

Great ideas start here



Sharing your vision.

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Cover image: The Remarkables Base Building.
For more information go to www.altuswindows/showcase



Making your vision a reality

Welcome to the Altus Windows showcase of contemporary projects. Here you'll see the latest in leading edge and award winning projects where Altus Windows and Altus Windows Systems Suppliers have played a major part in achieving the architect's and owner's vision.

The diverse range of projects highlighted demonstrate how windows are intrinsically linked to the function and aesthetics of a building.

At Altus Windows, we understand the challenges you face as part of the design process. That's why we provide a wide range of technical support.

We can help you to scope projects, supply technical information, assist with the consulting process, liaise with fabricators and put you in touch with our technical team for shop drawings and similar requirements.

Our nationwide network of Altus Windows Systems Suppliers have been providing standard and bespoke windows and doors for over 65 years. You'll recognise them by reputation.



Cascata, Queenstown

Connecting with the landscape



Project

Cascata

Location

Queenstown

Architect/Designer

Gary Todd Architecture

Builder

B.J. Hill Builders

Altus Windows Systems Supplier

Vistalite® Otago

Altus Windows Solution

The Altus Pacific Thermal suite with stitched polyamide thermal barrier was used for maximum views and unparalleled indoor environment comfort. A combination of double and triple glazing with added low-e coating and argon gas enhanced the thermal performance, while effective window configuration and placement provided passive ventilation for improved indoor air quality.



The home needed to have an intimate connection to its surrounding environment.

In Italian, Cascata means “falling water”. It’s an apt name for this cleverly designed multilevel home. The overall impression is one of a waterfall cascading down a hillside. This effect is enhanced by an actual waterfall feature at the back door.

Fusing the home to the natural landscape around it was something that architect Gary Todd had in mind from the outset.

He wanted to use a biophilic approach, where the house has an intimate connection to its surrounding environment.

Another important consideration was to maximise views from every area in the house - hardly surprising when your vista includes Lake

Wakatipu and the Remarkables.

The house is south facing to capture the views and north facing to capture the sun. Gary’s solution was ingenious in its simplicity - design a home that’s 70% glass.

Floor to ceiling windows and doors that were so large they needed a crane to put them into their frames, provide commanding views of the lake and mountains. Two custom Altus Pacific Thermal over wall multi-stackers are on both sides of the kitchen and dining areas, so someone standing at the back of the house can see right through to the views at the front.

These same stackers, with Eurostacker® sills for superior weather performance, create two generous six-metre openings for uninterrupted indoor-outdoor flow to the spacious entertaining areas.

Of course, in a region where temperatures fluctuate from -10 to 35 degrees, creating a house with such a large glass footprint had its challenges.

High performance glazing was essential to maintain a comfortable living environment all year ‘round.

Gary Todd, B.J. Hill Builders and the team at Vistalite® Otago worked closely to come up with the solution that delivered both on lifestyle and thermal performance.

“The sheer size of the windows and doors meant we needed the best performing aluminium system available,” Michael Brensell, Manager of Vistalite® Otago says.

After carefully weighing up the options, it was agreed that the Pacific Thermal suite from Altus Windows was the best solution.

A number of elements came together to create maximum thermal efficiency: 140mm framed walls with R4.0 batts, 60mm thermally broken windows with an R_{co}g 1.82 using 48mm IGU. All of the joinery incorporated airtight seals for peak performance.

“Solar energy is used to heat the house,” Michael Brensell explains. “The increased R_{Window} value reduces the heat loss when the sun goes down, to maintain a warm, comfortable environment.”

The inside surface temperature of the triple glazing is a lot warmer too. “This means indoor heat isn’t drawn to the cold glass and then lost through the glazing,” says Michael Brensell.

An “Intello” airtight system, together with recycling air conditioning units that are concealed from view in the sub floor spaces, controls moisture and maintains a healthy filtered airflow throughout the home.

