Resilient Infrastructure through BIM-Led Digital Delivery

Insights from Global and Indian Mega Projects

Parveen Sharma, CEO – The BIM EngineersAEC Forum 2025

THE BIM ENGINEERS

Introduction

Hi, I’m Parveen Sharma

- CEO, The BIM Engineers
- 15+ years of global experience in BIM strategy, digital delivery & tech-led execution
- Our firm has delivered 500+ projects across 12 countries

Today I’ll walk you through the Resilient Infrastructure through BIM

Resilience is not just about surviving challenges; it’s about evolving stronger because of them.

Today’s infrastructure must endure climate volatility, urban growth, and rapid technological shifts. BIM-led digital delivery empowers us to anticipate risks, adapt in real-time, and ensure long-term value.

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What is Resilient Infrastructure?

Resilient infrastructure is designed to withstand and recover from disruptions, ensuring continuity and long-term performance.

BIM's Contribution to Resilience

- **Risk Simulation:** Perform virtual flood, seismic, and wind load tests before breaking ground, identifying vulnerabilities early.
- **Enhanced Collaboration:** Architects, engineers, and contractors work from a single source of truth, reducing errors and conflicts.
- **Sustainability Integration:** Embed green metrics and performance indicators early in the design phase for eco-friendly projects.
- **Lifecycle Management:** Utilize a digital twin for continuous monitoring of asset health and performance for decades, ensuring longevity.

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Why Digital Delivery Matters Now

The complexity of modern infrastructure demands a new approach to project delivery.

Increasing Complexity

Infrastructure complexity grows faster than traditional workflows.

Proven Efficiency

Cuts delays by **25%** and rework costs by **40%**.

1

2

3

4

BIM Centralization

BIM centralizes design, scheduling, cost, and maintenance data.

New Baseline

Digital-first delivery is no longer an option—it’s essential.

Adopting digital delivery isn't just about efficiency; it's about staying competitive and building for the future.

Global Mega Project Insights

Case Study 1: USA – Renewable Energy Grid Expansion

Challenge: Diverse climate zones and complex regulatory landscape.

- **BIM Solution:** Created a digital twin for the entire grid network, simulating extreme weather impacts.
- **Impact:** Prevented **$15M** in potential post-construction retrofits.

Case Study 2: Middle East – High-Speed Rail Station

Challenge: Harsh desert climate and aggressive delivery schedule.

- **BIM Solution:** Validated climate-responsive design with thermal simulations and optimized precast component sequencing.
- **Impact:** Reduced on-site work by **22%**.

These global examples underscore BIM's critical role in de-risking and accelerating large-scale infrastructure projects.

Indian Mega Project Insights

In 2023, we were brought into a metro rail expansion in a Tier-1 Indian city. The project had already seen months of delay due to conflicting drawings from multiple contractors. Our role was clear – bring everyone onto one BIM platform and make the project breathe again.

Metro Rail Expansion – 28 km network, 22 stations

- **Challenge:** Multiple contractors, conflicting data formats, and fragmented stakeholder collaboration.
- **BIM Solution & Impact:** Integrated architectural, structural, and MEP models into a unified platform. Ran clash detection, finding over **1,500 conflicts** before construction, saving ₹12 crore in rework costs and reducing estimated delay by **3 months**.

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Common Lessons Learned

Maximizing BIM’s potential requires strategic implementation from the outset.

1

Start BIM Early

Integrate BIM at the concept stage, not post-design, for maximum impact.

2

Establish Data Standards

Define clear data standards and protocols before any drawings are made.

3

Invest in Training

Ensure all stakeholders have BIM-trained teams for seamless collaboration.

4

Utilize Digital Twins

Leverage digital twins for predictive maintenance and emergency planning.

These lessons are crucial for realizing the full benefits of BIM-led digital delivery.

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Future of Resilient Infrastructure

The convergence of advanced technologies will redefine infrastructure resilience.

AI in BIM

Predict material wear and plan preventive maintenance.

IoT Integration

Live health monitoring of bridges, tunnels, and metros.

Circular Economy

Design for disassembly and material reuse.

Carbon-Neutral Builds

Data-driven low-carbon material selection.

The BIM Engineers' Edge

Our commitment to excellence and innovation drives resilient infrastructure worldwide.

- **7500+ projects** in **12+ countries**.
- Partnerships with **global engineering leaders**.
- Expertise from **concept to operations**.
- Proven results in **time, cost, sustainability, and resilience**.

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Closing Message

We can’t predict every challenge, but we can design to overcome them.

Resilient infrastructure is future-proof infrastructure.

BIM-led digital delivery makes resilience achievable, measurable, and scalable.

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Thank You

Building the Future, Digitally.

Website: www.thebimengineers.com

Email: info@thebimengineers.com

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BIM - THE DIGITAL CONSTRUCTION

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WHAT IS BIM?

BIM (Building Information Modeling) or VDC is a methodology that allows all Stakeholders to create digital design simulations to manage all the information associated with a Construction project.

This allows users to manage information intelligently throughout the life cycle of a project.

We create **'Virtual Twins'**

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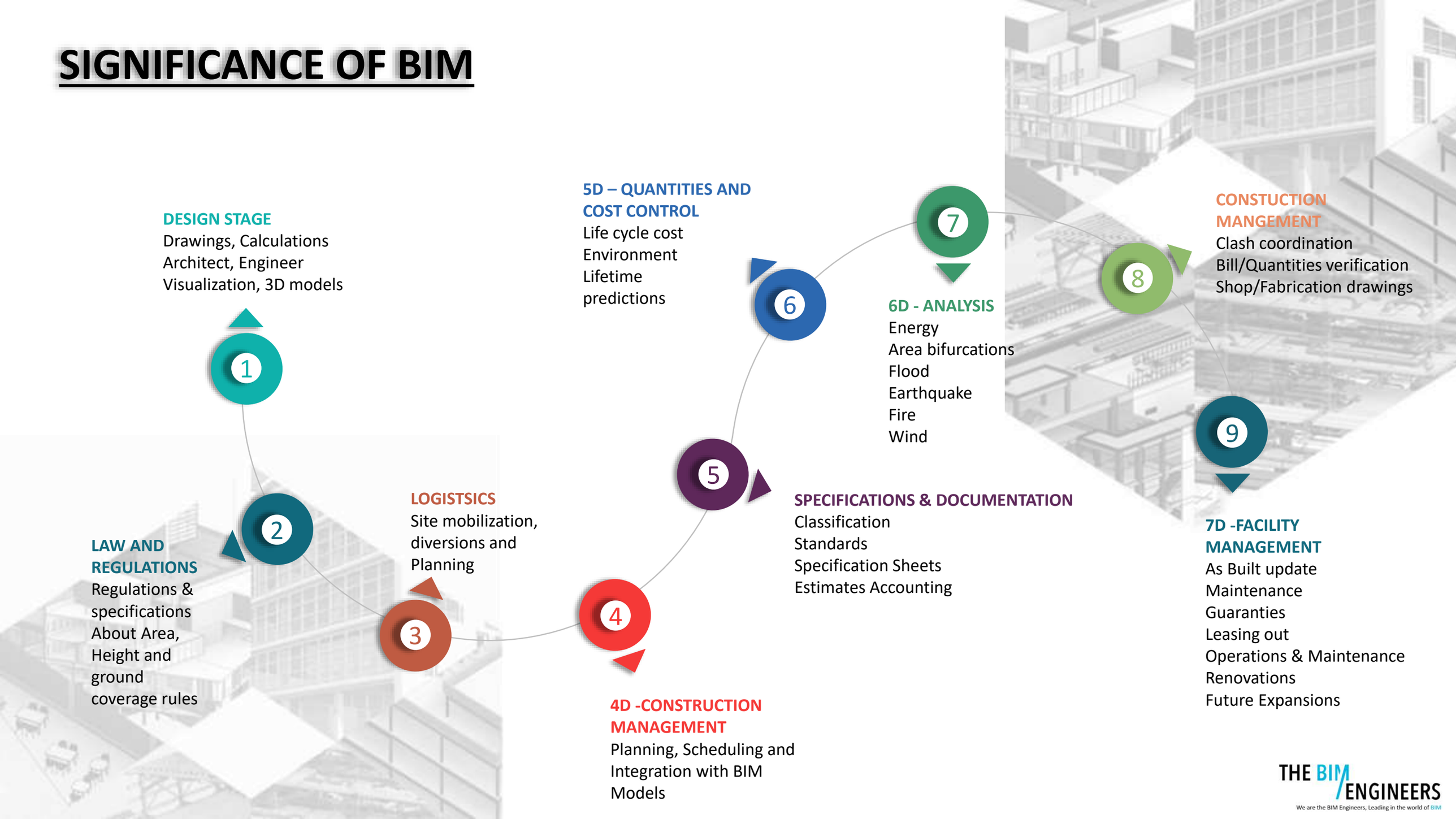
SIGNIFICANCE OF BIM



DESIGN STAGE
Drawings, Calculations
Architect, Engineer
Visualization, 3D models

1

LAW AND REGULATIONS
Regulations & specifications
About Area, Height and ground coverage rules

2

LOGISTSICS
Site mobilization, diversions and Planning

3

4D -CONSTRUCTION MANAGEMENT
Planning, Scheduling and Integration with BIM Models

4

5

SPECIFICATIONS & DOCUMENTATION
Classification
Standards
Specification Sheets
Estimates Accounting

5D – QUANTITIES AND COST CONTROL
Life cycle cost
Environment
Lifetime predictions

6

7

6D - ANALYSIS
Energy
Area bifurcations
Flood
Earthquake
Fire
Wind

8

CONSTUCTION MANGEMENT
Clash coordination
Bill/Quantities verification
Shop/Fabrication drawings

9

7D -FACILITY MANAGEMENT
As Built update
Maintenance
Guaranties
Leasing out
Operations & Maintenance
Renovations
Future Expansions

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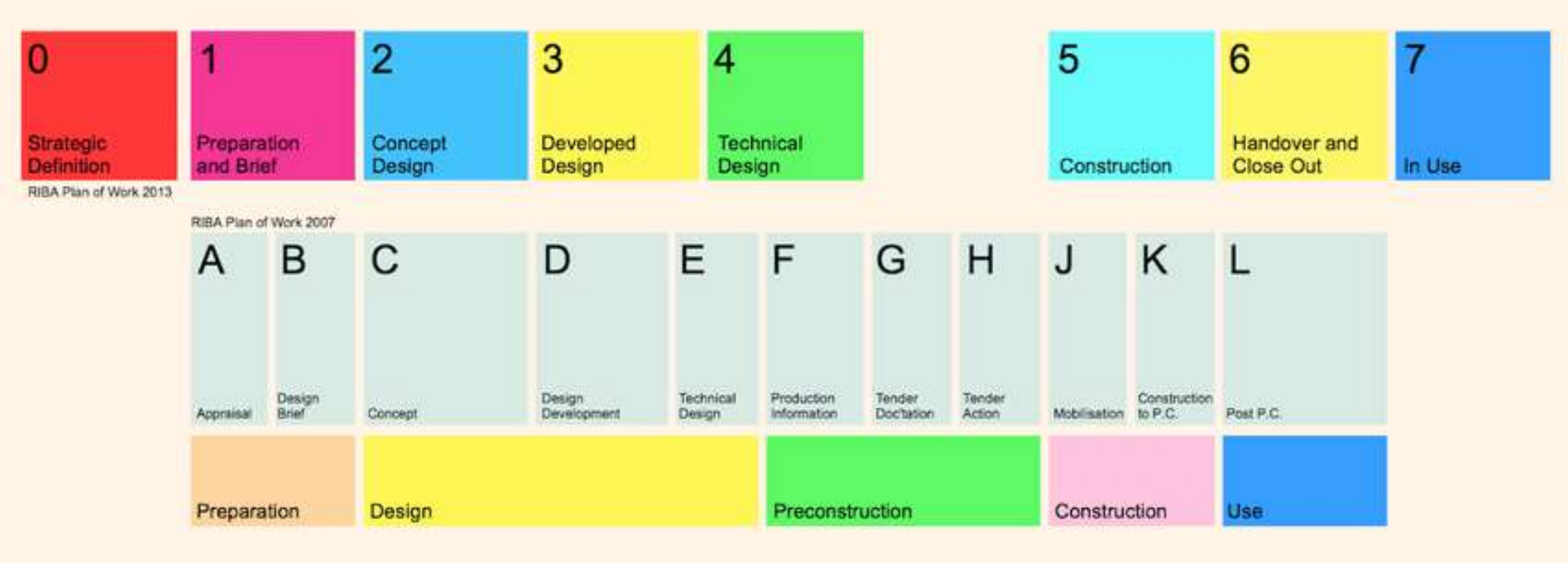
RIBA STAGES



‘The BIM Engineers’ can contribute here

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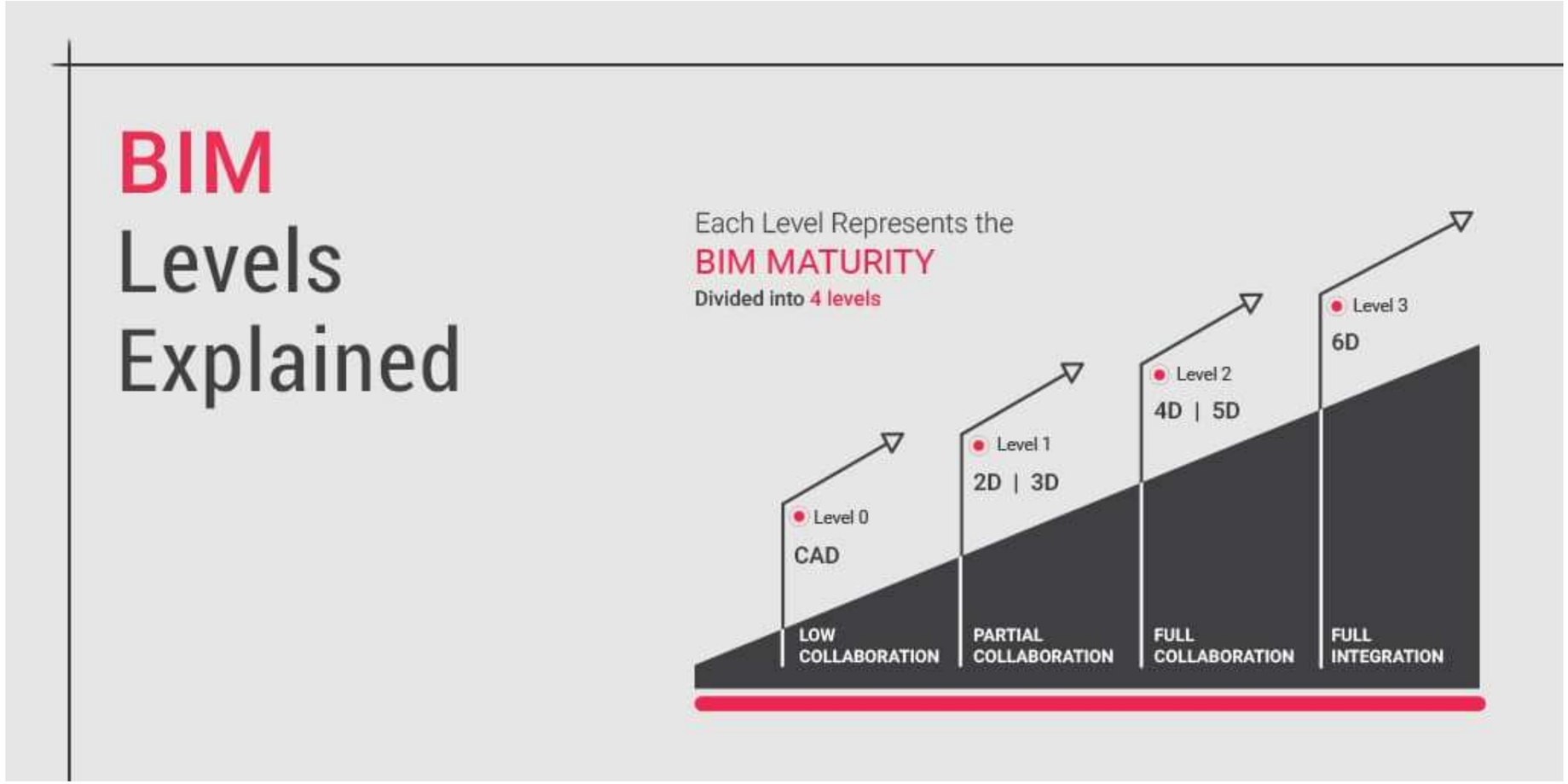
LEVEL OF BIM ADOPTION



‘The BIM Engineers’ can contribute here

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BIM FOR VARIOUS STAKEHOLDERS

- BIM for Owner
- BIM for Architect
- BIM for Engineer
- BIM for Contractor/ Subs
- BIM for FM/ Maintenance
- BIM for Manufacturer

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BENEFITS OF BIM

1. **Collaboration**
2. Better Design
3. Improved Clash Detection and Coordination
4. Preconstruction Visualization
5. Faster project delivery - Time savings
6. Reduced risk and better safety
7. Sorted out Design and Value Engineering
8. Saving Money and getting Better Construction Quality

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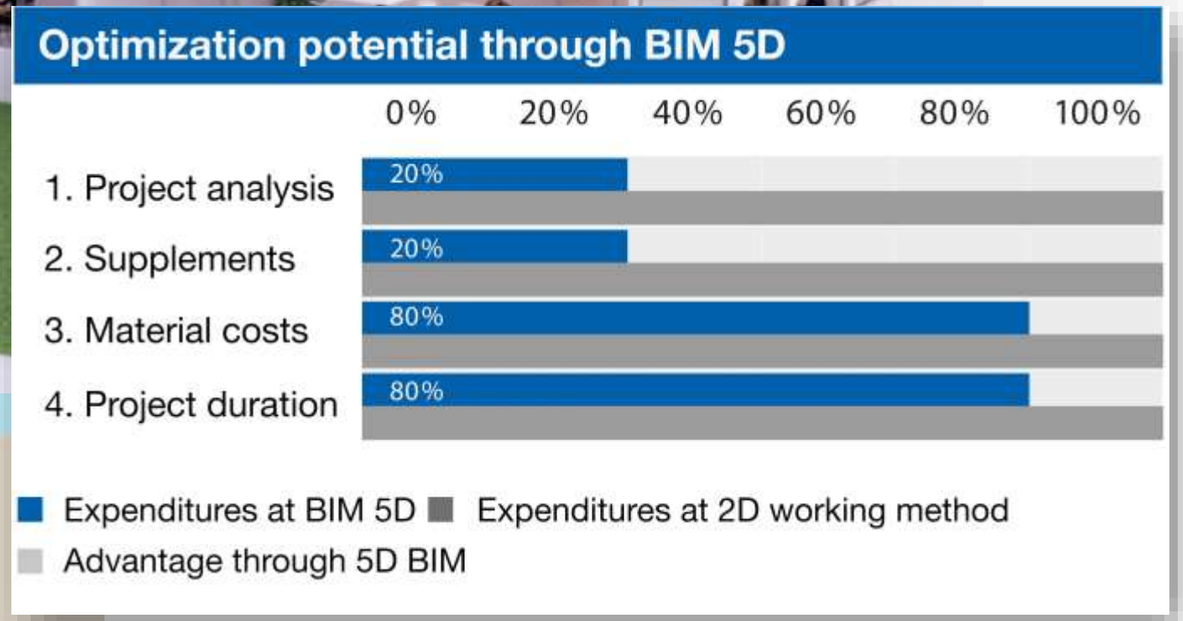

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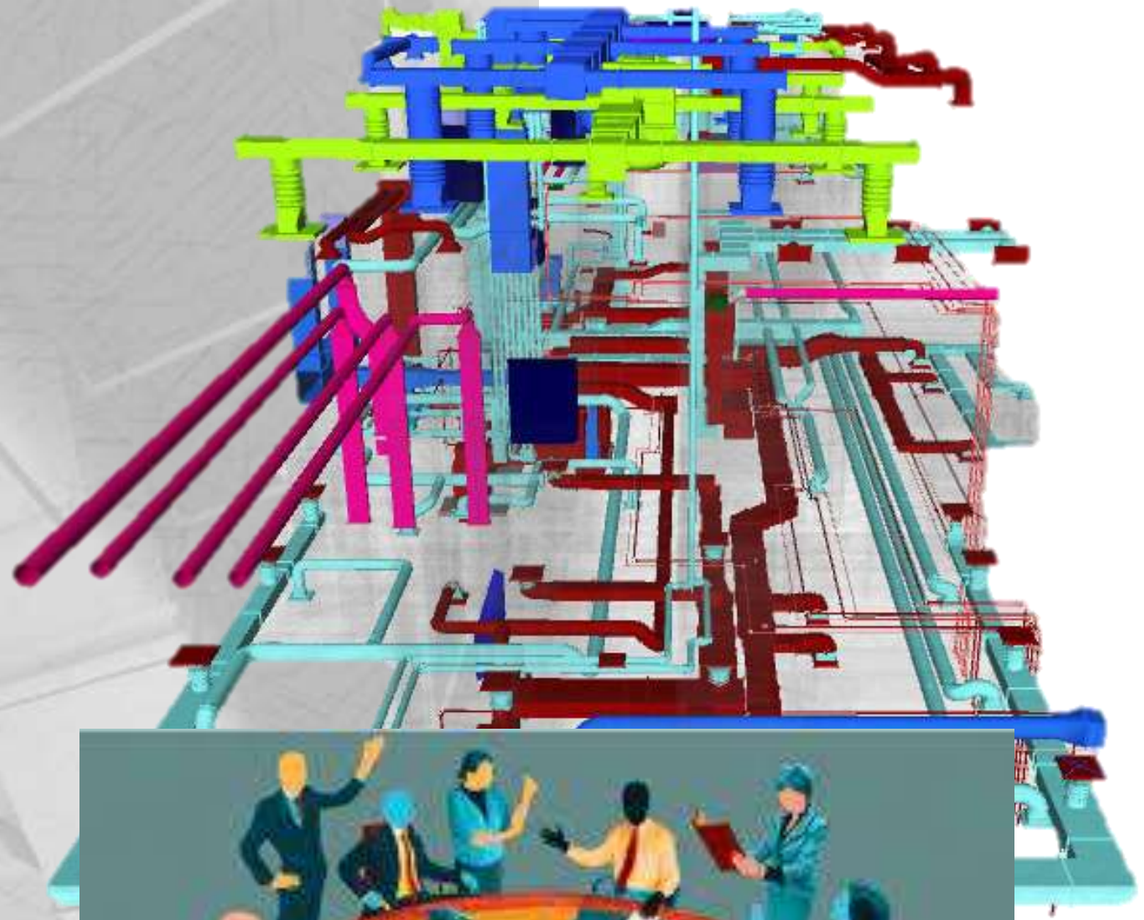

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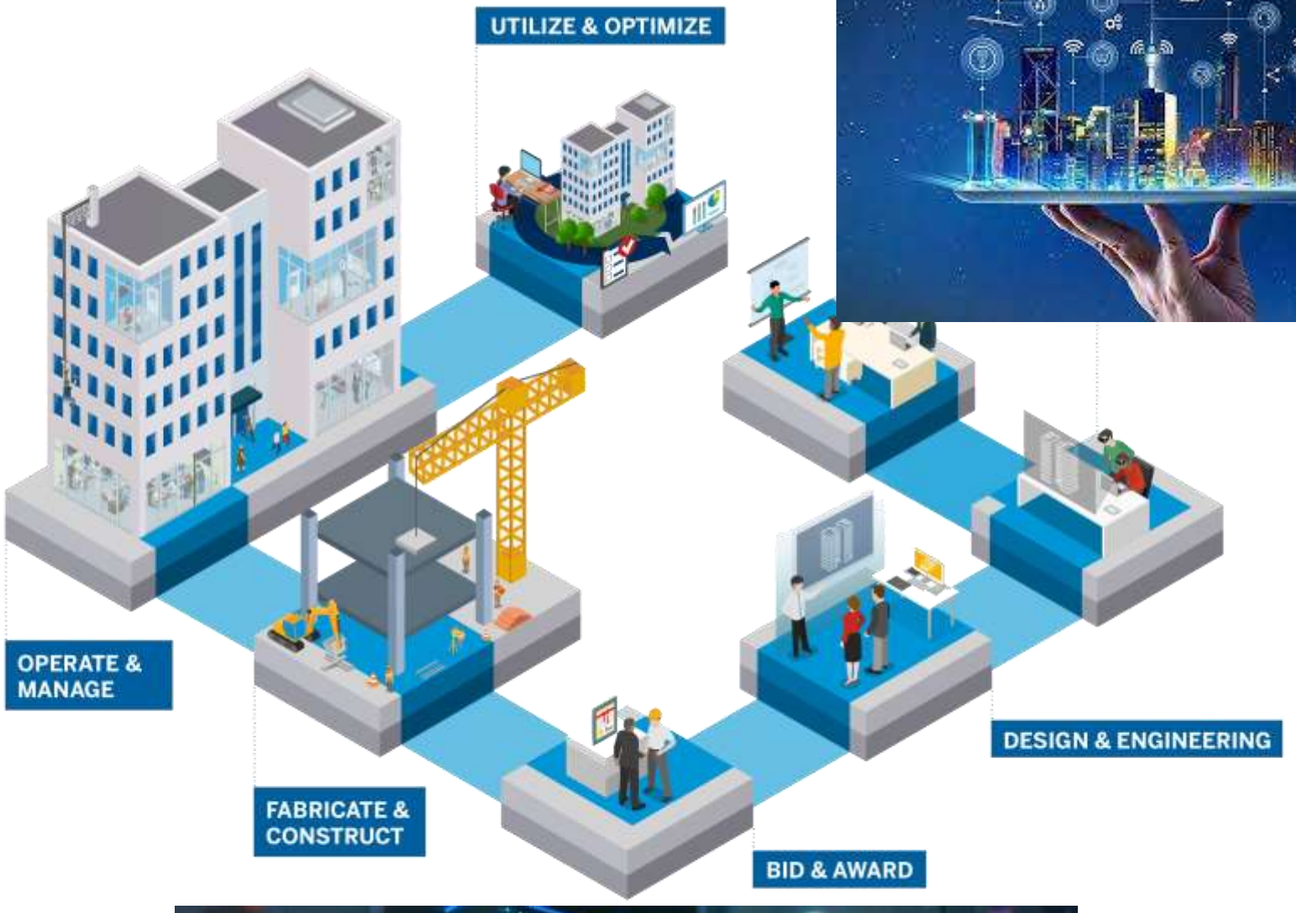

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design concept early in project development

Resolving complex construction details before site execution

Checks design integrity and estimate quantities.

