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03

# GRAND STAND

GMHBA Stadium, Kardinia Park, Geelong

Sport is the lifeblood of Australian life and culture. Its peak expression on the playing fields deserves comparable facilities to witness and experience brave, skilful deeds. What better way than through architecture and engineering to match on-field performance? The Sydney Olympics produced a fine ensemble of stadia and now the AFL's Geelong Football Club has drawn together the resources to bring its home-ground Kardinia Park into this millennium with the addition of a new, feature-packed stadium. Viridian glazing plays a key role ensuring the full experience is won, not lost, on visitors.





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# QUIET LIGHT

Royal Melbourne Institute of Technology, Melbourne

RMIT's new 'Academic Street' is a project full of surprises. It links two unlikely buildings and in the process invents key spaces in a tour de force of educational possibilities. Re-working a forgettable 1960s grey box and notable Building 8 burlesque, five design practices teamed up to create an astonishing revamp. An ambitious glazing program with a suite of Viridian performance glass suffuses the work with remarkable qualities of daylight. Viewed in all directions, the results bring light deep into this special precinct as urban forest.







Geelong Football Club's new grandstand is a best-on-ground design performance. It signals an entirely new fan experience, appearing light of weight and light-filled. Plenty aspire but few achieve the goal quite so successfully. Standout performances often belie seemingly modest numbers. While there are plenty of larger and more exotic stadia – Beijing Bird's Nest and Munich's Allianz Arena for instance – Geelong's GMHBA Stadium could appear underwhelming, but it stands all lean, diamond-cut clarity. It's a theme reflected throughout – from top to bottom, front to back.

The new \$91 million Brownlow Stand is quite unlike any other in the league. The fiercely proud and successful 'Cats' has been one of the stellar performers of the past decade, but was slipping behind in terms of ground facilities. Not to be caught napping, the club has been inventive and proactive behind the scenes of recent times. It has acquired one of the most interactive stadiums going and been visionary enough to support a design that feels as future-proof as possible.

Designed by global sports architecture and design specialists Populous, the firm's Brisbane office has guided a project responsive to place and need.

The stadium's vital statistics include a world first fan portal of around 45 sq.m and featuring Viridian custom laminate DecorFloor™ that overlooks the players' warm-up area, an additional 6,500 seats, 4,700 sq.m high performance GFC Training Centre, a 1,000 seat function centre, 100 seat café with views to GFC warm up area, 12 new hospitality suites, specialist community rehabilitation – Barwon Health Sunrise Centre, two-level Cats supporters' shop and new media facilities.





### PROJECT

The GMHBA Stadium, Kardinia Park, Geelong

# ARCHITECT & FIT-OUT

Populous

## PRINCIPAL GLAZING

Viridian PerformaTech™ PH08(60)Clr, DecorFloor™ & SuperClear™

## TEXT, IMAGES & FILM

Peter & Jenny Hyatt

"There are different levels, and glass is used widely with the balconies that connect with those key spaces for the pre-game drama and theatre as everyone arrives."

BRAYDEN GOODWIN, ARCHITECT







Rather than soaring blank walls, the architecture is much more gallery-like with break out spaces, high transparency and voids as light-catchers. The upshot of integrated facilities simply increases the ground's relevance beyond AFL to soccer, cricket and a vast array of community groups with access to unrivalled facilities.

The real light in which a stadium is held – and experienced – is determined by those qualities invested by clients, architects, engineers and the whole construction team. With an identity forged from intrinsic qualities rather than keen badging and branding, the new Brownlow Stand resonates with a job well done.

A parasol or origami-like roof seemingly as light and translucent as the wings of a paper aeroplane, floats above ground with seating for 40,000 and body of a highly legible structure.

Populous project architect Brayden Goodwin met with Vision's Peter Hyatt to discuss the evolution of a stadium with a highlights reel all of its own:

vision There's something theatrical about the big moment, the big event, the big entry and this stadium appears to build on that idea of how to build public expectation.

