



SINGAPORE'S CHANGI AIRPORT

Case Study

Lightware Visual Engineering

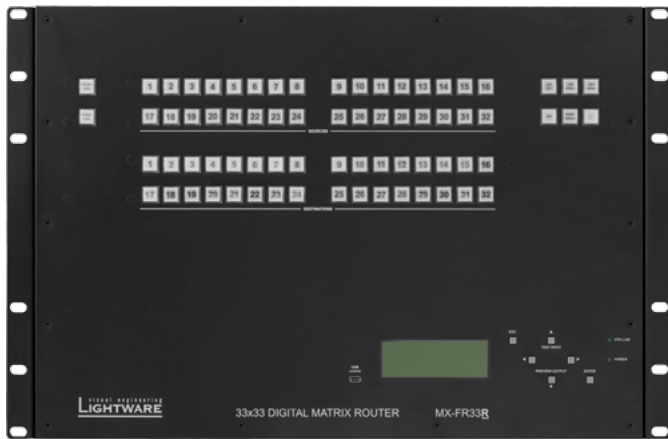
Singapore's Changi Airport

Market	Country
Digital signage	Singapore

Lightware Equipment Used in Project

MX-FR33R matrix switcher

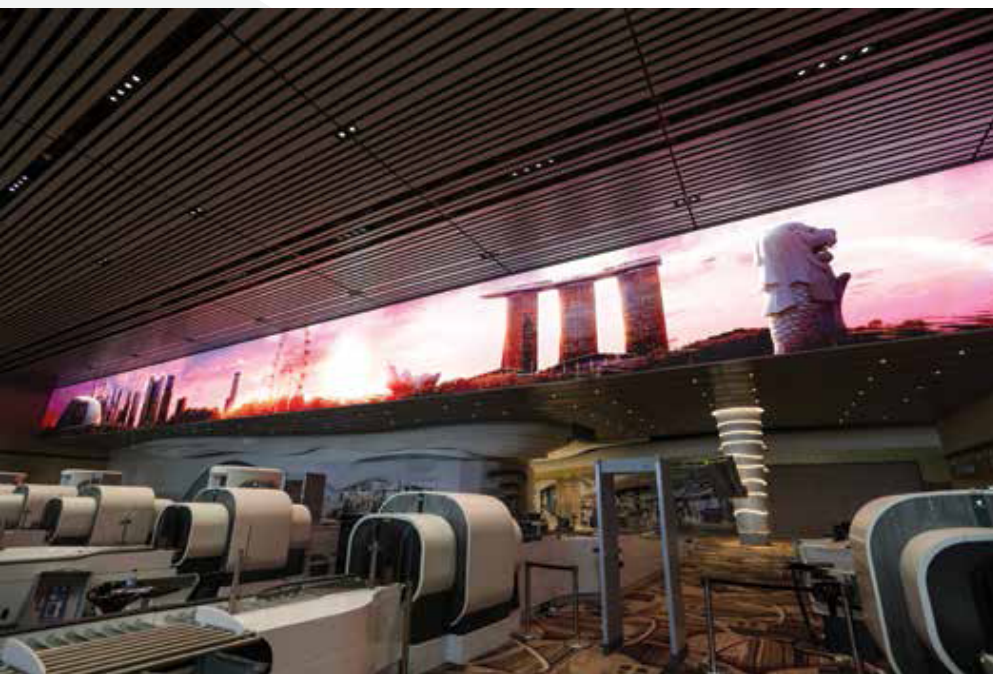
Singapore's Changi Airport regularly tops the list of the world's best airports, featuring a wide range of facilities to inform and delight passengers. Come 31 October, the new T4 terminal will start its official operations introducing a full suite of self-service options from check-in, immigration to boarding, plus two state-of-the-art NanoLumens Performance Series LED displays that will captivate passengers with high- definition digital content 24 hours a day. Selected as the best digital display solution from a large pool of competing manufacturers, the NanoLumens LED displays allow the beautiful, enthralling visuals created by Moment Factory to achieve their maximum impact for all airport passengers and visitors.



