection designers, was simulated inside a mockup stadium using a PT-RZ475 1-Chip DLP™ SOLID SHINE Laser projector.

PINDORAMA: THE BIRTH OF LIFE

Before colonization, Brazil was a prehistoric wilderness, a mythic garden where no evil dwelled. Here in *Pindorama*, land of the palm, we see life evolve in light projected on the floor and through transparent streamers to create stereoscopic images.



METROPOLIS: THE CITY RISES

In a monumental feat of collaboration between choreographers, creative directors, and the Panasonic team that helped make it possible, a three-dimensional city emerged from the stadium floor traversed by parkour groups.

OPENING CEREMONY [Olympic Games]

Panasonic Breathes Life Into a Shared Creative Vision

Media acclaim for the imaginative Olympic Games Rio 2016 Opening Ceremony was universal. Panasonic projection helped exemplify the Brazilian spirit of *gambiarra* (making the most out of little), in this case, a limited budget. Our close collaboration with creative directors and the Organizing Committee allowed for a seamless virtual world to be created in light rather than expensive physical props, and the resulting spectacle speaks for itself.





CLOSING CEREMONY [Olympic Games]

A Multidimensional Feast of Emotion

Creating a carnival-like atmosphere at the Olympic Games Rio 2016 Closing Ceremony hinged on Panasonic projection and its future-focused integration of physical installations with choreography, sound, and pyrotechnics in a virtual realm, while providing spectacular backdrops to enhance every performance. The sum of the event proved greater than its parts in what was an emotional tribute to Brazil, its people, and the uniting spirit of the Olympic Games.



LACE MAKING

The inherited Portuguese tradition of *bira lace* making was celebrated with captivating geometric floor projections of vibrant color and detail.

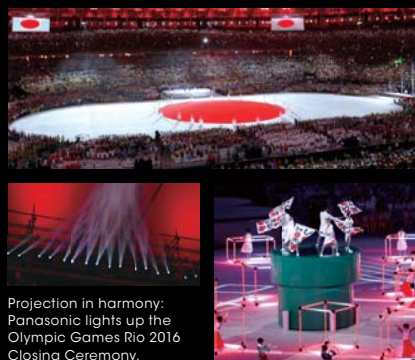
Panasonic



Worldwide Partner

Transition to Tokyo 2020 Marks Panasonic's Ongoing Commitment to the Olympic Games

The handover ceremony took place in a sequence of live performances, film presentations, and surprise appearances, and was a moment for the Panasonic team to reaffirm its commitment as a Worldwide Olympic Partner. Rio 2016 saw the Japanese giant extend its role beyond equipment supply and into that of a creative partner. Tokyo 2020 will see that relationship grow with the enhanced capabilities of a new professional visual system lineup. As always with Panasonic, anything is possible.



Projection in harmony: Panasonic lights up the Olympic Games Rio 2016 Closing Ceremony.



OPENING CEREMONY [Paralympic Games]

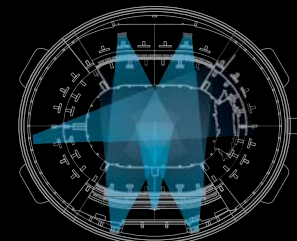
Panasonic Delivers a Message of Unity

As Worldwide Paralympic Partner and Official Ceremony Partner, Panasonic supplied and installed about 100 quad-lamp PT-DZ21K2 projectors for the Rio 2016 Paralympic Games Opening Ceremony, themed "Everyone Has a Heart". Combining its talent with that of 500 creative professionals in paying tribute to the world's elite Paralympic athletes, Panasonic delivered images of massive brightness in kaleidoscopic geometric patterns. Harnessing the projectors' flexible mapping during segments aimed at expressing human diversity, our team contributed to a successful celebration of the human spirit.

PROJECTION LAYOUT (MARACANÃ STADIUM)



TM IOC.



PROJECTION LAYOUT [Rio 2016 Paralympic Games Opening Ceremony]

