Preformance

Digital Capability Statement


BUS INTERCHANGE

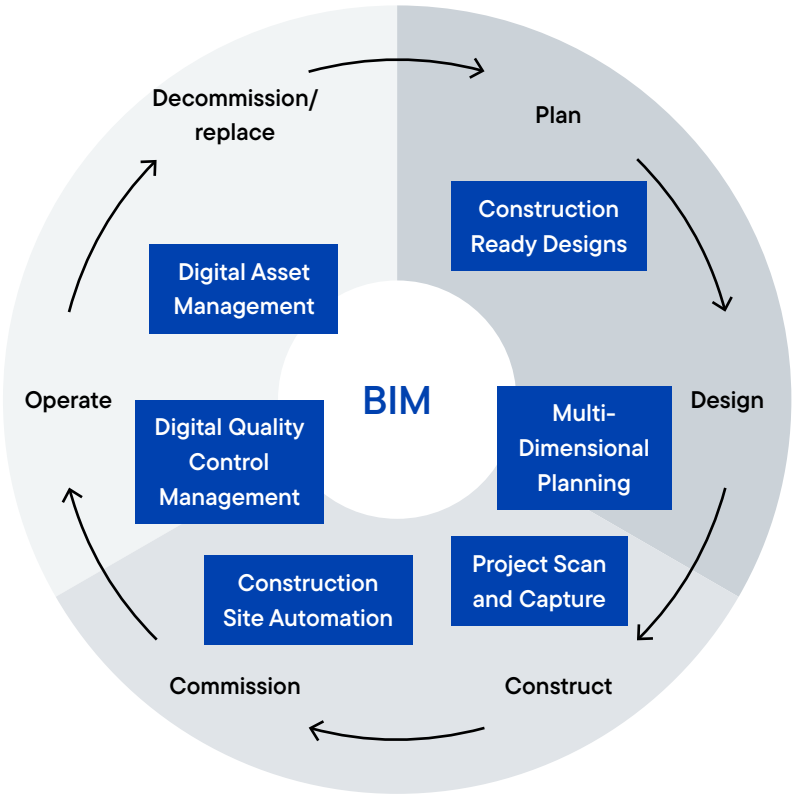
Contents

Services we offer

In the evolving landscape of design, construction, and asset management our commitment to excellence is reflected in our advanced and innovative digital services. Core to our capabilities is putting BIM at the heart of delivering detailed, accurate, and highly collaborative solutions that support the complete asset lifecycle.

Our expertise enables clients to visualize their projects with unparalleled clarity, optimise their resources, and achieve efficiency at every stage of an assets life. With a proven track record of transforming concepts into reality, we are your trusted partner in building a sustainable and innovative future.

Building Information Lifecycle and Services



Construction Ready Designs

Design models are often not fully ready for an efficient construction project. We know that resolving model gaps in the digital world saves a significant amount of time and cost in construction projects. We fully coordinate designer models, resolve material clashes and identify items that may have been missed. This service de-risks construction projects reducing rework, variations and associated delays.

Digital Quality Control Management

Putting the digital model of a project into the hands of site teams in a way that allows them to easily overlay it onto what they see brings a model to life. We provide Augmented Reality (AR) services that make the BIM model an accessible on-site quality control and communication tool.

Multi-Dimensional Planning

The use of 3D BIM models accurately captures the physical dimensions of an asset. The value of a BIM model rapidly increases when additional dimensions are added depending on the requirement. We provide planning services with adding additional dimensions of time (4D), cost (5D), sustainability (6D) and operations (7D) to 3D models.

Project Scanning and Capture

A digital model is only half of the picture. We use advanced technology to capture and survey the reality of sites and the progress being made. Combined with the BIM model, scan and capture data allows the reality to be compared with the designed model. This enables early issue identification, communication and optimal design decisions.

Construction Site Automation

Embracing the potential of site automation and robotics is the future for construction. For now making robotics effective on construction sites relies on human input. We are at the forefront of enabling the use of construction robotics on construction sites to achieve time, cost, quality and health and safety benefits.

