

WE ARE AN INNOVATIVE AND GLOBALLY AWARDED SOFTWARE COMPANY
CREATING A STEP CHANGE IN THE INFRASTRUCTURE AND
CONSTRUCTION SECTORS THROUGH OUR NEXT GENERATION DIGITAL
PLATFORMS, PRODUCTS, AND SOLUTIONS

LEAPTHOUGHT



Our regional head quarters:

North America - Skyline Tower, 10900 NE 4th St - Suite 2300, Bellevue, WA 98004, USA

Asia - 168 Robinson Rd, #20-01, Capital Tower, 068912, Singapore

ANZ - Level 2, 139 Carlton Gore Road, Newmarket, Auckland, 1023, New Zealand

BRINGING THE PHYSICAL AND DIGITAL WORLDS TOGETHER

Our Integrated Digital Platform for Infrastructure lifecycle, FULCRUMHQ, offers modern digital experience for end-to-end infrastructure lifecycle needs from Design, Construction, Design For Manufacturing and Assembly (DFMA) through to Asset Registration and Handover processes

LEAPTHOUGHT



USA | New Zealand | Australia | Singapore | UAE | Brazil | India | Indonesia
Customers in 11 countries and growing

Powering \$200 Billion+ Infrastructure Projects

Average Enterprise Deal \$21M

Seven figure Sales FY 2022/23

Strong outlook of 100% increase in both direct and partner-led sales this FY

Actively enlisting new Channel, Technology and Industry Partners for USA, Asia and EMEA

Experienced and Proven Leadership Team

Executive and Governance

Ratnakar Garikipati
Founder, Chairman & CEO

Andrew Stubbins
Executive Director – Service
Excellence

Alan Shum
R&D Director

Jeffrey Avina
Internal & External Legal Affairs
and Compliance

Preetham Garikipati
Executive Director – Partnerships

Management

Budi Susanto
GM Asia

Leonardo Machado
VP – R&D, Computational
Engineering

Ben Clark-Robinson
VP – Software Engineering

Patrick Harkins
VP – Cloud, Infrastructure &
Security

Ky Hacker-Page
Chief Revenue Officer

INTRODUCING OUR FLAGSHIP OFFERING, FULCRUMHQ - NEXT GENERATION INTEGRATED DIGITAL (IDD) PLATFORM FOR INFRASTRUCTURE LIFECYCLE

LEAPTHOUGHT



Bringing Physical and Digital Worlds together



Unlike any other platform, FULCRUMHQ, has been transforming many globally renowned Asset Owner & Operators, Architecture & Engineering Consultants, Contractors and Suppliers at the helm of Planning, Designing, Building and Operating world's most innovative and prestigious Capital Infrastructure projects that are of local, regional and national significance.

The platform is future-proofing projects by bringing human and machine intelligence together in enabling experts to do what matters most, which is to plan, design, build, commission & operate **tomorrow's socially-inclusive, environmentally sustainable, reliable and progressive infrastructure.**

Design, Constructability and Compliance Quality Control relating to Sustainability, Environment, Fire Code, Capacity, Purpose and Use of Infrastructure and Spaces, Building Code, Discharge and consumption of Resources (Wastewater, Refuse, Stormwater etc.), Sanitary & Waste which traditionally were assessed through paper/2D drawings are now being achieved through machine based computational checks.

FULCRUMHQ is bringing together the broader ecosystem and helping them stay connected, informed and unlock value, in all contexts that are relevant to them in their everyday design, construction, commissioning and operational needs.

We transform cities, countries, and economies by innovating inclusively and collaboratively with local, regional, and global construction value chains and their ecosystems, industry affiliates and research and educational institutions to amplify the rate of innovation

LEAPTHOUGHT

TRUSTED BY GOVERNMENT
AND COMMERCIAL ASSET
OWNERS AND OPERATORS,
REGULATORY AUTHORITIES
AND AEC VENDORS ON
CONSTRUCTION PROJECTS
WORTH **\$200+ BILLION** IN
VALUE.

Available under

- Enterprise SaaS, Consumer SaaS, Government SaaS and Enterprise Dedicated Deployment models.



TRANSPORTATION

- Rail Link
- Metro
- Light Rail
- Roading & Integrated Corridors
- Bus stations & shelters
- Tunnels & Train Stations
- Cycleways

SMART ESTATES

- Clean Technology Parks
- Innovation Districts
- Digital Districts
- Manufacturing & Logistic Hubs



ENERGY

- Substations
- Power Grids
- Tunnels

INTEGRATED CORRIDORS

- Integrated Industrial, Commercial, Residential & Educational Corridors
- Smart Spaces



RESOURCES

- Retail
- Gas Stations
- Plants



CORE INFRASTRUCTURE

- Stormwater
- Treatment Plants
- Catchments

CASE STUDY

Customer: Jurong Town Corporation (JTC)

Website: www.jtc.gov.sg

Country: Singapore

Industry: Government Agency

Profile: JTC Corporation, formerly the Jurong Town Corporation, is a statutory board under the Ministry of Trade and Industry that champions sustainable industrial development. It master-plans clean, green and smart estates to create attractive destinations for Singapore's talent and communities.

AT A GLANCE:

- 600 hectares of Development with time horizon of 20 years continuous development works.
- Multiple projects comprising Mixed Development of Offices, Industrial, District Logistics Network and supporting Infrastructure.
- FULCRUMHQ connecting JTC with their appointed AEC consultants, construction contractors, their sub-contractors and suppliers to seamlessly collaborate across all infrastructure delivery lifecycle use cases.

Jurong Innovation District – a 600-hectare smart estate

Singapore government had launched a 600-hectare smart estate, Jurong Innovation District (JID) in one of the few remaining large greenfield sites in Singapore. The JID as an “industrial park of the future” spurs new growth areas in advanced manufacturing, robotics, urban solutions, clean technologies and smart logistics. It hosts entire value chain of activities from learning, research, innovation and production for manufacturing firms in these sectors, and serve as a “living lab” for test-bedding innovations.

THE CONTEXT:

Singapore's next generation integrated Smart Estate

- 600 hectares of Development with time horizon of 20 years continuous development works with approximately \$20 Billion in Capital Budget.
- Multiple projects comprising Mixed Development of Offices, Industrial, District Logistics Network and supporting Infrastructure.
- 1000+ Globally leading AEC consultants, contractors and subcontractors Designing, Constructing and Supplying to this 20 years of multi-project initiative.