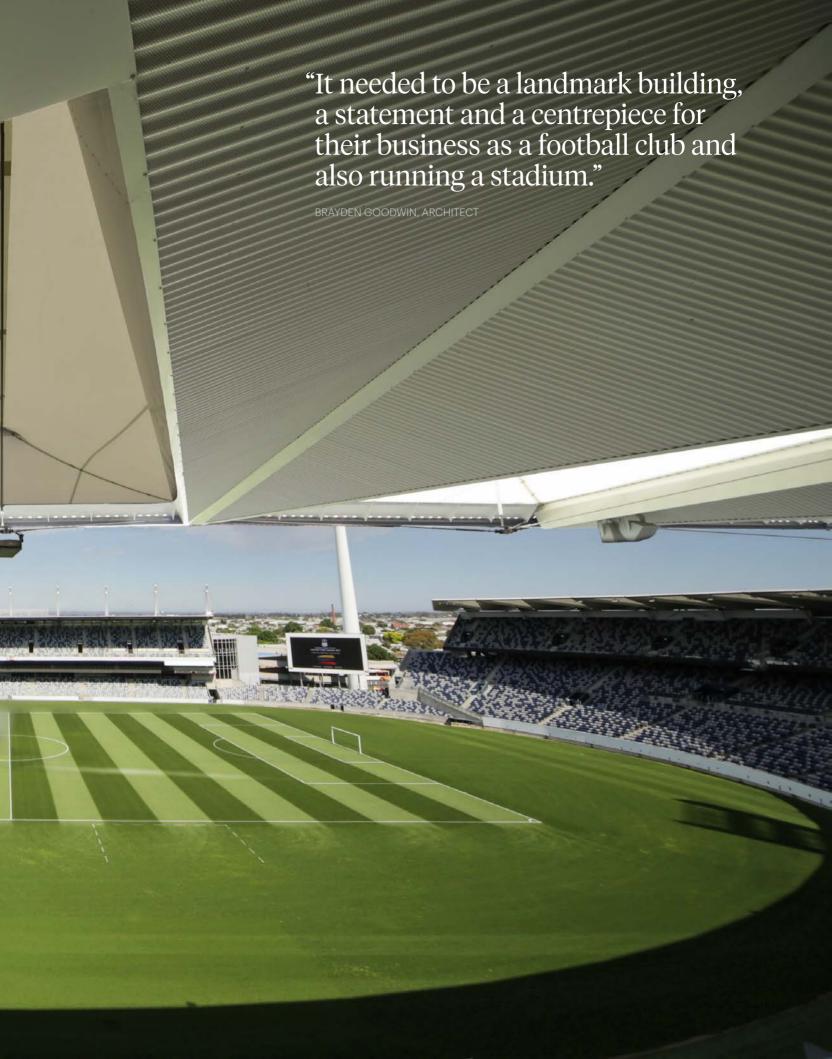
BRAYDEN GOODWIN The stadium angles to the actual park to create an intuitive entry point with a drama that occurs with the stadium's folding shapes. The other main items we've tried to connect are having multiple viewing platforms. Seeing people arrive, meeting friends means people are able to enjoy a different stadium experience. There are different levels, and glass is used widely with the balconies that connect with those key spaces for the pre-game drama and theatre as everyone arrives.

#### How would you sum up the task at the outset?

Creating a new experience for the Geelong Football Club and the broader Geelong community. It needed to be a landmark building, a statement and a centrepiece for their business as a football club and also running a stadium. The major ingredients were permeability between the parkland setting and pitch, community and fan engagement. Permeability was one of the real drivers. Connecting the park with the actual pitch was really, really important and you'll see that on level two particularly, in the social club bars, there's a connection to the Geelong Cricket Club Oval and also the adjacent park.

Spacious multi-level reception area leads to upper level retail and venue/reception areas which include generous decks to embrace adiacent parkland.





# Apart from funds, what did the client bring to this project?

We had a diverse client group of multiple stakeholders, with multiple needs. Working through all the different items to be achieved was really, really important – and complicated. We've got a 5,000 sq.m football department which sits underneath the stand with all the broadcasting facilities on the upper levels as well. How we incorporated the needs of the Kardinia Park Stadium Trust, the Geelong Football Club and Geelong Council as well as the State Government was integral to how this whole building works as one big core.

Globalisation and technology tends to deliver architecture and design off the same production line. Do you guard against, or embrace that?

What we've tried to achieve here is to embrace a generic approach for a portion of the building where that's required. What's really key in the buildings we design these days, is diversification. You need to have the diversification of offerings and that can be as simple as say, an outdoor area or a break-out space, which connects with the park, which provides some visual relief from the actual stadium itself.

#### And then there are those unique offerings...

We have the fan portal downstairs which is a glass floor of 45 sq.m. It overlooks the players' warm up space. Being able to provide different experiences allows our clients to commercialise and monetise their buildings. That makes them obviously successful. From an architectural perspective, it makes them really interesting as well because we can provide tweaks and twists and changes throughout the entire building.

