




# INTEGRATED DESIGN

Connect and Construct with the Digital Sub-Contractor of Choice

**BROCHURE | 2022**



Design,  
**Build** and  
Operate  
Digitally



# Welcome!

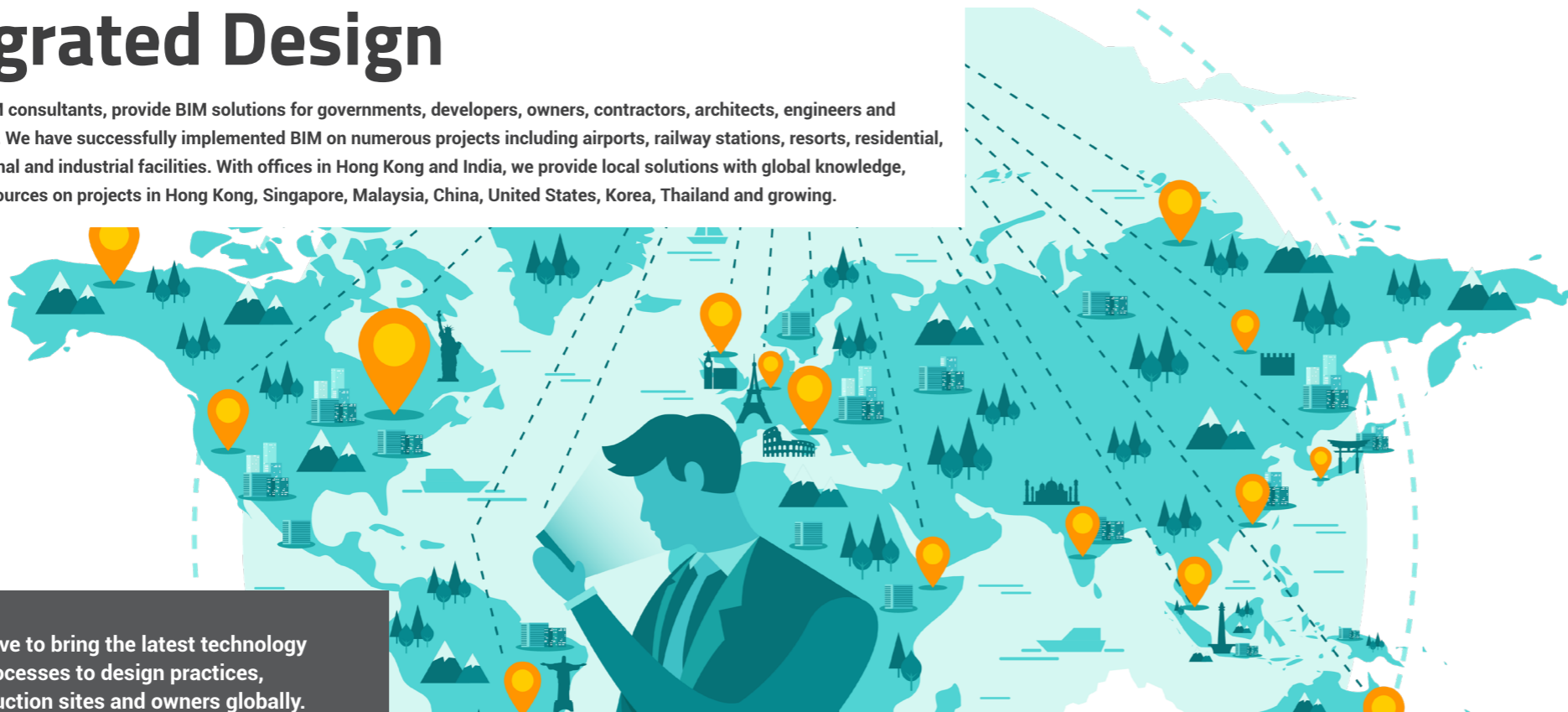
From 2D, 3D, 4D and Beyond!

