

Electrical Contractors







Mission

Help the AEC industry optimize resources, cost and quality through innovative use of technology for:

- Sustainable and efficient design
- Collaborative pre-construction planning
- Agile construction process
- Reliable facility management

Vision

Lead the global AEC industry to certainty and efficiency using technology.

Associations:



























Our Values

Excellence

We take pride in our passion for excellence. It is a way of life for us.

Λ Agility

We are always at the edge of technology and driven by agile transformations.

Reliability

We have ISO-certified processes and workflow to produce consistent and reliable performance.

Teamwork

Pinnacle provides an environment where teams collaborate effectively to excel.

H Honesty

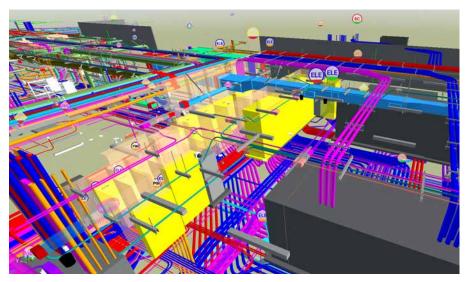
We win the trust of our stakeholders through integrity, straightforwardness, and transparency.

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1. Revolutionizing Electrical Construction



Electrical BIM Model

Proper planning and coordination are the keys to the successful execution of projects in the construction industry. Building Information Modeling (BIM) allows stakeholders to create and examine virtual representations of the Mechanical, Electrical and Plumbing (MEP) systems and other utilities. The simulated 3D construction can be used to show design intent to owners with greater visualization, generate coordinated drawings for eliminating rework & change order and eradicate work-stoppages due of RFIs in view of availability of high degree of detailing within the model itself.

Pinnacle Infotech has been acknowledged as the global leader in providing innovative BIM solutions. We have received several awards and recognitions for our expertise, from the government and from various trade associations, including excellence awards, innovation awards and top exporter and highest job creator awards. NASSCOM, the leading IT trade association, has acknowledged Pinnacle among the Top IT Innovators for 6 years, between 2007 and 2017. Our process orientation and quality control are per ISO standards – 9001:2015, 27001:2013, 19650-2, 19650-3, and 19650-5, plus EMS 14001:2015. As holders of **ISO 19650-5**, the esteemed international certification for BIM services, we ensure adept data management and transparent collaboration.

The successful completion of more than 15000 BIM projects in 43+ countries has provided Pinnacle with a deep understanding of international building codes and procedures. We recognize the importance of effective work process management and regular communication while delivering outsourced services.

Our global delivery system allows us to maintain constant contact with our clients, making geographical separation meaningless. We have developed an ideal mix of infrastructure, experience, global presence and commitment to excellence that has led to long-term relationship with more than 2000 clients worldwide.

2. Benefits of Electrical Modeling

Coordination

Streamlining communication through 3D visualization, enabling all stakeholders in quick decision making during the design and preconstruction phase.

Efficiency

Eliminating work stoppages, and reworks by checking the accuracy and completeness of drawings before starting construction on-site/off-site.

Quality

Improving quality by producing accurate Shop Drawings directly from the 3D BIM which can also be used for prefabrication.

Savings

Preconstruction and prefabrication reviews mean better use of manpower, better quality of construction, and reduced rework and wastage, all of which translate into lower costs.

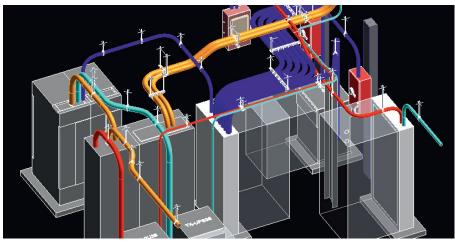
Project Management

Detailed Material BOQ and Shop Drawings with 3D visualization enable a better look at "The Big Picture" and aid in the review, scheduling, and monitoring of each project.

Our clients have reported cost savings up to 15% by successfully implementing BIM.