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- Integrating multidisciplinary design inputs using a single 3D model allows interface issues to be identified and resolved in advance of construction eliminating the cost and time impacts of redesign.

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TRADITIONAL VS BIM APPROACH

DISADVANTAGES OF TRADITIONAL WORKFLOW

LONG, CONVOLUTED, LARGELY MANUAL PROCESS

TIME CONSUMING ACTIVITIES

HAZARDOUS PLACES

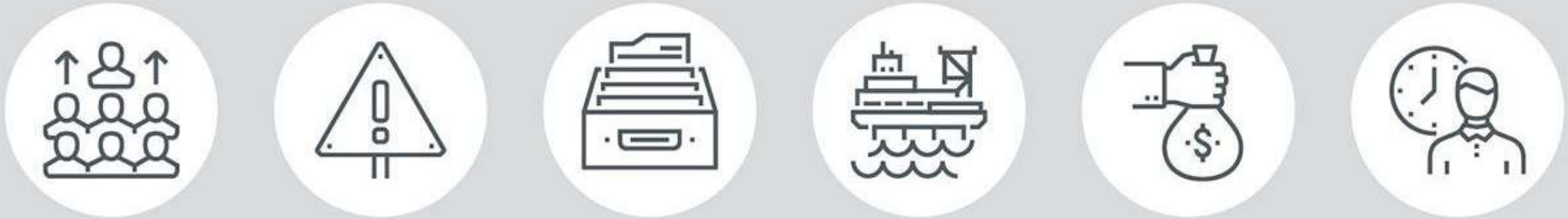
DANGEROUS TASKS

EXPENSIVE PEOPLE

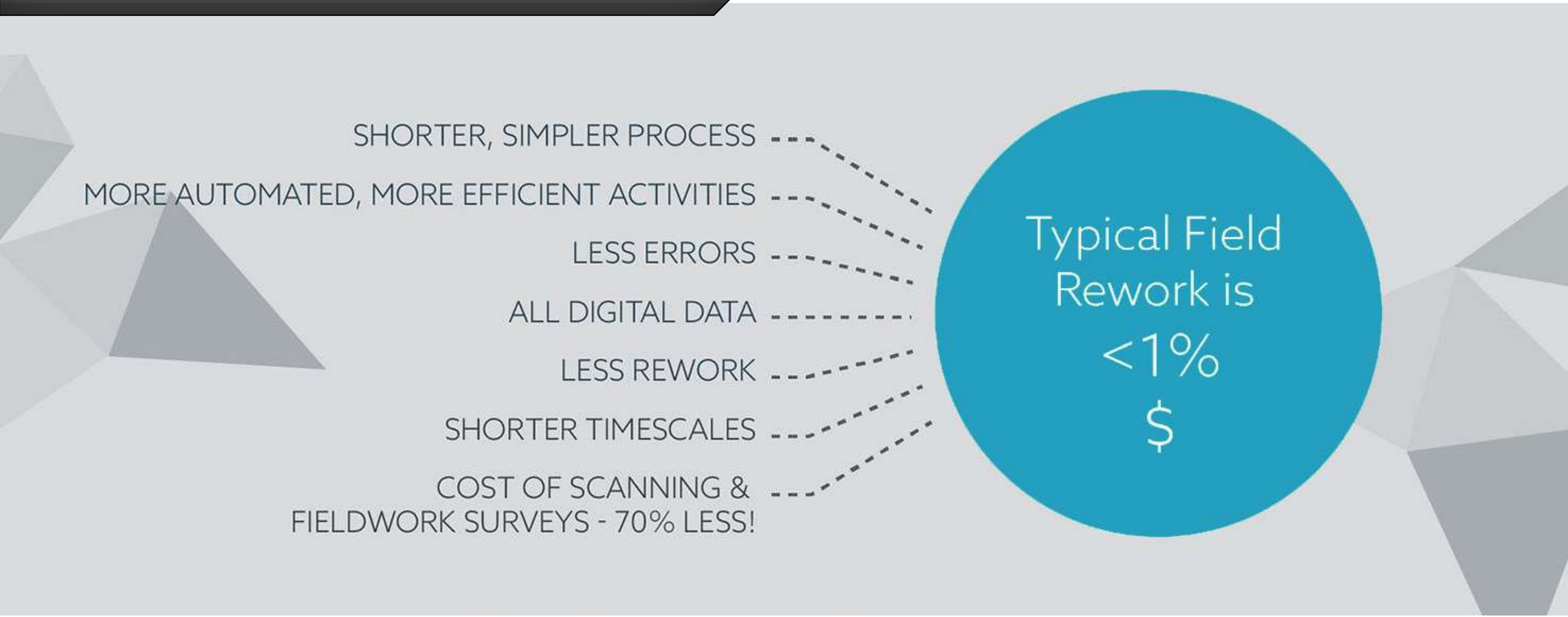
GREAT POTENTIAL FOR ERRORS

BIG PROJECTS = BIG COSTS

Typical
Field Rework is
3% - 20%
$$$



ADVANTAGES OF BIM WORKFLOW



ABOUT US

"We are The BIM Engineers, leading in the world of BIM“

- We are a multinational and multidisciplinary full-service BIM service provider
- Global Presence with experience of a variety of projects
- With Design and construction experience, we assure success
- We are strategically and time-zone wise well placed
- We strive to deliver Quality product to our customers
- Retention of same clients with persistent and trusted relationship

6500+
PRESTIGIOUS PROJECTS

850+
EXPERIENCED BIM PROFESSIONALS

1500+
SATISFIED CUSTOMERS

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COMPLETED/ONGOING PROJECT LOCATIONS

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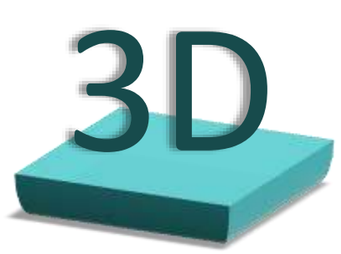
SERVICES OFFERED

- Precast - Architectural BIM
- Precast - Structural BIM
- Prefab - MEPf BIM
- BIM based design Development
- 4D-Construction Sequencing
- 6D-Sustainability & Maintenance
- BIM model Auditing & Validation
- Marketing BID presentation
- Bill of Quantities (BOQ)
- Integration and Coordination
- Construction documentation
- BIM Virtual/ Augmented Reality
- Laser Scan to BIM
- 5D-Quantities and Cost
- 7D-Facility Management
- Model Clash Detection
- Fabrication/ Spool Drawings
- Detail Shop drawings

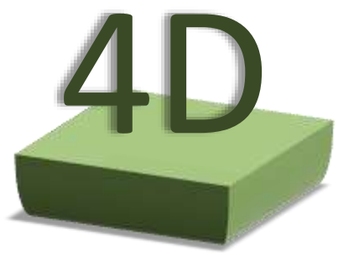
INDUSTRIES SERVED

- Residential
- Commercial
- Infrastructure
- Institutional
- Industrial
- Hospitality
- Healthcare
- Airports / Aviation
- Metro/Rail
- Power

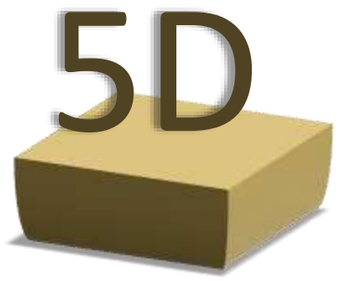
DIMENSIONS SERVED



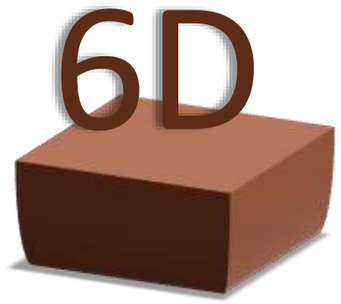
A 3D rendered representation of the various Construction elements.



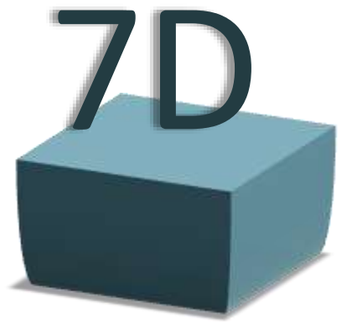
3D BIM + Linked Construction Schedule Information



3D BIM + Schedule information + Cost Estimation



Includes Energy Simulation and Analysis



Includes Post-construction Information such as asset condition and maintenance requirements

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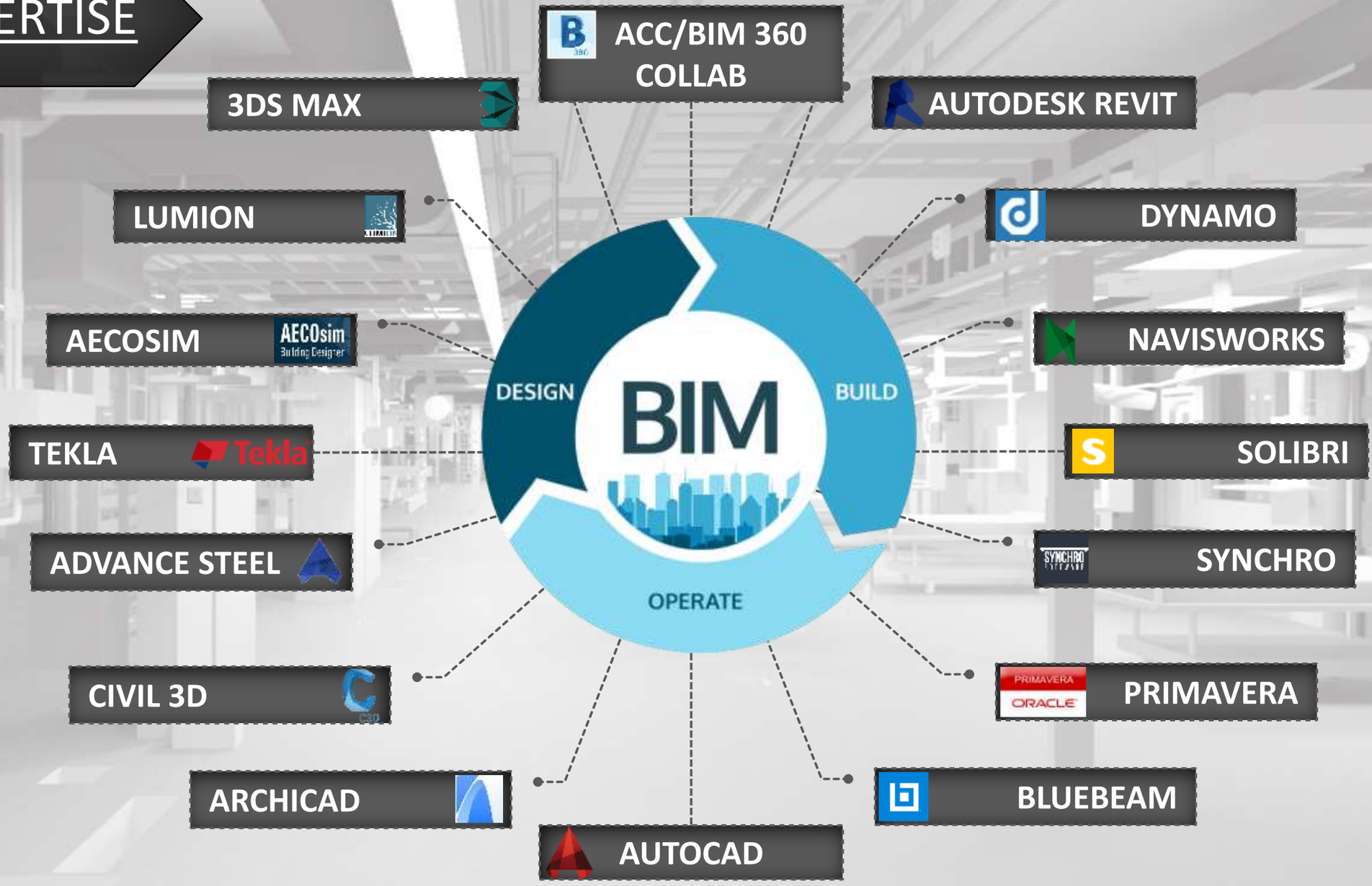
TECHNOLOGY EXPERTISE



WHY ‘THE BIM ENGINEERS’

Technical Strengths

Quality Output

Live Client Interaction

Domain Expertise

Fast Turn around

Effective pricing

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QUALITY ASSURANCE

QC CHECK PHASES

QC Check Phase 1

The model is plotted on paper and a preliminary grid by grid check is done comparing it with the original contract documents. Member of the Project Management team assists in this process.
The project team leader sends status report to the QC Department to begin QC Phase II.

QC Check Phase 2

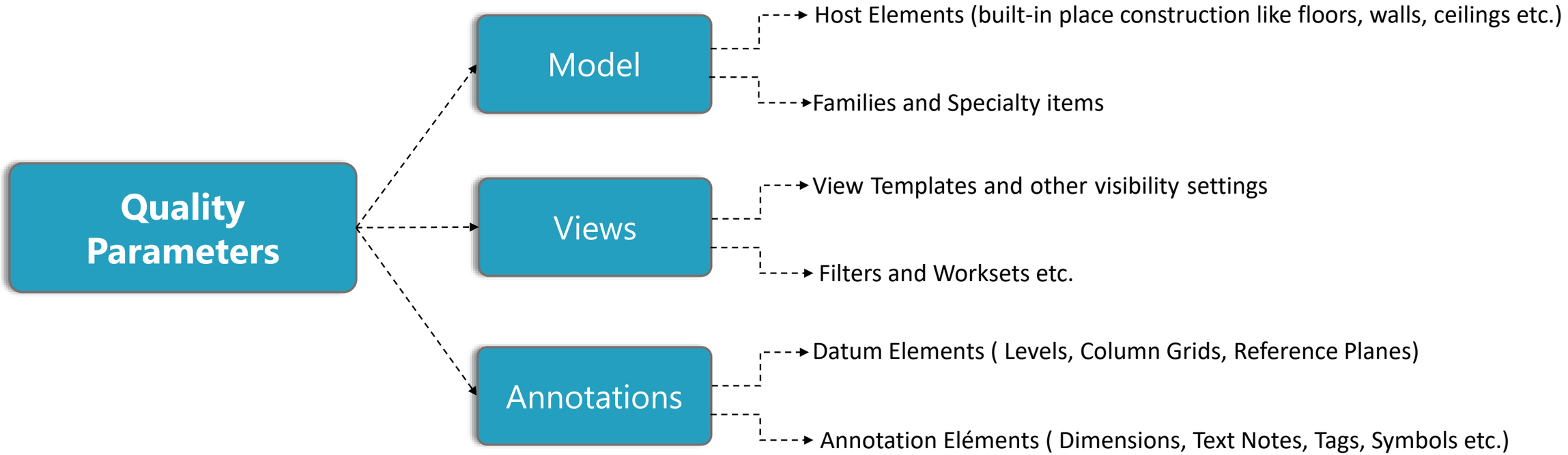
The QC Team performs a more detailed comparison of the Contract Documents against the 3D BIM model. Specific Checklist is prepared to review/check the deliverables. Their main objective is to review & identify.
The QA/QC Team continuously interacts with the Project Lead and other team members to resolve all technical issues related to the project.

QC Check Phase 3

The Project Manager conducts the pre-shipment check before sending them to the client.

QUALITY PARAMETERS

Quality Parameters are broadly divided into workspace of :

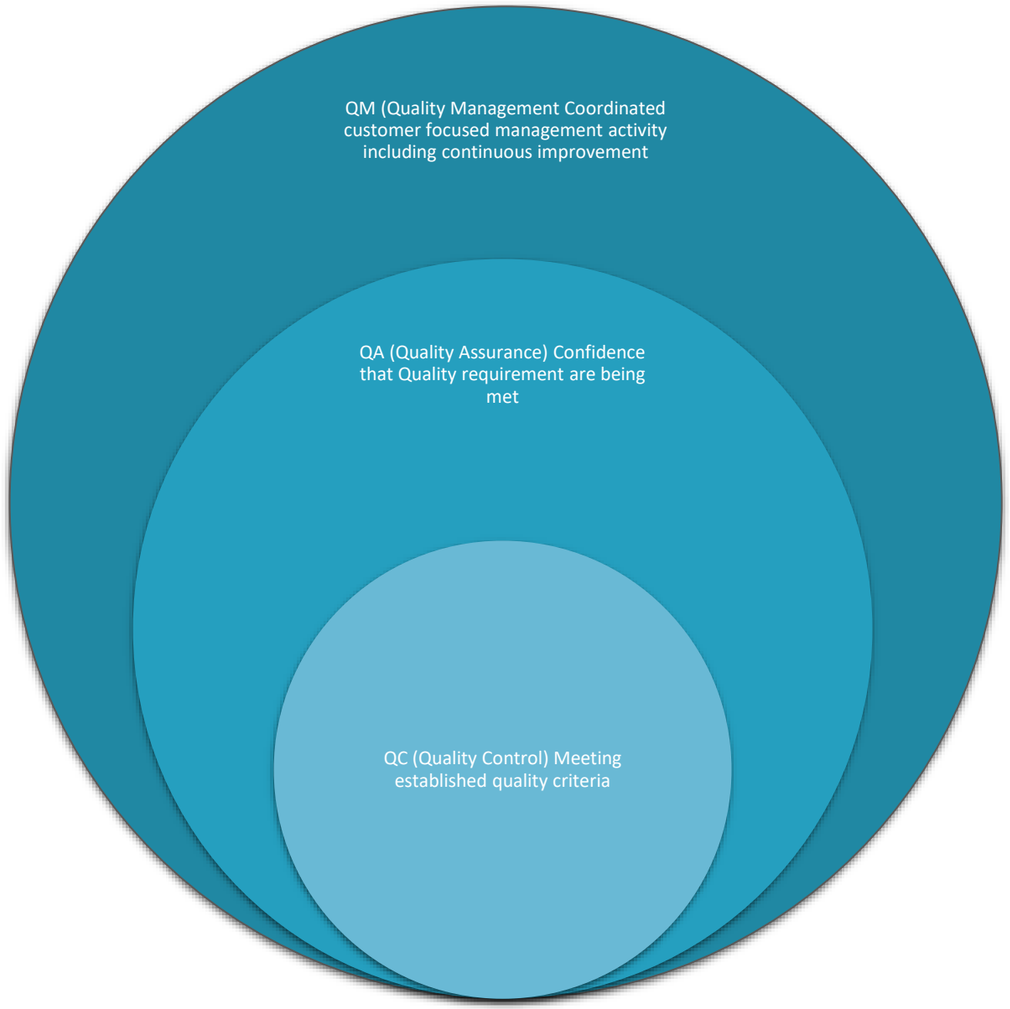


QA | QC

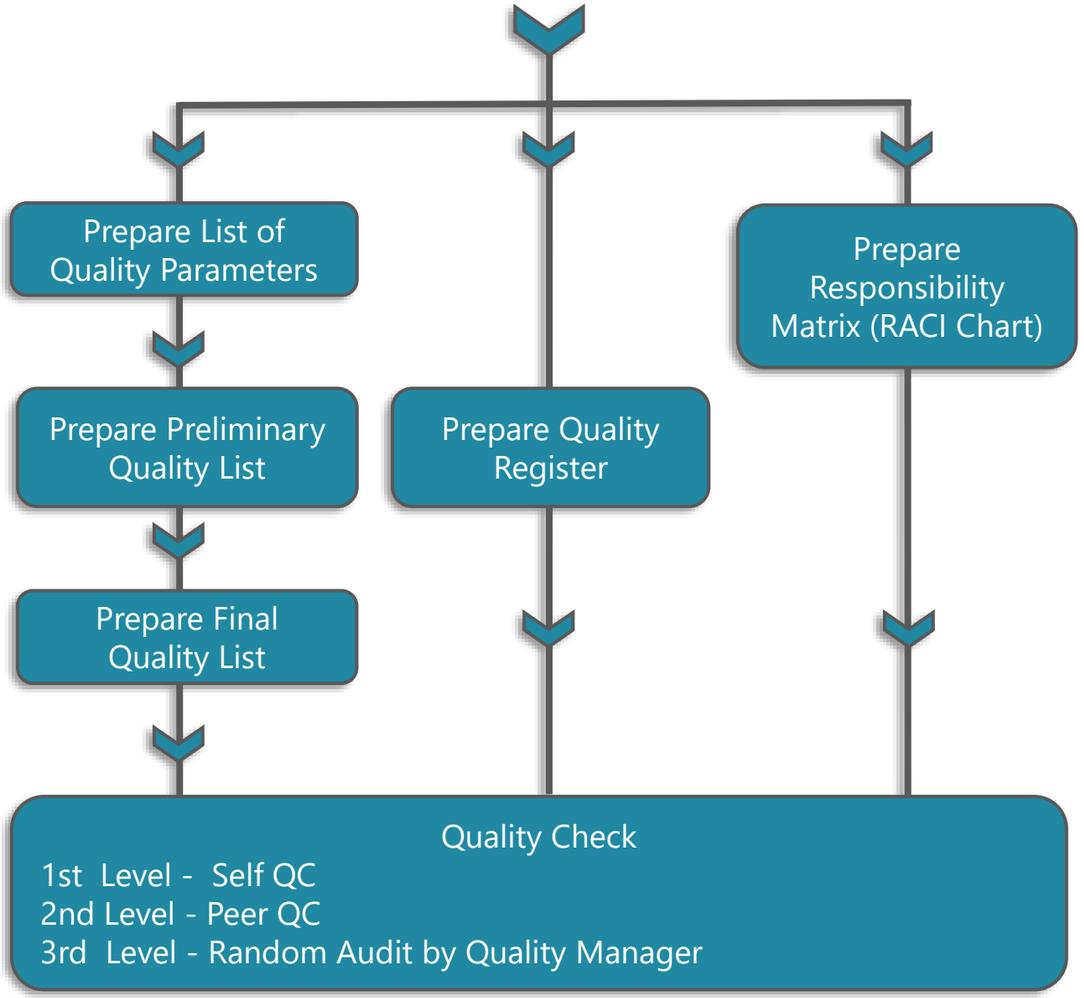
QUALITY CONTROL CHECKS

Checks	Definition	Responsible Party	Software Program(S)	Frequency
Visual Check	Ensure there are no unintended model components and the design intent has been followed	All Project Managers	Revit	Continuously
Interference Check	Detect problems in the model where two building components are clashing including soft and hard	BIM Manager	Navisworks	Weekly
Standards Check	Ensure that the BIM and AEC CADD Standard have been followed (fonts, dimensions, line styles, levels/layers, etc.)	All Project Managers	Revit	Continuously
Model Integrity Checks	Describe the QC validation process used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements and the reporting process on non-compliant elements and corrective action plans	All Project Managers	Revit	Continuously