Building Information Modelling (BIM) is often mistaken for just a 3D model, but it goes beyond 3D elements and pixels. It involves an intelligent methodology of project execution and delivery across the Architecture, Engineering, Construction and operate industry.

Replicating the actual construction scenario within a virtual platform allows us to identify defects, coordination issues, and design decisions that affect the efficiency of building construction. Implementing BIM in projects allows flawless execution on-site. Technologies empowering construction with virtual and augmented reality allows well-founded decisions to be made quickly and confidently for better project outcomes.

# Integrated Design

Asia's leading BIM consultants, provide BIM solutions for governments, developers, owners, contractors, architects, engineers and facility managers. We have successfully implemented BIM on numerous projects including airports, railway stations, resorts, residential, gaming, educational and industrial facilities. With offices in Hong Kong and India, we provide local solutions with global knowledge, expertise and resources on projects in Hong Kong, Singapore, Malaysia, China, United States, Korea, Thailand and growing.



We strive to bring the latest technology and processes to design practices, construction sites and owners globally.



## Vision

Recognized as an innovative and collaborative virtual design and construction partner on projects world-wide.



## Mission

Integrate technology, process and people to design, construct and operate efficiently with BIM.

# The works we do

Integrated Design is a team of professional engineers and designers implementing, coordinating and creating virtual and built assets through the perspectives of owners and builders.

We create value through the development of BIM and digital project delivery on major construction projects by building a digital twin of the project to identify issues to save money and time.



## BIM Management

Our Management and Engineering teams are experts in a variety of technologies and platforms to implement, manage and coordinate projects during any phase.



## BIM Coordination

Each project's coordination efforts are managed by a discipline specific BIM expert leading their team of modellers to coordinate multi-disciplinary design and construction items with managers, engineers and designers.



## BIM Modelling

The backbone of BIM is constructing an accurate and reliable set of geometry and data which can be utilized to coordinate and manage the project deliverables to reduce complexity and increase certainty.



## BIM Documentation

The BIM specific document provides information to owners or operators of a project, thus enabling them to understand how data will flow and be managed throughout the project's life cycle.

Our core competencies reflect our passion, experience and approach to the successful delivery of your project. We are in the relentless pursuit of excellence and continue to explore new and innovative ideas to improve the execution of a project.



## Visualisation

Digitally delivering projects employ the power of realistic visualisation for efficient decision making at every phase of a project cycle. BIM offers powerful visualisation that represents every element involved in the proposed project. We can deliver **Renderings, 4D Sequences, Virtual and Augmented Reality**



## Coordination

Construction project coordination is the core of our business. We partner BIM Coordinators and Managers with Project Engineers on-site to facilitate the use and deployment of BIM during construction. We diligently review, coordinate and construct virtual assets to produce clash detection, reports and drawings.