**Top** A world-first fan portal through Viridian DecorFloor™ glazing gives fans a birds-eye view of players and coaches.

**Right** A 1,000 seat function centre enjoys a sweeping vista of the ground.



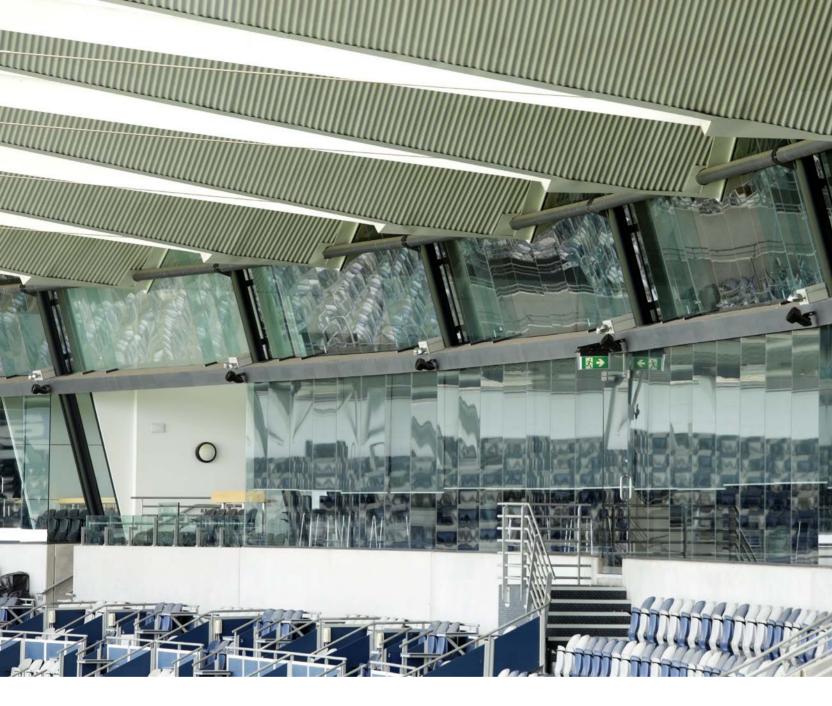






"Being able to provide different experiences allows our clients to commercialise and monetise their buildings... from an architectural perspective, it makes them really interesting as well..."

BRAYDEN GOODWIN, ARCHITECT



"We constantly try to understand why people come to stadia and try to create these unique experiences which can be regionally specific. So there's a lot of community engagement with the Geelong area which we've tried to bring into this building."



Media, corporate and coaching boxes all benefit from high transparency glass.

# When you're on a roll with stadia work around the world, how do you avoid slipping into a certain design comfort zone and produce simply more of what works?

I think innovation is why people come to us. We try to create new experiences with everything we do. I wouldn't say it's a case of one-upmanship but we certainly spread our knowledge really well globally. We buy into a lot of the ideas that have been created in the UK and the US. For instance the fan portal was actually an idea that came from the States overlooking car racing tracks. We knowledge shared with our people over there and realised that what maybe wasn't right for that particular application had another application where that could work really well. We constantly try to understand why people come to stadia and try to create these unique experiences which can be regionally specific. So there's a lot of community engagement with the Geelong area which we've tried to bring into this building. You'll notice that with the café downstairs we can engage with the community and make club members and those in surrounding areas really engage with the actual building. Not just eight times a year when there's a football match or a cricket match on, but the 365 days of the year so we can get commercial optimisation of the building,







Is there a highlight, or signature parts of the project that not only speak about the client but about your practice? The main one was trying to create something that was completely different, uniquely Geelong. I think the Geelong community in general prides themselves on being uniquely Geelong. We basically took that brief to try and create something different. It was not your normal stadium. We've got function rooms, cafés and retail merchandise that come together to form a really cohesive, interesting experience.

A couple of generations ago this sort of ambitious glass usage would have been problematic – hot in summer, cold winter, but glass technology has really revolutionised how closeted space can be liberated.

A glass façade such as this is becoming more common in stadiums. You're right, the technology in glass now allows us to do that. We did a whole series of engineering models to study the ESD and make sure we could get high performing glass that would allow good permeability and excellent viewing. Also from the playing pitch side, we wanted the glass as clear as possible. That ability to use performance glass and the technology that's been developed for these types of facilities has been fantastic and a great outcome.