THE CHALLENGE:

Requirement of a cutting edge integrated digital delivery platform for this state of the art and world leading estate

- A complex portfolio of projects involving multiple stakeholders and parties to orchestrate seamlessly through the end-to-end infrastructure lifecycle use cases with full traceability, transparency, compliance and standardisation.
- Requirement for a standardised and data-rich platform creating a digital footprint for different types of projects such as the Mixed Development of Offices, District Logistics Network and Supporting Infrastructure.
- Platform with Enterprise-strength security offering access to all parties, including the site staff with real-time collaboration using modern and cutting-edge practices.

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all projects involved in this Smart Estate since 2015.

- Connecting JTC with their appointed AEC consultants, construction contractors, their sub-contractors and suppliers to seamlessly collaborate across all infrastructure delivery lifecycle use cases .
- Provide modern and cutting-edge digital engineering practices powered by FULCRUMHQ's innovation for over 2000 users actively collaborating.
- A highly available – zero downtime, extensible, scalable and secure platform delivered as a managed service with no escalations.

KEY OUTCOMES:

- Most advanced and cutting-edge Digital Engineering workflows and capabilities. Safety and multi-disciplinary quality inspection forms and checklists.
- Significant cost savings through operational efficiency gains while create a living digital footprint for all information created through the end-to-end lifecycle for the entire estate.
- Unprecedented Standardisation – with onboarding of new projects within days including training and change management for appointed consultants and contractors.
- Comprehensive reporting and dashboards offering deeper and richer insights on all project matters enabling JTC to monitor the design and delivery of the projects in a seamless and compliant manner.



POWERED BY :  Microsoft
Azure





Integrated System for Delivery of Built-to-Suit Industrial Properties

Standardising the Tender, Design and Construction of Frasers Thailand's Industrial Development Projects



INDUSTRIAL

THE CONTEXT:

Integrated system for fast paced delivery

- Frasers Property Industrial Thailand (FPIT) is the Industrial Property arm for FPT. FPIT provides integrated development of industrial properties with a strong portfolio of factory and warehouse of over 3 million square meters under management in strategic locations nationwide
- Transparency, efficiency and quality is key to deliver a fast-paced high turn around projects such as Built To Suit Projects to International clients such as F&N, DHL, Tesco, etc.
- FULCRUMHQ was chosen to help FPIT streamline and automate the process and workflow of tender procurement, design development, detailed design and subsequent construction of such projects to retain FPIT's position as the leading Industrial player in the region.

KEY REQUIREMENTS:

- Understanding the process and design the automation and streamlined workflow for Procurement, Design and Construction processes with multiple stakeholders within the Organization
- System setup and implementation within weeks followed by intense training and change management provided to FPIT, appointed Consultants and Contractors.
- Translation of relevant processes and forms to local context and language working together with the stakeholders.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.
- Live management reporting using information ingested from the platform providing real time update of the project progress.

POWERED BY :  Microsoft
Azure

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all Built-To-Suit Projects and its stakeholders using our Singapore based SaaS.

- End to end managed service, fully setup and operationalised within two weeks of award – including configuration, training and change management for both FPIT staff, their appointed consultants and contractors. Ongoing consulting and best practice advice and hands-on operational support.
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

KEY OUTCOMES:

Transparency, Efficiency and Quality driven by Digital Process and Automated Workflow

- Solutions provided to FPIT enabled high repeatability and optimum utilization by Project team.
- Setting up of new project takes less than 1 week with the repeated template and process workflow.
- Full transparency of the tender and procurement process for appointment of Consultants and Contractors involved in the Project.
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the Industrial Properties.
- Fully secured ecosystem with zero downtime and zero escalation with 5 on going simultaneous projects and 7 projects in the pipeline for 2023.



CASE STUDY

Customer: **Nusa Konstruksi Engineering**

Website: <https://www.nusakonstruksi.com/>

Country: Indonesia

Industry: Construction Company

Profile:

PT Nusa Konstruksi Enjiniring Tbk (NKE) is Indonesian's largest independent private company with construction and engineering as its core businesses. NKE's construction and engineering capabilities cover both civil and building works.

AT A GLANCE:

- Since establishment in 1982, NKE has successfully completed over 134 infrastructure projects and over 170 building projects, not only in the greater Jakarta region but across all Islands of the Indonesian Archipelago.
- NKE have chosen LeapThought to implement FULCRUMHQ as their common data and integrated digital delivery platform to support their ISO19650 compliance journey and they managed to obtain the ISO19650 certification in 2022.

Transforming NKE's Digital Engineering

First Indonesian Construction Company to achieve ISO 19650 through FULCRUMHQ



THE CONTEXT:

Building Capabilities to Future Proof the Business

- NKE is Indonesia's largest independent private construction and engineering company. The company pride themselves in their unique approach to overcome complex engineering problems, which have attributed to its reputation and proven capabilities as a contractor. In addition, NKE has expertise in comprehensive estimating, scheduling, purchasing and subcontracting services.
- NKE started their BIM journey in 2020 and has set ISO19650 and adoption of Common Data Environment as the Corporate Milestone for 2022.
- FulcrumHQ is selected as the CDE to enforce and implement the Corporate Standard for ISO19650 for audit and compliance purpose.

KEY REQUIREMENTS:

- Design and implementation of Common Data Environment and Integrated Digital Delivery for Ciputra's Delft Apartment Project located in Makassar, South Sulawesi, Indonesia.
- Implementation of complex design and approval workflow complying to ISO19650 requirement as stipulated in the policy and ready for audit during the project implementation.
- Implementation of site management tools for safety and quality check for better management fo site operations.
- Secure platform with tightened access control with stringent governance over the platform.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

POWERED BY :  Microsoft
Azure

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for NKE through our Singapore based SaaS.

- Solutioning and implementation of ISO19650 within 3 months of the project award for the project team and its stakeholders including client, consultants and sub contractors.
- Training and change management effort including on site training and transition of form to Indonesian language to bridge the language barrier for the users on the ground
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

KEY OUTCOMES:

Achieving standardization and best practices through ISO19650 certification

- Setup of ISO19650 based Common Data Environment to drive site and project team's compliance achieved in 3 months' time upon implementation.
- NKE achieved the ISO19650 certification upon implementation of FulcrumHQ as the CDE
- Highly effective and successful change management effort to upskill and future proof site project team
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the apartment project in Indonesia.
- Provided through FULCRUMHQ's Singapore based SaaS with all data both in transit and at rest ensured in Singapore.