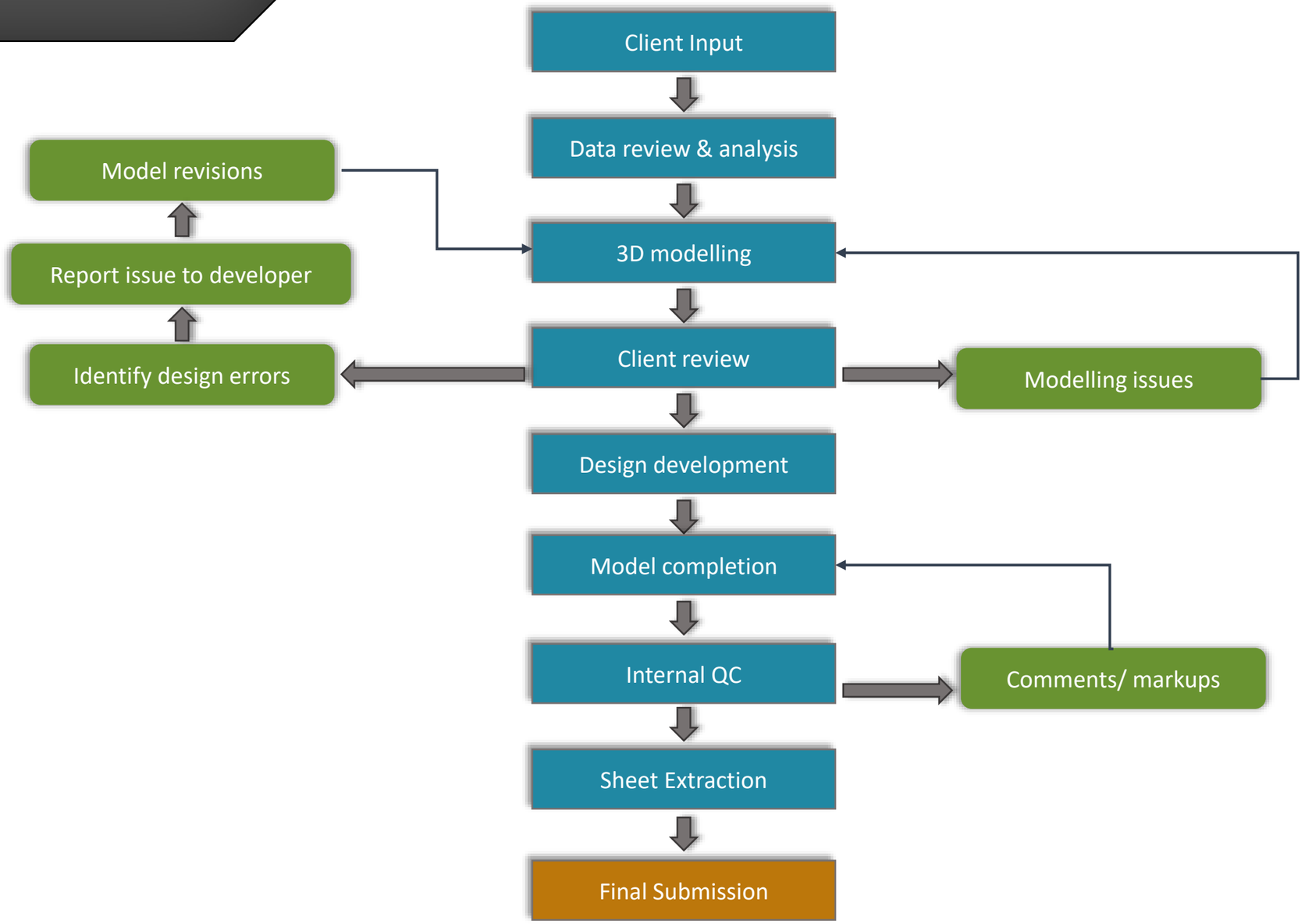
QC/QA PROCESS



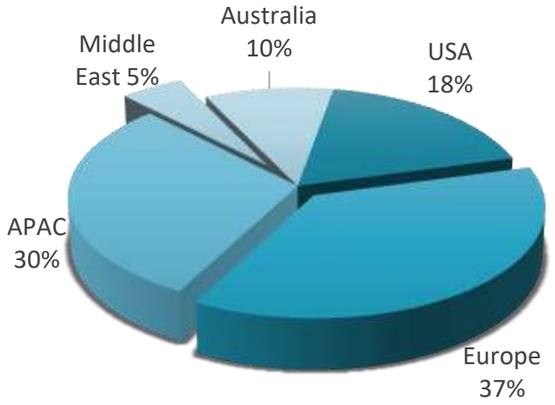
QUALITY PLANNING FOR EACH PROJECT



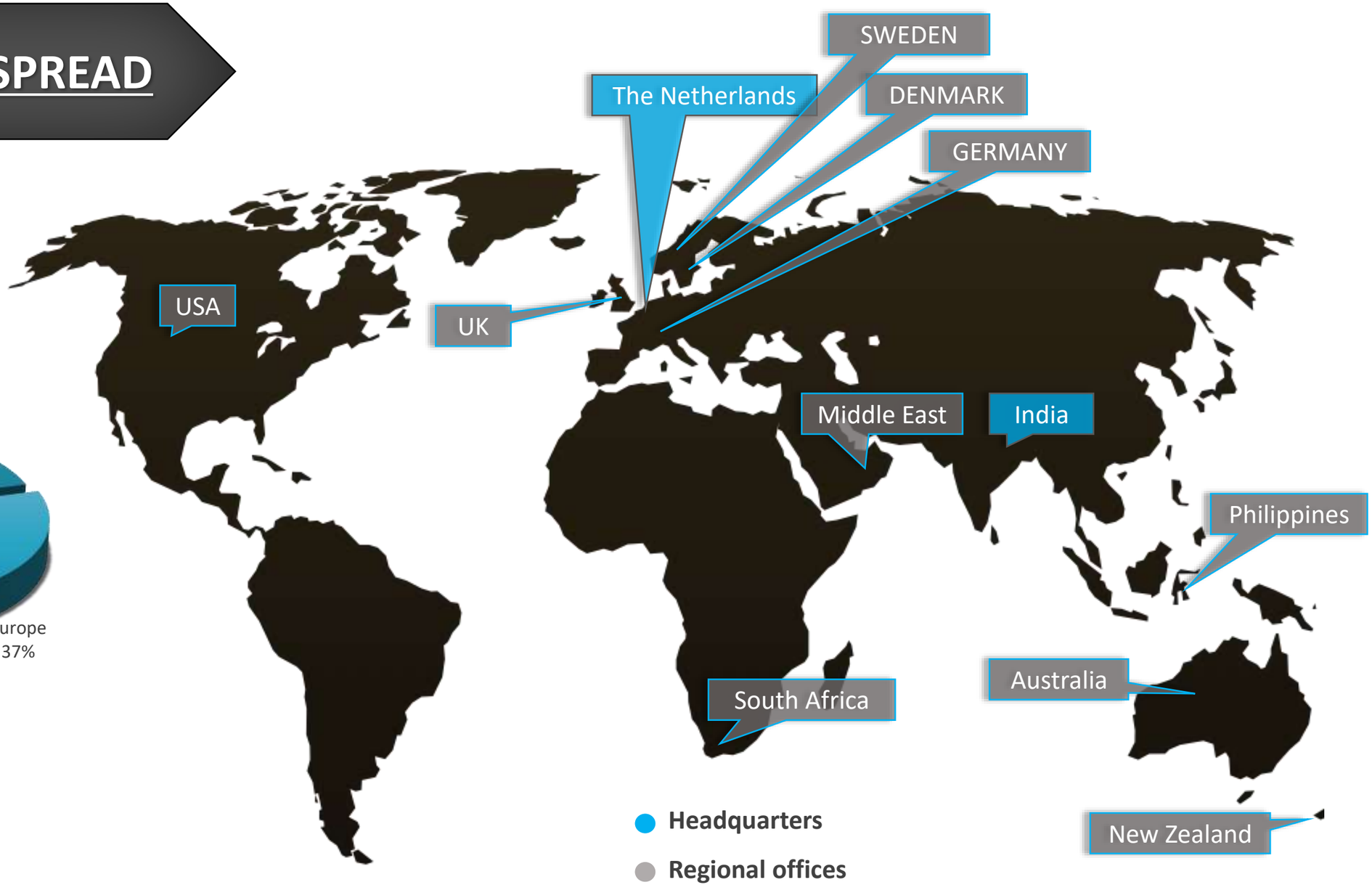
PROJECT WORKFLOW



REVENUE/PROJECTS SPREAD



Projects Revenue



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GLOBAL DESIGN CENTER (GDC) - INDIA

Chennai Office

Gurgaon Office-2

Gurgaon Office-1

Gurgaon Office-2

Chennai Office

INTERNATIONAL COLLABORATION AND SKILL UPGRADATION

Salas O'Brien™

TBE is part of Salas O'Brien – 5000+ Engineers in USA (among top 40 Engineering companies)

AWARDS AND RECOGNITION

AWARDS AND RECOGNITION

Awards and Accolades at various events (PS)

- Open BIM Conference TBIM in London, **UK**
- World BIM for Construction Industry Conference Bangkok, **Thailand**
- Autodesk University, Las Vegas, **USA**
- **ISHRAE** Seminar on BIM, IIC New Delhi, **India**
- Building Construction Authority (BCA) guest lecturer, **Singapore**
- Autodesk Revit Conference, New Delhi, **India**
- Vastukala Academy of Architecture, New Delhi, **India**
- Visiting faculty at State Institute of Urban Development SUID Mysore, **India**
- Speaker at Autodesk University India and SAARC, Mumbai, **India**
- Speaker at ‘Engineering Smart Cities’ Seminar, New Delhi, **India**
- Defined BIM Standards for Qatar Rail, Doha Metro, Doha**, Qatar**
- Speaker at MIT Pune inSIGHT seminar, Pune, **India**
- Open BIM Conference, Zigurat Institute of BIM, Spain
- Speaker at Indian BIM International Forum (IBIMA), India
- Speaker at Technology Frontiers at Amity University Jaipur, India
- Speaker at Autodesk Seminar on ‘Design Collaboration’ for BIM, India
- Speaker at Rail Analysis Seminar about ‘Transformation of Metro Rail system and role of Digital Technologies’, India
- Speaker at RICS Amity University, Mumbai, BIM E-Summit, India
- Speaker at Rail Tech 2020, New Delhi, India

OUR CLIENTS


PARSONS
Perkins&Will
Turner
Gilbane
SKANSKA
PKS
HYUNDAI
ENGINEERING & CONSTRUCTION
PRP
Zaha Hadid
AECOM
ATKINS
Member of the SNC-Lavalin Group
Gensler
wsp
Balfour Beatty
WT
WHITING-TURNER
Tutor Perini
AECOM
LAING O'ROURKE
shh
JACOBS
RAMBOLL
PCL
FLUOR
Jacobs
CAT
egis
Schindler
CLARK
CONSTRUCTION
P&T
GROUP
HDR
SWECO
M
MOTT
MACDONALD
M
LARSEN & TOUBRO
ayesa
DLF
COWI
LB
Lou Buijs bv
Loodgieters-, C.V.- en dakdekkersbedrijf - Dealer Derbigum dakbedekking
IMC Projects (India) Ltd
VDK
VAN DER KOLK
INSTALLATIEGROEP
Bureau
Bouwkunde
TATA
PROJECTS
Sapura
McKinsey&Company
van dam
groep
SHIMZU CORPORATION
SHIMZ
SIEMENS
EV
Dynamic
Micron Electricals
Veneklasen Associates
firepro
M3M
Our Expertise. Your Joy.
DWT Groep
Installatie professionals
LEIGHTON
heijmans
VAN DEN BERG GROEP
adviseurs, architecten, bouwkundigen
Godrej
PROPERTIES
Jones
Engineering
SKANSKA
SMART WORLD
iLive. iWork. iPlay.
Hanze Luchttechniek B.V.
STUP Consultants Pvt. Ltd.
Delivering Solutions | Improving Lives
SYSTRA
dwp

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Air Group
HEATING COOLING PLUMBING ELECTRICAL
SINCE 1965
HILTI
BECHTEL
Colliers
INTERNATIONAL
DAVIS
PARTNERSHIP
ARCHITECTS
360
ENGINEERING
DESIGN STUDIO
seed your imagination
ABBOT
STUDIOS
acciona
cultura
ACKTRON
SECURITY SYSTEMS
adani
Airports
APS
adaptive
property solutions
Aedas
EY
AGD
ASSOCIATES
ALDERSON
& ASSOCIATES, INC.
MEP ENGINEERING | COMMISSIONING
Allies and Morrison
Architects
ALPEN
HIGH PERFORMANCE PRODUCTS
APEX
IMAGING SERVICES
BEAT
CONSULTING ENGINEERS
STRUCTURAL • CONSTRUCTION • PROJECT MANAGEMENT
Colantonio
GENERAL CONTRACTOR
MILL CREEK
RESIDENTIAL
BIRD
CONSTRUCTION
stuartolson
Carbon Design
+ Architecture
CEI
MATERIALS
INVENTIVE FACADE SOLUTIONS
SMAK
ARCHITECTS
EllisDon
ENTER
CONSTRUCTION
Existing
Conditions
CELEBRATING
FK
ARCHITECTURE
60 YEARS

COLLABORATING WITH GLOBAL LEADERS

https://www.enr.com/toplists/2018-Top-150-Global-Design-Firms-1

6 out of top 10 and 12 out of World's top 20 Design Consultancies are collaborating with 'The BIM Engineers'

ENR 2018 Top 150 Global Design Firms

001-100 | 101-150

RANK 2018	RANK 2017	FIRM
1	3	JACOBS, Dallas, Texas, U.S.A.†
2	2	POWER CONSTRUCTION CORP. OF CHINA, Beijing, China†
3	1	AECOM, Los Angeles, Calif., U.S.A.†
4	4	CHINA ENERGY CORP. LTD., Beijing, China†
5	6	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD., Beijing, China†
6	5	WSP, Montreal, Quebec, Canada
7	18	SNC-LAVALIN, Montreal, Quebec, Canada†
8	7	ARCADIS NV, Amsterdam, The Netherlands†
9	9	FLUOR CORP., Irving, Texas, U.S.A.†
10	10	STANTEC INC., Edmonton, Alberta, Canada†

PROJECTS' CASE STUDIES

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TBE Contributions in

Airports around the world

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BUILDING

INFORMATION

MODELLING

The digital working method for the construction industry

HEATHROW AIRPORT INTERNATIONAL AIRPORT TERMINAL 5 EXTENSION

- **Location**: London, UK
- **Site Area**: 40,000 Sqm
- **Footfall**: 33 million/annum
- **Duration**: 8 Months

Scope overview:

- Trades covered: ASMEPF
- LOD: 400
- Software's: Revit, Navisworks & AutoCAD

Design Development Process:

- The client's vision was received in the form of sketches (as shown) and were achieved in the form of LOD400 Revit modelling.
- Regular interaction with the Client and other discipline teams helped us to achieve the LOD 400 Revit clash free model.

Design development | **Engineering services** | **BIM Services**

Project Execution:

To support an expedited schedule, preliminary approvals for the design of the main Terminals components were facilitated by presentation, evaluation and approval of the complex 3D model.

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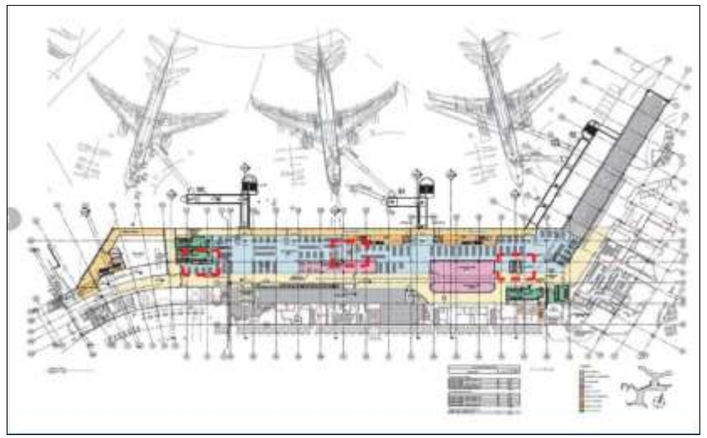
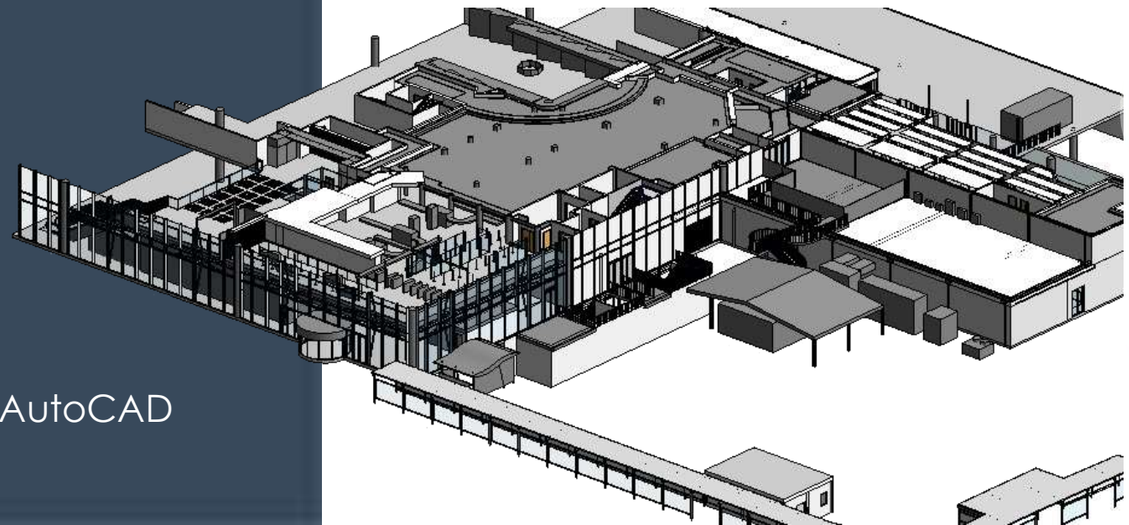
DIAL- INDIRA GANDHI INTERNATIONAL AIRPORT TERMINAL 1 EXTENSION

- **Location**: Delhi, India
- **Site Area**: 5106 acres
- **Operator**: RGIA
- **Airlines** : 76
- **Footfall**: 40 million/annum
- **Duration**: 12 Months



Indira Gandhi International Airport serves as the major international aviation hub of India.

- The expansion will be done within the existing airport boundary and is interlinked with the existing airport infrastructure.
- The proposed project is to augment required airport operation infrastructural capacity.



Project Overview:

- Trades covered: AS
- LOD: 400
- Software's: Revit, Navisworks & AutoCAD

Design development

BIM Services

Engineering services

DELHI INDIRA GANDHI INTERNATIONAL AIRPORT

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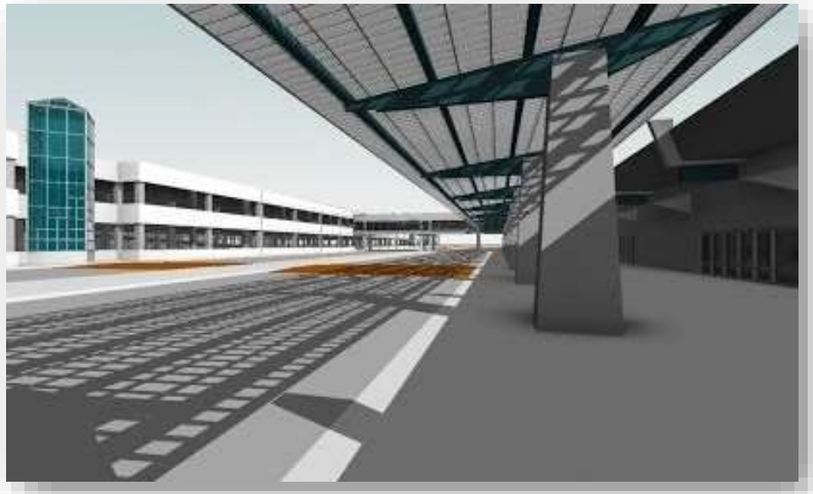
NMIAL - NAVI MUMBAI INTERNATIONAL AIRPORT

- **Location**: Mumbai, Maharashtra, India
- **Site Area**: 2867 acres
- **Operator**: NMIAL
- **Footfall**: 20 million/annum
- **Duration**: 3 Months

- Navi Mumbai International Airport (NMIA) is an under construction greenfield international airport being built at Ulwe Kopar-Panvel in Maharashtra, India.

Design Development Process:

- The client's vision was received in the form of sketches (as shown) and were achieved in the form of LOD400 Revit modelling.
- Regular interaction with the Client and other discipline teams helped us to achieve the LOD 400 Revit clash free model.
- Parametric design and Building Information Modelling (BIM) are at the forefront of this new way of engineering.



