

Three Reasons to Digitally Optimise Construction Management

CONSTRUCT SMARTER - CONSTRUCT DIGITALLY



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Three Reasons to Digitally Optimise Construction Management

Introduction

Founded over 40 years ago, and with over \$5 billion of work already completed, Hindmarsh is one of Australia’s leading property and construction companies.

With a reputation for providing specialist residential, commercial and retirement developments full of character and craftsmanship, Hindmarsh continues to help shape the landscape of Australia.

Problem

In the post-pandemic world, Hindmarsh wanted to be able to efficiently track and record the repetitive process of replacing combustible cladding panels containing aluminium composite panel cladding (ACP).

Solution

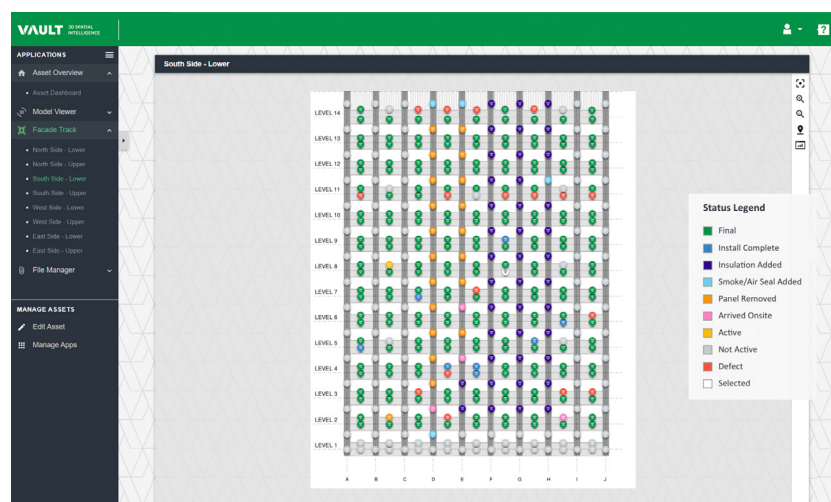
asBuilt’s Façade Track solution and Vault platform, and their access to Microsoft Azure’s cloud-based data storage capabilities, enabled Hindmarsh to digitally transform their quality assurance procedures.

This digital optimisation improves Hindmarsh productivity when it comes to record taking and data sharing in construction project management, especially with repetitive tasks like panel replacement.

A digitally connected ‘smart’ construction site seamlessly backed up by platforms that enable managers to track progress visually through live insights.

Key results

- Manual processes are digitised and optimised, such as workers taking photographs before, during and after a task – instead of renamed files stored on a server.
- End-to-end visibility enables quick and up-to-date communication with all stakeholders through one connected platform.
- Almost real time report and manage regulatory requirements – no more endless paperwork!
- Increased peace of mind for contractors, owners, and residents.
- Improved quality assurance procedures and record storage. Know exactly who did what task, when, and with photographic evidence.



HINDMARSH CASE STUDY

Façade Track Panel Replacement



Introduction

Every year a shiny new piece of tech promises to make construction easier, but more often than not, implementing these solutions ends up making more work.

asBuilt's Façade Track is built by people with hands-on experience in the industry, and a passion to harness tech to make construction safer and more efficient for contractors and clients.

The Problem

Construction management is challenging. The industry remains one of the least digitised, and pressure to swiftly deliver outcomes safely and efficiently leaves site management teams battling endless paperwork and unforgiving time constraints.

Imagine, then, being able to visually track each task at each stage of performance across an entire construction site. By digitising manual processes and utilising tracking technology like QR codes, workers can simply upload photographic evidence of their completed tasks, making it easier than ever to track and record progress and site data. The benefits for a wide range of construction projects are clear.

The task of replacing thousands of identical aluminium composite panels (ACP) creates a perfect case study for this technology. Firstly, recording the current state of compliance (or lack thereof) when the panel is removed. Secondly, tracking and recording the remedial works and replacement of identical-appearing panels is difficult to manage. There remains an urgent industry wide need to replace these types of panels, since they contain cladding similar in composition to the type used in the London's Grenfell Tower high-rise building, said to have amplified combustion in the fire which caused the death of at least 72 residents in June 2017.

Hindmarsh Construction faced a cladding replacement project in Adelaide which they wanted to manage in a different way.

The project is a 26-floor high-rise commercial building, with 3,100 identical black panels, in-between 52 identical column faces. By using Façade Track, Hindmarsh can visually track panel replacement easily and efficiently. The building site is represented spatially, and colour-coding of areas and completion levels enables immediate progress tracking – no more flicking through piles of paper to work out how a project is progressing. The entire supply chain is now connected digitally, enabling all to operate with more certainty.

The Solution

Façade tracking can help construction projects to adapt to the fast-changing environment in which they operate, become more efficient, and deliver faster and safer outcomes for owners and occupants.

Digitisation tools like asBuilt's Façade Track are the answer for efficient, spatially intelligent construction. In an industry where managers struggle to stay on top of paperwork, digitisation equals enhanced operational efficiency.

The asBuilt Façade Track solution interface enables control of access, so as expertise increases, your team will gain increasing self-governance.

There are five categories of user group access, ranging from admins with full access and editing control, to third-party stakeholders who can only view specific information. Each user's log in to the Façade Track solution is secured through Microsoft Login and Multi Factor Identification. Users can view their project, with the level of access assigned by user group permissions.

For example, contractors on a panel replacement project would be able to see project, asset, and site information and data, as well as be able to upload data from their tasks, such as QR code scanning and photographic evidence of successful panel replacement or specific faults.

This workflow seamlessly allows data from the ground to be readily available to all appropriate stakeholders – from management to clients – at the click of a button. Project progress is tracked visually and in real-time, with colour coding of each installation stage enabling easy and instant understanding.