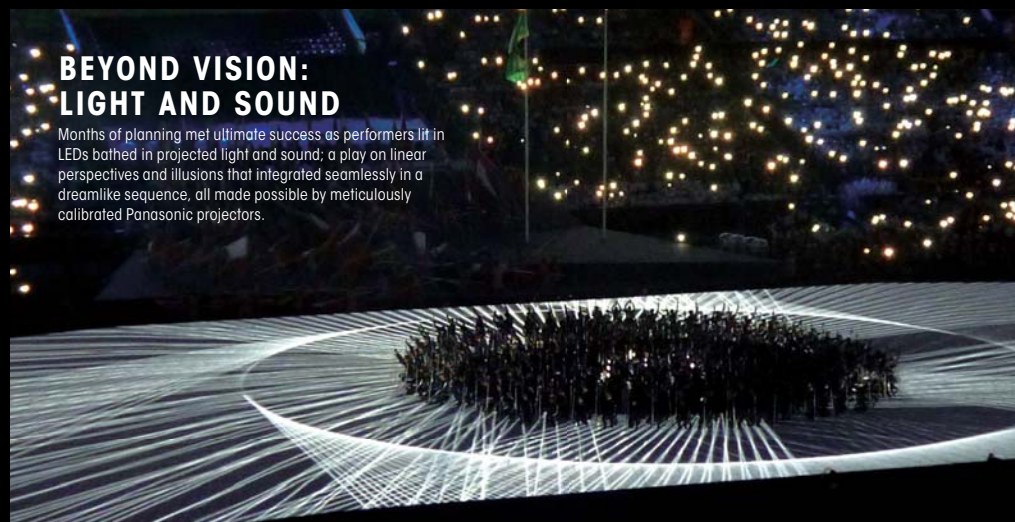
As Official Ceremony Partner, Panasonic played a key role in staging the Rio 2016 Paralympic Games Opening Ceremony, deploying more than 100 projectors.



Projected light formed an immersive backdrop for a wheelchair Samba Circle.

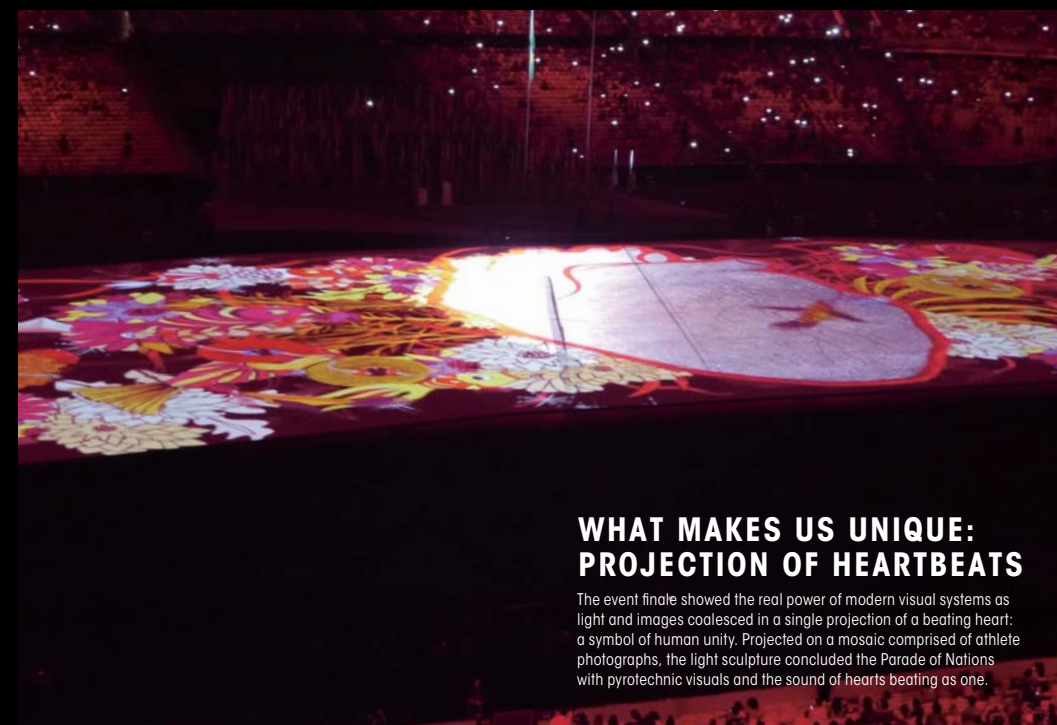
BEYOND VISION: LIGHT AND SOUND

Months of planning met ultimate success as performers lit in LEDs bathed in projected light and sound; a play on linear perspectives and illusions that integrated seamlessly in a dreamlike sequence, all made possible by meticulously calibrated Panasonic projectors.



