



ISO 19650  
Certified

# Digital Documentation & Asset Management

## Oil & Gas and Manufacturing Industry

30+  
years

[pinnacleinfotech.com](http://pinnacleinfotech.com)



**Pinnacle  
Infotech**

Construct  
Certainty, with  
Technology

# Index

<b>1. Our Expertise</b>	<b>Page 03</b>
<b>2. Services Offered</b>	<b>Page 03</b>
2.1 Digitization of Existing P&IDs	
2.2 Vectorization of Your Existing Layout Drawings	
2.3 Existing Design and Drawing Updates	
2.4 As-Built Documentation through Laser Scanning	
2.5 Virtual Twin & Asset Management	
2.6 IoT & Sensor Data Management	
<b>3. Software &amp; Standards</b>	<b>Page 06</b>
<b>4. Use Cases/Real-life Scenarios</b>	<b>Page 07</b>
<b>5. Why Pinnacle</b>	<b>Page 08</b>
<b>6. Our Infrastructure</b>	<b>Page 09</b>
<b>7. Our Work Processes</b>	<b>Page 09</b>
<b>8. Client Speaks</b>	<b>Page 10</b>



## 1. Our Expertise



Oil & Gas Industry

Pinnacle Infotech offers specialized Digital Documentation and Asset Management services, streamlining the digitization of engineering records with precision. Using as-built scans and 3D platforms, we produce accurate 2D and 3D documentation that ensures digital assurance, compliance, and lifecycle traceability across all project stages.

With a proven global footprint across Oil & Gas, Microelectronics, Chemical, Dairy, Pharmaceutical, and Water Treatment facilities, we develop intelligent documentation ecosystems that enhance safety, reliability, and operational efficiency.

Our expertise covers Equipment, Tanks, Pressure Vessels, Pumps, and Instruments, delivering superior solutions in P&IDs, Plant Layouts, Support Drawings, Isometrics, and Precise Line Sizing.

Leveraging advanced platforms such as CAESAR II, AutoCAD Plant 3D, and Bentley AutoPIPE, we ensure system integrity, accurate cost forecasting, and regulatory compliance for every asset.

Through as-built modeling, record updates, and digital archiving in multi-format deliverables—PDF, CAD, Point Cloud, and Revit—we empower owners with accurate, accessible, and future-ready digital assets for seamless maintenance, modifications, and lifecycle management.

## 2. Services Offered

### 2.1 Digitization of Existing P&IDs

Pinnacle Infotech provides precise digitization of redlined P&IDs, Schematics, and Process Flow Diagrams, delivering accurate 2D representations of equipment, piping, and instruments. Our expertise includes developing intelligent symbols for standalone equipment, lines, and instruments to ensure consistency, accuracy, and alignment across documentation.

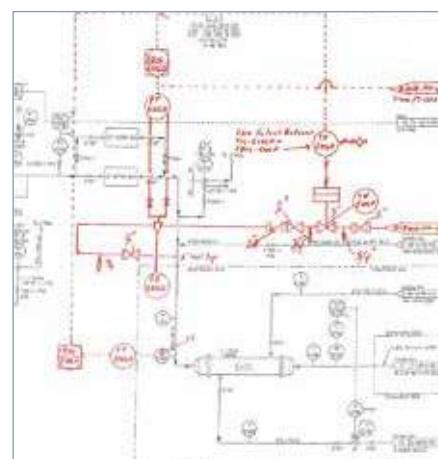
Using advanced platforms such as AutoCAD, Revit, Plant 3D, and Bentley MicroStation, we produce smart P&IDs in PDF and DWG formats with integrated asset tagging, line numbering, and service tagging—fully synchronized with corresponding 3D models. We also perform batch updates and alignment of legacy drawings with actual field conditions, ensuring complete as-built accuracy.

Our team develops 2D symbol libraries, tool palettes, standardised abbreviations, and project templates to enhance efficiency, interoperability, and data integrity across projects.

