concrete

VOLUME 63 ISSUE 3

concretenz
BUILDING RESILIENCE

+ CONCRETE NZ REINFORCING PROCESSORS ACHIEVE SECTOR GROUP STATUS

+ SECOND CONCRETE INDUSTRY SUSTAINABILITY REPORT CONFIRMS PROGRESS

UPFRONT

WORK-BASED LEARNING MUST WORK FOR INDUSTRY

Concrete NZ has long championed the vital role of work-based learning in supporting a skilled, resilient, and future-ready workforce. At any given time, our industry supports between 350 and 700 apprenticeships across New Zealand. This is not just an investment in people - it's an investment in productivity, safety, and the long-term sustainability of the built environment.

That's why we recently responded to the Ministry of Education's consultation document Options for the Future of Work-Based Learning. We firmly believe that industry voices must be part of shaping a system that directly impacts our ability to train and retain workers.

Concrete NZ supports Option B – the Independent model. This model maintains a straightforward and effective three-party relationship between employers, apprentices, and training providers. It is practical, proven, and offers the least disruption to the current system - a system that, while not perfect, continues to deliver strong results across the concrete sector.

The Independent model ensures employers and learners retain choice, whether through Private Training Establishments (PTEs), Wānanga, or Institutes of Technology and Polytechnics (ITPs). It also provides a clear and integrated approach to pastoral care - an often-overlooked yet critical component of successful apprenticeship training.

Our submission also emphasised the importance of industry leadership. We believe Industry Skills Boards (ISBs) must be predominantly industry-led, with responsibility for setting and approving qualification standards. The New Zealand Qualifications Authority (NZQA), in our view, should retain an oversight role focused on quality assurance and auditing - not managing delivery or curriculum development.

By contrast, we acknowledge that Option C – the Collaborative model, will be preferred by some trades, particularly those invested in off the job 'block' courses. This model introduces additional complexity in our view, proposing to split the responsibility for training and pastoral care between different organisations. Such fragmentation risks creating confusion for learners and employers alike.

Of particular concern is the proposal to dissolve the national work-based learning divisions of Te Pūkenga and shift learners - including those currently under BCITO - into regional ITPs. This change would most likely have a negative outcome.

Our call for an Independent model is grounded in five guiding principles:

- Industry-led training – driven by real-world needs and governed by those who understand the sector.

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A Advertorial

Cover Image: Steel & Tube

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- A holistic approach – integrating pastoral care into pedagogy for better learner outcomes.
- Learner-centric funding – where money follows the learner, not the institution.
- Qualification consistency – ensuring portable, industry-recognised skills.
- Political stability – insulating vocational education from further disruption.

These principles are not unique to Concrete NZ. Maria Slade's recent article in BusinessDesk [behind paywall], *Work-based learning plan will 'exacerbate skills shortage', say building industry leaders,* highlights growing concern across the wider construction sector. Industry groups representing over 16,000 businesses have come together to oppose Option C and advocate for an industry-led approach - making it clear that the current proposal risks widening the skills gap at precisely the moment when the Government is relying on construction to deliver major infrastructure and housing programmes.

The industry is united in its message: we need a vocational education system that empowers employers to train, upskill, and retain workers - not one that pulls training further away from the job site and into disconnected institutions.

Concrete NZ will continue to advocate for a work-based learning system that works for the industry, not around it. We stand ready to collaborate with Government to build a model that delivers long-term value for apprentices, employers, and the economy alike.

I'll sign-off by reminding you that entries are open for the *Concrete Construction Awards* in partnership with BCITO, and I'm excited to see the projects that show the versatility, innovation and performance of concrete. A big thank you to our sponsors for supporting this celebration of excellence across the built environment.

Get involved!

Rob Gaimster
Concrete NZ Chief Executive

Harapaki Wind Farm. Image: Spartan Construction.

concretenz REINFORCING

STRENGTHENING THE FUTURE: CONCRETE NZ'S REINFORCING PROCESSORS SECTOR GROUP

CONCRETE NZ IS PLEASED TO ANNOUNCE THAT ITS REINFORCING PROCESSOR'S STAKEHOLDER GROUP HAS ACHIEVED SECTOR GROUP STATUS, SIGNIFICANTLY STRENGTHENING ITS ABILITY TO ADVOCATE FOR MEMBERS, SHARE TECHNICAL KNOWLEDGE, ADVANCE SUSTAINABILITY, AND CHAMPION INDUSTRY TRAINING.

This transition reflects the growing importance of reinforcing processors in New Zealand's concrete and construction industries. By formally recognising their role, Concrete NZ ensures reinforcing steel processors have a unified voice in shaping industry standards, sustainability initiatives, and workforce development.

WHAT IS THE REINFORCING SECTOR GROUP?

The Reinforcing Sector Group represents companies that specialise in processing reinforcing steel for concrete structures. The reinforcing processors act as the main link between major steel reinforcing manufacturers and the end-user of reinforcing materials. They provide the market

with a one-stop processing shop for fabrication of steel reinforcement in accordance with relevant Standards.

Objectives: Supporting Members and the Industry

The Reinforcing Sector Group is committed to:

- **Advocating for the industry** – Promoting, developing, and protecting the interests of New Zealand's steel reinforcing processors.
- **Industry coordination and representation** – Acting as a unified voice on sector matters, engaging with government in conjunction with Concrete NZ, regulators, and industry bodies.
- **Standards and guidance** – Supporting the development of technical standards and best industry practice.
- **Knowledge sharing** – Disseminating technical and market information.
- **Workforce training and development** – Strengthening skills and qualifications through trade training programmes.

With a focus on collaboration, technical leadership, and sustainable growth, the Group will play a pivotal role in the future of New Zealand's construction industry.

SUSTAINABILITY REPORTING: REINFORCING STEEL'S ROLE IN A LOWER-CARBON FUTURE

The latest Concrete NZ *Sustainability Report* marks an important step forward by incorporating data from the reinforcing steel processing sector. As a critical component in precast and cast-in-place structures, reinforcing steel contributes to the strength and resilience of New Zealand's built environment.

Building on the 2021–2022 baseline, the latest *Sustainability Report* provides updates on emission reductions, sustainability initiatives, and industry strategies for achieving net-zero carbon goals.

Including reinforcing steel processors in industry-wide health and safety reporting demonstrates the sector's commitment to transparency and sustainability. This expanded dataset strengthens the industry's ability to track progress and benchmark improvements.

Reinforcing Steel: A Swiftly Reducing Carbon Footprint

Like concrete, reinforcing steel in New Zealand is rapidly decarbonising due to technological advancements and increased use of recycled materials.

New Zealand is making a major leap forward with a $300 million co-investment between New Zealand Steel and the government to install an Electric Arc Furnace (EAF) at Glenbrook. This hybrid approach will:

- Increase recycled scrap steel use, reducing reliance on raw materials.
- Leverage New Zealand's largely renewable electricity grid to cut emissions.
- Halve the embodied carbon of locally produced reinforcing steel.

This shift will reduce the embodied carbon of reinforced concrete by over 25%, all else being equal. Some New Zealand processors already offer imported rebar made from 100% recycled steel, providing further options for low-carbon construction.

With these advancements, New Zealand's reinforcing sector is playing a key role in reducing construction emissions, reinforcing concrete's position as a sustainable, resilient, and future-ready material.

CURRENT AREAS OF FOCUS

Enhancing Training for Reinforcing Fixing Qualification

The Reinforcing Processors Sector Group is strengthening industry training by developing a reinforcing fixing qualification. The development of the qualification was led by Waihanga Ara Rau. Vertical Horizonz (VHNZ) is now developing training resources, with their staff recently visiting a construction site to appreciate real-world practices, and in turn refine the training material.

Best Practice Guidelines for Rigging and Handling Reinforcement Cages

Safety remains a top priority, with the Group's Health & Safety Forum developing best practice guidelines for lifting and rigging reinforcement cages at their manufacturing facility to provide practical support for workers.

CONCLUSION: STRENGTHENING ADVOCACY AND GROWTH

The Reinforcing Processors Sector Group's elevation within Concrete NZ marks a significant step forward, reinforcing its role in shaping technical standards, sustainability efforts, and workforce development. By tackling key challenges—such as improving training resources and enhancing health and safety practices—the Group ensures reinforcing processors remain at the forefront of industry best practice.

Looking ahead, the Group will leverage its seat on the Concrete NZ Board, amplifying its influence in industry discussions. Additionally, growing its membership will be a priority, ensuring more reinforcing processors benefit from collective advocacy, knowledge sharing, and access to essential resources.

With a clear mandate and commitment to collaboration, sustainability, and continuous improvement, the Reinforcing Processors Sector Group is set to play a pivotal role in New Zealand's concrete and construction industries.

Image: Steel & Tube.

Leading a locally made, low carbon future.

Be a part of positioning New Zealand as a global leader in low-emissions steel production.