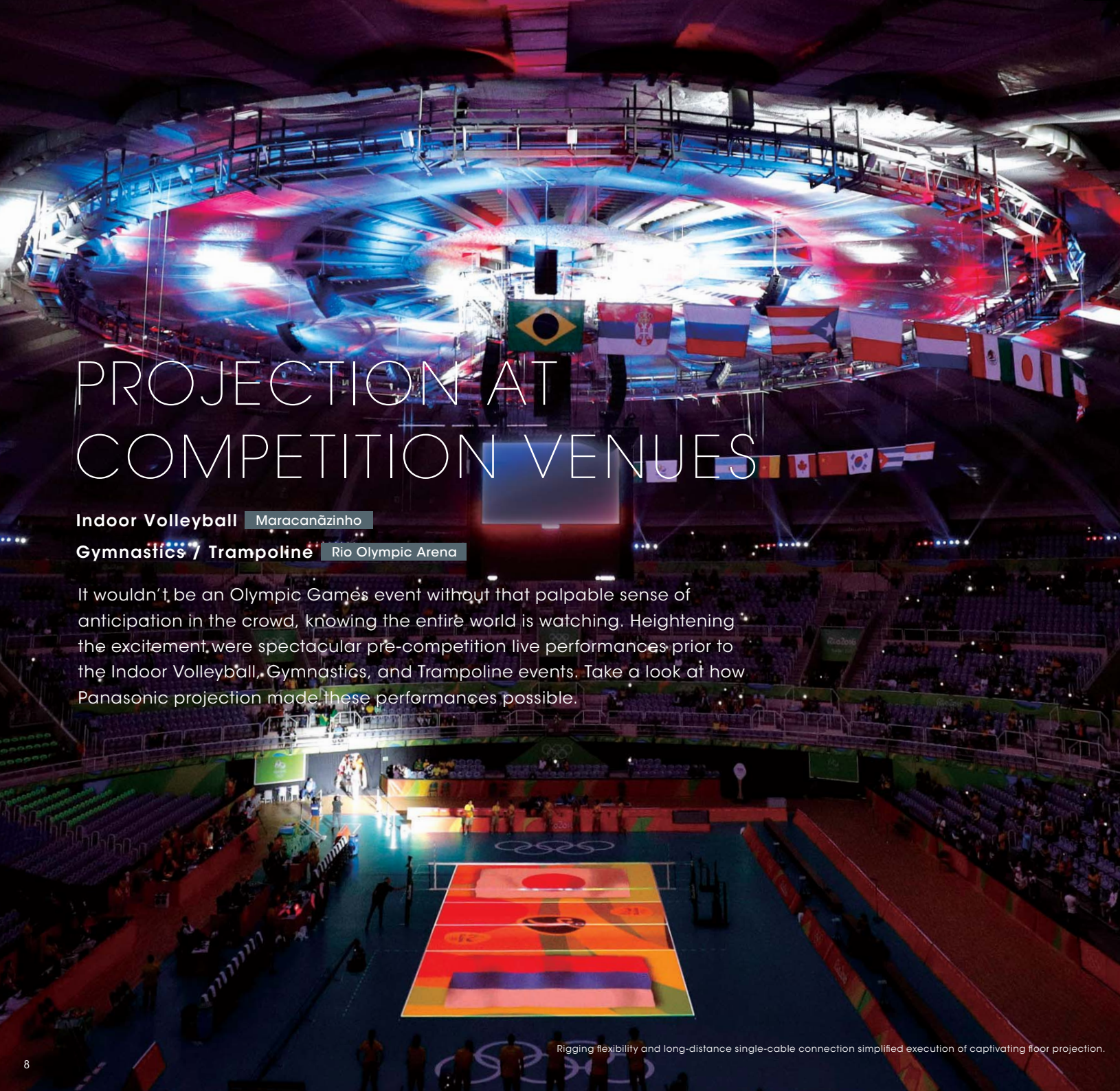
CARIOCA NATION: SUNSET

Applauding the sunset is a tradition that took root in Rio during the 1950s. Rio's iconic skyline under a setting sun took form in a sea of people courtesy an array of 20,000-lumen projectors: an unforgettable and inclusive experience for visitors and athletes.



WHAT MAKES US UNIQUE: PROJECTION OF HEARTBEATS

The event finale showed the real power of modern visual systems as light and images coalesced in a single projection of a beating heart: a symbol of human unity. Projected on a mosaic comprised of athlete photographs, the light sculpture concluded the Parade of Nations with pyrotechnic visuals and the sound of hearts beating as one.