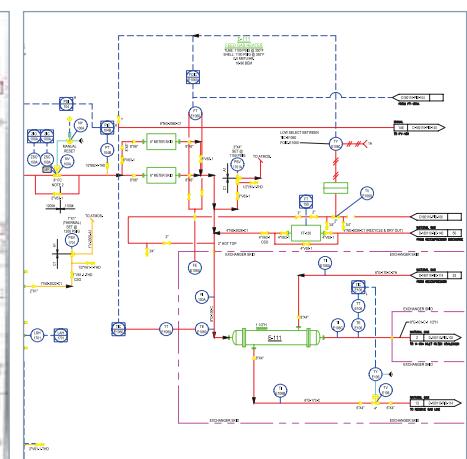
*Reference visuals include P&ID Input Sample (Img 2.1.1) and P&ID Output Sample (Img 2.1.2), illustrating the transformation from redlined markups to fully digitized smart drawings.*

#### Standards and Compliance

All deliverables comply with owner standards and global industry regulations, including ASTM, IBC, ASME B31, NFPA (NEC), AISC, ISA, and ISO 9001, ensuring consistency, safety, and quality across all documentation and project execution stages.



P&ID Input Sample (Img 2.1.1)

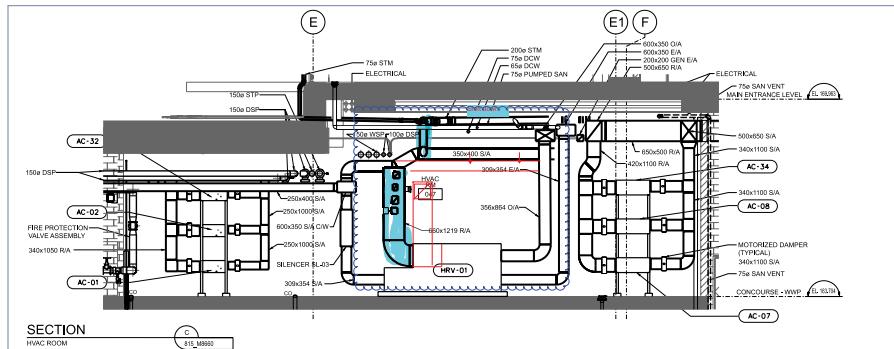


P&ID Output Sample (Img 2.1.2)

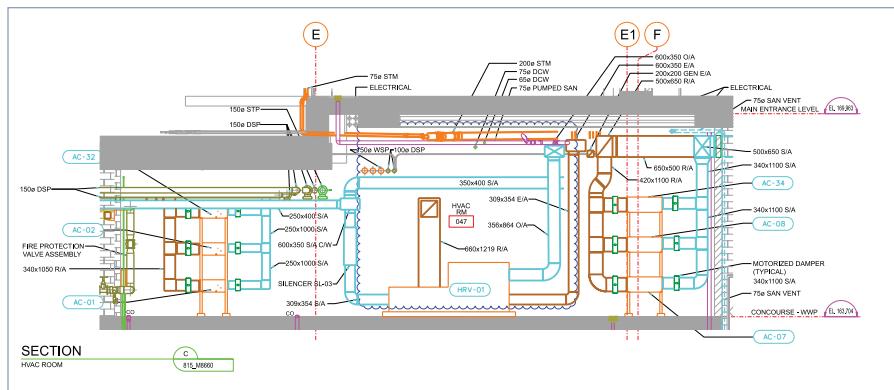
## 2.2 Vectorization of Your Existing Layout Drawings

As an industry expert we deliver high-precision PDF to CAD conversion services using AutoCAD and MicroStation, ensuring accuracy, consistency, and clarity across P&IDs, piping, electrical, structural, mechanical, site, architectural, and modular layouts. Our team produces clean backgrounds, precise linework, accurate blocks, and detailed title blocks, even from complex or low-quality PDFs. Our DGN-DWG and DWG-DGN conversions enable seamless interoperability between platforms, preserving layer structures, text styles, and dimensions while maintaining complete data integrity for efficient, error-free project execution.