Digital Asset Management

The ongoing maintenance and operation of a built asset is a significant cost and commitment. We work with clients to incorporate the lifetime data needs of an asset into the project that creates it, and to support the transition to ongoing management with data and digital capabilities.

Construction Ready Designs

BIM technology allows the collaborative identification and resolution of design issues in a digital model, saving time and money compared to resolving the same issues in the real world.

In construction the creation of multiple digital BIM model layers by different designers as input into a single project or location is common. This process creates multiple models, that designed in isolation, can create clashes where design elements intersect. Coordination of the different BIM model layers is a process that identifies and resolves cross model conflicts and clashes digitally. We use specialist technology and construction smarts to identify and quantify the impact of clashes. This process allows high impact clashes to be identified earlier and passed back to design teams to resolve.

In our experience with construction the cost of resolving issues in a digital model is a fraction of the cost and time delay compared with allowing it to be resolved on site. Linking the BIM model with reality capture processes through the construction project allows the model to be evolved from a designed expectation to an as-built reality.

3D Co-Ordination and Collaboration

Our digital BIM team is highly skilled in managing the implementation of BIM in both complex vertical or horizontal projects. We use BIM processes to streamline both technical coordination and communication between designers and subcontractors. The team have access to the latest industry-leading technology systems, ensuring the model is well-coordinated before issuing for construction..

1	:28
dollar spent on resolving critical and major design clashes digitally.	dollars saved if dealing with same issues on a construction site.

	Critical	Major	Minor
Cost to resolve issues digitally i.e. cost to fix ALL issues of that priority digitally across the whole project.	$6,200	$106,275	N/A
Cost to resolve issues on-site i.e. cost to fix ALL issues of that priority on-site across the whole project.	$232,113	$2,943,000	$450,000
Money **saved** by resolving issues digitally	$255,913	$2,836,725	N/A
Ratio of BIM spend ($) to cost spent on-site ($)	1:37.4	1:27.7	N/A
Overall ratio of BIM spend ($) to cost spent on-site ($)		**1:28.2**	

Impact study on a live construction project comparing the cost of resolving issues digitally versus on site.

Digital Quality Control Management

Efficient and effective management of built assets relies on accurate, trustworthy, and easily accessible data. Our digital team employs Building Information Modelling (BIM) procedures to align stakeholders in a controlled environment, fostering collaboration throughout construction. Our commitment to data quality is unwavering, ensuring that project teams can seamlessly create a digital asset portfolio.

We harness Augmented Reality (AR) technology to revolutionize construction and asset management practices. Our AR solutions enable teams to overlay digital design plans onto the physical site. This innovation empowers operators and surveyors to visualise the planned layout, ensuring precise location and elevation alignment.

At Preformance, we're dedicated to leveraging technology and expertise to drive excellence in BIM, project scanning, data management, and AR integration. Our capabilities are tailored to deliver exceptional results in the most demanding projects, setting new standards for efficiency and precision.


Preformance

Multi-Dimensional Planning

The addition of different dimensions on to the base physical 3D BIM model helps different stakeholders make informed decisions at every stage of an assets lifecycle.

Like the physical structure when it is well managed and maintained the digital BIM model has a long and valuable lifespan. Key to enabling this lifespan is understanding the different use cases for the digital model to support the physical asset lifecycle. The industry defines the different dimensions to represent the layers of data that can be added to meet different needs.

We use specialist software to combine different data sets and create unique views of assets. The different dimensions that we enable are:

4D

Incorporating the elements of time. This is typically used for construction sequencing and program planning.

5D

Adding cost data to a model allows greater budgetary control throughout a project lifecycle.

