



INNOWELL ENGINEERING INTERNATIONAL PVT, LTD





Data Centre

Innovative Solutions for Scalability, Sustainability, Uptime and Total Efficiency (PUE)



Whatever people desire, they get as desired if only they have firmness of mind.



-Thiruvalluvar

"Innowell Data Centre Solution"

(IDCS) provides Data Centre and Computer room Consulting services, Cost modules for Edge/Micro, and Hyper-scale Data Centre projects (Cloud, Colocations).

We support clients in developing Critical infrastructure technologies through budgeting, Planning, detailed engineering, and Testing & balancing services.

Specialized Services Include:

- **Specification Adherence**
- **Importance of SLA Uptime**
- **Evaluation of Build-ability**
- **BIM Standards and Validation**
- **Cost Modelling**
- **Design and Drawing Reviews**
- **Integrated System Test (IST)**
- **Sustainability**
- **CFD Modelling**

Our Experience, Beyond Boundaries

Data expands infinitely, and continuously. Every organizations, institutions are shifting the goal post on Scalability & Total Efficiency. We dynamically develop solutions for achieving new goals through experience and research, aided by:

- ▶ Energy Simulations
- ▶ Life cycle cost analysis
- ▶ BIM detailing
- ▶ State-of-art software driven design process
- ▶ Empowered Design Managers
- ▶ Continuous Learning



12,00,000 SFT

Data Centre Designed & Researched

100 MW

IT Load/Equipment Load Designed & Researched

12 YEARS

Experience

Areas of Our Expertise,

GREEN DATA CENTRE, PUE OPTIMIZATION
LEED & OTHER GREEN BUILDING CERTIFICATION

PROJECT PROPOSALS

- > SITE DUE DILIGENCE
- > DESIGN BUILD PROPOSALS
- > DESIGN PEER REVIEW
- > RISK AND RESILIENCY ASSESSMENT

OTHER SERVICES

- > PROJECT MANAGEMENT
- > RESOURCE DEPLOYMENT

CONCEPT & DETAILED ENGINEERING

- > ARCHITECTURAL & CIVIL DESIGN
- > MEPF DESIGN (MECH/ELE/BMS/FIRE/SECURITY)
- > BUILDING INFORMATION MODELLING (BIM)
- > SUSTAINABILITY CERTIFICATION SERVICES

LEED

IGBC

GRIHA

WELL



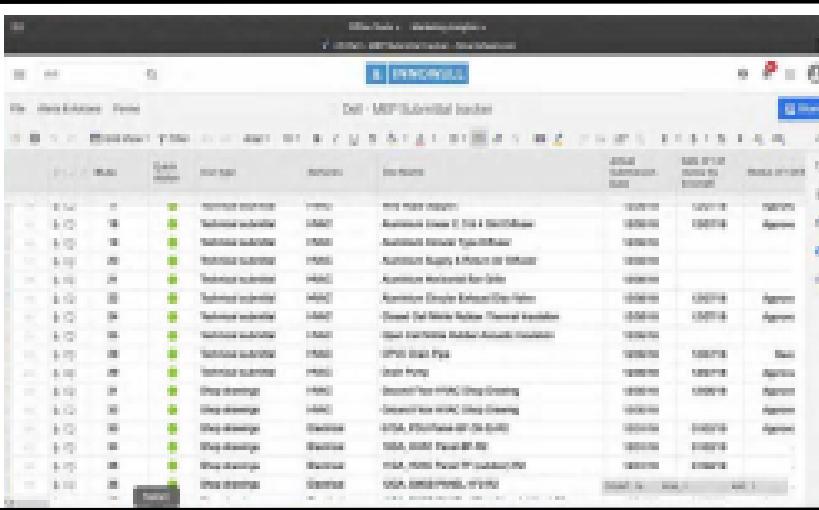
TAB SERVICES (7 levels)

- > COMMISSIONING AUTHORITY SERVICES
- > INTEGRATED BUILDING SERVICES TESTING
- > TESTING & BALANCING (TAB) SERVICES

EMPOWERING AT CLOUD

Intuitive Collaborate'r

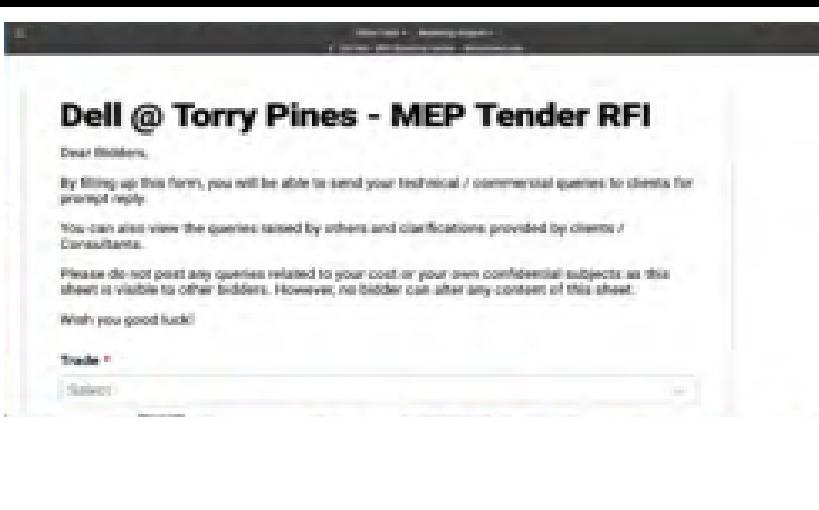
Cloud based “Intuitive Collaborate'r” ensures live engagement of all Project Stakeholder and empowers seamless delivery of Designs and Documents.



LESS CONFLICTS, BUT MORE WORK

RFI Manager

RFI Cloud based RFI Manager resolves most of the clarifications sought by the vendors across all domains instantly and equally.



Key Differentiators

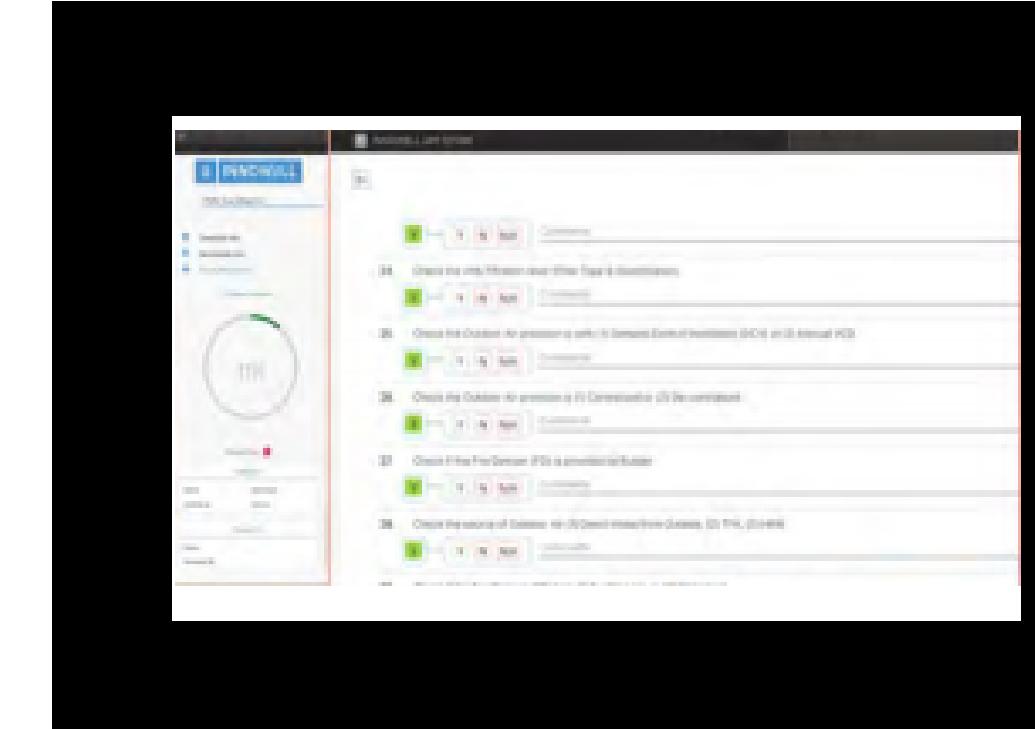
Our clients benefit from the solutions we can design and deliver as a global, fully integrated infrastructure services firm that takes a comprehensive approach, encompassing the most important aspects for successful data centers.



DATA DRIVEN, SMART DESIGN

Helps to Make Decision Faster

Optimum Capex, Opex, and ROI decisions can be faster through Visuallyengaging Charts & Graphics.



VIRTUAL PRINCIPALS WITH ALL

10X Power for Engineers

Our “Virtual Principal Platform” helps all our Designers and Engineers with 10x Power.