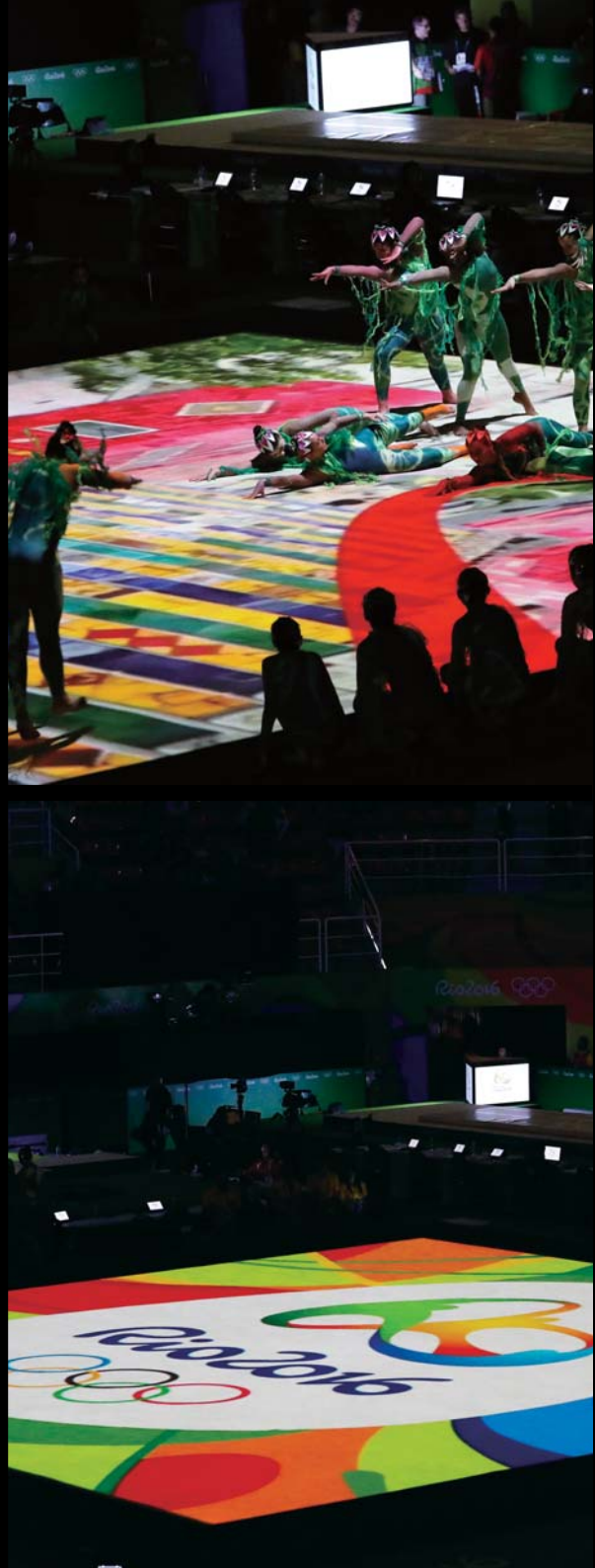


PROJECTION AT COMPETITION VENUES

Indoor Volleyball Maracanãzinho
Gymnastics / Trampoline Rio Olympic Arena

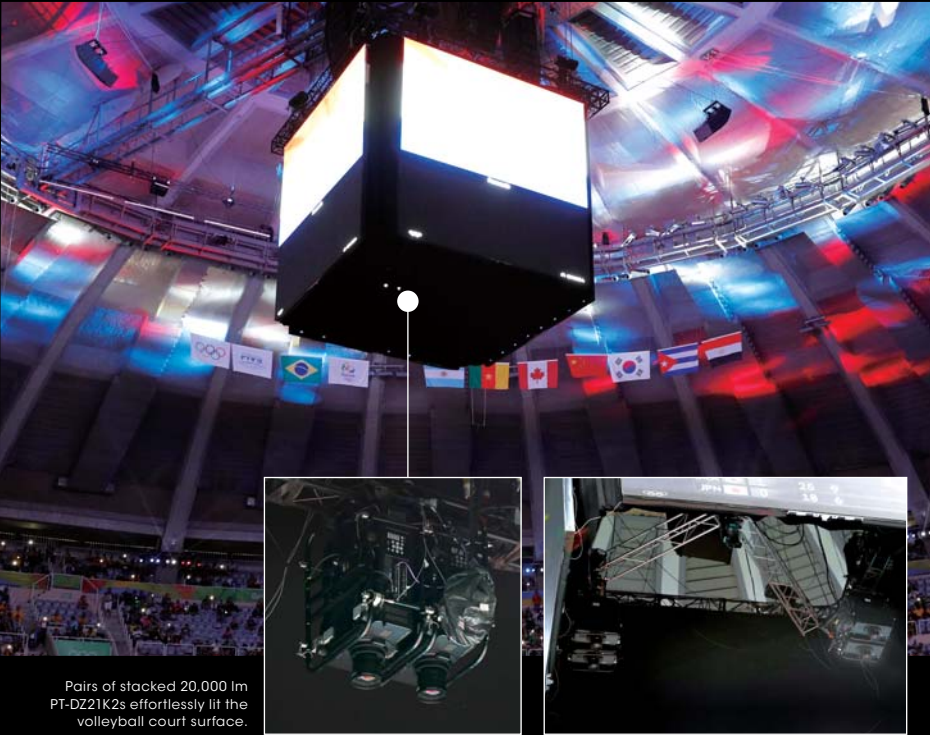
It wouldn't be an Olympic Games event without that palpable sense of anticipation in the crowd, knowing the entire world is watching. Heightening the excitement were spectacular pre-competition live performances prior to the Indoor Volleyball, Gymnastics, and Trampoline events. Take a look at how Panasonic projection made these performances possible.