6D

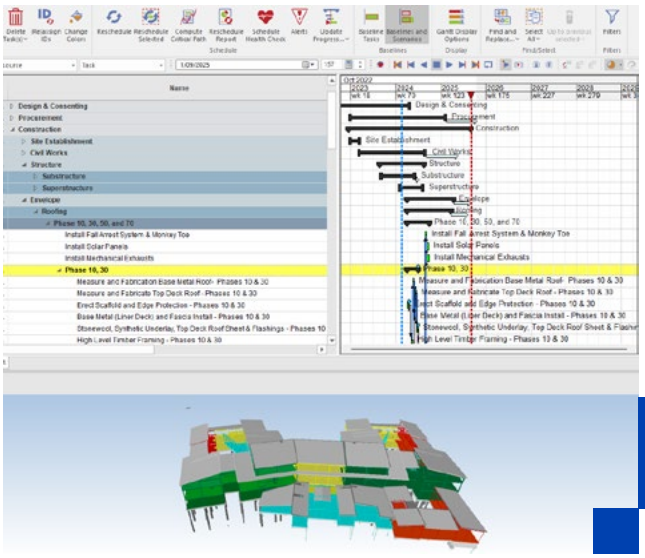
Builds into a model the sustainability aspects, incorporating the impact of the asset. It is used for analysing a buildings lifetime performance.

7D

Provides data for maintenance and asset management after the building is constructed. It ensures that all information needed to operate and maintain the building is included in the model.

8D

Adding the perspective of enhancing safety during design and construction phases allows for detailed risk assessments and prevention of accidents by visualising potential hazards early.



Example of a 4D model for a health sector project

Project Scanning and Capture

Preformance employs a comprehensive range of cutting-edge techniques for project scan and capture. We utilise laser scanning, drones (UAV), 360-degree cameras, and point cloud scanners to gather highly detailed geometric information about existing conditions. This scanning process is instrumental in rapidly and accurately generating a digital twin, providing a precise representation of existing project conditions.

Drone Operation

We fly drones to capture, survey and inspect work sites and physical assets. Drone captures support construction and asset operation processes by recording the site reality. Linking the drone platform to the BIM model allows captures to provide more than an accurate site record, they can be overlayed with the BIM model to highly valuable site relevant information like cut and fill volume estimates or material stockpile estimates. By capturing site and condition as digital images it enables using Artificial Intelligence (AI) to create predictions, for example being able to quickly identify changes for one scan to the next.

Laser Scanning

This is the process of capturing existing conditions using the point cloud scanner to create point clouds. Point cloud scans have higher fidelity allowing for accurate measurements to be made from the imagery.

360˚ Photo

To build a virtual visual record of a place, we use 360-degree high-resolution photography. This helps the project transition from paper-based to image-based project management. It provides the benefits of a virtual walk through and full-coverage documentation almost instantly without requiring extra hours to process and locate photos.

Construction Site Automation

Construction site automation and robotics represents a transformative leap for the construction industry. By integrating cutting-edge technology, automation, and artificial intelligence, robotic systems enhance productivity, safety, and quality across various construction processes. Preformance is at the forefront of enabling the use of construction robotics and automation on construction sites.

Digital Enablement

While construction robotics and automation are exciting, the robots will need human enablement for the foreseeable future. Robots rely on highly coordinated 3D models to guide their actions. Preformance creates these models and data specific to enabling robotic construction tool inclusion and successful operation.

Multiple Tangible Benefits

Tangible benefits for using robotics and construction automation come in two categories. The first being direct project benefits like cost and construction programme time. The second are indirect benefits such as health and safety, and quality. At Preformance we understand the complete business case and benefits for implementing construction site robotics and automation.

A Productivity Explosion

Construction productivity needs to fundamentally change and improve to keep up with the demands and demographics of modern society. Automation and robotics represent the pathway to achieving an explosion in construction productivity. The outcome will be lower building cost, using less people, and creating less waste. The future is bright.

Project Example

A project using a semi-autonomous robot accessed the following benefits as compared to the labour alternative:

20% of the workforce
36% less programme time
37% less cost

We look forward to robotics becoming the default within construction projects.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JAIBOT

Digital Asset Management

Combining a BIM model and reality capture technology creates a digital record of an asset that can be transitioned into Digital Asset Management processes. We work with clients to create digital records of assets that are refined during construction projects and then used for ongoing Facilities Management.