Colour coding is also used to mark successfully completed individual tasks as green, with a defect reporting tool available on the interface. Once a potential defect is flagged, it remains colour coded red until it is rectified. This also creates a clear and coherent paper trail of each potential defect, giving managers and clients deepened peace of mind when dealing with repetitive tasks like panel replacement.

We outline **three main reasons to digitise your construction sites**, and explore how it can elevate your workflow



REASON 1

Seamlessly Track
Repetitive Actions
with Certainty



REASON 2

Visual Management
= Quick & Clear
Communication



REASON 3

Harness the Power
of Data through
Microsoft Azure

REASON 1

Seamlessly Track Repetitive Actions with Certainty

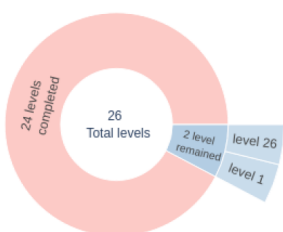


Repetitive tasks like panel replacement create significant practical challenges in recording that work is being done correctly and safely – especially if there are thousands of identical panels on a building project.

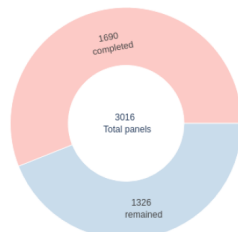
With asBuilt’s Façade Track solution, each panel is stored spatially and tracked via a QR code. Workers simply place a sticker with a QR code on each panel and installation site, then take a photograph at each stage of the replacement process. This workflow creates a unique digital record, which can seamlessly be stored in the cloud.

Key wins

- Paperwork is simplified, giving much needed time back for contractors and site managers who often work overtime to meet strict deadlines.
- Repetitive tasks often cause quality issues. Leveraging Façade Track improves safety and efficiency while reducing stress for contractors, clients, and building occupants.
- Azure Machine Learning can provide increased surety and quality of record-keeping means everyone can sleep better – with added benefits for insurance coverage.



*Exclude the corner panels

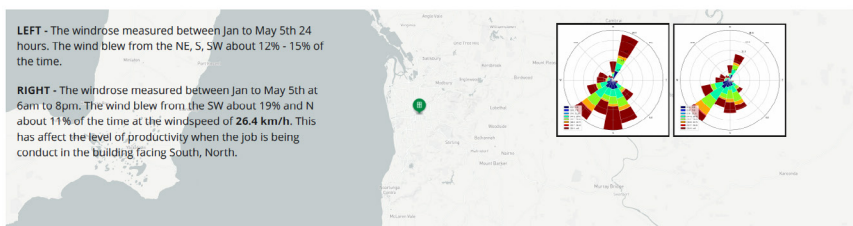


*Exclude the corner panels, result taken from level 1



*Exclude corner panels, result taken from level 2

How Weather Affects Project's Productivity



Quantitative between Jan - May

Building Direction	no. Hours	no.Workflow	no.Completed Panels	no.Working Panels
North	190	1313	424	852
East	200	1438	429	867
South	200	1400	396	860
West	250	1513	429	891

REASON 2

Visual Management = Quick & Clear Communication



On a complex construction project like the Hindmarsh panel replacement, vast quantities of information are generated every hour and at every stage of progress. But how can we store – and retrieve – that data in a way that’s most useful for contractors?

By gathering time and date stamps through spatially referenced photographic metadata on a project, we can then store, share, and utilise this data to keep stakeholders across a project instantly informed of progress.

Key wins

- Increased visual mapping capability, such as colour-coding, enables instantly understandable progress mapping.
- Centralised data means stakeholders across the project can easily stay on the same page and up to date on progress in real time.
- Duplication of photo metadata is checked with AI algorithms and automated reports issued to site staff - quality is maintained digitally.

REASON 3

Harness the Power of Data through Microsoft Azure



Digital leaders asBuilt and Microsoft have come together to connect IoT, 3D spatial intelligence, and cloud-based data storage technology to offer inspired construction industry solutions. By combining asBuilt's Façade Track and Vault platforms with Microsoft Azure's unparalleled flexibility and scalability, leaders in the construction industry can now seamlessly apply end-to-end solutions to digitally transform their projects.

asBuilt utilises Microsoft Azure for their Façade Track and Vault platforms and cloud-based data storage needs. "Azure is the right solution, trust in operation and security are key," says Craig Lamont, Chief Commercial Officer at asBuilt.

Craig describes Azure as a 'lake of data' brimming with valuable information about progress on each construction project, with each digital asset attributed to a spatial coordinate in that lake. Based on a spatial reference and time stamp, asBuilt's Vault guides you to its precise location – and without the need for complex sub-folders or difficult-to-follow infrastructures.

"Facade Track was intended to visualise project progress and reduce time taken by a site management team to complete paperwork. We achieved that and delivered a set of information making predictive analytics real. It changed the way we delivered documentation. The handover set is a complete and accurate record. We couldn't be more happy.," says Craig.

Key wins

- Easy storage and access to vast quantities of on-site data.
- A flexible and scalable solution that grows with your projects .
- Real time reporting connecting the whole supply chain.
- Provide rich insights to better manage time, cost and cashflow.

Conclusion: Construct Smarter - Construct Digitally

Digitally transforming construction projects offers so much more than just slashed paperwork time and easy to share progress tracking.

From happier site managers to more confidence for insurance companies and investors, the potential of implementing spatially intelligent solutions like asBuilt's Façade Track and Vault platforms is limitless.

Ready to learn more about how asBuilt can elevate workflow and communication on your construction projects?

- Learn about the asBuilt Façade Track solution by visiting www.asbuiltdigital.com
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