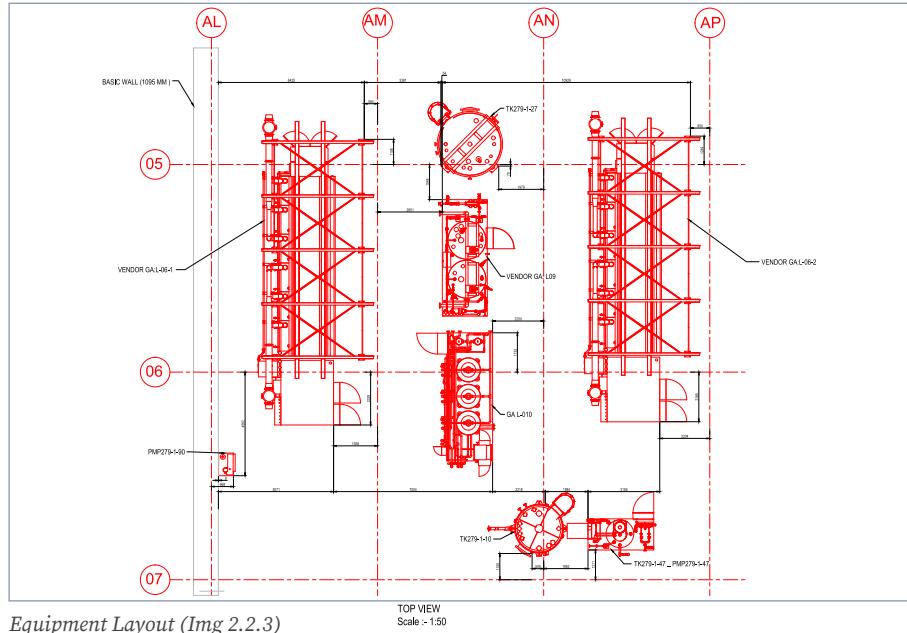
Reference visuals - *Vectorization & Layout Drawing Update - Input Sample (Img 2.2.1)*, *Output Sample (Img 2.2.2)*, *Equipment Layout (Img 2.2.3)*, and *Piping Layout Sample (Img 2.2.4)* clearly demonstrate the transformation from raw PDFs to precise, fully vectorized CAD outputs—validating the accuracy, clarity, and completeness of our conversion process.



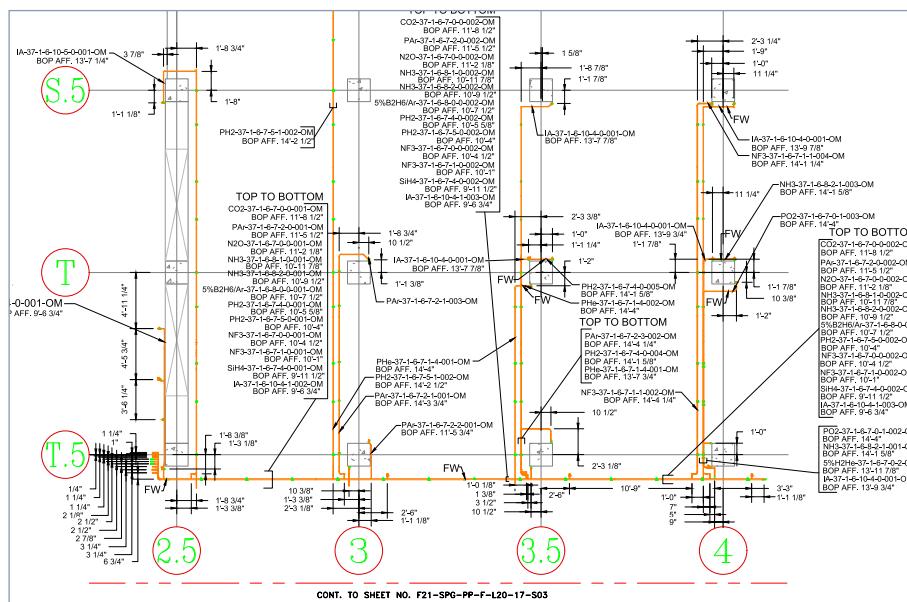
Vectorization & Layout Drawing Update - Input Sample (Img 2.2.1)