Glazing was an integral part of Gary Todd’s biophilic design for Cascata.

Vistalite® Otago came up trumps in helping to achieve Gary’s vision, with windows and doors that delivered both in terms of lifestyle and thermal performance. Their work on the project won them the Window and Glass Association of NZ award for a contract over \$175,000, as well as the 2018 TIDA New Zealand Architect-designed New Home Award.



Pacific Thermal's polyamide break cross section with triple glazing



Stunning views in the lap of luxury



Project

The Dacha Luxury Lodge

Location

Wanaka

Architect/Designer

Eliska Lewis Architects

Main Contractor

Plimmer Building Contractors Ltd

Altus Windows Systems Supplier

Nulook® Wanaka

Altus Windows Solution

The thermally broken Altus AllSeasons™ suite with pour and de-bridge polyurethane thermal barrier for large sliding and stacking doors were used to capture panoramic views and maintain a comfortable indoor environment.

The goal was to allow views of the lake from every room in the Lodge.

Successful projects are often the result of good teamwork. The Dacha luxury lodge overlooking Lake Wanaka is no exception, with collaboration between owner, architect, builder and joiner creating luxury accommodation that captures some of the best views in the world.

A key objective of the project was to maximise the view of the lake.

Clever design by Eliska Lewis Architects has certainly achieved that – and more. Guests can enjoy views from every room – not only directly but through corners and adjoining rooms as well, to create a true panoramic effect.

Glimpses of the lake can even be had from the slotted windows at the entrance porch under the two car drive through porte cochère.

Of course, when the brief is all about the views, the solution is logically going to include lots of large window and door configurations.

Not just any windows and doors would do.

“We discussed the design with the architect and recommended the Altus AllSeasons™ suite,” Laurie Hay from Nulook® Wanaka says. “This

allowed us to create the larger than usual configurations that the design required. The suite can also cope with Extra High wind zones.”

Thermal efficiency was another key influencer in the decision-making process.

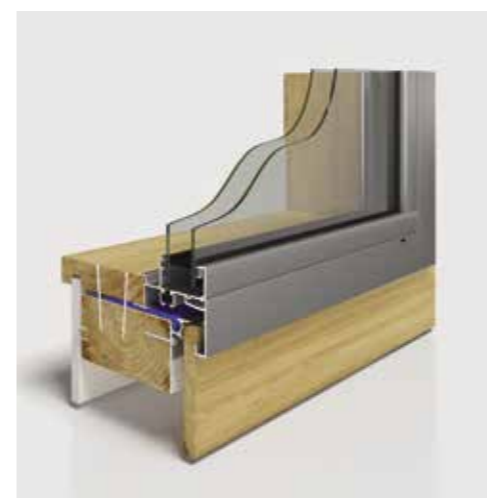
In addition to the Low E double-glazed high performance glass, the suite also features a thermal break in the joinery for even better insulation.

Large sliding doors are used along the front of the building. The outside slider design means the larger panels can move freely on the track for effortless opening and closing. “It also provides a cleaner surface appearance,” Laurie explains.

Clerestory windows above the sliding doors in the lounge add to the sense of visual drama and can be operated electronically.

A mix of sliding, bifold and hinged doors are used throughout the rest of the Lodge for views and indoor/outdoor flow.

The Dacha Luxury Lodge was a winner at the 2017 NZIA Southern Architecture Awards, with the judges commenting on how the windows and joinery help the house take full advantage of the breathtaking views.



AllSeasons™ Thermal break cross section



Award winning comfort and style

Project

2018 House of the Year

Location

Christchurch

Architect/Designer

O'Neil Architecture

Builder

Metzger Builders Ltd (MBL)

Altus Windows Systems Supplier

Rylock® Canterbury

Altus Windows Solution

The Altus Pacific Thermal suite with stitched polyamide thermal barrier provides stunning views through large format windows without sacrificing thermal comfort. The Altus High Performance Atlantic Suite® with bespoke pivot doors creates a unique aesthetic.

