DIGITAL CAREERS IN BUILDING OPERATIONS AND MANAGEMENT

Developed by:

CGF
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Building Institute Aotearoa

BUILT ENVIRONMENT CAREER STREAMS

Ngā ara rerekē o te ao hanga taiao

DIGITAL CAREERS IN ARCHITECTURE

This guide provides a helpful overview of the digital skills required for building operations and management careers – including facilities management, asset management, and property management roles. It's intended to help you understand:

- The digital skills needed for different types of roles and at different career stages
- How to develop these skills through practical application and training
- How digital capabilities can accelerate your career progression
- Whether digital specialisation might be right for you

This supplementary document should be read alongside the main 'Building Operations and Management Career Stream' guide. Together, these guides offer a clear picture of how digital capabilities can support those in building operations careers to deliver effective asset management, building performance optimisation, and operational excellence.

WHY DIGITAL SKILLS MATTER IN BUILDING OPERATIONS AND MANAGEMENT

Building operations and management encompasses facilities management, asset management, and property management – three related but distinct functions concerned with the ongoing performance, maintenance, and value of buildings once construction is complete.

Digital skills in this career stream differ from those in design and construction – the focus shifts from project-based model creation and coordination to ongoing data management, system monitoring, and evidence-based decision-making during the operational life of buildings.

Digital maturity in New Zealand's building operations sector varies considerably. Larger corporate occupiers, government agencies, and institutional portfolio holders are increasingly investing in integrated workplace management systems, building management systems, and digital asset registers. On the other hand, many smaller property and facilities management operations continue to work with spreadsheet-based records, paper maintenance logs, and reactive management approaches.

The gap between leading practice and common practice is significant, though there is a move toward greater digital capability as building owners demand better performance data and more transparent asset management.

A distinctive challenge for building operations professionals is the handover gap – the disconnect between the digital information produced during design and construction and the information building operators actually receive and can use. BIM models, commissioning records, and as-built documentation are increasingly available at project completion, but facilities managers often lack the tools, training, or system integration needed to make use of this information in their day-to-day operations. Bridging this gap is an emerging skill needed for the sector.

THE DIGITAL SKILLS LANDSCAPE

Digital skills in building operations and management include:

Foundational technical capabilities – Facilities management and asset management platforms, building management systems (BMS), energy management platforms, work order management systems, digital compliance documentation systems, and basic data literacy for operational reporting and dashboards.

Operational data management – Asset registers (location, specification, condition, remaining life), maintenance data (work orders, service history, planned maintenance schedules), performance data (energy use, occupancy, comfort complaints), compliance documentation (BWoF, fire safety, seismic assessments), and handover information from construction projects.

Collaboration and communication – Work order management and contractor coordination, tenant and occupant communications, coordination across building management teams, communicating building performance information to building owners and governance bodies.

Strategic asset management analysis – Asset lifecycle management and renewal planning, energy performance analysis and sustainability reporting, condition assessment and data capture, long-term maintenance and replacement expenditure forecasting, and portfolio-level performance reporting.

Integration of digital and operational expertise – Specifying information requirements for new construction and refurbishment projects, receiving and integrating digital handover information, connecting building systems data to operational management platforms, and using digital twins and IoT for ongoing building performance monitoring.

> **"For digital skills, it's less about understanding digital. It's so much about understanding what you're doing and the decisions that you need to make. And a willingness to use digital tools to obtain what you need or get the result that you're looking for… it's more about that understanding what's available to you and being willing to use them. You don't need to be an expert in tools … you just need to be able to use them effectively.**
>
> – Georgie Fenwicke
> Founder, Frankie (Property Operations Software)

INTEGRATING DIGITAL AND TRADITIONAL SKILLS

Digital tools support better decision-making about maintenance, renewal and investment. However, the quality of those decisions depends on understanding how buildings work, what good maintenance looks like, and how to balance competing priorities across a building or portfolio.

Building operations professionals need digital skills that enable them to manage operational data effectively, use building systems information to support decisions, and communicate building performance to stakeholders. The specific platforms vary by organisation, but the expectation that people will have practical digital skills is growing across the sector.