We're proud to announce that we're set to have our source steel supplied from New Zealand Steel's new Electric Arc Furnace (EAF) from 2026. Support us while we transition by investing in locally-made products that will contribute to ensuring steel production in New Zealand is sustainable for generations to come. Recycling domestic scrap steel instead of exporting it offshore means we'll be maximising the lifecycle of our products and delivering locally made, lower carbon reinforcing steel. The introduction of the EAF at New Zealand Steel and your support of locally-made, means you'll be part of the biggest industrial decarbonisation effort in our country's history to date. Around 50% less coal usage and 45% less emissions (scope 1 & 2) from day one is just the beginning of a significant industry transformation. Join us on this landmark journey.

Find out more at pacificsteel.co.nz/EAF

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Eco Choice Aotearoa

NEW ZEALAND MADE

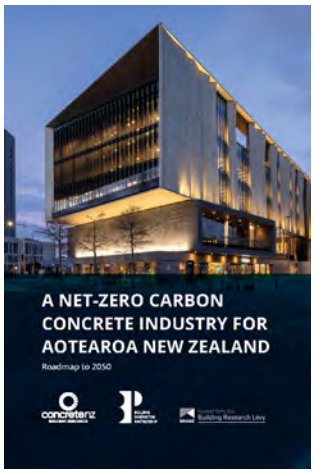
Defence House, Wellington.
Image: Adam Leach.

THE TRANSFORMATION OF CONCRETE:
DRIVING SUSTAINABILITY IN NEW ZEALAND'S BUILT ENVIRONMENT

TIM KLEIER, CONCRETE NZ SUSTAINABILITY & POLICY DIRECTOR

THE NEW ZEALAND CEMENT AND CONCRETE INDUSTRY, REPRESENTED BY CONCRETE NZ, IS NOW FIVE YEARS INTO ITS DECARBONISATION JOURNEY, ALIGNING WITH THE GLOBAL CEMENT AND CONCRETE ASSOCIATION'S (GCCA) *CEMENT AND CONCRETE INDUSTRY ROADMAP FOR NET ZERO CONCRETE*. WITH 2020 AS THE REFERENCE YEAR, OUR INDUSTRY HAS BEEN ACTIVELY REDUCING EMISSIONS AND MAKING TANGIBLE PROGRESS TOWARDS OUR 2030 AND 2050 TARGETS.

As Concrete NZ's Sustainability and Policy Director, I have had the privilege of helping to facilitate this transition, and the progress we've made is a testament to the industry's commitment to reducing its carbon footprint and ensuring a resilient built environment.



THE 2050 ROADMAP: PROGRESS SO FAR

The concrete industry plays a critical role in New Zealand's built environment, and we are determined to significantly reduce greenhouse gas emissions to help the country meet its international climate obligations.

Our Roadmap outlines the pathway to achieving this, targeting all key players in the concrete value chain, from cement manufacturers to designers, specifiers, and contractors.

By 2030, we aim to cut direct and electricity-related emissions (Scope 1 and 2) by 44% from 2020 levels, equating to around 400,000 tons of CO_2 reductions annually. By 2050, the industry seeks to achieve net-zero carbon concrete, and potentially even negative emissions.

The seven key strategies - or levers - that guide our decarbonisation efforts include:

1. Reducing clinker production emissions – i.e., use of waste materials as alternative fuels to replace fossil fuels in cement production.
2. Increasing use of Supplementary Cementitious Materials (SCMs) – i.e., using less cement through partial replacement with SCMs (e.g., fly ash, slag and natural pozzolans) and mineral additions.
3. Enhancing efficiency in concrete production – i.e., through modern centralised concrete batching plants, advancements in concrete technology and mix design.
4. Improving design and construction methodologies – i.e., demand-side measures, such as lightweight structural members.
5. Reducing emissions from electricity use.
6. Accounting for natural carbon uptake via recarbonation – quantify concrete's capacity to absorb atmospheric CO_2.
7. Deploying Carbon Capture, Utilisation, and Storage (CCUS) technologies in cement manufacturing.

In the past five years, we've seen significant developments, particularly in the availability and use of SCMs such as granulated and ground blast furnace slag (GGBS) and fly ash. These materials replace a portion of traditional Portland cement, effectively lowering the carbon footprint of concrete and aligning with our sustainability goals.

SUSTAINABILITY REPORTING: MEASURING INDUSTRY PROGRESS

Concrete NZ recently released its second *Sustainability Report*, building on the 2021-2022 baseline. This report not only tracks progress against our 2050 Roadmap but also provides a broader view of the industry's sustainability efforts, health and safety metrics, as well as the United Nations' Sustainable Development Goals (SDGs).

Key Findings from the 2023 *Sustainability Report*

- Direct and electricity-related emissions decreased by 6% from the 2020 baseline.
- SCM replacement of Portland cement increased significantly nationwide from the 2021/22 report.
- 56% of local cement production now utilises alternative fuels.
- All cement suppliers have actively developed lower-clinker cement formulations.

Expanding the dataset was a major priority this year, with reporting now covering 78% of the ready mixed concrete market by volume and including reinforcement processors for the first time. This broader industry participation reflects a growing recognition of sustainability's importance and the collective commitment to transparency.

Sustainability reporting enables companies to track improvements over time and refine their sustainability strategies. Concrete NZ will continue to publish these annual reports to measure progress, identify gaps, and highlight emerging opportunities.

THE TRANSFORMATION PROJECT: DRIVING CHANGE

To accelerate Roadmap implementation, Concrete NZ has launched the *Transformation Project*, a multi-year initiative supported by funding from the BRANZ Building Research Levy and the Ministry of Business, Innovation and Employment's (MBIE) Building Innovation Partnership.

The *Transformation Project* aims to:

- Define and standardise the specification of low-carbon concrete to ensure performance consistency across regions.
- Investigate necessary updates to concrete standards to support greater SCM uptake.
- Assess international best practices and apply learnings to the New Zealand context.
- Identify quick-win design and construction strategies for using low-carbon concrete.
- Evaluate the real-world carbon savings from projects that specify low-carbon concrete.

With funding secured and expert working groups engaged, the Transformation Project is now advancing practical solutions that will enable the industry's transition to net-zero concrete.

GOVERNMENT RELATIONS: ADVOCATING FOR A LOW-CARBON FUTURE

Concrete NZ is actively engaged with government agencies to ensure that regulatory settings and public procurement policies support the use of sustainable building materials. Our recent discussions with the Ministry for the Environment and MBIE have focused on:

- Ensuring a level playing field for all building materials in sustainability regulations.
- Developing "green lead markets" that incentivise the use of low-carbon concrete.
- Establishing stable, long-term policy frameworks to drive investment in decarbonisation.

Concretec NZ's Pokeno precast concrete facility. Image: Concretec NZ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LOWEST CARBON
GP CEMENT.
BUILDING A
BETTER FUTURE.
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Wellington's Oriental Parade seawall showcases concrete's durability and resilience in coastal infrastructure. Image: Adam Leach.

- Supporting CCUS regulatory frameworks as part of New Zealand's broader climate strategy.

Additionally, we are working to align our industry's sustainability efforts with the government's infrastructure priorities. Durable, low-maintenance concrete is well suited to long-term infrastructure projects, making it a natural fit for Public-Private Partnerships (PPPs) that seek to maximise lifecycle value.

OVERCOMING CHALLENGES & UNLOCKING OPPORTUNITIES

Despite our progress, several challenges remain. One of the key barriers to widespread adoption of low-carbon concrete is the perception of a "green premium" – the idea that sustainable alternatives are significantly more expensive. However, in many cases, costs are comparable, and we are working to dispel this misconception through education and awareness campaigns.

Other yet untapped opportunities include:

- Scaling up SCM uptake to turn higher utilisation ratios into relative cost reductions.
- Refining performance-based specifications to ensure the best use of low-carbon concrete.
- Early supplier engagement to optimise concrete mix designs for emissions reductions.

Concrete forms the foundation and frame of the Hundertwasser Art Centre with Wairau Māori Art Gallery in Whangārei, supporting enduring community spaces. Image: Adam Leach.

- Advocating for policy incentives that support low-carbon concrete in government projects.

SUPPORTING MEMBERS WITH ENVIRONMENTAL PRODUCT DECLARATIONS

Concrete NZ is making environmental data more accessible, helping members meet growing sustainability requirements. Type III Environmental Product Declarations (EPDs) provide transparent, third-party verified data on a product's environmental impact, including CO_2 emissions, energy use, and resource consumption.

While essential for green building certifications, EPD certification can be costly and time-consuming - particularly for rapidly evolving low-carbon concrete innovations. To address this, Concrete NZ invites members to use the Global Cement & Concrete Association's (GCCA) EPD Tool, enabling them to generate comprehensive, comparable and New Zealand Green Building Council (NZGBC) accepted environmental data.

Further strengthening this process, Concrete NZ's Plant Audit Scheme will regularly assess environmental data sheet validity, leveraging its long-standing role in quality management oversight. To support members, Concrete NZ is also developing a training programme, with an initial webinar to streamline environmental data generation.

