SmartCabinet™

Customer :

Abhishek Datta
Product Spacialist

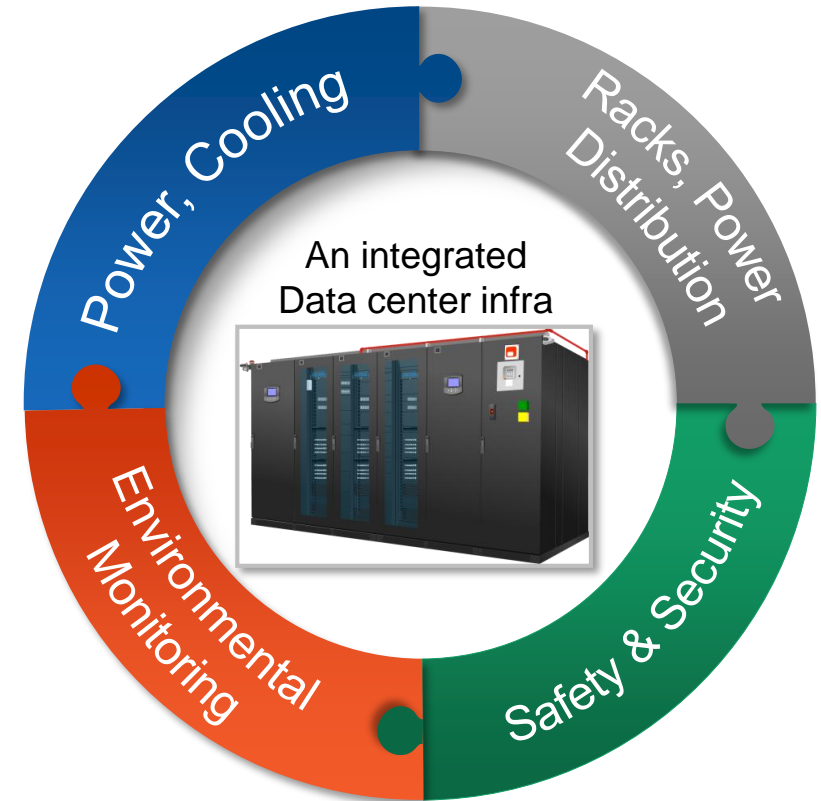05.01.2018

VERTIV™

Smart Solution Introduction

Fire Detection & Suppression

False Flooring

Distribution Panel

IT Racks

UPS

Air conditioning

Power, Cooling

Racks, Power Distribution

An integrated Data center infra

Environmental Monitoring

Safety & Security
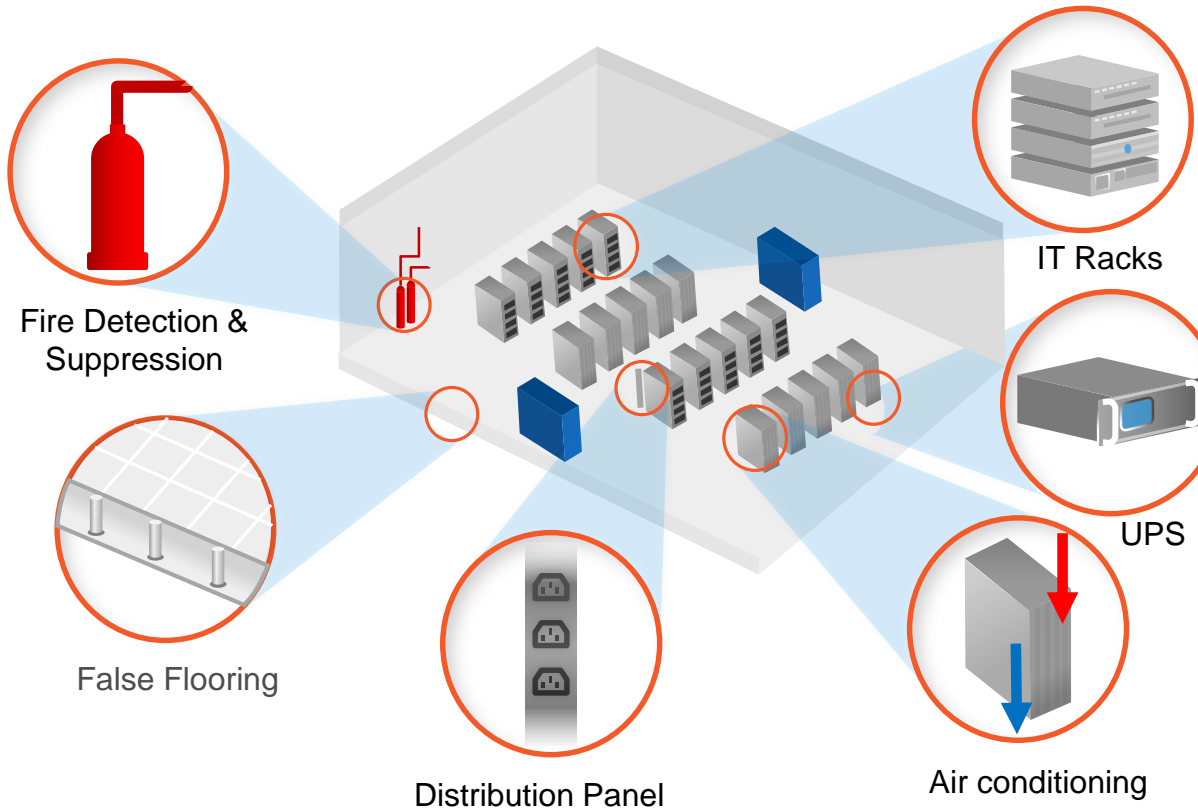
Data Centre as expected …