CASE STUDY

Customer: **SOILBUILD CONSTRUCTION GROUP LTD.**

Website: <https://www.soilbuildconstruction.com/>

Country: Singapore

Industry: Construction Company, Precast Company, Commercial and Industry Property Developer.

Profile:

Soilbuild Construction Group Ltd. (the “Group” or “Soilbuild”) is a leading builder with a long and successful track record of constructing a sterling award-winning portfolio of residential and business space properties.

AT A GLANCE:

- Since its inception in 1976, Soilbuild charts over 40 years of success in offering a full spectrum of real estate services which includes Civil Engineering, Design and Build, Construction, Turnkey Construction, Project Management Consultancy, Procurement and Mechanical & Electrical Installation, Precast and Prefabrication.
- They have chosen LeapThought to implement FULCRUMHQ as their common data and integrated digital delivery platform for the design and construction of their greenfield industrial development projects across Thailand to begin with and then subsequently replicate/extend it to other geographies.

Design for Manufacturing and Assembly

FulcrumHQ supporting DfMA process from design all the way to site installation



THE CONTEXT:

Integrated Digital Delivery to support DfMA process

- Soilbuild is a leading Contractor and Precast provider in Singapore. Through its 2 projects, an industrial Project and Mixed Commercial-Residential Project, Soilbuild implemented full spectrum of Integrated Digital Delivery supported by FulcrumHQ
- FULCRUMHQ was chosen to digitalize the Design for Manufacturing and Assembly process for Precast Volumetric Component such as precast bathroom unit (PBU) and precast apartment component such as a complete bedroom.
- Through digitalization Soilbuild improve its productivity, efficiency and traceability of the precast component from its formwork and rebar stage all through to fit out of finished component and its delivery to site for installation.

KEY REQUIREMENTS:

- Design of process workflow to suit site processes and also factory processes that involves manufacturing of the PPVC components.
- Illustration of complexity a PPVC process from end to end involves more than 30 activities and quality checks holding points requiring different stakeholders such as sub contractors, Quality Inspectors and Engineers control and approval all chained into 1 continuous form and process
- Secure platform with tightened access control with stringent governance over the platform allowing both site and factory to communicate seamlessly
- All data both in transit and at rest to reside in Singapore.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

POWERED BY :  Microsoft
Azure

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for both site and DfMA processes through our Singapore based SaaS.

- Through its comprehensive form and workflow capabilities, FulcrumHQ is able to deliver the site and DfMA process end to end meeting the complex and stringent workflow requirements.
- FulcrumHQ simplifies the traditional process that has multiple inefficiencies due to manual tracking into a highly efficient machine based automated tracking for precast manufacturing process.
- Digitalization also simplify the practice of sharing information across stakeholders located in multiple location with no loss of record and control process involved in the complex precast production, delivery and installation works.

KEY OUTCOMES:

Highly efficient digital workflow improving efficiency and credibility of record keeping

- Process and workflow setup for repeatability for Soilbuild for handling multiple type of projects such as residential, commercial and industrial utilizing the lesson learnt from the first 2 projects.
- Seamless transition from detailed design, factory and formwork setup to construction and installation phase offering continuity to Soilbuild and their appointed consultants and contractors. This is made possible by the Common Data Environment housing all related files, forms, processes as a single source of truth.
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the industrial and commercial-residential mixed development.
- Provided through FULCRUMHQ’s Singapore based SaaS with all data both in transit and at rest ensured in Singapore.



CASE STUDY

Customer:

Land Transport Authority (LTA), Singapore

Website: <https://www.lta.gov.sg/content/ltagov/en.html>

Country: Singapore

Industry: Government Agency / Rail & Transport

Profile:

LTA is a statutory board under the Ministry of Transport in Singapore. The LTA is responsible for planning, building, and maintaining Singapore's land transport infrastructure. In addition to its regulatory and infrastructure development role, the LTA also works to improve public transport services and promote the use of sustainable modes of transport in Singapore.

AT A GLANCE:

- The LTA oversees a land transport network of over 12,000 lane-kilometers of roads, more than 5,000 bus stops, and 230 MRT stations across the island.
- Over 150 contracts – design, build, some design + build, line and system wide contracts all being onboarded on FULCRUMHQ
- They have chosen LeapThought to implement FULCRUMHQ as their common data and integrated digital delivery platform for Design and Engineering activities to transform the entire lifecycle of Infrastructure Projects in the context of the S\$4.6 billion Jurong Regional Line and the S\$9 billion Cross Island Line.

InSIGHT – INFORMATION MANAGEMENT SYSTEM FOR DESIGN, CONSTRUCTION AND O&M for 2 new Rail Lines (Jurong Region MRT Line and Cross Island MRT Rail Line)

THE CONTEXT:

Understanding the past for predicting the future

- The JRL and CRL are new Mass Rapid Transit Lines that are estimated to be completed in phases in 2027 and 2029, respectively. With a cumulative budget of \$60 Billion Dollars, both the JRL and CRL are significant investments in Singapore's transport infrastructure, aimed at improving connectivity and enhancing the travel experience for commuters.
- FULCRUMHQ was chosen to digitise workflows, reduce inefficiencies and improve collaboration between LTA and its contractors and consultants. All stakeholders utilise FULCRUMHQ as the common data environment and an integrated digital delivery platform for the design and construction of the 2 lines.

KEY REQUIREMENTS:

- Creation of a Common Data Environment to digitalize LTA's Design and Engineering activities to transform end to end lifecycle of Infrastructure Projects.
- To be ISO19650 certified, as the second transport agency in the world to do so and the first in Asia. It will remove manual data collection, multiple untraceable data sources, manual dependencies and replacing it with a single source of truth Common Data Environment where standard LTA taxonomy is enforced by the system.
- To be deployed within Government Commercial Cloud and it is fully browser-based offering user advance 3D viewing and interrogation tools with predetermined workflows cutting down the inefficiency often arise from manual data transfer.
- Integration of multiple data points and processes so that LTA can integrate and streamline the fragmented digital tools that is currently available for officers from multiple vendors.