Empowering at Cloud

Intuitive Collaborate'r

Cloud based “Intuitive Collaborate'r” ensures live engagement of all Project Stakeholder and empowers seamless delivery of Designs and Documents. .

Clients,
PMC,
Architects,
MEP Consultant, and
Contractors



The screenshot displays two main views of a project management system:

Left View (Grid View): A table titled "Dell - MEP Submittal tracker" showing a list of documents. The columns include Sl.no, Quick status, Doc type, Services, Doc Name, Actual Submission Date, Date of 1st review by Innowell, and Status of 1st R. The data includes various HVAC and Electrical items with their respective dates and review statuses.

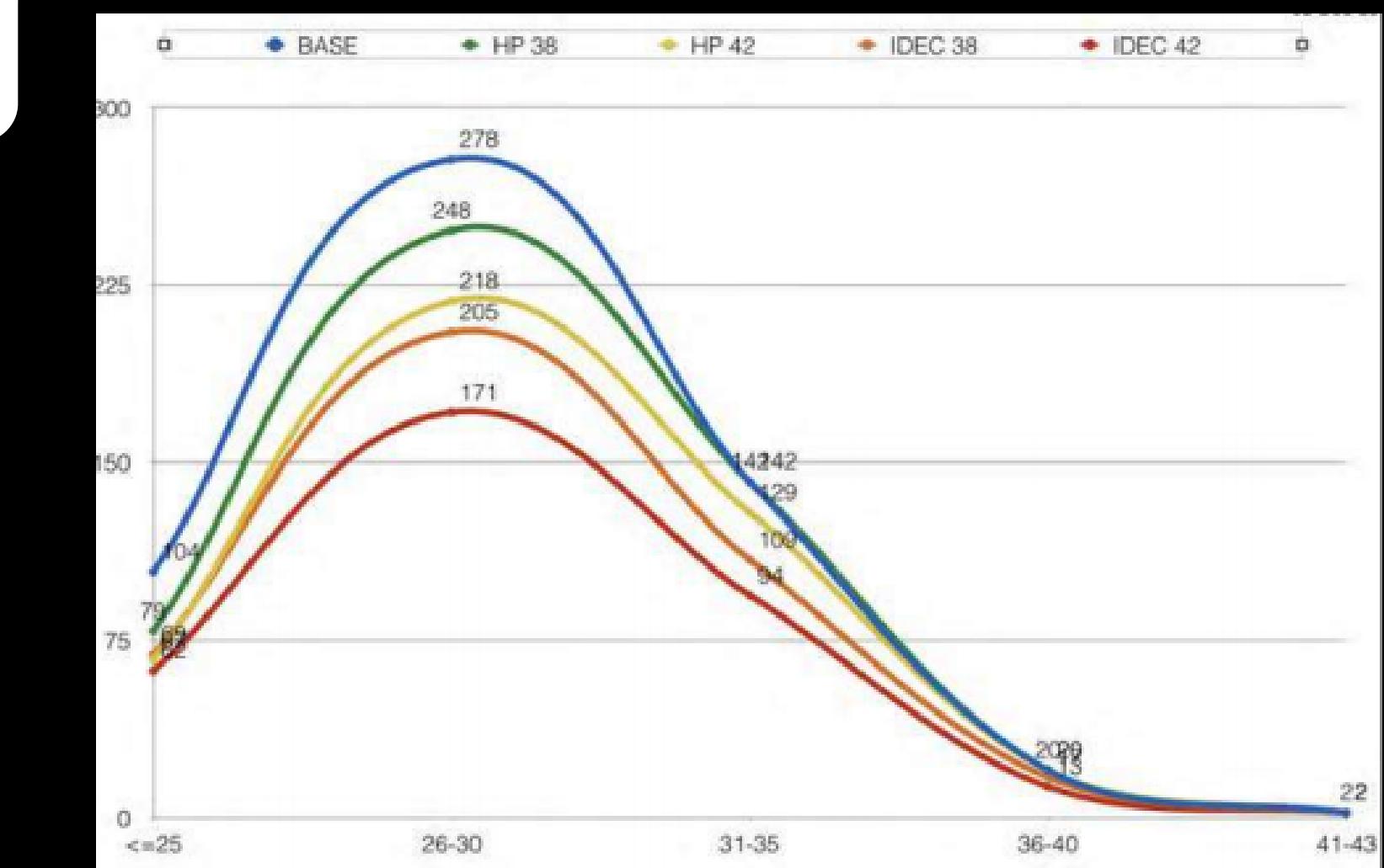
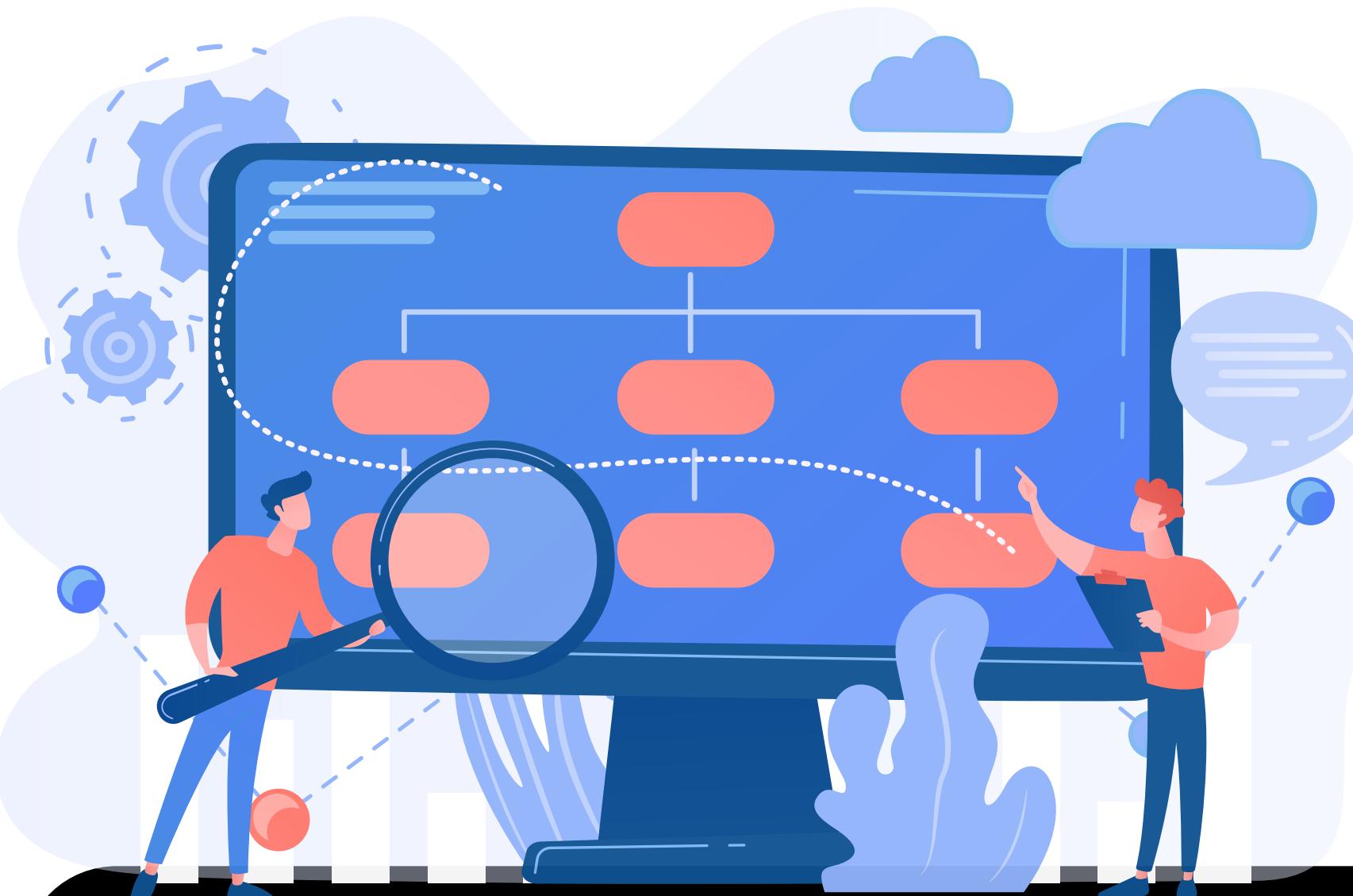
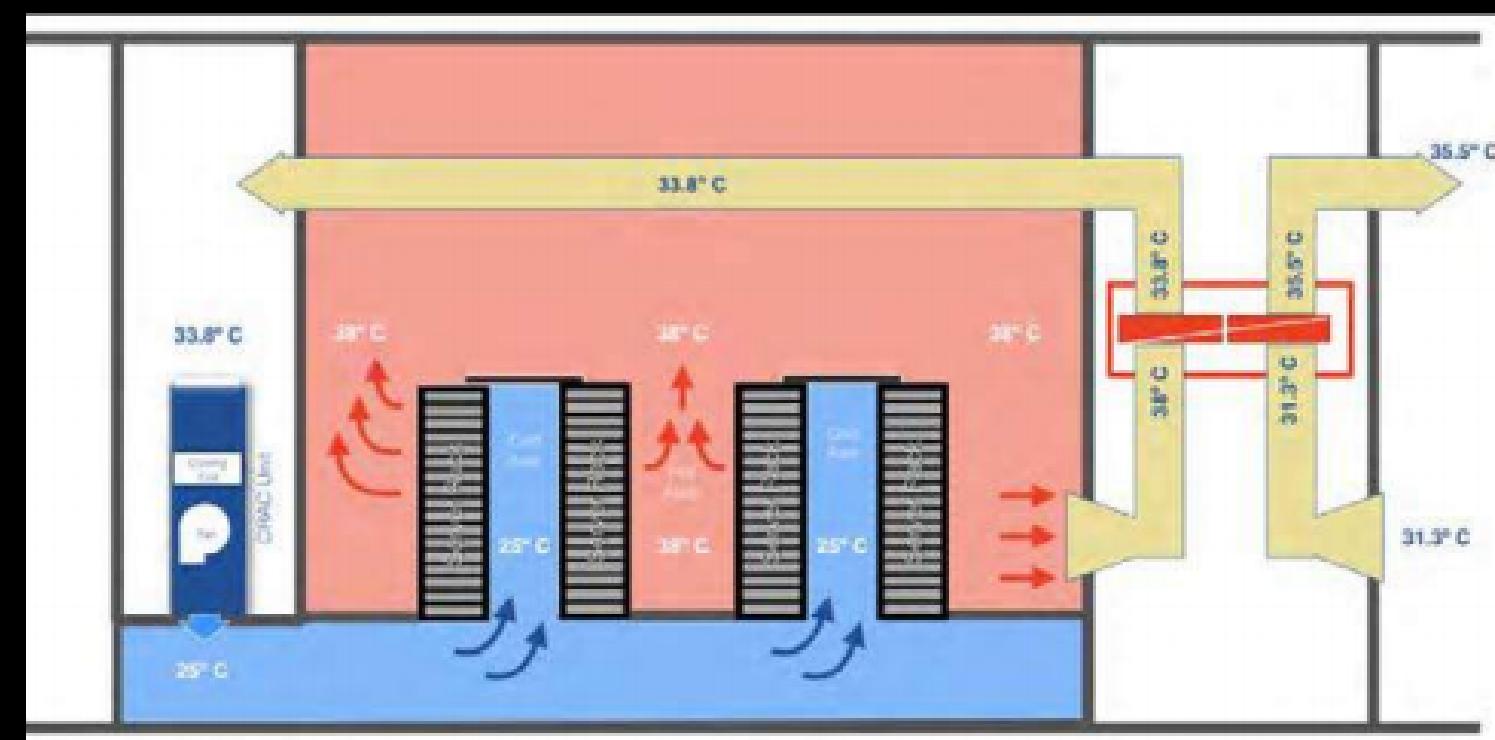
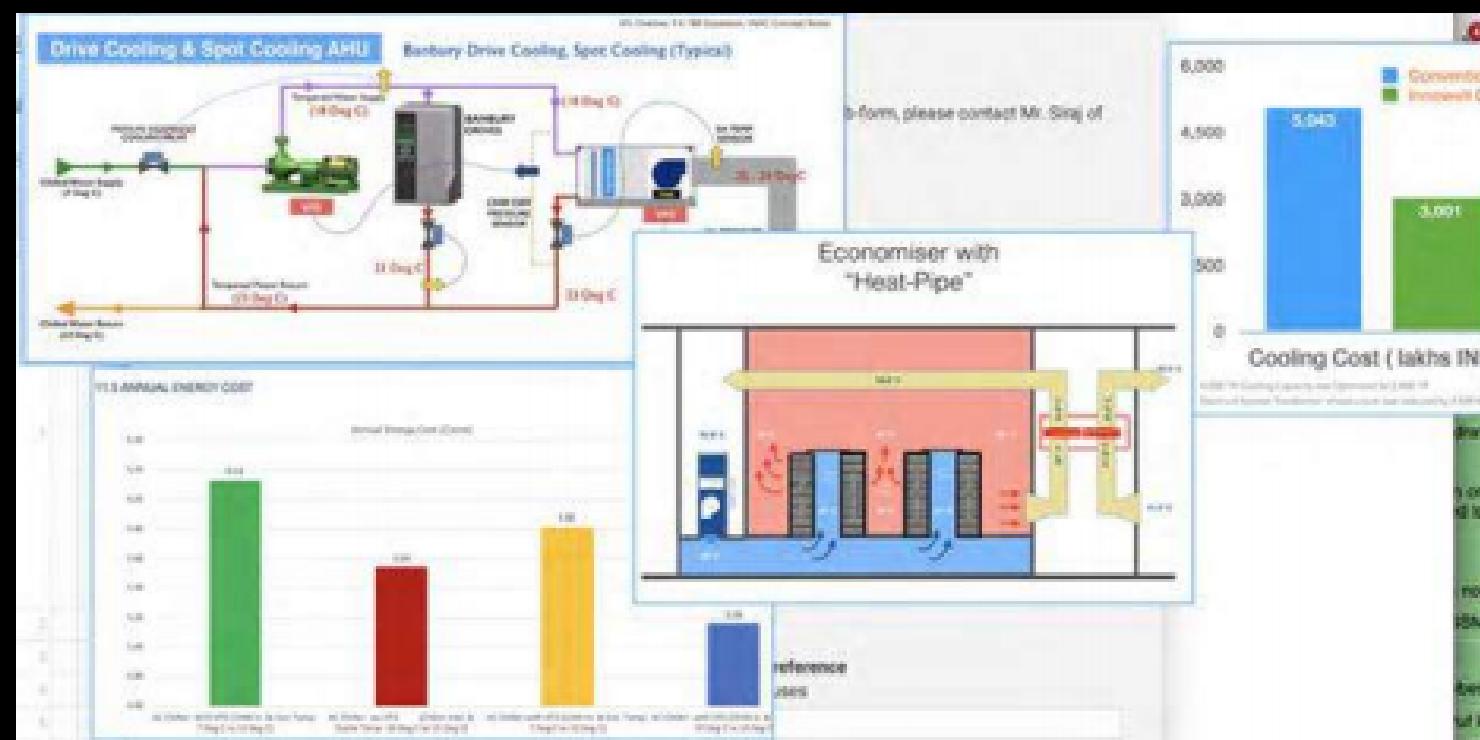
Right View (Detailed View): A modal window for a specific submission. It includes fields for "Print Options" (checkboxes for "Include Hidden Columns" and "Include Comments"), "Actual Date of 3rd Submission" (dropdown menu), "Status of 3rd Review" (dropdown menu), "Date of Final approval by Innowell" (dropdown menu), "Remarks" (text area), "LOI Ref" (text area), "PO Ref" (text area), and a "Comments" section. The comments list includes entries from "lokesh@innowellgroup.com" (December 7, 2018) and "santhoshrao@vayucon.in" (December 13, 2018).

