



Toyota Boardroom

Toyota's \$50m new HQ in Melbourne has the smartest boardroom in the country. Christopher Holder takes the minutes.

The Players

- James Scott** (Toyota) – National Manager of IT Infrastructure
- Ian Thomson** (IBM) – Automotive Sector; Client Executive
- Bryan Adams** (Clever Living) – Audiovisual Consultant
- Shane Cannon** (Rutledge Engineering) – National Marketing & Business Development Manager
- Enzo Portelli** (Designphase Australia) – Design Consultant

Toyota Australia's new \$50m headquarters in Port Melbourne is truly an edifice to behold. Modern and forward-looking, it's a bold statement to the automotive industry and to the nation at large that Toyota, the second biggest vehicle manufacturer on the planet, is here to stay. So it should come as no surprise that the boardroom design is equally daring and impressive.

When Toyota Australia's company president met with his national Manager of IT Infrastructure, James Scott, his brief was, well... brief: he wanted a 'paperless' boardroom and he wanted some 'wow factor'. Reasonable demands one would think. But James knew that a 'paperless' boardroom with 'wow factor' was going to necessitate more than an Ethernet port for each director's laptop or a standard wireless network. It would need to be a 'next generation' boardroom; one that would not only meet the demands of the board today but still keep pace with demands in years to come. After considerable consultation and input from the gentlemen who took part in this interview, Toyota has got its boardroom – and, without a piece of paper in sight (and plenty of 'wows' from anyone visiting), I'd say the brief has been fulfilled to a 'T'.

The Brief – More Talk, Less Paper

venue: Getting the room to look amazing was no doubt a challenge, but a successful board meeting is about effective communication. I imagine getting the underlying technology right was of paramount concern?

James Scott (Toyota): It was. And facilitating better communication was a major factor for us. There were some issues within the organisation that board information was not received in a timely manner. By which I mean, the directors were not given adequate opportunity to thoroughly review the information in time to prepare for the meeting. That had to be addressed. Toyota has had a long-standing relationship with IBM. So we approached

them to project manage the boardroom fitout. After discussions, IBM came up with a software application with our boardroom workflow in mind, ie. based on a submission process, the company secretary approving discussion items, the meeting's agenda being set and the information then locked down through the infrastructure in the room. The setup allows for the board members to access the information during the meeting, topic by topic. It's elegant and streamlined.

venue: So this is a boardroom-specific application developed by IBM?

James Scott: No, it's a web-based application and can be accessed anywhere in the world – board members don't have to sit in the boardroom, they don't have to sit on a Toyota device to access it.

venue: I should imagine that all the board members wouldn't be hardcore technophiles. How has the board taken to the new technology?

James Scott: Incredibly well. We were very aware that we needed to keep it simple. The directors are spread across the country and, as a result, are difficult to access and train. So right through this whole project, to the credit of everybody, a system has been built that is very simple to operate. Our company secretary had about 40 minutes training, and he was then able to run the technology and run the board meeting.

venue: Other contemporary boardrooms rely on the board bringing in their own laptops. Why not go down that route?

James Scott: The reason we moved away from 'visiting laptops' was because historically we've found it time consuming to have a visitor come in, spark up their laptop, get their screen to work... the screen resolution isn't quite right... they start fiddling about with the resolution... We just said no.

» **Oh what a feeling:** The boardroom table accommodates seating for 24 and features 19 computer positions. The table is modular, aiding in its upkeep and access to the mechanisms and wiring that lurk beneath. The room relies heavily on Australian-sourced materials, including the timber selected – flame myrtle for the table, Tasmanian myrtle for the ceiling and cabinetry – the leather, chairs, carpet, drapes etc. The large screen is illuminated by three Sony projectors in the machine room behind it.

That's how we were already doing it, that's not how anyone will be doing it in five years' time. We looked outside that technology and went to a fully integrated system within the room. It makes the boardroom work far more quickly and easily. A visiting guest or presenter comes in, sits down to the workstation, the information is already there – access it with a double click.

venue: Ian, how has IBM's software operationally improved the way Toyota board meetings are held?

Ian Thomson (IBM): We have designed a workflow process for board members that is easy to use and accessible from a browser connection anywhere in the world. All board members now have more control and access to information they need at their fingertips, thereby improving productivity and enabling more effective communication and collaboration in this very important forum.