Digital skills needed for building operations include:

Maintenance management – Work order management systems and maintenance platforms coordinate with contractors and service providers, tracking work requests through to completion and close-out. Planned maintenance scheduling and reactive work management are increasingly managed through digital systems. Effective maintenance management still requires understanding of building systems, maintenance standards, and practical prioritisation.

Asset management and renewal planning – Digital asset registers capture location, specification, condition, remaining useful life, and replacement cost for building components and systems. Condition assessment data captured through mobile tools informs maintenance prioritisation and renewal planning. Asset renewal modelling tools support long-term capital planning. Sound asset management depends on understanding building lifecycle principles and making evidence-based investment decisions.

Energy and performance management – Building management systems (BMS) and energy management platforms provide real-time and historical performance data. Interpreting this data to identify efficiency improvements, support sustainability reporting, and benchmark performance requires understanding of building systems operation and performance drivers.

Compliance management – Building warrant of fitness processes, fire system testing, seismic compliance documentation, and hazardous materials registers are increasingly managed through digital scheduling, including automated reminders, and centralised record-keeping. Effective compliance management requires knowledge of statutory obligations and practical building management.

Handover and information integration – Receiving and managing digital handover information from construction projects is a growing skill need. Understanding what asset data, operation and maintenance documentation, and warranty information should be provided, and how to integrate it into operational systems, bridges the gap between construction delivery and building operations.

DIGITAL SPECIALISTS IN BUILDING OPERATIONS AND MANAGEMENT

The adoption of digital tools is beginning to develop momentum in the field of building operations and management . Digital technologies such as IoT sensors, building automation systems, integrated workplace management platforms, and operational digital twins are creating new specialist roles that sit alongside traditional facilities and property management functions. These roles require professionals who combine an understanding of how buildings work with the ability to configure digital

systems, interpret data, and translate building performance information into practical operational decisions.

The groundwork for effective digital operations begins during the design and construction phases, with a client-side specialist working to ensure that BIM models, asset data, and digital deliverables are structured to meet the building operator's long-term needs. In New Zealand, uptake of digital varies across the sector, with larger corporate occupiers and government portfolio holders leading adoption.

CLIENT-SIDE DIGITAL INFORMATION MANAGER

This role represents the building owner or operator's interests in defining, specifying, and overseeing the digital information requirements for a construction project. The specialist ensures that the information produced during design and construction is structured to support facilities management, asset management, and ongoing building operations after handover. This role is becoming more important on larger government and institutional projects where whole-of-life asset management is a priority.

Core responsibilities

- **Defining information requirements** – Developing the employer's information requirements (EIR) or asset information requirements (AIR). These set out the digital data the building owner needs from the project team, in what format, and at what stage of the project.
- **BIM execution plan input and review** – Contributing the operator's perspective to the BIM execution plan, ensuring that model content, level of information need, classification systems, and naming conventions align with the organisation's asset management and FM systems.
- **Handover and data validation** – Reviewing and validating digital deliverables at key project milestones and at practical completion, as well as checking that asset data, spatial information, and O&M documentation meet the specified requirements and can be integrated into operational platforms.
- **Cross-team coordination** – Acting as the bridge between the project delivery team (designers, contractors, BIM managers) and the operational team (facilities managers, asset managers, property managers), ensuring both sides understand and agree on what information is needed and how it will be used.

SMART BUILDING TECHNOLOGY MANAGER

This role oversees the selection, deployment, and ongoing management of IoT sensors, building automation systems (BAS), and integrated building management platforms. As New Zealand building owners and occupiers invest in smarter infrastructure, there is growing demand for professionals who can connect physical building systems to digital monitoring and control environments.

Core responsibilities

- **Evaluating technology** – Appraising emerging smart building technologies, assessing their applicability to existing building stock, and developing phased implementation plans that align with capital budgets and operational priorities.
- **Integrating building automation** – Configuring and optimising building automation systems to coordinate HVAC, lighting, security, and access control, ensuring these systems communicate effectively and respond to occupancy patterns and environmental conditions.
- **Monitoring and reporting performance** – Analysing data streams from smart building systems to identify energy waste, comfort issues, and equipment anomalies, producing regular performance reports for building owners and facilities teams.