Altus Pacific Thermal
Fixed Window

Altus Pacific Thermal Slider

Altus Pacific Thermal Stacker

“We were confident we could create a home that provided stunning views without sacrificing thermal comfort, even in harsh winters.”

- O'Neil Architecture.

This ultra-smart 6 bedroom home was the National Supreme Award Winner 2018 at the Master Builders House of the Year awards. But that, as they say, is just the tip of the iceberg.

It also won the Gold Award for New Homes Over \$2 Million, the National Lifestyle Award (Bathroom), the Regional Lifestyle Award (Bathroom again), and the 2018 TIDA New Zealand New Home award.

The sharp lines and modern glazed volumes reflect the client's brief to create a home that is both minimalistic and practical.

Windows play a major role in the design, allowing huge amounts of natural light into the multi-level spaces as well as providing relaxing views of the surrounding tree scape.

The property boasts 52 windows and doors, including 15 Eurostacker® doors that make the most of indoor/outdoor flow, and two glass pivot

doors that measure an impressive 2.9 metres high.

In fact, big is a common theme that runs throughout the joinery. Many of the windows are 2.7 metres tall, with some nudging the three metre mark.

The team at Rylock® Canterbury recommended using the thermally broken Altus Pacific Thermal suite for the majority of the windows and doors, with the Altantic Suite® being used for the two large pivot doors. The glass selection was Low-E with thermal warm edge spacer.

“The Pacific suite is perfect for a region like ours where harsh winters can sometimes discourage designers from using large amounts of glass,” says Ricky Facoor of Rylock® Canterbury.

“The Pacific Thermal suite adds up to 50% more thermal efficiency than standard double glazing so we were confident about designing a home with stunning views that didn't sacrifice thermal comfort.”

The use of smart technology is another aspect that sets this home apart. Many of the features

in the property can be connected to the occupants' smartphones – even some of the windows.

“We've added electric openers to a number of the higher sash windows so they can still be operated even though they're out of physical reach,” Ricky explains.

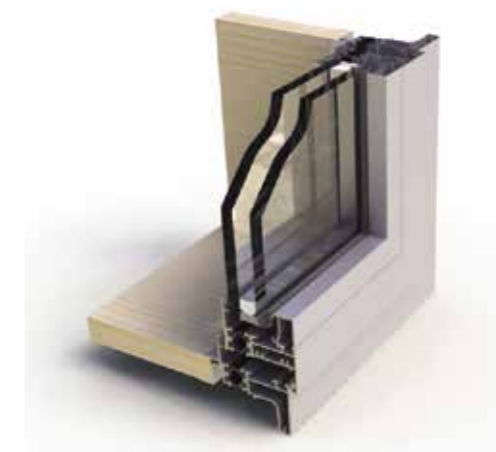
Teamwork between all of the parties involved ensured everything went smoothly. O'Neil Architecture's drawings were well detailed and the set-out from Metzger Builders Ltd was meticulous.

“The builders have used Altus Windows products in the past, so they knew what we needed for our installation,” Ricky says.

Because there is no timber frame around the windows – the walls and ceiling run directly into the glass – everything had to be measured perfectly in order to fit.

Thanks to the forethought of O'Neil Architecture and Metzger Builders Ltd, the Rylock® Canterbury team had the ideal platform to do what they needed to do.

With six bedrooms and ensuites, open-plan living, a spa pool on the balcony, extensive decks and patios and numerous smart home features that have all been designed to make life easier, it's no wonder that this Christchurch home received a string of accolades.



Pacific Thermal's polyamide break cross section with double glazing

A sense of space in the big city

Project

Traditional Villa to Modern Living

Location

Auckland

Architect/Designer

Matter Architects

Altus Windows Systems Supplier

Nulook® Kumeu

Altus Windows Solution

The Altus 41 Architectural suite brings modern styling to a classic structure, with corner stacking doors to create dramatic indoor/outdoor flow.