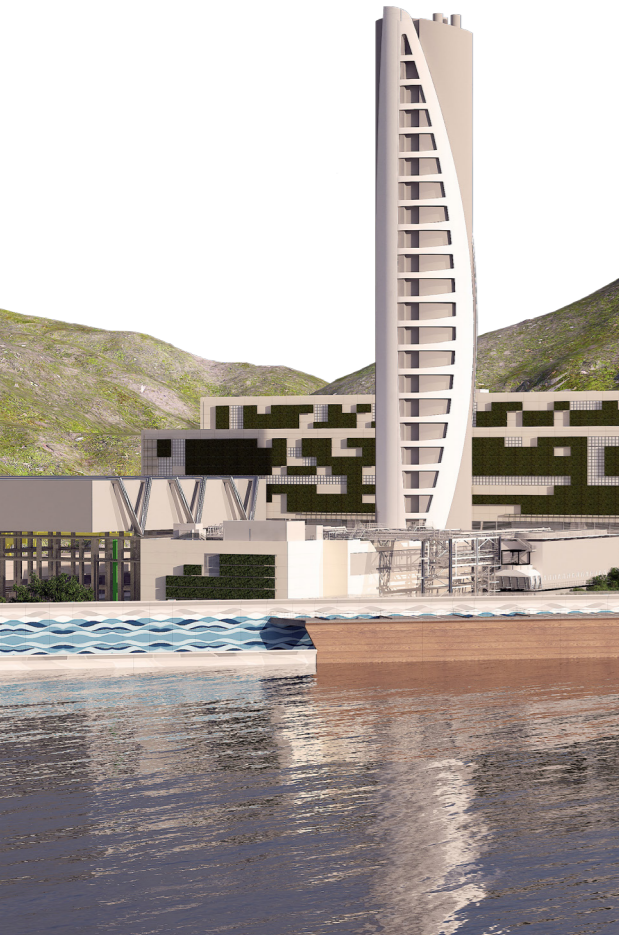
## Documentation

The primary use of BIM for our teams is to coordinate the project then produce the drawings directly from BIM without post-processing to ensure the project is coordinated and built with the least amount variations and cost overruns.

We create as-built information models accurately depicting site conditions for design and construction.

REALITY CAPTURE

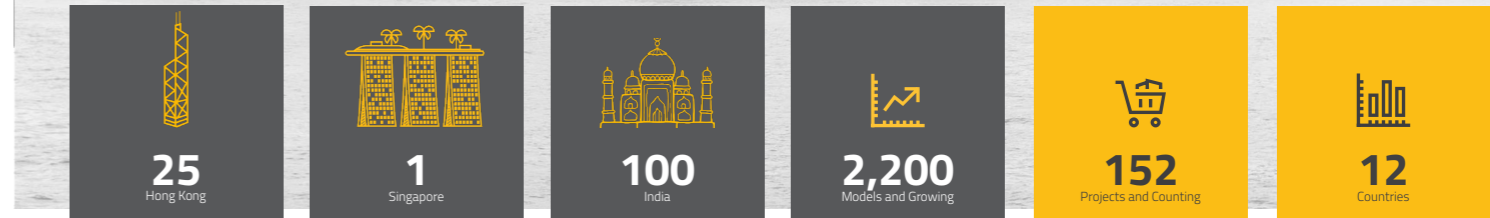
SCAN IT • MODEL IT • USE IT



# Digital Services

Our core services consist of modelling, coordinating, managing, visualizing and documenting complex design and construction projects.

BIM Modellers	BIM Coordinators	BIM Managers
<ul style="list-style-type: none"> <li>3D and 4D Modelling</li> <li>5D Quantities</li> <li>6D Asset Data</li> <li>Rendering</li> <li>Animations</li> <li>Virtual Reality</li> <li>RFI's</li> <li>Issue Tracking</li> <li>Scan to BIM</li> <li>Clash Detection</li> </ul>	<ul style="list-style-type: none"> <li>Coordination</li> <li>BIM Engineering</li> <li>Design Review &amp; Coordination</li> <li>Workshops</li> <li>Construction Simulations</li> <li>CSD/ISD/CBWD/ABWF Drawings</li> <li>Training and Mentoring</li> </ul>	<ul style="list-style-type: none"> <li>BIM Management</li> <li>BIM Standards</li> <li>BIM Specifications</li> <li>BIM Audit and Reporting</li> <li>BIM Execution Plans</li> <li>Independent Checker</li> <li>BIM Implementation</li> <li>Common Data Environment</li> <li>Scripting and Programming</li> </ul>

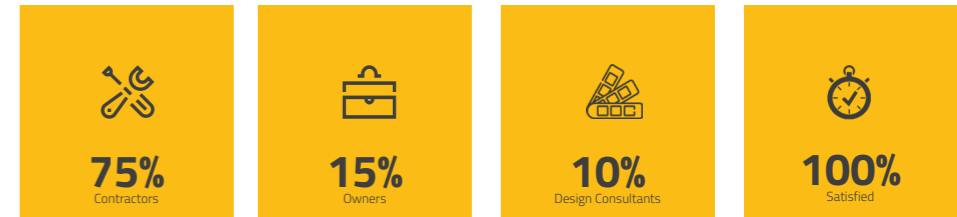


## Integrated Design Connects and Constructs

A global digital delivery consultant helping owners, investors, designers, engineers and contractors build world-class digital and physical assets.