- **Project Overview**:
- Trades covered: ASMEP
- LOD: 400
- Software's: Revit, Navisworks & AutoCAD

NMIA

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CHENNAI INTERNATIONAL AIRPORT

- **Location**: Chennai, Tamil Nadu, India
- **Site Area**: 1323 acres
- **Operator**: AAI
- **Footfall**: 22.5 million/annum
- **Duration**: 12 Months
- Chennai International Airport is the third busiest in international traffic and cargo capacity in the country behind New Delhi and Mumbai.

Project Execution:

To support an expedited schedule, preliminary approvals for the design of the main Terminals components were facilitated by presentation, evaluation and approval of the complex 3D model.

Project Overview:

- Trades covered: AS
- LOD: 400
- Software's: Revit, Navisworks & AutoCAD

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SINGAPORE CHANGI 4 THE JEWEL AIRPORT

- **Location**: Singapore
- **Site Area**: 135,700 sqm
- **Footfall**: 11.8 million/annum
- **Duration**: 12 Months

With its iconic architecture, lush indoor gardens, one-of-a-kind attractions, and unique shopping and dining options, **Jewel Changi** Airport (**Jewel**) is a multi-dimensional lifestyle destination for **Singapore** residents and international travellers to enjoy.

Jewel is directly connected to **Terminal** 1, 2 and 3

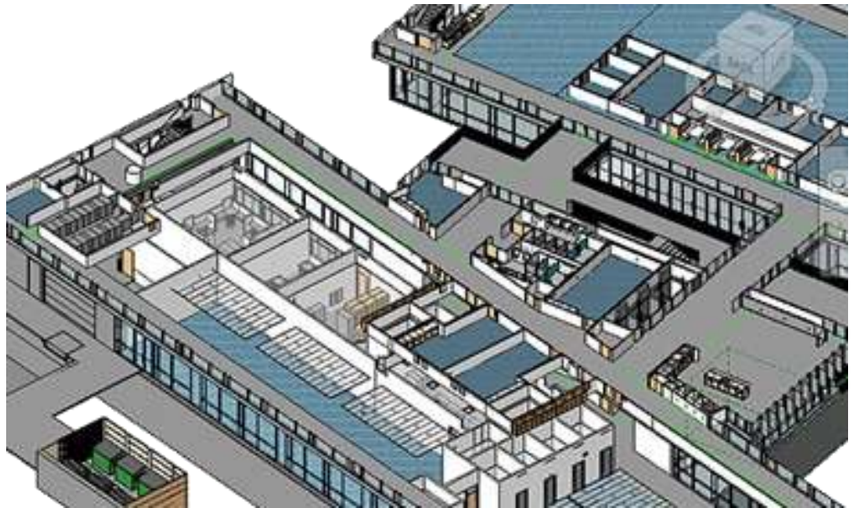
Design Development Process:

- The client's vision was received in the form of sketches (as shown) and were achieved in the form of LOD400 Revit modelling.
- Regular interaction with the Client to achieve the LOD 400 Revit clash free model.

Design development

Engineering services

BIM Services



- **Project Overview**:
- Trades covered: ASC
- LOD: 400
- Software's: Revit & AutoCAD

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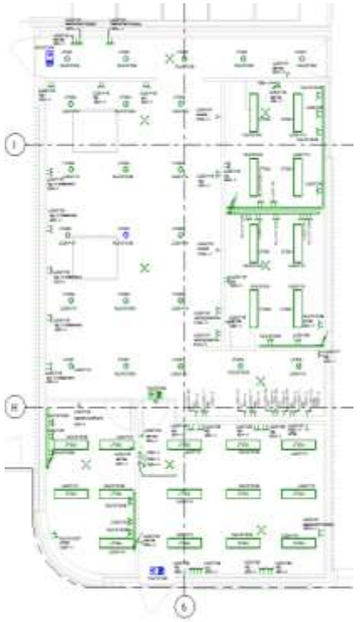
SCHIPHOL AIRPORT

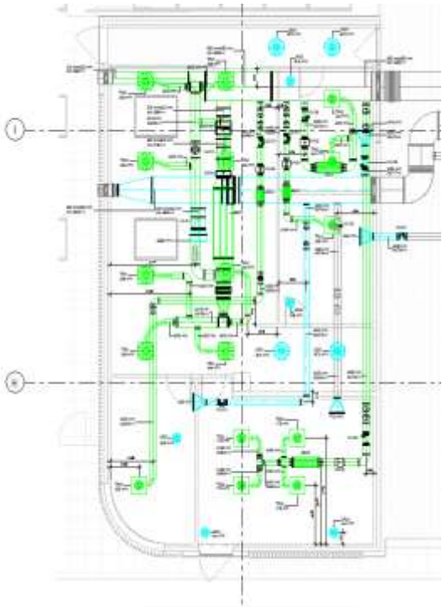
- **Location:** Amsterdam, The Netherlands
- **Site Area:**
- **Operator:** Royal Schiphol group
- **Footfall:** 7.1 billion/annum
- **Duration:** 9 Months

Project Overview:

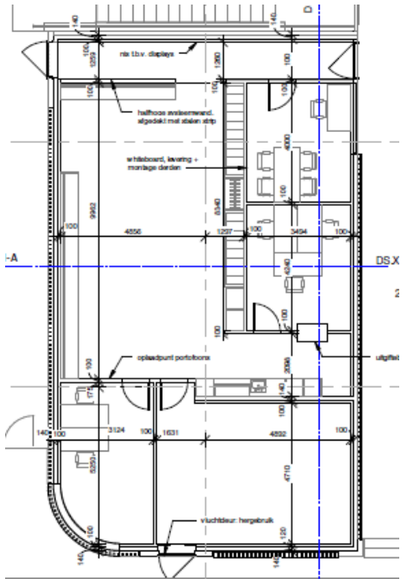
- Trades covered: ASMEP
- LOD: 400
- Software's: Revit, Navisworks, Solibri, Recap & AutoCAD
- Schiphol Airport is an important European airport, ranking as Europe's third busiest and the world's eleventh busiest.



Electrical



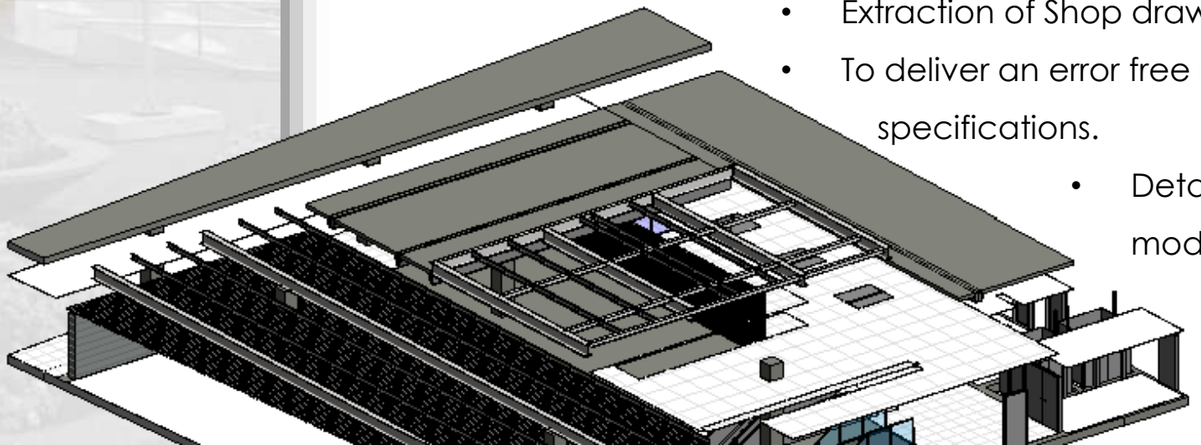
Plumbing



Arch & Str.

Scope of Work:

- LOD 400 Modeling of Architectural, structural and MEP elements.
- To coordinate and match the modelled element with the given point cloud with the help of Autodesk Recap.
- Coordination of MEP services with Architecture and structure.
- Extraction of Shop drawings from LOD 400 model
- To deliver an error free model as per specifications.
- Detailed QC of drawings and models before delivery.



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HONG KONG AIRPORT

- **Location:** New Territories, Hong Kong
- **Site Area:** 1,255 hectares
- **Operator:** Airport Authority Hong Kong
- **Airlines :** 110
- **Footfall:** 68.5 million/annum
- **Duration:** 8 Months

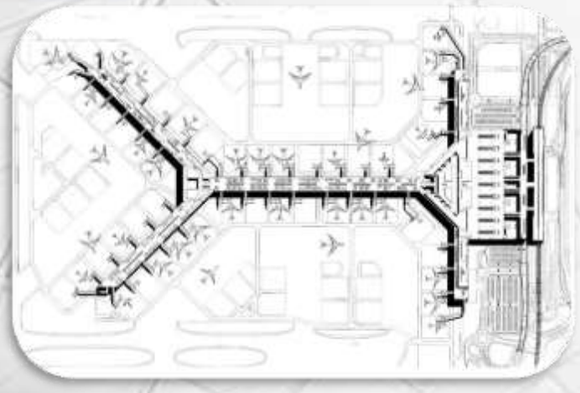
Hong Kong International Airport, also know as Chek Lap Kok Airport is an important regional trans-shipment center, passenger hub and gateway for destination in china (with 45 destinations) and the rest of Asia.

Design Development Process:

- Revit model of LOD400 was developed on the basis of point cloud data input, coupled with regular interaction with the Client and coordination with the other disciplines to achieve clash free model.
- Parametric formulation of latticed barrel vaults with span of 36m required extensive coding of Dynamo scripts.

Model Outcomes:

- Manage subcontractors and eliminate cost over-runs
- Waste reduction on site and overall quality enhancement
- Promotion of integrated and collaborative work, effective clash and design revolution as a result of developing a live document.



- Provided clients with an effective interface for lifecycle management including: design development, construction documentation, construction phases and BIM and Big Data Integration for future facilities management.

Project Overview:

- Trades covered: ASMEPF
- LOD: 400
- Software's: Revit, Dynamo, Navisworks

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TBE Contributions in

Rail/ High Speed Rail/Metros around the world

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MMRTC PHASE II/III

Mumbai Metro Rail Corporation Ltd

- **Location**: Mumbai, India
- **Site Area**: n. a.
- **Operator**: MMRC
- **Duration**: 3 Months
- **Avg. Team Size**: 5

The BIM Engineers created the LOD 400 BIM Model of Ghatkopar Metro Station in Mumbai of Line 1, Which includes Structure, Architecture & Facade Details.

- Creation of 3D BIM architectural, structural and MEP model.
- Extraction of Shop drawings from LOD 400 model.
- To deliver an error free model as per specifications.
- Truss roof designing.
- Coordinating with all modifications and inputs from all disciplines.
- Detailed QC of drawings and models before delivery.

Design Development

BIM Services

Engineering services

Project Overview:

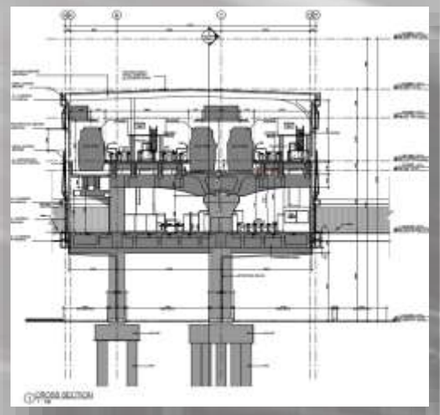
- Trades covered: Architecture & Structure
- LOD: 400
- Software Used: Revit, Navisworks & AutoCAD
- Ghatkopar is a metro station of the eastern terminus of Line 1 in Mumbai.
- Busiest metro station on Line 1.
- It is operated by Mumbai Metro One Pvt. Ltd. (MNOPL)

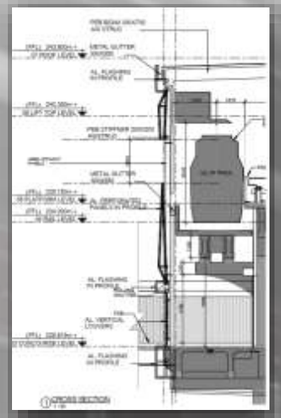
Challenges Faced and Resolved:

- Intrinsic design details posed quite a challenge to be delivered in the limited timeframe. We produced families of high standards as per the design details.
- Complex geometry of the building required detailed attention and time to attain error free model to reflect every information well in GFC drawings, BOQs and 3d visualizations. Our highly efficient team managed to play well and deliver on time and meet all expectations.

DUHAI HIGH SPEED RAIL STATION

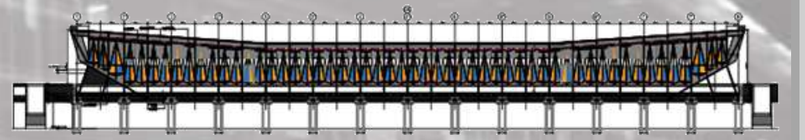
- **Location**: Ghaziabad, Uttar Pradesh
- **Area**: 2480 Sq.m
- **Team Size**: 6
- **Duration**: 3 Months
- **Softwares used**: Revit, Solibri, Autocad





Scope of Work:

- Producing a Clash Free LOD 400 BIM Model, extracting Shop drawings.
- Coordinating with all modifications and inputs from all disciplines.
- Developing the Facade design and analyzing it.



Challenges Faced and Resolved:

- Intrinsic design details posed quite a challenge to be delivered in the limited timeframe. We produced families of high standards as per the design details.
- Complex geometry of the building required detailed attention and time to attain error free model to reflect every information well in GFC drawings, BOQs and 3d visualizations. Our highly efficient team managed to play well and deliver on time and meet all expectations.

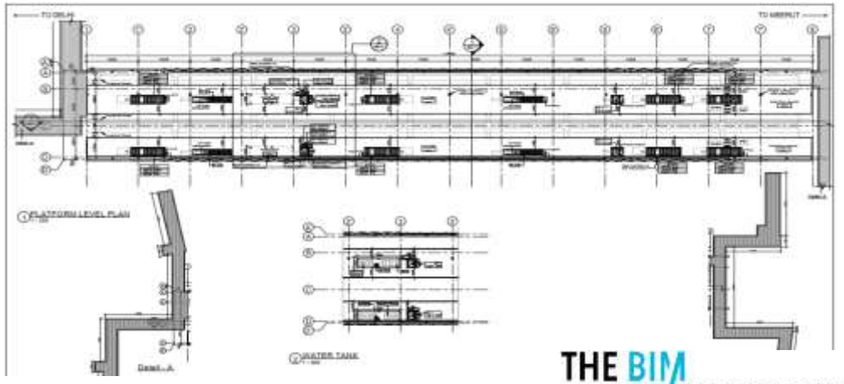
The team identified initially that the design required separate models -

I. *Architectural Model*: It contained the architecture and interior details and was dealt by experienced architects in the team.

II. *Structural Model*: Our engineers discussed & updated several changes during the design phase.

III. *Facade Model*: It dealt with the critical facade where several design updates were met. The facade being an intrinsic composition of complex geometry, needed better attention to detail.

IV. *Sheet Model*: This model extracted the Good For Construction drawings from all the models and proved critical for the revision and submission stages.



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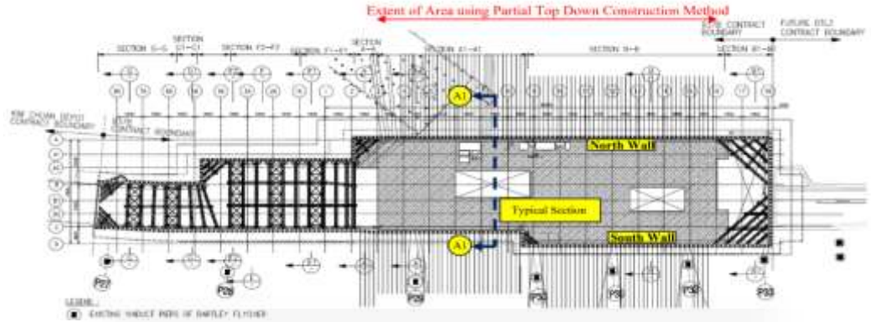
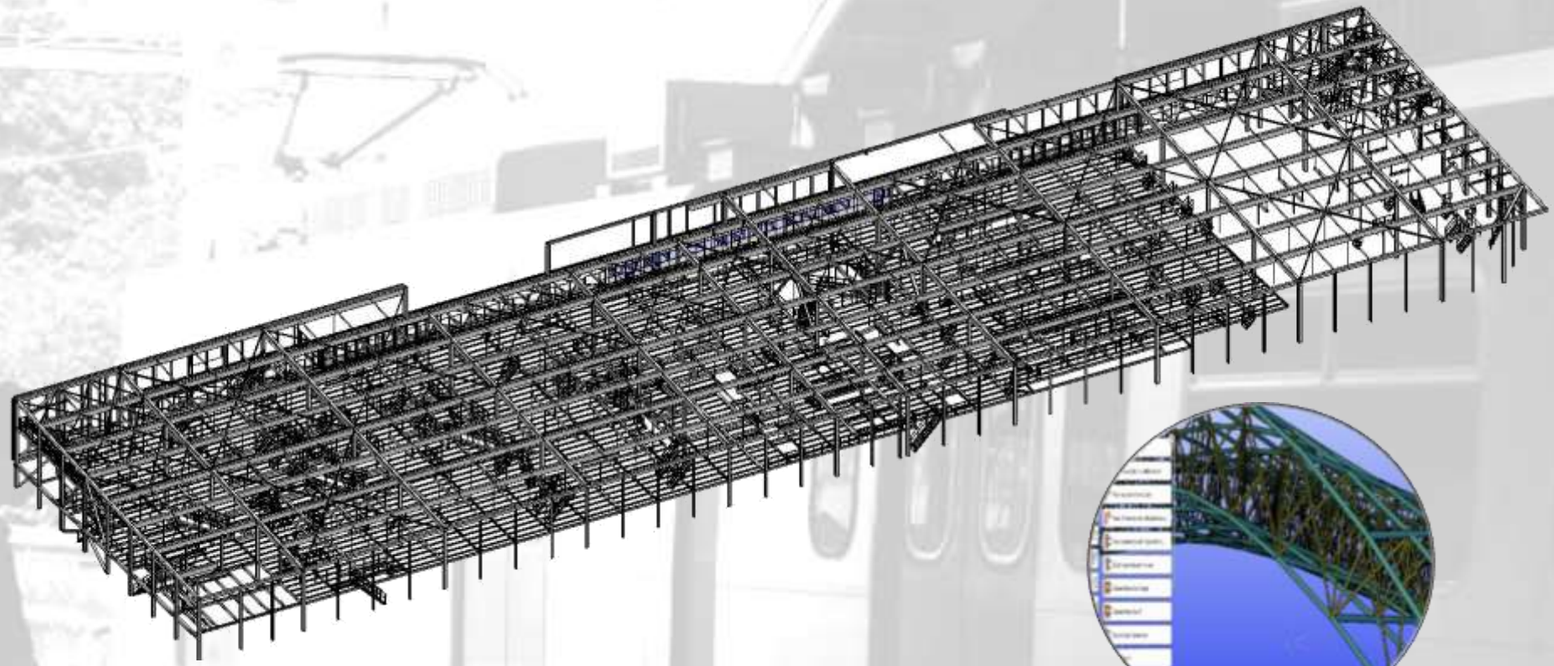
TAI SENG MRT DEPOT SINGAPORE

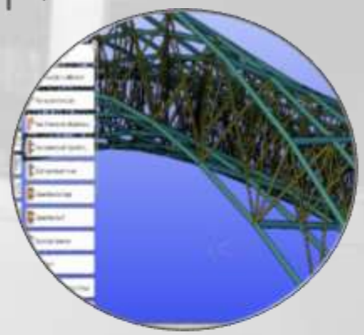
Mass Rapid Transport System (MRTS)

- **Location:** Hougang, Singapore
- **Area:** 2322 Sq.m
- **Team Size:** 6
- **Time Duration:** 8 Months
- **LOD:** 350
- **Software used:** Revit, Navisworks, Autocad

Tai Seng Facility Building, abbreviated as **TSFB**, (or Tai Seng) is an underground train depot for the Mass Rapid Transit system in Singapore. The depot is constructed towards the east of Kim Chuan Depot .







Challenges Faced & Resolved:

- The Tai Seng Facility Building is a multi level interchange depot. It was difficult to create the roof family as it had cascading roofs of varying slopes across equidistant cross sections.
- Considering the intricate design details, elaborate proprietary families had to be made for the project. These then had to go through a separate rigorous QA/QC process before application.
- QC for each segment was carried out on an individual basis due to the extensive design attributes. All clashes were resolved by mutual discussion and cumulative design decision.
- The parametric nature of the building posed a challenge to achieve an error free model in a tight time frame with all updates incorporated and checked for seamless performance.

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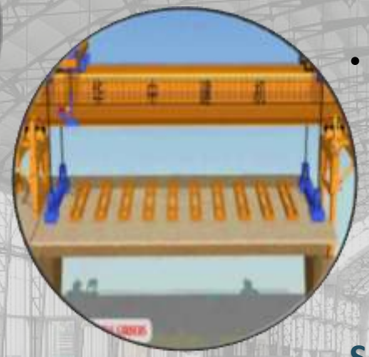
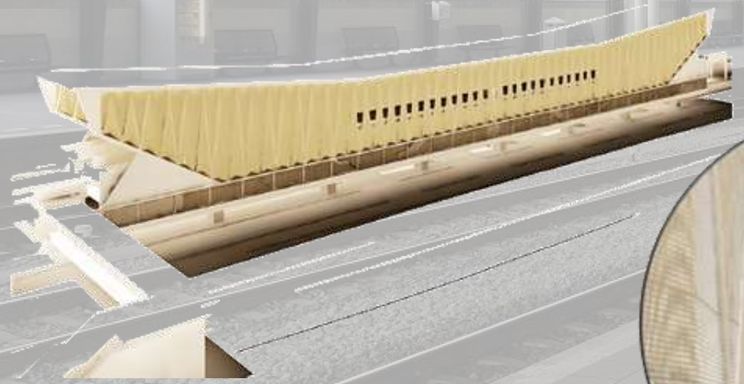
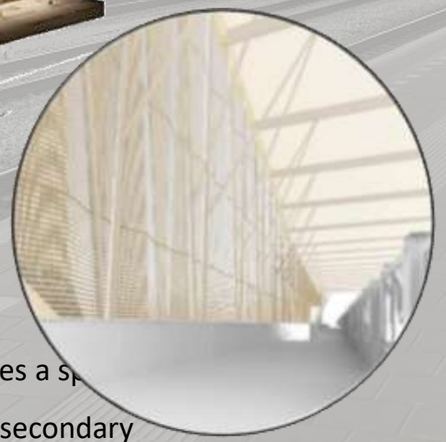
GULDHAR METRO STATION

National Capital Region Transport Corporation

- **Location**: Ghaziabad, Uttar Pradesh
- **Site Area**: 5250 Sq.m
- **Operator**: NCRTC
- **Time Duration**: 3 Months
- **Station type**: Elevated
- **Trades covered**: Architecture, Structure
- **LOD**: 400
- **Time Duration**: 3 Month
- **Software Used**: Revit, 3ds Max, AutoCAD







Project brief:

· The metro station roof currently accommodates a s
of 6 coaches, while allowing the extension of a secondary simple roof allowing space spanning 9 coaches.

Challenges:

- The complexity of the roof and facade's substructure posed a challenge in the 4D sequencing.
- The parametric layout and specialized materiality of the facade meant that Family Components and materials were not readily available online, therefore it became a great challenge for the team to complete the project in a given time frame.