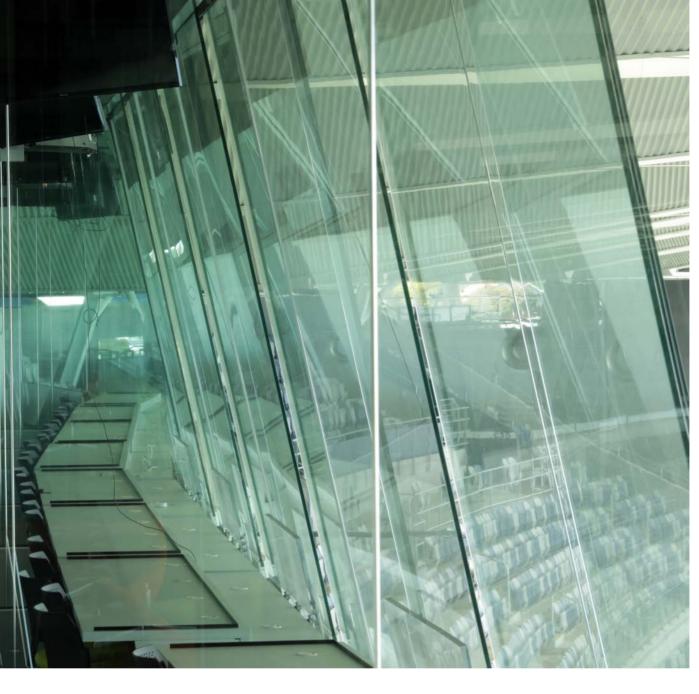
# In the process of gaining the new you presumably risk losing something with the demise of the old?

We had to make some very fundamental decisions early on in terms of back of house areas. Where were all the loading areas going in order to not block this great view? That view from the old stand looking out towards the beautiful heritage cottage area, fantastic St. Mary's, the park and the hills in the background. We don't want to lose this. We don't want to be putting all of our back of house area to this back section here. We want to be able to really celebrate that. But it did come as a bit of a trade off. We had to push all of our amenities and services down one end. Working with the design team on site and with the client group as well we've managed to overcome a lot of those issues through design.



"We literally want to make you feel when you're stand inside the social club, or standing inside the Membe bar, that it's seamless."

BRAYDEN GOODWIN, ARCHITECT









View west from the upper level reception area towards adjacent parkland.



# Any glazing tricks or techniques you've used? Lessons learned along the way?

Lessons learnt from this project in terms of glass is to get your engineering models done early because they really do inform what happens with the rest of the building. Understanding what products are available, what visibility you're trying to achieve. And in this particular situation one of our key drivers was trying to ensure the glass for the inner bowl is as clear as possible. We don't want to have any sort of obstruction from the actual inside space. We literally want to make you feel when you're standing inside the social club, or standing inside the Members' bar, that it's seamless. You're just viewing straight out onto the pitch.

Were there many complexities, or specific challenges? We've talked about some of the advantages of the glass but obviously it's not just about clarity, you still need glass to be insulating acoustically and thermally in many instances. Why not just use plasterboard?

You can build essentially whatever you want but it will cost exponentially. We needed to work within the limitations of the product in this case, the way we structured the mullions and worked with the floor plates. We worked on that quite early on in the process to be able to get as much free-span glass as possible to meet the project's budget.

"[It's] not your normal stadium. We've got function rooms, cafés and retail merchandise that come together to form a really cohesive, interesting, experience."

BRAYDEN GOODWIN ARCHITECT

#### What technical help did Viridian provide?

We worked closely with Viridian's engineers in Melbourne to understand what really was the best way to conceive the glass and the best products they had available to meet the needs from a visual/light perspective. How much transmittance of light were we going to get but also to be able to see through the glass. We had reasonably large samples we could take to our client and show them. It's tangible.

### Any other key design drivers?

One of the key ones early on was a 5,000 sq.m department for the Geelong Cats downstairs underneath the stadium, not a lot of light can actually reach the office spaces directly underneath the actual tier itself. We located all of their common facilities – breakout facilities, the places where football staff can come and congregate – with a glass floor that has visual connection above. That's great from a working and environmental perspective. That's combined with planting and other internal items we've placed within the actual floor plate itself. On match day it also gives connectivity for the patrons because they look directly down and into the space.