When Jon Smith of Matter Architects decided to breath new life into his Ponsonby Villa, the life he envisaged was one of modern day comforts, open plan living and great indoor-outdoor social spaces.

From the street, the home retains the classic lines and style of a centenarian heritage villa - albeit one that has been lovingly restored.

It's at the back of the house where Jon's vision has been most vividly expressed. Here, multiple levels come together in an open plan layout that provides intimate, yet free and easily accessible spaces.

Space is indeed the operative word, as Dean Cade from Nulook® Kumeu explains.

"When you come downstairs from the dining room to the living area at the back of the house, you're immediately hit with the openness of the space."

Large pillarless stacking sliding doors open up and seemingly disappear to showcase the manicured back yard.

This sense of unhindered indoor-outdoor flow is further enhanced by Altus' LevelStep™ sill that sits flush with the floor.

To achieve the effect Jon wanted, the team from Nulook® Kumeu opted to use individually sliding doors from the Altus 41 Architectural suite.

"This gave us the structural strength to cope with the size of the frames," Dean Cade says.

Close collaboration between Jon and Nulook® Kumeu was an integral part of the build.

"We worked closely with Jon right from the start, advising on the products that best suited his intent and design," Dean Cade says.

Creating a sense of light and space, while maintaining privacy in an urban environment, is a common theme throughout the house.

An example of this can be found in the lounge, where a fixed window in the ceiling allows for extra light to accentuate the rustic brick wall feature. More natural light bounces off the water in the outdoor pool and comes through the glass of the living room's windows and doors.

Other rooms in the house feature louvres or remote controlled ceiling windows that can be opened to provide extra ventilation on hot summer days.

The overall effect is nothing short of startling and won Jon the 2018 Indoor Outdoor Flow category at the New Zealand House and Garden – Interior of the Year Awards.



41 Architectural cross section



LevelStep™ sill



Altus 41 Architectural Louvre Windows

Altus 41 Architectural Corner Stacker

LevelStep™ sill

The home features modern comforts, open plan living and great indoor-outdoor social spaces.

Bringing comfort and convenience to high-density living



Project

The Rose Garden Apartments

Location

Auckland

Architect/Designer

Context Architects Ltd

Altus Windows Systems Supplier

Vistalite® North Harbour

Altus Windows Solution

A seamless mix of Altus High Performance Atlantic Suite® doors and Altus Pacific Architectural suite windows in apartments; integrated with Altus Shopfront 106 and commercial doors for retail frontage.

It's a prime example of how early consultation with the right people can turn potential future risk into a present-day solution.

The Rose Garden Apartments, situated in Auckland's fast-growing Albany area, was the biggest apartment complex in the country when first announced in 2015. As construction continues, the Rose Garden has become a flagship of Auckland's Unitary Plan.

It is a prime example of comfortable high-density living, where all of life's necessities are within a stone's throw of residents' front doors.

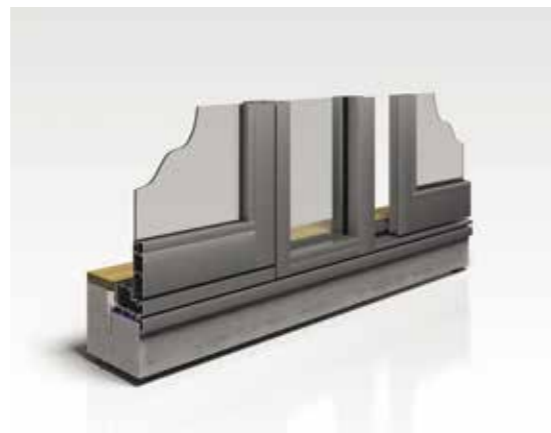
This was - and still is - a big project. The Rose Garden comprises 800 apartments and is being built on a two-hectare site adjacent to Westfield Albany and QBE Stadium. The first stage alone contains 200 units, with an underground carpark beneath - to cut down on land use (that can instead be replaced with greenery).