Rigging flexibility and long-distance single-cable connection simplified execution of captivating floor projection.

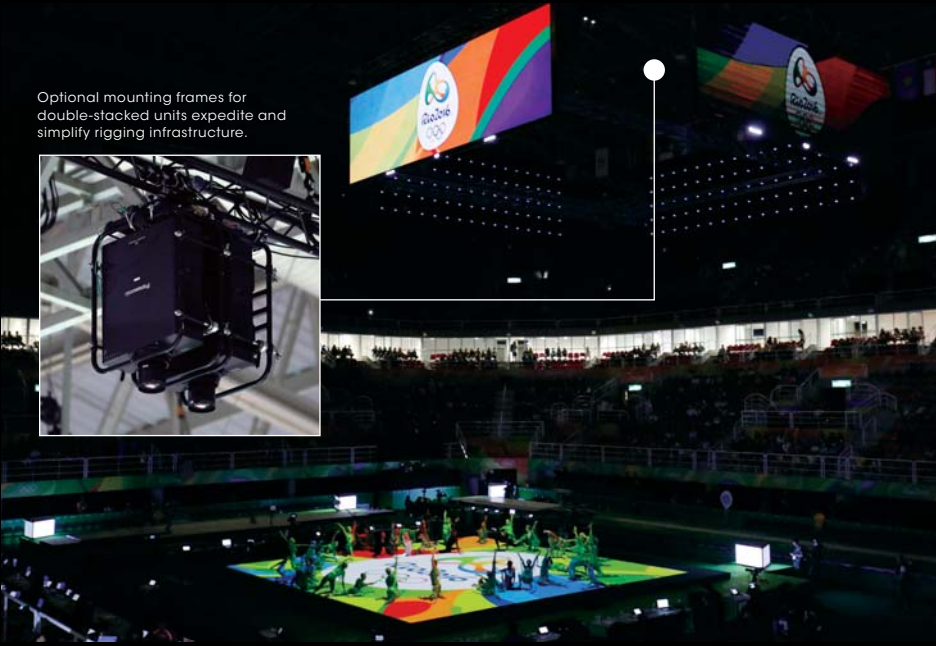


Floor Projection Heightens Anticipation [Indoor Volleyball]

The PT-DZ21K2's powerful mapping and multi-projection capabilities came to the fore with two sets of double-stacked units shooting downwards from the ceiling to add spectacular visuals to the indoor volleyball opening performance and entrance procession. Durable quad-lamp systems pumped out 20,000 lm per projector for lifelike images even on non-screen material.



Pairs of stacked 20,000 lm PT-DZ21K2s effortlessly lit the volleyball court surface.



Optional mounting frames for double-stacked units expedite and simplify rigging infrastructure.

Brilliance from Above [Gymnastics / Trampoline]

