Good as Gold

Sovereign Hill's famous light and sound show has been radically reimagined.

Text:/ Christopher Holder

You can't accuse Sovereign Hill of not extracting the very best value from its AV investments.

The 'Blood on the Southern Cross' light and sound show first started transporting visitors back to the gold rush back in 1993. Admittedly, the show, devised by The Shirley Spectra, had a major technology upgrade in 2003. Still, it's a darn good innings.

Thanks to a state government grant, Sovereign Hill was able to invest a hefty $8m into replacing the attraction.

The new light and sound show is called Aura, and it tracks the history of gold in the region from the moment it was created until now.

ALL THE ACCOLADES

Sovereign Hill engaged Accolade to produce the show, headed up by director Andrew Walsh as co-Technical Director with Nick Eltis.

"In terms of scale and complexity Aura would be unique to Australia – I don't think there's anything as detailed as this."

Andrew would know. What he hasn't been involved with personally, he's had a good look at. Accolade is well known for big flourishes, including the likes of Olympic and Commonwealth Games opening ceremonies. Andrew is one of the go-to guys internationally.

Aura takes Sovereign Hill guests through the story of gold in the region via three 'theatres'. The first is an indoor 3D theatre that covers off the elemental creation of gold, using a new 3D presentation technology that uses passive glasses and two specially-modified Panasonic laser-hybrid projectors and a full-blown Bose surround sound cinema system.

The second theatre tells the Wadawurrung creation story using projections on the waters of a dam and hillside.

The third theatre tracks the story of gold post European colonisation, and makes the most of the 64-acre site with amazing projection mapping, mechanical automation and pyrotechnics.

EXTRA DIMENSION

Aura introduces audiences to gold at the source – right back to the beginning of the universe.

The animations are in 3D using a fresh technology from Infitec, and the first instance in Australia.

The approach sees two modified Panasonic laser-hybrid cinema projectors displaying two filtered versions of the full colour gamut. The system uses passive glasses and a standard projection screen, which keeps the cost down, and makes for a flicker-free experiences for audiences.

"There's a lot to like about the Infitec system," notes Accolade's Andrew Walsh. "From a redundancy point of view, it means if one projector goes down, you've still got a show. It'll be a 2D show but it'll still be a full colour presentation."

For peace of mind, Panasonic holds spares of the module that carries the left/right information. If a projector goes down then that module could be swapped out.

Technical Director, Nick Eltis was equally impressed: "Many 3D experiences can leave you feeling a bit queasy. Not this one. It's very impressive."

To adequately present the sound of an exploding star, you need a serious audio system (the silence of space is not going to cut it I'm afraid, angry nerds!). The 3D theatre employs a Bose Professional PA – RoomMatch LCR array system behind the perforated cinema screen and

(Main) The key difference between the new production and the old, is the extensive use of projection. The main shot shows how distant structures are used as projection canvasses. (Below) The Free Trade Hotel theatre with its barn doors open reveals four edge-blended Panasonic PT-RZ660BE laser-hybrid models that project onto the inside surface of the doors, and a further five units mounted underneath, taking care of the 'tent projection'.

RoomMatch Utility speakers for surrounds, with RoomMatch VLF subwoofers for the requisite low-end extension.

It's an impressive introduction to Aura.

INDIGENOUS THEATRE

After the 3D presentation, guests take a ride on 'transporters' to the main 64-acre Aura site. The transporters are fitted with audio playback features to keep the story flowing.

First stop is a 10-minute presentation that shares a legend belonging to the Wadawurrung People, the traditional owner of the land, and then describes the impact of the goldrush on their way of life. Two edge-blended Panasonic laser-hybrid projectors use the dam wall as a canvas, to great effect. Illumination Physics LED nodes in the dam itself provide an extension of the content. An IP-

VIDEO

Head to **YouTube.com/avmagazinetv** for interviews with Andrew Walsh, Chris Dodds, Nick Eltis and Jarrod Ferguson.

(Left) Animations projected on the side of the dam wall of the Indigenous Theatre. (Below) AV Manager Jarrod Ferguson lifts the lid on one of the projection igloos – the coolroom-style sandwich insulation protects the Panasonic projectors from the worst of the temperature swings. The boxes are ventilated but not air conditioned.

SOUNDS OF EUREKA

The old Blood on the Southern Cross show relied on spot audio effects via loudspeakers in the field. Aura accomplishes a similar dramatic impact via careful sound design and a high quality Bose sound reinforcement system, designed and installed by The P.A. People. RoomMatch Utility speakers in the Free Trade Hotel venue, along with Bose installed subwoofers provide the detail and impact the dramatic story telling required.

Nick Eltis: "Andrew Walsh and I have had a great relationship with The P.A. People for 25 years plus. When it comes to those left of field projects that require some specialised knowledge and experience — I always go to The P.A. People.

"I know they have a good relationship with Bose, and for our purposes the Bose product fit perfectly. Bose has a range that worked, indoors and outdoors."

The P.A. People: papeople.com.au

rated distributed JBL Control series PA system takes care of the audio.

MAIN EVENT

Guests are then ushered into the main theatre space where the bulk of the son et lumière show takes place. Initially, the pre gold rush colonial story is told via animation projected onto the interior of the venue's 'barn doors' via Panasonic laser-hybrid projectors with short throw lenses.

Once the doors are activated and opened out, the real action begins.

The vista confronting visitors is a full-scale gold diggings site – tents, buildings, mine poppet head and more.

Whereas the previous Blood on the Southern Cross show relied on conventional lighting, located sound sources in the field, and some flame effects, Aura relies heavily on projection.