3. Electrical Modeling

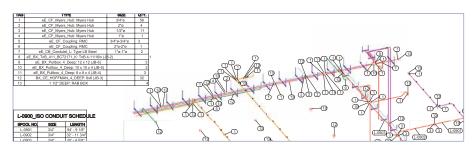
Pinnacle specializes in the virtual construction of 3D BIM electrical models of conduits, cable trays, lighting fixtures, fire alarms, and other electrical equipment based on contract drawings, manufacturer specifications and client standards. We create detailed electrical room models showing electrical connections among the panels and transformers. Value Engineering and Design Validations are also offered to clients to improve the efficiency of the project and save costs.



Feeder Conduit

4. Conduit Spool

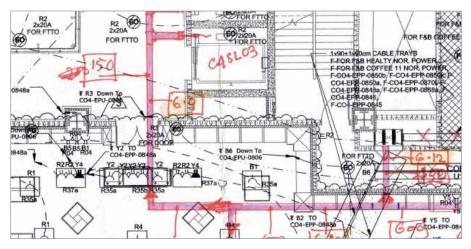
We create virtual model of conduits arranged in a rack system based on detailed shop drawings and installation information. Optimization of conduit layout reduces time, site conflict, and cost, thus increasing the efficiency of the project.



Feeder and Branch Circuit Conduits

5. Input Documentation

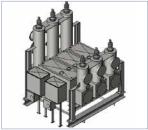
We are adept at using different types of inputs to create 3D representations of individual systems and complete buildings. Some of the input formats used are pdf, *dwg, *dgn, Revit, hand sketches, etc.



Input hand sketch drawing (Underground)

6. Electrical Fixture and Equipment Modeling

We create 3D lighting fixture models from the manufacturer's 2D drawings and specifications. Also, we provide accurately modeled electrical equipment and fixtures.







Circuit Breaker

Generators

Transformer

7. Electrical Coordination and Clash Resolution

We generate a coordinated BIM model after resolving the clashes among all the trades (Architecture, Structure, Concrete, Mechanical, Electrical, Plumbing, Fire Protection, etc.). The coordinated electrical BIM model helps in visualizing the complete project before construction starts, thus enabling better design review, project planning, and construction management.





Before coordination process

After coordination process

8. Constructability Analysis

Virtual Construction of a project in BIM enables independent review of the construction plans and specifications. This identifies discrepancies in drawings and all constructability issues at preconstruction stage. During the constructability review, our BIM team generates a series of RFI's to help identify following type of constructability and operational issues:

- Missing information/documents
- Input inconsistencies
- Conflicting data

- Operation clearance issues
- Maintenance access

BIM model is updated based on responses of RFIs. Status of all RFIs is maintained in a log and follow-up is done to resolve them at preconstruction stage. This eliminates work stoppages and reworks during construction.

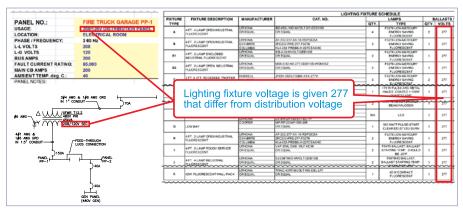
9. Design Validation

Load Validation (CB Rating by REVIT MEP)

Validation of connected loads is done by generating the circuits in Revit MEP and the required CB Rating of each circuit can be quantified to design an efficient wiring system.

Validation of System Voltage (120/208V, 277/408V and others)

Voltage rating is checked and verified for components, equipments and distribution system.



System Voltage Validation

Validation of Wire/Cable Sizes for Main and Branch circuits

After connecting the electrical loads in the panel, the wire size is reflected in the panel's schedule and re-checked with design drawings. Potential wire size problems can be identified.