We consult in the implementation, development and management of BIM and Digital Delivery Services.

Our teams work collaboratively with your team to build, coordinate and manage complex models, processes and workflows in the built environment.



## What we do.

### Virtual Design and Construction.

Virtual design is originated from a design-driven process adopted by designers for visualization, spatial optimization, analysis and simulations of complex building procedures. The data rich BIM models will be shared with contractors to improve scheduling, tendering and procurement, shop detailing, cost management and site supervision processes.

No matter if you are a contractor or specialist sub-contractor, we offer scalable BIM solutions, combined industry experience, digital expertise

and various construction technologies to monitor the site progress and productivity for your projects. Using this method will allow you to better understand and communicate your project.

### Contractor's BIM Management

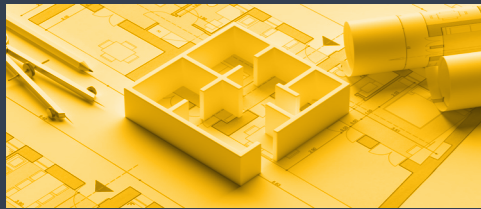
We believe in the value of BIM for construction. Our team of BIM Managers, architects and engineers have extensive on-site experience and understand the challenges of building complex projects based on traditional documentation and workflows. This is why we strive to digitize traditional methods and automate where possible.

### The Benefits of BIM for Construction.

Based upon our experiences, projects which are designed and constructed within a collaborative BIM environment save time and cost, while substantially improving the construction quality and productivity on-site and *especially* for off-site construction such as fabrication, DfMA and MiC methodologies.

“

An owner, builder and operator focused approach to modelling.



01

### MODEL

Our teams build accurate, complex and data-rich BIM models fit for a variety of purposes.



02

### REVIEW

Perform detailed reviews of design, construction and as-built drawings, models and data.



03

### COORDINATE

Teams work collaboratively to coordinate design and construction details and methods prior to construction.



04

### VISUALIZE

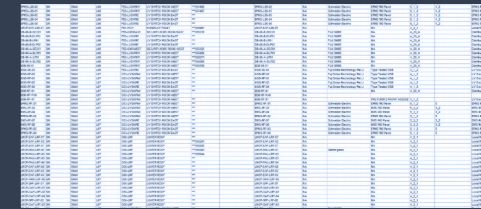
Rendering, Virtual Reality and 4D animations allow stakeholders to experience the project in great detail.



05

### DOCUMENT

Our BIM teams generate drawings directly from BIM models for design and construction submissions.



06

### INTEGRATE

Each model is packed with information to be used for take-offs, schedules and facility management.

# Our Process

We follow local and international standards, processes and procedures to work, share and publish information internally and externally across all projects and teams in a collaborative manner. We have ISO-19650 Certified Professional BIM Managers.



Buildability is important. Our teams possess extensive on-site experience of working with contractors, designers and engineers. We diligently build, review and audit models for a variety of projects.

**It is widely recognised that poorly prepared and coordinated construction information is a significant cause in delay, expense and conflict.**

At Integrated Design, we set out a method of managing the production, distribution and quality of construction information.

We employ a team of professionals who are experienced and educated in the design and construction fields from around the globe. They collectively combine their backgrounds and passion for technology and learn to review, plan,

execute and evaluate each task, deliverable and project.

By relying on each other and adhering to processes, workflows and guidelines, the team can efficiently produce a complex model and raise items to address in a timely manner to resolve potential conflicts before they become issues with high-cost and time delays.