Having a dedicated repository for all board information means that when the room is set up and the board logs into their board environment, everything is there. And it's like a running sheet. So when they're going through the issues they're addressing at the meeting it's very snappy. The company secretary controls and publishes the board meeting agenda and other required documentation, which can then be accessed by board members or their personal assistants for preparation purposes, through a browser connection with all the required security protocols in place. Minutes and other output from the meetings are controlled and accessed in the same manner.

In meetings people often think: "it'd be great to have access to document XYZ", which is something they can do in this environment without interrupting proceedings. They can access the information themselves or they can communicate electronically with a PA: "send me document XYZ for me" and that gets posted, as it would be if the PA was sitting right next to you.

The opportunity to access that information on-the-fly when you've got a good idea, and to be able to share that with the rest of the team, is a powerful tool.

Smart Control – The Hardware

venue: Okay, can we talk about exactly what's been installed here?

Shane Cannon (Rutledge Engineering): There are 24 seats around the table with 19 computer positions. Each position has a TFT screen that

emerges from the table, and each position's PC is operated via a wireless keyboard and mouse. On top of that, each position has its own (Crown) microphone that is flush-mounted into the table. All the PC hardware is actually in racks in the machine room and connected to each position via digital KVM extenders across CAT5 (digital, not analogue). Under each 'cubicle' is the custom-built mechanism for the screen and then all the feeds from microphones to the KVM extenders and receivers etc.

Each position has access to the custom Rutledge/Crestron control software that operates elements of the boardroom. For example, a board member can select 'Present Me' which sends their computer screen to the large screen; or 'Receive Presentation', so what's represented on the big screen will be duplicated on their TFT display. In a videoconference situation, each position can select a 'look at me'-type function – click on that button and one of the four cameras in the room will hone in on that position. Their face will then be transmitted across the videoconference unit to the other end.

venue: That's the individual control. What about the overall boardroom control?

Shane Cannon: There are two master controllers, both on Creston touchscreens. The first is cabled, and offers the ability to preview the video and PC graphics on the touchscreen and run the entire room. The other touchscreen is wireless, which doesn't have the preview capabilities, but is otherwise identical. From either controller you can adjust the lighting, control the window blinds, bring up the main screen, automate or override the camera operations, run any of the source equipment – CD, DVD, video, DV – and record to DVD. Also there's a streaming system that can capture and store the audiovisuals on a server, which can be broadcast later or distributed on a multimedia format.

As mentioned, each position has a microphone that is working in conjunction with the audio processing and the audio/video conferencing – it brings it all together. We have sound reinforcement in the room for that. It's a distributed system for better coverage.

venue: I notice you have a 5.1 audio system here as well.

Shane Cannon: That's right. We can use the boardroom for presentations with a full theatre-style system. There are actually three projectors behind the main screen. We settled on a resolution of 1024 x 768 – which is a standard across all the PCs, the rear projection technologies, and,



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in fact, it's a standard Toyota has adopted across all their systems. The main speakers and subwoofer are from Dynaudio. We use smaller JBL Contractor 1 speakers for the surrounds.

venue: How is the audiovisual signal routing taken care of?

Shane Cannon: The routing is based on RGBHV – which offers dedicated high-resolution video transmission, and is nothing like a standard computer networking setup. We went for the higher quality because the setup is actually a little more sophisticated than it might first seem. We had to take every position – every computer – feed it through the router and then deliver it to the monitors on the output. That's a big job in itself, but then there's also the presentation source equipment and the outputs to projectors to deal with – which all are integrated within the router. In fact, not only did we use RGBHV but a complete composite video layer was also required. So, effectively, that's why you can see your local PC, anyone else's PC or any of the source equipment – any source can be routed to any display device

depending on the workflow required. A standard network wouldn't have supplied the quality required.

All Hands on Deck – The Design

venue: Enzo, boardroom design is very different now to what it was 10 years ago. Would I be right in saying that accommodating the technology was almost half the battle?

Enzo Portelli (Designphase Australia): You'd be absolutely correct. Take the table for example. It was a real challenge to try and house all the equipment under the table while at the same time keep it simple and still maintain a sophisticated look.