USAGE:			208/120V	DISTRIBUTION PONEL					PANEL TYPE:		SEE SPECIFICATIONS				
LOCATION:			ELECTRICA	L ROOM											
PHASE/FRE	OUENCY:		3 60Hz												
L-L VOLTS			208												
L-G VOLTS			120												
RUS APMS			200												
	RENT RATING:		65,000												
MAIN CB A			200												
	MPS: 'EMP. deg. C.		40												
PANEL NO			40												
	I ES: WITH GROUND														
	WITH GROUND WITH FULL SIZE														
	ES C.B. EQUIPP														
				CEPTACLE CIRCUITS, 30mA FOR TRACING CIRCUI	rs										
CONDUITS	IZE VALID FOR	WIRE W	TH THHN IN	ISULATION ONLY		1	r —		Т		Т			_	
	PHASE &						CIRCUIT						PHASE &		
CONDUIT	NEURTRAL	EGE	CKT AMPS	LOAD DESCRIPTION	C.B.	C.B. TRIP	NUMBER	C.B. TRIP	C.B.	LOAD DESCRIPTION	CKT AMPS	CONDUIT	NEURTRAL	FGF S	
SIZE	SIZE	SIZE			POLES		ABC		POLES			SIZE	SIZE		
	JILL						700						JILL		
3/4"	#12	#12	6.67	EX LTS. FIRE TRUNK GARAGE	1	20	1A2	20	1	EX LIGHTS-MAINT. STORAGE	13,33	3/4"	#12	#1	
3/4"	#12	#12	7.50	EX EXTERIOR BLDG LIGHTS	1	20	3 B 4	20	1	EX RECEPTS. MAINT STORAGE	6.67	3/4"	#12	#1	
3/4"	#12	#12	6.67	EX RECEPTS, MAINT STORAGE	1	20	5 C 6	20	1	EX RECEPTSFIRE TRUNK GARAGE	5.00	3/4"	#12	#13	
3/4"	#12	#12	8.33	EX UNIT HEATER	1	20	7 A 8	20	1	EX CEILING FAN	8.33	3/4"	#12	#13	
3/4"	#12	#12	13.33	MAINT, LTG ZONE 2	1	20	9 B 10	20	3	EF-2(3-POLE0	2.08	3/4"	#12	#13	
3/4"	#12	#12	3.53	EX EF-1 (3-POLE)	3	20	11 C 12				2.08				
			3.53				13 C 14			-	2.08				
			3.53				15 B 16	45	3	3 EX HWH-2 (3-POLE)		3/4"	#12	#1	
3/4"	#12	#12	9.17	MAINT, LTG, ZONE 3	1	20	19 A 20								
3/4"	#12	#12	13.50	RECEPT, FIRE GARAGE	1		21 A 22								
3/4"	#12	#12	4.17	EX GARAGE ROOD GD-2	3	20	21 B 22	20	3	EX GARAGE ROOD DG-1	4.17	3/4"	#12	#1	
			4.17	****			23 C 24		_	-	4.17			_	
			4.17		_		25 A 26	-	_	_	4.17	_		_	
3/4"	#8	#10	22.22	EX AIR COMPRESSOR	3	30	27 B 28	20	3	EX GARAGE ROOD DG-3	4.17	3/4"	#12	#12	
			22.22	FIRE TRUNK			29 C 30			_	4.17				
			22.22				31 A 32				4.17				
3/4"	#12	#12	4.17	EX CO DETECTOR	1	20	33 B 34	60	3	EX MEDICAL WASTE BUILDING	41.67	3/4"	#12	#10	
3/4"	#12	#12	8.33	EX CONTROL POWER HVAC	1	20	35 C 36				41.67				
3/4"	#12	#12	9.00	RECEPTACLE MAINT, FIRE TRUNK ZONE 2	LTQ.	20	37 A 38			BLANK	0.00				
3/4"	#12	#12	12.75	FIRE TRUNK ZONE 2 LTG	1	20	39 B 40			BLANK	0.00				
3/4"	#12	#12	9.00	RECEPTACLE MAINT.	1	20	41 C 42			BLANK	0.00				
										Auto					
			MOTOR KV	/A·		19.00	I KWA		DHASE A C	ONNECTED AMPS:	99.5				
	RECEPTACLE KVA:						18.00 KVA PHASE A CONNECTE 16.00 KVA PHASE B CONNECTE				159.8				
			HID LIGHTI							ONNECTED AMPS:					
			HEATING K				4.00 KVA								

Designed Panel Schedule

Voltage Drop Validation for Main and Branch circuits

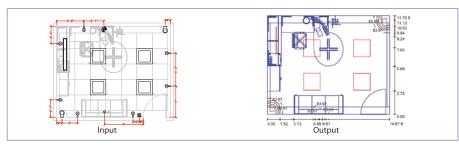
The voltage drop of each circuit is calculated and referred to the respective panel schedule. Additionally Voltage Drop is validated within the design documents as per permissible standards.

