OUR BIM PORTFOLIO

DESIONICS PROJECT DESIGNS (P) LTD

www.desionics.com

Desionics®
CONSULTING ENGINEERS

BIM makes two improvements possible : collaboration and control

Our Mission

We combine technical expertise and dynamic tools with reliable process to achieve design excellence.

Our Vision

Establish global presence for delivering innovative designs in construction industry through lean services

About Us

As Desionics, we are a passionate team of Professionals striving to deliver Architectural ,Structural & MEPF designs through innovation and cutting edge technology in the world of Construction.

Desionics was founded in 2006, In this span of over 16 years, we have laid a strong foundation in the Design Industry and our projects includes from complicated Airports to simple Villas. From its inception, our clientele has increased exponentially with projects like but not limited to Airports, Malls, Hotels, Hospitals, Factories, High Rise Towers, Mixed Use Developments etc.

We have a unique High Performance Business Strategy to build our technical expertise that facilitates us to perform at the highest levels.

Regardless of the sector or scale, every project receives the same level of attention.

Our building design capabilities include an extensive team of Architects, Structural Engineers, MEPF & BIM Engineers which combines innovative ideas with modern tools while ensuring sustainability and serviceability. In addition, the comprehensive range of BIM services and ELV system design enables the property operation activities to positively impact the building life cycle and customer satisfaction.

Content

Introduction to BIM

Building Information Modeling (BIM) is an intelligent 3D model-based process that gives the insight and tools to more efficiently plan, design, construct, and manage buildings and infrastructure.

The model-based approach increases efficiency within individual organizations and truly shines during coordinated project delivery. Building Information Modeling (BIM) offers the advantage of time and budget savings for building and infrastructure projects.

BIM Advantages :

- Improves visualization of the project, communicates the design intent.
- Helps in multidisciplinary collaboration more effectively.
- Reduces instances of rework and revisions.
- Integrating BIM with 4D CAD simulation models bring benefits to participants in terms of planning optimization.
- Integrating BIM with 6D CAD simulation models leads to an overall reduction in energy consumption.
- Optimizes asset management from design to demolition.

BIM Dimensions :

3D: Three-dimensional Model with Parametric Data

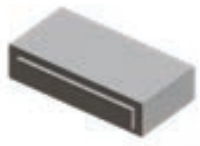
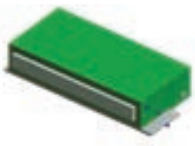
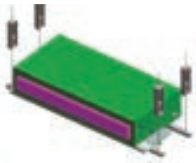
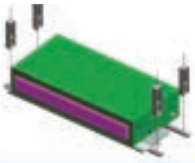
4D: Duration analysis

5D: Cost analysis

6D: Sustainability assessment

7D: Facilities Management/Asset Management

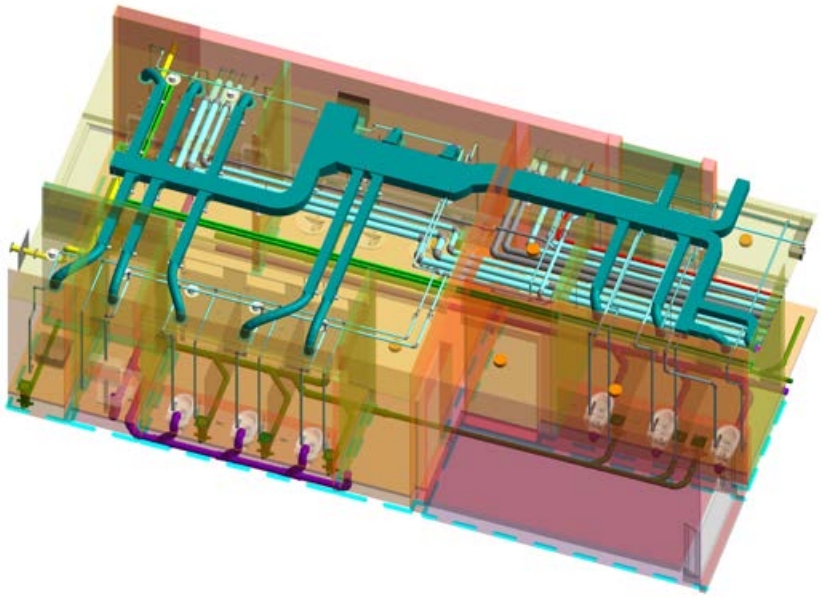
Level of Development (LOD)

LOD 100	LOD 200	LOD 300	LOD 400	LOD 500
				
Conceptual	**Schematic**	**Design Developement**	**Construction Stage**	**As Built**
The element may be graphically represented in the Model with a symbol or other generic representation, but does not satisfy the requirements of LOD 200	The element is graphically represented in the Model as a generic system, object, or assembly with approximate quantities, size, shape, location and orientation.	The element is graphically represented in the Model as a specific system, object , or assembly accurate in terms of quantity,size,shape,location and orientation	The element is graphically represented in the Model as a specific system, object , or assembly that is accurate in terms of quantity,size,shape,location and orientation with detailing,fabrication,assembly and installation information.	The Element is a field verified representatio accurate in terms of size, shape, location, quantity and orientation.

3D-Parametric Model

This is primarily a three dimensional digital representation of a building and its intrinsic characteristics. It is made of intelligent building components which includes data attributes and parametric rules for each object. It gives a three dimensional virtual representation of the building, which provides a better understanding of what the final product, may look like.

3D information allows all designers of a building to realistically analyze a design as a whole and improve coordination between disciplines. Software automated interference and clearance check with 3D models helps to detect, analyze and resolve the clashes among services efficiently before construction at site.

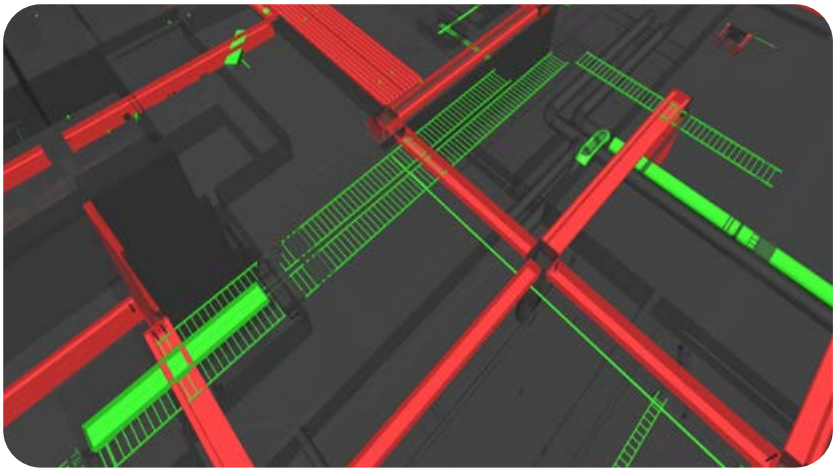


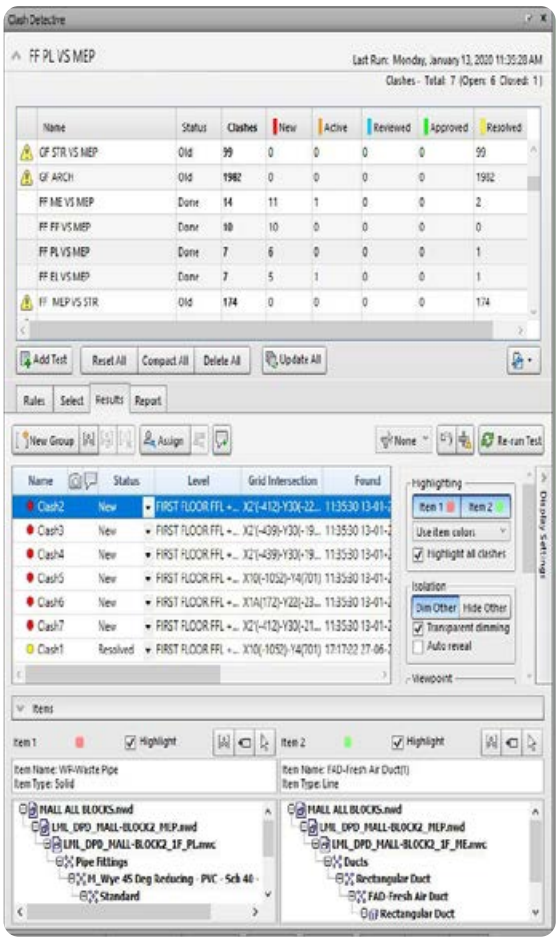
Clash Detection and Analysis

It allows us to view, prevent and resolve problems in the virtual model before begins, to reduce costs and minimize changes and delays.

Autodesk Navisworks tools is used to detect and highlight multi discipline clashes and auto generate clash report.

The clash detection report involves all the Clashes incurred, Exact location and elements involved in it.



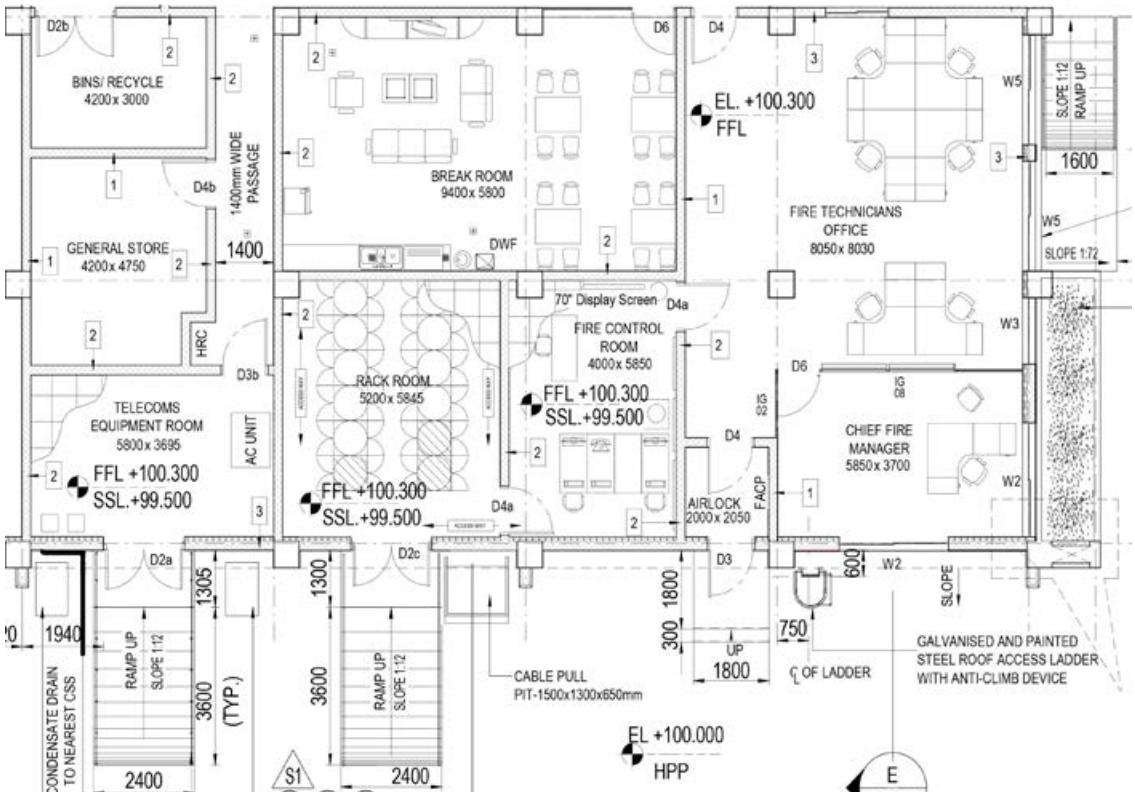


Shop Drawings

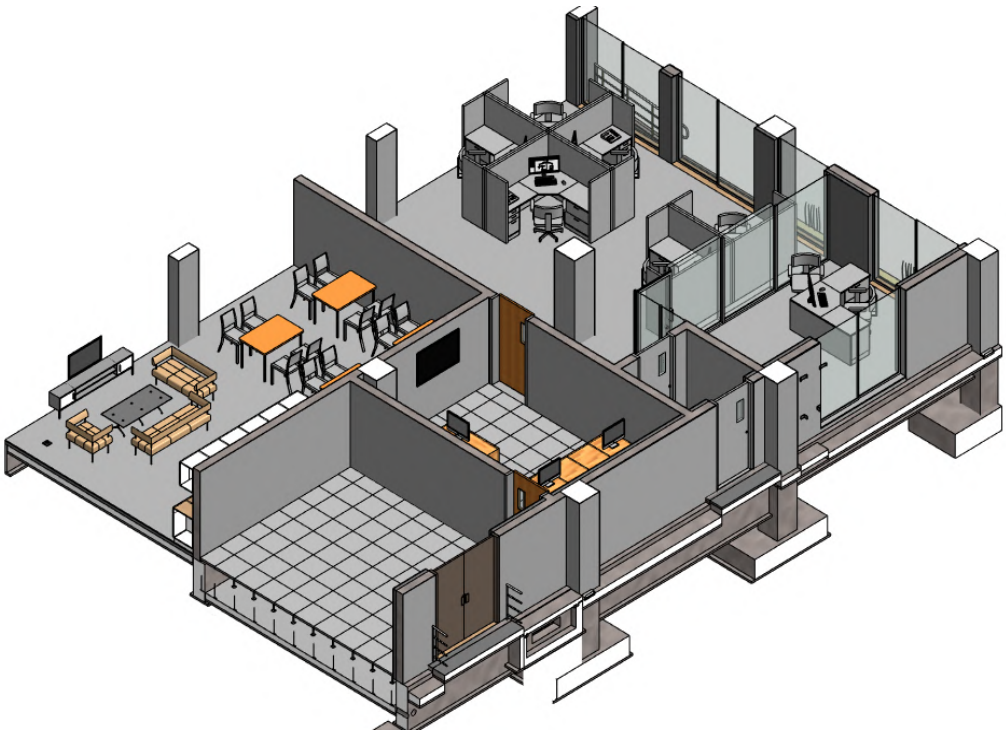
Annotated 2D shop drawings are extracted from coordinated 3D models for site execution, precise sections and elevations can be generated quickly in comparison to conventional 2D methods.