Solution:

- In order to achieve a high quality 4D output, framing members were individually animated.
- The team handled the project with great delicacy using dynamo to generate individual family components, whereas materials were created in Photoshop, all of which culminated in a high quality 4D sequence video.

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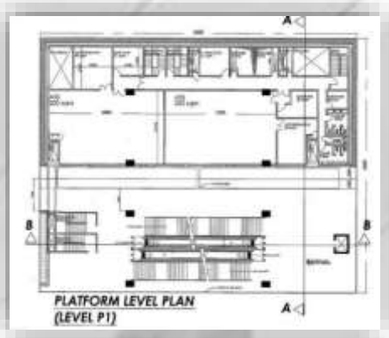
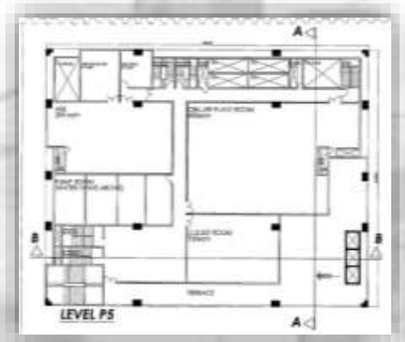
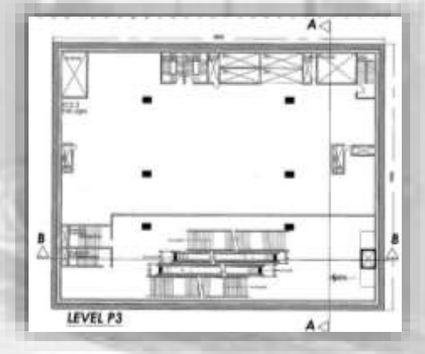
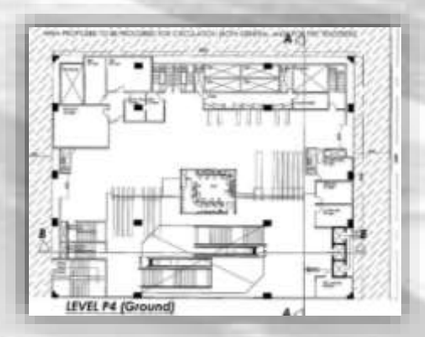
PUNE METRO
PUNE, INDIA

- **Category**: Metro station
- **Location**: Pune, India
- **Area**: 12432 sq.m
- **Avg team size**: 4
- **Time Duration**: 3 Months
- **Trades Covered**: A& S
- **LOD**: 400



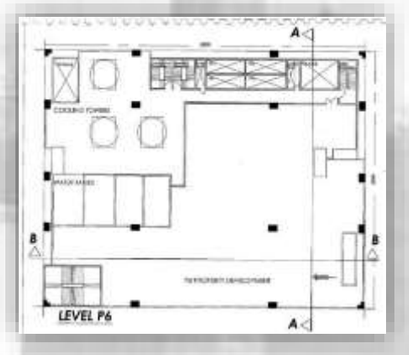


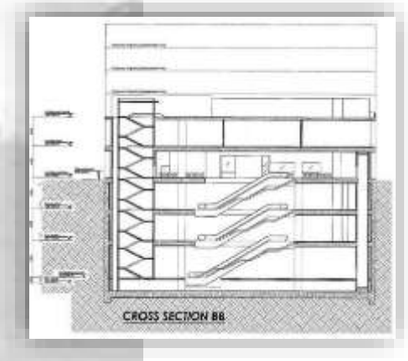




Scope of Work:

- Architectural, Structural and MEP modelling at LOD 400.
- Production of graphical Roof and Facade panel schedules for site issue.
- Production of GFC drawings and clash resolution within the model.





Process:

1. The Station will serve as a key interchange within the city with two metro lines, featuring two platforms over four floors to be leased out for commercial purposes, sitting adjacent to open air parking.
2. Design details and subsequent drawings are developed to extract fabrication level shop drawings to meet client requirements.
3. Detailed Drawings were produced for critical areas such as facade curvature and projections, to reduce errors and establish the desired aesthetics.

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MALAYSIA METRO/KVMRT

LOD:	400
Location:	Kuala Lumpur, Malaysia
Length:	52.2Km
No. of Stations:	35
Trades:	ASMEP
Software Used:	Revit, Navisworks, AutoCAD, BIMcollab, ProjectWise, Dynamo & Ideate BIMLink.
Key Features:	• It has 35 Stations out of which 24 are elevated,11 underground and 8 Ancillary Structures. • Our scope was to do modelling & co-ordination for ASMEP services. • Bill of Quantities(BOQ) & IFC parameters were also issued. • Different set of drawings viz; ISD, CSD, SEM were issued at subsequent stages.

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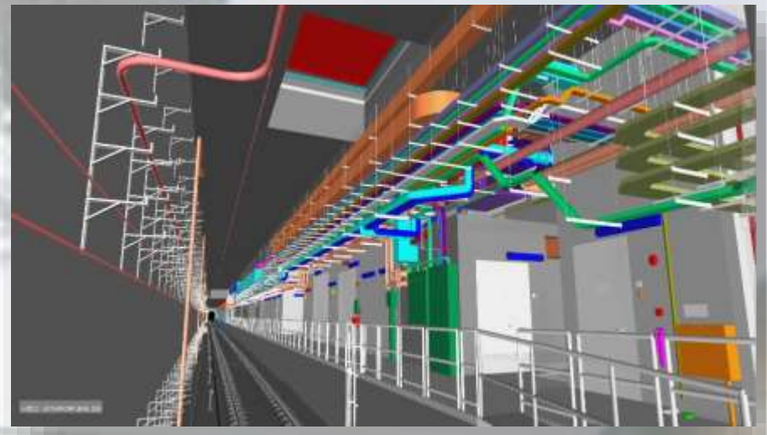
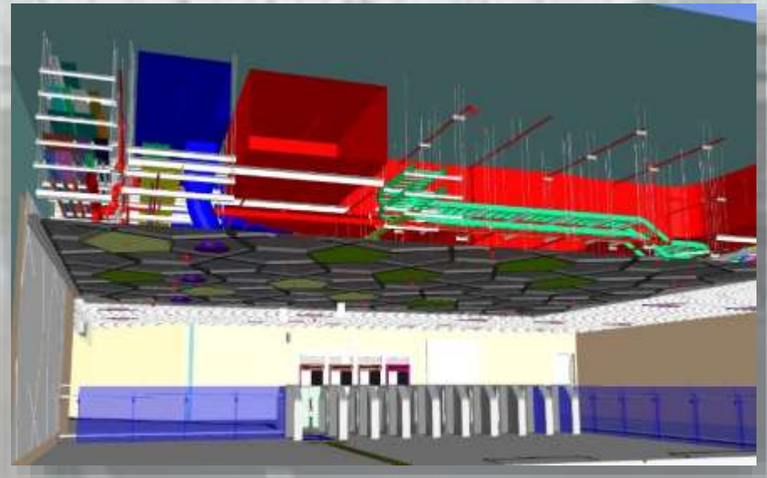
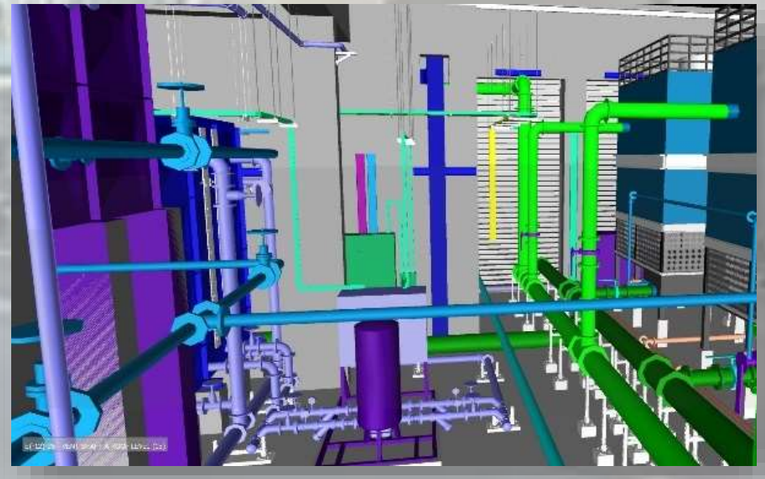
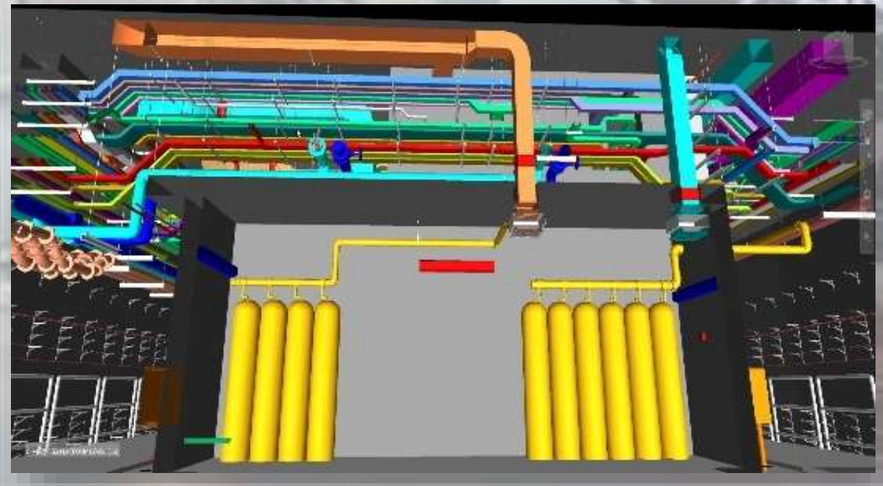
METRO





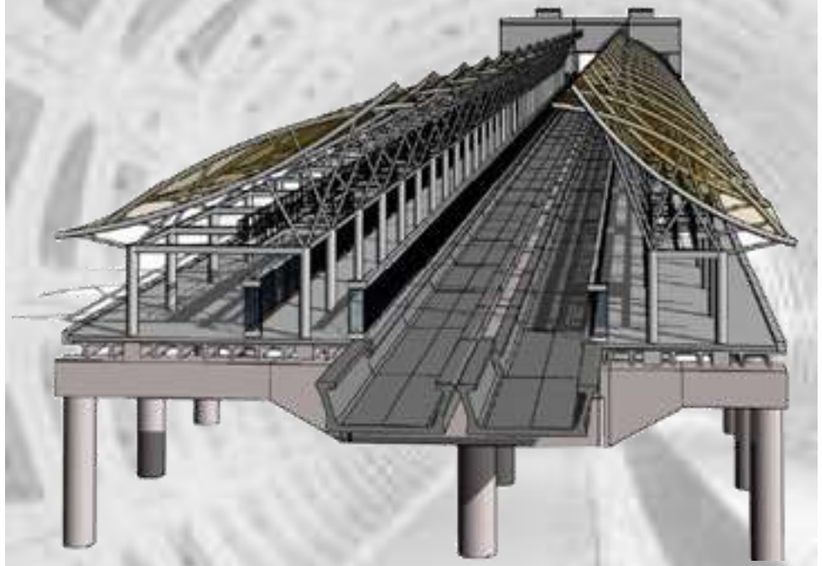




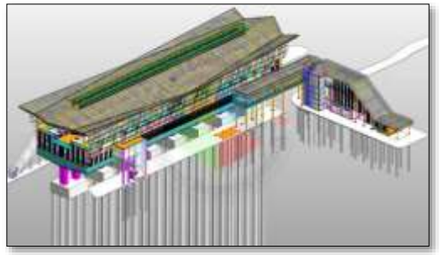
KELANG JAYA LRT STATION

Kaula Lumpur Metro station

- **Category**: Metro station
- **Location**: Kuala Lumpur, Malaysia
- **Area**: 4506 Sq.m
- **Avg team size**: 6
- **Structure Type**: Elevated
- **Platform Levels**: 3
- **Parking**: 482 bays



Kelana Jaya LRT station is a light rail station on the Kelana Jaya Line, which is the second longest fully automated driverless metro system in the world.



Project Brief:

- Based on a number of Traffic and Transportation studies conducted by various agencies, the then Government of Malayasia (GoM) approved development of Kaula Lampur Metro Rail (MRTS) Project at the junction of three high density traffic corridors of the city spanning across 64 km in phase-I.

Challenge:

- Kelana Jaya Station is a two level interchange station with a series of varied roof systems as a means of visual wayfinding and resource optimization. This meant that not only did the individual roofs and their details have to resolved for modeling purposes, but also their interface drawings and subsequent junction cohesion via modeling.

Solution :

- Individual roof types were broken down into repeating modules, wherein each module was created as a separate family which were then arrayed across the required span and junction details were modeled as assemblies so as to modify them with ease as per design changes.

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CHENNAI INTERNATIONAL AIRPORT METRO STATION

Chennai Metro Rail Limited

- **Location**: Chennai, Tamil Nadu
- **Site Area**: 17300 Sq.m
- **Operator**: Chennai Metro Rail
- **Time Duration**: 3 Months
- **Avg. Team Size**: 5

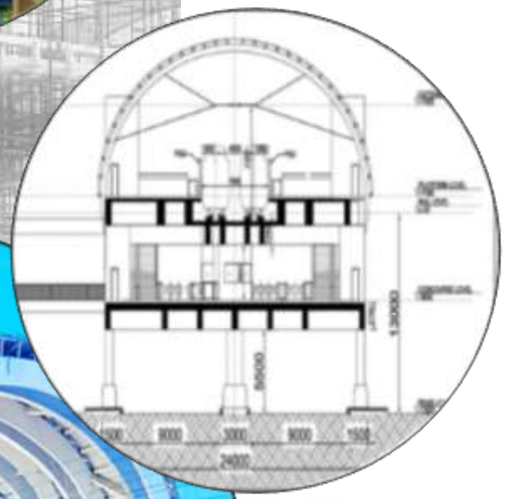
Project Overview:

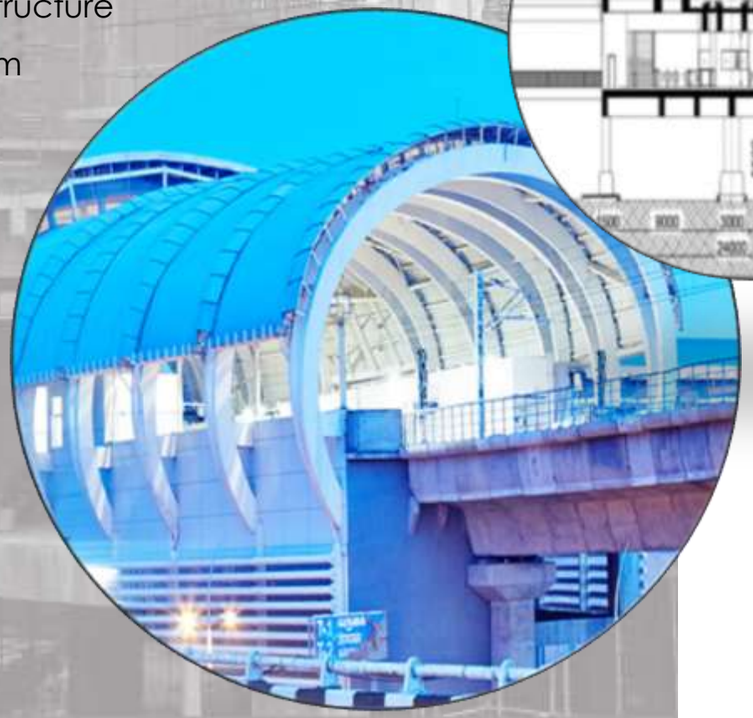
- **LOD:** 400
- **Software used:** Revit, Solibri, Autocad
- **Platform Levels**: 3
- **Trades covered**: Architecture, Structure
- **Platforms**: 2 island platform
- **Structure Type**: Elevated

Design Development

BIM Services

Engineering services





Project Brief:

The station building is a five-level terminal with a basement, ground floor, metro ground floor, concourse, and a platform. To help passengers, the concourse of the station will be linked to the glass connector tube that will connect the two terminals. The station will be an RCC shell structure building with self-supported secret fix aluminum roofing. The station is one of the few in the corridor that will have parking facilities.

Design Development Process:

- Revit modelling was accomplished with direct coordination with the client.
- The client's vision was received in the form of dwg. files and were achieved in the form of Revit modelling.
- Regular interaction with the client helped us to achieve the LOD 400 clash free model.

Project Execution:

To support an expedited schedule, preliminary approvals for the design of the main Terminals components were facilitated by presentation, evaluation and approval of the complex 3D model.

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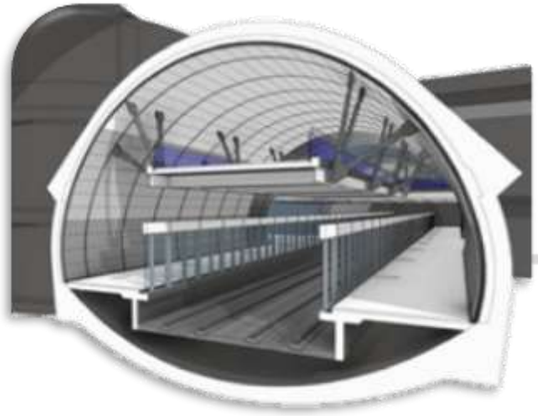
WEST KOWLOON BULLET TRAIN STATION

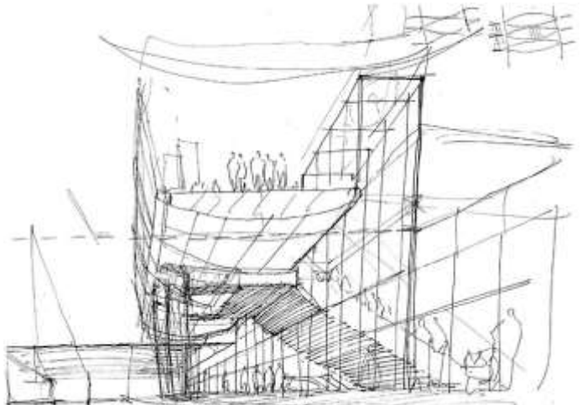
MTR Corporation

- **Location**: Hong Kong, China
- **Site Area**: 25 acres
- **Operator**: MTR Corporation
- **Platforms**: 15
- **Time Duration**: 5 Months
- **Avg. Team Size**: 7

- **Structure**: Underground
- **LOD**: 400
- **Trades**: AS & Landscaping
- **Softwares**: Revit, Solibri & Autocad



- West Kowloon Station features 9 long distance platforms and 6 short haul regional platforms for a total of 15 platforms.
- The roof structure of the terminus will be built of glass and steel. Building information modelling (BIM) is being extensively used to manage the construction of the terminus.



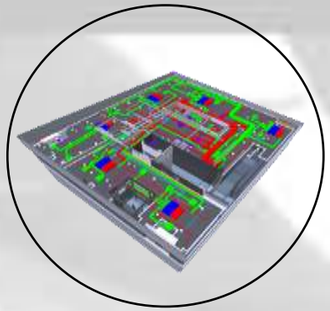
Contribution of Building Information Modelling (BIM)

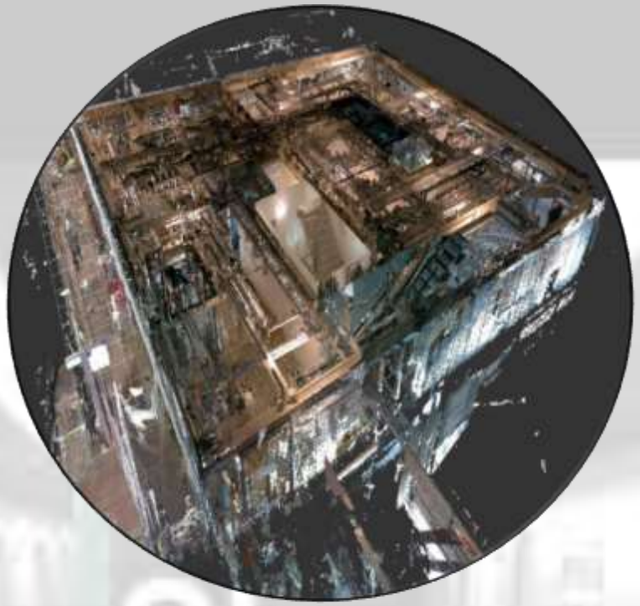
- Gammon are making extensive use of BIM during the construction of the West Kowloon Terminus.
- The BIM model was first deployed for modelling the Terminus structure.
- Ahead of construction, the model helped identify spatial clashes and construction co-ordination issues.
- Its uses have since expanded through collaboration with the project teams within MTR Corporation and Gammon.
- The project team plans to leave a legacy in the form of an 'as built' model as well as the usual as built drawings to the terminus operator.

EUROSTAR CENTRAL STATION

Check-in Facility Station

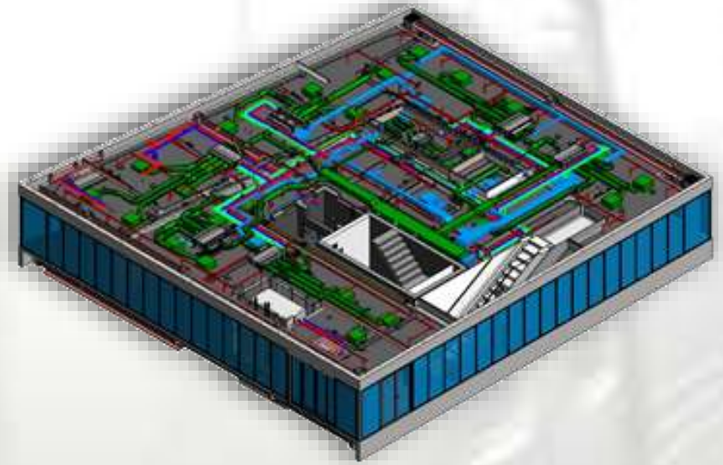
- **Location**: Rotterdam, The Netherlands
- **Site Area**: 800 Sq.m
- **Time Duration**: 4 Months
- **Avg. Team Size**: 10
- **Trades covered**: ASMEPF
- **LOD:** 350
- **Software:** Revit, recap & Navisworks





Scope of Work:

- Architecture and Structure modeling from the received point cloud (*.rcp), Site photographs and design drawings.
- MEPF modeling from the point cloud data + verified with design drawing and delivered as a clash-free coordination model.
- Extraction of Shop drawings for all the services with equipment connection details.



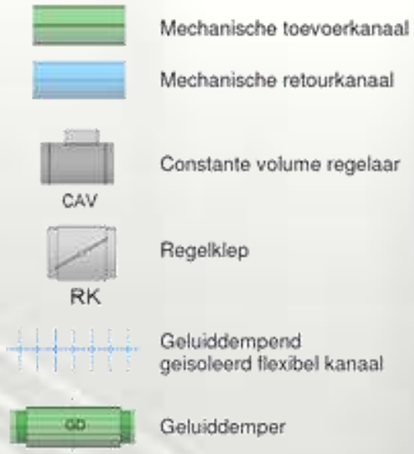
The BIM Engineers converted the Point cloud model into a 3D BIM Model of Eurostar central station in Rotterdam. Creating an As-Build BIM Model from the laser scanned data facilitates the client to analyze the existing condition of building for renovation purposes.

Challenge:

- Major Challenge in the point cloud project is the laser scan data which is a blur, So the visual understanding of those images is tough and time-consuming.
- Preparing an As-built Revit Model must match exactly with the point cloud model, In the meantime, PDF design drawings for new phase have discrepancies which also to be coordinated with the existing one.

