X SERIES

Datapath delivers out-of-this-world experience at UK National Space Centre

Engineering the **world's best** visual solutions

DATAPATH
EXCELLENCE BY DESIGN

BACKGROUND

According to the National Aeronautics and Space Administration (NASA), it takes two-years of training to become a full trained and qualified astronaut. But before you even reach that stage, you'll need a bachelor's degree in engineering, biological science, physical science, computer science or mathematics. There's also the small matter of 1,000-hours of pilot-in-command time in a jet aircraft. Even then, the odds or visiting a galaxy far-far-away are slim. In fact, only 12 astronauts have ever set foot on the moon – a mere 384,000 kilometres away - since 1969, with the last back in 1972.

Thankfully, being able to experience the sensations and wonders of space travel is possible without the need for training, vast amounts of travel and crucially, the $150 million* per person travel fee.

Located in the East Midland city of Leicester, the National Space Centre (NSC) is the UK's number one space-based attraction.

Opened in 2001, the award-winning museum and research facility dedicated to space, has attracted more than 1.5 million visitors (averaging 300,000 a year), including over 350,000 school children.

The thrilling venue features six interactive galleries, each crammed full of space suits, rockets, satellites and meteorites. It also has an iconic 42m high Rocket Tower, and - its pièce de resistance - the UK's largest dome planetarium.

Named in honour of world-renowned British astrologer (and Games-Master host), Sir Patrick Moore (who died in 2012, aged 89), the 192-seat planetarium features an 18-metre full dome above the audience, providing a 360º projection cinema experience for its various shows and discussions.

THE CHALLENGE

Following significant growth over the past six-years – fuelled in part by British astronaut Tim Peake, who spent six-months on the International Space Station (ISS) between 2015-2016 – the NSC has recently undergone a multimillion-pound facility expansion and upgrade. The planetarium played an important part.

The 360º full dome ceiling inside the planetarium is designed to immerse the audience, taking them on an out-of-this-world journey to other planets, solar systems and even a ride on the ISS. To create a truly immersive experience and environment, it's therefore crucial that the quality of content being displayed not only meets expectations but exceeds them.

As part of the upgrade, the NSC opted for a complete overhaul of its aging equipment to create a new and more powerful visitor experience, showcasing its content using the highest and brightest quality video projection technology possible in such a space.

"This planetarium is special because it is the largest in the UK."

"It's also got the lowest screen gain - that means that it's going to get the best dynamic performance of any planetarium I know of...because we can throw so much light on that surface, which is suppressed when it bounces backwards and forwards.

It means great contrast as well as very bright imagery."

Graham Law, Chief Engineer at the National Space Centre

THE SOLUTION

The existing lamp-based projection units used inside the planetarium were replaced with 13 brand new laser models, each positioned strategically around the venue.

Kive-based company, Front Pictures – a leading manufacturer of projection domes for mobile and permanent installations – worked in collaboration with the NSC technical team on the system design, audio-visual engineering, and system integration.

The highly experienced company, which has worked with some of the world's leading brands, selected four next generation Datapath Fx4 display controllers for the projection system.

The Datapath Fx4 is a multi-faceted standalone display controller that supports a choice of inputs, high bandwidth loop-through as well as 4 genlocked outputs in either DisplayPort or HDMI.

The Datapath Fx4 display controllers – which support a choice of inputs – distribute four synchronized 3840x2400 at 60fps video signals to the 13 x BenQ LU9915 10K lumen laser phosphor projectors and a control monitor. The projectors are driven and auto-aligned by a single Screenberry media server for 5K60 2D or 4K60 3D playback on to the 18m dome.

The system boasts exceptional image contrast thanks to its extremely low screen gain and a combination of mechanical blends and digital auto-alignment.

REFERENCE

Datapath
www.datapath.co.uk

***Space Adventures**
http://www.spaceadventures.com

Video of project in action
https://www.youtube.com/watch?time_continue=79&v=Kt04Pgmgxio

KIT LIST

- 4 x Fx4 Datapath display controllers
- 1 x Screenbery media server
- 13x BenQ LU9915 10K lumen laser phosphor projectors

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