LOOKING AHEAD

Concrete NZ and its members remain fully committed to the 2050 Roadmap and the broader sustainability agenda. The progress documented over the past five years provides a strong foundation for future action.

With industry-wide collaboration, ongoing research, and government engagement, we are confident that net-zero carbon concrete will become a reality in New Zealand. The *Transformation Projec*t will drive new innovations, while annual *Sustainability Reports* will ensure continued transparency and accountability.

As we build toward a more sustainable, resilient future, low-carbon concrete will play a pivotal role - not just in reducing emissions but in ensuring that New Zealand's built environment can withstand the challenges of climate change.

The road ahead is ambitious, but with the momentum we've built, the destination is within reach.

2ND SUSTAINABILITY REPORT FOR NEW ZEALAND'S CEMENT AND CONCRETE INDUSTRY SHOWS PROGRESS IN 2023

THE NEW ZEALAND CEMENT AND CONCRETE INDUSTRY HAS RELEASED ITS SECOND *SUSTAINABILITY REPORT*, SHOWCASING AN ONGOING COMMITMENT TO REDUCING EMISSIONS AND ENHANCING SUSTAINABILITY.

Building on the 2021-2022 baseline report, the 2023 report provides a comprehensive update on the sector's progress, highlights concrete's essential role in a sustainable future, and outlines industry strategies for achieving ambitious climate targets.

CONCRETE: MATERIAL FOR A RESILIENT FUTURE

Concrete is an indispensable material in construction, offering unparalleled benefits for creating resilient buildings and infrastructure. It supports the development of essential systems such as clean water supply, renewable energy and housing, while also contributing to the infrastructure needed to withstand natural hazards and the effects of climate change. The report reiterates the importance of concrete in enabling a low-carbon, climate-resilient future.

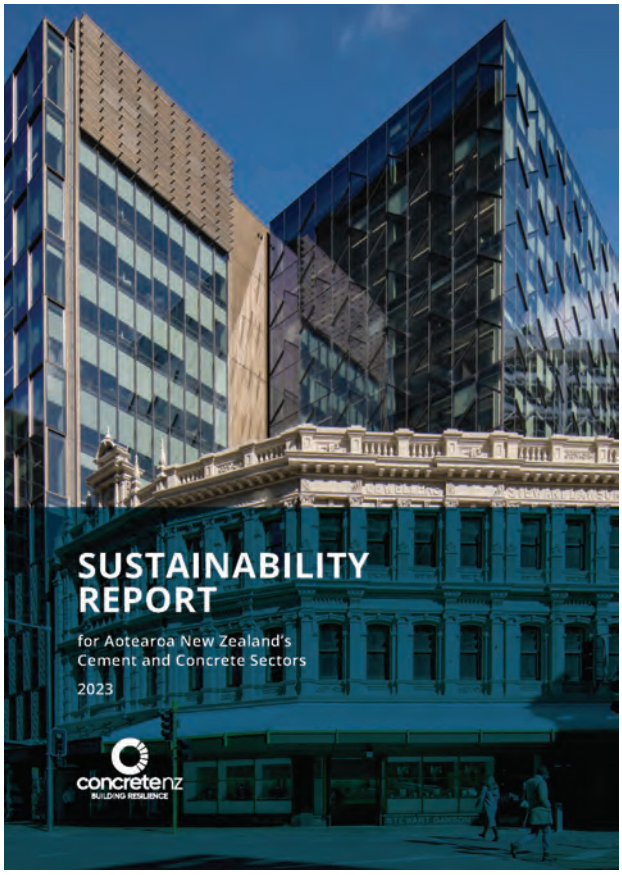
REDUCING EMISSIONS AND BUILDING ON PROGRESS

Despite an increase in concrete production from 2020 to 2023, the industry has achieved a 6% reduction in direct and electricity-related CO_2 emissions, marking progress toward its 2030 and 2050 emissions targets. Concrete NZ's *Roadmap to Net Zero Carbon Concrete by 2050*, launched in 2023, aligns with the Global Cement and Concrete Association's (GCCA) 2021 roadmap.

Key targets include:

- A 44% reduction in direct and electricity-related CO_2 emissions by 2030 compared to a 2020 baseline.
- Achieving net-zero carbon for cement production and concrete batching by 2050.

The roadmap identifies seven focus areas for decarbonisation: clinker production, cement and binders, concrete manufacturing, design and construction practices, electricity usage, carbon uptake, and carbon capture, utilisation, and storage (CCUS).



Concrete NZ is actively supporting these efforts, including the launch of a 2024 research initiative with the Ministry for Business, Innovation and Employment (MBIE) and BRANZ. This project seeks to develop frameworks to enable widespread decarbonisation across the supply chain.

EXPANDING THE SUSTAINABILITY DATASET

The 2023 report includes data from businesses representing 78% of the ready mixed concrete market by volume, a significant increase from the previous report. For the first time, reinforcement processors are also included in the dataset. This expansion reflects the growing interest and participation in sustainability reporting across

Tākina Wellington Convention and Exhibition Centre combines striking architecture with concrete's strength and versatility, supporting both form and function. Image: Jason Mann Photography.

the industry, providing a clearer picture of sector-wide progress.

KEY INDICATORS: ENERGY, EMISSIONS, AND CIRCULARITY

The report tracks multiple indicators of industry performance against the 2021-2022 baseline, showing steady improvements in several areas:

- Embodied Emissions: The embodied emissions of Portland cement, New Zealand's primary binder, are steadily decreasing as companies adopt low-carbon manufacturing technologies and materials.
- Energy Efficiency: Ongoing efforts to reduce energy consumption have contributed to the 6% emissions reduction noted above.
- Circular Economy: The industry is strengthening its commitment to circularity by promoting the use of recycled concrete and supplementary cementitious materials (SCMs), further reducing its carbon footprint.
- Health and Safety: Improvements in workplace health and safety and employee wellbeing demonstrate the industry's commitment to its people as well as the planet.

A TRACK RECORD OF ACCOUNTABILITY

By comparing 2023 data to 2021-2022, the report initiates a time series that will enable companies to track their progress and refine their sustainability strategies over time. The growing volume of data shared by industry members also underscores the collective determination to accelerate the transition to a low-carbon future.

A CALL TO ACTION FOR COLLABORATION

Achieving net-zero carbon emissions for the cement and concrete industry will require collaboration across the value chain. Concrete NZ is calling on stakeholders, including designers, engineers, contractors, regulators, and researchers, to support the industry's efforts by adopting innovative practices, contributing to decarbonisation research, and helping establish enabling conditions for progress.

LOOKING AHEAD

The 2023 *Sustainability Report* reaffirms the New Zealand cement and concrete industry's leadership in sustainability, its commitment to continuous improvement, and its crucial role in building a more resilient and low-carbon future. As the sector works toward its 2030 and 2050 targets, the progress documented in this report provides a solid foundation for continued innovation and collaboration.

Concrete NZ looks forward to building on this momentum, supporting its members in their sustainability journeys, and advancing its shared vision of a sustainable, resilient, and prosperous Aotearoa New Zealand.

Download the *2023 Sustainability Report* from the Concrete NZ website – **www.concretenz.org.nz**

CONCRETE NZ CONFERENCE 2025

VIADUCT EVENTS CENTRE, AUCKLAND

The Concrete NZ Conference remains a cornerstone for exploring the latest developments and innovations in construction, design, and materials. The 2025 technical programme is set to feature an outstanding lineup of international and local speakers, covering a broad range of topics designed to inform, inspire, and challenge our thinking. Highlights include the ever-popular lightning talks session and opportunities for attendees to contribute to the knowledge exchange by presenting their own papers.

In addition to the technical programme, the conference also provides fantastic opportunities to connect and engage with colleagues and industry peers. Both informal and formal dinners will offer relaxed and enjoyable settings to network, with the formal dinner also incorporating the prestigious industry awards—a true highlight of the event.

We're also excited to announce the return of the Concrete Cricket Bat competition, where participants will once again showcase their creativity and skill with this fun and competitive activity.

The venue will provide ample space for trade exhibitors, live demonstrations, and displays of heavy equipment, offering attendees the chance to get up close with the latest products, technologies, and innovations shaping the future of concrete. With its strong focus on technical excellence and collaboration, the 2025 Concrete NZ Conference will bring together professionals from all corners of the industry for an event that is both educational and memorable.

I look forward to reconnecting with familiar faces and welcoming new ones to this exciting occasion.

See you in Auckland!

Alistair Russell
Organising Committee Chair

MARK YOUR CALENDARS

15–17 OCT 2025

Expect a dynamic mix of technical expertise, knowledge sharing, and networking opportunities. The technical programme will feature top international and local speakers, insightful presentations, and the popular Lightning Talks.

Plus, don't miss the industry awards, social events, and the return of the Concrete Cricket Bat competition!

With trade exhibitors, live demonstrations, and displays of the latest products and technologies, this conference is set to be both educational and engaging.