Data Centre as built …

Design Selection
Wrong

Experienced Vendors for Design & Planning
Limited

Local Availability of Expertise
Challenge

Floor Space & Ceiling height
Limited

Capital Investment
Limited

Business Requirement / Expansion plans
Uncertain

WHY DOES IT HAPPEN!

Smart Solutions Portfolio

Rack Level → **Row Level** → **Room Level**

SmartCloset™ SmartCabinet™ SmartRow™ SmartAisle™ SmartMod™
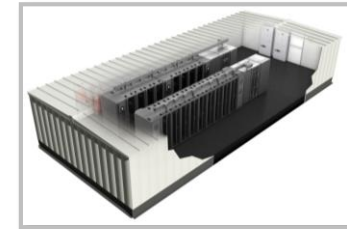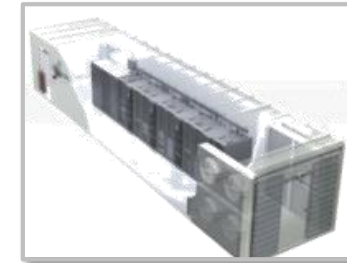
Capabilities:
- → Simplification
- → Standardization
- → Speed

Benefits:
- → Time
- → Cost
- → Risk

ONE

SIZE FITS ALL SOLUTION?

IS THERE A

SmartCabinet™ Platform

Complete Modular Data Center Infrastructure

Supply Capabilities

Integrated with :

- UPS & Battery (Rack mounted up to 10kVA)
- Precision In-rack cooling DX, up to 7kW per rack
- 19" Server or Network rack (600 wide or 800 wide)
- Contained airflow, with emergency door opening
- Power distribution, system and rack level
- Monitoring, DCIM*, IPDUs*, KVM*
- Security system:
  - Access Control, Fire suppression & CCTV*
- Cable management

Services Capabilities

- White Glove Services
- Consolidated delivery
- Project management, assembly, installation & commissioning
- System-level documentation

Note: * Optional chargeable

SmartCabinet™

Self-contained, room-neutral design

- Simplifies deployment – reduces complexity of designing IT spaces from site to site
- Minimizes installation time – modular enclosure, power, & thermal management "building blocks"
- Enables standardization across sites