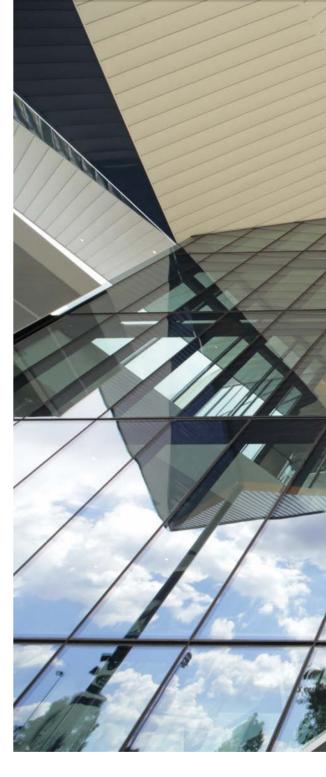
Any benefits in sourcing a local product such as Viridian's? It gives architects a lot more confidence in what we're going to see on site. It also allows quicker turn-around from a construction perspective. It also informs our clients so they know straight up what they're getting. As well as working with the fabricators a local product certainly does help.

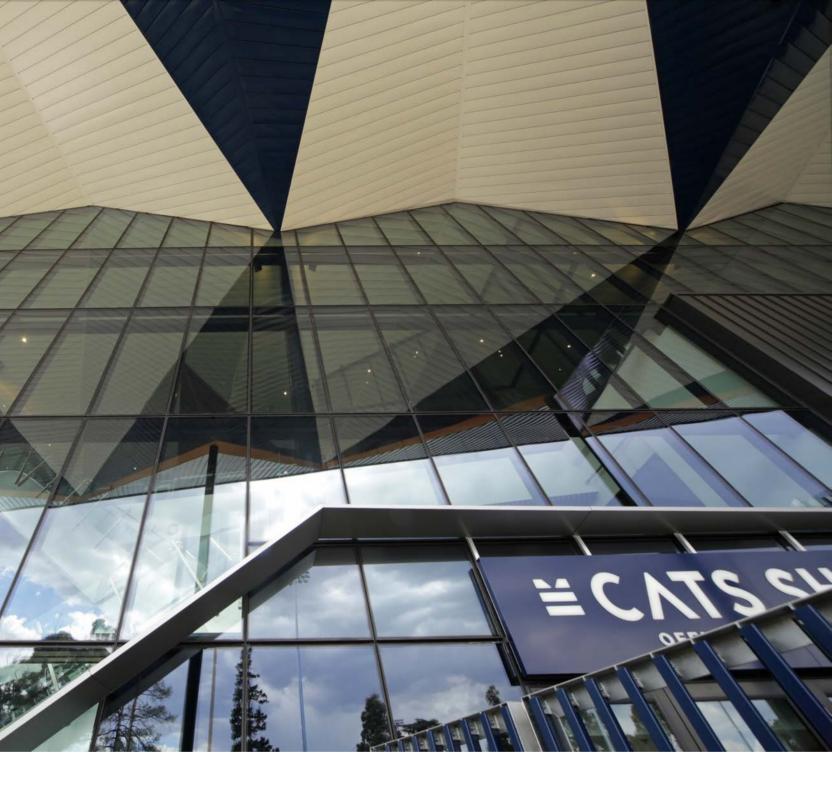
#### Any memorable moments?

It was pretty monumental once we got the majority of the glass and eventually started lifting. It had been in fabrication for many months and we had gone through the original design and shop drawing phase. It is quite a monumental occasion when you see it come together exactly like the renders and how we conceived it.

#### Are you a Cats convert now?

I have become a Cats convert. They certainly weren't my first team leading into it but they certainly are now.





#### PROJECT

The GMHBA Stadium, Kardinia Park, Geelong

## CLIENT

Geelong Football Club, Geelong City Council, Kardinia Park Stadium Trust, State Government of Victoria

# ARCHITECT & FIT-OUT

Populous

#### CONTRACTOR

Kane Constructions

### ENGINEER

Aurecon

### WINDOW INSTALLER / GLAZIER

Menzel Glass & West Coast

# GLASS SUPPLIER & SPECIALIST SUPPORT Viridian

### VIRIDIAN PRINCIPAL GLAZING

Viridian PerformaTech™ PH08(60)Clr, DecorFloor™ & SuperClear™

#### BUDGET

\$91m







**Above** The retained facade of Building 8 on Swanston Street.

**Right** One of a sequence of rooftop terraces and garden spaces for students.





The Royal Melbourne Institute of Technology's newest academic precinct is a crystal cave of voids, pooled daylight and study/meeting spaces. Officially it's 'Academic Street' and quite some arterial that courses as lofty, multi-tiered arcade parallel to Swanston Street.