Data Driven, Smart Design

Helps to Make Decision Faster

Optimum Capex, Opex, and ROI decisions can be faster through Visually engaging Charts & Graphics.

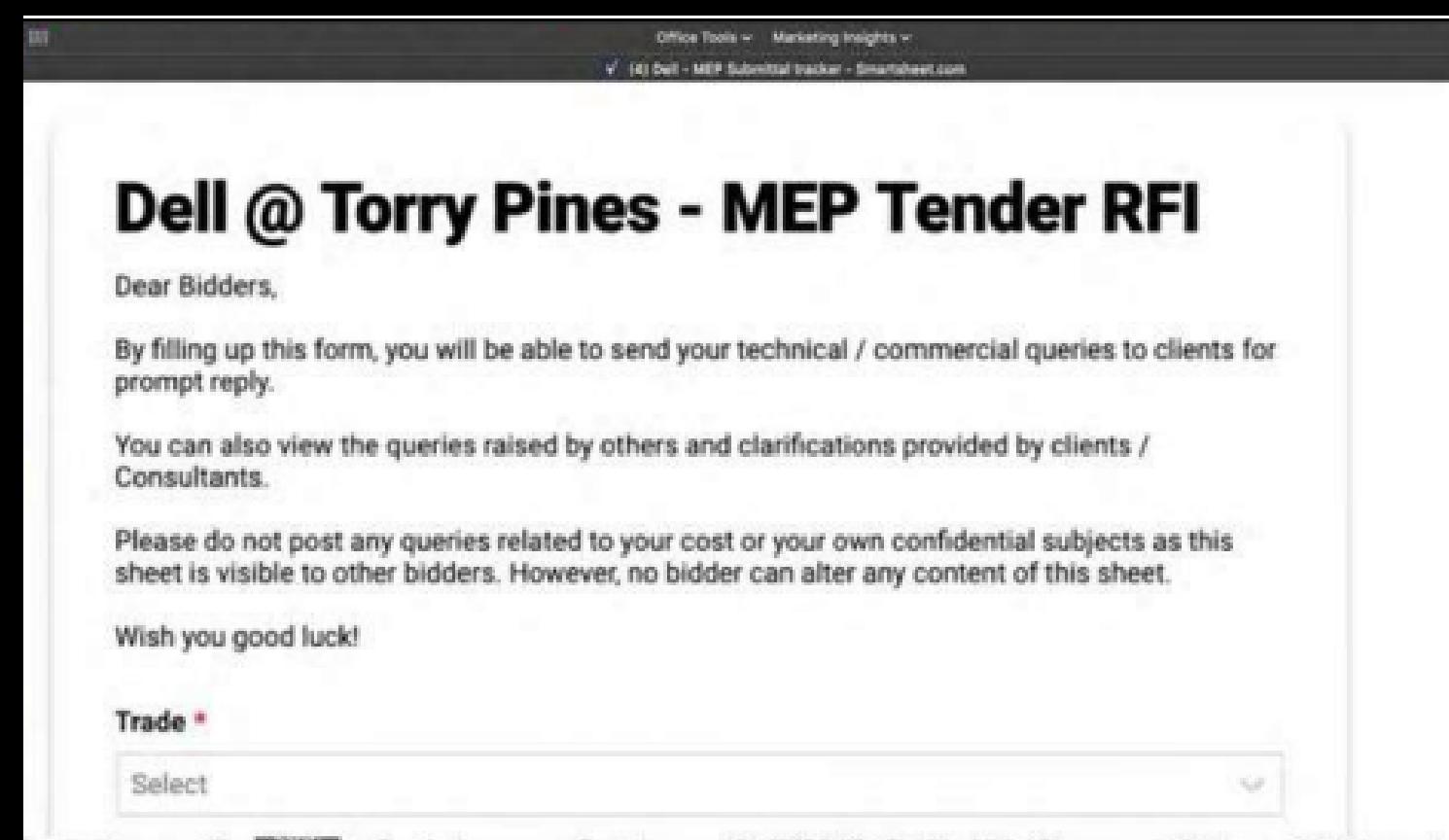
“Concept Design Stage” Alternative Options



Less Conflicts, But More Work

RFI Manager

RFI Cloud based RFI Manager resolves most of the clarifications sought by the vendors across all domains instantly and equally.



Dell @ Torry Pines - MEP Tender RFI

Dear Bidders,

By filling up this form, you will be able to send your technical / commercial queries to clients for prompt reply.

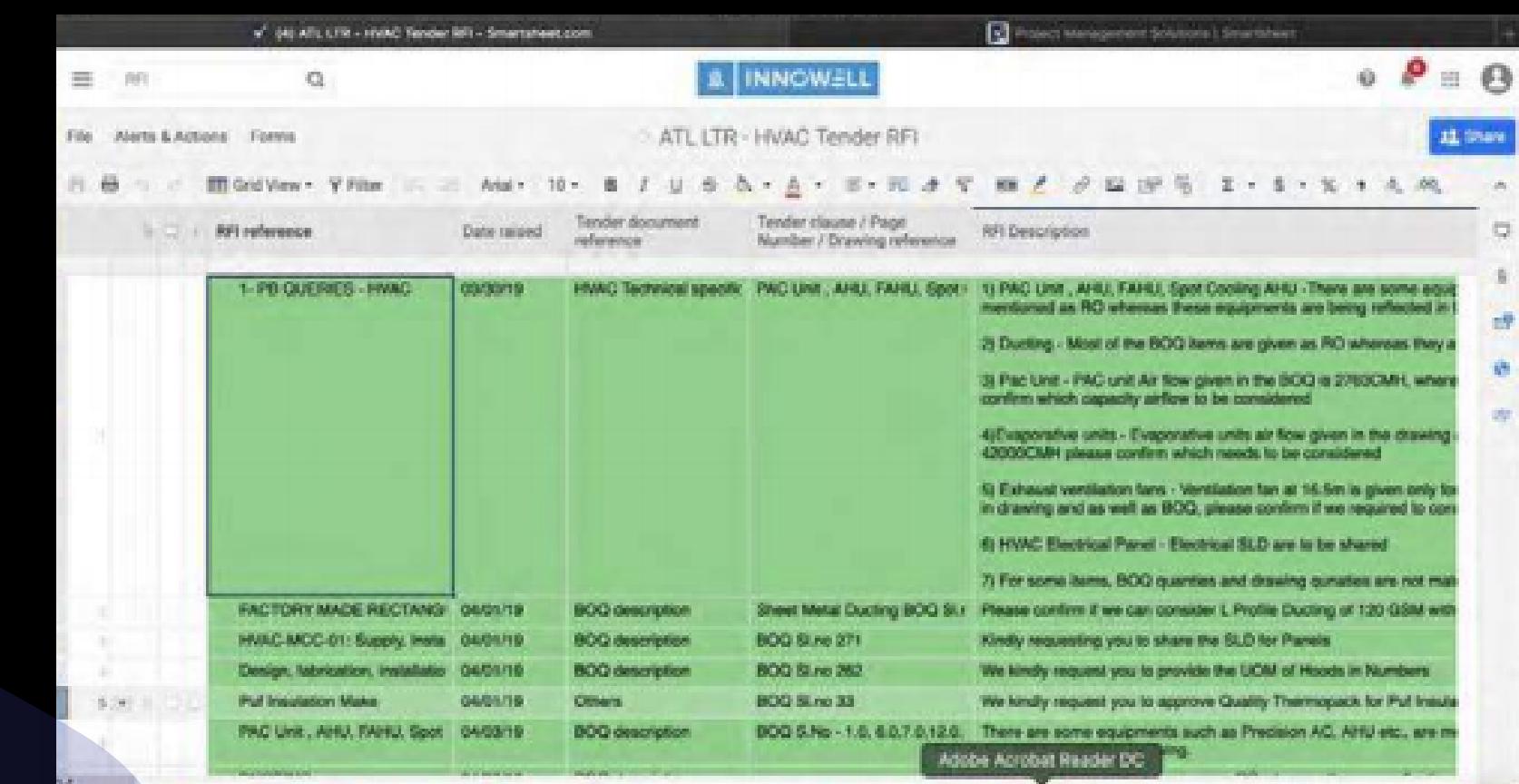
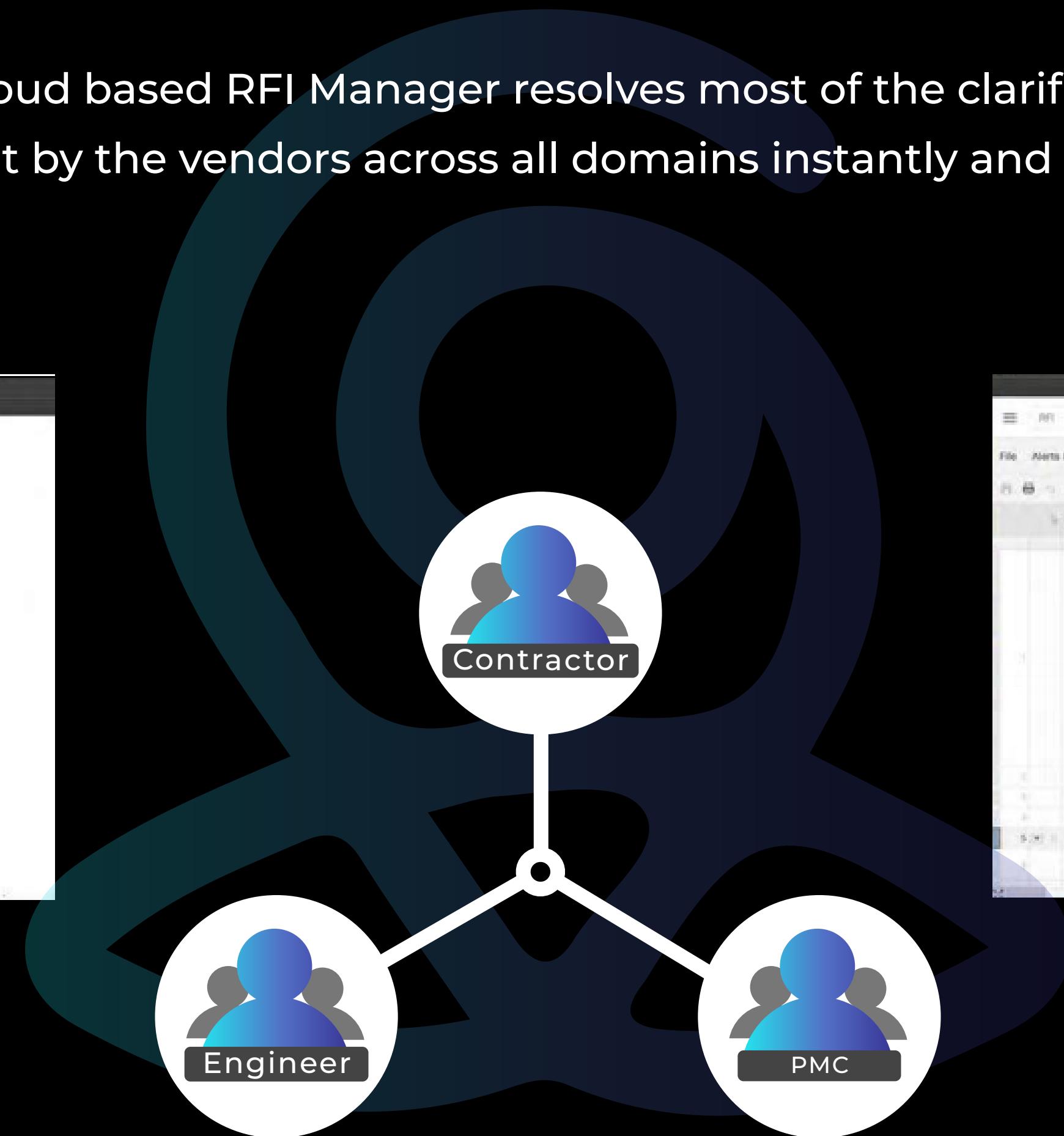
You can also view the queries raised by others and clarifications provided by clients / Consultants.