Make note of the following details:

- **Conference:** Concrete NZ 2025 Conference | **Location:** Viaduct Events Centre, Auckland
- **Dates:** 15-17 October 2025 | **Stay tuned for more details:** We can't wait to see you there!

CALL FOR PAPERS IS OPEN!

THE CONCRETE NZ CONFERENCE 2025 ORGANISING COMMITTEE INVITE YOU TO SUBMIT A PAPER ABSTRACT FOR CONSIDERATION IN THE TECHNICAL PROGRAMME, WHICH WILL INCLUDE A COMBINATION OF INTERNATIONAL AND LOCAL SPEAKERS COVERING A RANGE OF TOPICS RELATING TO CONSTRUCTION, DESIGN AND MATERIALS.

TOPICS FOR SUBMISSION

Submissions are encouraged under the topics listed below. However, as the technical programme will be driven by you, the delegates, submissions related to other topics will also be considered.

- **Concrete Technology & Materials:** Concrete materials, composite materials, reinforcing, durability, manufacture and supply of concrete.
- **Structural Performance and Design:** Design of concrete structures, analysis and modelling methods, seismic performance, assessment and retrofit of existing structures.
- **Research, Analysis, Testing, & Emerging Technologies:** Research and development of new products, systems, techniques, design methods, development of codes, standards, guidelines.
- **Project Case Studies:** Examples of recent projects focusing on the concrete use, design, supply, and construction.
- **Low-Carbon & Sustainability Initiatives:** Development of low-carbon concretes, alternative binders, sustainable design, and additional efforts for accountability.
- **Other:** Any other topics relevant to the concrete industry.

PRESENTATION OPTIONS

There are two options available when submitting an abstract:

- **Traditional oral presentation**
  - Full paper submission will be required if abstract is accepted.
- **5-minute 'Lightning Talk'**
  - No full paper required.

The call for papers closed on **Monday 5 May**, however, late submissions maybe considered. Contact Conference Manager - Ali Howard on 04 384 1511 or **concrete@confer.co.nz**

VISIT THE CONFERENCE WEBSITE – https://confer.eventsair.com/concretenz2025

TECHNICAL PROGRAMME OVERVIEW

Date	Day Event	Evening Event
Wednesday 15 October	Pre-conference sessions and meetings	**18.00** Welcome Function
Thursday 16 October	**Conference Day 1** **8.30** Conference Opening Sessions Concrete NZ AGM	**18.00** Formal Conference Dinner and Awards Evening
Friday 17 October	**Conference Day 2** Sessions **15.30** Close	

The Organising Committee reserves the right to make changes to the 2025 programme. A more detailed programme will be available soon.

VIADUCT EVENTS CENTRE – CONTEMPORARY, ACCESSIBLE & FUNCTIONAL

We're excited to bring the 2025 Concrete NZ Conference to Auckland's Viaduct Events Centre - a modern, waterfront venue with sweeping harbour views, cutting-edge facilities, and generous space for technical sessions, trade exhibits, and networking.

Centrally located in the heart of the Viaduct, the venue offers easy access to hotels, restaurants, and entertainment. Whether exchanging ideas or making connections, the Viaduct Events Centre sets the stage for a standout conference experience.

University of Canterbury Civil Engineering PhD candidate Liam Pledger and Professor Santiago Pujol

UC HOME TO ONLY MODULAR QUAKE SIMULATOR IN THE WORLD

A NEW MODULAR "SHAKE TABLE" USED FOR EARTHQUAKE SIMULATIONS AT THE UNIVERSITY OF CANTERBURY IS THE ONLY ONE OF ITS KIND IN THE WORLD.

The University of Canterbury | Te Whare Wānanga o Waitaha (UC) Structural Engineering Laboratory now houses the only system that allows researchers to assemble and disassemble shaking platforms — much like a lego-set— to test structures required to withstand high-intensity earthquake shaking.

UC Civil Engineering Professor Santiago Pujol describes the facility as a groundbreaking tool for advancing seismic resilience.

"The challenge with civil engineering is that you can't test-drive a building before an earthquake. Computer simulations have limitations, and there is always uncertainty about how structures will behave under real seismic demands.

"This system changes that. We can assemble test structures piece by piece, attach structural components to independent shaking platforms, and simulate realistic earthquake demands. Using a network of powerful hydraulic actuators (jacks) that move at high speeds, the system lets us shake entire structures or parts of structures.

"For example, we can move floors independently of each other to simulate what occurs in a multi-story building without having to test the entire building. That allows us to evaluate the integrity of ceilings, sprinklers, pipes, and fire-safety systems."

Professor Pujol says there are many possibilities: "With our lego-like testing system, we can shake the foundations of model bridges independently or simulate the full foundation system of entire buildings or houses."

"This type of investment in research infrastructure is invaluable," says Professor Pujol. "It will support a range of applications, from simulating high-intensity earthquakes to testing commercial products and student-led projects to understand dynamic structural responses."

UC Civil Engineering PhD candidate Liam Pledger is using the facility to investigate the benefits of stronger, more robust building structures and their impact on non-structural components compared to less robust structures. His goal is to better understand which types of buildings are most vulnerable to damage — both structural and non-structural — during large earthquakes.

"Following the Canterbury and the Kaikōura earthquakes, many buildings sustained wide-spread damage to non-structural components like sprinklers, ceilings, plasterboard walls, heating, ventilation, and air conditioning systems. The new modular earthquake simulator allows us to test these non-structural components using realistic floor demands, in a way that has never been done before."

While UC has used a small conventional "shake table" for decades, the new large-scale modular system significantly expands testing capabilities.

HOLCIM

LOW-CARBON BUILDING SOLUTIONS

GLOBAL EXPERTISE, LOCAL KNOWLEDGE

Holcim (New Zealand) Ltd proudly serves as a world-class supplier of cement, aggregates, and ready-mix concrete throughout Aotearoa New Zealand. As part of the Holcim group, we combine global expertise with deep community roots, with our involvement in the New Zealand construction industry dating back to 1888. This long-standing presence reflects our commitment to delivering high-quality materials and tailored solutions to meet the unique needs of the New Zealand construction market.

SUSTAINABILITY AND INNOVATION

We're providing solutions for our customers across all regions to build better with less, thanks to our broad range of innovative, low-carbon, and circular solutions. Holcim is leading the way in sustainable construction with cutting-edge products like ECOPact low-carbon concrete, ECOPlanet low-carbon cement, and ENVIROCore cement replacements. These advancements demonstrate our commitment to driving innovation and minimising environmental impact, enabling our partners to create a more sustainable built environment.

Concrete
0800 READYMIX (0800 732 396)

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BUILDING PROGRESS FOR PEOPLE AND THE PLANET

AUTISM ACCEPTANCE MONTH: BCITO WORKING TO BUILD AN INCLUSIVE WORKFORCE

Rex Podmore, owner of Brownmore Concrete and Todd Maitland, BCITO apprentice

FOR WORLD AUTISM ACCEPTANCE MONTH, THE BUILDING AND CONSTRUCTION INDUSTRY TRAINING ORGANISATION (BCITO) AND ALTOGETHER AUTISM ARE JOINING FORCES TO ENCOURAGE AUTISTIC PEOPLE TO CONSIDER A CAREER IN THE CONSTRUCTION INDUSTRY.

"Autistic experiences are different for everyone. For some people, Autism results in few workplace difficulties, while others experience greater employment challenges. It is important to be aware that autism covers a broad range of characteristics and to focus on the person, not Autism. While not always the case, those with Autism may behave and communicate differently. The key point being, different does not mean less or difficult," said BCITO Director Greg Durkin.

According to the World Health Organisation, around 1% of the world's population is estimated to be Autistic.

"Too many Autistic people in Aotearoa New Zealand feel isolated, misunderstood and face discrimination in life and at work. Many Autistic people bring valuable skills to the workplace and can thrive as valued team members. Their strengths often include deep focus, reliability, loyalty and the ability to understand complex systems. Our mission is to raise awareness of the benefits to employers in hiring Autistic talent," said Catherine Trezona, National Manager of Altogether Autism, a free, nationwide Autism information and advisory service.

In partnership with Altogether Autism, BCITO is working to offer more support to employers so they can take on Autistic apprentices and understand the challenges they face.

"We want to encourage as many New Zealanders as possible to enter the trades, to help us build a strong construction industry that can meet our housing and infrastructure needs now and in the future," said Greg.

"This involves us reaching out to as many people in our communities as possible and supporting employers to create welcoming workplaces. We've seen many workers with neurological differences, physical disabilities and learning difficulties enjoy rewarding careers in the trades. Through this partnership with Altogether Autism, we're working to support even more to take on apprenticeships through us."

BCITO apprentice, Todd Maitland, works full time for Brownmore Concrete in Waihi. Despite having Autism, an intellectual disability and being blind in one eye, he is excelling in his career.