➔ **Simplification**   ➔ **Standardization**   ➔ **Speed**

SmartCabinet™ Platform
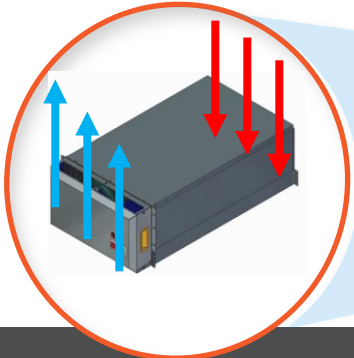

UPS & Battery

Electrical Panel

RDU Monitoring

Biometric Access

IT Rack – 800 x 1000 x 42U, Glass door

Vertical PDU

Rack Cooling Unit

LCD & KVM

Expansion Channels

- Containment modules that expand the rack enclosure to manage the system airflow
- Separate the IT equipment from the ambient air in the room
- Increase energy efficiency while reducing noise
- Factory assembled, simple mounting on site
- Easy to add future cabinets / capacity

Rear Channel (hot air)

- Hotter air to the cooling units = higher efficiency
- Emergency Door Opening provides unique level of protection

Front Channel (cold air)

- Ensures only conditioned air reaches IT equipment

Cold Air Side

UPS system is fully enclosed within the SmartRow™

- Batteries conditioned by cooling system

Rack-Mount UPS

- 10/20/30/40 kVA Rating models (10 - 1Ph & 20/30/40 – 3Ph)
- N + N Redundancy on system level
- Rack mount Battery modules
- 10 kVA – 2U, 20 kVA – 3U, 30/40 kVA - 4U
- Small size and high power density;
- Flexible output mode - 220/230/240Vac and 50/60Hz
- Highest Efficiency within its class up to 94.5%
- High system stability and intelligent control with DSP technology;
- Fan speed adjusting and fan fault auto-diagnosing;
- Three-level inverter technology improve efficiency;
- REPO for emergency;
- Display panel with both LCD and LED;
- 3 + 1 parallel (up to 20 kVA) & 1 + 1 parallel (30/40 kVA)

10kVA **20kVA** **30/40kVA**

LED panel

LCD panel

ON/SLIENCE key

RDU As an Aggregator

- Containment modules that expand the rack enclosure to manage the system airflow
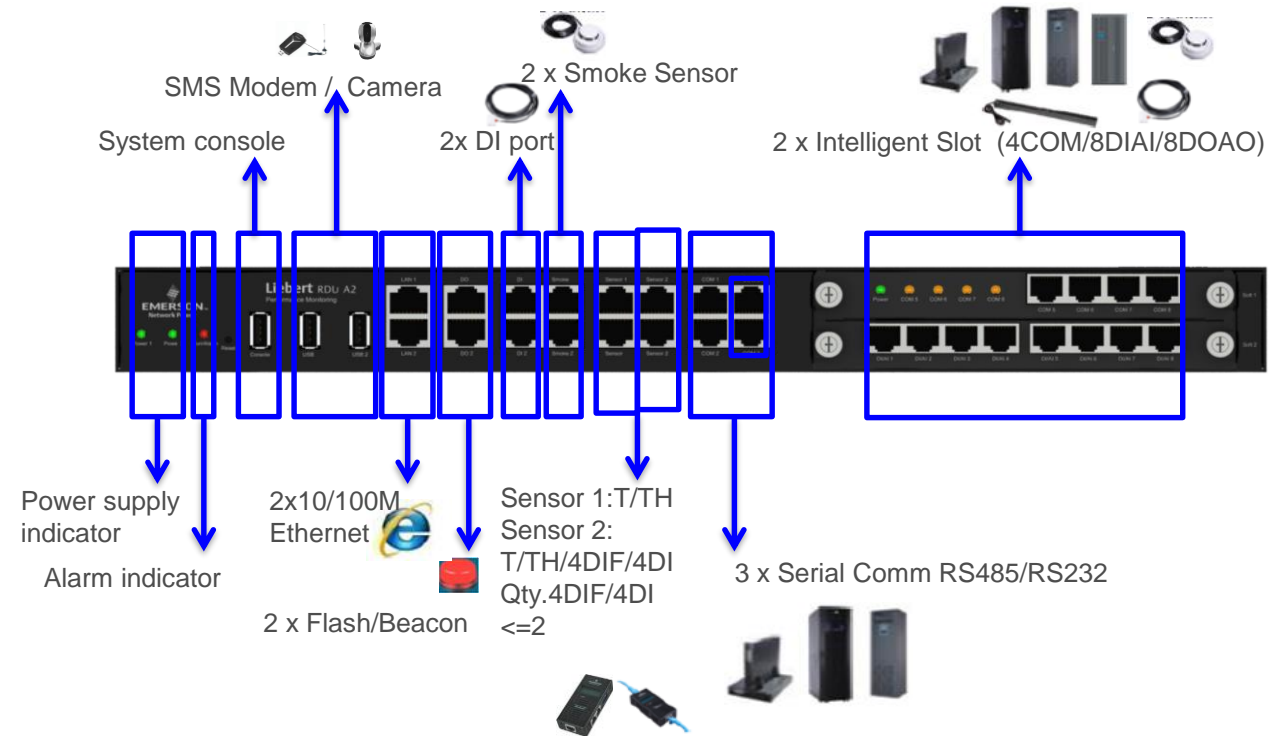- Separate the IT equipment from the ambient air in the