DIGITAL ASSET MANAGEMENT ANALYST

This role applies data analysis and digital tools to the lifecycle management of physical building assets. New Zealand's public sector and large portfolio holders increasingly require professionals who can translate asset condition data, maintenance records, and financial information into evidence-based renewal and investment programmes.

Core responsibilities

- **Asset register development and maintenance** – Building and maintaining comprehensive digital asset registers capturing location, specification, condition, remaining useful life, and replacement cost for all significant building components and systems.
- **Condition assessment and data capture** – Coordinating and quality-assuring digital condition assessment programmes using mobile data capture tools, photographic records, and standardised grading frameworks to inform maintenance and renewal planning.
- **Lifecycle cost and renewal modelling** – Developing and maintaining asset renewal models that forecast long-term maintenance and replacement expenditure across a portfolio, supporting evidence-based capital planning and budget submissions.
- **Asset performance reporting** – Producing portfolio-level asset performance dashboards and reports that

track key metrics such as deferred maintenance, asset criticality, condition trends, and compliance status for governance and decision-making purposes.

OPERATIONAL DIGITAL TWIN SPECIALIST

This role manages digital twin environments for buildings in their operational phase, maintaining the virtual replica as a live tool for facilities management, energy optimisation, and occupant experience. While still emerging in the New Zealand market, operational digital twins are gaining interest among owners of complex facilities such as hospitals, airports, universities, and large commercial buildings.

Core responsibilities

- **Handover and data continuity** – Managing the transition of digital information from construction into operations. This includes ensuring that asset data, warranties, operation and maintenance manuals, and compliance records are structured and accessible within the twin environment.
- **As-built model maintenance** – Keeping the operational BIM or digital twin model current by incorporating maintenance records, equipment replacements, fitout changes, and space reconfigurations as they occur throughout the building's life.
- **Real-time data integration** – Connecting IoT sensor feeds, BMS data, and energy metering to the digital twin so that facilities teams can visualise live building performance and pinpoint issues within a spatial context.
- **Scenario modelling for operations** – Using the digital twin to simulate the impact of proposed changes such as space reconfigurations, equipment upgrades, or energy efficiency measures before committing resources.

BUILDING DIGITAL CAPABILITY

For building operations professionals, building digital capability requires curiosity and willingness to learn, as well as practical application and continuous skill development. In general, the sector is at an earlier stage of digital adoption than design and construction, which means there are significant opportunities for professionals who invest in developing their digital skills.

SELF-DIRECTED LEARNING

Most digital learning happens through curiosity or need-driven learning, rather than formal training programmes. If you enjoy exploring tools and solving problems independently, self-directed learning is usually the best approach to develop your capabilities more quickly.

- **Online tutorials** – free resources for most facilities management and asset management platforms, searchable for specific tasks.
- **Software vendor resources** – most CAFM, BMS, and asset management platform providers offer structured learning paths.
- **Industry webinar** –: regular sessions from software vendors and industry organisations on building operations technology.

FORMAL EDUCATION AND TRAINING

Tertiary education organisations, including vocational providers, wānanga, and universities increasingly include digital construction skills in their programmes.

Institutions offer courses, diploma and degree options that cover digital documentation, BIM model development, digital project delivery concepts, data management and emerging construction technologies.

PROFESSIONAL DEVELOPMENT

Alongside your own exploration of digital tools and skills, it's important to connect with broader building operations and digital construction communities. You can do this through:

- **Industry conferences** – Building Institute Aotearoa's DigiComm conference with digital streams, Facilities Management Association of New Zealand (FMANZ) events, Property Council events, and vendor-run conferences.
- **Workshops** – hands-on technical training sessions on FM platforms, BMS operation, and asset management tools.
- **Professional networks** – FMANZ, Property Council, BIMinNZ and other user groups, as well as online communities focused on building operations technology.
- **Online communities** – LinkedIn groups, software-specific forums, international FM and asset management communities.

GET THE GUIDE

Use the QR code to download the full Built Environment Digital Career Streams guide and explore the many rewarding pathways in the construction sector.

Or head to the website: **BECareerStreams.nz**