As well as working as a concreter, he is vice-captain of the Whaikaha men's basketball team, New Zealand's first men's team for high-functioning athletes with intellectual disabilities, which recently competed in Australia.

Nominating boss Rex Podmore for a BCITO Building Leaders award in November, he wrote: "I'm a 19-year-old boy with Autism, developmental delay syndrome, verbal dyspraxia and I am blind in one eye. Now, that's a lot for any boss to take on but not Rex, aka Buddy. He has encouraged me and pushed me to be the best version of myself since day one. He has helped me to become someone and not be looked at like 'another special needs person', but a worthy and useful part of my community."

Rex, owner of Brownmore Concrete, said he loves working with Todd and encouraged those who have any kind of disability to consider a career in the trades.

"There are a lot of challenges that come with being an Autistic person but because we have things in place and people we can go to, they are only challenges, not barriers."

BCITO is working with construction employers and industry to further develop an inclusive workplace culture where everyone feels valued and supported.

"The more people we include, the better it will be for workers, our industry, our economy and ultimately all of New Zealand," said Greg.

To find out more about opportunities for Autistic people within the trades, visit **http://buildingabilities.nz/**

CONCRETE CONSTRUCTION AWARDS

2025

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A milestone for New Zealand construction — a factory floor poured using concrete made exclusively with manufactured sand from Kayasand.

GROUNDBREAKING CONCRETE POUR A NEW ZEALAND FIRST

FOR THE FIRST TIME IN NEW ZEALAND A FACTORY FLOOR HAS BEEN POURED USING CONCRETE MADE WITH 100% MANUFACTURED SAND.

KAYASAND
engineering sand for construction

The milestone pour sets a new benchmark for sustainability in construction and proves that high-performance low emissions concrete can be achieved without relying on dredged natural sand.

Factory owner, APD (Advanced Plastics & Design), is a manufacturer of stormwater and wastewater management solutions with a strong environmental focus. Minimising their new factory's environmental impact was a priority during design. This included sourcing sustainable materials and reducing carbon emissions of the concrete in the new factory floor.

Neil Prime, CEO at APD was confident that sand made by Kayasand's plant and equipment would deliver on both counts.

"Even their innovative process of washing the sand without water fits with APD's ethos of doing good from the ground up. There's no need for tailings or sediment ponds."

Factory floor slabs are among the most complex concrete applications. The sustainability and low emissions specifications of the APD pour were only possible because of the high-quality engineered sand used in the concrete.

Unlike other manufactured sands, a term frequently used to describe a quarry-waste product called crusher dust, engineered sand is made by precisely controlling the shape, size and consistency of the sand grains. It is designed specifically for use in concrete.

Kayasand concrete trials using 100% engineered sand have already showed a 24% increase in strength and a reduction in cement of up to 15%. Cement accounts for 8% of carbon emissions annually.

APD engaged Richards Consulting Engineers for the factory design and Macrennie Commercial Construction for the build. Conset Construction - renowned for their expertise in large-pour flat slabs - was thrilled to lead the pour.

The slab was completed in two pours: an interior pour covering 1,000 m² to a depth of 180 mm (180 m³), followed by a canopy pour covering 350 m² at 150 mm depth (53 m³). A total of 30 concrete trucks were used across both pours, which featured a 35 MPa mix with 19 mm aggregate, 28 kg of fibre per cubic metre, and a blend of60% Kayasand and 40% crusher dust.

"Not only is it the first commercial pour of its kind, it's high stakes," says Alan Ross, General Manager of Conset Construction. "Maintaining a consistency in the mix to ensure a good quality floor is essential."

Concrete plays a fundamental role in construction due to its strength, durability, and versatility. As urbanisation and infrastructure development continue, demand for concrete is set to grow.

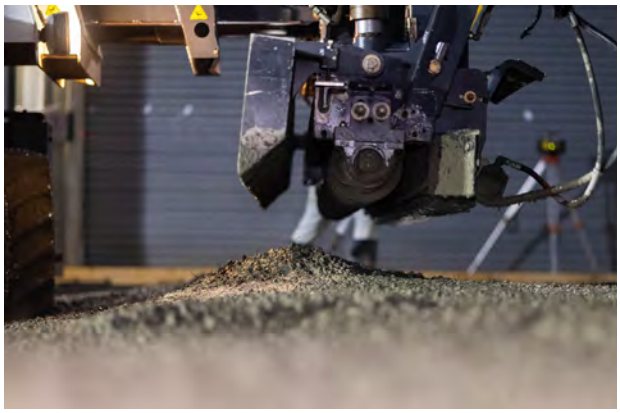
Bram Smith, Kayasand CEO, believes innovation and new approaches are needed to ensure sustainable alternatives and lower-carbon solutions.

"Sands that are precision engineered for performance are the future," says Smith. "They give us much better control of the outcome and are more environmentally sustainable than natural sands."

"The APD pour is a prime example of this, and signals engineered sand is ready for use in every concrete project in New Zealand."

The innovative Japanese technology in Kayasand plant and equipment is already used in over 300 plants across Japan, China, India, and Australia. A typical plant is capable of producing 150,000-600,000 tonnes of concrete sand annually.

Kayasand currently operates 2 plants in Waikato, New Zealand and Sydney, Australia and expects to have at least 15 more by 2030.



Global Cement and Concrete Association

'CONCRETE IN LIFE' 2024/25 REVEALS BREATHTAKING PICTURES FROM AROUND THE WORLD

1. Overall Winner
Henrik Hagerup
Venice beach skating
Concrete In Daily Life

A stunning image of a skateboarder at Venice Beach, California, USA has been named Concrete in Life Photo of the Year 2024/25. It was selected from more than 20,000 entries to the annual global competition, run by the GCCA, which highlights the beauty and essential role that concrete plays around the world.

2. People's Vote winner
Mohamed Rafi - Fluttering Through Life - Concrete In Daily Life

The image, which wins a top prize of $10,000 (ten thousand US dollars) was taken by Henrik Hagerup, at Venice Beach Skate Park, Los Angeles, USA. The park's concrete bowls were inspired by LA's abandoned swimming pool skating scene of the 1970s. Henrik's photo was announced as this year's winner along with 4 category winners and a people's vote champion.

Thomas Guillot, GCCA Chief Executive who helped to judge this year's competition said: "The stunning images highlight concrete's positive impact on our lives right across the planet. Whether it's the vital infrastructure such a bridges, railways and roads that we travel along or the homes, offices and schools we inhabit, concrete is a truly versatile material. Our competition gives anyone with a smartphone as well as professional photographers, the chance to show just how essential concrete is to our lives, as well as how beautiful it can be."

Henrik Hagerup, whose overall winning photo captured a sublime moment at Venice Beach, USA said: "My image is a tribute to the way concrete, when embraced by creativity and passion, fosters connection, dreams, and boundless potential not just in skate parks, but in communities across the world. It's a great honour to win the Concrete in Life 2024/25 competition."

Entries were submitted from every continent and included images of skyscrapers and the modern urban world, as well as key infrastructure such as transport networks, including railways, bridges and roads, and other important structures such as sea defences and dams. The photos also show more intimate human interactions in villages and playgrounds, as well as exquisitely designed architecture and much more.

Diane Hoskins, Global Co-Chair of Gensler, one the world's leading design and architecture companies, and competition judge said, "These winning images highlight the importance of concrete in the breadth of our lives – and they reinforce the importance of decarbonising concrete. Great design of our buildings and infrastructure is enabled by the important properties of concrete."

