Paradigm Shift In Data Center Design to Embed Sustainability

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AGENDA

- Future Technology
- Focus for Sustainability
- Resource Saved = ₹ Saved
- Key Take Away
Future Technology

Civil & Architecture

- Rapid Construction
- BIM
- Augmented Reality for Construction

MEP Fit outs

- Modular Innovation
- Uninterruptible Power Option
- Personalized Power Quality
- Energy Savings
- AC or DC Power
- Fuel Flexible
- Personalized Sustainability
- Personalized Cost Savings
- EV Charging Capable

IT

- Distributed Connectivity
- Cloud
- Edge Nodes
- Massive Machine to Machine
- 5G Enhanced Mobile Broadband
- Ultra-Reliable and Low Latency
Where to Focus?

**HVAC**
- Copper tubing and Aluminum fins (65% to 75% heat)
- Soft starter motors and Quick start compressor

**Civil & Architecture**
- Check the soil condition and avoid piling soil
- Divide the plot in modular with multiple PoD’s
- Avoid Basement just for parking its 1.38 costlier than G+ X floors
- Check structural overdesign it is always at least less than 12Kg/m²

**Electrical**
- Modular design from Transformer to PDU and racks
- Lithium-Ion batteries

**Artificial Intelligence**
- Intelligent Building for collection of Data to use in AI
- Smart devices
- DCIM to connect with Edge
How Much Redundancy?

- DG set, Battery Bank and Water storage should be in N+N redundancy.
- Reserve the power only required for the next two years.
- Why Dedicated HT feeder = 1.8 Times higher than distributed feeder?
- Why N+N Tier IV design costs you 1.25 times than Tier III.
Data Collect, Measure and Analysis

Challenge consultants

Insist simulation (CFD / BIM) to avoid rework or Under / Over design

Data Collect, Measure and Analysis

Optimal Design for the requirements with Tier Standards

Key Takeaway

Check, Check and Check the design against the Current & Future needs

Need to collaborate as Non Profit Group to get the first hand experience and improvements from lesson learnt.
THANK YOU