Please do not post any queries related to your cost or your own confidential subjects as this sheet is visible to other bidders. However, no bidder can alter any content of this sheet.

Wish you good luck!

Trade *

Select



RFI reference	Date raised	Tender document reference	Tender clause / Page Number / Drawing reference	RFI Description
1- PQ QUERIES - HVAC	09/09/19	HWAC Technical specific	PAC Unit , AHU, PAHU, Spot	1) PAC Unit , AHU, PAHU, Spot Cooling AHU - there are some equipments mentioned as RO whereas these equipments are being reflected in BOQ
FACTORY MADE RECTANG...	04/01/19	BOQ description	Sheet Metal Ducting BOQ Slx	2) Ducting - Most of the BOQ items are given as RO whereas they are mentioned as QTY in the drawing
HVAC-MOD-01 Supply. Items	04/01/19	BOQ description	BOQ Slx 271	3) Pac Unit - PAC unit Air flow given in the BOQ is 2780CMH, where confirm which capacity airflow to be considered
Design, Fabrication, Installat...	04/01/19	BOQ description	BOQ Slx 262	4) Evaporative units - Evaporative units air flow given in the drawing - 4200CMH please confirm which needs to be considered
Put Insulation Mats	04/01/19	Others	BOQ Slx 33	5) Exhaust ventilation fans - Ventilation fan at 16.5m is given only for in drawing and as well as BOQ, please confirm if we required to consider
PAC Unit , AHU, PAHU, Spot	04/01/19	BOQ description	BOQ Slx - 1.6, 8.0,7.0,12.0,	6) HWAC Electrical Panel - Electrical SLD are to be shared
				7) For some items, BOQ quantities and drawing quantities are not matching. Please confirm if we can consider L Profile Ducting or 120-GSM with
				Kindly requesting you to share the SLD for Panels
				We kindly request you to provide the UOM of Hoods in Numbers
				We kindly request you to approve Quality Thermopack for Put Insula
				There are some equipments such as Precision AC, AHU etc., are mentioned in the drawing

Virtual Principals, With all

10X Power for Engineers

Our “Virtual Principal Platform” helps all our Designers and Engineers with 10x Power.

Recommendation “Specific to Clients & Project Work History”



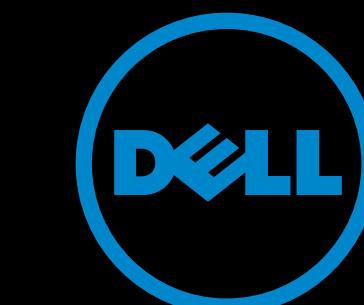
The screenshot shows a software interface for 'HVAC Due Diligence'. At the top, there's a navigation bar with 'INNOWELL APP STORE', 'Office Tools', 'Marketing Insights', and 'INNOWELL-QC App'. Below that, a project card for 'Fit-Out test > RD' is displayed, showing 'Created Date: 10/03/2019' and 'Status: Submitted'. The main area is titled 'Check Points Info' and contains a numbered list of 10 items, each with a status indicator (Y, N, NA) and a 'Comments' link. A progress bar at the bottom left indicates '11%' completion. On the left side, there are sections for 'Checklist Info', 'Deliverable Info', 'Check Points Info', and 'Mismatches' (with 1 item). At the bottom, there are sections for 'Status' (created_by: Service), 'Review Info' (Reviewed By: I), and 'Review Status'.



with all Our Clients

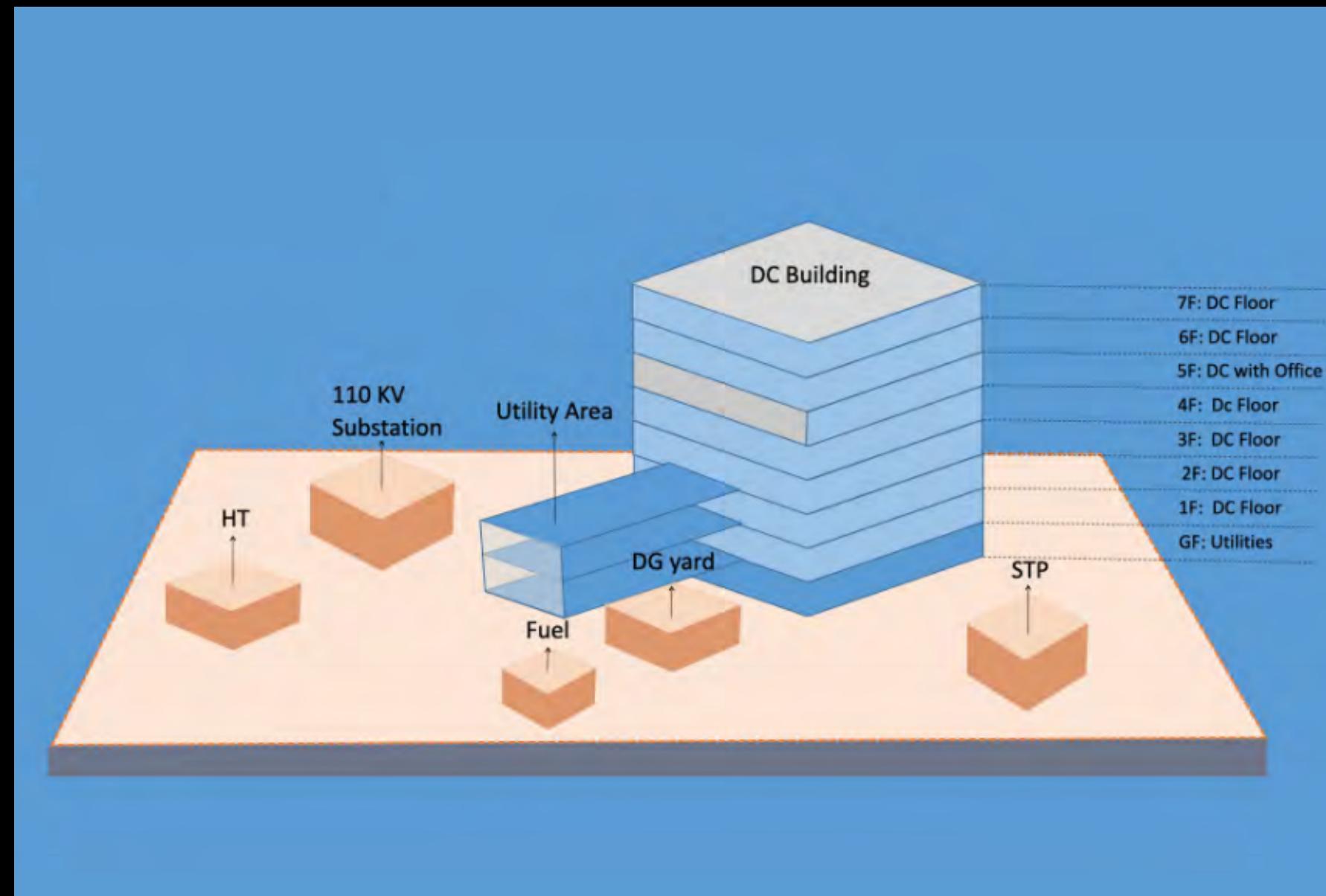
“ *Reliability, Scalability, Redundancy, are Mantra that keeps our Client list growing.* ”