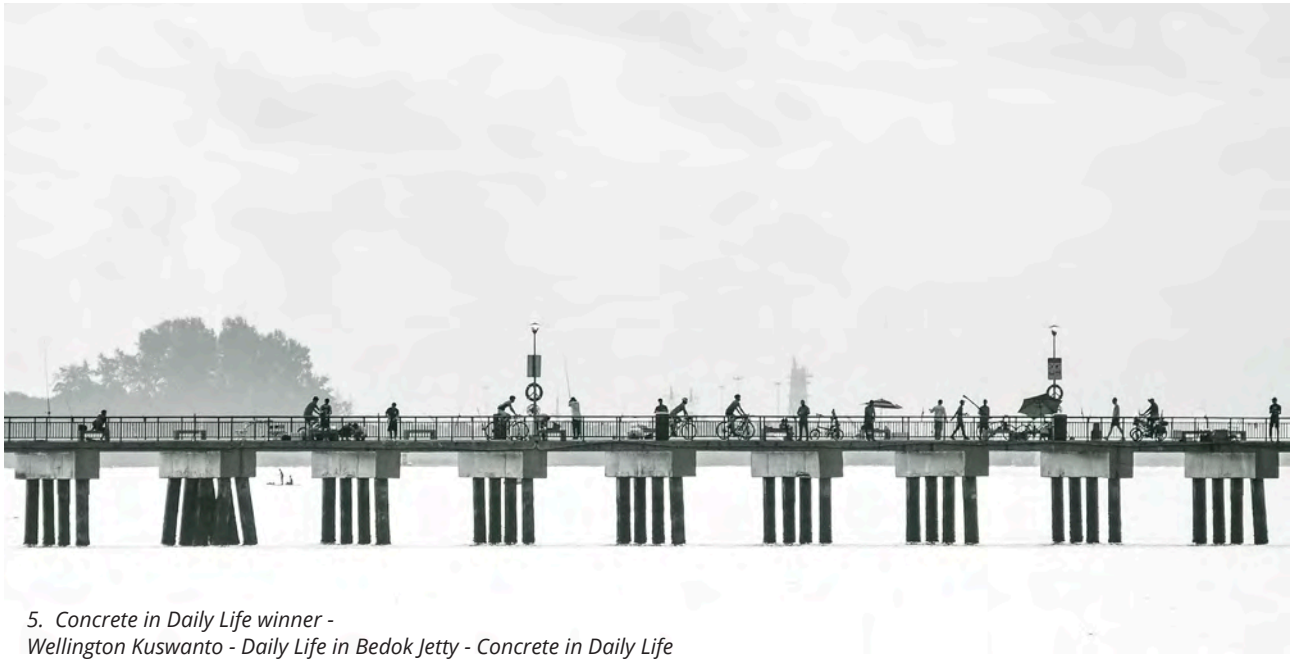
As well as the overall winner, four other category winners were also announced, each receiving a prize of $2,500 USD. Anvar Sadath TA was named category winner in the Urban Concrete category, for his photo called 'Urban Flow' set in Dubai, UAE, which includes the iconic Burj Khalifa. A photo of a Washington, D.C. subway station by Wentao Guo called 'Structure as Aesthetics' won the Concrete Infrastructure category. Wellington Kuswanto won the Concrete in Daily Life category for his picture of Bedok Jetty, Singapore. The Beauty and Design category was won by Artemio Layno for their photo 'Broken Building' set in Amsterdam, Netherlands.

The People's Vote prize, chosen by the public with a $5,000 USD prize, was won by Mohamed Rafi for his picture 'Fluttering Through Life' set in Pondicherry, India.

Chris George, Content Director at Digital Camera World, who also judged this year's competition said "Concrete is all around us and has a beauty that might not always be obvious to some people. The Concrete in Life global photography competition continues to prove it is possible to take stunning shots of architecture and the manmade environment that show off the beauty of this universal building material."

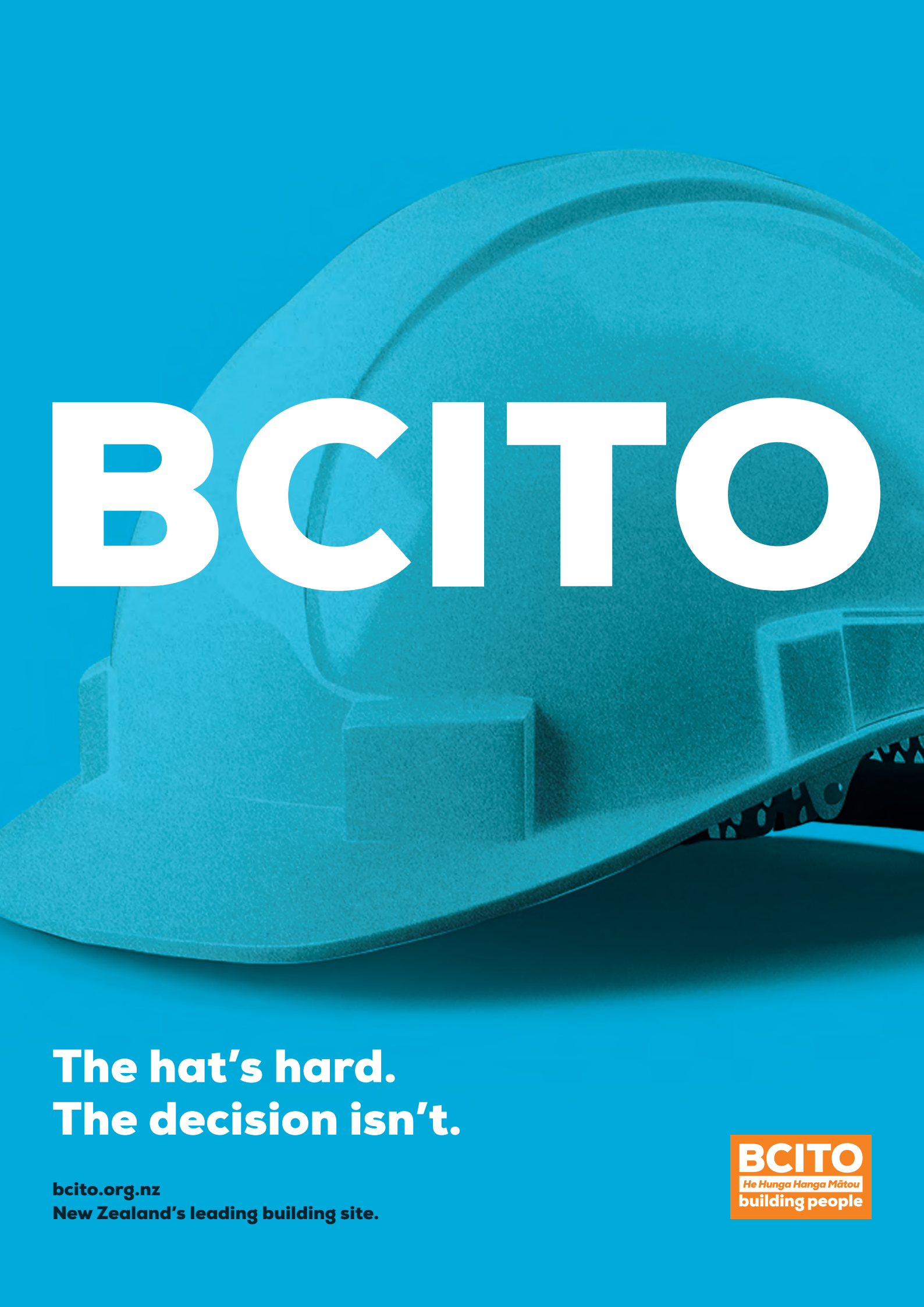
3. Urban Concrete winner
Anvar Sadath TA - Urban Flow - Urban Concrete

4. Concrete Infrastructure winner
Wentao Guo - Structure as Aesthetics - Concrete Infrastructure



5. Concrete in Daily Life winner -
Wellington Kuswanto - Daily Life in Bedok Jetty - Concrete in Daily Life

6. Concrete Beauty and Design winner
Artemio Layno - Broken Building - Concrete Beauty and Design



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Prof. Alessandro Palermo welcomes delegates.

INNOVATIVE ENGINEERING AND MATERIALS TAKE THE SPOTLIGHT AT DOUBLE-HEADER CONCRETE EVENT

FROM NOVEMBER 10 TO 14, 2024, CHRISTCHURCH BECAME THE GLOBAL HUB FOR STRUCTURAL CONCRETE INNOVATION, HOSTING THE PRESTIGIOUS *FIB* SYMPOSIUM AND THE CONCRETE NZ 1-DAY CONFERENCE AT TE PAE CHRISTCHURCH CONVENTION CENTRE.

These events brought together leading minds in concrete research, design, and construction, celebrating advancements in the industry while addressing resilience and sustainability.

fib SYMPOSIUM: A GLOBAL GATHERING OF CONCRETE EXPERTISE

The *fib* Symposium drew 640 delegates from 38 countries, showcasing an extensive technical programme that featured 330 presentations across oral, monitor, and poster formats, supported by 16 special sessions. Five keynote speakers and six invited experts led discussions on critical themes, from earthquake engineering to decarbonisation pathways for concrete.

In summary, the Symposium was an outstanding event, offering a platform for local professionals to engage with global leaders, exchange insights, and show case New Zealand's achievements on the international stage. Symposium co-chair Rick Henry brought the proceedings to a close, thanking the Organising Committee, speakers, delegates, sponsors, and exhibitors for their contributions to its success.

Prof. Rick Henry acknowledges presenters, delegates and sponsors.

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Moustafa Al-Ani, Chair of the conference organising committee.

CONCRETE NZ 1-DAY CONFERENCE: A FOCUSED FORUM

Following Organising Committee chair Moustafa Al-Ani's welcome, Hon Chris Penk, Minister for Building and Construction, opened the conference with a speech that acknowledged the concrete industry's contributions and future potential.

Key presentations included Ethan Page of WSP, whose *Sustainability in the Design and Construction of the CRL Te Waihorotiu Underground Station* paper set a high bar that was met by Dr. Fiona Crichton of Groov and Mike Botherway from Higgins Concrete who discussed strategies to foster resilient mental wellbeing.


Hon. Chris Penk, Minister for Building and Construction.


Tim Blackbourn, WSP.


Dr. Fiona Crichton, Groov.

Ethan Page of WSP accepts the Sandy Cormack Award from Alistair Russell.