Architectural Floor Plan.

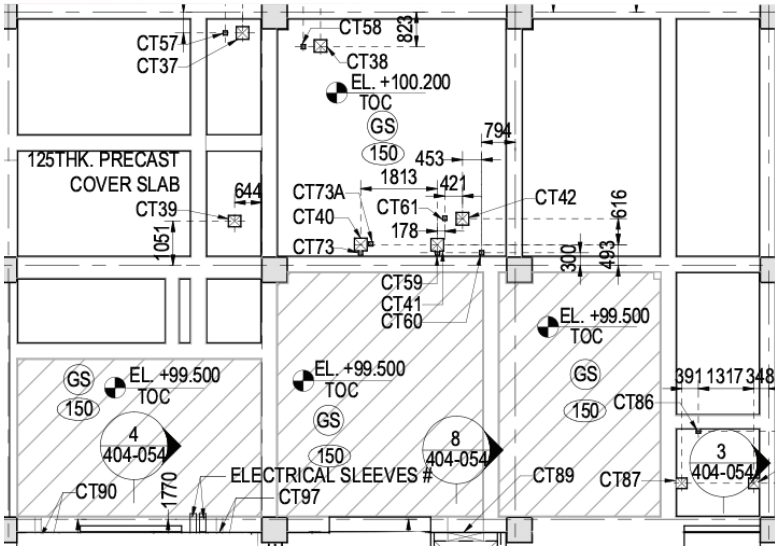
Plan View



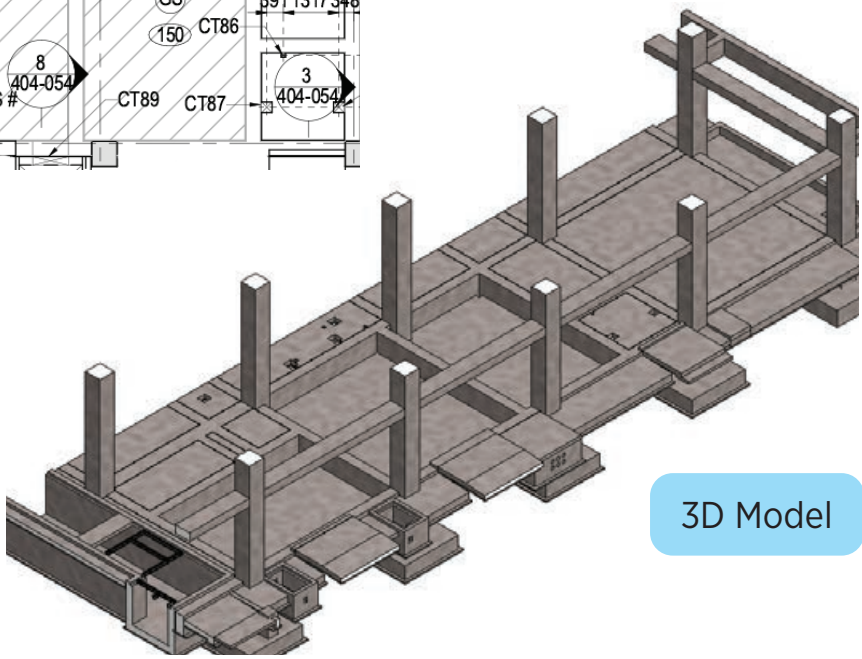
3D Model



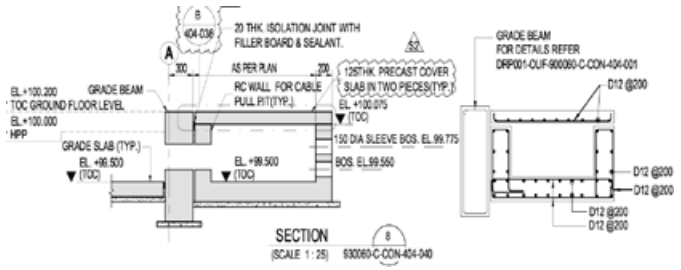
Structural Framing layout.



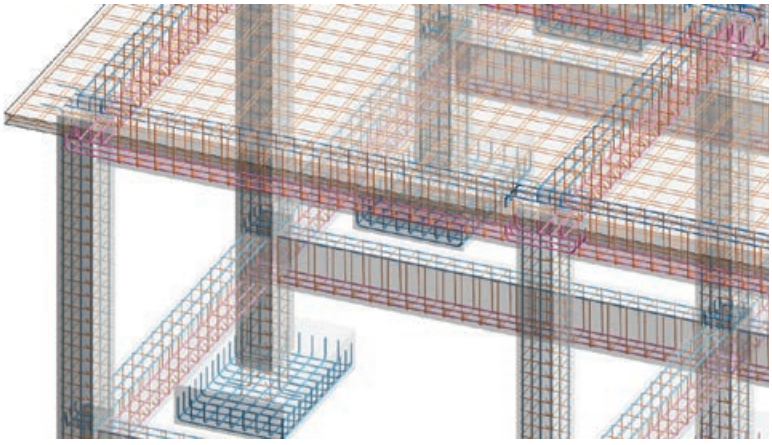
Plan View



3D Model



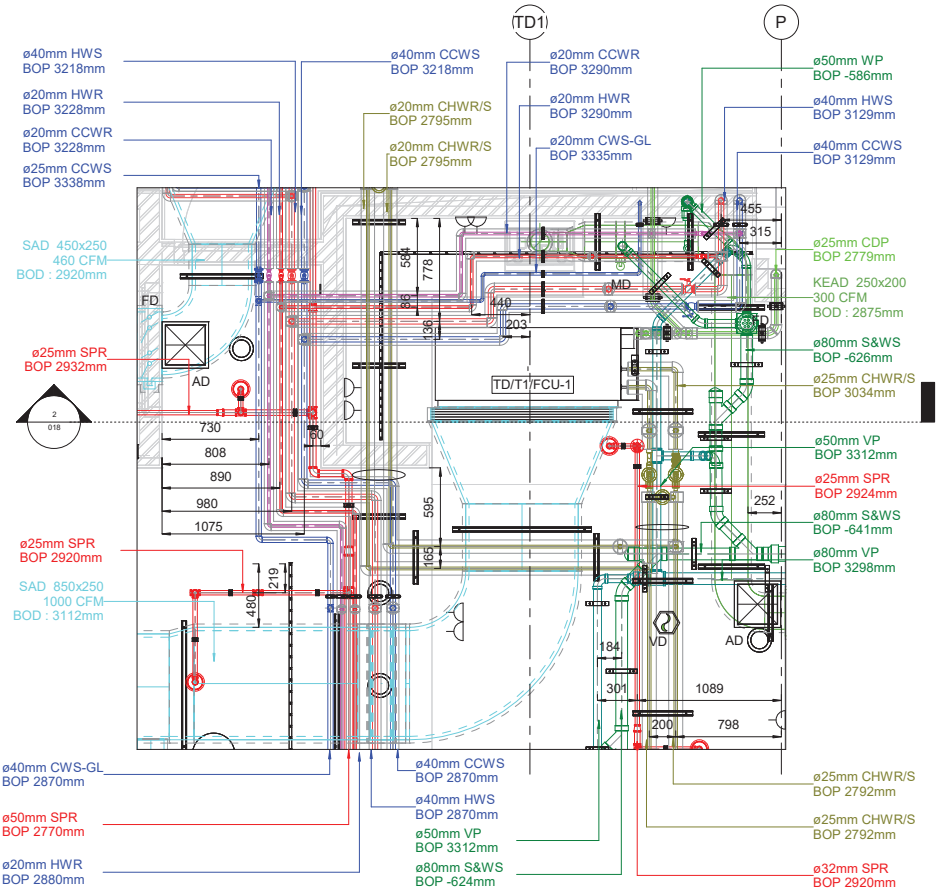
Section



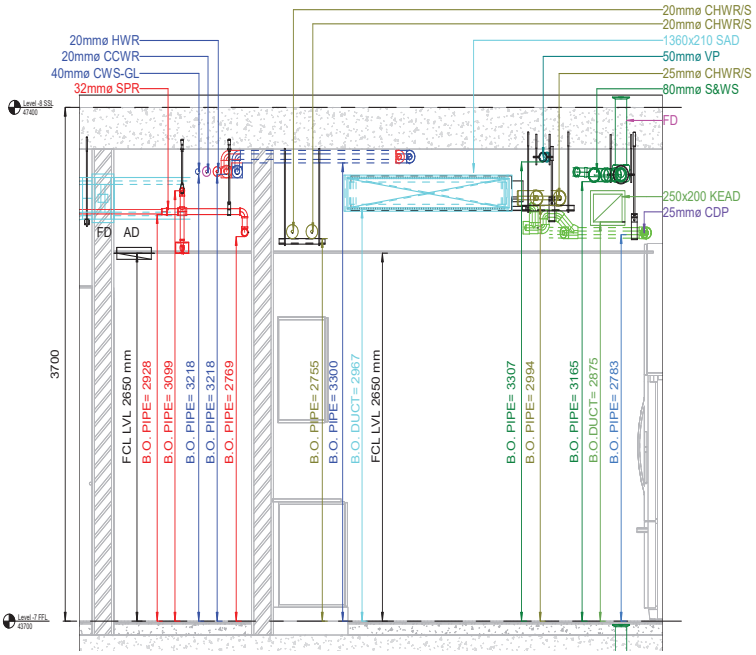
Rebar Detailing

MEP Shop Drawings.