Intelligent Monitoring of UPS, Cooling & IPDUs *(Optional)*

- UPS – SNMP
- Cooling - SNMP
- IPDUs – Mention max qtys

SmartRow Environmental Monitoring

- TH Sensors –
- Smoke -
- WLD –
- Door –
- Mention max possible qtys

SMS Modem / Camera

2 x Smoke Sensor

System console

2x DI port

2 x Intelligent Slot (4COM/8DIAI/8DOAO)

Power supply indicator

2x10/100M Ethernet

Sensor 1:T/TH
Sensor 2: T/TH/4DIF/4DI
Qty.4DIF/4DI <=2

Alarm indicator

3 x Serial Comm RS485/RS232

2 x Flash/Beacon

SmartSolution Management

RDU-M

Thailand

Malaysia

Singapore

Ahmedabad

IP Network
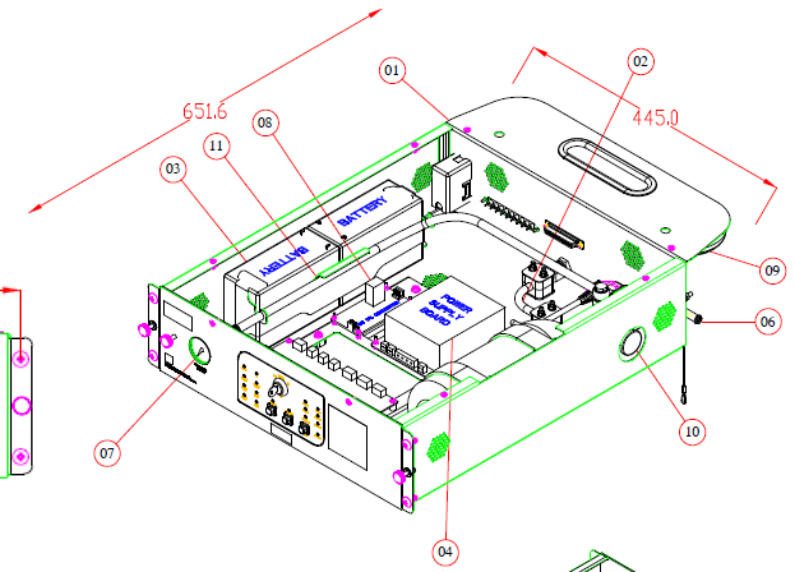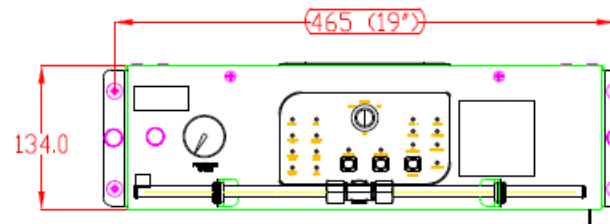
Main DC, Delhi