Sandy Cormack.

The Lightning Talks session returned after a successful debut in 2023, with Tim Blackbourn of WSP being "live" voted by the audience as having prepared and presented the best talk with *Pioneers: A Brief History of Concrete in NZ*.

Ethan Page (WSP) received the 2024 Sandy Cormack Award for *Sustainability in the Design and Construction of the CRL Te Waihorotiu Underground Station.*

The paper highlighted innovative sustainability initiatives implemented during the design and construction of Auckland's City Rail Link (CRL), New Zealand's largest public transport infrastructure project. Lessons learned, and how they can inform future sustainable infrastructure efforts, were also examined.

Established in 1998 to honour H.W. (Sandy) Cormack, this award recognises papers advancing New Zealand's concrete industry. Judged on structure, clarity, presentation, and relevance, the award includes a $1,000 prize and celebrates excellence in concrete research presented at the annual Concrete NZ conference.

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PLANT AUDIT SCHEME GOLD AWARDS CELEBRATE 10+ YEARS OF EXCELLENCE

CONGRATULATIONS TO ALLIED CONCRETE'S ALEXANDRA, NELSON, WANAKA, WASHDYKE (TIMARU) AND PENROSE PLANTS FOR EITHER MAINTAINING OR SECURING GOLD STATUS IN THE 2024 CONCRETE NZ PLANT AUDIT SCHEME EXCELLENCE AWARDS.

Firth Industries' Aotea Quay plant and Terry's Concrete Te Horo plant also reached the top-step of the podium, accompanied by Atlas Concrete's Takapuna and Wiri plants.

Holcim NZ's Horotiu, Tauranga, Whakatane, Setters Line (Palmerston North) and Bombay plants also celebrated Gold.

The Scheme, which provides an independent audit of around 200 ready mixed concrete plants, now operates a Gold, Silver and Bronze acknowledgement system as a simpler, more transparent way to reward excellence.

To receive an annual Excellence certificate a plant must not have received any corrective actions nor have its testing requirements questioned under the Scheme.

Plants that have demonstrated 3+ years of continuous Excellence are recognised as Bronze, those with 5+ years as Silver, and those with 10+ years as Gold.

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GOLD STATUS

- Holcim (New Zealand) - Horotiu - Zone 4
- Holcim (New Zealand) - Tauranga - Zone 4
- Holcim (New Zealand) - Whakatane - Zone 4
- Allied Concrete - Alexandra - Zone 1
- Allied Concrete - Nelson - Zone 1
- Allied Concrete - Wanaka - Zone 1
- Allied Concrete - Washdyke (Timaru) - Zone 1
- Holcim (New Zealand) - Christchurch North - Zone 1
- Firth Industries - Aotea Quay - Zone 2
- Holcim (New Zealand) - Setters Line, Palmerston North - Zone 2
- Terry's Concrete - Te Horo - Zone 2
- Allied Concrete - Penrose - Zone 3
- Atlas Concrete - Takapuna - Zone 3
- Atlas Concrete - Wiri - Zone 3
- Holcim (New Zealand) - Bombay - Zone 3

Allied Concrete's Ray Bonser and James Mackechnie take home Gold at the 2024 Concrete NZ Plant Audit Scheme Awards.

Terry Whiteman of Terry's Concrete receives a Gold Award from Rob Green. This is Terry's 4th Gold Award – well done!

The Holcim NZ team receives six Gold Awards from Rob Green.

Shane Coutts and Sabina Sekerovic of Atlas Concrete receive their Gold Awards from Concrete NZ Honorary Life Member Rob Green.

Alistair Bennett of Firth Industries receives a Gold Award from Rob Green.

CELEBRATING EXCELLENCE AT THE 2024 CONCRETE NZ AWARDS

ON NOVEMBER 13, THE ANNUAL CONCRETE NZ CONFERENCE AWARDS RECOGNISED INDIVIDUALS AND TEAMS FOR THEIR CONTRIBUTIONS TO TECHNICAL INNOVATION, CUSTOMER SERVICE, SUSTAINABILITY, ALONG WITH HEALTH, SAFETY & WELLBEING, AND DIVERSITY & INCLUSION.

HONORARY LIFE MEMBERSHIP

Russell Bennetto of Busck Prestressed Concrete

Russell's contributions to the concrete industry span over two decades, marked by leadership, innovation, and unwavering dedication. He was deeply involved with Precast New Zealand since its inception in 1999, serving as President (2006–2008) and as a member of the CCANZ/Concrete NZ Board (2014–2020). A driving force behind the 2017 consolidation of legacy associations into Concrete NZ, Russell's efforts strengthened the industry's cohesion and strategic direction.

As leader of Busck Prestressed Concrete, an 80-year-old Whangarei-based precast concrete business, Russell expanded its operations to become New Zealand's largest multi-product manufacturer, supporting local employment, industry growth and regional pride.

Russell has championed health and safety, spearheaded innovations like strand lifting eye testing, and advocated for fair practices and trade training. His support extends to community charities and sports in Northland, underscoring his far-reaching impact as a respected industry and community leader.

CONCRETE INDUSTRY APPRENTICE OF THE YEAR

Naziah Quinn of HEB Construction

Bay of Plenty precast yard foreman Naziah Quinn was named the 2024 Concrete Industry Apprentice of the Year, recognized for his leadership, technical expertise, and passion for concrete. A team leader at HEB Construction, Naziah has nearly nine years of precast experience, and is currently completing his apprenticeship while working on the Tauranga Northern Link project.

Naziah's career began in 2007 as a steel fixer, where he developed a meticulous, problem-solving approach. His skills now span all stages of precast production, including mould setup, steel preparation, quality assurance, and finishing.

Known for his precision and dedication, Naziah consistently leads by example, maintaining a safe and efficient worksite.

Judges commended Naziah's leadership of a diverse team and his drive for excellence, reflecting the values celebrated by the BCITO and Concrete NZ award.

Russell Bennetto from Busck Prestressed Concrete, receives his Concrete NZ Honorary Life Membership for many decades of outstanding service to the concrete industry.

Naziah Quinn of HEB Construction in Te Puke was acknowledged as the 2024 Concrete Industry Apprentice of the Year by BCITO and Concrete NZ.

Concrete was central to the vision and execution of the Ngā Ūranga ki Pito-One section of the capital's Te Ara Tupua shared pathway.

EXTRA DISTANCE AWARD

Higgins Concrete for Te Ara Tupua and Tupua Horo Nuku projects in Wellington

Higgins Concrete in Wellington, Otaki, and Porirua served as strategic supply partners for these closely aligned beacon projects in the capital city.

On the Te Horo Nuku (Eastern Bays) project, the team successfully navigated the daily challenge of coordinating logistics, mixing, and placement within a 2–3-hour tidal window, using a 50 MPa low-carbon, quick-setting mix to meet durability requirements of the seawall foundations.

On the other side of the harbour, the Te Ara Tupua project also required precise timing to deliver high-strength, durable concrete for demanding coastal applications, including the striking X-Bloc-plus units.

The judging panel commended Higgins Concrete for their exceptional supply efforts, highlighting the Ngā Ūranga seawalls. Overcoming challenging delivery requirements, Higgins Concrete coordinated barge shipments and dispatched multiple trucks as sea conditions allowed.

Their bespoke mix design and standby technician ensured set times were met within tight time-frames, exemplifying their dedication to going above and beyond.

Te Ahu a Turanga: Showcasing precision engineering with Higgins Concrete's high-performance mix for the bridge superstructure.

TECHNICAL EXCELLENCE AWARD

Higgins Concrete for the Te Ahu a Turanga – Manawatū Tararua Highway

Higgins Concrete played a pivotal role in the Te Ahu a Turanga highway project, which connects the Manawatu and Tararua regions. The project features two 300-meter bridges, requiring distinct structural solutions: a cantilever concrete design and steel girders with a concrete slab.

Higgins Concrete supplied specialised mixes tailored to each bridge's needs, including a tremie mix for piles, a self-compacting mix for pile caps and piers, and a high early-strength mix for the superstructure. Their adaptability to revised specifications and pre-project mix trials ensured exceptional concrete performance under demanding conditions.

Judges praised Higgins Concrete for their technical excellence, innovation, and commitment to quality, highlighted by the development of a custom mobile testing lab. Their contributions ensured the success of this critical infrastructure project while meeting complex engineering requirements.

A **Technical Excellence Highly Commended Award** went to Bridgeman Concrete for adopting Verifi technology to enhance efficiency and reduce waste in ready mixed concrete production and delivery.

Stevenson Concrete's 'cultural shift' health and safety initiative was rewarded at the 2024 Concrete NZ Conference Awards.

Stevenson Concrete receive the Health, Safety and Wellbeing Award from Concrete NZ CEO Rob Gaimster.

HEALTH, SAFETY AND WELLBEING AWARD

Stevenson Concrete for the *Health & Safety Cultural Shift* Initiative

Stevenson Concrete took home this award having transformed workplace safety with its *Health & Safety Cultural Shift* initiative.