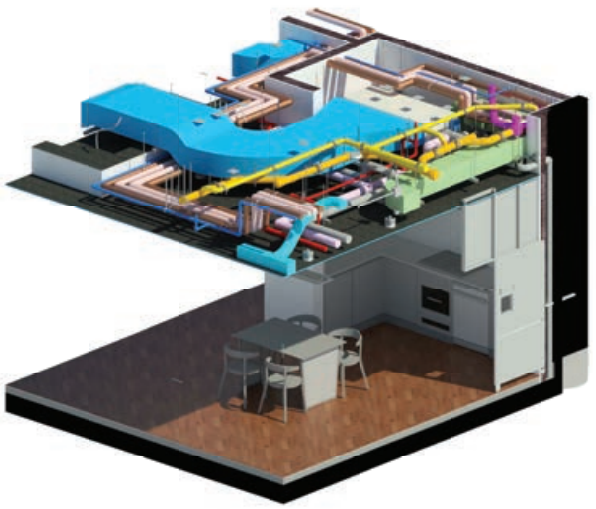
Plan View

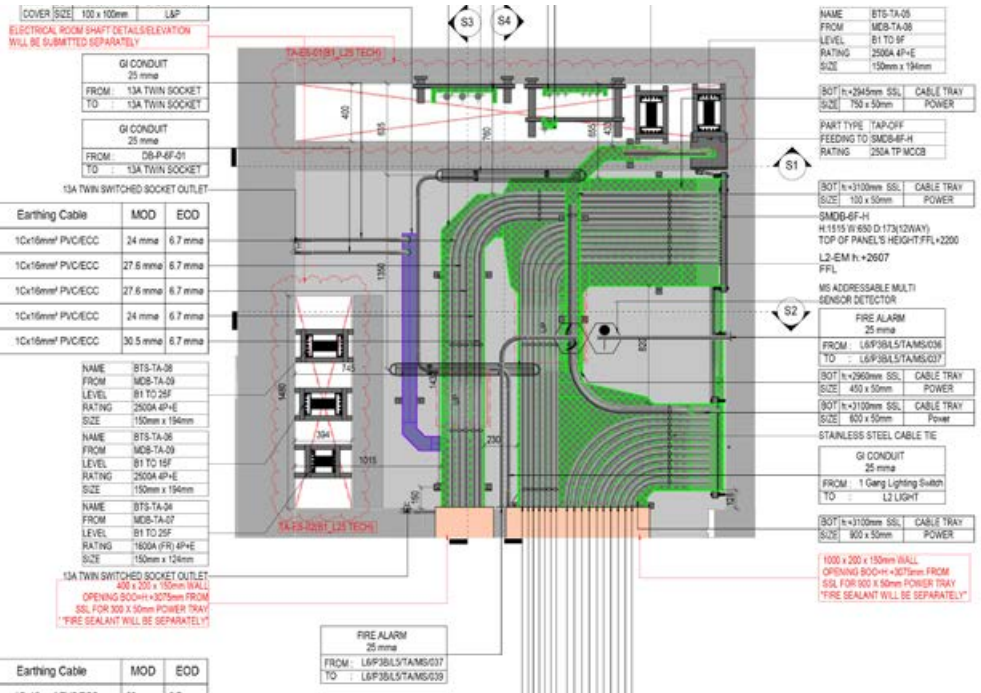


Section



3D View



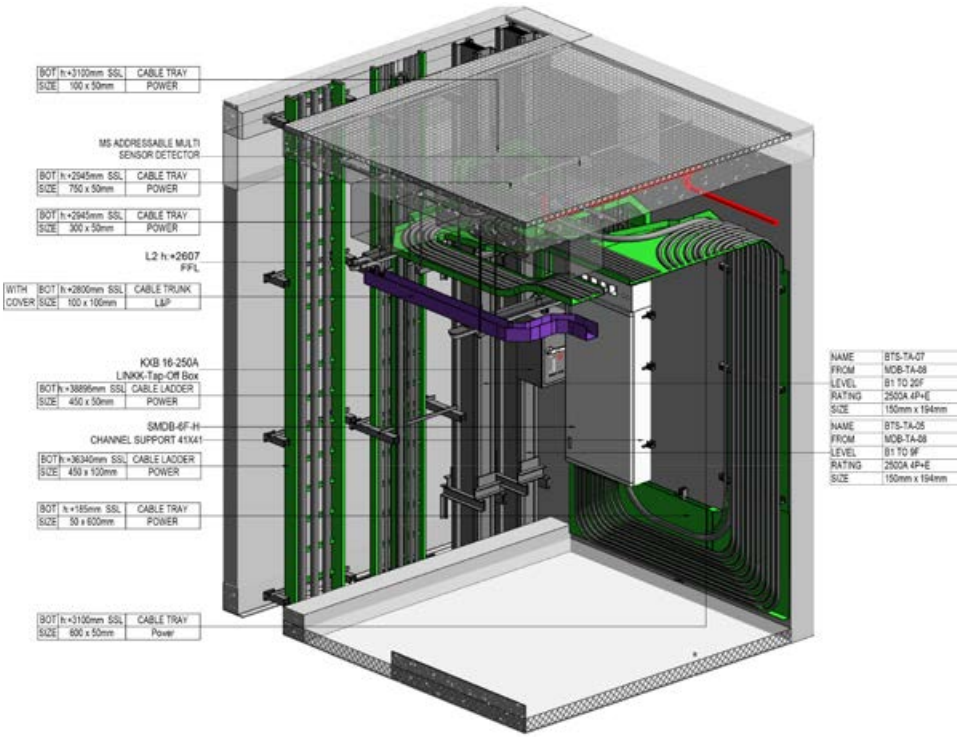


No	From	To	Main Cable	Earthing Cable	MOD	EOD
20	SMDB-6F-H	DB-2BED-TYP2-03	4Cx16mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	24 mma	6.7 mma
19	SMDB-6F-H	DB-1BED-TYP2-02	4Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	27.6 mma	6.7 mma
18	SMDB-6F-H	DB-1BED-TYP1-01	4Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	27.6 mma	6.7 mma
21	SMDB-6F-H	DB-L-6F-01	4Cx16mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	24 mma	6.7 mma
22	SMDB-6F-H	DB-P-6F-01	4Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	30.5 mma	6.7 mma

CABLE TRAY SIZE CALCULATION	
Total Diameter of Live Cables (TOD) :	133.7 mm
Multiply by (2) For Spacing:	267.4 mm
Calculated Width of Cable Tray (10% Spare)	294.14 mm
Width of Cable Tray :	300 mm

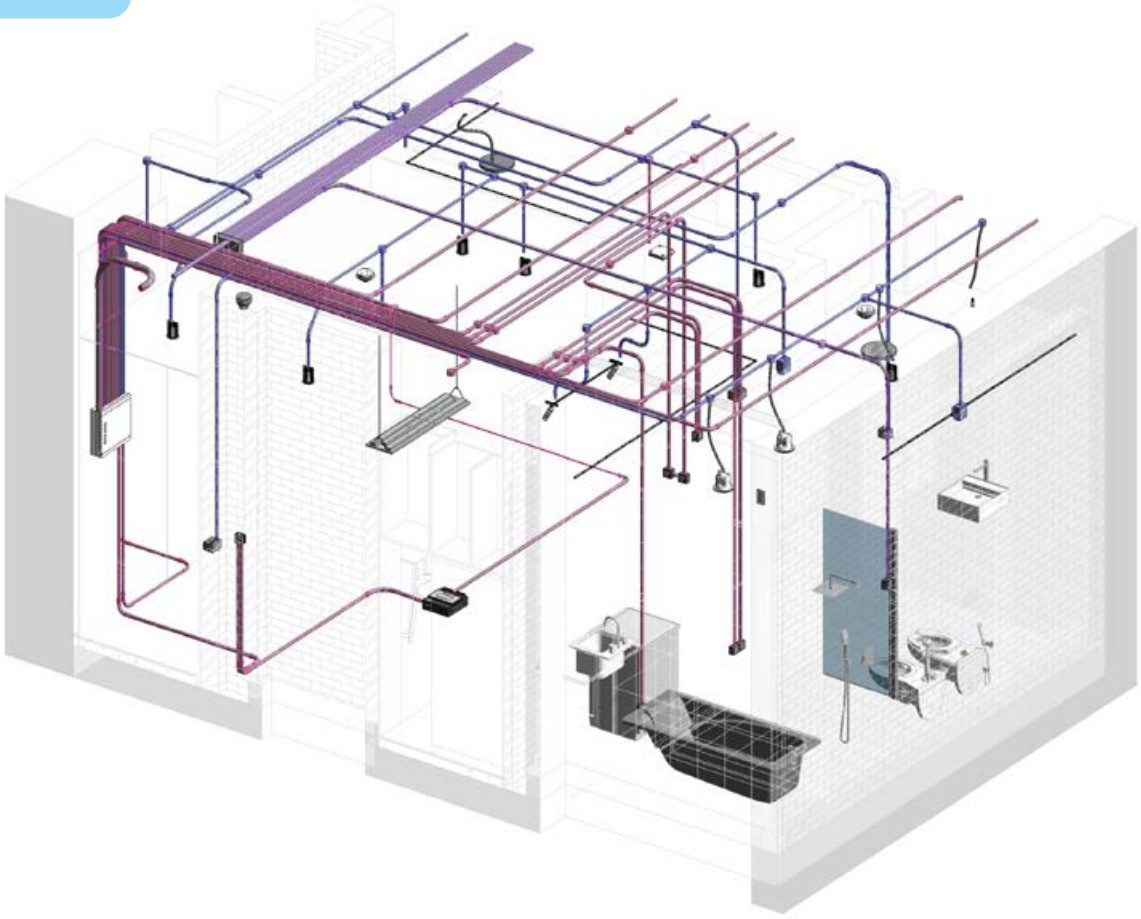
No	From	To	Main Cable	Earthing Cable	MOD	EOD
17	SMDB-6F-H	DB-STD-TYP1-20	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
16	SMDB-6F-H	DB-STD-TYP1-19	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
15	SMDB-6F-H	DB-STD-TYP1-18	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
14	SMDB-6F-H	DB-STD-TYP-1A(DA-17	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
13	SMDB-6F-H	DB-STD-TYP1-16	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
12	SMDB-6F-H	DB-STD-TYP1-15	2Cx35mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	23 mma	6.7 mma
11	SMDB-6F-H	DB-STD-TYP2-14	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
10	SMDB-6F-H	DB-STD-TYP2-13	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
9	SMDB-6F-H	DB-STD-TYP2-12	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
8	SMDB-6F-H	DB-STD-TYP2-11	2Cx16mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	17.8 mma	6.7 mma
7	SMDB-6F-H	DB-STD-TYP1-10	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
6	SMDB-6F-H	DB-STD-TYP1-09	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
5	SMDB-6F-H	DB-STD-TYP1-08	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
4	SMDB-6F-H	DB-STD-TYP1-07	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
3	SMDB-6F-H	DB-STD-TYP1-06	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma
2	SMDB-6F-H	DB-STD-TYP1-05	2Cx25mm² XLPE/SWA/PVC	1Cx16mm² PVC/ECC	20.8 mma	6.7 mma

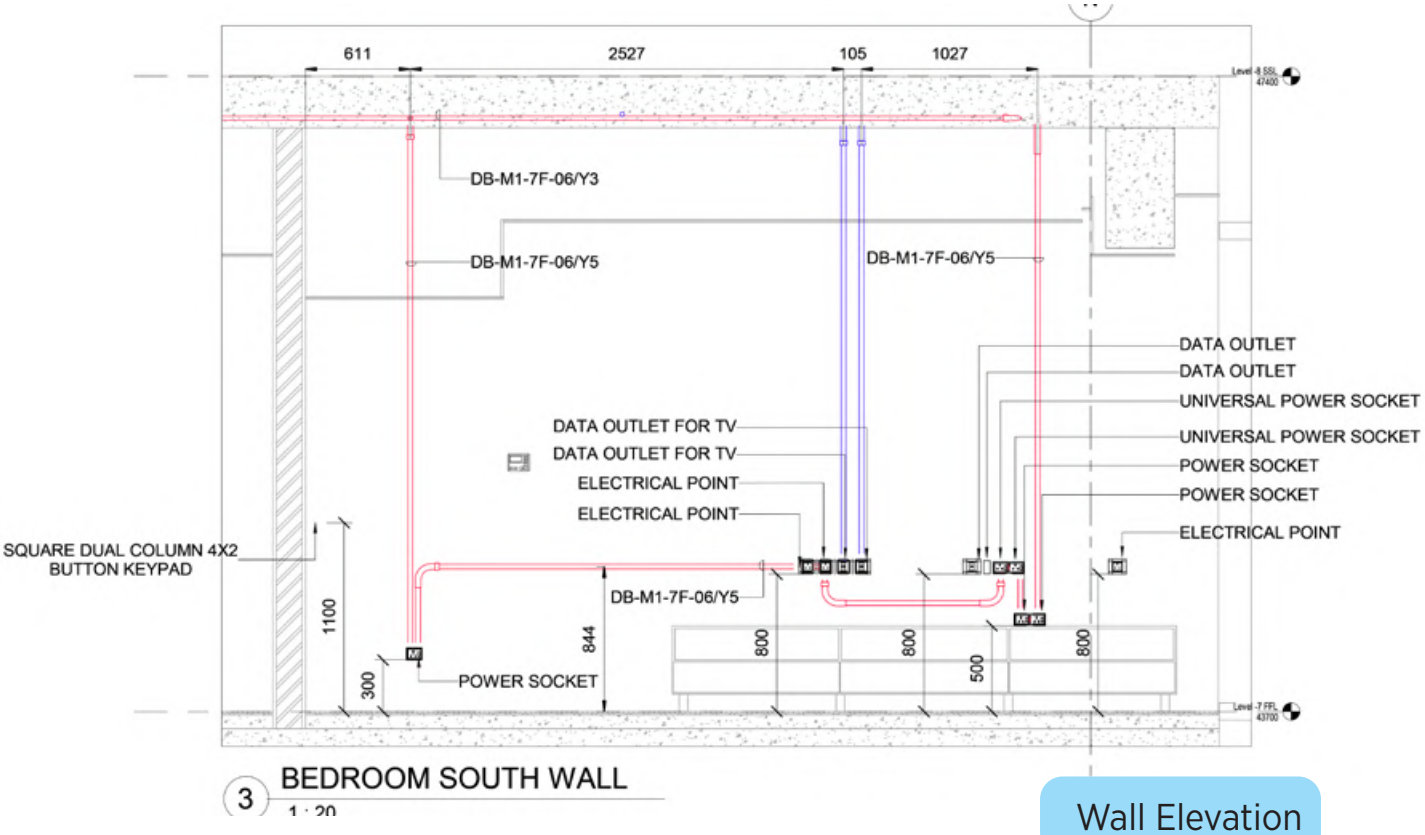
Plan View



3D View

Conduit system





3 BEDROOM SOUTH WALL

1 : 20

Wall Elevation

DB Schedule

Panel Name: DB-M1-7F-06

Location: DINING TI-04-12-05
Supply From:
Mounting: Flush mounted
Enclosure:

Volts: 240/415 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MCCB
Mains Rating: 63 A
MCB Rating:

CKT	Mode of Control	Conductor Size*** (sq.mm)	Circuit Description	MCB Rating	Poles	R	Y	B
R1	GRMS*	1-#2.5, 1-#2.5, 1-#2.5	LIGHTING-TOILET	10 A	1	72 W		
Y1	RADIAL*	1-#4, 1-#4, 1-#4	SHAVER SOCKET	20 A	1		100 W	
B1	GRMS	1-#2.5, 1-#2.5, 1-#2.5	LIGHTING-LIVING ROOM	10 A	1			248 W
R2	RADIAL	1-#4, 1-#4, 1-#2.5	POWER SOCKET-REFRIGERATOR	16 A	1	150 W		
Y2	GRMS*	1-#2.5, 1-#2.5, 1-#2.5	LIGHTING-KITCHEN & DINING	10 A	1		179.5 W	
B2	GRMS	1-#2.5, 1-#2.5, 1-#2.5	LIGHTING-BEDROOM	10 A	1			127.4 W
R3	RING*	1-#4, 1-#4, 1-#4	SOCKETS-KITCHEN	20 A	1	300 W		
Y3	RING	1-#4, 1-#4, 1-#2.5	SOCKETS-BEDROOM	32 A	1		400 W	
B3								
R4	RING	1-#4, 1-#4, 1-#2.5	SOCKETS-LIVING & DINING	32 A	1	1000 W		
Y4								
B4	RADIAL*	1-#4, 1-#4, 1-#4	POWER SOCKET-WASHING MACHINE	32 A	1			2100 W
R5	RADIAL*	1-#6, 1-#6, 1-#6	POWER SOCKET-MICROWAVE OVEN	32 A	1	3600 W		
Y5	RING	1-#4, 1-#4, 1-#2.5	SOCKETS-BEDROOM	32 A	1		800 W	
B5	RADIAL*	1-#4, 1-#4, 1-#4	POWER SOCKET-DISHWASHER	32 A	1			2400 W
R6	*	--	Spare	20 A	1	0 W		
Y6	RADIAL*	1-#6, 1-#6, 1-#6	POWER SOCKET-COOKER	32 A	1		3000 W	
B6	*	--	Spare	20 A	1			0 W
				Total Load:		5122 W	4479.5 W	4875 W
				Total Amps:		22 A	19 A	21 A

*** Conductor size denoted should read as follows: n-#x, n-#y, n-#z indicates 'n' runs of conductor for phase, neutral and ground respectively with cross sectional area size 'x/y/z' in sq.mm whereas '#' has no technical meaning in this case
*Asterisk mark over 'Mode of Control' denotes RCBO protection with 30mA tripping sensitivity

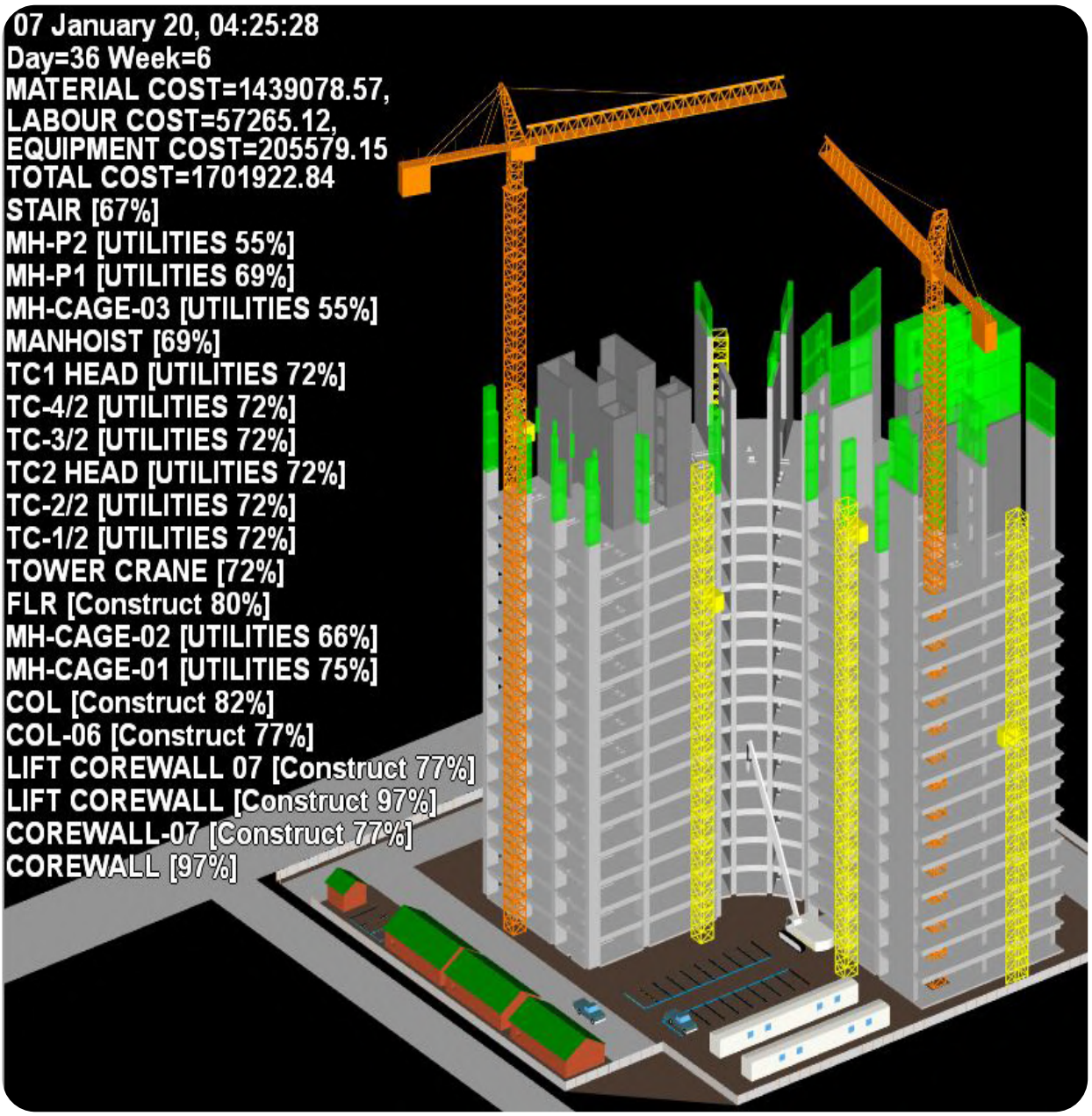
Load Classification	Connected Load	Panel Totals	
Other	13978 W		
Lighting	498.6 W	**Total Connected Load:**	14476.5 W
		Total Connected Current:	20 A

Notes: AHU's, FCU's, MSU's & Fans shall be provided with MCC with all devices for BMS, ELV's & FACP interface monitor/control connections

4D- Construction Sequencing & Monitoring

It is a process that involves linking individual 3D elements or assemblies with the construction timeline. It includes scheduling of resources and quantities, to assist tracking and project phasing.

Scheduling data helps in outlining how much time will be involved in completion of the project and how will the project evolve over time. The information can provide elaboration about the time taken for installation or construction, time needed to make the project operational, the sequence of installation of various components, along with other scheduling information.



5D- Cost Estimation & Analysis

It is Integration of design with estimation, costing, budget tracking, generation of Bills of Quantities, and derivation of productivity rates.

Quantities may be extracted directly and instantly from the BIM model. By assigning unit cost to the extracted quantities we automatically obtain precise and reliable cost analysis. As a result, if the total cost does not reflect the client's request, the designer may efficiently proceed with real time amendments and change impact assessment.

The utilization of 5D-BIM technology can result in a greater accuracy and predictability of project's estimates, scope changes and materials, equipment or manpower changes. 5D BIM provides methods for extracting and analyzing costs, evaluating scenarios and changes impacts.

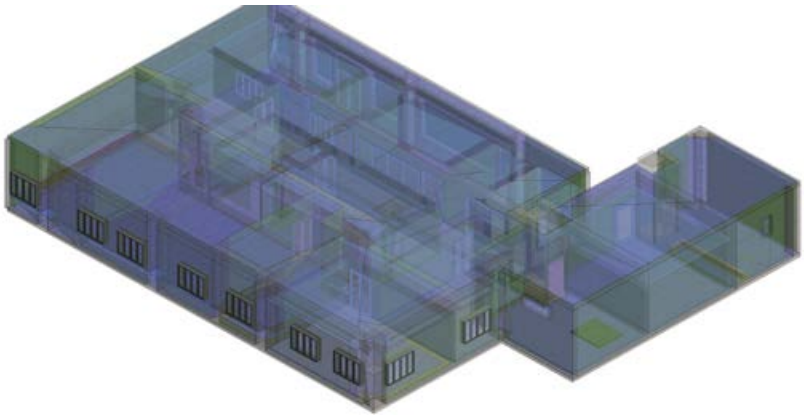
Duct Schedule

System Type	Size	Length	Area	Sheets	Total Cost
Exhaust Air Duct	100x100	0.003 m	0.01 SF	0.000417	0.29
Exhaust Air Duct	100ø	1.695 m	5.73 SF	0.179165	125.42
Exhaust Air Duct	120ø	0.062 m	0.25 SF	0.007881	5.52
Exhaust Air Duct	150x200	1.929 m	14.53 SF	0.454213	317.95
Exhaust Air Duct	150ø	0.015 m	0.08 SF	0.002378	1.66
Exhaust Air Duct	200x100	0.798 m	5.16 SF	0.161104	112.77
Exhaust Air Duct	200x150	13.477 m	101.55 SF	3.17329	2,221.30
Exhaust Air Duct	200x200	8.217 m	70.76 SF	2.21111	1,547.78

Pipe fitting count

Level	Family	Size	Count
BASEMENT 3	PFIT-Bend - PVC - Sch 40 - DWV	50 mmø-50 mmø	66
BASEMENT 3	PFIT-Bend - PVC - Sch 40 - DWV	65 mmø-65 mmø	37
BASEMENT 3	PFIT-Bend - PVC - Sch 40 - DWV	80 mmø-80 mmø	40
BASEMENT 3	PFIT-Bend - PVC - Sch 40 - DWV	110 mmø-110 mmø	280
BASEMENT 3	PFIT-Bend - PVC - Sch 40 - DWV	150 mmø-150 mmø	22
BASEMENT 3	PFIT-Cap - PVC - Sch 40	50 mmø	3
BASEMENT 3	PFIT-Cap - PVC - Sch 40	65 mmø	4
BASEMENT 3	PFIT-Cap - PVC - Sch 40	80 mmø	6
BASEMENT 3	PFIT-Cap - PVC - Sch 40	110 mmø	21
BASEMENT 3	PFIT-Coupling - PVC - Sch 40	50 mmø-50 mmø	1
BASEMENT 3	PFIT-Coupling - PVC - Sch 40	65 mmø-65 mmø	2
BASEMENT 3	PFIT-Coupling - PVC - Sch 40	80 mmø-80 mmø	2
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	32 mmø-25 mmø	4
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	40 mmø-32 mmø	1
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	50 mmø-32 mmø	2
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	50 mmø-40 mmø	2
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	65 mmø-50 mmø	14
BASEMENT 3	PFIT-Coupling Reducing - CPVC - Sch 40	80 mmø-65 mmø	3
BASEMENT 3	PFIT-Elbow - CPVC - Sch 40	20 mmø-20 mmø	6
BASEMENT 3	PFIT-Elbow - CPVC - Sch 40	25 mmø-25 mmø	4

6D- Sustainability & Energy Analysis Modelling



Sustainability and energy consumption is an increasing important characteristic for buildings from the facility management perspective. Operational costs can represent a large part of a facility's costs throughout its lifecycle, in some case up to 80%.