Vectorization & Layout Drawing Update - Output Sample (Img 2.2.2)



Equipment Layout (Img 2.2.3)



Piping Layout Sample (Img 2.2.4)

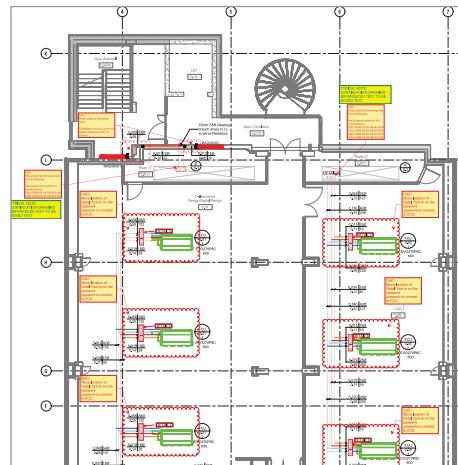
## 2.3 Existing Design and Drawing Updates

Pinnacle Infotech specializes in digitizing and managing existing designs and drawings to ensure all engineering documentation accurately reflects the latest modifications, site updates, and field conditions.

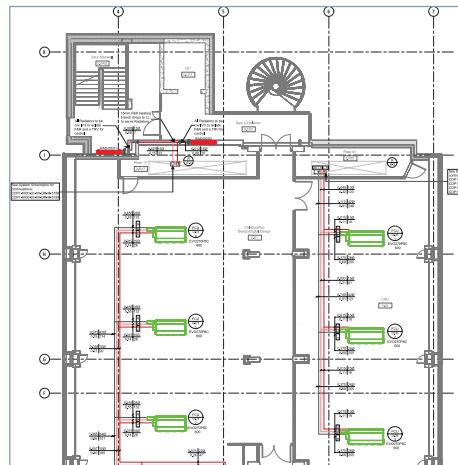
Leveraging advanced AutoCAD and MicroStation platforms, our experts revise existing layouts, schematics, and drawings (*Img 2.3.1*) to align with current site realities, owner standards, and project objectives. Redlines, revisions, and legacy data are seamlessly integrated to maintain design integrity and ensure consistent, accurate, and traceable documentation.

Every update strictly adheres to project specifications, industry codes, and regulatory requirements, delivering accurate, compliant, and audit-ready documentation (*Img 2.3.2*).

With reliable, up-to-date digital records and seamless coordination, we empower Oil & Gas facility owners to streamline asset management, improve operational efficiency, and make informed decisions—minimizing rework, enhancing collaboration, and ensuring smooth information flow throughout project execution and maintenance.



Schematic Drawing - Input Sample (Img 2.3.1)

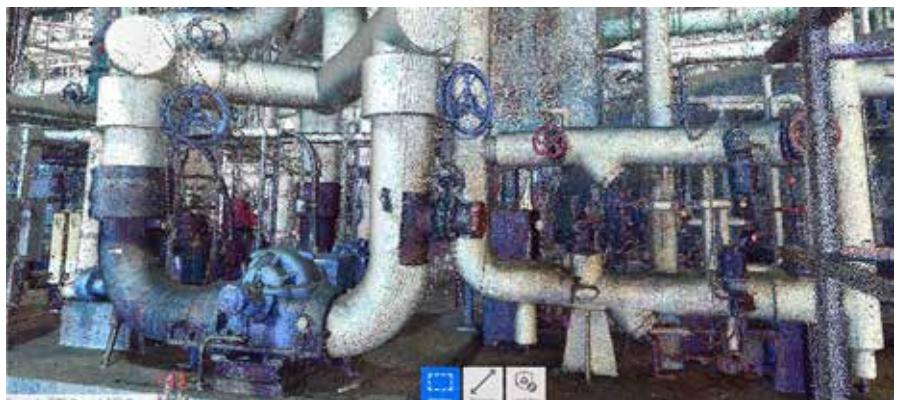


Schematic Drawing - Output Sample (Img 2.3.2)