Solution:

- The client has provided Clear images from the site for those critical areas and Autodesk ReCap helped a lot to navigate the point cloud model..
- Compared to the design drawings, the point cloud model has given importance to follow for modeling.



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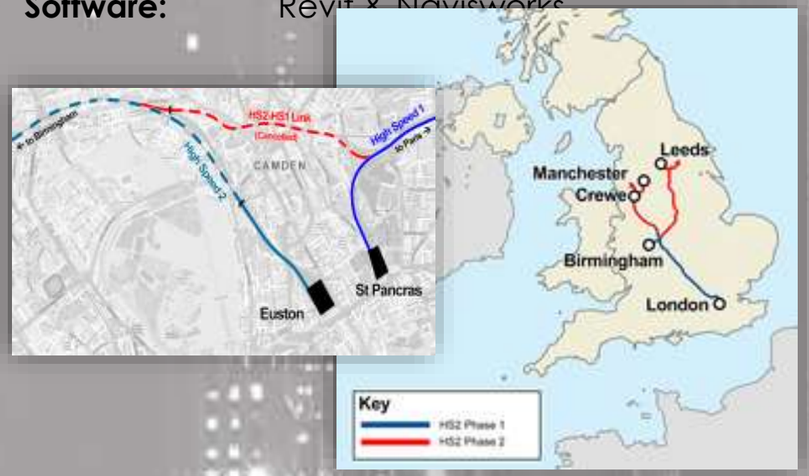
EUSTON STATION

High Speed 2 (HS2)

- **Location**: London, UK
- **Time Duration**: 1 Months (Ongoing)
- **Avg. Team Size**: 6
- **Site Area:** 25260 Sq. m
- **Trades covered**: ASMEPF
- **LOD:** 300
- **Software:** Revit & Navisworks



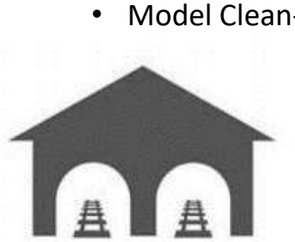
The BIM Engineers is providing the Onsite Coordination and BIM Modelling for High Speed 2 (HS2) phase 1. It is a partly planned high speed railway in the United Kingdom, with its first phase in the early stages of construction and future stages awaiting approval.

The station's vaulted roof will house 11 new high speed platforms which will be situated below street level. And 11 existing platforms will be retained in the current station, which will serve the existing network.

Scope of Work:

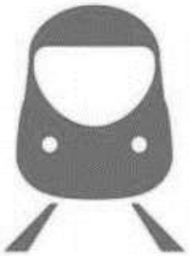
- 3D Modeling of all ASMEP services with Coordination and provision of Hanger Support.
- Preparation of shop drawings for all category of services as CSD, ISD, SEM and IFC drawings.
- The timeline of the project has been divided into various stages such as:
    - Model Freeze Stage
    - Sheet Production Stage
    - Model Clean-up Stage

The station will be fronted with a new 38 m glass façade, one of three new entrances which will transform the station into a light and airy destination with shops, restaurants and cafes.



Design Development

BIM Services



Engineering Service

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DELHI METRO RAIL CORPORATION

DCDD03 Phase IV Metro

- **Location**: Delhi, India
- **Time Duration**: 8 Months
- **Operator:** Delhi Metro Rail Corporation
- **Corridor:** Rithala- Bawana-Narela
- **No. of Stations**: 16
- **Station type**: Elevated
- **Length**: 21.73 km
- **Trades covered**: ASMEP
- **LOD:** 200
- **Software:** Autocad, Revit & Navisworks

Scope of Work:

	Project Description	Deliverables for Review/Information
TENDER STAGE/PRELIMINARY DESIGN STAGE (LOD 300)		
1	ASMEP BIM Models In line with latest set of drawings	REVIT (*.RVT) .NWD (OPTIONAL IF REQUIRED)
2	Clash detection, resolution and closure	PDF
3	Extraction of BOQ	DOC, XLSX
DETAIL DESIGN STAGE (LOD 300)		
1	ASMEP BIM Models In line with latest set of drawings	REVIT (*.RVT) .NWD (OPTIONAL IF REQUIRED)
2	Clash detection, resolution and closure	PDF
3	Extraction of BOQ	DOC, XLSX
GOOD FOR CONSTRUCTION STAGE (LOD 400)		
1	ASMEP BIM Models In line with latest set of drawings	REVIT (*.RVT) .NWD (OPTIONAL IF REQUIRED)
2	Clash detection, resolution and closure	PDF
3	Extraction of BOQ	DOC, XLSX
4	Drawing Deliverables	CAD, PDF, PRINT COPY
FORTNIGHTLY PRESENTATION		
1	Integrated BIM Model (Clash detection report submission will depend on construction phases after initiation of work)	REVIT (*.RVT)

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PATNA MASS RAPID TRANSIT SYSTEM

Patna Metro Rail Corporation

- **Location**: Patna, India
- **Time Duration**: 1 Months (Ongoing)
- **Operator:** Delhi Metro Rail Corporation
- **Length**: 42km
- **Trades covered**: ASMEP
- **LOD:** 200
- **Software:** Autocad, Revit & Navisworks

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OTHER CASE STUDIES

THE BIM ENGINEERS

PROJECT OVERVIEW

Project Name: Mill Hill

Category: Residential

Location: Pentavia, London, UK

Area: 86,201 Sqm

Time duration: 10 Months

Avg. Team Size: 8

The BIM Engineers created the LOD 400 BIM Model of a residential building (Apartment) in London which includes in total of 15 floors.

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PROJECT OVERVIEW

Project Name: IKEA FURTNITURE STORES

Category: Warehouse

Location: Multiple in USA and India

Area: varies

Time duration: 4-8 weeks

Avg. Team Size: 3-5

The BIM Engineers helped in space planning, Egress plan, inventory, accurate Quantities, Bill Verification and Accurate as builts for Facility Management

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PROJECT OVERVIEW

Project Name: Sainsbury's

Category: Super Stores

Location: Multiple in UK

Area: varies

Time duration: 4-8 weeks

Avg. Team Size: 3-5

The BIM Engineers helped in space planning, Egress plan, inventory, accurate Quantities, Bill Verification and Accurate as builts for Facility Management

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PROJECT OVERVIEW

Project Name: Tesco

Category: Stores

Location: Multiple in Europe

Area: varies

Time duration: 4-8 weeks

Avg. Team Size: 3-5

The BIM Engineers helped in space planning, Egress plan, inventory, accurate Quantities, Bill Verification and Accurate as builts for Facility Management

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PROJECT OVERVIEW

Project Name: Starbucks Coffee

Category: Retail stores

Location: Multiple stores

Area: varies

Time duration: 3-4 weeks

Avg. Team Size: 2-4

The BIM Engineers helped in space planning, signage, seating, fitout drawings, quantities, clash coordination and construction drawings using BIM

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PROJECT OVERVIEW

Project Name: Angel Lane

Category: Commercial

Location: London, UK

Area: 15,730 Sq. m

Time duration: 3 Months

Avg. Team Size: 4-6

The BIM Engineers created the LOD 400 BIM Model of a commercial building (hotel) in London which includes in total of 21 floors.

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PROJECT OVERVIEW

Project Name: TESLA GIGAFACTORY BERLIN

Category: INDUSTRIAL PLANT

Location: BERLIN, GERMANY

Area: 22,000 sqm

Time duration: 8+ Months

Avg. Team Size: 8-10

The BIM Engineers helped in developing ASMEPf BIM models, clash detection, coordination and clash free construction/fabrication drawings

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PROJECT OVERVIEW

Project Name:	NXTRA DATA CENTRE
Category:	DATA CENTRE
Location:	COLOMBO, SRI LANKA
Area:	14,000 sqm
Time duration:	6+ Months
Avg. Team Size:	6-8

The BIM Engineers helped in developing ASMEPf BIM models, clash detection, coordination and clash free construction/fabrication drawings

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PROJECT OVERVIEW

Project Name: NEW CHILDREN HOPSITAL

Category: HEALTH CARE

Location: DUBLIN, IRELAND

Area/Capacity: 470 Beds

Time duration: 12+ Months

Avg. Team Size: 10-12

The BIM Engineers helped in developing ASMEPf BIM models, clash detection, coordination and clash free construction/fabrication drawings

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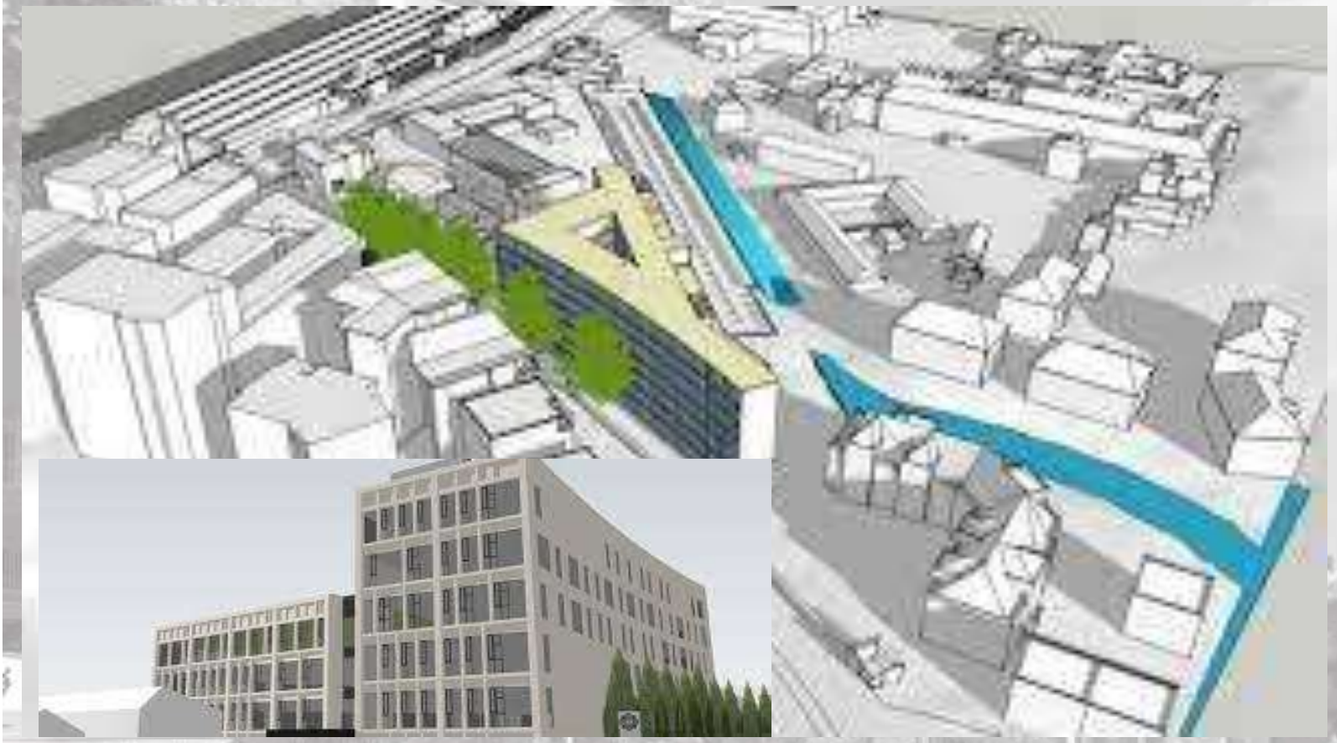
PROJECT OVERVIEW



Project Name: NEW GARDA HQ

Category: POLICE HQ

Location: DUBLIN, IRELAND

Area/Capacity: 10,060 Sqm

Time duration: 4+ Months

Avg. Team Size: 6-8

The BIM Engineers helped in developing ASMEPf BIM models, clash detection, coordination and clash free construction/fabrication drawings

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PROJECT OVERVIEW

Project Name: AIRTEL DATA CENTRE

Category: Data Centre

Location: Gurgaon, Haryana, India

Area/Capacity: 14,500 Sqm

Time duration: **6**+ Months

Avg. Team Size: 6-8

The BIM Engineers helped in developing ASMEPf BIM models, clash detection, coordination and clash free construction/fabrication drawings

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PROJECT OVERVIEW

Project Name: Cookstown

Category: Mixed Use l

Location: Cookstown, Dublin

Area: 25,900 Sqm.

Time duration: 2 Months

Avg. Team Size: 4

The BIM Engineers developed the LOD 300 BIM Model of a commercial cum residential building in Cookstown Industrial Estate comprised of 8 floors.

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PROJECT OVERVIEW

Project Name: Canterbury Apartments

Category: Residential

Location: Canterbury, UK

Area: 10,500 Sq. m

Time duration: 11 Months

Avg. Team Size: 6

The BIM Engineers created the LOD 400 BIM Model of a residential building which includes in total of 6 floors.

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ACHILLESVELD

LOD:	400
Location:	Netherlands, Europe
Area:	43,000 Sq. m
Time duration:	3 Months
Trades:	A & S
Software Used:	Revit, Navisworks, AutoCAD

Key Features:

- The project was clusters of higher density development.
- It required two different models for Architecture and Facade.
- Use of central courtyard, communal gardens, village street, roof terraces, Bunns lane link and woodland edge.

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KOLENKIT

LOD:	400
Location:	Netherlands, Europe
Area:	20500 Sq. m
Time duration:	6 Months
Trades:	A & S
Software Used:	Revit, Navisworks, AutoCAD
Scope of Work:	• 3D Modeling of MEP services, Architecture, and Structural wall opening. • Coordination of MEP and Clash detection. • Provision of Hanger support for the coordinated MEP services. • Preparation of shop drawings for all category of services by an individual for basement and podium with Revisions.

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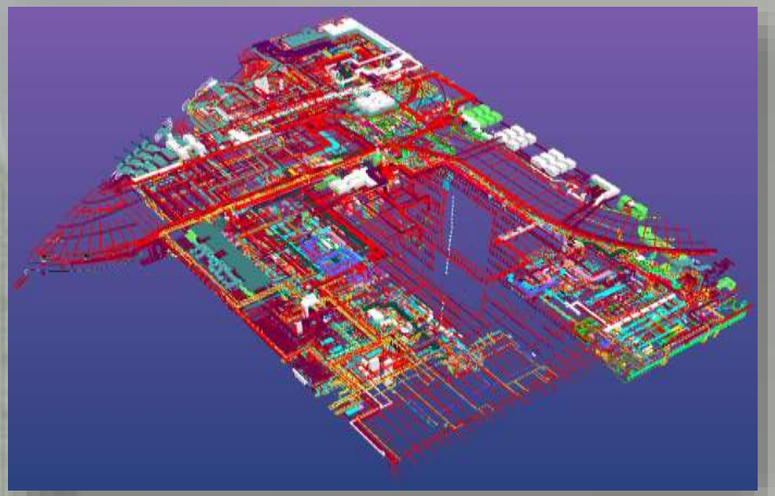
M-PLUS MUSEUM

LOD:	400
Location:	West Kowloon, Hong Kong
Area:	65,000 Sq. m
Time:	6 Months
Trades:	ASMEPF
Software Used:	Revit, Navisworks, AutoCAD & Revizto & Dynamo
Scope of Work:	• 3D Modeling of MEP services, Architecture, and Structural wall opening. • Coordination of MEP and Clash detection. • Provision of Hanger support for the coordinated MEP services. • Preparation of shop drawings for all category of services by an individual for basement and podium with Revisions.



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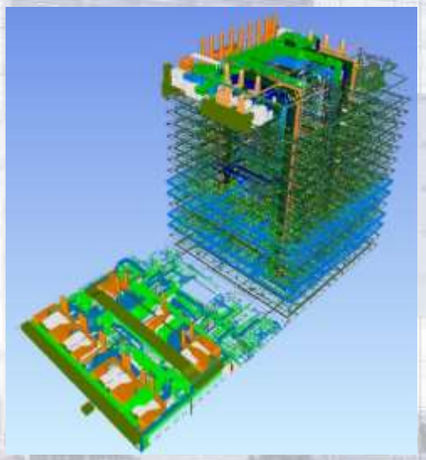
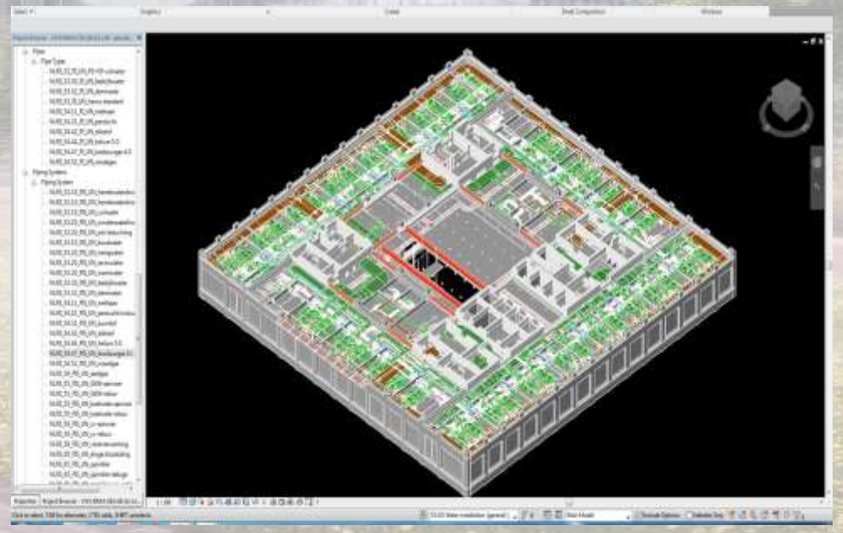
HEALTHCARE (MORLEIGH)

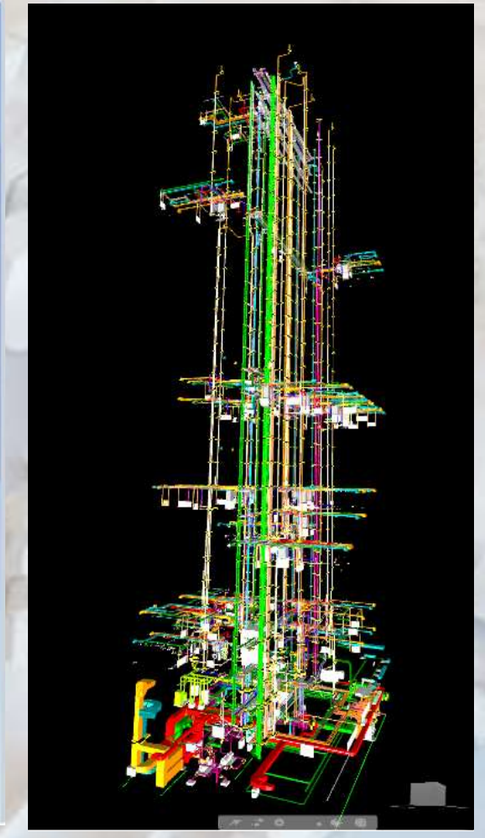
LOD:	400
Location:	The Netherlands
No. of Floors:	18 (80m)
No. of Stations:	35
Trades:	ASMEP
Software Used:	Autodesk Revit, Autodesk Navisworks, AutoCAD, Microsoft OneDrive, Snagit & Dynamo
Scope of Work:	• Our scope was to do modelling & co-ordination for MEP services. • Individual services drawings were issued after coordination. • This project was in NLRS standard.





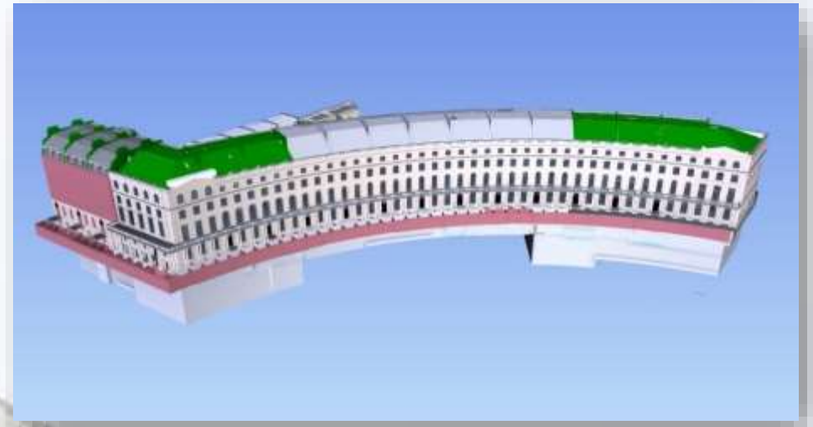
LUDBOROUGH RISE APARTMENTS

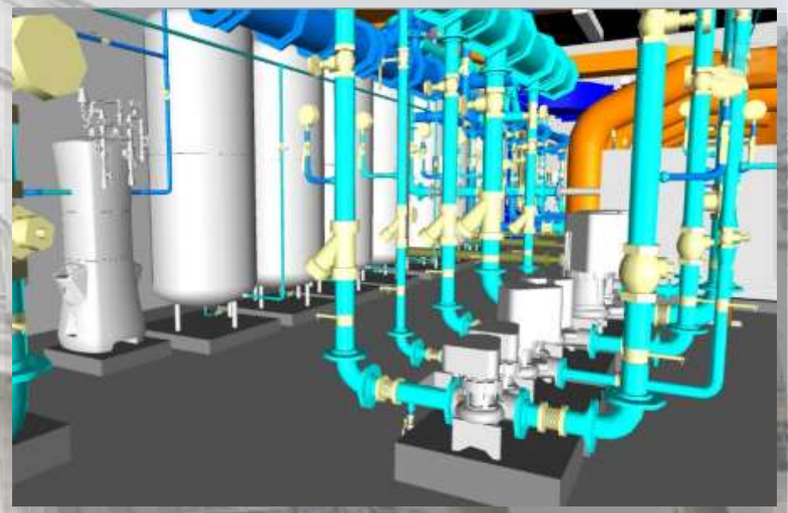
LOD:	350
Location:	London, UK
Area:	20,000 Sq. m
Trades:	MEPF
Software Used:	Revit, AutoCAD & Navisworks.
Scope of Work:	• 3D Modeling of all MEP services and Clash Coordination of all services and Documentation. • Partition of the model as per the floor for ease of modeling. Upgrading the model from LOD 200 to LOD 350 with providing additional information.



HOTEL CROWNE PLAZA

LOD:	350
Location:	London, UK
Area:	29,000 Sq. m
Duration:	6 months
Trades:	ASMEPF
Software Used:	Revit, AutoCAD & Navisworks
Scope of Work:	• BIM modeling of MEPF services for all the apartments. • Modeling of Plant room equipment's and its pipe connections with accessories. • Shop drawing creation for the mechanical (CHW & HVAC), Plumbing (Drainage & Water supply), Fire protection services and Builders Work.