The utilization of 6D-BIM technology can result in more complete and accurate energy estimates earlier in the design process. It also allows for measurement and verification during building occupation, and improved processes for gathering lessons learned in high performance facilities. Integrating BIM with 6D simulation models leads to an overall reduction in energy consumption.

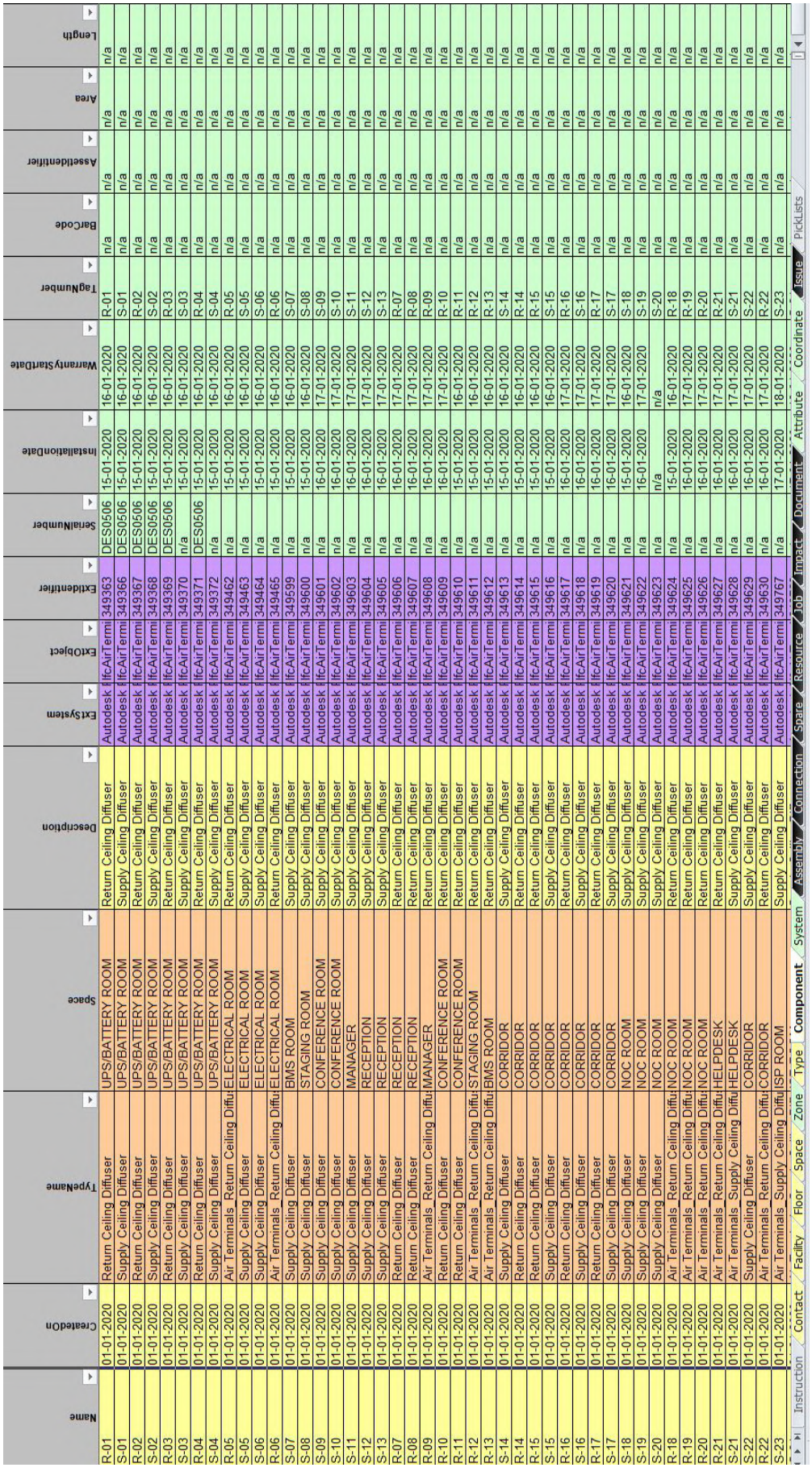
Energy Consumption Report

7D- Facility Management

It includes the information that is required to support facility management and operation to drive better business outcomes. This data includes information such as the manufacturer of a component, its installation date, required maintenance and details of how the item should be configured and operated for optimal performance, energy performance, along with lifespan and decommissioning data.

The information model comprise of regular updates on repairs and replacements added in it. This allows the facilities managers to pre-plan maintenance activities potentially years in advance and develop spending profiles over the lifetime of a built asset, working out when repairs become uneconomical or existing systems inefficient

Overall, a record model can be utilized to optimize facility management and maintenance.



Name	CreatedOn	TypeName	Space	Description	ExtSystem	ExtObject	ExtIdentifier	SerialNumber	InstallationDate	WarrantyStartDate	TagNumber	BarCode	AssetIdentifier	Area	Length
R-01	01-01-2020	Return Ceiling Diffuser	UPS/BATTERY ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349363	DES0506	15-01-2020	16-01-2020	R-01	n/a	n/a	n/a	n/a
S-01	01-01-2020	Supply Ceiling Diffuser	UPS/BATTERY ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349366	DES0506	15-01-2020	16-01-2020	S-01	n/a	n/a	n/a	n/a
R-02	01-01-2020	Return Ceiling Diffuser	UPS/BATTERY ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349367	DES0506	15-01-2020	16-01-2020	R-02	n/a	n/a	n/a	n/a
S-02	01-01-2020	Supply Ceiling Diffuser	UPS/BATTERY ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349368	DES0506	15-01-2020	16-01-2020	S-02	n/a	n/a	n/a	n/a
R-03	01-01-2020	Return Ceiling Diffuser	UPS/BATTERY ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349369	DES0506	15-01-2020	16-01-2020	R-03	n/a	n/a	n/a	n/a
S-03	01-01-2020	Supply Ceiling Diffuser	UPS/BATTERY ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349370	n/a	15-01-2020	16-01-2020	S-03	n/a	n/a	n/a	n/a
R-04	01-01-2020	Return Ceiling Diffuser	UPS/BATTERY ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349371	DES0506	15-01-2020	16-01-2020	R-04	n/a	n/a	n/a	n/a
S-04	01-01-2020	Supply Ceiling Diffuser	UPS/BATTERY ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349372	n/a	15-01-2020	16-01-2020	S-04	n/a	n/a	n/a	n/a
R-05	01-01-2020	Air Terminals_Return Ceiling Diffu	ELECTRICAL ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349462	n/a	15-01-2020	16-01-2020	R-05	n/a	n/a	n/a	n/a
S-05	01-01-2020	Supply Ceiling Diffuser	ELECTRICAL ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349463	n/a	15-01-2020	16-01-2020	S-05	n/a	n/a	n/a	n/a
S-06	01-01-2020	Supply Ceiling Diffuser	ELECTRICAL ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349464	n/a	15-01-2020	16-01-2020	S-06	n/a	n/a	n/a	n/a
R-06	01-01-2020	Air Terminals_Return Ceiling Diffu	ELECTRICAL ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349465	n/a	15-01-2020	16-01-2020	R-06	n/a	n/a	n/a	n/a
S-07	01-01-2020	Supply Ceiling Diffuser	BMS ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349599	n/a	15-01-2020	16-01-2020	S-07	n/a	n/a	n/a	n/a
S-08	01-01-2020	Supply Ceiling Diffuser	STAGING ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349600	n/a	15-01-2020	16-01-2020	S-08	n/a	n/a	n/a	n/a
S-09	01-01-2020	Supply Ceiling Diffuser	CONFERENCE ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349601	n/a	16-01-2020	17-01-2020	S-09	n/a	n/a	n/a	n/a
S-10	01-01-2020	Supply Ceiling Diffuser	CONFERENCE ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349602	n/a	16-01-2020	17-01-2020	S-10	n/a	n/a	n/a	n/a
S-11	01-01-2020	Supply Ceiling Diffuser	MANAGER	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349603	n/a	16-01-2020	17-01-2020	S-11	n/a	n/a	n/a	n/a
S-12	01-01-2020	Supply Ceiling Diffuser	RECEPTION	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349604	n/a	16-01-2020	17-01-2020	S-12	n/a	n/a	n/a	n/a
S-13	01-01-2020	Supply Ceiling Diffuser	RECEPTION	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349605	n/a	16-01-2020	17-01-2020	S-13	n/a	n/a	n/a	n/a
R-07	01-01-2020	Return Ceiling Diffuser	RECEPTION	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349606	n/a	16-01-2020	17-01-2020	R-07	n/a	n/a	n/a	n/a
R-08	01-01-2020	Return Ceiling Diffuser	RECEPTION	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349607	n/a	16-01-2020	17-01-2020	R-08	n/a	n/a	n/a	n/a
R-09	01-01-2020	Air Terminals_Return Ceiling Diffu	MANAGER	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349608	n/a	16-01-2020	17-01-2020	R-09	n/a	n/a	n/a	n/a
R-10	01-01-2020	Return Ceiling Diffuser	CONFERENCE ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349609	n/a	16-01-2020	17-01-2020	R-10	n/a	n/a	n/a	n/a
R-11	01-01-2020	Return Ceiling Diffuser	CONFERENCE ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349610	n/a	15-01-2020	16-01-2020	R-11	n/a	n/a	n/a	n/a
R-12	01-01-2020	Air Terminals_Return Ceiling Diffu	STAGING ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349611	n/a	15-01-2020	16-01-2020	R-12	n/a	n/a	n/a	n/a
R-13	01-01-2020	Air Terminals_Return Ceiling Diffu	BMS ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349612	n/a	15-01-2020	16-01-2020	R-13	n/a	n/a	n/a	n/a
S-14	01-01-2020	Supply Ceiling Diffuser	CORRIDOR	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349613	n/a	15-01-2020	16-01-2020	S-14	n/a	n/a	n/a	n/a
R-14	01-01-2020	Return Ceiling Diffuser	CORRIDOR	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349614	n/a	15-01-2020	16-01-2020	R-14	n/a	n/a	n/a	n/a
R-15	01-01-2020	Return Ceiling Diffuser	CORRIDOR	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349615	n/a	15-01-2020	16-01-2020	R-15	n/a	n/a	n/a	n/a
S-15	01-01-2020	Supply Ceiling Diffuser	CORRIDOR	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349616	n/a	15-01-2020	16-01-2020	S-15	n/a	n/a	n/a	n/a
R-16	01-01-2020	Return Ceiling Diffuser	CORRIDOR	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349617	n/a	16-01-2020	17-01-2020	R-16	n/a	n/a	n/a	n/a
S-16	01-01-2020	Supply Ceiling Diffuser	CORRIDOR	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349618	n/a	16-01-2020	17-01-2020	S-16	n/a	n/a	n/a	n/a
R-17	01-01-2020	Return Ceiling Diffuser	CORRIDOR	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349619	n/a	16-01-2020	17-01-2020	R-17	n/a	n/a	n/a	n/a
S-17	01-01-2020	Supply Ceiling Diffuser	CORRIDOR	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349620	n/a	16-01-2020	17-01-2020	S-17	n/a	n/a	n/a	n/a
S-18	01-01-2020	Supply Ceiling Diffuser	NOC ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349621	n/a	15-01-2020	16-01-2020	S-18	n/a	n/a	n/a	n/a
S-19	01-01-2020	Supply Ceiling Diffuser	NOC ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349622	n/a	16-01-2020	17-01-2020	S-19	n/a	n/a	n/a	n/a
S-20	01-01-2020	Supply Ceiling Diffuser	NOC ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349623	n/a	n/a	n/a	S-20	n/a	n/a	n/a	n/a
R-18	01-01-2020	Air Terminals_Return Ceiling Diffu	NOC ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349624	n/a	15-01-2020	16-01-2020	R-18	n/a	n/a	n/a	n/a
R-19	01-01-2020	Air Terminals_Return Ceiling Diffu	NOC ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349625	n/a	16-01-2020	17-01-2020	R-19	n/a	n/a	n/a	n/a
R-20	01-01-2020	Air Terminals_Return Ceiling Diffu	NOC ROOM	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349626	n/a	16-01-2020	17-01-2020	R-20	n/a	n/a	n/a	n/a
R-21	01-01-2020	Air Terminals_Return Ceiling Diffu	HELPDESK	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349627	n/a	16-01-2020	17-01-2020	R-21	n/a	n/a	n/a	n/a
S-21	01-01-2020	Air Terminals_Supply Ceiling Diffu	HELPDESK	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349628	n/a	16-01-2020	17-01-2020	S-21	n/a	n/a	n/a	n/a
S-22	01-01-2020	Supply Ceiling Diffuser	CORRIDOR	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349629	n/a	16-01-2020	17-01-2020	S-22	n/a	n/a	n/a	n/a
R-22	01-01-2020	Air Terminals_Return Ceiling Diffu	CORRIDOR	Return Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349630	n/a	16-01-2020	17-01-2020	R-22	n/a	n/a	n/a	n/a
S-23	01-01-2020	Air Terminals_Supply Ceiling Diffu	ISP ROOM	Supply Ceiling Diffuser	Autodesk IfcAirTerminal	IfcAirTerminal	349767	n/a	17-01-2020	18-01-2020	S-23	n/a	n/a	n/a	n/a