There are also ground floor retail spaces, constructed as a part of phase one.

While this might seem like a big task for everyone involved, the prospect of glazing this building was particularly formidable. Providing each resident with a stunning view of the local lake, green spaces and bush areas was a key feature of the design, making high-quality windows and doors paramount to the Rose Garden's success. However, due to the nature of local conditions - exposed geographical location and the building's placement - wind load calculations were to be challenging.

Vistalite® North Harbour was brought in early on in the process, which ensured quality right from the Rose Garden's early days. Context Architects and Vistalite® worked together closely on the challenges presented by such a large-scale build, and agreed on alternative solutions that balanced vision with practicality.

For starters, three separate Altus Windows systems were utilised throughout the design.



Shopfront 106 with commercial sliding and hinged doors cross section

The Altus High Performance Atlantic Suite® is suited especially for designer architecture, where neither views nor window strength can be compromised. It features across the apartments' sliding doors.

Altus Pacific Architectural was used for the windows. It has a square, flat-faced frame that matches the Atlantic frames with a range of transom and mullion options to cope with higher wind loads.

The Rose Garden's retail frontages utilise the Altus 106 Shopfront suite. It exceeds NZ compliance requirements and its doors can be made fully watertight.

As mentioned, the wind requirements of this project were a particular challenge. To counteract these concerns, Vistalite® recommended that high windows use steel posts for added strength.

This project is a clear example of how early consultation with the right people can turn a potential future risk into a present-day solution. By consulting right from the word go, Vistalite® and Context Architects could pinpoint challenging areas and plan for them in advance.



Pushing the boundaries

Project

The Euroclass Building

Location

Auckland

Designer/Builder

Euroclass Design and Build

Altus Windows Systems Supplier

Framerite

Altus Windows Solution

Altus Flushglaze curtain wall with its 'Outrigger' effect, creates a faceted façade with the appearance of a curved wall to combine stunning aesthetic with high performance thermal, wind and acoustic specifications.

**Thinking outside
the square
overcame
numerous design
challenges.**

There's no doubt that the sweeping curved façade of the Euroclass building is nothing short of impressive. It's even more so when you consider the team from Framelite who helped make it happen were initially working from drawings that were little more than concepts.

On a typical build, the floor slab set-out is provided by the architect or designer. The fabricator then comes in with a curtain wall to suit.

Not so here.

"The project was in a state of limbo when we came on board," Wayne Eivers from Framelite explains. "No drawings of the slab set-out were available. It was all pretty much still at concept stage."

Framelite took the initiative, and with the client's consent evolved those concepts into detailed plans for the curved curtain wall and the slab offset for the construction company to pour to.

A lot of those plans involved throwing conventional thinking out the window.

The first challenge was to figure out how the curtain wall panels could be put in place in a building where curves, rather than straight lines, were the order of the day.

"Curtain wall panels with stack joints are usually installed horizontally and floor by floor, with the flashing channel in the stack joint slid into place," says Wayne Eivers. "In this case we couldn't slide in the stack jointing panels because of the curved walls."



Flushglaze curtain wall cross section

The team's solution was to work from the bottom up.

"All the floor slabs were put in first. That meant we could easily slip the channel flashings into place and seal it before inserting the next panel."

The 'Outrigger Sail' effect, where the wall angles out past the building, represented the next major challenge for the Framelite team to overcome.

"It may have the appearance of a light weight floating sail, but it's anything but," Wayne Eivers says.

The initial plan relied on aluminium frames for the outrigger's structural integrity. The technical team at Framelite quickly saw that wasn't going to work. They proposed instead the use of steel outrigger beams. These were discretely incorporated to protrude past the floors for the aluminum frames to be attached to.