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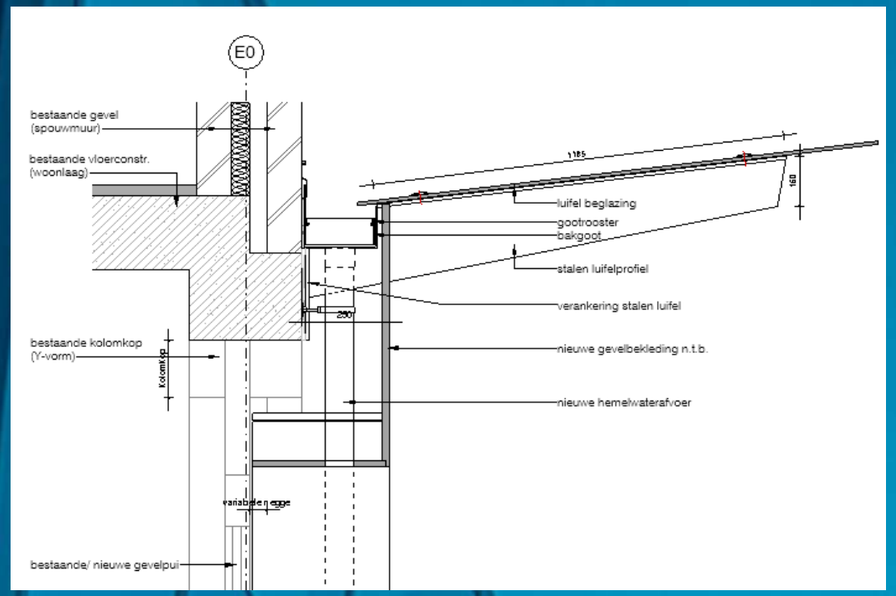
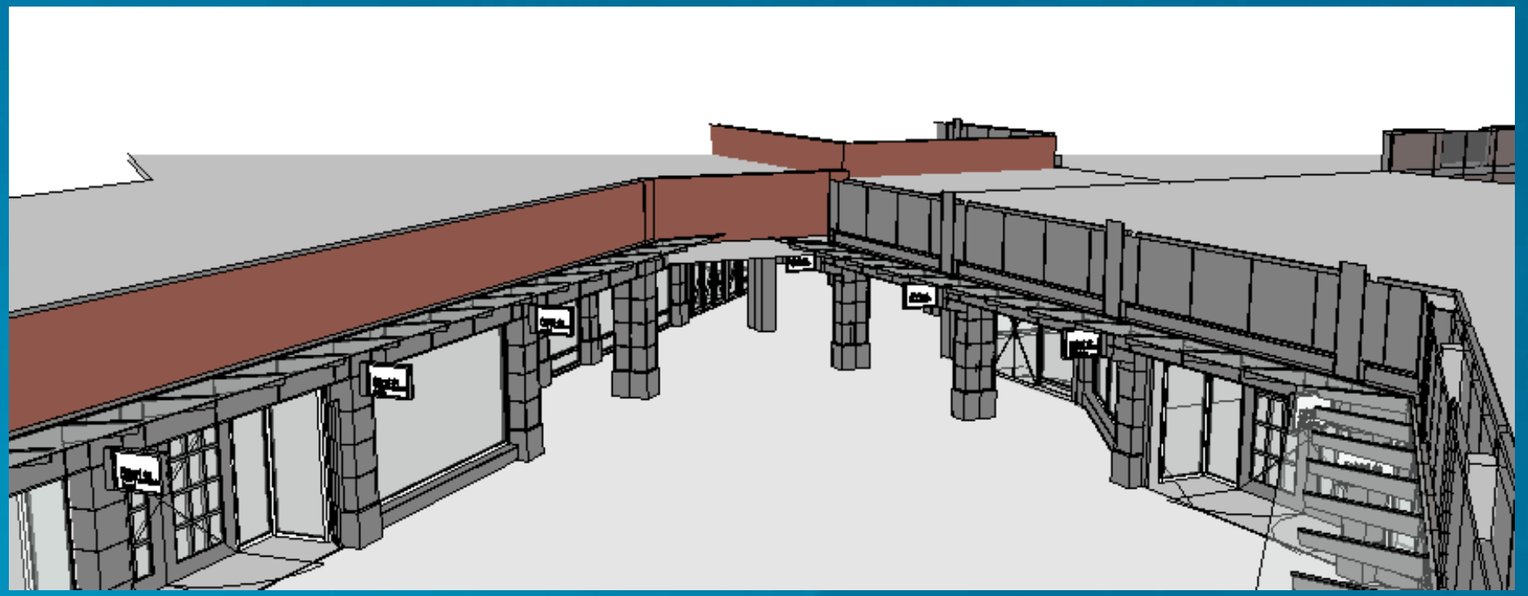
De Struytse Hoeck

- Category : Commercial
- Location : Netherlands, Europe
- Area : 2,800 Sq. m.
- Scope : BIM modelling, Coordination & Documentation/Drawings
- Time duration : 2 Months





ETFE (FOOTBALL STADIUM, GERMANY)

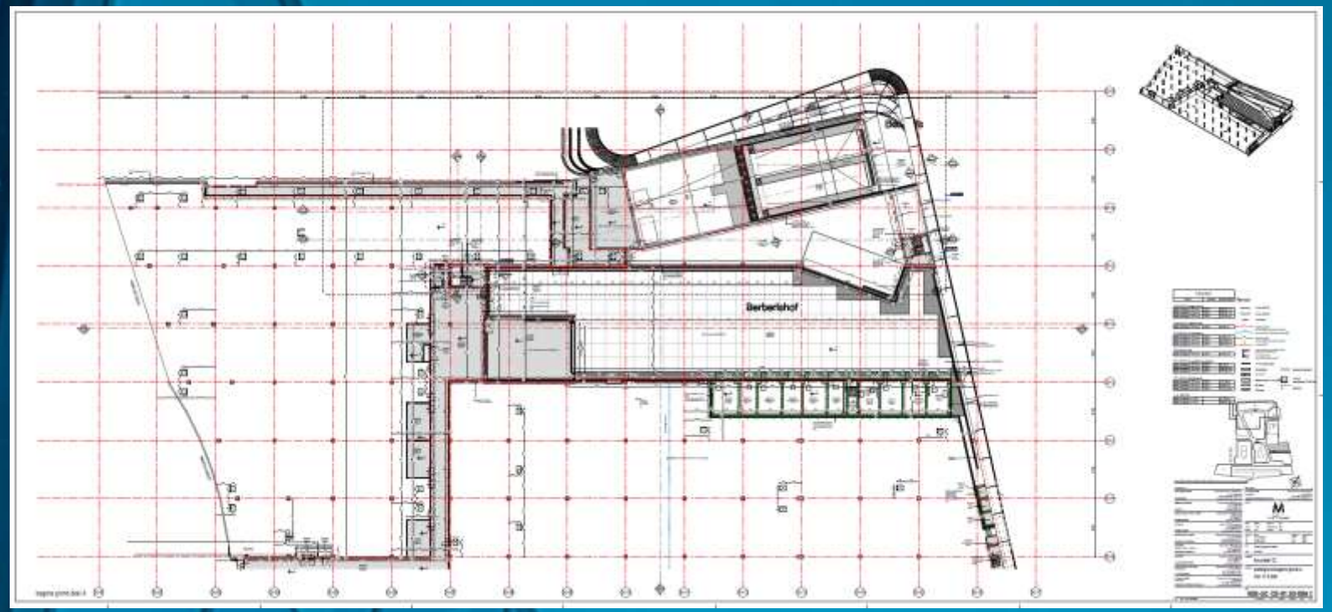
ETFE (Ethylene Tetrafluoroethylene) is a fluoropolymer-based material. It is an item that is utilized as a part of present day engineering because of its light porousness and softness.

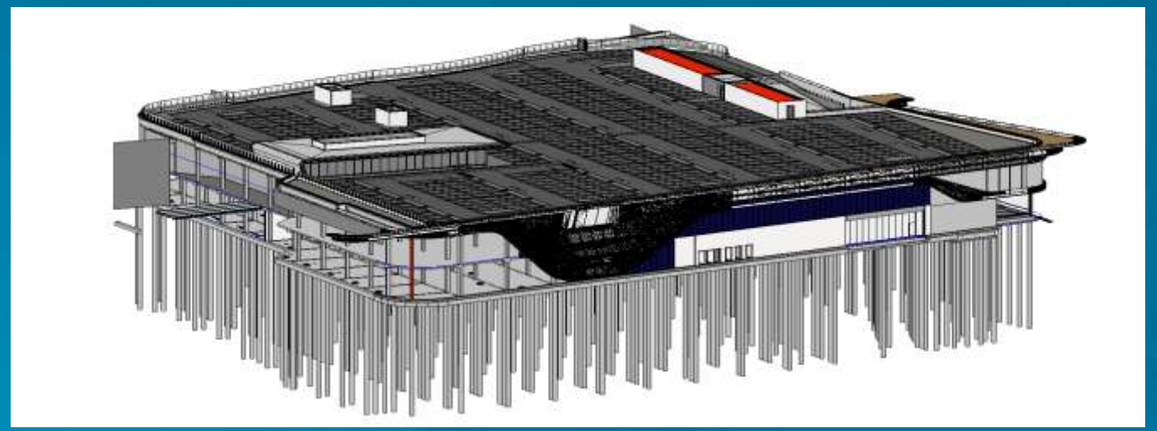
ETFE Systems are mounted on the carcass frame system with special Aluminum profiles.

BIM ENGINEERS designed the steel primary structure and the overlying aluminum secondary structure as one entity right from the outset. Steel and aluminum come together geometrically and structurally at common nodes.

Mall of the Netherlands

- Category : Commercial
- Location : Netherlands, Europe
- Area : 195,875 sqm.
- Scope : BIM / Revit modelling, Coordination & documentation
- Time duration : April to present (Ongoing)



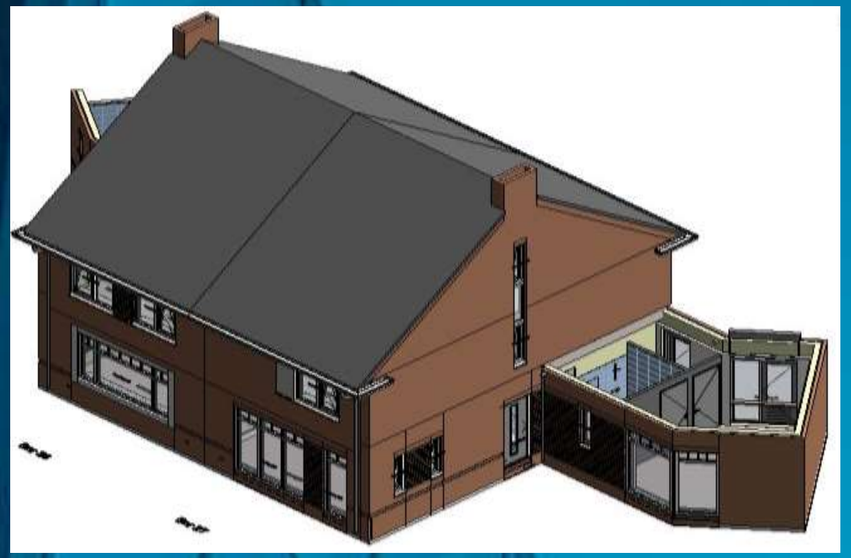


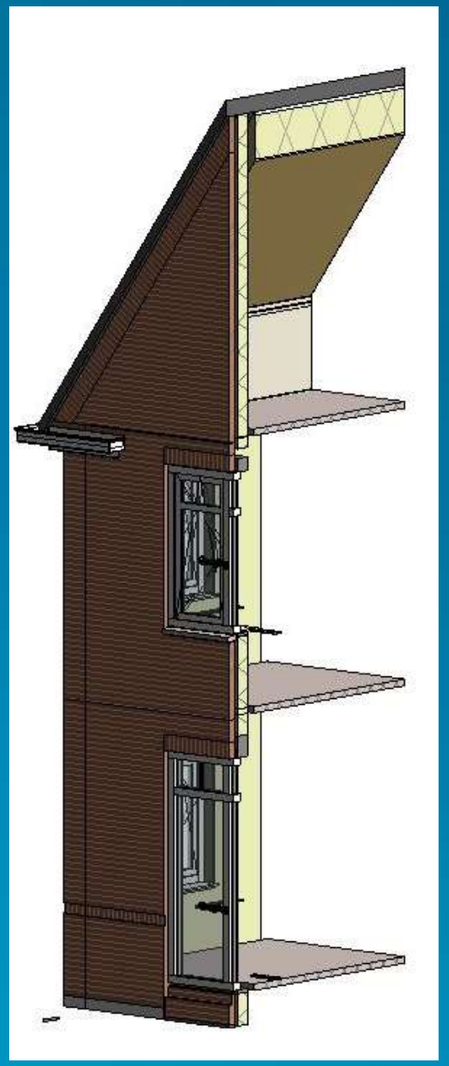
Macau HK Large Theater

- Category : Theater
- Location : Hong Kong
- Area : 10,000 Sq. m.
- Scope : 4D Rendered Animation
- Time duration : 2 Months

Lommerijk

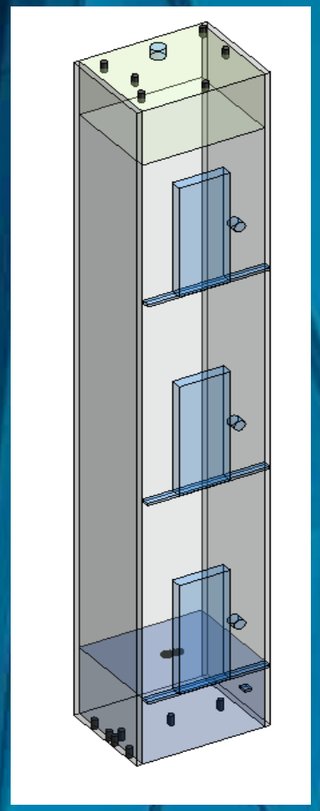
- Category : Residential
- Location : Netherlands, Europe
- Area : 20,500 Sq. m.
- Scope : BIM/Revit modelling, Coordination & Documentation
- Time duration : 3 Months

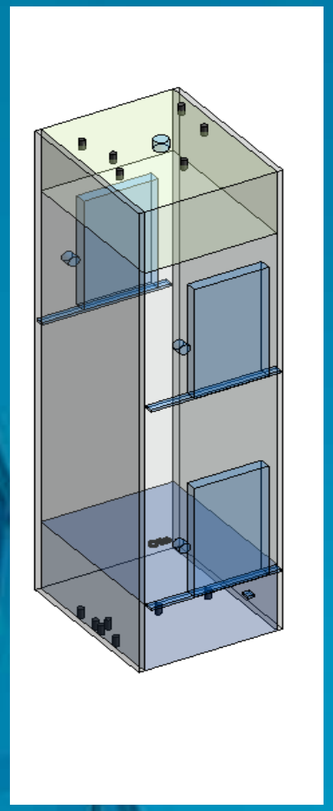


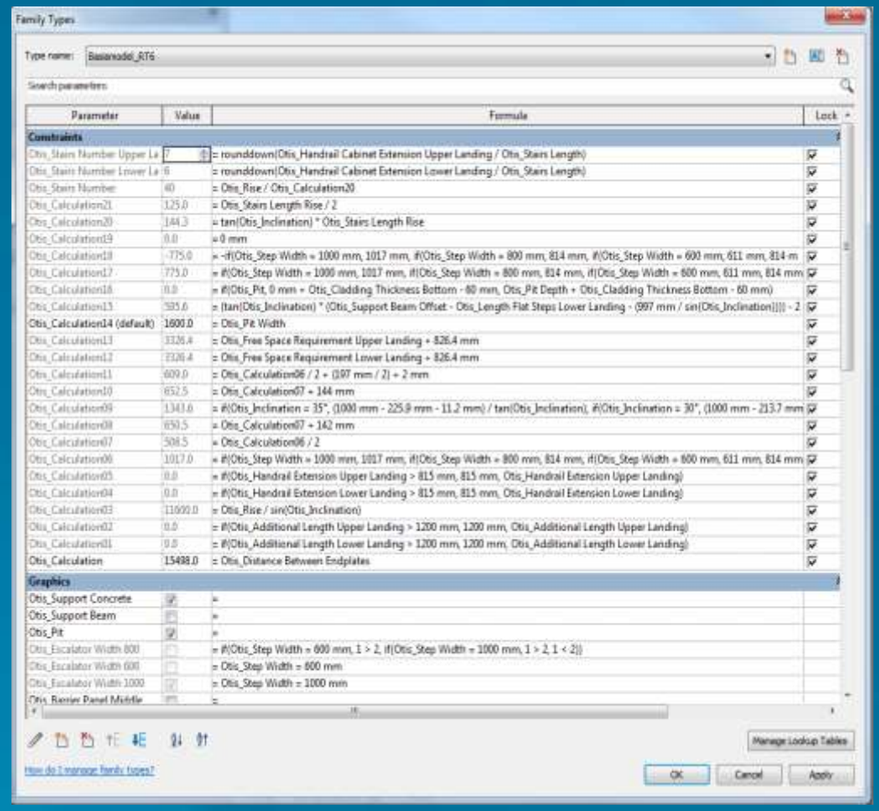


Otis Family Creation

- Category : Family creation for elevator and escalator
- Location : Netherlands, Europe
- Area :
- Scope : BIM modeling, Coordination & Documentation/Drawings
- Time duration : 2 Months

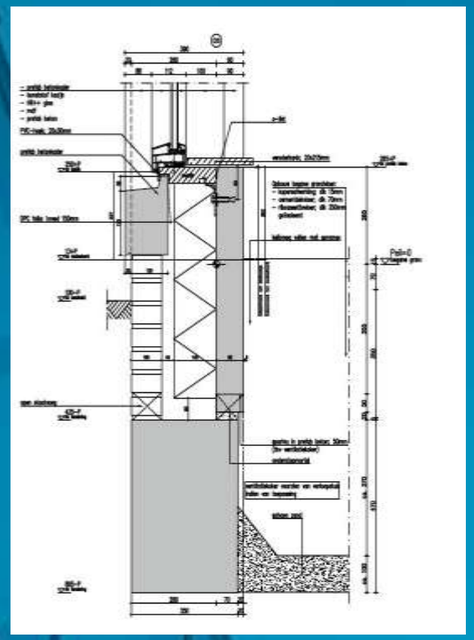


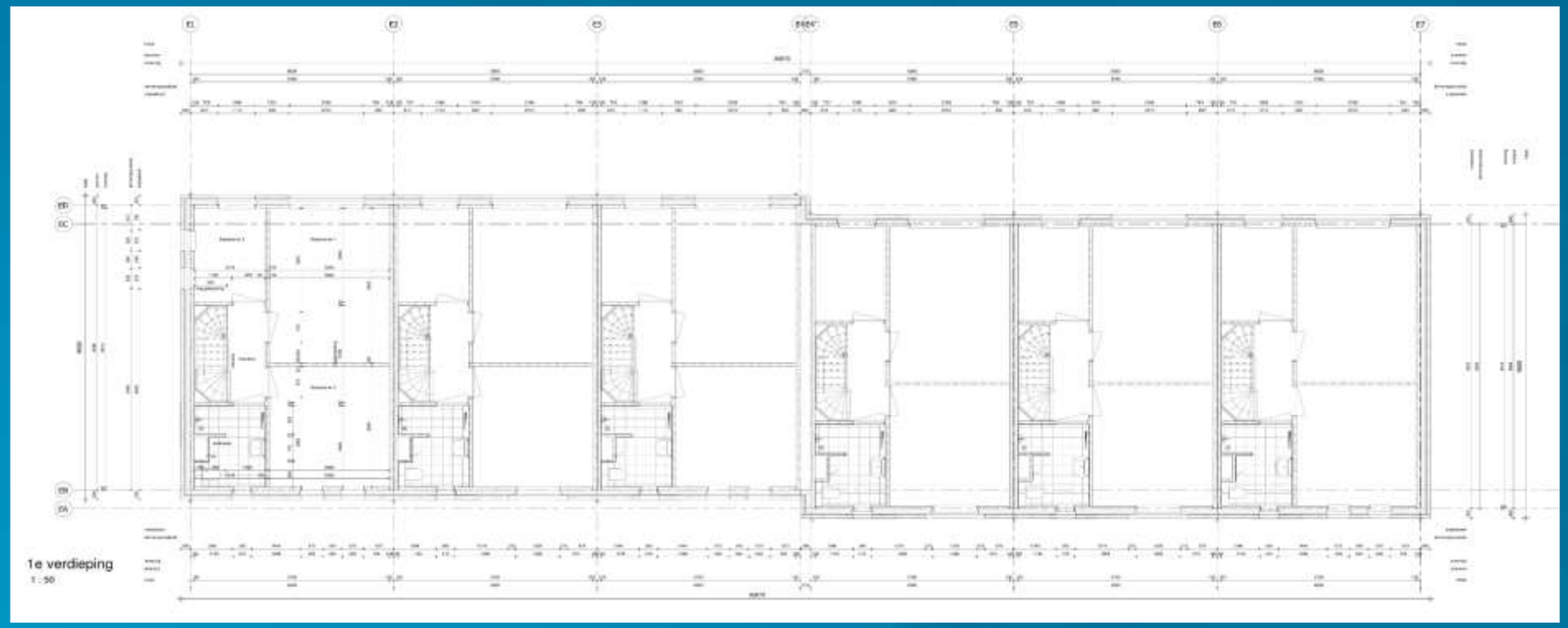




Zand en Honing

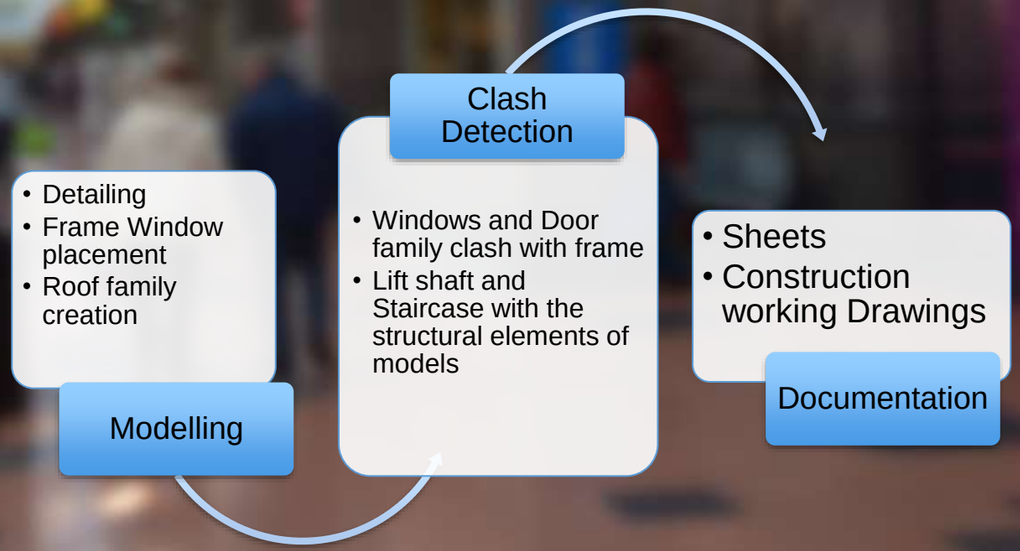
- Category : Residential
- Location : Netherlands, Europe
- Area : 20,500 Sq. m.
- Scope : BIM/Revit modelling, Coordination & Documentation
- Time duration : 6 Months





ACHIEVAL SHOPPING COMPLEX

- Category : Commercial
- Location : Netherlands, Europe
- Area : 2,8000 Sq. m.
- Scope : BIM modelling, Coordination & Documentation/Drawings
- Time duration : 4 Months



