



Lights, camera, action

FALLING IN LINE WITH THE PREDICTION THAT DIGITAL CINEMA WILL SOON OVERTAKE TRADITIONAL CELLULOID FILM, HOYTS HAS UPGRADED OVER 400 OF ITS CINEMAS ACROSS AUSTRALIA AND NEW ZEALAND. **DIMI KYRIAKOU** FINDS OUT THE DETAILS OF THIS MASSIVE FEAT.

For more than 110 years, cinematic film has been distributed, stored and projected on rolls of celluloid. Many movie fans would agree that hearing the telltale sound of film rolling through a projector is a unique part of the overall cinema experience – there is a nostalgic attachment that can't be overlooked, but it's one whose days are numbered.

As we move deeper into the age of digital technology, it is expected that digital cinema will soon overtake traditional film globally, with the curtains set to close on celluloid film projection by 2015. James Cameron's 3D film *Avatar* was a significant driver of this change in

cinemas across the world, as the existing celluloid projectors are unable to show films in the digital 3D format.

To prepare for this new age of cinema viewing, Hoyts Corporation partnered with Trojan TechGroup – a Sydney-based company specialising in electrical technology and energy efficiency – for the rollout of electrical and communications infrastructure to support the digital conversion of over 400 cinema screens across Australia and New Zealand.

The work commenced about three years ago and Trojan is now nearing the finish line with electrical infrastructure in place and 90% of the digital projectors in place. Needless to say, the task of installing a completely new projection system in working cinemas was a challenge in itself.

"We have a long-standing relationship with Hoyts. They approached us with a requirement to 'go digital' without disrupting their business and we came up with several design options that we worked through with them," Trojan TechGroup managing

director Troy Eggins explains.

"Basically it's a generational shift from film to digital on a fairly grand scale. Hoyts had a lot of projectors which had been in place for 30 or even 50 years. Implementing a digital conversion across a chain as large as Hoyts made this a demanding project; so we took special care in the planning process."

Two key deliverables were the capability to remotely manage each individual projector as well as a centralised movie injection point at each site. These were considered vital in order to simplify daily operations and reduce operating costs.

Now, Hoyts can program and manage the content from a central location and control everything across their network from their operations centre. For instance, at Hoyts Melbourne Central, all of its cinemas are controlled within the complex itself and they are also connected back via the network to the head office in Sydney.

"In the days of celluloid projection, you had to have a projectionist in the projection room to physically handle, splice and load the film. If it jammed or stopped showing for any other reason, they were under great pressure to fix it on the spot – while still having other projectors to attend to," Troy says.

"In a digital cinema, if a projector or other equipment goes down, the operations centre is immediately notified – and, in many cases, the problem can be fixed remotely. If not, local cinema staff can attend, with full diagnostics enabling them to get the movie running again – quickly."

The fact that cinema complexes are usually part of a larger building structure, such as shopping centres, added an extra layer of complexity when running cables. New Cat 6A shielded copper cabling was installed throughout the sites to support the high speed gigabit links required for the new digital cinema network, while fibre cables were used for longer runs that exceeded the copper cabling limitation of 100m.



Hoyts Melbourne Central was one of more than 400 cinemas to receive a complete digital upgrade.





Left: The old celluloid projectors were replaced with Christie Digital Cinema projectors, while Cat 6A shielded copper cabling was installed to support the high speed gigabit links required for the new digital network.

Above: During the upgrade Trojan TechGroup had to work around existing opening hours and movie times, which sometimes led to work in the projection room while a film was running.

"We used Cat 6A cable because it can handle very high bandwidth and has great protection against electrical interference from nearby cables and other sources. This super-high performance leaves plenty of scope for Hoyts to expand the use they make of the cabling as projection technology evolves further – but we're expecting it to be at least 15 years before any upgrade is required," he says.

"Fibre was only used where required for longer cable runs because of the relatively high cost of the active optical electronics running at these data rates. Also, the old celluloid projectors were replaced with the latest Digital Cinema projectors from Christie Digital Systems. These give amazing image quality which far surpasses anything that old-style film could achieve."

During the installation, Trojan took responsibility for the logistics of equipment and materials delivery together with management of the installation team at each site. This provided Hoyts with a single point of contact, which reduced the time taken for each digital conversion and also helped contain the overhead costs of the project. "We sent our most experienced

personnel over to New Zealand to train the subcontract installation team and we also took full responsibility for the Quality Assurance (QA) process," Troy explains.

"We liaised with Hoyts at key stages to ensure that there would be minimal disruption to normal cinema operations."

The fact the screens in a well patronised cinema often show films 'back to back' meant that sometimes installation work had to be done in a projection room while the old celluloid projectors were showing a film. According to Troy, this was an "interesting" challenge.

"Hoyts is very focused on creating a good customer experience, so we were expected to maintain a tidy, clean and noise-free environment so that cinema patrons did not experience any disturbance," he explains.

"Usually we started early in the morning to get as much work done as possible in the public spaces, making sure there were no traces of our presence by the time the complexes were open to the public. We had to ensure that every installation in every auditorium across the circuit

was completed the same way, so you could pretty much walk into any Hoyts and expect to see the same thing. Consistency was vital."

As any project manager will tell you, installing cutting-edge equipment across multiple 'live' sites is no easy feat – and this project was no exception.

"Getting from Point A to Point B in some of these locations was quite challenging. There were the logistics of designing and installing critical infrastructure across many and varied sites within quite strict time constraints, all the time working around the requirements of an operating business serving thousands of customers every day. But the people at Hoyts were great to work with, and I'm really proud to say 'We did it!'"

Troy's pride in the success of this major project is shared by his whole team – after all, it's not every day that an electrical design and installation company has the opportunity to tackle such a challenge across a cinema network the size and reputation of Hoyts. **CH**

Trojan TechGroup
www.trojantechgroup.com.au