By simplifying this process into logical steps, we can reliably assemble models which help our clients realize the issues earlier in the project timeline and work together to solve it.

01



## Review

All incoming information is documented, stored and reviewed prior to modelling.

02



## Plan

A detailed breakdown of activities and tasks are put against a model delivery schedule.

03



## Execute

The modelling commences and is regularly paused, checked and reviewed against the plan.

04



## Evaluate

Once the tasks and activities have been completed, the project, items and people are evaluated and lessoned.

# MGM COTAI RESORT AND CASINO



Integrated Design have served both the newly opened Cotai Resort and the existing Macau Resort.

Designed with a facade that glitters over Cotai Strip, MGM Cotai is one of the Macau's icons of innovation and is known as the "jewellery box" of Cotai.

## 01. Design Coordination

During the design and construction stages, our teams experience led the coordination of the architecture, structure, interior design and subcontractors.

## 02. Construction Coordination

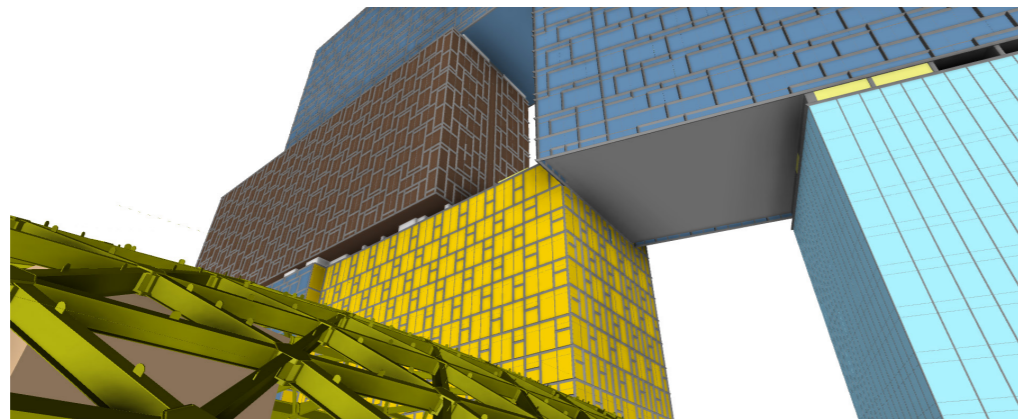
Our team led the coordination of multiple interfacing subcontractors to resolve issues prior to construction.

## 03. Combined Services Drawings

We provided the CSD/ISD documentation from the coordinated BIM for submission and to site for installation.

## 04. Laser Scan Surveying

After installation of the services and for complex or prestigious areas, we used reality capture devices and overlaid with the models to further coordinate and construct as-built conditions digitally.



# Integrated Resorts

Integrate with BIM





# DATA CENTRE BIM

Data centres offer state-of-the-art technical tenant spaces home to both public and private organisations. With their vast network of services, it is imperative that implementation of BIM is properly executed in the design, construction and the development of models which have consistent quality checks and audits for compliance and management purposes.

## 01. BIM Management

Project briefs and requirements are instrumental to audit and review models for standards and compliance to client requirements.

## 02. As-Built Documentation

Room-by-room as-built drawings were produced to facilitate and inspect during the hand-over process.



## 03. Asset Data Integration

Each operating asset is integrated into the building management systems and BIM models are recorded during construction.

## 04. Dynamo Development

To facilitate the transfer of information within the contractors, project teams, scripts and code were developed to migrate data between systems.