POWERED BY :  Microsoft
Azure

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform (CDE).

- End to end managed service, fully setup and operationalised within a few months of award – including configuration, training and change management for LTA Staff, and their appointed consultants and contractors. Ongoing consulting and best practice advice and hands-on operational support.
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.
- Singapore Government Commercial Cloud Deployed with all data both in transit and at rest held in Singapore

KEY OUTCOMES:

Standardisation through repeatability, compliance and transparency

- Improved information management and Traceability with better documentation, data accuracy and ensuring clarity of information. Allocation of clearly defined tasks to each employee, thus maximising the productivity and efficiency of teams
- FULCRUMHQ enables compliance with international ISO 19650 standards for managing information over the whole lifecycle of a built asset using BIM
- Digitalised issues management ensuring compliance checks, scenario planning, clash detection to keep safety issues to a minimum.
- Centralisation of data & new technologies including VR, in FULCRUMHQ allows for improved data management across one digital dataset, makes quality assurance across design and construction more robust
- FULCRUMHQ has been built taking the needs of users, their pain points, and is able to shift with the changing needs of projects and new processes of the future.

CASE STUDY

Customer: Jurong Town Corporation (JTC)

Website: www.jtc.gov.sg

Country: Singapore

Industry: Government Agency

Profile: JTC Corporation, formerly the Jurong Town Corporation, is a statutory board under the Ministry of Trade and Industry that champions sustainable industrial development. It master-plans clean, green and smart estates to create attractive destinations for Singapore's talent and communities.

AT A GLANCE:

- Covering around 70 hectares of land, Woodlands North Coast will be a well-connected mixed-use business and lifestyle precinct featuring flexible work spaces that encourage experimentation and innovation and are geared towards the needs of both SMEs and MNCs.
- FULCRUMHQ connecting JTC with their appointed AEC consultants, construction contractors, their sub-contractors and suppliers to seamlessly collaborate across all infrastructure delivery lifecycle use cases.

Woodlands North Coast – Sustainable Development in the North of Singapore

Woodlands North Coast is a new and upcoming district in the northern region of Singapore. It is located along the scenic coast of the Straits of Johor and spans an area of approximately 70 hectares. The development of Woodlands North Coast is part of the larger Woodlands Transformation Plan, which aims to enhance the quality of life and living spaces in the area. Woodlands North Coast is envisioned as a vibrant waterfront town with a mix of residential, industrial, and commercial developments. It is being designed to be environmentally sustainable with green spaces and amenities that promote an active and healthy lifestyle.

THE CONTEXT:

Cutting edge mixed development Master Plan with an active and healthy lifestyle focus

- 70 hectares of Development with time horizon of 20 years continuous development works with multi agency involvement.
- Multiple projects comprising Mixed Development of Offices, Industrial, District Logistics Network and supporting Infrastructure with focus of active and healthy lifestyle capitalizing on its proximity and strategic location with direct link to Johor Bharu, Malaysia.

THE CHALLENGE:

Requirement of a cutting edge integrated digital delivery platform for this state of the art and world leading estate

- A complex portfolio of projects involving multiple stakeholders and parties to orchestrate seamlessly through the end-to-end infrastructure lifecycle use cases with full traceability, transparency, compliance and standardisation.
- Requirement for a standardised and data-rich platform creating a digital footprint for different types of projects such as the Mixed Development of Offices, District Logistics Network and Supporting infrastructure.
- Platform with Enterprise-strength security offering access to all parties, including the site staff with real-time collaboration using modern and cutting-edge practices.

POWERED BY :  Microsoft
Azure



THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all projects involved in this Smart Estate since 2015.

- Connecting JTC with their appointed AEC consultants, construction contractors, their sub-contractors and suppliers to seamlessly collaborate across all infrastructure delivery lifecycle use cases .
- Provide modern and cutting-edge digital engineering practices powered by FULCRUMHQ's innovation for over 2000 users actively collaborating.
- A highly available – zero downtime, extensible, scalable and secure platform delivered as a managed service with no escalations.

KEY OUTCOMES:

- Most advanced and cutting-edge Digital Engineering workflows and capabilities.
- Significant cost savings through operational efficiency gains while create a living digital footprint for all information created through the end-to-end lifecycle for the entire estate.
- Unprecedented Standardisation – with onboarding of new projects within days including training and change management for appointed consultants and contractors.
- Comprehensive reporting and dashboards offering deeper and richer insights on all project matters enabling JTC to monitor the design and delivery of the projects in a seamless and compliant manner.



CASE STUDY

Customer: **Building Construction Authority (BCA), Singapore**

Website: <https://www1.bca.gov.sg/>

Country: Singapore

Industry: Government Agency / Building & Construction

Profile:

The Building and Construction Authority (BCA) is a statutory board under the Ministry of National Development in Singapore. It was established in to oversee the building and construction industry and ensure the development of a safe, high-quality, sustainable, and friendly built environment in Singapore.

AT A GLANCE:

- From 2010 to 2020, BCA has helped increase industry's productivity by an average of 2.8% per year, exceeding the target of 2% per year set by the BCA.
- The current regulatory submissions and approval process in Singapore is cumbersome for the industry as they will have to coordinate with multiple agencies separately in obtaining the approvals at each stage of a project from planning, design, construction through to occupancy.
- BCA has taken a leap ahead to realise their ambitious vision of streamlining this uncoordinated regulatory process by implementing a national platform that enables the 8 regulatory agencies to collaborate and issue a coordinated response. FULCRUMHQ was chosen after a long and exhaustive tender process fiercely contested by many global AEC software companies.

BCA - CORENET X – World's first, all-of government Regulatory Platform used by 8 agencies for regulatory automation

THE CONTEXT:

Understanding the past for predicting the future

- The current regulatory submissions and approval process in Singapore is cumbersome for the industry as they will have to coordinate with multiple agencies separately in obtaining the approvals at each stage of a project from planning, design, construction through to occupancy.
- BCA has taken a leap ahead to realise their ambitious vision of streamlining this uncoordinated regulatory process by implementing a national platform that enables the 8 regulatory agencies to collaborate and issue a coordinated response. FULCRUMHQ was awarded this iconic initiative after a long and exhaustive tender process fiercely contested by many global AEC software companies.