Spanning some 32,000 sq.m. with seating for 4,600 students, the move towards civic and student better engagement appears a winner. The new building works see most of the \$220 million budget aimed fairly and squarely on interiors and the 'back-of-house' precinct.

Director of Lyons Architects, Carey Lyon, had the role of overseeing five architecture practices each with responsibility for specific areas. Delivered in three phases over five years, work includes a new student hall for Building 8, new study spaces in Building 10, extensive balconies, retail spaces, student hall, media precinct, rooftop and Bowen Street landscaping. The third and final stage has resulted in a new library for Building 8, retail, garden building and Swanston Street entry canopy.

If the old grey '60s office blocks at the top end of Swanston Street left many occupants and passers-by cold, this latest overhaul surely makes amends. And as if to say 'we speak your language', the design culture is of quality materials, uplifting volumes and congregation spaces.

#### PROJECT

Royal Melbourne Institute of Technology

#### **ARCHITECTS**

Lyons in conjunction with MvS Architects, NMBW Architecture Studio, Harrison and White, Maddison Architects and landscape architects Taylor Cullity Leathlean

### PRINCIPAL GLAZING

Viridian PerformaTech™, Double glazed unit using Viridian SolTech™ and EnergyTech™ Clear Laminated with ScalaSeraphic™

#### TEXT, IMAGES & FILM

Peter & Jenny Hyatt





Five practices in search of one cohesive whole might appear problematic, but the results defy the resulting fragmentation of too many voices. With many of the designers either former RMIT students or current academic staff, it appears as if the design studios wanted to honour the institution and Peter Corrigan's totemic Building 8. Under the broad direction of Lyons, the architectural team comprised MvS Architects, NMBW Architecture Studio, Harrison and White, Maddison Architects and landscape architects Taylor Cullity Leathlean.

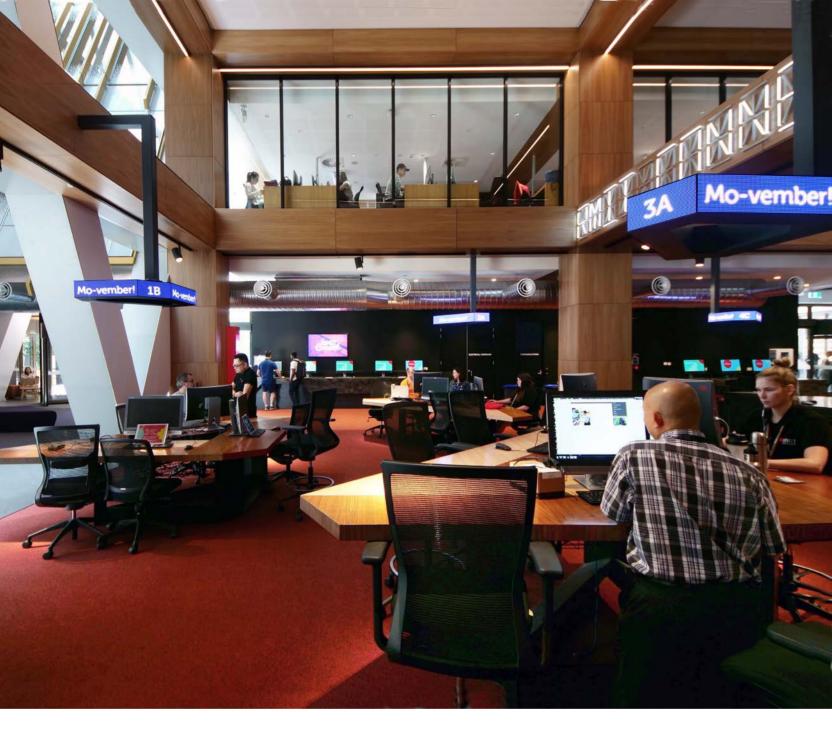
The teams' creative thrust primarily occurs behind and beyond the existing blocks, rising to a crescendo of rooftop gardens and recreational areas. Facilitating the creative endeavours by five practices, Viridian ScalaSeraphic™ glass provides delicate veils across numerous atria while areas illuminated via PerformaTech™ are distinguished by clarity and light transmission.