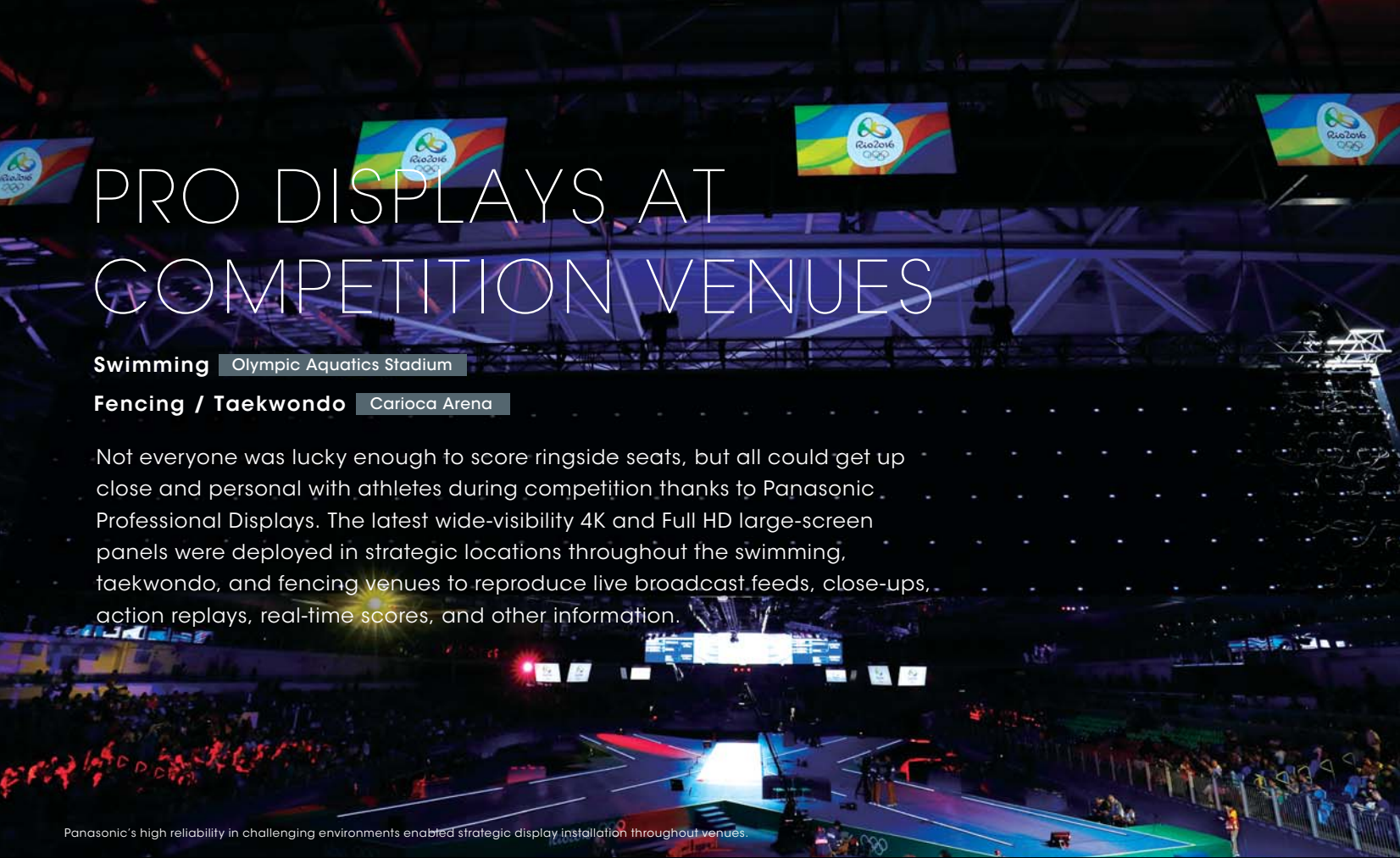
Always a crowd favorite, the beauty and grace of the gymnastics opening act was reflected in stunning visuals projected onto the floor from double-stacked PT-DZ21K2 quad-lamp units. Huge output power in WUXGA resolution allowed colors to blaze on the mat, bringing choreographed performances to life.



Geo Adjustment software enables bright multi-projector mapping to suit almost any screen shape, size, and surface.