Regional DC, Bangalore
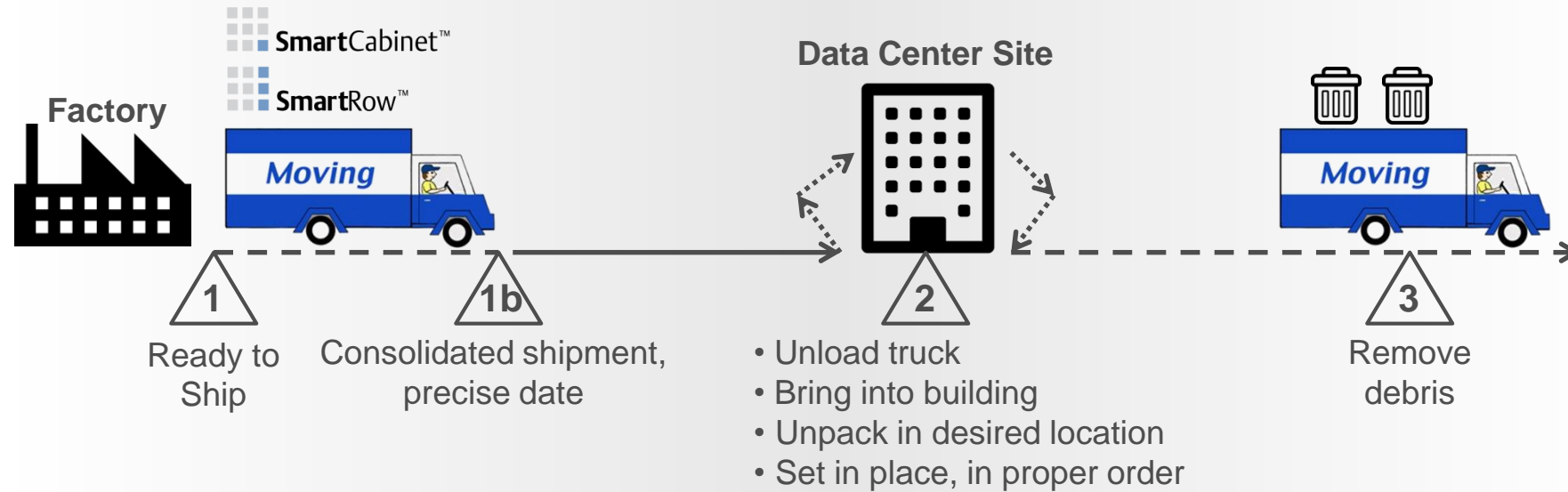
Edge Network, Pune

Mumbai

Fire Detection & Suppression

- 19" 3U Rack mount Fire Suppression system
- PESO Approved cylinders
- Novec 1230 Gas super pressurized with Nitrogen to 17 bar
- Seamless cylinders with capacities of
  - 1.5L (single rack)
  - 3L (Dual rack) inside 3U panel
- Discharge time 5-10 secs
- Pressure at Nozzle < 3 bar
- Discharge Flexi Hose with nozzles
- Power supply with battery back up
- Manual Release & Abort Switch
- Hooter for local alarm

Faster Deployment - Process Overview

SmartCabinet™
SmartRow™

Factory

Data Center Site

Moving

Moving

1 Ready to Ship

1b Consolidated shipment, precise date

2
- Unload truck
- Bring into building
- Unpack in desired location
- Set in place, in proper order

3 Remove debris

Deployment Simplification
1. Arrives in a single delivery - complete
2. Brought into room
3. Equipment unpackaged & debris removed
4. System assembled & commissioned
   - Factory-integrated cabinets
   - Modular power & thermal management
5. On-site IP addressing, networking setup

Standardization
1. Maximum factory integration
2. Modular configurations enable simplicity & repeatability

Free up "Smart Hands"
1. Focus on IT hardware
2. Focus on application
3. Reduce time consumed by deployment

→ **Simplification**
→ **Standardization**
→ **Speed**

Catalogue Models

Configuration	UPS Rating kVA	No of Racks	Usable "U" Space (Approx)	Inbuilt Back UP	UPS Redundancy (N+N)	Cooling Capacity (Kw)
SC-13-AC	3	1	23	5 Min	Yes	3.5 FS x 1
SC-26-AC	6	2	61	5 Min	Yes	3.5 FS x 2 nos
SC-210-AC	10	2	59	5 Min	Yes	7 FS x 1
SC-210-AC DS	10	2	59	5 Min	Yes	7 DS x 1
SC-210-RC	10	2	50	5 Min	Yes	7 FS x 2 nos
SC-210-RC DS	10	2	50	5 Min	Yes	7 DS x 2 nos

Cooling Options available:

0.5 TR

1TR

2TR FS & DS

1 TR TMM (Inverter Variable)