KEY REQUIREMENTS:

- A central collaboration platform and a common data environment for 8 regulatory authorities of Singapore to receive, process submissions in a collaborative manner and issue a coordinated response to the Industry.
- This new central collaboration platform to feature many sophisticated BIM capabilities to help transition users to processing coordinated submissions in BIM, a significant step away from the traditional 2D processing .
- Augment machine intelligence into regulatory processing to detect quality and compliance issues through computational algorithms and create interactive BIM visualisations to aid multi-agency processing officers complete the checks and issue a coordinated response.
- Integration with multi-agency backends. Bi-directional interoperability from BIM to GIS and GIS to BIM to allow machine to compute compliance checks involving diverse data sets.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.



THE SOLUTION:

Delivery of FULCRUMHQ as a highly secure, central and common national regulatory platform to be used by 8 regulatory agencies to collaborate and issue a coordinated response to the industry.

- State of the art collaboration for complex multi-agency workflows. Augmented BIM experience for 8 agency users to process regulatory submissions in a modern 3D interactive manner, a significant step-away from the traditional 2D processing.
- Augmented machine intelligence into regulatory processing to detect quality and compliance issues on multi-disciplinary coordinated models through computational algorithms and create interactive BIM visualisations to aid multi-agency processing officers complete the checks and issue a coordinated response.
- Deployed into Government Commercial Cloud powered by AWS with all data both in transit and at rest within Singapore. Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

KEY OUTCOMES:

Standardisation through repeatability, compliance and transparency

- Significant economic benefit to be realised by Singapore as Corenet X is rolled out to the industry. Developers to benefit from overall cost savings, reduced compliance risks, efficiency gains realised through coordinated responses
- Qualified Persons (QPs) to have a true one-stop shopfront experience. They will no longer deal with individual agencies separately. With upfront coordination prior to submission, this will reduce the number of iterations between industry and agencies.
- A central and a common data environment allowing large volumes of data to be indexed and made available for future analytics purposes with potential to unlock unprecedented sectorial innovation.
- Full traceability and chronology from the initial submissions through all resubmissions underpinned by version control for issues created by both machine and humans from creation through to resolution.





CASE STUDY

Customer: **Tenaga Nasional Berhad**

Website: <https://www.tnb.com.my/>

Country: Malaysia

Industry: Energy Company

Profile:

Tenaga Nasional Berhad is a leading Malaysian utility company in Asia with an international presence in the United Kingdom, Kuwait, Turkiye, Saudi Arabia, and India.

In addition to being the nation's primary electricity generation enterprise, TNB also transmits and distributes all the electricity in Peninsular Malaysia, Sabah and the Federal Territory of Labuan.

AT A GLANCE:

- As of 31 December 2022, TNB supplies electricity to approximately 10.6 million customers.
- They have chosen LeapThought to implement FULCRUMHQ as their common data and integrated digital delivery platform for the design and construction of their capital asset project, a headquarter building located at West Malaysia

Tenaga Nasional Berhad, a leading Malaysian utility Company Digitises the design and construction of their new HQ building.

THE CONTEXT:

Integrated Digital Delivery for new HQ building (Menara TNB)

- Tenaga Nasional Berhad is designing and constructing a new headquarter building located in Terengganu called Menara TNB
- BEP Akitek is the leading Architect delivering the concept design, detailed design and subsequent Construction procurement and Construction Management Process.
- FULCRUMHQ was chosen to help BEP Akitek and TNB appointed consultants, construction company and a large group of sub-contractors to utilise FULCRUMHQ as the common data environment and an integrated digital delivery platform for the design and construction of this resource intensive and strategic project.

KEY REQUIREMENTS:

- Ground up implementation within weeks, followed by intense training and change management provided to BEP Akitek and TNB together with its appointed consultants and contractors to commence utilising FULCRUMHQ for all design workflows for concept and detailed design for the purpose of budget approval, procurement process for piling works and subsequent procurement process for the main construction works.
- Implement complex BIM based design and approval process for the Consultants.
- Secure platform with tightened access control with stringent governance over the platform.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for Menara TNB at Terengganu through our Singapore based SaaS.

- End to end managed service, fully setup and operationalised within two weeks of award – including configuration, training and change management for both SP Group staff, their appointed consultants and contractors. Ongoing consulting and best practice advice and hands-on operational support.
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

KEY OUTCOMES:

Standardisation through repeatability, compliance and transparency

- Templated setup for repeatability for TNB group to utilise the recipes for future substations and other greenfield projects.
- Zero downtime, and zero escalations – operating for 3 years now.
- Seamless transition from design project to construction project offering continuity to both SP Group and their appointed consultants and contractors.
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the substation.
- Provided through FULCRUMHQ's Singapore based SaaS with all data both in transit and at rest ensured in Singapore.



POWERED BY :  Microsoft
Azure



CASE STUDY

Customer: **Penta-Ocean Construction Co., Ltd.**

Website: <https://www.penta-ocean.co.jp/english/>

Country: Singapore and Japan

Industry: Multi National Construction Company

Profile: 000km

Penta Ocean Construction Co. Ltd. (POC) is a Japanese construction company founded in 1896, headquartered in Tokyo. The company operates in various fields of construction including civil engineering, building construction, offshore and marine work, and environmental conservation. Penta Ocean has completed numerous large-scale projects such as airports, bridges, highways, and power plants, both domestically and internationally. The company also provides services related to engineering, procurement, and construction (EPC), as well as consulting and project management.

AT A GLANCE:

- POC was awarded CR117 project for Singapore's Cross Island Line MRT on 2022 at the sum of \$526 million.
- They have chosen LeapThought to implement FULCRUMHQ as their common data and integrated digital delivery platform for the design and construction of CR117 leveraging the team's capability in using LTA's InSIGHT which is also powered by FulcrumHQ.

Leveraging IDD to enhance productivity, reduce costs, and provide better services

 PENTA-OCEAN CONSTRUCTION CO.,LTD.