The construction program stretches most of a city block and converts internal congestion and gloom into spatial vibrancy. Voids, staircases and escalators all drive circulation where indoor/outdoor spaces reflect a response to the rooftop gardens, funky cubicles and footbridges – the kind of 'sticky' spaces that keep students connected to each other and their studies.

Previous page View from above Bowen Street – parallel to Swanston Street – towards the key elements of the project as a merger of old and new. The new mood towards permeability and socially sustainable spaces is most evident.

**Right** Student engagement and privacy are enhanced through voids and flexible interiors offering communal and private spaces.





"If the old grey '60s office blocks at the top end of Swanston Street left many occupants and passers-by cold, this latest overhaul surely makes amends. And as if to say 'we speak your language', the design culture is of quality materials, uplifting volumes and congregation spaces."



"Cathedral-like volumes invite shafts of daylight into the lowest levels. Filtering all of this is Viridian's high performance double-glazed PerformaTech™ with bespoke frit pattern which seriously helps mediate full midday sun."

VISION

Study spaces can be as broad or private as students decide. These bay-window type projections symbolise the consistent detailing throughout of glass and steel as opposed to the old masonry aesthetic.



Cathedral-like volumes invite shafts of daylight into the lowest levels. Filtering all of this is Viridian's high performance double-glazed PerformaTech™ with bespoke frit pattern which seriously helps mediate full midday sun. Performance clear glass is also used in all areas requiring high visual transparency and largely replaces standard issue plasterboard walls.

Study perches throughout recognise a real spatial flexibility. Treetop balconies along Swanston Street and a similar experience overlooking Bowen Street highlight the overall feel of floating space.

Viridian performance glazing is used extensively in this model of high transparency and effortless student circulation. Whether as delta shaped canopy, light catching rooftop lanterns, atria or canopies, the frit pattern of Viridian's ScalaSeraphic™ glass mediates direct sunlight like a parasol or veil.





Footbridges, roof gardens and study-nooks-as-perches all heighten the experience of discovery and diversity. The mood throughout of subtraction and light builds the tree-house experience, branching into the campus and city itself.

Former students recalling racked fluorescent lighting and hard-edged functionality will delight in the new.

When originally approached by the university about the project, Lyons Architecture recommended that the design solution would be enhanced with the input of additional design practices – all RMIT alumni as it happens. Lyons generosity and vision has paid dividends.

Practice principal and project leader Carey Lyon spoke with Peter Hyatt about a design transformation from darkness to light:

VISION It's a big project with a whole lot of work to do.

CAREY LYON The university conducted student surveys about the space and for years it rated very poorly. It's pretty unusual for a university to invest a significant amount of money on non-academic space, but they have basically rebuilt the centre of their campus with student retail, library and informal study space so it's all very focused on giving back a great space to students.

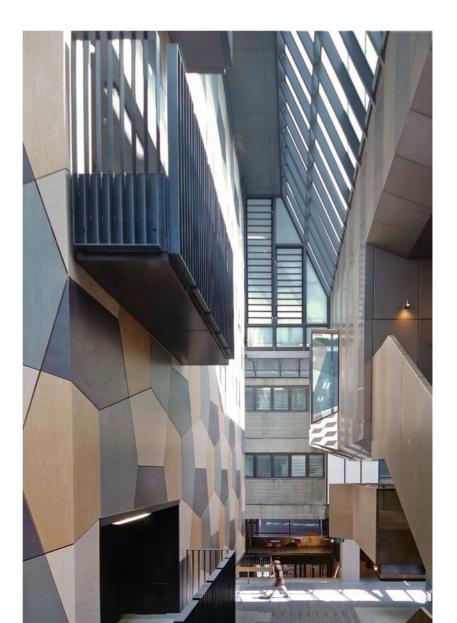
# You were responsible for the work of five practices, not necessarily an easy task.

When the university approached us to bid for the project we proposed we would be principals but collaborate with five other emerging design practices. We said: "Your campus is unique for us because it's in the city and all the spaces and buildings have this incredible sense of diversity, so why don't we build that into the structure of the design team." We actually put that to them, they thought it was a good idea, so they appointed us. We've worked for now five, nearly six years with the other practices to deliver the project. We all agreed to develop a concept masterplan with this structure and arcades that really meshed the campus centre directly into the city. Each practice was given a piece of the project, literally as if you were designing a building on a city street. It was a shared vision, but also with this idea of different textual voices. When students move through the project they can pick and choose because of the diversity inherent from the different practices. Each one brought a different sensibility. Everyone found their role within the project team to work to their design strengths, so it worked out really well.