OUR DATA CENTER CLIENTS



STTelemedia GDC

Key project - 1



Building Detail

- G+7 Building floors
- 5000 Standard Racks
- 50MVA Utility power
- 110KV Substation
- N+N Cooling
- N+N Power Source

Scope

- Data Center Space Planning
- MEP Design Review
- Project Management
- Managing Commissioning process
- Project Technical close-out
- Project Commercial close-out

18.0 MW

IT Load

Tier 3/R-4

Certification

Up to 99.999%

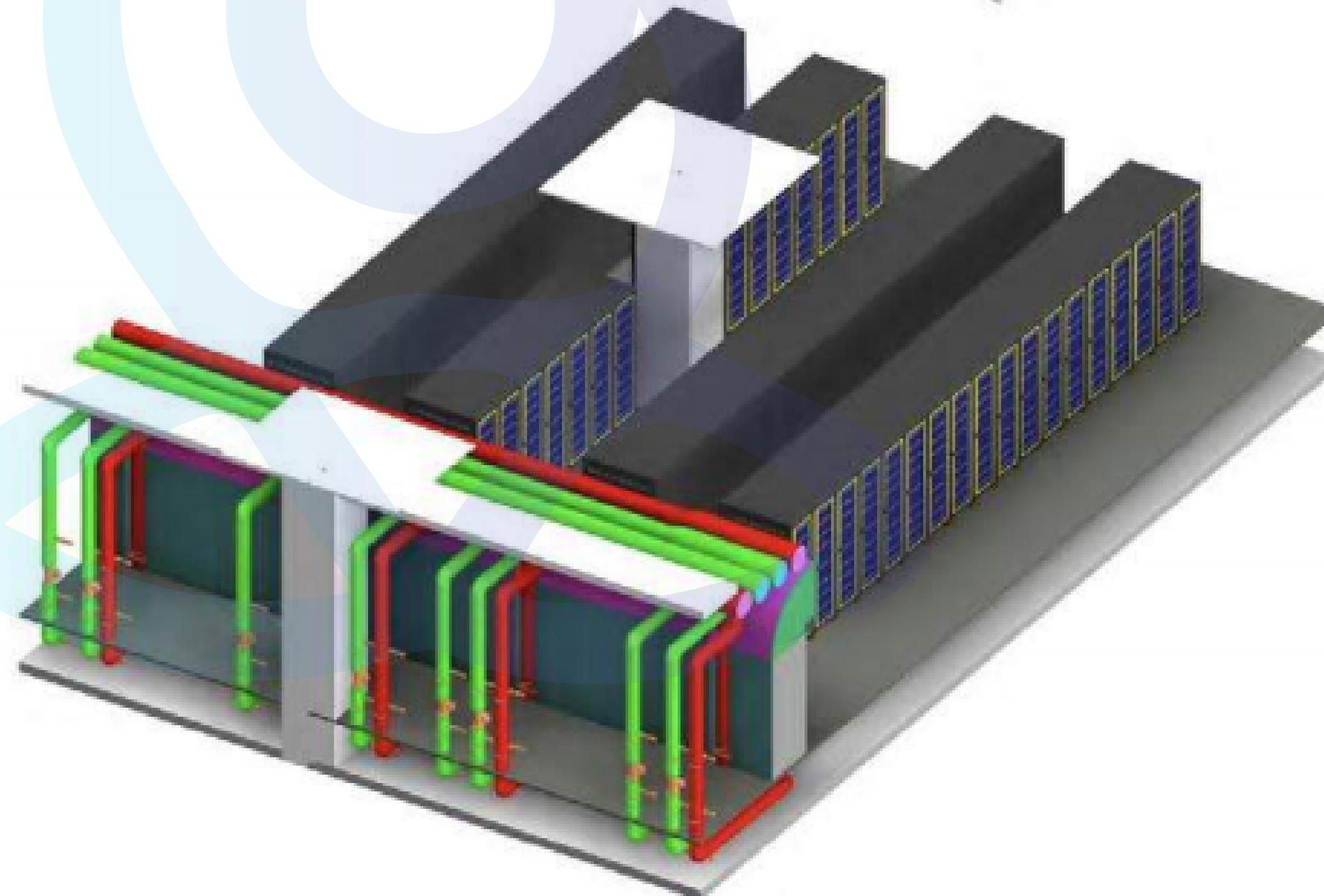
Uptime

Chennai

Tamil Nadu, INDIA

STTelemedia GDC

Key project - 2



2.0 MW

IT Load

Tier 3/R-4

Certification

Up to 99.999%

Uptime

Chennai

Tamil Nadu, INDIA

Key Scope

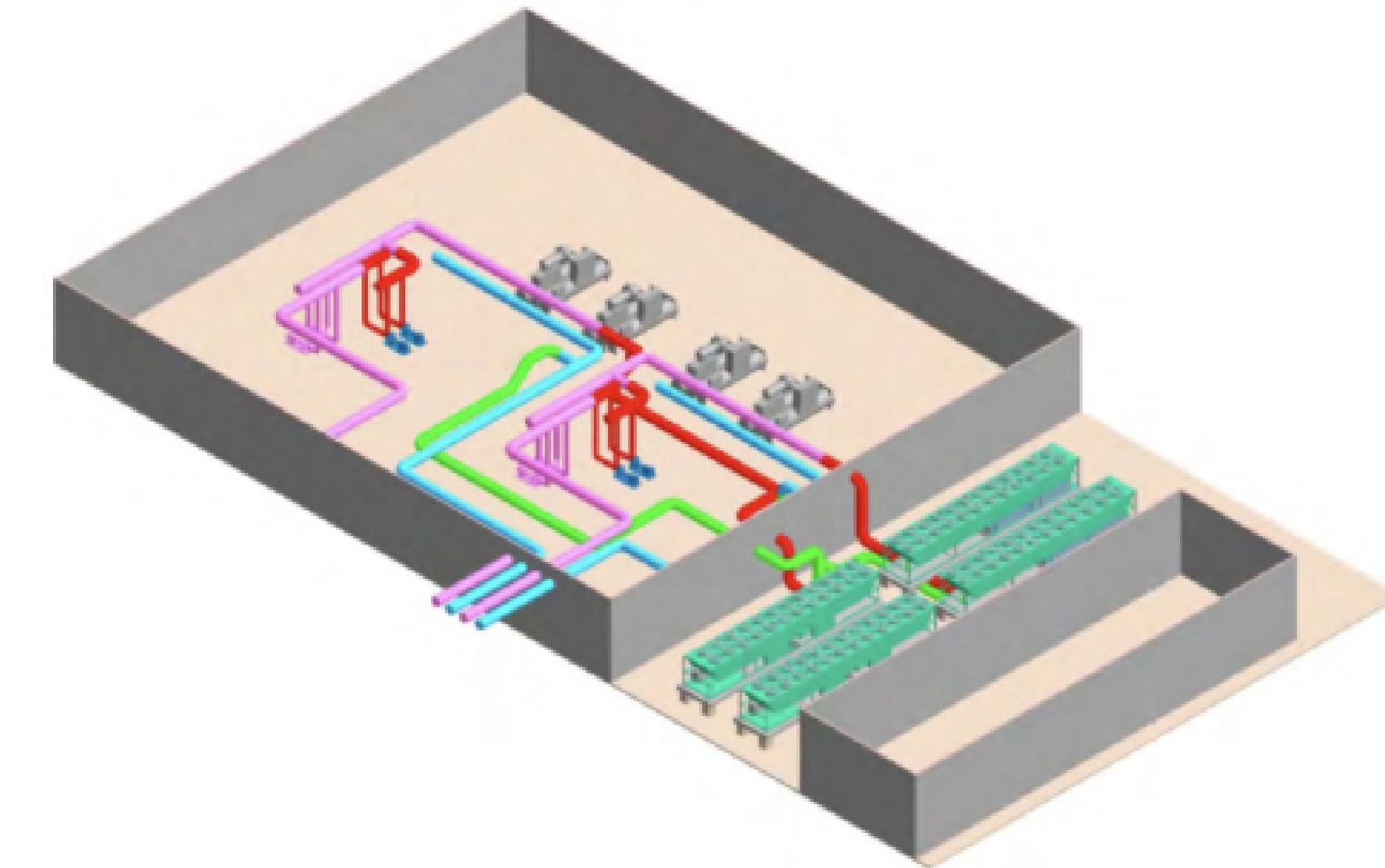
- HVAC design for data centre & allied rooms @ 5th floor
- New chiller plant design and integration with existing
- Analysis of thermal energy storage for existing plant
- Rain water storage tank design
- WTP & RO plant design
- Analysis of free cooling
- BIM