The company has reset practices, emphasising employee engagement and shared responsibility. Through proactive discussions and interactive training on topics like hazardous substance handling and sun exposure, the company has fostered a culture of continuous improvement.

Key initiatives include the Critical Risk Tool and high-visibility yellow PPE, which enhance risk management and workplace safety, and have significantly reduced injuries.

The judges commended Stevenson Concrete's efforts to make safety a shared commitment rather than solely a management responsibility. By empowering employees and prioritising proactive risk management, Stevenson Concrete has set a benchmark for a collaborative and safer work environment.

A **Health, Safety and Wellbeing Highly Commended Award** was presented to Higgins Concrete's for its *Groov Ambassador Programme,* which developed an existing initiative to ensure wider coverage and continued relevance.

Dominic Sutton and Kerry Newton of Firth Industries receive the 2024 Carbon Reduction Award.

Firth Industries supplied exemplar low-carbon concrete to the Fletcher Living LowCO beacon residential project at Waiata Shores near Takanini.

CARBON REDUCTION AWARD

Firth Industries for LowCO Homes at Waiata Shores

Firth Industries partnered with Fletcher Living on the LowCO Homes pilot project near Takanini to prioritise reducing embodied carbon in residential construction. This initiative includes a standalone home, and three terrace homes designed as a blueprint for sustainable housing.

Key innovations included Firth's EcoMix EC34, which achieved a 34% carbon reduction compared to the ISC baseline, later improved to 40% with EcoMix EC40 through continuous refinement.

Judges praised LowCO for its substantial carbon savings, cutting-edge innovations, and over-arching approach to sustainability. The project sets a benchmark for low-carbon housing, demonstrating a scalable model for addressing New Zealand's housing needs while meeting urgent climate goals.

A **Carbon Reduction Highly Commended Award** went to Hynds Pipe Systems, for sustainable stormwater solutions using low-carbon materials that had no impact on budget or current construction methods.

Celebrating diversity and inclusion: A proud Nauhria team member thriving in a supportive and empowering workplace.

Tony Nawrisielski of Nauhria Group receives the Diversity and Inclusion Award.

DIVERSITY AND INCLUSION AWARD

Nauhria Group for the *Great & Safe New Zealand* Initiative

Nauhria Group prioritises diversity and inclusion, with 90% of its workforce comprising first-generation Kiwis from various cultural backgrounds. The company fosters a supportive environment through daily team meetings, employee recognition, and celebrations like Diwali, Chinese New Year, and Gurpurab, allowing employees to share their heritage.

Driven by the purpose of "Helping Build a Great and Safe New Zealand," Nauhria leverages its inclusive culture to inspire innovation and community spirit. Judges praised the company for its genuine commitment to diversity, inclusive leadership, and open communication. These initiatives have created a workplace where employees feel valued, empowered, and united in contributing to the company's success and that of the broader New Zealand community.

A **Diversity and Inclusion Highly Commended Award** acknowledged Holcim New Zealand for its leadership programs promoting diversity and mental wellbeing, such as *Girls In Infrastructure* and *Tikanga Capability Programmes* for leaders.

CONCRETE NZ LIBRARY

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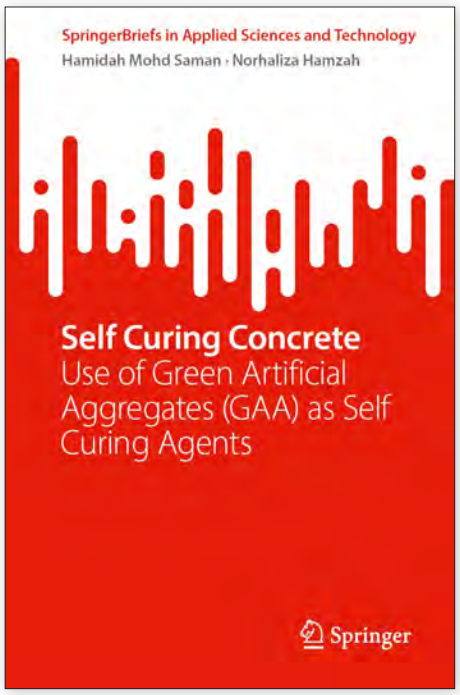
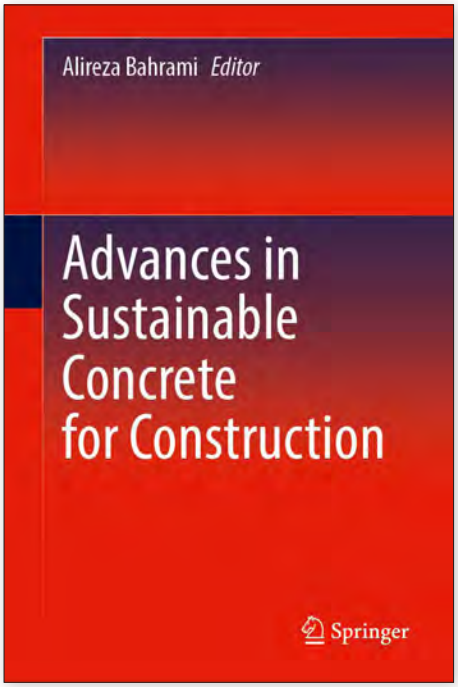


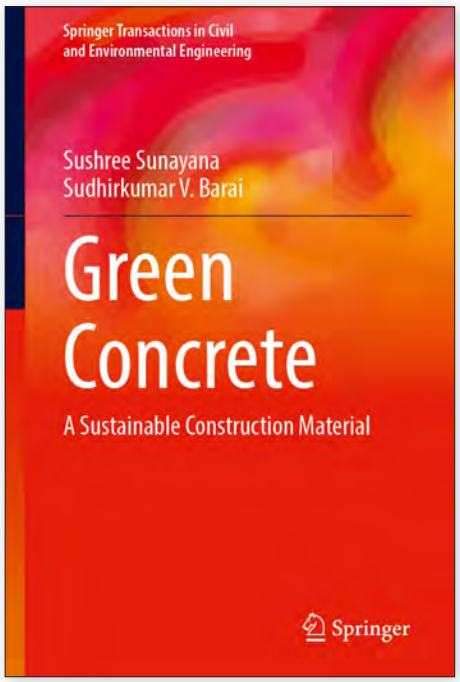
SELF CURING CONCRETE: USE OF GREEN ARTIFICIAL AGGREGATES (GAA) AS SELF CURING AGENTS BY HAMIDAH MOHD SAMAN AND NORHALIZA HAMZAH

Focussed on self-curing techniques using green artificial aggregates, this text is aimed at both researchers and practitioners, and seeks to simplify complex concepts and offers practical insights for real-world application. It reviews various self-curing methods, highlighting their potential to enhance concrete performance without external curing. The authors also discuss the development of lightweight artificial aggregates and other materials as effective self-curing agents. This resource is essential for those interested in sustainable, innovative solutions in modern concrete technology.

ADVANCES IN SUSTAINABLE CONCRETE FOR CONSTRUCTION, EDITED BY ALIREZA BAHRAMI

Innovative, eco-friendly solutions transforming the concrete industry are investigated in this publication. The book covers climate-improved concrete, green binders, recycled materials, and high-performance composites. It examines the optimization of reinforced concrete structures, replacement of structural elements, and non-destructive testing methods for performance prediction. Topics also include engineered cementitious composites, internally cured concrete, and the use of industrial by-products to address environmental challenges. This volume serves as a valuable reference for engineers, architects, and researchers dedicated to advancing sustainable infrastructure and reducing the construction sector's carbon footprint.





GREEN CONCRETE: A SUSTAINABLE CONSTRUCTION MATERIAL BY SUSHREE SUNAYANA AND SUDHIRKUMAR V. BARAI

This book explores using recycled construction waste as coarse aggregate and reducing cement use through supplementary cementitious materials (SCMs), mainly fly ash. It evaluates 100% recycled aggregate concrete for strength, safety, and sustainability, using particle packing mix design to enhance performance and reduce environmental impact. The book presents key findings on micro and macro properties, structural performance, and practical design modifications. Illustrated with charts, images, and test results, it offers readers a clear understanding of SCM-enhanced recycled concrete across scales—from material composition to structural application.

LIBRARY QUIZ

To go in the draw to win a copy of *Self Curing Concrete: Use of Green Artificial Aggregates (Gaa) as Self Curing Agents* by Hamidah Mohd Saman and Norhaliza Hamzah answer the following question:

Which Group within the Concrete NZ family has recently moved from Stakeholder to Sector status and gained a seat on the Concrete NZ Board?

Email your answer to **library@concretenz.org.nz**. Friday 27 June 2025.

Congratulations to Mason Airee of Solid State Concrete, who correctly answered the Vol. 63 Iss. 02 Library Quiz to receive a copy of *Sacred Modernity: The Holy Embrace of Modernist Architecture* by Jamie McGregor Smith.

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