ELECTRICAL PANELS LOAD SCHEDULE W BLOCK												
SI No	Fed From	Fed To	TOTAL CONNECTED LOAD (KW)	POWER FACTOR	Load Current in Amps	Breaker Size (Amps)	No. of Run PWR Cables	Distance In Meters for each run		Proposed Cable Size (Power)	Total Voltage Drop	VD Verificatio n
A	В	c	D	J	к	N	Q	T	Z	AA	AH	Al
1	HOD 2 PRIMARY 66kV/11kV FEEDER A140	MV PANEL W	3209.712	0.9	129.4	400	1	10	-	3C-240XLPE/SWA/LSOH + PILOT CABLE	0.00%	ок
2	MV PANEL W	TX-01-W02	1563.32	0.9	63.3	100	- 1	10	180	3C-70mm2 Cu/XLPE/SWA/PVC	0.00%	OK
3	GEN-B2-W	CP-GEN-B2-W / ATS PANEL	1438.262	0.9	1578.2	2000	20	30	2000	4 X 1C X 300mm2 Cu/H07RN-F	0.00%	OK
- 4	CP-GEN-B2-W / ATS PANEL	GENERATOR PANEL-W / GEN-CP-W	1438.262	0.9	1578.2	2000	- 1	15	-	KXC26 2500A	0.00%	OK
- 5	GENERATOR PANEL-W / GEN-CP-W	LV-01-W02	715.682	0.9	824.1	1000	2	30	1000	4C-300mm2 FIRE RATED	0.00%	OK
- 6	TX-01-W02 (1600KVA)	LV-01-W02	1563.32	0.9	1677.2	2500	- 1	- 11	2500	KXC26 2500A	0.00%	OK
7		BUSBAR W02	289.62	0.9	356.3	630	- 1	78	1250	KXC12 1250A	0.80%	OK
8	i i	SMDB-B1-LL-W02	115.29	0.9	139.2	225	1	30	280	4C-120mm2 XLPE/SWA/LSF	0.62%	OK
9	i i	SMDB-00-LL-W02	112.51	0.9	144.5	300	- 1	50	364	4C-185mm2 XLPE/SWA/LSF	0.52%	OK
10	l j	SMDB-B2-LL-W02	22.16	0.9	29.5	100	- 1	15	130	4C-35mm2 XLPE/SWA/LSF	0.34%	OK
- 11	LV-01-W02	FP-00-LL-W04	18.06	0.9	26.6	80	- I	50	108	4C-25mm2 XLPE/SWA/LSF	0.79%	OK
12	D- 01-802	EDB-B2-LV-W	8.4	0.9	13.0	40	1	10	80	4C-16mm2 XLPE/SWA/LSF	0.18%	OK

Electrical Panels Load Schedule

10. Lumen Calculation

Detailed lighting calculations are done in Revit and other Proprietary Tools such as Dialux, ElumTools.

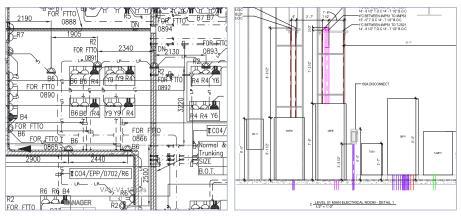


Surface	[%]	E _{av} [fc]	E _{min} [fc]	E _{max} [fc]	u0
Workplane	1	51	6.79	418	0.134
Floor	59	29	2.95	107	0.102
Ceiling	70	18	5.45	42	0.301
Walls (4)	69	27	0.90	327	/
Workplane: Height: Grid: Boundary Zone: Illuminance Quotient (a	2.493 ft 128 x 128 Points 0.000 ft according to LG7): Wa		: 0.551, Ceiling / Worl	king Plane: 0.358.	

LUX Report

11. Electrical Drawings

Shop Drawings are created on the basis of project standards and are useful to contractors, fabricators, suppliers, and manufacturers during construction. BIM is highly useful for construction of any irregular or complex structures. We generate a coordinated Electrical model before start of construction. These drawings can be directly downloaded into GPS instruments for fast and accurate layout at site. These drawings are generated directly from coordinated BIM models and are detailed enough for workshop fabrication.