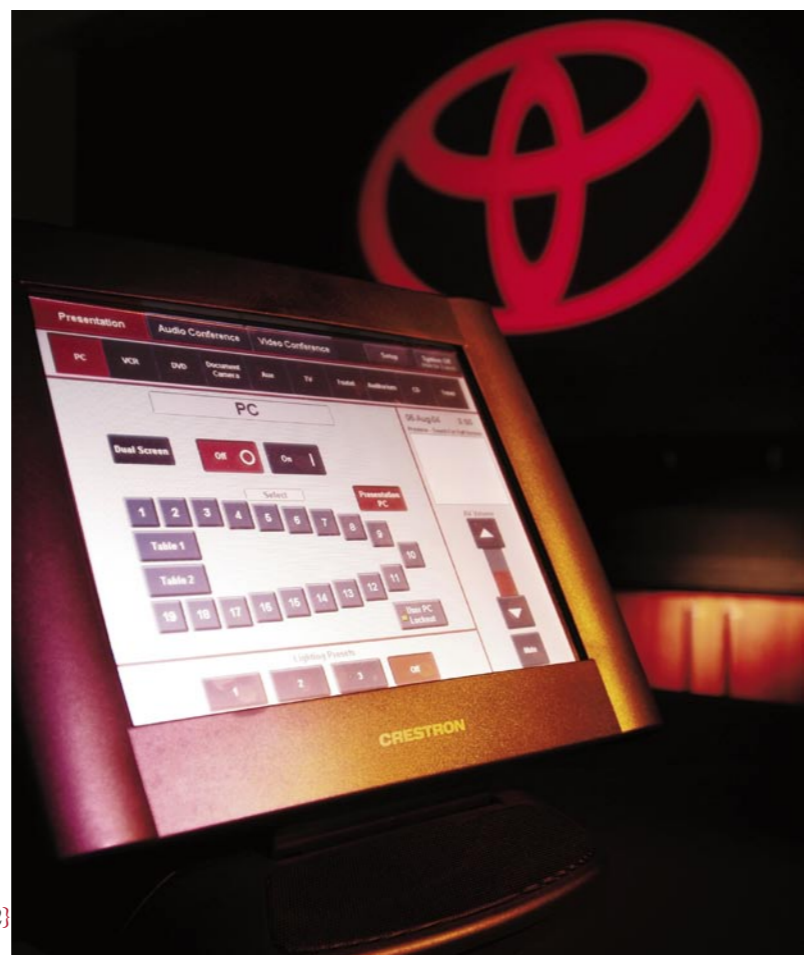
venue: Almost trying to conceal the technology as much as possible and not make a feature of it?

Enzo Portelli: We certainly didn't want to be overrun by what we call the 'now' technology. If we did, the table would look dated in five years' time. So we wanted to get something that you couldn't put a date on down the track – couldn't say it was done in 2004 or 2006, for example.

venue: Tell me more about the table, as it's obviously the most immediately impressive aspect of the boardroom.

Enzo Portelli: Trying to build a table for 20-odd people is a difficult ergonomic undertaking. The boat shape suited the room. And that shape is translated to the low ceiling over the table – it reflects what's happening underneath it. The low ceiling also serves an acoustic purpose. There are acoustic panels behind the fabric which help absorb some of the sound that bounces off the hard surfaces in the rest of the room.

It was a challenge to work out a way to keep the table simple, easily maintainable and, if something should go wrong, easily repaired. That's why we designed the table to be put together like Lego blocks. Each block's leather panel can be replaced if necessary; each PC position has its own accessibility to base wiring etc underneath; and it was necessary to construct it this way to effectively get it through the doors and into the room.



» The boardroom's Crestron-hosted control system. Simplicity is the key with easy manipulation of all the main functions that the board would need to control. Notice the Toyota logo in the background on the main screen. Interestingly, the logo is, in fact, the result of a gobo – allowing the projectors to be powered down when not in use, extending lamp life – and is bright enough to be visible from the nearby freeway!

» The table's boat shape suited the unusual geometry of the room. Ergonomically, the shape also allows for clear sight lines – all members of the board can see each other and everyone can see the main screen without impediment. The design of the low ceiling ties in with the table beneath it, but also serves an acoustic purpose. There are acoustic panels behind the fabric which help absorb some of the sound that bounces off the hard surfaces in the rest of the room – vital for intelligible teleconferencing.