THE CONTEXT:

IDD to spearhead Innovation

- Penta Ocean Construction Co. Ltd. (POC) is a leading Multi-National Construction Company with a large operational base in Singapore and the Region.
- LTA has awarded CR117 a portion of the Cross Island MRT Line to Penta Ocean.
- FULCRUMHQ was chosen to help POC to transform the overall project delivery effort to be Digital based. IDD is at the heart of next gen transformation that POC is embarking on as a Corporate and FulcrumHQ is poised to deliver many if not all of the digital initiative that POC is looking into.

KEY REQUIREMENTS:

- Implementation of data taxonomy to match LTA's or owner's data taxonomy for consistency and seamless integration with Client's CDE.
- Ground up implementation within weeks, followed by intense training and change management provided to POC, it's appointed consultants and contractors to commence utilising FULCRUMHQ for all project related workflows and collaboration use cases from the beginning of this project, with design phase being the first, followed by the construction phase.
- Secure platform with tightened access control with stringent governance over the platform.
- All data both in transit and at rest to reside in Singapore.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Environment for POC through our Singapore based SaaS.

- End to end managed service, fully setup and operationalised within two weeks of award – including configuration, training and change management for both POC main Contractor's staff, their appointed consultants and contractors. Ongoing consulting and best practice advice and hands-on operational support.
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.
- Continual engagement for Digitalizing the various site process that will have greater impact in driving productivity and innovation at site.

KEY OUTCOMES:

Standardisation through repeatability, compliance and transparency

- Templated setup for repeatability for POC to utilise the recipes for future substations and other greenfield projects.
- Discovery and Consultancy for POC in setting up of their own Data Standard to be implemented across their greenfield projects.
- Seamless transition from internal design coordination process to subsequent design submission process into the Client's CDE.
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the substation.
- Provided through FULCRUMHQ's Singapore based SaaS with all data both in transit and at rest ensured in Singapore.
- Meaningful dashboard for Site Management and Management reporting purposes.

POWERED BY :  Microsoft
Azure

 FULCRUMHQ

CASE STUDY

Customer: **Auckland Transport (AT)**

Website: www.at.govt.nz

Country: New Zealand

Industry: Local & Regional Government

Profile: The Agency responsible for the ongoing delivery and management of an integrated transport system to meet the needs of New Zealand's largest and fastest growing city – Auckland.

AT A GLANCE:

- Rapidly Growing City - 1.57 million people to grow by 1 million over next 30 years
- Fully funded transport programme over 30 years (2012 - 2042) estimated at \$60 billion in 2012 dollars
- Deployment to 200 plus CAPEX projects being delivered ranging in value from \$2 million to multi-billion dollars.
- Example: Auckland Manukau Eastern Transport Initiative (AMETI) 10 year + delivery, programme of major construction contracts across south-east Auckland, \$1.9 billion budget.
- Example: Matakana Link Road project, 5 year fast tracked delivery, \$40 million budget.

Enterprise Capital Projects Delivery

Transport Agency together with LeapThought's innovative design and construction management software FULCRUMHQ, enables large complex capital programmes and projects delivery in the heart of New Zealand's largest city - Auckland.

THE CONTEXT:

An integrated Transport System

- An extensive \$60 billion, 30 year capital construction portfolio comprised of numerous rail, roading and other transport infrastructure projects across the Auckland region.
- Several multi-billion-dollar 10 year plus construction projects with large dedicated project teams distributed across several organisations assembled to deliver each project.
- 200 plus other capital projects with budgets ranging between \$1 million and \$1billion dollars.

THE CHALLENGE:

Complexity, risks and inconsistencies arising from manual registration of Assets due to lack of standardisation in handling large volumes of drawings, models and documents – lack of traceability, disparate systems, disjointed processes, significantly large number of external consultants, contractors and sub-contractor organisations.

- Multiple internal and external stakeholders and parties are required to communicate, collaborate, and exchange documents, designs and information in a consistent, auditable, secure, transparent and controlled manner across multiple project phases and contracts.
- Project Teams need to be compliant with both legislative and organisational policies and requirements, underpinned by workflows to enable critical project processes underpinned by industry standards.



“AT is expected to save millions of dollars over time with this product, compared to the fees commercial packages charge for each project their products are used on”

Roger Jones
Executive General Manager, Auckland Transport

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all projects involved in this Smart Estate since 2014 on Microsoft Azure.

- An extensible, scalable and secure platform enabling internal and external project teams and parties to communicate, collaborate and exchange information, BIM Models, Drawings and documents in a transparent, compliant, consistent, controlled, and federated manner.
- Modern digital workspaces underpinned by advanced collaboration, document management and process digitisation capabilities.

KEY OUTCOMES:

Transparency and compliance

- A world class award winning strategically aligned business implementation.
- Considerable cost savings through operational efficiency gains as well as reducing 3rd Party Software Licensing costs by leveraging existing Technology investments.
- Comprehensive document management and transparent, auditable workflows help AT mitigate risk by ensuring compliance with regulations and contracts.
- Staff productivity and efficiency has increased, and the aggregation of information in one central location leads to effective, data-driven decisions.

POWERED BY :  Microsoft
Azure

CASE STUDY

Customer: City Rail Link Ltd (CRL)

Website: www.cityraillink.co.nz

Country: New Zealand

Industry: Local & Regional Government

Profile: City Rail Link Ltd (CRL) is the crown entity responsible for the delivery of the City Rail Link project in the heart of New Zealand's largest and fastest growing city – Auckland.

AT A GLANCE:

- Rapidly Growing City - 1.57 million people to grow by 1 million over next 30 years
- City Rail Link (CRL) 10 year delivery, 5 major construction contracts, \$4.2 billion budget.
- The CRL will extend and connect Auckland's existing passenger rail system using twin 3.4 km long tunnels up to 42 meters below the city centre streets.
- One of the largest infrastructure projects ever to be undertaken in New Zealand.

City Rail Link Construction Management

Crown Entity using LeapThought's innovative design and construction collaboration product FulcrumHQ, enables large complex capital project delivery in the heart of New Zealand's largest city - Auckland.

THE CONTEXT:

An integrated Project

- The CRL project is strategically one of the key infrastructure projects focused on enabling an integrated transport system to meet the growth needs of the city of Auckland.
- 10 year delivery schedule spanning 5 major construction contracts and a total budget of \$4.2 billion.