## 2.4 As-Built Documentation through Laser Scanning

Our comprehensive As-Built Documentation and laser scanning solutions for the Oil & Gas sector, enable accurate capture and digitization of existing facility conditions. Using high-precision laser scanning technology (*Img 2.4.1*), we document intricate details of pipelines, steel structures, and equipment, converting point cloud data into precise 2D drawings and 3D Revit models (*Img 2.4.2*).

We create accurate digital replicas across PDF, CAD, Point Cloud, and Revit formats to support asset management, renovation, expansion, and maintenance—optimizing workflows, minimizing rework, and ensuring data-driven execution.



Scan-to-3D – Input Sample (Img 2.4.1)



Scan-to-3D – Output Sample (Img 2.4.2)

## 2.5 Virtual Twin & Asset Management

Our Integration Platform Services for the Oil & Gas industry bring together Virtual Twin, CMMS, IoT, and SCADA into a unified ecosystem that enables data-driven visibility, control, and optimization across refineries, pipelines, and offshore assets.

The Virtual Twin acts as a live digital replica of physical infrastructure, integrating real-time data from connected systems to simulate, analyze, and optimize performance. With embedded dashboards and AI/ML-driven predictive analytics, operators gain deep insights into asset conditions, process efficiency, and maintenance needs.

Through seamless integration, the platform enables real-time monitoring, predictive maintenance, and intelligent decision-making, significantly reducing downtime and operational risk.

By managing and visualizing asset performance within a single environment (*Img 2.5.1*), Oil & Gas owners can improve safety, extend equipment life, and enhance profitability — transforming traditional operations into smart, predictive, and sustainable facilities.



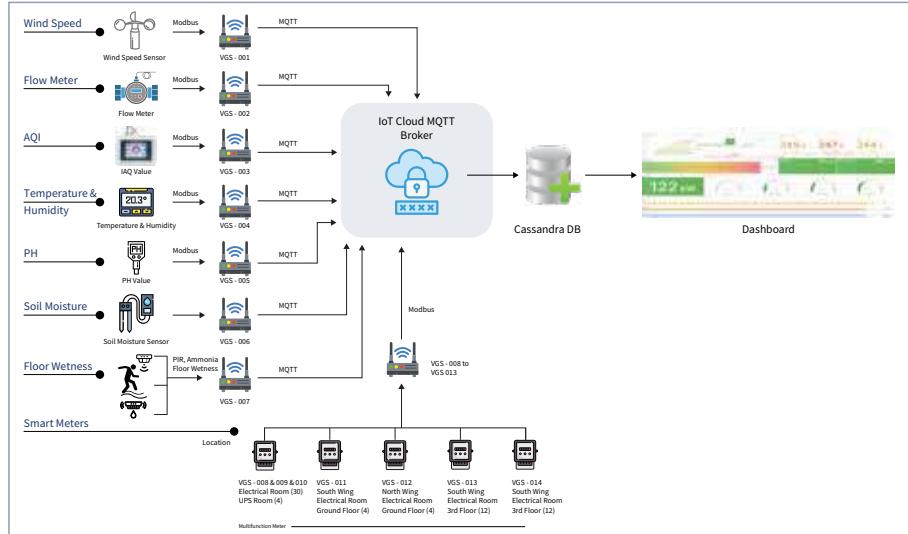
Real-time Diesel Generator Performance Dashboard (*Img 2.5.1*)

## 2.6 IoT & Sensor Data Management

Pinnacle specializes in real-time monitoring of critical infrastructure like pipelines, drilling rigs, and refineries using advanced IoT solutions. We design optimized layouts to ensure seamless communication across diverse sensor inputs. Our expertise includes analyzing requirements, crafting tailored IoT architectures, and integrating communication protocols like Modbus and MQTT.