Located above T4's centralized security screening area, the "Immersive Wall" is an impressive 70 meters wide by 5 meters tall with a 6mm pixel pitch and has been dubbed one of the largest indoor airport displays in the world. Additionally, NanoLumens was chosen for a 10-meter-wide by 6-meter-tall, 4mm pixel pitch display in the departure transit area's Heritage Zone, which is built directly into a shophouse facade with several faux building fronts that highlight the island nation's architectural evolution from the 1880's to the 1950's.

Chosen because of their ability to meet strict RFP specifications, NanoLumens created a custom solution specifically for Changi based on a redesign of their proprietary Nixel Series technology that was able to accommodate the demanding Moment Factory content. The solution required several mechanical enhancements in order to overcome EMI, EMC and other strict RFP specifications. The new rigid Nixel technology is truly optimized for being flat with a larger diode for the highest brightness and is rear serviceable. Being able to access the displays from a high vantage point through rear service will keep traveller visibility of the displays at an absolute maximum.

Both displays run throughout the day, with the Immersive Wall displaying flowing, geometric waves of 3D animations, picturesque life-like scenes from throughout Singapore, and a funny, playful animation of the



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imaginary journey luggage takes after check-in. The Heritage Zone display, on the other hand, is integrated convincingly into the zone's facade, comprising the second floor of two of the buildings and showing Peranakan Love Story, a dramatic original film set in 1930s Singapore. The video seems to blend right into the buildings, giving passersby a seamless view into the country's cultural history. All of the digital content was produced by Moment Factory. According to NanoLumens Vice President of Sales Almir DeCarvalho, the gorgeous final product is the result of successful collaboration and a highly detailed bidding and engineering process.

Electronics & Engineering Pte Ltd, (E&E) one of the leading systems integrators in the Asia Pacific region, completed the installation of the NanoLumens displays, along with much of the other innovative technologies in T4. Managing Director, Ronald Goh, was recently listed as one of the top 50 influencers in Singapore as part of the SG50 celebrations. One of

the most striking results of this installation was that Nanolumens and E&E delivered every part of the product and installation on schedule, which is rare for a project of this magnitude and complexity. The on-time completion reflects both companies' strict dedication to the project and corporate culture that prioritizes every client's satisfaction.



“One of the key challenges with this project was in ensuring that the display was aligned and flat over the length of the 70m,” said Gary Goh, Deputy Managing Director, Electronics & Engineering Pte Ltd.

The resolution for the display at the departure hall is 10704x768 which is supported by 2 Coolux Servers with a total of 6 outputs. At the Heritage site the resolution is 1984 x 1216 and is supported

by a single Coolux server with 2 outputs. The Content Management system was developed in-house. “The Coolux servers offer widgets and 3rd party interfacing which was useful for our purpose. In addition Coolux enables us to handle multi-layers,” continued Gary Goh.

The Coolux servers are connected to a 32 x 32 4K MX-FR33R Lightware matrix switcher that then sends the transmission signals to the LED wall through a single mode OS2 fiber optic cable. “The Lightware maxtri xswitchers were chosen due to their consistency in all of its outputs and it also provides near zero latency.”

Electronics & Engineering also integrated the speakers to support the displays. At the departure hall 12 units of d&b E6 speakers were installed whereas at the Heritage site three units of Y7 d&b speakers were complemented with one unit each of a Y10 d&b speaker and one unit of E6 d&b speaker. “Other than the performance and the form factor, the speakers especially in the Heritage site seamlessly fit into the décor of the shop fronts.”

“With roughly a year of just the bidding process, not to mention the actual installation, this was a highly complex project with many, many moving parts,” said Martin Leclerc, Director of International Sales, NanoLumens. “Working with E&E



was a great partnership that produced fantastic on-time results, which industry insiders know isn't always the case with contractors, particularly on large jobs, even this specific one. When one considers the consistent, rigorous testing we performed to ensure our specs were accurate and lived up to Moment Factory's requirements, it's obvious everyone involved was focused on every detail, every step of the way."

"At Electronics & Engineering we are very pleased that once again we are involved in an iconic project. The installation had its own challenges and tight deadlines but together with NanoLumens, we were able to deliver on time. We are also grateful to Changi Airport Group and Moment Factory for having the confidence in us to deliver," said Ronald Goh, Managing Director, Electronics & Engineering Pte Ltd.

Photos courtesy of Changi Airport Group

www.enepl.com.sg

www.momentfactory.com

www.nanolumens.com

Source:
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