Melbourne's 19th century arcades provided a reference for a contemporary academic streetscape.







"Glass not only allowed us to get natural light in, it speaks to some really particular traditions of Melbourne."

CAREY LYON, ARCHITECT

The towering roof vaults, atria and footbridges elicit a certain sense of wonder drawing the eye skyward.

With the project across multiple levels, one of the ideas was to visually interconnect the campus. There's a sense of discovery. From the main arrival point students can see what's happening in the library three levels up. It's implicit in the design that you're inviting students to go up to those spaces and find the perfect study space.

The glass-as-arcade effect appears pretty central in overcoming the previous spatial congestion and institutional qualities.

Glass not only allowed us to get natural light in, it speaks to some really particular traditions of Melbourne. These glass arcades are like entry arcades that are from the typology of Melbourne. They're also very focused on contemporary designs. You get this really nice glass thing, part of Melbourne's history, but that also speaks to the future of the campus through contemporary design. We like that idea.





# And it orientates students and staff to the time of day and variation in lighting conditions.

We often say to people we're showing through the project: 'You almost need to carry around the 'before and after' experience here because it was so dark, and so internalised.' Now when you walk through, the sense of natural light literally coming down into the centre of the campus is so powerful. That's the major transformation. Natural light through glass improves people's sense of well-being and we feel like we've created a much happier, vibrant, stimulating place for students and staff.

# 'Optimism' is a difficult quality to describe, but the overall impression is that the campus feels 'optimistic'.

I think 'optimistic' is the right word to describe the precinct because it is really an investment by the university into their long-term future. Students these days expect good quality facilities. The transformation has given RMIT students the most incredible choice in terms of where they want to meet with their peers and friends and where they want to study. There is that sense of the redevelopment that really points to the university's future direction.









"Whether as delta shaped canopy, light catching rooftop lanterns, atria or canopies, the frit pattern of Viridian's ScalaSeraphic™ glass mediates direct sunlight like a parasol or veil."

VISION





And the campus kept operating 'normally' all this time? It was an incredibly complicated project. I've been in practice a long time, but I would give it a nine and a half out of 10 in terms of complexity. We were rebuilding the campus within a live campus.

# Is there an area within the campus that sums up the project for you?

I think if there's a place it's the balconies above Swanston Street. Because RMIT is such a unique city campus the idea that students can now get almost outside of the campus, looking down to the street, seeing trams going by, feeling like they're literally in the city is a really exciting part of the project. This really speaks to the idea of the city campus experience.

# To return to your place of study and have re-imagined your old university must be pretty satisfying.

As an alumni it is satisfying. We still get a buzz even though the project has been operating now for three or four months. When you walk through at the end of semester and every seat is occupied by students, it does fill you with a sense of satisfaction that you did get the strategy right. The students are using the spaces, they are sticking on the campus, they are 'hanging around'. They are voting with their feet in terms of the success of the project. That really excites us as architects. The university is doing their own feedback loop and it's been incredibly positive with students, off-the-charts positive. I think the university is definitely feeling like the investment they made is really paying off.

"Natural light through glass improves people's sense of well-being and we feel like we've created a much happier, vibrant, stimulating place for students and staff."

CAREY LYON, ARCHITECT





A canopy of Viridian PerformaTech™ provides shelter between Bowen Street and the larger campus.

### PROJECT

Royal Melbourne Institute of Technology

# CLIENT

RMIT

#### ARCHITECTS

Lyons in conjunction with MvS Architects, NMBW Architecture Studio, Harrison and White, Maddison Architects and landscape architects Taylor Cullity Leathlean

# **STRUCTURAL & CIVIL ENGINEER** Arup

BUILDING SERVICES ENGINEER AECOM

#### BUILDER

Lend Lease

### FACADE ENGINEER

Arup

# WINDOW INSTALLER / GLAZIER

808 Design Glass

### GLASS SUPPLIER

Viridian

#### PRINCIPAL GLAZING

Viridian PerformaTech™,
Double glazed unit using
Viridian SolTech™ and
EnergyTech™ Clear Laminated
with ScalaSeraphic™

### PROJECT CONSTRUCTION

5-6 years

# TOTAL PROJECT COST

\$240m

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