THE CHALLENGE:

Advanced document management with collaboration

- A complex project involving multiple stakeholders and parties who are required to communicate, collaborate, and exchange documents, designs and information in a consistent, auditable, secure, transparent and controlled manner.
- At the same time Project Teams (more than 200 people) need to be compliant with both legislative and organisational policies and requirements, underpinned by workflows to enable critical project processes and industry standards.
- Leverage existing technology investments to deliver a 'hosted' platform that is highly available and scalable in line with a 24x7 project operation over 10 years.

POWERED BY :  Microsoft
Azure



THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all projects involved in this Smart Estate since 2014.

- Project Teams access modern digital portal workspaces underpinned by advanced collaboration, document management and workflow capabilities.
- Internal and external project teams and parties communicate, collaborate and exchange information, BIM models, drawings and documents in a transparent, compliant, consistent, controlled, and federated manner.
- A highly available, extensible, scalable and secure platform delivered as a managed service.

KEY OUTCOMES:

Transparent and compliant

- A world class award winning strategically aligned business implementation.
- Considerable cost savings through operational efficiency gains as well as reducing 3rd Party Software Licensing costs by leveraging existing Technology investments.
- Comprehensive document management and transparent, auditable workflows help CRL mitigate risk by ensuring compliance with regulations and contracts.
- CRL is able to realise ongoing long-term continuity through Fulcrum and is in full control of its documents and other project artefacts.



CASE STUDY

Customer: Auckland Transport (AT)

Website: www.at.govt.nz

Country: New Zealand

Industry: Local & Regional Government

Profile: The Agency responsible for the ongoing delivery and management of an integrated transport system to meet the needs of New Zealand's largest and fastest growing city – Auckland.

AT A GLANCE:

- Rapidly Growing City - 1.57 million people to grow by 1 million over next 30 years
- Fully funded transport programme over 30 years (2012 - 2042) estimated at \$60 billion in 2012 dollars
- Example: City Rail Link (CRL) 10 year delivery, 9 major construction contracts, \$4.2 billion budget.
- Example: AMETI Programme 10 year delivery, \$1.9 billion budget.
- 1300 + Property Acquisitions

Property Acquisition Management

Transport Agency together with LeapThought's innovative construction collaboration product Fulcrum, address the "number one risk for project construction being delivered on time."

THE CONTEXT:

Digitizing the #1 risk process for construction projects

- Several large multi-billion dollar 10 year plus construction projects alongside 200 plus others with budgets ranging between \$1 million and \$1billion dollars dependent on efficient land and property acquisitions.
- Property and Land acquisition has been identified as the number one risk to construction projects being delivered on time. Delays to construction can lead to millions of dollars in penalties, delayed benefits realisation, as well as additional costs to land acquisition budgets.

THE CHALLENGE:

A highly complex and demanding process

The Property Acquisition process:

- Is complex and demanding and can take up to a year to complete with significant risks including financial, schedule, legal and reputational.
- Often involves multiple properties, interested parties and stakeholders including communities and special interest groups impacted and who must be consulted and informed throughout the process.
- Must comply with complex legislative and legal process with demanding requirements while being managed within a complex set project interdependencies that impact project delivery timeframes, costs, and contractual obligations.
- Has complex requirements pertaining to process collaboration across parties, document management, compliance, audibility and reporting, as well as driving consistency across all acquisitions.

THE SOLUTION:

Transparent, consistent and compliant process

- Leveraging Fulcrum ProAction the PLA process is fully digitized inline with legislative requirements through modern digital workspaces underpinned by advanced collaboration, document management and process digitisation capabilities.
- A scalable, extensible and secure platform enables Internal and external parties involved in Property Acquisitions across multiple capital projects collaborate and exchange information, documents and files in a transparent, compliant, consistent, controlled, and federated manner.

KEY OUTCOMES:

Transparent and compliant

- A world class award winning business solution successfully delivered and translated into considerable cost savings through operational efficiency gains while at the same time digitising a complex legislative process.
- AT's "number one risk" on capital infrastructure projects addressed.
- Manual process and use of complex spreadsheets prone to errors and inconsistencies eliminated by delivering an integrated, digitised process that enables internal and external parties to collaborate, communicate and share documents and information from one place in a transparent, consistent and compliant manner.
- Comprehensive status reporting and monitoring enabled through integrated and enriched information.

CASE STUDY

Customer: **Auckland Council (AC)**

Website: www.aucklandcouncil.govt.nz

Country: New Zealand

Industry: Local Government

Profile:

Auckland Council is the local authority responsible for the governance, management and delivery of services, facilities and infrastructure to the citizens, residents, communities and businesses that live and work in Auckland Region.

AT A GLANCE:

- Rapidly Growing City - 1.57 million people to grow by 1 million over next 30 years
- Land Area spanning 1,086 km²
- Changing weather patterns with unprecedented rain events
- Protecting people and property paramount
- Increased pressure on an aging infrastructure
- \$1 billion + Stormwater Capital Infrastructure Programme spanning 35 years

Rapid Growth in a Changing Environment

Taking an innovative approach with LeapThought delivers a world-class Stormwater Capital Project Portfolio Management Platform for New Zealand's largest and fastest growing city – Auckland.

THE CONTEXT:

Protecting People & Property

- Auckland Council's Healthy Waters business unit is responsible for managing the Auckland Regions stormwater flows and run offs through pipes, drains and water ways.
- With key drivers focused on managing Growth, Renewals, Flood Mitigation and Environmental Impacts, significant focus is given to the ongoing planning and delivery of capital infrastructure projects required meet the Region's rapidly changing Stormwater and Flood Plain Management requirements.

THE CHALLENGE:

Critical data in spreadsheets

- Stormwater related issues and opportunities identified from multiple sources need to be formally captured and managed to an outcome.
- Stormwater capital and renewal projects need to be identified, registered, scoped, approved, prioritised, and programmed for delivery as part of a consolidated project portfolio spanning a 35 year view.
- The end-to-end tracking of project outcomes across the whole project life-cycle and multiple teams is required including integration between 'portfolio projects' and 'delivery projects'.
- Use of spreadsheets managed by individuals to manage portfolio projects as opposed to a robust systems and consolidated database.

THE SOLUTION:

Powerful, extensible, data-rich business framework

- Horizon provides an extensible cloud-based platform that is used to track an extensive portfolio of stormwater capital and renewal projects across the end-to-end 'project' lifecycle – from Planning through to Delivery and Handover to Operations.
- Horizon also enables the capture of Stormwater Issues, linking these to 'Portfolio Projects' and has been extended to managing stormwater catchment planning and modelling work packages and the Regions register of models over time.