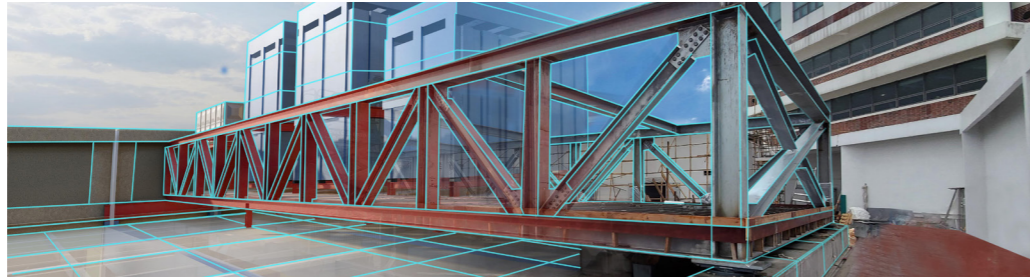


World class data centre developer.

Integrated Design has two data centres within our portfolio. One which has recently opened in Singapore and another is currently under construction in Hong Kong.

# HONG KONG INTERNATIONAL SCHOOL

BIM would prove to be a valuable method to simulate the design and construction of multiple projects and sites. It helped in providing useful information on the existing operating facilities, complex slope conditions, historic documentation and proposed design schemes to mitigate project risks.



## Hong Kong International School

Integrated Design has been involved in:

- Lower Primary School
- Upper Primary School
- Tai Tam Campus

### 01. Construction Coordination

Our team was responsible for the direction and coordination among the main contractors, consultants and subcontractors.

### 02. Combined Services Drawings

For intelligent construction execution, detailed models and combined service drawings were provided. These drawings were used for construction.

### 03. Laser Scan Surveying

Due to the topographical nature of the site, laser scanning technology was performed to verify site and as-built status.

### 04. Historic Document Conversion

Aging layout plans and detailed drawings from the original construction were recreated and preserved for refurbishment projects.

### 05. Programme Analysis

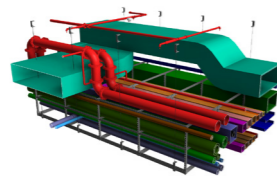
By building and maintaining a BIM database, we produced models for all disciplines, master schedule, project phasing, site excavation and construction sequence simulation.



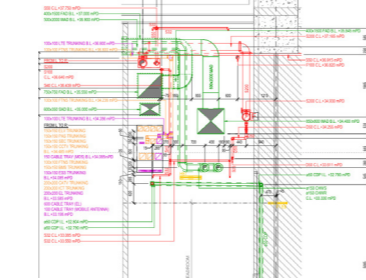
# ADVANCED MANUFACTURING CENTRE

The AMC equips companies of different scales with scalable, efficient, and dedicated logistics serviced manufacturing space, and assists them in embarking on technological innovation, high value-added, and low volume but highly customized production with the application of advanced manufacturing and testing processes.

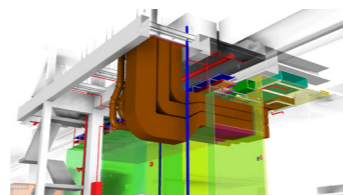
**01. Construction Coordination**  
Digital project setup, coordination and facilitation of BIM for DfMA and modular construction amongst contractors and consultants



**02. Combined Services Drawings**  
For efficient construction execution, detailed models and combined service drawings were provided.



**03. DfMA Modular BIM**  
Implementation of DfMA for prefabricated MEP systems provided labor efficiency and quick installation to MEP modules



**04 .Challenges and constraints**  
18 months of construction program was achieved for a large scale project using advanced methods of construction and BIM such as Modular MEP and Pre Fabricated structural components.



## ADVANCED MANUFACTURING CENTRE

Integrated Design has been involved in:

- DfMA
- Modular BIM Modelling
- Fabrication Drawings

## DfMA Modular BIM

### Faster Construction and Efficient Coordination

## Portfolio

# Works Across Teams

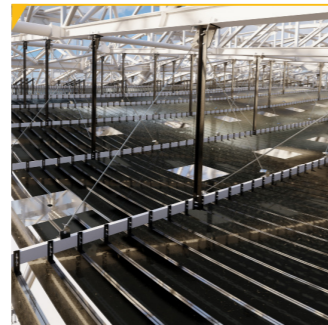
Integrated Project Delivery is the essence of our organization. No project is too big or too small for us to consider.