With the curved curtain wall's structural performance and aesthetics sorted, the final step was to ensure the interior remained comfortable all year 'round. No mean feat when you're dealing with floor to ceiling windows.

"We used double glazing and Highbrook Louvres to achieve maximum acoustic and thermal efficiency," Wayne Eivers says.

The finished result was recognised with the 2017 Wanz Eco Award. The building itself is a great testament to Framelite's willingness to go "above and beyond" to make the project a reality.



Thinking on an epic scale

Project

Hoyts EntX

Location

Christchurch

Designer/Architect

Ignite Architects

Developer/Builder

Calder Stewart

Altus Windows Systems Supplier

Raylight Aluminium
Nulook® Wigram

Altus Windows Solution

The Altus Flushglaze (formerly Frontline) suite achieves flexibility and scale, while Altus Highbrook Louvres continue the vertical design aesthetic.

Because the project needed to be completed within a tight timeframe, many of the larger extrusions were fabricated at the Raylight Aluminium factory, taken apart, then reassembled and installed on-site.

Altus Flushglaze 106 window

Altus Flushglaze 159 curtain wall

Altus Flushglaze 159 curtain wall



The Hoyts EntX in Christchurch's inner city was always going to be more than just "another cinema". As well as being the multinational chain's flagship building, it also represents the city's forward-thinking nature, rebuilding itself bigger and better than before.

There was intense interest from the media and the public right from the get-go.

The massive complex houses seven cinemas and 18 restaurants and bars.

Everything about Hoyts EntX is epic.

There's a 100 metre frontage and the building itself takes up every square centimeter of the site space. The sizes of the windows are equally impressive. At one corner the glass measures 8.5 metres tall, while in other areas windows are 18 metres off the ground.

While the scope of the work may have been on the scale of Lord of the Rings, the project itself had to be completed within a tight timeframe – just 19 months from breaking the ground to opening the doors.

Raylight Aluminium worked closely with the technical team at Altus Windows to provide the joinery that would make Calder Stewart's vision a reality.

The complex cleverly controls light, space and air through a variety of design features that include vertical louvres, trickle vents and large glazing spans.

"The Altus Flushglaze was the logical choice, because of the sheer size of the glazing," Andrew Rowlands from Raylight explains. "It

has both the strength and style that the project demanded."

The undulating raking feature that sits 8.5 metres above the ground on the Columbo Street elevation, for example, uses a heavy-duty webbed mullion with double-glazing.

In the interests of speed and strength, the building's precast concrete and metal facades were designed as clip-ons that could be built off-site and then bolted into place.

"We fabricated a number of the larger extrusions in our factory, then took them apart and delivered them to the site where the builders reassembled and installed them," Andrew says.

Vertical louvres are also a dominant design feature in the complex. Here, the team used Altus Highbrook Louvres. On the northern elevation their purpose is more than aesthetics. The 250mm louvres, which span virtually the entire height of the glass, create (need to elaborate here as to what the louvres do – allow for a couple of lines).

Downstairs in the dining precinct, patrons can choose to eat indoors or out.

The highly durable commercial sliding windows and bifold doors from Altus Windows make it easy for the restaurants and cafes to manage their indoor/outdoor flow.

Commercial bifolds have been installed in Cleaver and Co, giving the bar and grill restaurant the freedom to adapt its space to suit capacity.

Next door at Joe's Garage, where design restrictions prevent bifolds, sliding windows were used instead to achieve that same flexibility.

Hoyts EntX opened its doors on schedule in September 2018 and was greeted with rave reviews.



Flushglaze 159 with commercial stacker door cross section

Where glass becomes art

Project

The Ministry of Primary Industries' Building

Location

Auckland

Architect/Designer

Williams Architects

Construction Company

Macrennie Commercial Construction

Altus Windows Systems Supplier

Bradnam's Henderson Commercial

Altus Windows Solution

The Altus Flushglaze (formerly Frontline) curtain wall and Altus Highbrook Louvres provide design flexibility and thermal performance.