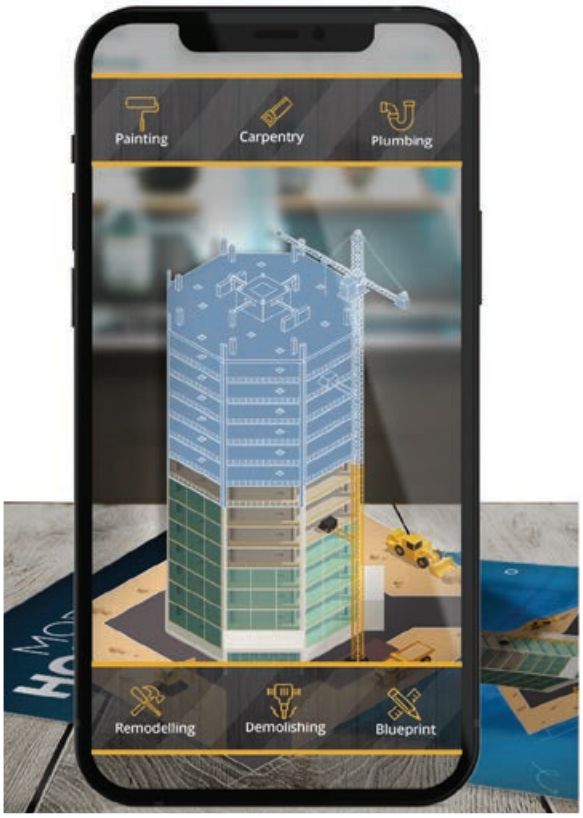
FM Tools and Software's

Even with the possession of BIM models, from Construction Handover, Facilities Operators are typically not BIM Software experts and they may not be equipped to quickly access the essential asset information created during the design and construction process. Having access to these models from specific computers with specific software installed should also never be a requirement. Hence FM tools bridges the gap by creating a cloud based platform for accessing all information in various formats like : BIM model, COBie Spreadsheet, PDF's, Custom Excel, or other databases which are essential during O&M of the project by the FM team.

Add-On Services

Virtual Design Construction

VDC is overall process of using shared models and technology to manage and improve the entire lifecycle of a project construction. It allows design and construction team to estimate, coordinate, plan and build a project in the virtual space, long before construction begins.

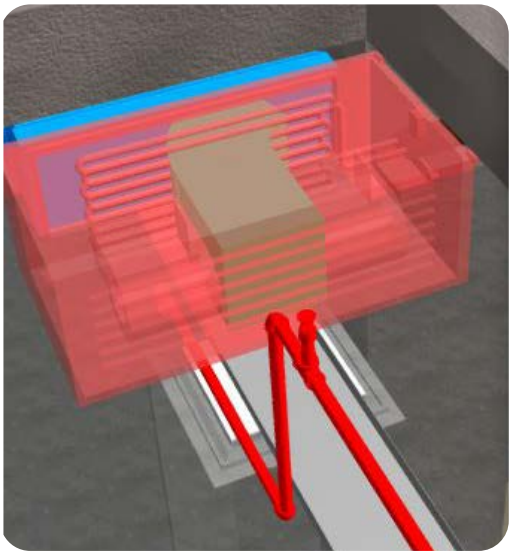


Augmented Reality visualizes design intent in the real world by overlaying digital elements on the user's environment. This gives project teams the opportunity to witness exactly how their building model integrates with the existing physical infrastructure.

AR delivers visual elements, sound and other sensory information to the user through a device like a smartphone or glasses. This information is overlaid onto the device to create an interwoven experience where digital information alters the user's perception of the real world.

Virtual Reality immerses the user in a fully digital environment based on the building mode. They help architects and engineers detect spatial issues, collisions and design limitations. They also give the different people working on the project a common environment to collaborate better and make decisions based on accurate data. The combination of BIM and VR gives the client access to information they traditionally didn't have.

COBie
Compliant model



Parameter	Value
Text	
Control	Wired Control
Refrigerant Type	R32
Sound Pressure level	38dba
Unit Weight	25Kg
Materials and Finishes	
Material	
Electrical Engineering	
Frequency	50.00 Hz
Phase	1
Voltage Rating	230.00 V
Electrical - Loads	
Rated Total Input Power	3.50 W
Dimensions	
CHWR/S DIA	25.0
COIL LENGTH	732.0
Condensate Drain size	25.0 mm
Duct Height	300.0
Duct Width	970.0
FAN DISTANCE	632.0
FAN GAP	160.0
FAN SIZE	266.0
Height	460.0
Length	1220.0
Width	660.0
Mechanical	
Identity Data	
Data	
COBie.Type.ExternalIdentifier	4db0c7b6-0839-4410-9726-881703d989c8-
COBie.Type	☑
COBie.Type.CreatedBy	Joshua
COBie.Type.CreatedOn	01-01-2020
COBie.Type.Name	Mechanical Equipment_FCU
COBie.Type.Category	n/a
COBie.Type.Description	2 PIPE,4 STAGE ROW COOLING COIL
COBie.Type.AssetType	
COBie.Type.Manufacturer	DAIKIN
COBie.Type.ModelNumber	FWB-01-10AT
COBie.Type.WarrantyGuarantorParts	
COBie.Type.WarrantyDurationParts	
COBie.Type.WarrantyGuarantorLabor	

FCU
Ductable Split - 5.5TR

Mechanical Equipment (1) | Edit Typ

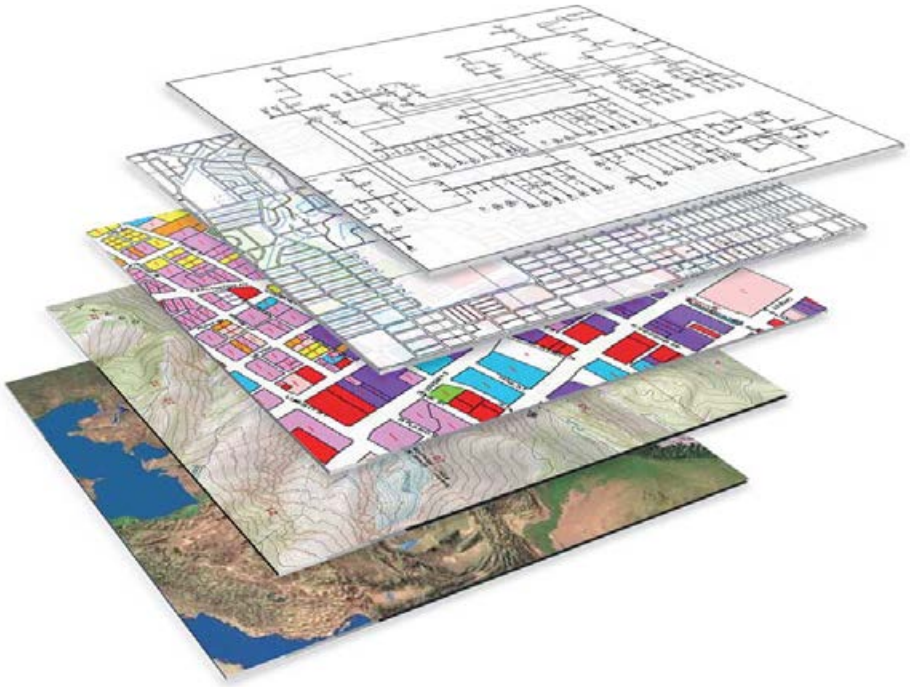
Constraints	
Level	Level 0
Host	Level : Level 0
Offset	2847.3
Electrical - Loads	
Panel	
Circuit Number	
Mechanical	
System Classification	Supply Air,Hydronic Supp...
System Name	Mechanical Supply Air 28,...
Mechanical - Flow	
Airflow	420.00 CFM
External static Pressure	10.00 Pa
Critical Path	☐
Identity Data	
Phasing	
Data	
COBie	☑
COBie.ExternalIdentifier	12346
COBie.CreatedBy	Joshua
COBie.CreatedOn	01-01-2020
COBie.Component.Name	FCU-01
COBie.Component.Space	STORE ROOM
COBie.Component.Descr...	2coil pipe system
COBie.Component.Serial...	DES0206
COBie.Component.Instal...	15-01-2020
COBie.Component.Warr...	16-01-2020
COBie.Component.TagN...	FCU-01-ISP
COBie.Component.BarC...	
COBie.Component.Asset...	
COBie.Component.Area	10.00 SF
COBie.Component.Length	1150.0

BIM in Cloud

This allows architects, consultants, engineers, and contractors to easily access their 3D models from any location. Storing BIM information in the cloud facilitates stakeholders access to the latest version of their models, and work simultaneously on a single source from different locations. Rather than just improving accessibility, it also helps in a better real time issue resolution and monitoring.

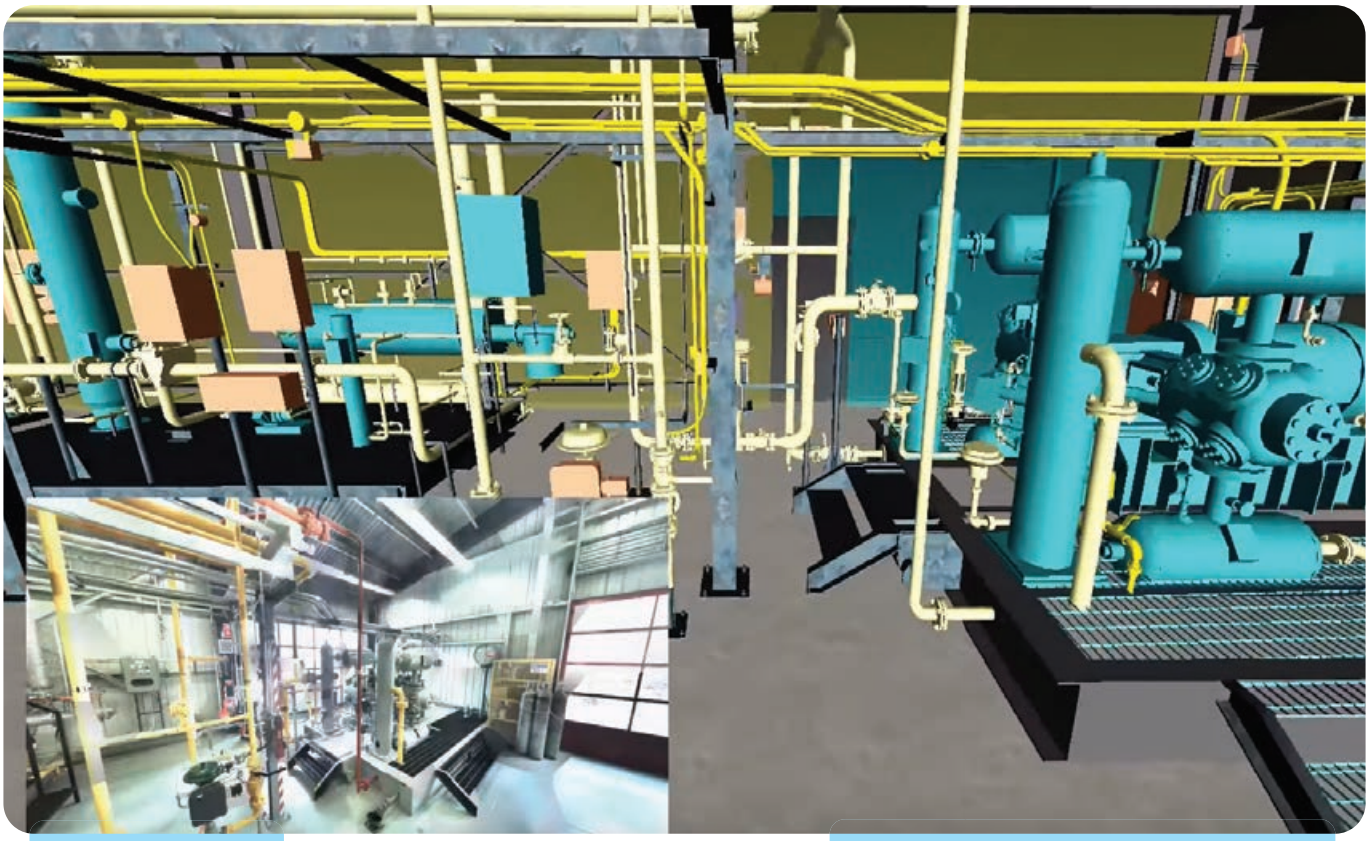
GIS Integration

Integrating GIS to BIM provides a robust model where geographic information and infrastructure design data are brought together giving a better idea of how the building interact within the context of a real place and geography. This integration assists further studies of model in infrastructure and logistic services, seismic and hydrogeological risks, climatic conditions etc