We are partners in digital project delivery and will become a reliable source of information throughout the project's life-cycle. We operate across different sectors and collectively utilize our experience and niche expertise to assist internal and external project teams to bring projects into reality.

### Waste Management Facility

*Design-Build-Operate*

This design-build-operate facility is the first of its kind to be constructed in Hong Kong. Situated on 16 hectares of reclaimed land, this plant will convert waste to energy and by-products. We are providing BIM Management services for the JV to implement and manage the project digitally over the course of its development.



### Aviation BIM

*Infrastructure*

We provide skilled aviation industry BIM modellers, coordinators and managers to develop mega-projects such as Terminals, Hangers, Runways, Automated People Movers, Baggage Handling Systems, Tunnels and Viaducts.

### Theatre BIM

*Various Clients*

Integrated design are servicing three theatre and performance hall projects throughout Hong Kong. We specialize in the digital delivery and BIM management services for MEP coordination, specialized theatre equipment and architectural fit-out.



### Retail BIM

*Various Clients*

BIM for retail is rapidly gaining momentum around the world. Our teams at Integrated Design are partnering with multiple retail clients in Hong Kong and the United States to deliver high-quality models and drawings for a large volumes of stores across Asia.



### Heritage BIM

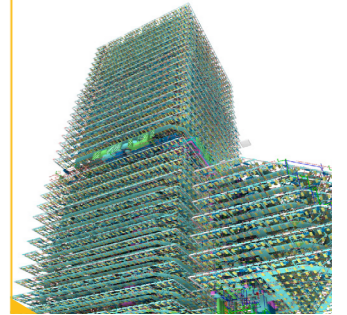
*Heritage BIM Modelling*

Our first Heritage Information Modelling project, the Green Island Lighthouse Compound is an exemplary use of Laser Scanning, Drone Photogrammetry, BIM and Asset Data collection and storage. Each element is highly detailed and hosting data about the object and its historical significance.

### Commercial High-Rise BIM

*Commercial*

Integrated Design have contributed to the design and tender stage of BIM development of an office tower located in Hong Kong. Due to our contractor expertise, we have been engaged with several sub-contractors to further develop and coordinate the various models for installation and shop drawings.



**FOCUS ON CORE  
DESIGNING, LET US  
TAKE CARE OF THE  
MODELLING**



### BIM Content Creation

- ARC/STR/MEP families
- Food Service equipments
- Materials & Texture
- Templates
- Fixtures & Details



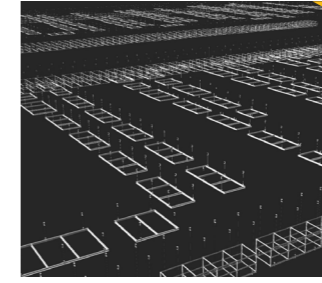
### BIM Consulting & Manpower

- BIM Managers and Coordinators
- BIM Modellers and Engineers
- BIM Developers



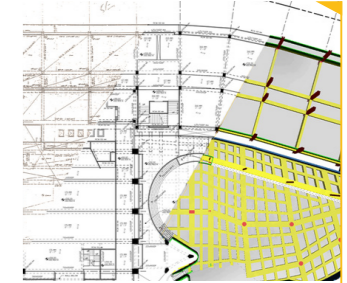
### Digital Twins

- Asset Data Entry
- Scan to BIM
- Cloud Based Intelligent Model



### Rendering & Animation

- Exterior Renderings
- Interior Renderings
- 3D Floor Plans
- Product Visualization



### 3D, 4D, 5D and 6D BIM Services

- Site logistics
- Construction Simulation
- MiC Construction
- 4D Programmes
- Method Statements



### Immersive Experiences

- 360 Renderings
- Virtual Reality & Augmented Reality
- Mixed Reality
- Interactive Experiences