This 2018 WANZ Supreme Award Winner is the perfect synthesis of design, fabrication and installation.

One of the first things that strikes you about the Ministry of Primary Industries' building is how a myriad of shapes, colours and patterns come together for breathtaking effect.

"It's not often you get the chance to show off just what our industry can do," says Kenneth van der Goes, Commercial Manager for Bradnam's Windows and Doors. "I think the MPI building is a testament to the diversity of what we can achieve."

Nothing about this building (it's the largest in the Land Business Park, near Auckland Airport) is ordinary.

The façade design envisaged by Williams Architects includes a more than usual number of window shapes and louvres, topped off by an impressive four-sided curtain wall with 250m² of digitally printed glass.

"It was an incredibly complex project," Kenneth says. "The building contains over 1800m² of high performance glass. We had to perfectly match every piece to create the façade."

Suffice to say, with something so involved, close collaboration between architect, builder and fabricator was critical.

Bradnam's Henderson (Commercial) was involved right from the design stage, advising on structural support and what window and door products were best suited to achieve the architect's vision.

Altus Flushglaze 159 curtain wall

Altus Flushglaze 159 window

Altus Highbrook Louvres

The architect was keen to use windows of different shapes and sizes to create a façade that was visually interesting.

It was decided that Altus Flushglaze would provide the architect the freedom of design he was after.

"Flushglaze is great for commercial buildings because it can accommodate wider spans," explains Kenneth.

This design flexibility is further enhanced with the inclusion of seismic framing, structural glazing, express transoms and a variety of mullion options.

The MPI building features windows of many shapes and sizes, from squares and rectangles right through to complex parallelograms, trapezoids and dramatic, raking transoms.

Metro Performance Glass played a key role in making this happen. They also provided the stunning digitally printed glass that was used in the four-sided curtain wall.

The challenges didn't stop with the windows. The façade also includes white aluminium composite panels. These were glazed into the exterior face and cleverly fitted flush with the inside face of the curtain wall.

For style and functionality, vertical Altus Highbrook Louvres flowing down the front of the building add to the visual interest. They also have the benefit of providing privacy and protection from the elements.

"They create a more comfortable working environment," says Kenneth. "They act as a sunshade and reduce the noise from planes flying over from the nearby airport."

Creating a comfortable, energy efficient working environment for the building's 400 plus occupants was high on the list of priorities.