Data is efficiently acquired and managed in systems like Cassandra DB, with interactive dashboards visualizing key parameters such as wind speed, temperature, flow rate, and energy usage coming from sensors, enhancing operational efficiency, safety, and predictive maintenance.

*IoT & Sensor Data Management (Img 2.6.1) illustrates how real-time field data is captured, integrated, and visualized to enhance monitoring and decision-making.*



IoT & Sensor Data Management (*Img 2.6.1*)

## 3. Software & Standards

### 3.1 Software and Tools used:



### 3.2 Codes and Standards followed:

ASME B31.1, B31.3, B31.4, B16.5

ANSI/ISA 5.1

ISO 9001

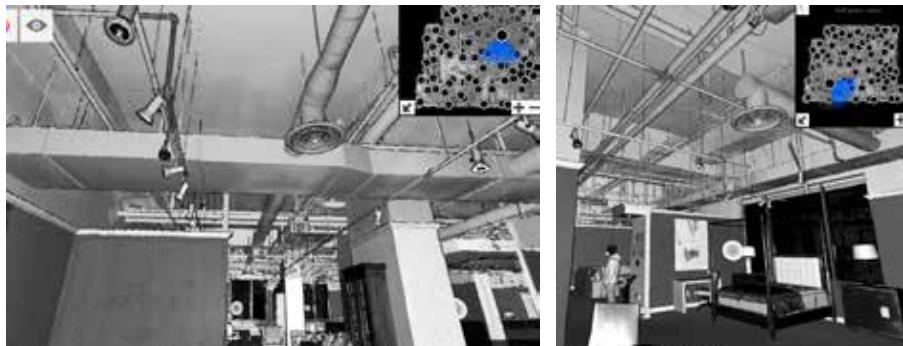
## 4. Use Cases/Real-life Scenarios

### Use Case 1: Scan-to-2D

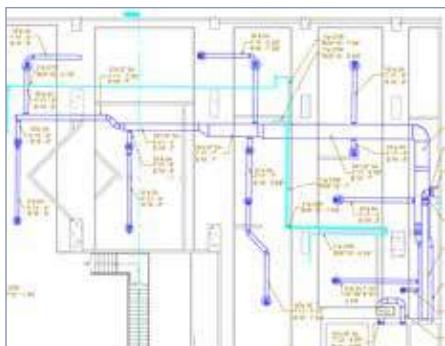
Pinnacle delivered precise Scan-to-2D drawings for Reprodux Limited, Toronto, (ON), Canada, converting Point Cloud data into accurate architectural and MEPF documentation with strict quality standards.

#### *Key Project Specs and Deliverables:*

- Scan-to-2D development using AutoCAD 2019 and Recap
- 2 Ceiling Plans and 2 Building Sections at LOD 200
- Architectural detailing: walls, ceilings, doors, windows, stairs
- MEPF elements: plumbing fixtures, ductwork, piping, fire protection sprinklers, lighting fixtures
- Multi-level quality checks ensuring precision
- Exclusions: cable trays, conduits, fire alarm devices, pipes below 1" diameter