### Construction Industrialization

- Design for Manufacture & Assembly
- Modular Integrated construction
- Pre Fabrication

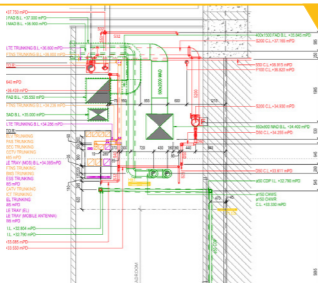


### 2D to 3D Conversion

- Large Volume Batch Processing
- Automated CAD to 3D BIM Production
- Digitization of Hand Drawn Drawings

### Drawing & Documentation

- Combined and Individual Service
- Architectural Builders Work and Finishes
- Combined Builders Work
- Sections, Elevations and Details



### Scan to BIM

- Laser Scanning
- 3D Model from Scan
- Integrate Asset Data
- As-Built Records



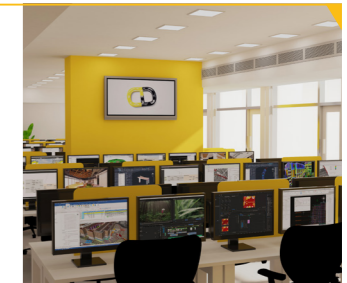
### Training

- Bespoke Training Modules
- Project-Based Training
- Modelling Softwares
- Coordination Softwares



### Outsource Modelling

- Remote Modelling Teams
- Coordination On/Off-Site
- Quality Assurance and Check
- Software Licenses



# The Team



**Our teams specialize in specifying, planning, coordinating and implementing BIM processes and workflows on projects. We provide the expertise, know-how and technical support for project teams to leverage BIM to save time and money.**



## INTEGRATED DESIGN

Digital Delivery Consultant

Integrated design is a global digital delivery firm helping developers, creatives, builders and operators to construct world-class assets. Since launch, Integrated Design has coordinated over 25 million sqft. of construction projects.



### JAKE LUCIER

Founder and Director of Digital Practice

Jake is an experienced digital delivery specialist. He leads the implementation and setup of design systems, digital projects and technologies on projects globally. His technical stewardship ensures projects meet industry and client standards across markets and disciplines.



### JAY ZHU

Founder and Director of Digital Projects

Jay Zhu is an MEP engineer and has successfully managed some of the largest BIM projects in Hong Kong and Macau. Jay holds an MSc degree in Intelligent Building Technology Management and also an MSc degree in Construction Project Management. He is a LEED AP BD+C & CIC BIM Manager



### SIMON GALLAGHER

Director of Digital Services

Simon is an architectural technologist and digital project manager. His experience includes implementing BIM and leading international digital project teams on large, complex infrastructure projects for transport, building and waste management facilities.



### SHWETA BISWAS

Managing Director, India

Shweta is a Civil Engineer and leads the Indian subsidiaries of Kolkata and Hyderabad which support Hong Kong and the company's global interests of providing high quality modelling and coordination services to our clients and partners world-wide.

**Good projects come from great people, but great projects come from Integrated Design.**

**A digital company's greatest assets are people, experience and access to information.**

Integrated Design is a digital delivery leader with a vertically organized supply chain of support services for the design and construction industry delivering high-quality models and data fit for on-site and operational use.

**Local Projects, Global Reach.**

With teams based in Hong Kong, Singapore and India. We serve your global operations faster and better than the competition. Our flexibility, creativity and expertise, continue to bring our client's back for future projects.

**Inclusive, not exclusive.**

Our teams are diverse and rely on each other, that's why you should too. Our industry experts and technical skills will compliment your team and project to make it one of your strongest assets.

We boast a diverse and strong project portfolio and speak fluent English, Cantonese, Mandarin, French, Hindi, Tagalog and Bengali.

**BIM** MANAGEMENT  
MODELLING &  
COORDINATION  
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