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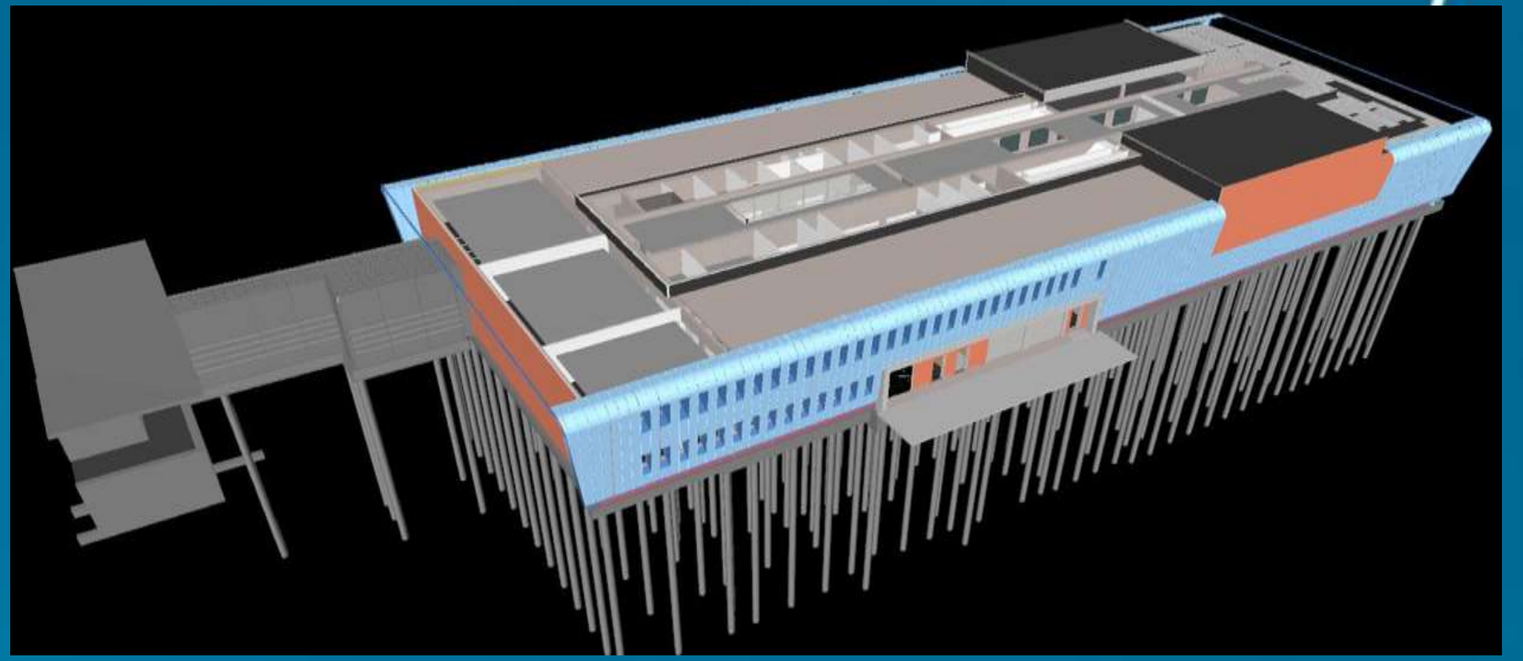
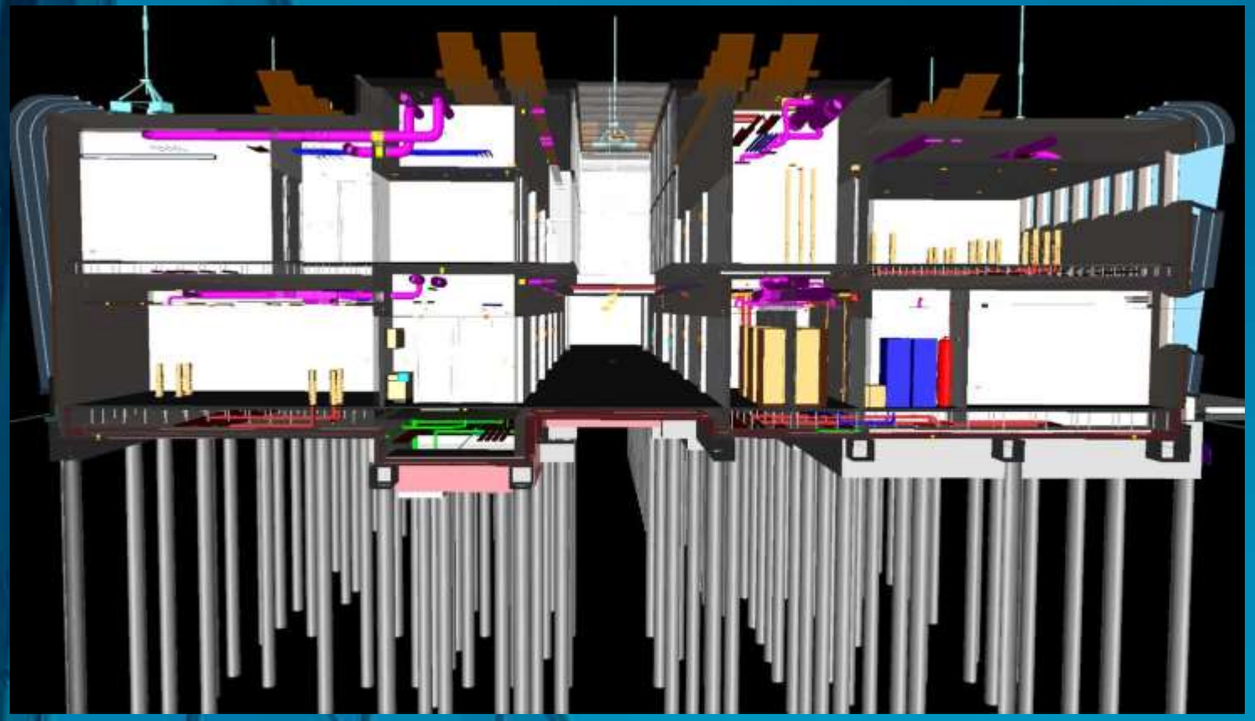
Polderrand

- Category : Residential
- Location : Netherlands, Europe
- Area : 7200 Sq. m.
- Scope : BIM Modelling, Documentation Drawings
- Time duration : 1 Months

Joint Strike Fighters

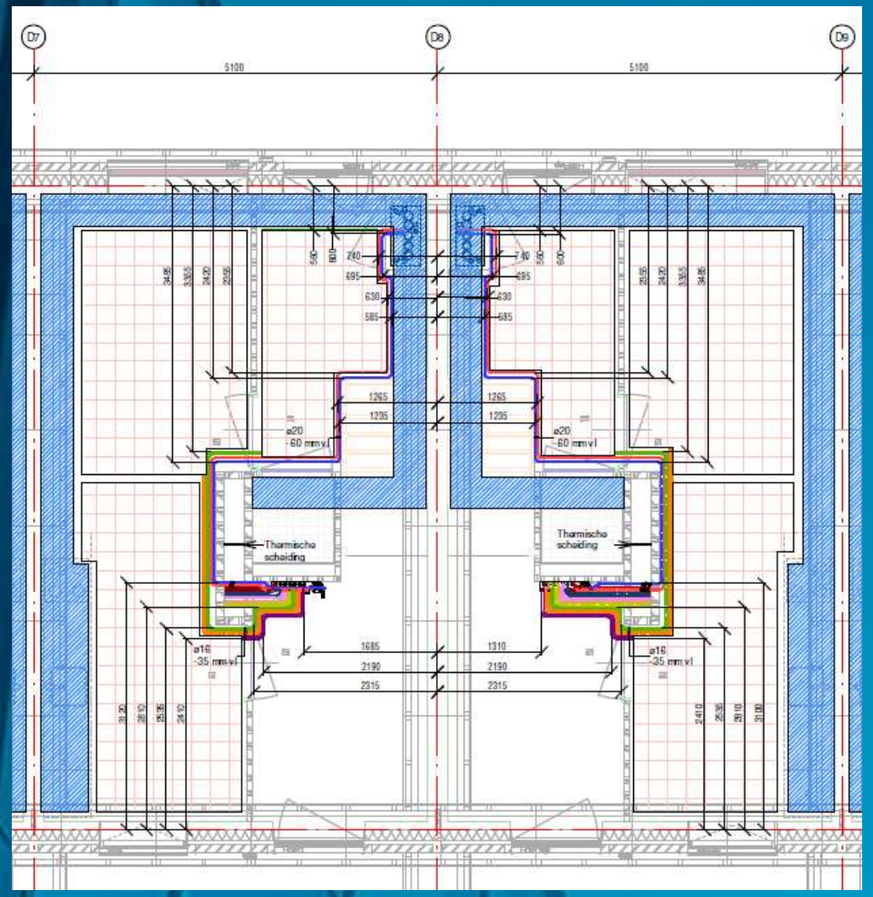
- Category : Military Defense
- Location : Netherlands, Europe
- Area : 18,000 Sq. m.
- Scope : BIM/Revit modelling , Clash detection, Coordination and documentation/drawings
- Time duration : 6 Months





Kolenkit

- Category : Mixed use (Commercial + Residential)
- Location : Netherlands, Europe
- Area : 20,500 Sq. m.
- Scope : BIM/Revit modelling, Clash detection, Coordination & Documentation
- Time duration : 6 Months



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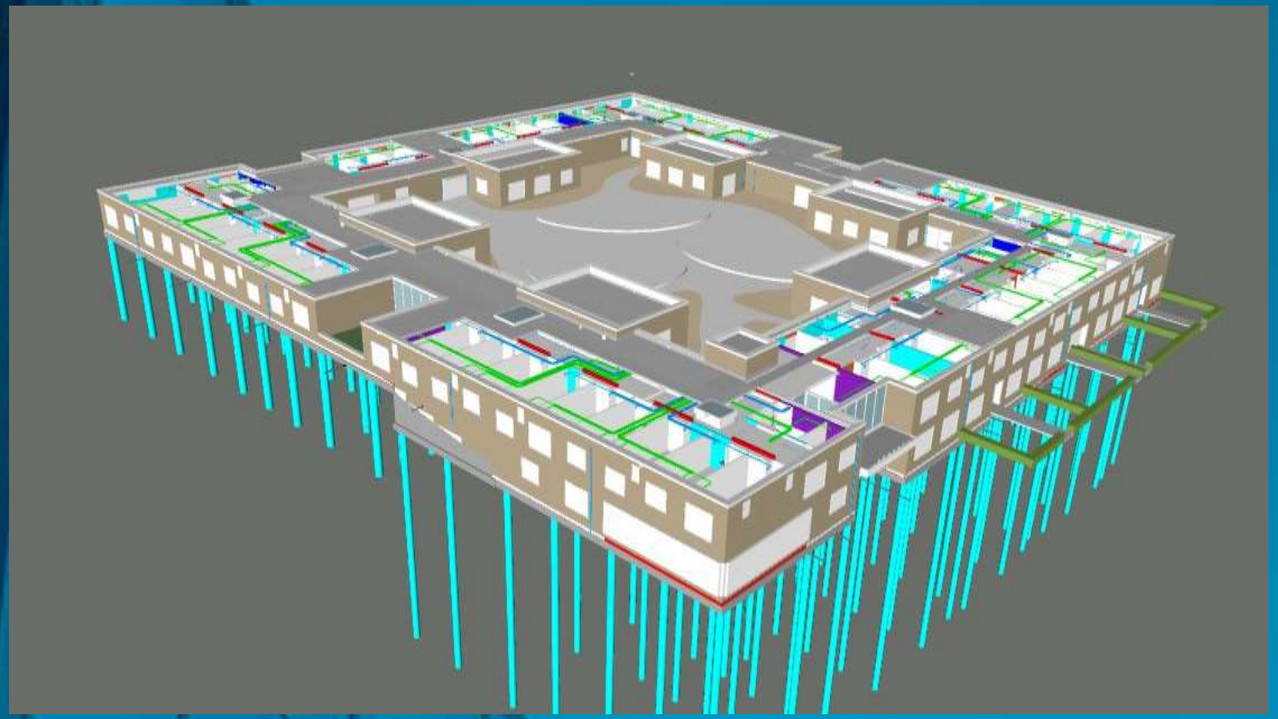
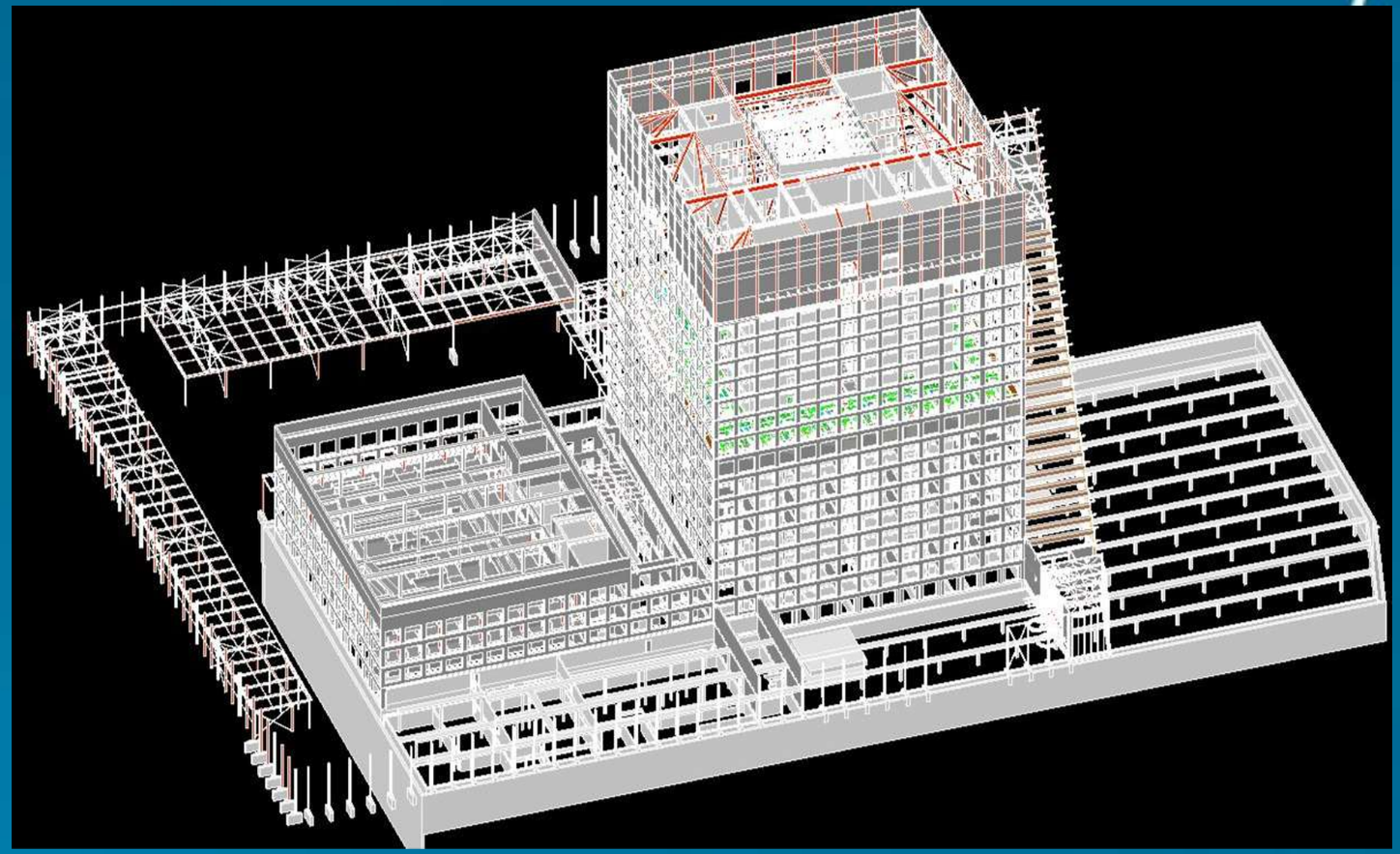
Panhuys

- Category : Hotel
- Location : Netherlands, Europe
- Area : 3,500 Sq. m.
- Scope : BIM/Revit modelling, Clash detection, Coordination & Documentation/Drawings
- Time duration : 4 Months



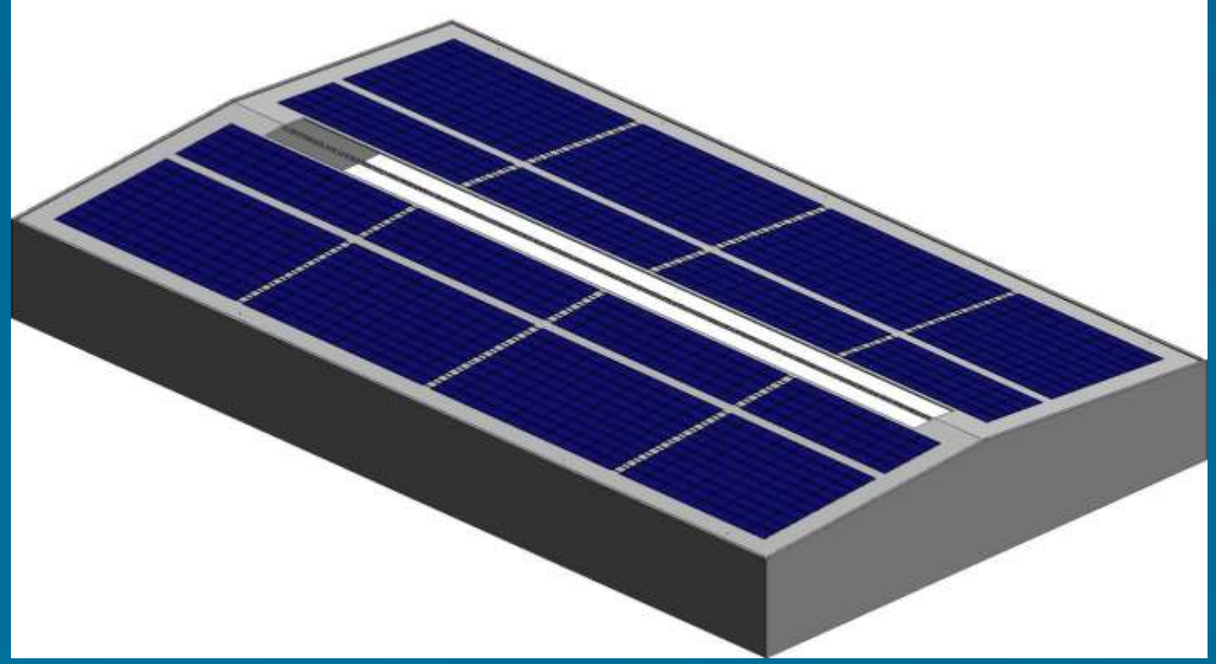
MEET - RIVM

- Category : Offices and Laboratories
- Location : Netherlands, Europe
- Area : 88,000 Sq. m.
- Scope : BIM/Revit modelling , Clash detection, Coordination and Documentation
- Time duration : 1+ Years



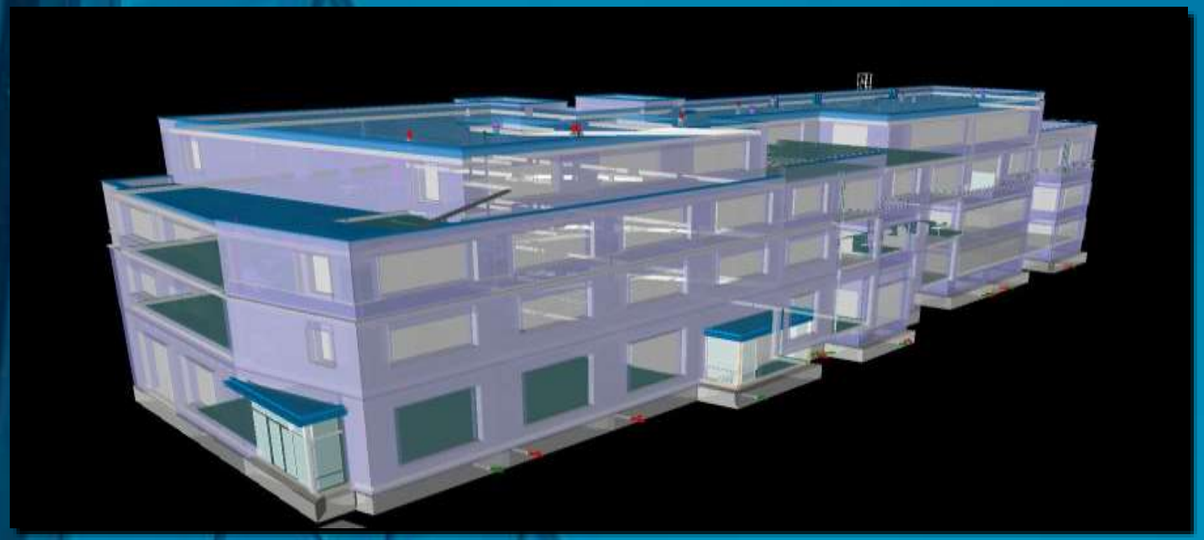
Zonnegilde

- Category : Solar Buildings
- Location : Netherlands, Europe
- No. of Buildings : 2000+
- Scope : BIM modelling & Documentation
- Time duration : 6+ months



Schandelermolenweg:

- Category : Residential
- Location : Netherlands, Europe
- Area : 3,500 Sq. m.
- Scope : BIM modelling, Clash detection, Coordination & Documentation
- Time duration : 4+ Months



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Recent ‘Scan to BIM’ Projects

Project Name
1466 Main - Waltham
Children's Center - NEDSB
9 York, 11 York, 208 High
66 Boston Street, Somerville
82 Arnold, Cranston
12 Industrial Way, Wilmington
180 South Travis, Lindenhurst
One Marina Park
191 New State Highway – Raynham
CT Convention Center
Oxford Courts
Stenton Trust Building - Sanford, ME
23 Greenwood St-Lexington MA
127 Lazell St-Hingham, MA
600 Bushwick Ave Brooklyn NY
645 Mass Ave- Arlington MA
CT Convention Center (Additional work - stairs)
Acts - Granite Farms Estates and Lima Estates
Robertson on the River
530 East 84th St - New York, NY
343 Commercial St - Unit 402
1266 Storrs Rd Retail Center - Storrs, CT
34 Scanlon Dr & 43 Scanlon Dr - Randolph MA
278 Harvard St - Brookline
27-29 Lambert, Cambridge
73 Lansdowne - Boston MA
275 Park Ave, Brooklyn, NY 11205
American Repertory Theater - 155 Fawcett St
116 Hopping Brook Rd - Holliston, MA
1444-1446 Dorchester Ave - Boston, MA
132 E 111th st - New York, NY
66 Rowe St - Newton, MA
137 Newbury St - Boston, MA
NYP - 525 East 68th Street New York NY
American Repertory Theater - 155 Fawcett St
116 Hopping Brook Rd - Holliston, MA
132 E 111th st - New York, NY
66 Rowe St - Newton, MA
137 Newbury St - Boston, MA
11312 Turtle Beach Road, Palm Beach
Bryant University
21 Parker Dr - Avon, MA

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Thank You

INDIA - GDC

Building No. 30, Sector 32
Gurgaon – 122001, Haryana
India
+91 881 036 0478
india@thebimengineers.com

INDIA - GDC

Mount Tower, 2/4A, Mount
Poonamallee Rd, Ramapuram,
Chennai – 600089
+ 91 962 000 3737
india@thebimengineers.com

UNITED STATES

The BIM Engineers USA
Suite 900, 1999Bryan Street
Dallas, Texas, USA

USA@thebimengineers.com

https://www.thebimengineers.com

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Q&A

> Thank you! Let’s take questions.

BNRD

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Presented by:

Parveen Sharma

CEO – The BIM Engineers

www.thebimengineers.com

info@thebimengineers.com