3D Scanning and Point Cloud Model

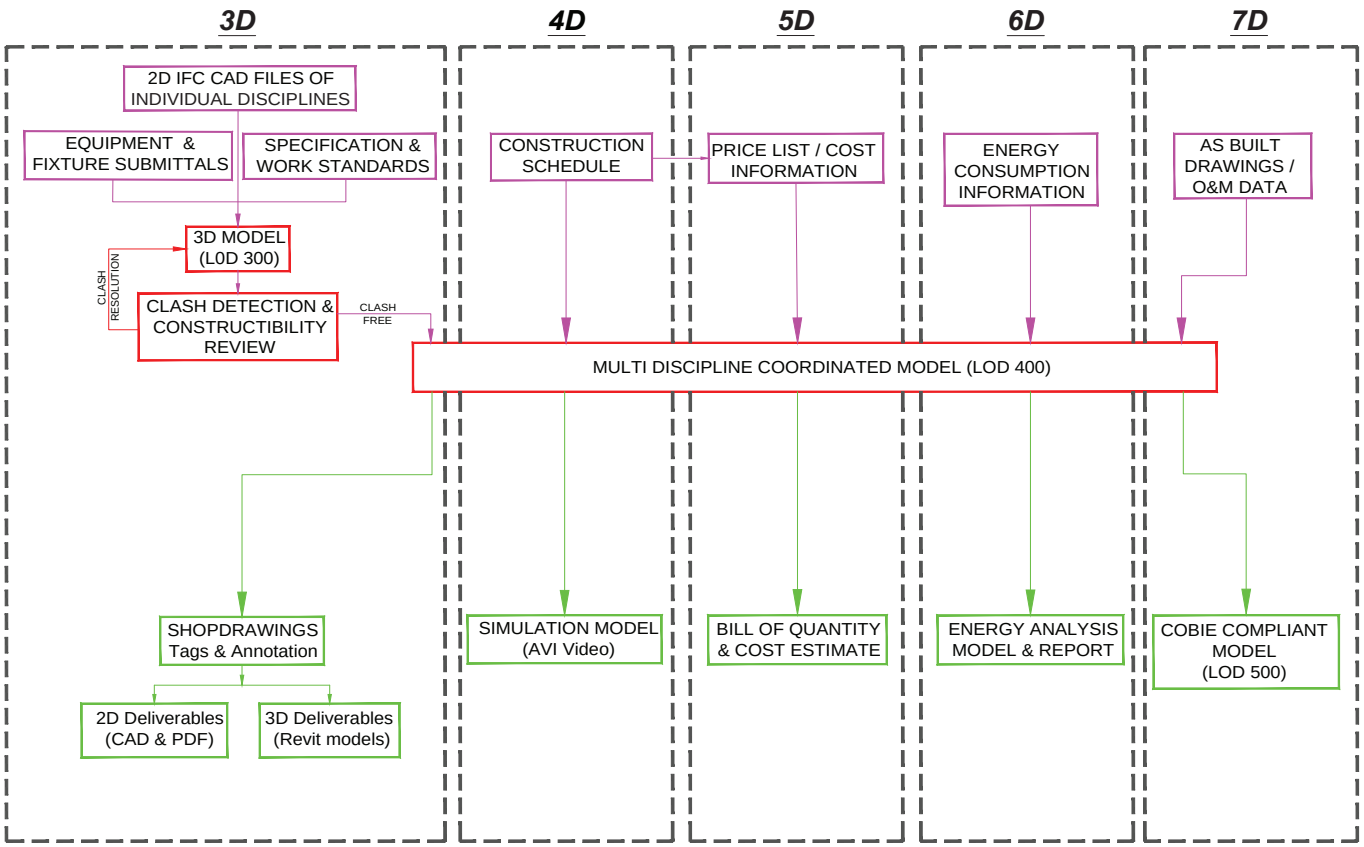
Laser Scanned Point Cloud Model



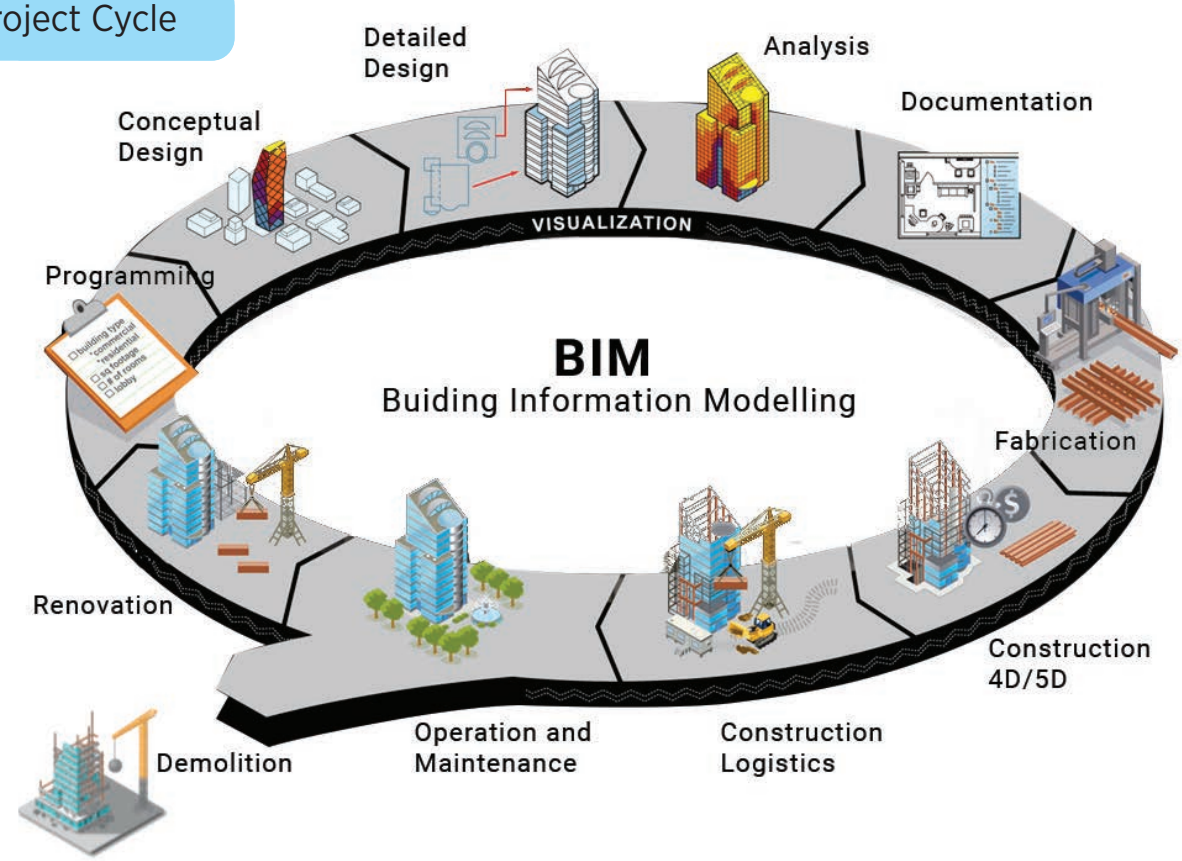
Real Image

Model generated from BIM

Flow of Information



Project Cycle



Our Infrastructure

We are equipped with ample office space which can accommodate 100 Work Stations with state of art Technology & IT assets capable to handle all latest industrial software's. Systems are provided with LAN Networking and 100% Back up Supply. The network is well protected with hardware firewalls and updated antivirus software's with well protected data storage server. And all these facilities has been managed by well experienced Engineers & Experts in the relevant field.

Leadership

Chairman	– 01
Directors	– 04
COO	– 01
BDM	– 01
BIM Manager	– 01

BIM-Architects

Team Lead	– 01
BIM Architects	– 06
BIM Modellers	– 12

BIM-Structural

Team Lead	– 01
BIM Engineers	– 04
Sr.BIM Modellers	– 04
BIM Modellers	– 04

BIM-MEP Services

Team Lead	– 02
BIM Engineers	– 14
BIM Modellers	– 16

ASMEPF Designs

Technical Directors	– 05
Design Leads	– 05
Coordinators	– 04
Design Engineers	– 16
QA/QC Engineers	– 04
Design Draftsman	– 24

We have dedicated In-House BIM Team to co-ordinate with respective services designers throughout the process of design developement to ensure well coordinated and clash free designs. Along with multiple level quality check and Assurance ensured by dedicated quality department.

Software Skills

2D drawing preparation	– AutoCAD
3D Modelling and Analysis	– AutoDesk AEC Package
Landscape and Topography modelling	– Civil 3D
Scan to BIM	– Autodesk Recap
For Rendering	– Lumion, Enscape andVRay
Interior Designing	– SketchUp and Blender
Lighting Calculation	– Dialux and Relux
Cyber Security Device	– Fortigate 60F Firewall

Our Core Team

CHERIAN C
Chairman

Mr. Cherian graduated in 1983 in Electrical Engineering from National Institute of Technology, Calicut. He is the founder and Managing Director of Tesla Engineers (P) Ltd, founded in 1986. He has more than 35 years of experience and expertise in providing engineering design & Execution services for Electrical projects like Multi-storied, Residential, Coammercial, Hotels, Malls, Hospital, Industrial and Institutions.

ELDHO P KURIAKOSE
Managing Director

Mr. Eldho holds a degree in Electrical Engineering and has more than 18 years experience in Design of MEP services for various building & Infrastructure projects in India & Abroad. He has gained experience from middle east with leading Consultants and contractors.He has worked as a Quality Controller in one of the International Engineering Consultancy Firm providing Designing services to major clients in USA and UK. He is an Auto Desk Certified LISP Programmer.

SNEHA JOHN
Executive Director

Ms. Sneha is an MBA Graduate in Hospital Management from Bharathiyar University, Coimbatore. She has 12 years of experience in hospital and healthcare administration. She has proven expertise in development of financial frameworks as well as financial analysis and planning. Notable success shaping strategic vision and developing sophisticated strategies to drive profitability and sustain growth. Reputation for establishing priorities, scheduling, and meeting deadlines through the skillful allocation of human and material resources.

Dr. MAITHILY PRATHEESH
Chief Operating Officer

Dr. Maithily holds Ph.D in Management. She has more than 20 years of progressive experience in Management, Training and Business Operations, Her research subject includes HR implementation, Women Empowerment and Geographical Indications. She has several publications and presented papers at national conferences.

RAJESH VARMA
Director - International Operations

Mr. Rajesh is an Engineering and Management professional with over 20 years of proven expertise in Project Management and Business Strategy. Highly proficient in MEP systems implementation, procurement, Quality control and safety procedures. Projects covered include schools, universities and federal projects in the United States. Have International working exposure to Projects in USA, Qatar, Singapore & India.