KEY OUTCOMES:

Leading industry practice realised

- FULCRUMHQ has enabled a leading practice with global industry validation underpinned by a methodology enabling end-to-end lifecycle visibility of Stormwater capital infrastructure projects portfolio.
- The dependency on incumbent spreadsheets eliminated with the consolidation of high quality business critical data in one place that is accessible, standardised, and enriched.
- Integration with other project management toolsets and associated critical data sets enabled.

"LeapThought provides Healthy Waters with rich data-centric solutions and services critical to how we plan, deliver, operate and renew stormwater infrastructure to meet the demands of growth and changing environmental factors. Their approach and cloud-based solutions have enabled us to rapidly establish, adapt and grow a common-data platform underpinned by advanced data analytics that informs our business. It is one of the factors that propelled us to a leading position across 25 countries in one of the most prestigious asset management benchmarking surveys."

- Nina Sardareva, AM Team Lead Healthy Waters, Auckland Council

LeapThought is a key strategic partner who understand the complex nature of our business as well as the ongoing strategic and operational challenges we deal with..."

- Craig McIlroy, General Manager Healthy Waters, Auckland Council



Actively enlisting Systems Integrators, Industry Affiliates/Associations and Boards, Institutes of Higher Learning/Universities, Research Institutes, AEC companies, Regulatory and Policy makers to collaborate on R&D, commercialisation, implementation and onboarding opportunities to help advance our mission to transform the Built Environment for the Greater Good and Environmental Sustainability.

LEAPTHOUGHT

CLOUD PARTNERS:



- AWS, Microsoft

Executive cadence at the HQ level to govern well-established, joint Go to Market and R&D initiatives allowing us to jointly innovate for the future.

Ensuring we leverage latest cloud resources to drive optimum performance for our customers through SaaS & dedicated deployments

Dedicated Government specialised teams allowing us to remain compliant with Government cloud & security policies and operate highly classified dedicated Government cloud implementations.

TECHNOLOGY & INDUSTRY:



- Accenture, NTT Data, Elastic, Apple, Hyundai Eng, L&T, ARUP, GHD, T&T

Harnessing the global MoUs.

Setting up dedicated teams and centres of excellences with roadmap to establishing turnkey specialisation in implementing FULCRUMHQ and innovating by extending the product through plug-ins. Security and compliance.

Discussions with other Systems Integrators and Industry are underway.

INSTITUTES OF HIGHER LEARNING:



MoUs with the leading Architecture and Civil Engineering Schools.

Co-developing courses for Architecture, Civil and relevant engineering and diploma students, early internship opportunities. Employment for Alumni.

Secondment of their staff on our real-world projects.

Joint R&D and sponsorship of Innovation Challenge Statements.

Discussions with other universities underway.



CONTACT **BUDI SUSANTO**, GM ASIA, FOR FURTHER INFORMATION
OR ASSISTANCE AT BUDIS@LEAPTHOUGHT.COM

LEAPTHOUGHT



Bringing Physical and Digital Worlds together



Thank you.



CASE STUDY

Customer: Singapore Power Group

Website: <https://www.spgroup.com.sg/>

Country: Singapore

Industry: Energy and Resources

Profile:

SP Group is a leading utilities group in the Asia Pacific and provides a suite of sustainable energy solutions for customers in Singapore and the region.

AT A GLANCE:

- Three hectares – the area of four football fields
- SE Asia's first largest underground electrical substation with a 34-storey commercial development above this substation
- Both the commercial building and the substation due for completion in 2024
- Hyundai Engineering appointed as the main construction contractor
- Substation to offer reliable, sustainable energy for all
- Underground substation construction is more resource intensive
- FULCRUMHQ chosen to bring together SPG, it's appointed consultants and contractors to collaborate through the project lifecycle in a compliant manner

South-East Asia's first giant underground substation

SE Asia's first largest underground electrical substation with a 34-storey commercial development above this substation

THE CONTEXT:

Understanding the past for predicting the future

- SP Group, the leading utilities group in Asia Pacific embarks on a project to design and build SE Asia's first underground giant substation with a 34-storey commercial development above this substation.
- SP Group appoints Hyundai Engineering to construct this.
- FULCRUMHQ was chosen to help SP Group's appointed consultants: Surbana Jurong and construction company: Hyundai and a large group of sub-contractors to utilise FULCRUMHQ as the common data environment and an integrated digital delivery platform for the design and construction of this resource intensive and strategic project.

KEY REQUIREMENTS:

- Ground up implementation within weeks, followed by intense training and change management provided to SP Group, it's appointed consultants and contractors to commence utilising FULCRUMHQ for all project related workflows and collaboration use cases from the beginning of this project, with design phase being the first, followed by the construction phase.
- Secure platform with tightened access control with stringent governance over the platform.
- All data both in transit and at rest to reside in Singapore.
- iOS and Android access for all site staff for quality and safety compliance requirements with built in workflows to enable seamless, secure and real-time updates.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

THE SOLUTION:

Delivery and operation of FULCRUMHQ as the Integrated Digital Delivery (IDD) and a Common Data Platform for all projects involved in this Smart Estate since 2019 through our Singapore based SaaS.

- End to end managed service, fully setup and operationalised within two weeks of award – including configuration, training and change management for both SP Group staff, their appointed consultants and contractors. Ongoing consulting and best practice advice and hands-on operational support.
- A secure, highly available, common data environment and integrated digital delivery for design and construction stages including the comprehensive site management.
- Rich, meaningful and interactive dashboards for all parties for them to stay on top of their project contexts.

KEY OUTCOMES:

Standardisation through repeatability, compliance and transparency

- Templated setup for repeatability for SP Group to utilise the recipes for future substations and other greenfield projects.
- Zero downtime, and zero escalations – operating for 3 years now.
- Seamless transition from design project to construction project offering continuity to both SP Group and their appointed consultants and contractors.
- Comprehensive site management – safety, quality including multi-disciplinary inspection checklists that are nuanced for the substation.
- Provided through FULCRUMHQ's Singapore based SaaS with all data both in transit and at rest ensured in Singapore.