*Input File - Commercial Building - Point Cloud Real View (Img 4.1)*



*Output - 2D CAD - Mechanical HVAC & Piping Layout (Img 4.2)*



*Output - 2D Plan - Plumbing & Fire Protection Layout (Img 4.3)*

### Use Case 2: Scan-to-3D

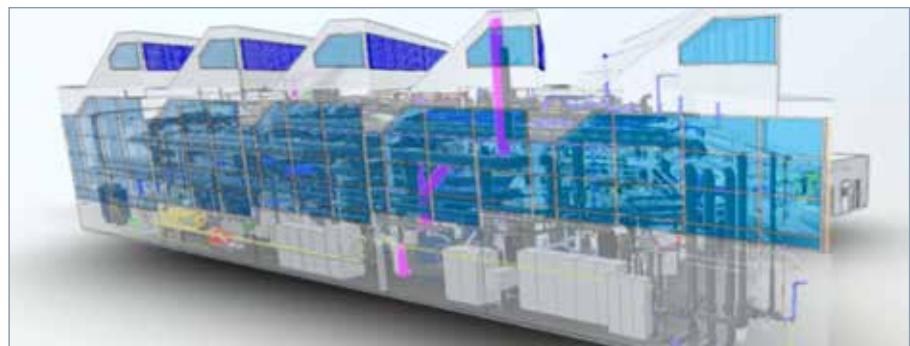
Pinnacle executed high-accuracy Scan-to-3D modeling for the Centrale Thermique Power Plant in Ottawa, (ON), Canada, converting Recap scan data into a detailed multi-trade Revit model for improved coordination and planning.

#### *Key Project Specs and Deliverables:*

- Scan-to-3D conversion of existing Power Plant and 2 km-long tunnel
- Revit model covering Architectural, Structural, MEPFP
- Modeling of dense MEP services and critical equipment with high accuracy
- Resolved tilted scan walls and complex piping via elevation alignment and Multivista validation
- Enhanced visualization, coordination, and documentation
- Tools used: Revit, Navisworks, Multivista RealView, ReCap



*Original Site Image (Img 4.4)*



*Scan-to-3D Output (Img 4.5)*

## 5. Why Pinnacle

### Mission

Help the AECO 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 AECO industry to certainty and efficiency using technology.

### 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 with international construction codes and standards. We are proud of the diverse team and their global experience.

2,600+  
Clients

18,000+  
Projects

5,200+  
Employees

47+  
Countries

30+  
Years Exp.

### Our E.A.R.T.H Values



Excellence



Agility



Reliability



Teamwork



Honesty

Each of our employees is committed to the core values - 'EARTH' of our organization.

### Associations



## 6. Our Infrastructure

Pinnacle has large state-of-art campuses in Durgapur, Jaipur, Kolkata, Madurai & Bengaluru, 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, Atlanta, and San Jose), Canada (Toronto), UK (London), KSA (Riyadh), UAE (Dubai), Singapore, Germany (Cologne), and Japan (Tokyo) that allow our employees to work in the same time zone as our customers.

Pinnacle's Constructability 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.



## 7. 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, 27001:2022, 19650-2, 19650-3, and 19650-5. 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 18000+ projects worldwide. Our process orientation and quality control are per ISO 9001:2015, ISO/IEC 27001:2022, ISO 19650-2, ISO 19650-3, and **ISO 19650-5** standards and are managed by an independent QC team.

## 8. Clients Speak

“This was a very difficult job to execute since it was an existing building and there were stricter requirements (HCA guidelines) to follow. Pinnacle exceeded expectations in terms of delivering quality shop drawings within tight deadlines.”

### **Bernhard MCC LLC, LA, USA**

“Good piping job delivered on time, even last-minute changes were delivered in a timely manner.”

### **Mann Mechanical Company, Inc, GA, USA**

“This project went very well. The modeling was accurate, and team did a great job making the changes I requested as well as making changes for addendums.”

### **TP Mechanical Contractors, OH, USA**

“Pinnacle's team has done a wonderful job for us. The team was very professional and responsive to our needs. Any changes that needed to be implemented were completed and turned around to us in a very rapid manner. Your services will allow us to build a culture of prefabrication going forward and we anticipate doing more business with Pinnacle in the future.”