Metadata Strategy Planning and Management

Facilities Management is fundamentally different to construction and requires different data sets and labels within digital models. We work with Facilities Managers to develop the metadata strategy for data to be included in a digital model at project inception and then manage the collection and capture of this data.

Facilities Management

The BIM model, as well as the associated library of products and equipment information, maintenance manuals, warranties, and inspection information, can be used by Facility Managers and owners to manage their assets and perform routine maintenance operations across the asset lifetime. This often feeds or integrates into specialist software systems to manage work orders (e.g Maximo or Infor).

Continuous Performance Data

Measuring the operational performance of an asset is often overlooked in the design process. We work with leading IoT sensor providers to incorporate the data measurement and collection capabilities required to track the asset performance over time.

Digital Twins

Unifying different data elements associated with an individual asset, or network of assets, into a visual representation on a digital twin platform is incredibly powerful. It can be used to communicate planned or completed changes, visualise details or zoom out to the whole picture. It also provides the ability for machine learning artificial intelligence models to find insights in the data not visible to the human eye.

The Preformance Team

Jonathan Sinclair

Digital Services Director

Heath Turnbull

Technical Director

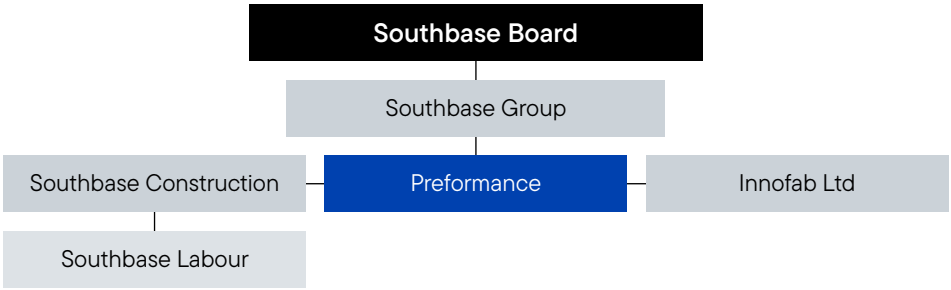
Benny Huang

Construction Technology Director

Kishan Seger

Technical Director

Company profile

Item	Detail	
Trading name:	Preformance	
Full legal name	Preformance Ltd	
Type of entity (legal status):	Private Limited Liability Company	
Organisational Structure		
Parent company	N/A	
Physical address:	50 Manchester Street, Christchurch	
Postal address:	PO Box 1002, Christchurch 8140	
Registered office:	50 Manchester Street, Christchurch 8011	
Location of offices in New Zealand:	**Auckland** North Island Head Office	Level 4, 165 The Strand, Parnell, Auckland 1010, PO Box 37190, Parnell, Auckland 1151
	Hamilton/Waikato	65 Victoria Street, Hamilton, PO Box 12382, Chartwell Square, Hamilton 3248
	Christchurch South Island Head Office	50 Manchester Street, Christchurch, PO Box 1002, Christchurch 8140
	Queenstown	165 Glenda Drive, Queenstown, PO Box 2204, Wakatipu, Queenstown 9349
	Dunedin	1 Forth Street, Dunedin 9016
Total number of employees in New Zealand	182 FTE 16 Preformance	
Business website:	www.preformance.co.nz	
NZ Business number:	9429051864125	
Country of residence:	New Zealand	
GST registration number:	141-924-907	

Partner with Preformance to deliver value throughout your project lifecycle

Get in touch to discuss how we can support on your next project.

KEY CONTACTS

Jonathan Sinclair

Digital Services Director

M. +64 21 681 976

E. jon.sinclair@preformance.co.nz

Heath Turnbull

Technical Director

M. +64 21 189 2509

E. heath.turnbull@preformance.co.nz

Benny Huang

Construction Technology Director

M. +64 21 914 609

E. benny.huang@preformance.co.nz

Kishan Seger

Technical Director

M. +64 27 466 1974

E. kishan.seger@preformance.co.nz

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