PT-DZ21K2 3-Chip DLP™ Projector
 Installed Model



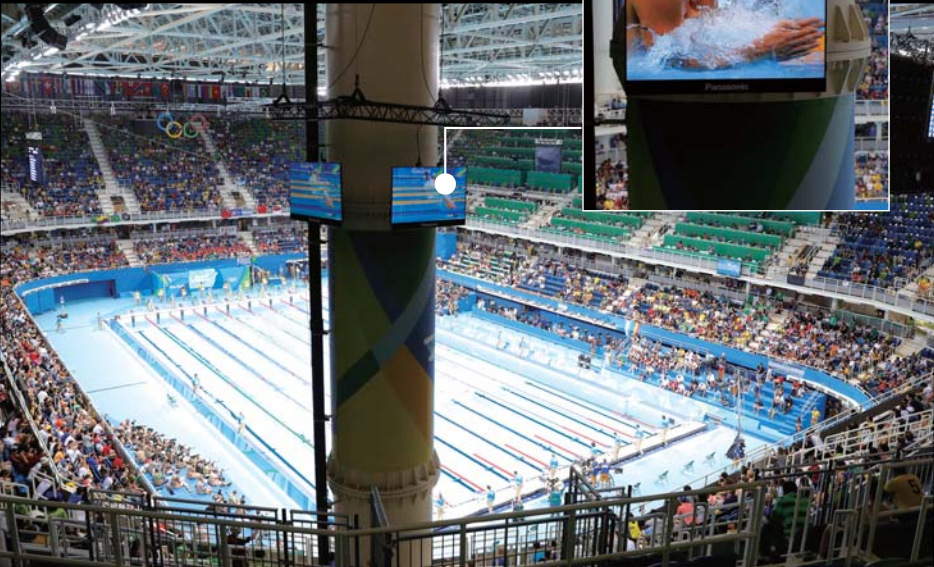
PRO DISPLAYS AT COMPETITION VENUES

Swimming Olympic Aquatics Stadium

Fencing / Taekwondo Carioca Arena

Not everyone was lucky enough to score ringside seats, but all could get up close and personal with athletes during competition thanks to Panasonic Professional Displays. The latest wide-visibility 4K and Full HD large-screen panels were deployed in strategic locations throughout the swimming, taekwondo, and fencing venues to reproduce live broadcast feeds, close-ups, action replays, real-time scores, and other information.

Panasonic's high reliability in challenging environments enabled strategic display installation throughout venues.



TH-65LFE8's excellent visibility brought the race closer to those seated towards the back.



Action Enhanced for Everyone [Swimming]

Two LQ70 4K displays positioned on either side of the pool helped people follow each race with bright, detailed pictures. These were supplemented by eight TH-65LFE8s installed behind pillars where vision of the pool was obscured, and behind the main LED information display. Broadcast feeds and race results added to the exciting poolside atmosphere.



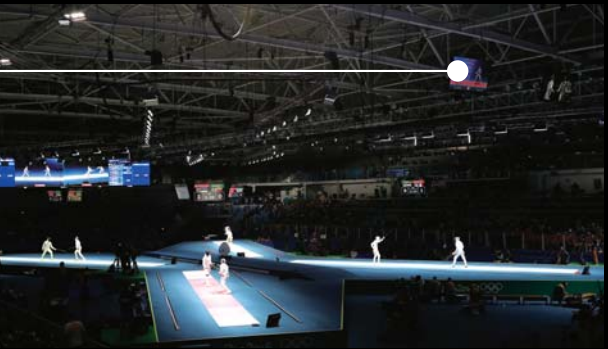
Panasonic LQ70 features a 98-inch 4K panel and is fully equipped for single-display staging applications.

The Thrill of Combat in 4K [Fencing / Taekwondo]

Attendees to fencing and taekwondo events didn't miss a moment of the action wherever they were seated, with two pairs of 98-inch Panasonic LQ70 panels optimally spaced to serve pixel-free 4K images to viewers. These were supplemented by eight 65-inch LFE8s facing other ringside seats.



IPS (In Plane Switching) panel on LQ70 Series preserves color accuracy even when viewed off-axis.



TH-98LQ70 4K UHD LCD Display
TH-65LFE8 Full HD LCD Display

Installed Models

TH-98LQ70

TH-65LFE8

SUPPORT FACILITIES

Behind the Scenes

Our partnership with the Olympic and Paralympic Games Rio 2016 extended to supply and maintenance of projectors, displays, and peripheral equipment at support facilities throughout the event precinct and beyond. Establishing a reliable foundation for communications, IT, broadcasting, and monitoring, technical staff was able to conduct the event efficiently.



PANASONIC OPERATIONS SUPPORT

■ TECHNOLOGY OPERATIONS CENTRE (TOC)

Visual Systems in Control Rooms

Panasonic provided equipment for technical staff running IT systems. PT-RZ370 SOLID SHINE Laser projectors were used in control rooms for unfailing lamp-free reliability in continuous 24/7 operation, together with clear and bright DLP™ imaging quality. Single-cable DIGITAL LINK connection was further simplified, and product operability enhanced, with the use of ET-YFB100G Digital Interface Box and ET-YFB200G DIGITAL LINK Switcher units. These integrated multiple signals to multiple display devices via single cables. Paired with ET-SWA100 Early Warning Software, uninterrupted round-the-clock monitoring using PT-RZ370s was achieved.



Ceiling-mounted PT-RZ370 SOLID SHINE Laser projector in use.



DIGITAL LINK Switcher and Digital Interface box facilitated connection between backyard and operation room inside the TOC monitoring network with a single HDBaseT™-compliant LAN cable.



■ INTERNATIONAL BROADCAST CENTRE (IBC)

Dependable Hi-Visibility Performance, 24/7

Two TH-55LFV70 video walls revealed events as they unfolded to media professionals responsible for broadcasting the Olympic and Paralympic Games Rio 2016. One multi-screen video-wall occupied a corner in seamless 3 x 3 configuration, while a second comprised 2 x 2 setup at the entranceway. IPS Panel, ultra-narrow bezels, and Anti-Glare (AG) treatment offered visibility good all-round.