### **Keith Lawson Mechanical, FL, USA**

“Great work on a very challenging project, the plans were not very good and we did not even have digital files in 2D and your team was able to produce a model that has helped the project and impressed the owner. It has been a challenge but your team has done very well and been very diligent in tracking RFI's and issues.”

### **Thomas Insulation Corporation, OK, USA**

“As always, the Pinnacle team has been a delight to work with. They take direction extremely well and are always willing to learn. Please do not take the Quality of the Job as a four or as something to work on. As I have said, there is always room for improvement, but MEP Delta is very satisfied with all the work Pinnacle has produced for us. Thanks!”

### **MEP Delta Design, LLC, TX, USA**

“As with all of the previous projects that we have worked with Pinnacle on, this project came together seamlessly and without any problems. The Pinnacle team is very detailed in their approach, always meets our demanding schedules, and always with excellent quality in the finished product. There are not many companies that work for/with us that can keep up with our pace, but Pinnacle can every single time. I would personally recommend them to anyone in need of BIM, CAD, and drawing coordination services.”

### **Rivers Plumbing and Electric, SC, USA**

“The spool annotation we received and the quality of the work was excellent, every sheet was well organized and very detailed, you understand our dimension requirement. Thank you! Overall, this was really well done!”

### **Modern Niagara, Ontario, Canada**

“I enjoy working with the Pinnacle team. They are always on top of things and good communicators. Any time I have a question, concern or any change to a job they are quick to respond and work accordingly. I plan on continuing collaborating with them.”

### **Grote Enterprises, LLC, OH, USA**

“Great team! We needed the project delivered faster than originally planned, and they did exactly what we needed. Thank you to the team – always happy to work with you!”

### **DroneDat, GmbH, Magdeburg, Germany**

“Pinnacle provides a high-quality service in a timely manner and at reasonable prices. I will continue to use your services in the future.”

### **Mustang Gas Products, LLC, OK, USA**

“Overall, very positive. Emails are clear and concise. Work is done per Magnolia standards and the cheat sheet that was provided. Emails are responded to in a timely fashion.”

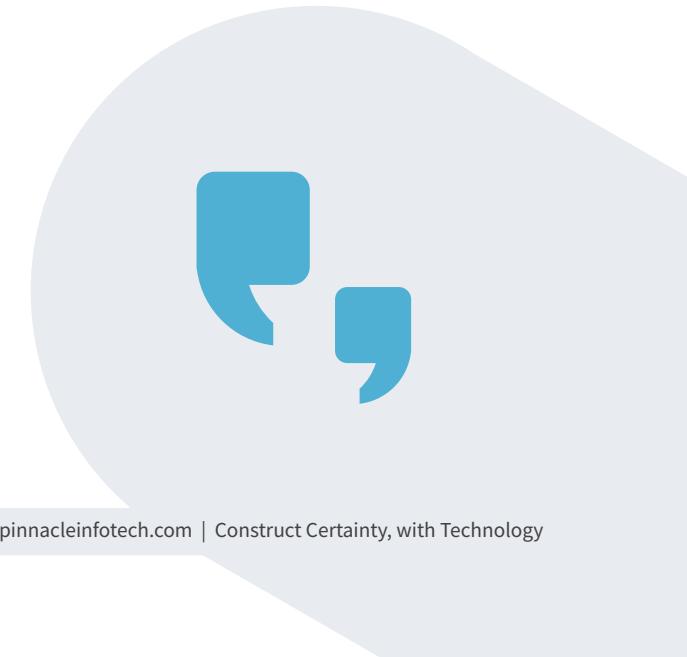
### **Joseph J. Magnolia Inc, VA, USA**

“Every time I request work done, the response time is fantastic. Even though I tend to give tight deadlines, Pinnacle delivers in a timely manner and will always notify me if they cannot meet my deadlines.”

### **Iron Mechanical, CA, USA**

“My first experience using Pinnacle for going from Scan-to-BIM and I was very impressed at the final product. Would definitely use again!”

### **Polk Mechanical, TX, USA**



## India Office Locations

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