ALI AKBAR M.A
Regional Director – Middle East

Mr.Ali Akbar is an Mechanical Engineer with more than 14 years of experience in project management, design development, and quality assurance in MEP services for various building & Infrastructure projects in Doha-Qatar. He is a UPDA Certified engineer in Qatar. He has gained design experience from international consultants like OVE Arup & Partners, KEO International Consultants,

SAGAR DALAVAI
Business Developement

Mr. Sagar holds a Degree in Civil Engineering from UVCE, Bangalore University. He has 15 years of experience in ASMEP Services Design Coordination / Planning, BIM Coordination, Site Construction, QA/QC, Billing & PMC Sector, spread across various Capital Projects of Industries namely Residential / Commercial / Hotel / IT workspace Buildings. He is passionate in Developing growth strategies and plans for business improvement for consultancy sector.

JOSHUA JERMIAS
BIM Manager

Mr. Joshua holds a bachelor's degree in Mechanical Engineering from Kerala university, with 12 years of total experience in MEP. Started his career as a MEP design engineer and then adopted BIM technology into MEP design

He is proficient in guiding & coordination of resources for implementing & developing BIM projects within the stipulated timeframe. He has involved in BIM projects from USA, Europe (Germany), Middle East and India.

ASHIL KUMAR
BIM Team lead - Architecture

Mr Ashil is an Architect with an exceptional track record in Architecture design, detailing, presentation and Interdisciplinary coordination with experience of more than 12 years. An expert in modelling and analysis of Architectural & interior designing components of various projects in building industry using Revit software. He is well versed in creating video & image outputs using BIM rendering software's like Lumion & Enscape with photorealistic effects.

ALEX VARGHESE
BIM Team Lead - Civil

Mr Alex is an Structural Engineer with 12 years experience in Building design, detailing, and Coordination. An expert in modelling and analysis of Structural components of high-rise buildings using Revit software. He is well versed in modelling structural elements for geometry of the building Industries namely Residential / Commercial / Hotel / IT Workspace.

RAKESH RAVINDRAN
BIM Team lead - Mechanical

Mr. Rakesh has an experience of 8 Years which includes 2 years of GCC experience in the field of BIM Modelling, Coordination and quality checking. Expertise in managing projects using the Building Information Modelling process from design to operation, developing BIM protocols, implementing quality control procedures, identifying and documenting clashes, coordinating data modelling process and collaborating with the design teams.

BASIL SAJAN
BIM Team Lead - Electrical

Mr. Basil is an Electrical Engineer with more than 11 years of experience in projects in Middle East and American Projects mostly at Dar al Handasah. He is an expert in modelling and customization of BIM tools like Autodesk Revit, Navisworks, AutoCad and visual programming tools like dynamo for automation of BIM implementation process.

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KATERRA

KMCH

PUSHPAGIRI
VITREO RETINA INSTITUTE
An Eye for affordable services

SREE
GOKULAM
Group of Companies

SITARAM
BEACHRETREAT
AYURVEDA · YOGA · AWARENESS

DSA
ARCHITECTS
INTERNATIONAL

OUR PROJECTS

Marriot International
Mozoon Towers -
Doha,Qatar.

Oberoi Hotels & Resorts
Mozoon Towers -
Doha, Qatar.

Client :	Qatar General Insurance & Reinsurance Company.
Description :	Hotel Buildings, 5B+G+25 Floors.
Area :	11,01,888 sqft.
Services :	BIM model for ASMEPF services upto LOD 400.
Status :	Completed.

The Stage
Marriot International
Riyadh, KSA.

Client:	Al Saedan Real Estate.
Descriptions:	Hotel Building- 3B+G+25 Floors.
Area:	7,30,000 sqft.
Services:	BIM model for MEPF services upto LOD 350
Status:	Completed.

Lulu Mall,
Lucknow, UP, India

Client:	Lulu International shopping Mall Pvt. Ltd./ Katerra
Descriptions:	Mall : B+G+2 Floors, MLCP : 2B+G+11 Floors
Area:	2 Million Sqft
Services:	BIM Model for MEPF services up-to LOD 350
Status:	Completed

South Island Place
Building Office,
Hongkong.

Client :	Fleet Management Limited.
Description:	Office space at 29th floor
Area:	12,100 sqft.
Services :	BIM model for MEPF services upto LOD 400.
Status :	Completed.

Sheikh Zayed National Museum,
Abu Dhabi,UAE

Client :	Al Inayah EM Works LLC.
Description:	National Museum.
Area:	22,000 sqft.
Services :	LOD 400, 500 MEP Models
Status :	Ongoing.

Palm Luxury Villa Development,
Dubai,UAE

Client :	DSA Architects.
Description:	Villa Project with Clubhouse and Ancillary Buildings
Area:	4,35,000 sqft.
Services :	BIM model for Architecture upto LOD 300
Status :	Ongoing.

Client : DSA Architects.
Description: Luxury Villas with clubhouse
Area: 2,75,000 sqft.
Services : BIM model for Architecture upto LOD 300.
Status : Ongoing.

Saadiyath Villas Development,
Abu Dhabi, UAE.

Malabar Cancer Centre
Kannur, Kerala, India.

Client :	Kerala Infrastructure Investment Fund board.
Description :	Postgraduate Institute of Oncology Science & Research, 4B+G+9 Floors.
Area :	5,76,000 sqft.
Services:	BIM model for ASMEPF services upto LOD 300.
Status :	In Progress.

Medical College Teaching Hospital,
Pathanamthitta, Kerala, India.

Client :	Kerala Infrastructure Investment Fund Board.
Description :	Hospital, College, Quarters and Hostels.
Area:	9,91,000 sqft.
Services :	BIM model for ASMEPF services upto LOD 300.
Status:	Ongoing.

Sitaram Beach Retreat,
Nattika, Kerala, India.

Client :	Sitaram Group
Description :	20 cottages, Reception block and other Amenities
Area :	Spread across 16 acres.
Services :	Design of MEP services and BIM
Status :	Completed

Beach Resort,
Muzhuppilangad,
Kerala, India.

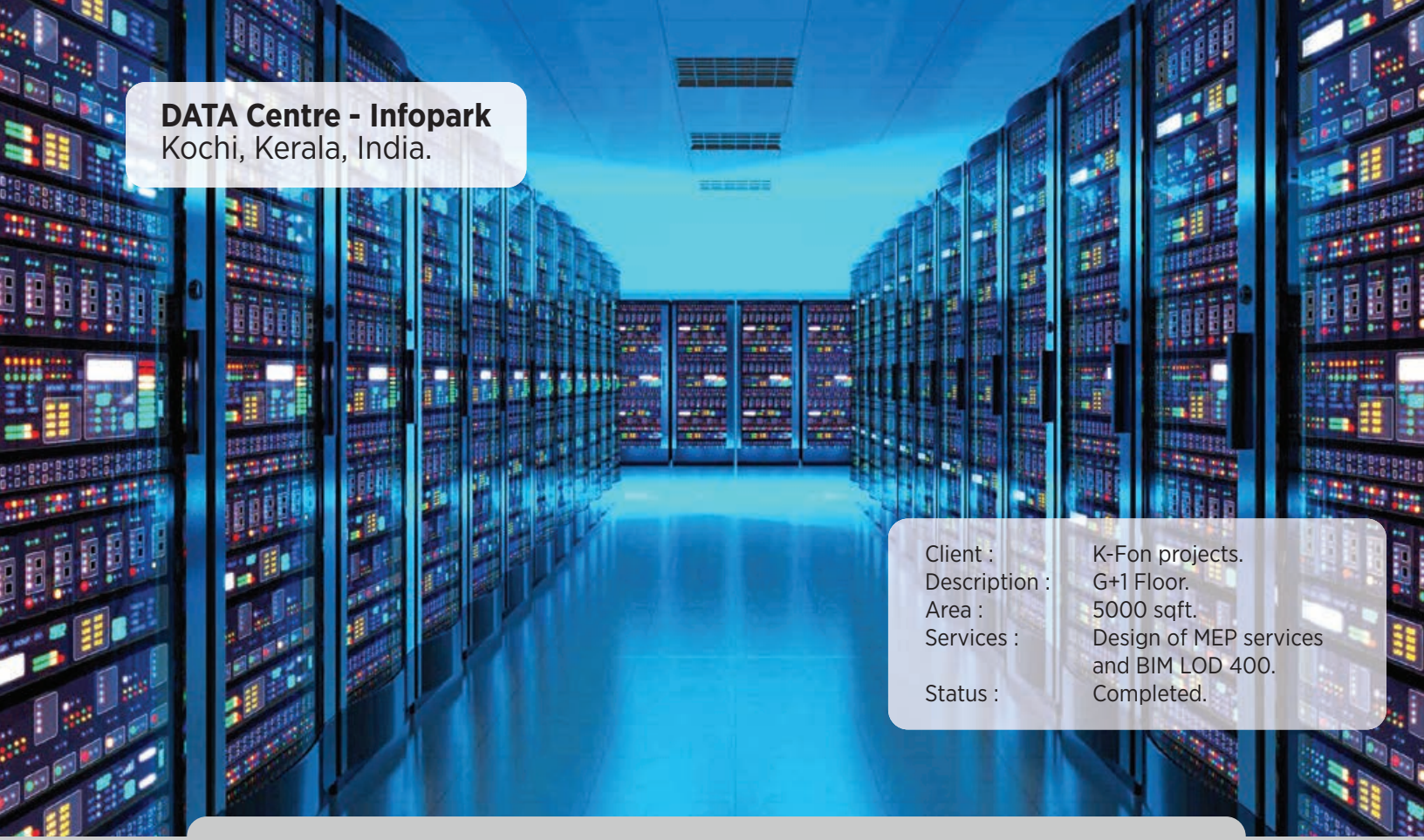
Client :	Kerala Infrastructure Investment Fund Board.
Description:	Cottage Suites, Reception block and swimming pool.
Area:	1,72,000 sqft.
Services :	BIM model for ASMEPF services upto LOD 300.
Status :	In Progress.

Lulu Hypermarket
Tirur, Kerala, India.

Client:	AAK International.
Descriptions:	Commercial Mall, B+G+3Floors.
Area:	2,80,000 sqft.
Services:	BIM model for AS MEPF services upto LOD 500.
Status:	Ongoing.

Football Stadium,
Kannur, Kerala, India.

Client :	Kerala Infrastructure Investment Fund Board.
Area :	4,88,750 sqft.
Services :	BIM model for ASMEPF services upto LOD 300.
Status :	Completed.



DATA Centre - Infopark
Kochi, Kerala, India.

Client :	K-Fon projects.
Description :	G+1 Floor.
Area :	5000 sqft.
Services :	Design of MEP services and BIM LOD 400.
Status :	Completed.

Pushpagiri Eye Hospital,
Kadapa, AP, India.

Client :	Pushpagiri Vitreo Retina Institute.
Description :	G+3 Floors, 2 Blocks.
Area :	70,000 sqft.
Services :	Design of MEP services and BIM.
Status :	Completed.

Vaishnavi Serene
Bangalore, India.

Client:	Katerra India Pvt. Ltd.
Descriptions:	Stilt+4 Floors, 9 blocks, Residential Building.
Area:	1.1 Million Sqft.
Services:	SMEP Modelling for clash co-ordination and Extraction of shop drawings.
Status:	Completed.

Sree Gokulam Convention Center,
Balussery, Kerala, India.

Client :	Gokulam Groups.
Area :	60,000 sqft.
Services :	Design of MEP services and BIM.
Status :	Completed.

VTB Cultural Complex,
Palakkad, Kerala, India.

Client:	Kerala Infrastructure Investment Fund Board.
Descriptions:	Outside Air theatre, Exhibition & Performance auditorium
Area:	2,90,000 Sqft.
Services:	BIM model for ASMEPF services upto LOD 300
Status:	Ongoing.

Taluk Hospital, Cherthala,
Kerala, India.

Client :	Kerala Infrastructure Investment Fund Board.
Descriptions:	Taluk Hospital
Area :	1,90,000 sqft.
Services : upto	BIM model for ASMEPF services LOD 300.
Status :	Ongoing.

GKNM Hospital
Coimbatore, TN, India.

Client : M/s G.Kuppuswamy Naidu Memorial Hospital / KEF Infra.
Description: 2 Basements +5 FLOORS,
Area: 330,000 Sqft.
Services : MEP Detail design to GFC stage & BIM Model for MEP services.
Status : In Progress.

KMCH - Phase II
Coimbatore, TN, India.

Client : M/s Kovai Medical Center and Hospitals / KEF Infra.
Description : H1,H2,H3 & H4 Block - B+GF+ 8 Floors, RQ Block - GF + 8 Floors , 2BHK & 3 BHK Quarters - Stilt + 4 Floors.
Area: 400,000 sqft.
Services : BIM Model for MEP services up-to LOD 400.
Status: In Progress.

If you think good design is expensive, you should look at the cost of bad design
- Ralf Speth

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