» Product Focus

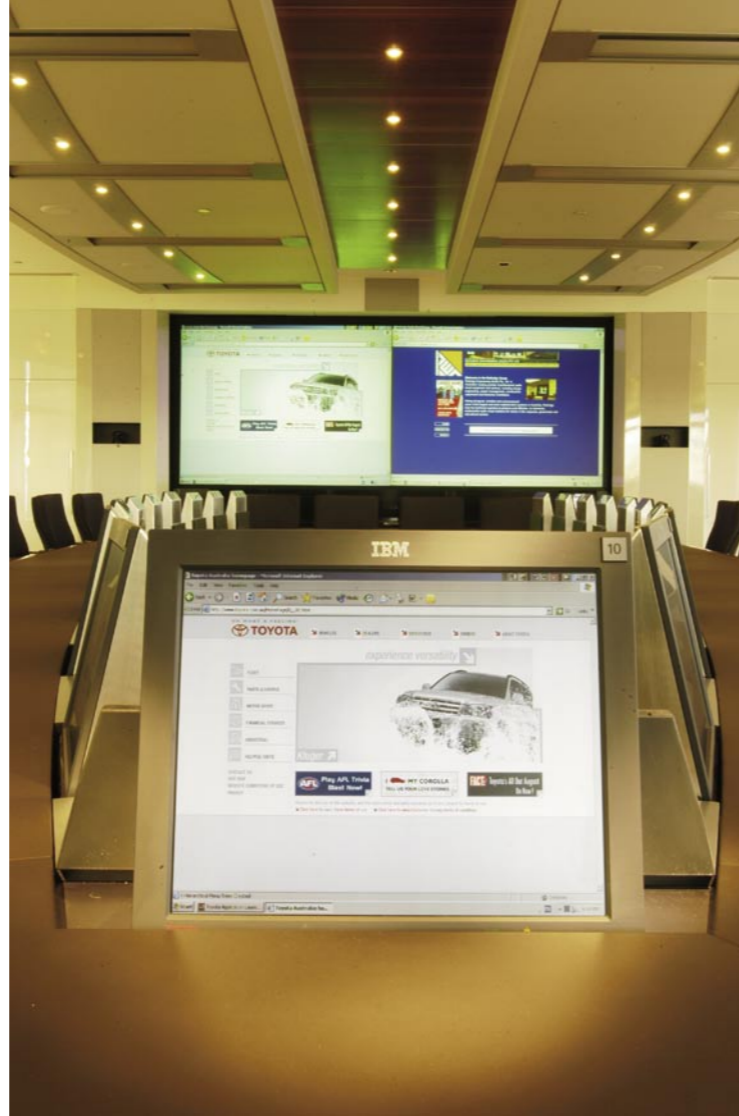
Crestron Control & Automation

Crestron manufactures a whole host of integrated control and automation systems. Crestron's presence is most visible with its touchscreen control panels. These come in a variety of sizes and formats and act as the interface for the smart routing, networking and control that occurs in the background. In the case of the Toyota boardroom, Rutledge Engineering designed a tailor-made graphical user interface that represents the room with each PC position, as well as easily identifiable buttons like 'lighting', 'sound', 'blinds', 'projectors' etc to control those aspects of the room. In short, a Crestron-powered control system is very powerful and sophisticated but you don't need to be computer-savvy to operate it.

» **Audio Telex:** (02) 9647 1411 or www.audiotelex.com.au



- » **Toyota Australia:** www.toyota.com.au
- » **IBM:** www.ibm.com.au
- » **Rutledge Engineering:** (03) 9488 1500 or www.rutledge.com.au
- » **Design Phase:** (03) 9857 0032 or www.designphaseaustralia.com.au
- » **Clever Living:** (03) 9787 6656 or www.cleverliving.com.au
- » **Chairs:** Stylecraft (02) 9331 8388 or www.stylecraft.com.au
- » **Blinds:** Interdrape (03) 9888 4644 or www.interdrape.com.au
- » **Table:** constructed by Edge Commercial Interiors (03) 9331 7047.



venue: The table looks stunning, but does it totally fulfil the task of facilitating good communication?

Bryan Adams (Clever Living): It does. Video conferencing was very important and every technical or design decision needed to fulfil the requirement of being compatible with good video conferencing – paint colours, wall finishes, reverb time, noise spill, lighting... everything. The format of the table means that it doesn't matter where you sit you can be seen by a camera, and it doesn't matter where you sit you can see the screen.

The whole room is a fantastic marriage of design and technology. Enzo and his company Designphase wanted to understand the technology so they could integrate it properly, which is a fairly rare thing. More often than not technical consultants are told where to put stuff, and as a result you don't end up with the high level of integration you see in this space. Often the design looks great and the AV looks rubbish, or the AV works really well but the place looks terrible. That didn't happen here, because we were able to work closely together, collaboratively, and the end result was well worth it. Functionally it's brilliant. <<