STTelemedia GDC

Key project - 3

Key Scope

- Facility Audit for existing HVAC system
- De-risking & energy efficiency measures
- Designing additional / standby air-cooled chiller plant



9.5MW

IT Load

Tier 3/R-4

Certification

Up to 99.99%

Uptime

Pune

Maharashtra, INDIA

Aruba HPE

Key project - 4



1100KW
IT Load

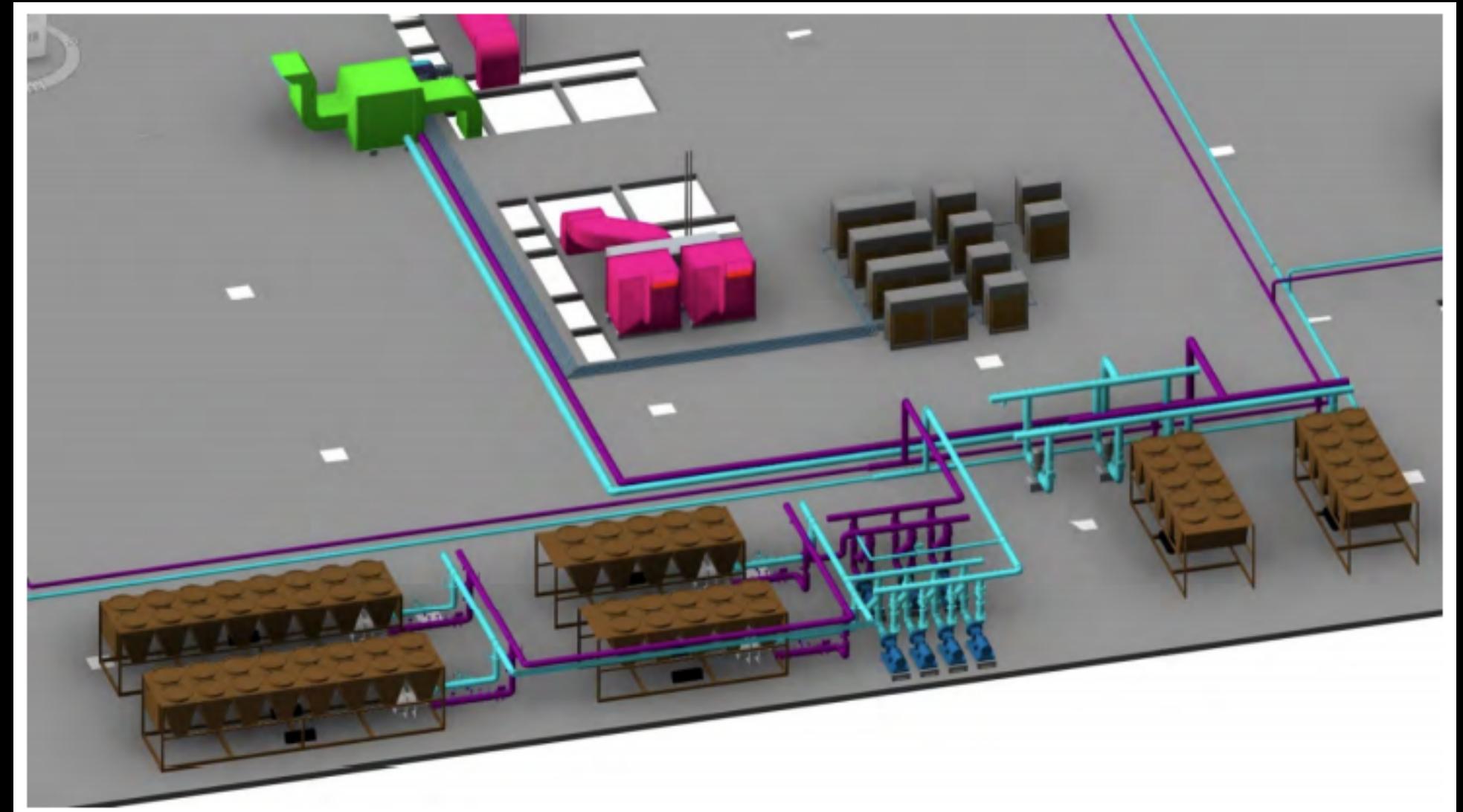
Tier 3
Certification

Pune
Maharashtra, INDIA

Key Scope
MEP Design

DELL @Crystal Dawns

Key project - 5



1200KW
IT Load

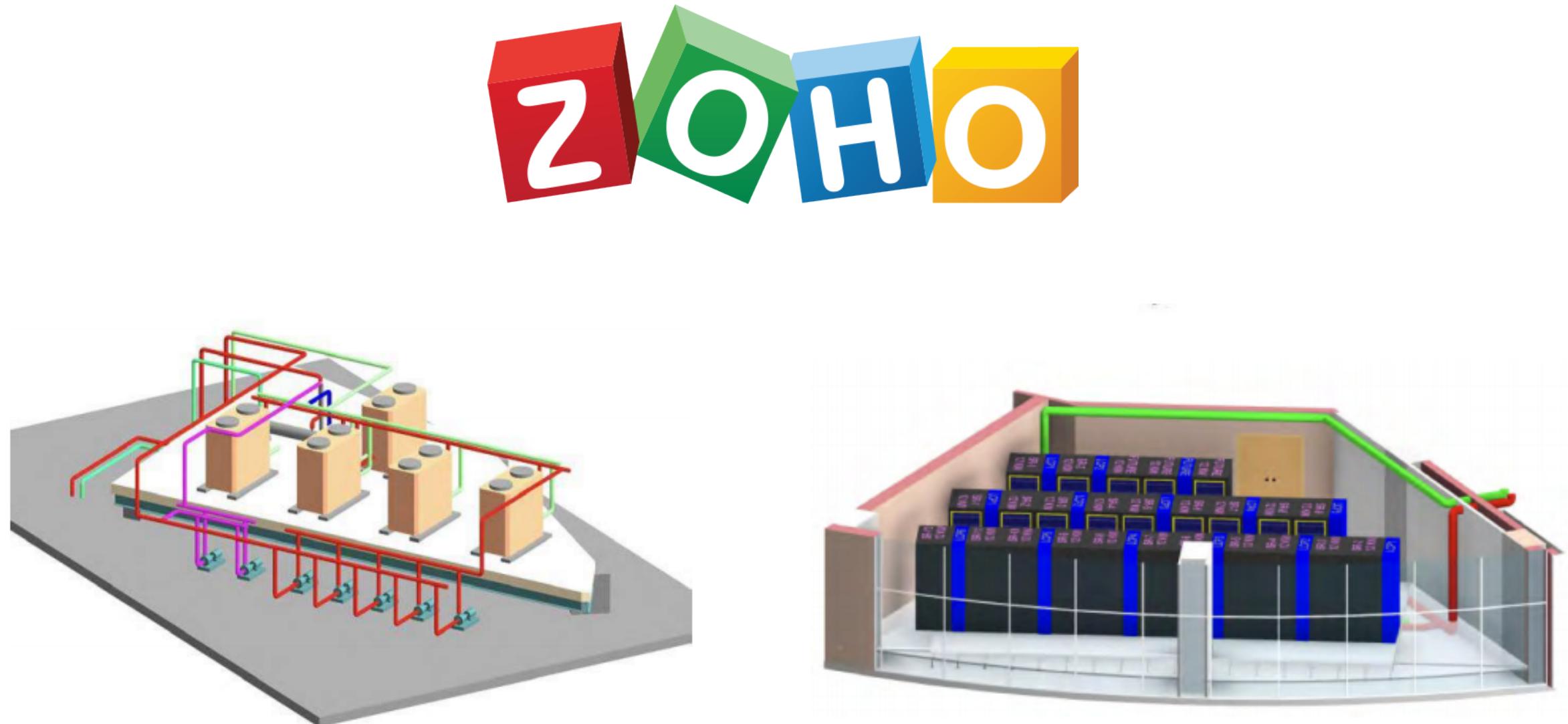
Tier 3
Certification

Bengaluru
Karnataka, INDIA

Key Scope
MEP Design for new Labs

ZOHO

Key project - 6



180KW
IT Load

Tier 3
Certification

In-rack Cooling
First Time

Chennai
Tamilnadu, INDIA

DELL Factory - Sriperumbudur

Key project - 7

Key Scope

- Risk Assessment Management Service
- As built Documentation Delivery
- Project Technical Closure