Power Layout

Electrical Room Plan

12. Sleeve Drawings

Sleeve Drawings are required by the contractors to create wall openings before the installation of electrical cable trays and conduits. These drawings are developed from the coordinated Electrical model. All necessary views are shown in Penetration Drawings with proper clearance so that they are easily comprehendible on construction site.

13. Quantity Take-Off

BIM model generates accurate quantity of all materials. These quantities are automatically updated with any changes in the BIM model. Quantity Take-Off (QTO) reports can be formatted in MS Excel and exported to a database for detailed analysis. Quantities can be generated for a specific time period or project area (4D/5D) to help manage material procurement and save inventory costs.

Quantity Take-Off covers all conduits, cable trays, hangers, light fittings, switches, outlets and other electrical equipments, fire alarm devices, security devices, communication devices, etc.

14. Why Pinnacle

Each of our employees has ingrained in themselves the core values - 'EARTH' of our organization.



Excellence







Agility

Reliability

Teamwork Hon

Honesty

Excellence

Excellence is a way of life for us. Our commitment to hard work, creativity, and innovation allows us to reach our full potential in approach, operations, and collaborations. We foster a culture of excellence from the ground up within our organization to achieve operation at the highest industry standards.

Agility

We understand that every business is different. We are highly agile and can adjust quickly to changing market conditions and client requirements. In addition, we offer a variety of business models to suit your specific needs at competitive prices.

Reliability

Pinnacalites rely on trusted processes to consistently produce excellent results. We have over 30 years of experience in the AEC industry, and our work processes are ISO-certified.

Teamwork

We work together to scale every challenge. We understand that it is only through teamwork that we can provide the best possible results for our customers. Pinnacle fosters a team-oriented culture where everyone is valued, and their contributions are encouraged and recognized.

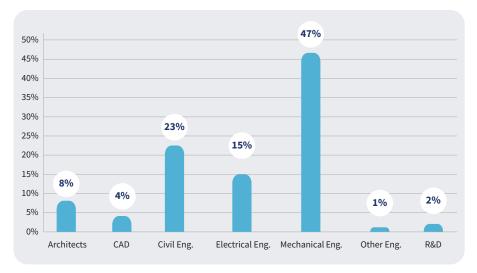
Honesty

Honesty is our key value, and we hold ourselves to the highest standards of integrity. We strive to be transparent and clear in our communication to ensure that our clients get the best value for the money.

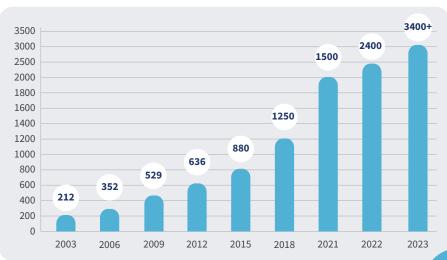
15. Our Team

Pinnacle's significant contribution to Building Information Modeling is made possible by its highly qualified and experienced workforce, including engineers, architects, and other experienced professionals. All our employees are well-versed in handling international construction codes and standards. We are proud of the diverse team and their global experience.

Employee Background



Workforce Growth



16. Our Infrastructure

Pinnacle has large state-of-art campuses in Durgapur, Jaipur, Kolkata & Madurai, comprising facilities like High-speed Bandwidth, Blade servers, an R&D center, a Datacenter, recreational zones, playgrounds, and more.

We also have equipped global delivery centers in the US (Houston and Atlanta), Canada (Toronto), UK (London), UAE (Dubai), Singapore, Germany (Munich), and Japan (Tokyo) that allow our employees to work in the same time zone as our customers.

Pinnacle's *Construct-ability Installation Lab* gives construction site experience to employees, integrating theoretical learning with practical experience. It enables our employees to deliver BIM solutions on time and with accuracy.



17. Our Work Processes

We strongly emphasize the significance of efficient work process management and consistent communication in the context of outsourcing services. Our process orientation and quality control are per ISO standards – 9001:2015, 27001:2013, 19650-2, 19650-3, and 19650-5, plus EMS 14001:2015. As holders of **ISO 19650-5**, the esteemed international certification for BIM services, we ensure adept data management and transparent collaboration. On orders, we assign a dedicated Relationship Manager, a competent Project Delivery Head, and Project Managers for focused execution.