Five Panasonic projectors (housed in the structure of theatre) shoot outwards onto structures in front of the theatre, including three mechanically automated tents.

A Medialon automation system runs the show – programmed by Interactive Controls' Dean Stevenson. Sovereign Hill has been an AMX outfit ever since the Welcome Stranger arrived but Aura, surely, is Medialon's show-control sweetspot. A companion Dataton Watchout system handles the content. The HDMI outputs of the Watchout system are piped out to the projectors as HDBaseT (via Wyrestorm extenders) over multimode fibre.

Medialon not only triggers timing in the Watchout content but also to the grandMA onPC lighting controller (then on into the field via an ArtNet network), the ModBus mechanical automation triggers (programmed by ShowTechnology), and the pyrotechnic triggers.

A more unusual item in grandMA onPC's cuelist are the gas campfires in the diggings. The campfires flare up via a DMX cue. First up, the pilot light is triggered. A pilot light burner control (by a company called Krom Schroder) takes on this specialised task. It sends an input to the Medialon Showmaster software confirming the gas on all 14 campfires can safely be turned on.

The supervising AV tech has a gas kill switch on the desk just in case.

There's also a dead man's switch for the mechanical automation – the presiding AV tech in the control booth remains on the switch to ensure those aspects of the automation occur. The AV tech has access to vision from security cameras across the site, and if there's any suspicion of something not being quite right, then the mechanical, gas and pyro aspects of the show can be immediately disabled. As mentioned, the mechanical automation features include the barn doors opening, the pixel-mapped tents moving and spinning, the poppet head going up, flags lower and raised, and more.

BRUTAL CONDITIONS

Aura operates in a real-world gold diggings environment. There's nothing remotely 'theme park' about the setting. In fact, a few hundred

WMT 3D: A REAL WEAPON

Infitec's approach to 3D projection is like a 2.0 version of the old red and green glasses. The company's glasses use a narrow colour band wave to improve the quality of the image, using specific wavelengths of red, green and blue for the right eye and different wavelengths of the same colours for the left eye. The glasses filter out very specific wavelengths and give the viewer the illusion of a 3D image.

The technique is called wavelength multiplexing technology (WMT). As the WMT is independent of polarisation it can be applied to any screen. The passive glasses do not show any flickering effects and they don't need any synchronisation or battery replacement.

EQUIPMENT HIGHLIGHTS

Medialon Showmaster show control
Dataton Watchout Display Server
Bose RoomMatch PA & Utility loudspeaker system
JBL AWC62BK two-way outdoor speakers
Univox PLS-X5 Hearing Loops
Wyrestorm EX-70-H2X & EXF-300-H2 HDBaseT Extenders

PANASONIC PROJECTION SPEC

3D THEATRE
1x PT-RQ32YLE / 1x PT-RQ32YRE
Indigenous Theatre: 2x PT-RZ31KE
Door Projection: 4x PT-RZ660BE
Tent Projection (inc. Narrator's Screen): 6x PT-RZ660BE
STREET BUILDINGS
Eureka Hotel: 2x PT-RZ970BE (stacked)
Bowling Alley: 1x PT-RZ770BE
Shop Front: 1x PT-RZ660BE
Court House: 1x PT-RZ970BE
Governor's House: 1x PT-RZ970BE

metres below, is an active commercial mine site. The site experiences sub zero temperatures and the mercury can soar to 45° in the middle of summer, something Technical Director, Nick Eltis remembers vividly.

"It was well over 40° when we were commissioning the site. It was hot, dusty and not a great environment for precision AV equipment."

Remarkably the Panasonic projectors kept on trucking. The enclosures built for the projectors in the field use a sandwich coolroom-style material and and ducting for ventilation.

"We keep the moisture out and control the worst of the temperatures, but there's no air conditioning in the enclosures," explains Nick Eltis. "Some have air forced in and others have air extracted to keep the temperatures stable. Even on those extreme days the projectors kept working – they were giving us temperature warnings but they were still functioning. Which was impressive."

Aura is an enormous projection undertaking. The work required to map the unusual projection surfaces, get the lensing right, do the dynamic pixel mapping mathematics, line up the projectors… all represented a large installation challenge.

"Panasonic was exceptionally supportive," recalls Nick Eltis. "We had the full support of the Australian and international Panasonic technical team – they were invaluable. They joined us on site to do the final line up and calibration. In fact, even after we did some final building works, Panasonic came back for a final line up prior to going live."

Sovereign Hill's Manager of Technical Services, Jarrod Ferguson, is aware of the challenges ahead: "If it wasn't for the laser light source [with its airtight optics and endurance], there's no way we could deal with the maintenance and run costs. There are still some challenges we need get around. With five projectors lined up on the mechanically automated tents, it's not as simple as replacing a projector if one goes down — the difference output of a brand new projector would be noticeable."

LOCAL PRODUCE

The $7m budget might seem quite lavish, but the scale of this show is immense. Fascinatingly, around 50% of the budget was spent locally, in the Ballarat region – animators, set builders, content producers, along with the other trades.

The rest of the budget was almost entirely spent in Australia. For example, the music was conducted by Christopher Gordon (Mao's Last Dancer, Master & Comander) who is a long-time Accolade co-conspirator who worked with composer Mike Lira (Monsieur Camembert, Rake), and recorded by the Australian Scoring Orchestra at Sydney's Trackdown studios.

The parochial nature of it all is fitting for an intentionally hyper-local story told in the first person. And that's Andrew Walsh's take-home message to event producers – the success of a production such as Aura begins and ends with the story.

As for the AV? It's thrilling to see technology serving the story so well – a natural extension of the tale – but as elegantly complex as a Swiss watch whirring away in the background.

CONTACTS

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