1200 kW

IT Load

Tier 3

Design Concept

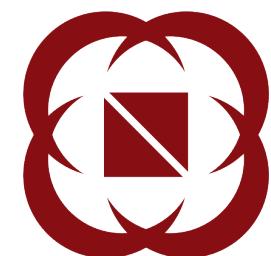
Chennai

Tamilnadu, INDIA

Data Center For National Stock Exchange



CtrlSTM

 NSE

4KW

IT Server Load

Key Scope

Green Building Consultancy

89 PTS

1000

Racks

Chennai

Tamilnadu, INDIA

**LEED Platinum
Obtained on 2017**

Tier 4

Design Concept

INDIA'S First Rated 4 Data Center

Collaborate'r

Key Scope:

- India's First Rated 4 Hyperscale Datacenter
- N+N Uninterruptible UPS, Utility Power Substation & Diesel Generator Redundancy For Continuous Support
- N+1 Cooling System Redundancy For Better Temperature Management
- Industry Best Uptime SLA (99.995%)

Tier 3
Design Concept

10 MW
IT Load Load

1400
Racks

Hyderabad

Telengana, INDIA

2,42,122 Sq ft

Build Up Area



CtrlS™

85 PTS

LEED Platinum
Obtained on 2019

Architecture + MEP

- Understanding user requirement**
- Scalability study**
- Building feasibility study**
- Master Plan preparation**
- Optimizing Real estate space**
- Code Compliance**
- Data Centre Layout**
- Visualization**
- Detailed Design**

- High side infrastructure review**
- Reliability & Resilience study**
- System optional analysis**
- PUE optimisation**
- Life cycle cost analysis**
- MEP infrastructure system selection**
- Space planning**
- Network Path Multi zoning**
- Surveillance & Security Study**



Testing & Commissioning

Data center commissioning: 7 steps to success

7 Levels

- Design Review
- Site acceptance testing
- Planning
- Construction Quality Review
- Factory acceptance test
- System Performance Verification
- Integrated system testing



Virtual Design and Construction

VDC Services

Design

- Building Information Modeling (BIM)
- Visualization
- Walk through videos
- Design co-ordination
- Clash detection
- Design communication
- Digital Twin models



Construction

- 4D Modelling (Schedule Simulation)
- 5D Modelling (Cash flow Simulation)
- As built 3D Model

Sustainability in design

Our approach focuses on energy efficient design to meet the needs of high density computing equipment such as server racks, used for data storage and processing.

Whereas a typical building is designed to meet heating and cooling needs for occupant comfort, a data center must provide massive cooling power for its servers. **Sustainable Design** addresses the unique needs of these energy-intense buildings to improve efficiency.

Sustainability in Operation

Our approach focuses on existing data center facilities—those specifically designed and equipped to meet the needs of high density computing equipment such as server racks, used for data storage and processing.

Whereas a typical building is designed to meet heating and cooling needs for

SUSTAINABILITY SERVICES

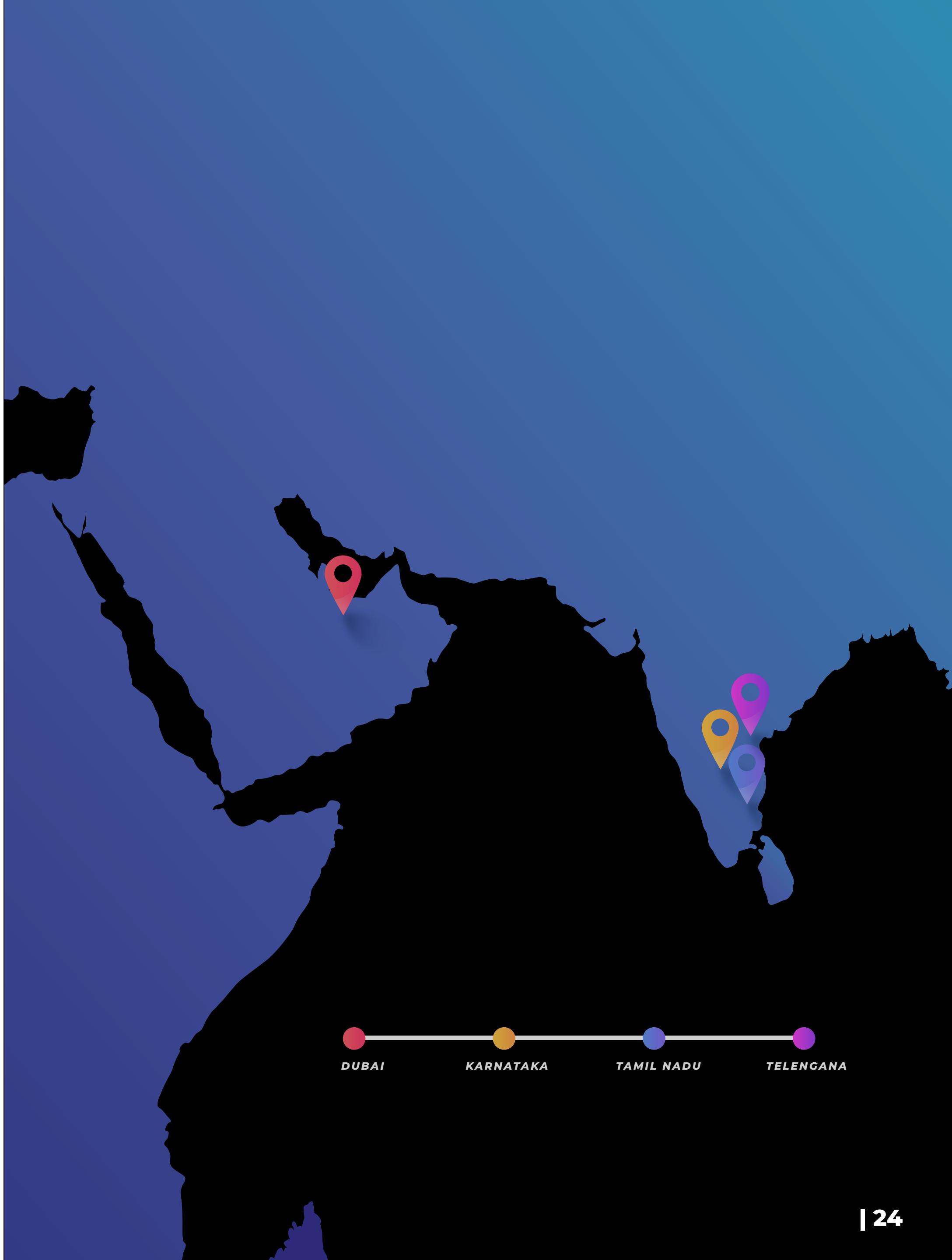
LEED Certification

- Facilitation
- Energy Modelling
- Commissioning Authority

Energy Efficiency

- Energy Auditing
- Energy Optimisation
- Measurement & Verification

Innowell Centers of Excellence



Professional Credentials

Resilient Design Specialised Deployment

Data Center Specialists & Certified Professional possesses the knowledge and skills necessary to support the Data Centre project owners on current trends, various Tier levels, scalability, but at optimum budget.

Un-matched practical knowledge and a Professional certification by **Uptime Institute** or **EPI** are the key differentiators for our success!





Innowell Leaders



Gunasekaran Raju

Founder & CEO

LEED AP, WELL AP, WELL PTA, GRIHA CP

Guna provides Strategic Leadership for business heads of various internal verticals.

He is an expert in MEP Concept design & Sustainability

23+ Years Experience

guna@innowellgroup.com
+91 99400 83095



K Sengathir Selvan

Director & Principal Consultant

Certified Data Center Specialist, CLSSGB

Selvan is responsible for timely & quality delivery of detailed engineering of MEPFS services. He actively collaborates with Clients, Project managers, Architects and Internal design team to meet user requirement.

22+ Years Experience

sengathir@innowellgroup.com
+91 95000 56868



Vikramasimman

Associate Director

Data Center Expert, TAB Services

Vikram is Data Center Subject Matter Expert and he advises core Architectural + MEP design team.

He is passionate about Integrated testing & commissioning of Data centers

Ex - Synergy, Ex - Cushman & Wakefield

23+ Years Experience

vikram@innowellgroup.com
+91 95000 54879



Raj Pillai

Director & Principal Architect

Certified Data Center Professional

Raj pillai leads the team of Architects and he is specialized in building design, space planning, code compliance.

Ex - M+W group, Ex - RSP, Ex - Gensler

20+ Years Experience

rajpillai@wowfactor.y.in
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Tamil Nadu. India.

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Innowell Group represents Innowell Engineering International Private Limited, and its holding companies Innowell BIM Solutions Private Limited, and Innowell Oil & Gas International Consultants Private Limited and the other companies through the MOU to work as a joint ventures. For detailed information, contact concerned account manager.