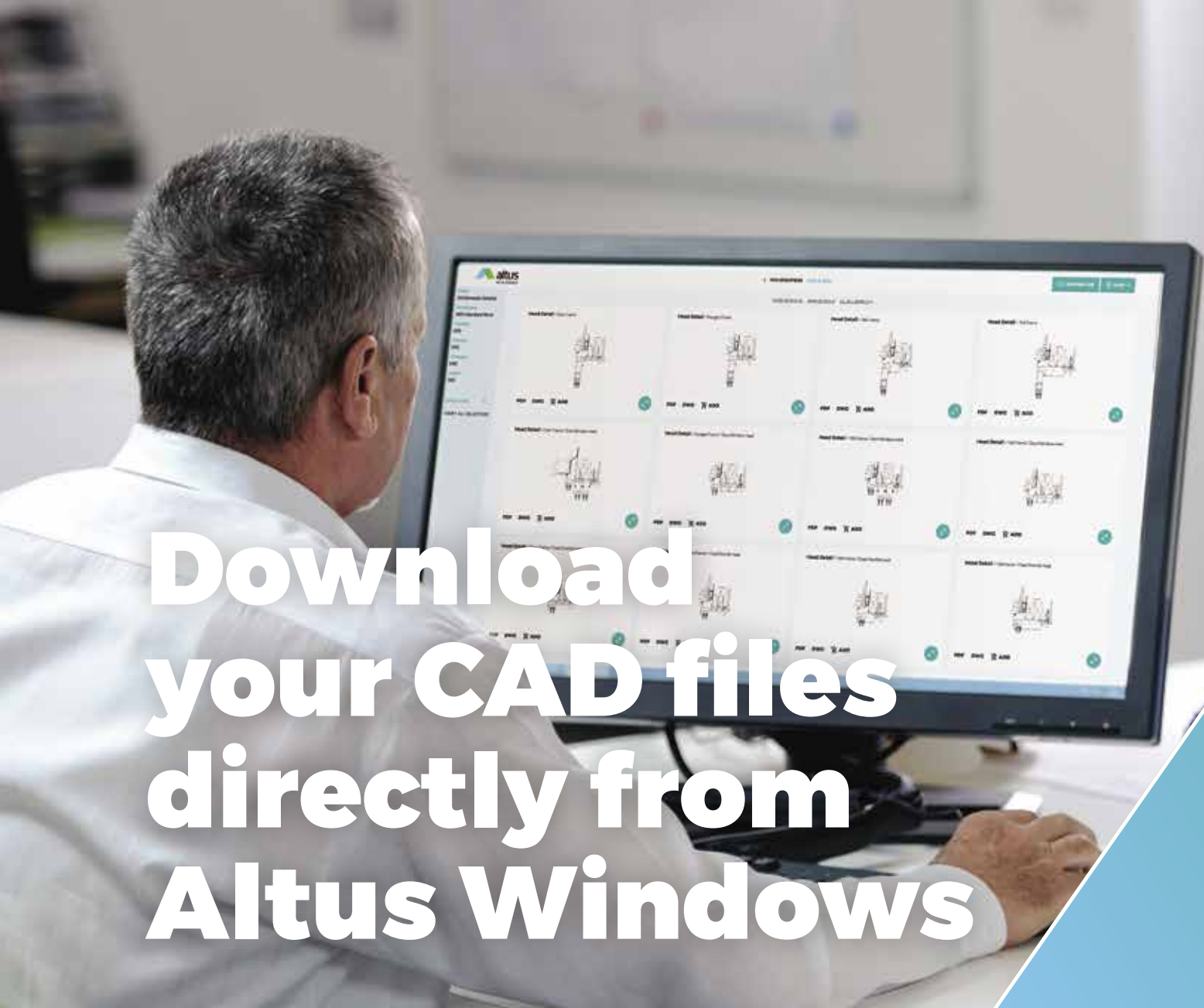
Once again, Bradnam's and Metro teamed up to develop a solution.

The Altus Flushglaze units provide glazing platforms that can accommodate a wide range of double glazed units for maximum thermal performance.

It's hardly surprising that the MPI Building won the 2018 WANZ Supreme Award. The judges described it as a "synthesis of design, fabrication and installation" and made special mention of the strong collaborative process that went into the project.



Highbrook Louvres, for use in vertical and horizontal applications



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However, when you require some help finding what you're after, or need sound advice on which products to use, you can always contact us and we'll provide you with the suite recommendation, along with the accompanying CAD details and the calculations you need.

General enquiries - 0800 55 11 00
Technical enquiries - 0800 397 263

Sharing your vision.

Your Altus Windows Architectural team is ready to help, with advice on the right window and door solutions for your plans.

Contact the team at architectural@altus.co.nz

Use the following checklist to make sure we can give you all the information you need.

About your project

- Project name and address
- Project stage
- Main contractor
- Structural engineer
- Facade engineer
- Preferred fabricator

Structural details

- Wind zone (if within NZS3604)
- Factored wind loading to NZS1170 (if outside NZS3604)
- Seismic requirements

Drawings

- Elevations/Plans
- Window/Door Schedule
- Glazing Specifications
- Cladding System

Project specific requirements

- Glazing specification
- Thermal performance
- Acoustic specification



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