Relationship Management

Our relationship managers are co-located with customers, ensuring clear communication, managing timelines, and handling deliveries promptly to surpass customer expectations. They advise customers on the services Pinnacle provides and build long-term business relationships.

Production Process

Project teams report to Project Delivery Head (PDH). The PDH provides technical leadership to the team and ensures standard work processes (as per ISO norms) are followed. They oversee project delivery. Project Delivery Heads periodically communicate with the client to get regular feedback and ensure the successful completion of the project.

Project Managers handle small teams for a customer and are responsible for understanding project requirements, project standards, invoicing processes, and communication protocols. They prepare project templates per project specifications, plan resources and align project delivery schedules.

Auditing Process

The COE team is an independent body in the company for Process and quality management and monitors the process and quality through various audit parameters, sets up feedback management processes, carries out investigations in case of any complaints/concerns, and provides action items. This way, Pinnacle ensures consistency in the final deliverables throughout the company.

Quality Control Process

Pinnacle's efficient processes and stringent quality control mechanisms have added certainty to 15000+ projects worldwide. Our process orientation and quality control are per ISO 9001:2015, ISO/IEC 27001:2013, ISO 19650-2, ISO 19650-3, and **ISO 19650-5** standards and are managed by an independent QC team.

18. Our Projects

Los Robles Regional Medical Center

Thousand Oaks, USA



Sunseeker Resort

Port Charlotte, USA



Novel Uptown

Denver, USA



UT Health Science Center

Houston, USA



DeKalb Data Center

DeKalb, USA



Long Beach Tower Apartment

Long Beach, USA



19. Clients Speak

"They were always available for calls or meetings any time we needed them. They were also quick to respond to emails and would always reach out to us with questions or anytime they needed further clarification on items the team was working on."

Lighthouse Electric Company, Inc., USA

"The team of Pinnacle has been a joy to work with.
Positive, productive, and always willing to put in the extra work to finish it on time."

Taft Electric, USA

"Overall, we are delighted with the team we have worked with on our projects thus far. We will definitely continue to utilize their skills in the future as we grow."

Facility Solutions Group, USA

"Pinnacle team was extremely helpful and patient. This was my first time using 3D modeling and they guided me through the project and responded promptly to any queries and requested changes. I know they also spent many late nights to ensure I was able to meet my deadlines."

Marrs Electric, USA

"It was a pleasure working with Pinnacle and I most certainly look forward to teaming with you in future projects requiring BIM."

Critical Electric Systems Group, USA

"Our Pinnacle team has been very helpful and very dedicated to our projects. The team is very good about asking questions and learning the whole process while still meeting deadlines. We have learned a lot from working with them, and they have picked up our processes and expectations without any issues. The more we work together, the more efficient everything gets, so I'm really looking forward to continuing this relationship and expanding the team as our workload increases."

Commonwealth Electric of the Midwest, USA

"The Pinnacle team worked through the obstacles very quickly, and the members adapted their working process to fit our needs best. Communication has been excellent since the beginning of the project and has helped push this project to completion."

Rosendin, USA

"Very good at following up. This is our fist BIM project and also very early into the job. As of now everything looks good. Thank you."

Stryker Electric, USA

"Very professional and timely work, all revisions were made quickly and correctly. Thank you for the great service".

Gephart Electric, USA

"Job went very well for this client. Client is happy."

Advantage Electric, USA

"I was a littel apprehensive at first but was quickly and pleasantly surprised at the professionalism, communication and timely turn around of the product requested. I look forward to work with you in the future."

Baker Electric, USA

"Thank you for your cooperation and also for a job well done."

NJS Electrical Services Corp., USA

"Great response to our urgent needs. I will send more work to pinnacle shortly."

Kurtzon Lighting, Inc., USA

"Pinnacle delivered timely services and assisted with all of our questions and concerns. We are satisfied with the quality of work."

McGrath Electric, USA



India Office Locations

Durgapur - HQ

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