TH-55LFV70s fed broadcasts as single video-wall images or separate feeds to individual displays.

Panasonic Service Center



Panasonic Service Center, managed by Panasonic Brazil, provided technical support and maintenance for installed visual systems. Here, ET-SWA100 Early Warning Software played a vital role in monitoring 36 Panasonic projectors and displays across eight competition venues, with alerts over network allowing teams to respond to issues before they became a problem. Panasonic's marathon endurance and reliability was proven with almost all installed products operating without issue despite extended hours of non-stop operation in often dusty and hot conditions.

MEDIA VISION

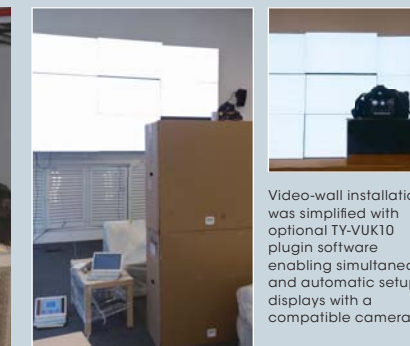
■ MAIN PRESS CENTRE (MPC)

Serving Beautiful Images to the World

Nine TH-55LFV70 displays coalesced in a flawless video-wall display to give members of the press an unrestricted view of broadcast feeds thanks to wide-view IPS Panel technology. In the Press Conference Room, 12,000 lm PT-DZ13K projectors equipped with ET-D75LE90 ultra-short-throw lenses for rear projection enabled image projection behind those on stage without shadows.



PT-DZ13Ks with ET-D75LE90 ultra-short-throw lenses eliminated shadows from presenters.



Video-wall installation was simplified with optional TV-VUK10 plugin software enabling simultaneous and automatic setup of displays with a compatible camera.

■ OLYMPIC AND PARALYMPIC VILLAGE

Integral to Team Communication

Good communication between coaches and athletes is key to a record-breaking performance. Two PT-DZ13K projectors with ET-D75LE90 ultra-short-throw lenses were used in the *Chef de Mission* (coaching room). The rear-projection equipment facilitated lectures as part of athlete preparations. ET-D75LE90 currently offers for world's shortest throw for 3-Chip DLP™ projectors*.

* For 3-Chip DLP™ projectors as of November 2014.



PANASONIC SHOWCASE IN SUGARLOAF



Stadium of Wonders

Located atop Sugarloaf Mountain, Panasonic's Stadium of Wonders pavilion welcomed thousands of visitors during the Olympic Games period. The History Tunnel, fitted with TH-55LFV70 panels and Space Player hybrid lighting/projection units, showed Panasonic's long association with the Olympic Games. Elsewhere, DLP™-powered Space Players let guests snap a picture with a virtual Vinicius and Tom, the official Rio 2016 mascots. Central to the pavilion, a 4K theater featured the new PT-RQ13K 4K+ SOLID SHINE Laser projector, which served widescreen movies at film-like resolution. The journey through Stadium of Wonders culminated with a PT-RZ670 projecting images of record-breaking athletic performances on a special transparent screen.



Images from PT-RQ13K 4K+ projector rivaled the view from Rio de Janeiro's iconic landmark, Sugarloaf Mountain, a temporary home to Stadium of Wonders.



Space Player hybrid DLP™ projection and lighting solution enhanced areas of the History Tunnel.

INSTALLED EQUIPMENT AT RIO 2016

3-CHIP DLP™ PROJECTORS



PT-RZ31K (Prototype)



PT-RQ13K/RZ12K



PT-DZ21K2



PT-DZ13K

SPACE PLAYER



PT-JW130

1-CHIP DLP™ PROJECTORS



PT-RZ970



PT-RZ670



PT-RZ475



PT-RZ370



PT-LB300/LX30H



PT-LW312

LCD PROJECTORS

4K UHD LCD DISPLAY



TH-98LQ70

FULL HD LCD DISPLAY



TH-55LFV70
[Video Wall]



TH-47LFX60
[Outdoor]



TH-65LFE8
[Standard]

DIGITAL LINK SWITCHER



ET-YFB200G

DIGITAL INTERFACE BOX



ET-YFB100G

OPTIONS

Early Warning Software: ET-SWA100 Backbone of Large Visual Installations



Early Warning Software allows admins to monitor devices, view history, and receive alerts over network. Servers with software installed can be checked via mobile or PC browser. As well as reducing downtime, visits to remote sites are unnecessary, saving time. Early Warning Software was vital to the execution of Panasonic's role at the Olympic and Paralympic Games Rio 2016.

Video Wall Manager Auto Display Adjustment Upgrade Kit: TY-VUK10