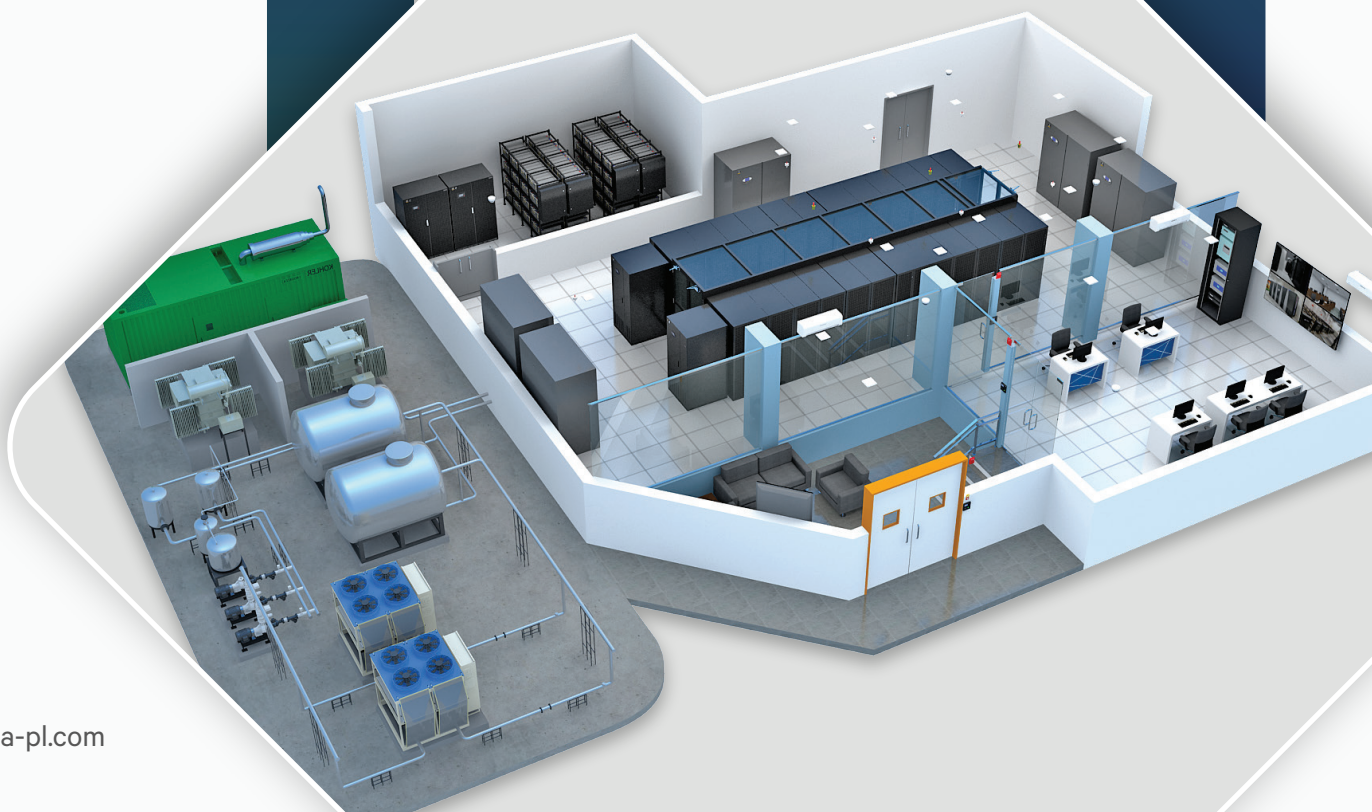




# END-TO-END DATA CENTER BUILD SOLUTIONS



## COMPLETE DATA CENTER INFRASTRUCTURE SOLUTIONS:

Your Complete Data Center Implementation and Maintenance Services. With Prasa, get your entire data center requirements fulfilled under a single roof. Helping Businesses Scale Through Best-in-class Data Center Management Solutions.

Prasa is one of India's leading data center and mission critical infrastructure solution and service providers. For over 28 years, Prasa has worked with a wide range of customers (which includes growing businesses, global enterprises, and government organizations), by offering quality products and services along with certified professional staff and has thus procured in-depth knowledge of the specific requirements in varied industry verticals.

### ◇ DATA CENTER DESIGN PROCESS:

The most essential and critical phase in a data center project

Effective data center design takes off with a comprehensive analysis of the existing systems & facility. We then work with the IT & facility staff to identify & quantify project needs and develop an understanding of the trends and migrations strategies required to adapt to future changes. Finally, we develop a conceptual data center design from which construction budgets can be developed.

We can plan, design, engineer, deploy, optimize, monitor, and manage your complex, multi-vendor, data center infrastructure. The need for reliable, scalable, available, and security-rich data center infrastructure has never been more critical to the success of your organization. Our comprehensive set of services can help you optimize your investments, improve performance, achieve availability objectives, and avoid costly problems.

### ◇ DATA CENTER SERVICES OFFERED:

#### 01. Consultancy Services:

PRASA is a full-fledged data center consulting, engineering, & designing experts specializing in each of the below verticals:

- Site Selection
- Electrical Design & Engineering
- Networking
- Architecture
- Plumbing & Fire Protection Systems Design
- Structural Engineering
- Security Systems Design
- Operations & Maintenance
- Mechanical Design & Engineering

We specialize in the design and ongoing support of data centers, computer rooms, web-hosting facilities, network operations centers, telecommunications centers, as well as other highly technical facilities with always ready requirements.

We are extensively involved in the renovation and upgradation of existing data centers as well as the design of new facilities.

#### 03. PQA & Thermography:

What is PQA?

The Power Quality Audit (PQA), is a service offered by the PRASA'S technical support centre that checks the reliability, efficiency, and safety of an organization's electrical system. It verifies the following aspects:

The continuity of the power supply: i.e., that the power in the network is available on a regular basis and is able to ensure the efficient operation of the equipment.

The quality of the voltage: i.e., that there are no low or high-frequency disturbances in the network capable of damaging the system components.

#### 02. Data Center Uptime Services:

PRASA offers comprehensive maintenance services to support your critical power and environmental infrastructure. We provide the resources to ensure your critical equipment / systems are managed and maintained well, giving you the confidence that your company is receiving the optimum protection it needs from factors that threaten to halt your normal business operation.

As your business partner, we will manage all your facility related vendors and give you access to the following:

- OEM Trained & Certified Engineers
- Extensive Technical Support Team
- 2 Hours of Guaranteed Response Time
- Emergency Call Escalation procedures
- Multi-tiered Spares Availability
- Standby Machines for Un-rectifiable machine failures
- CDCP/CDCS Certified Team

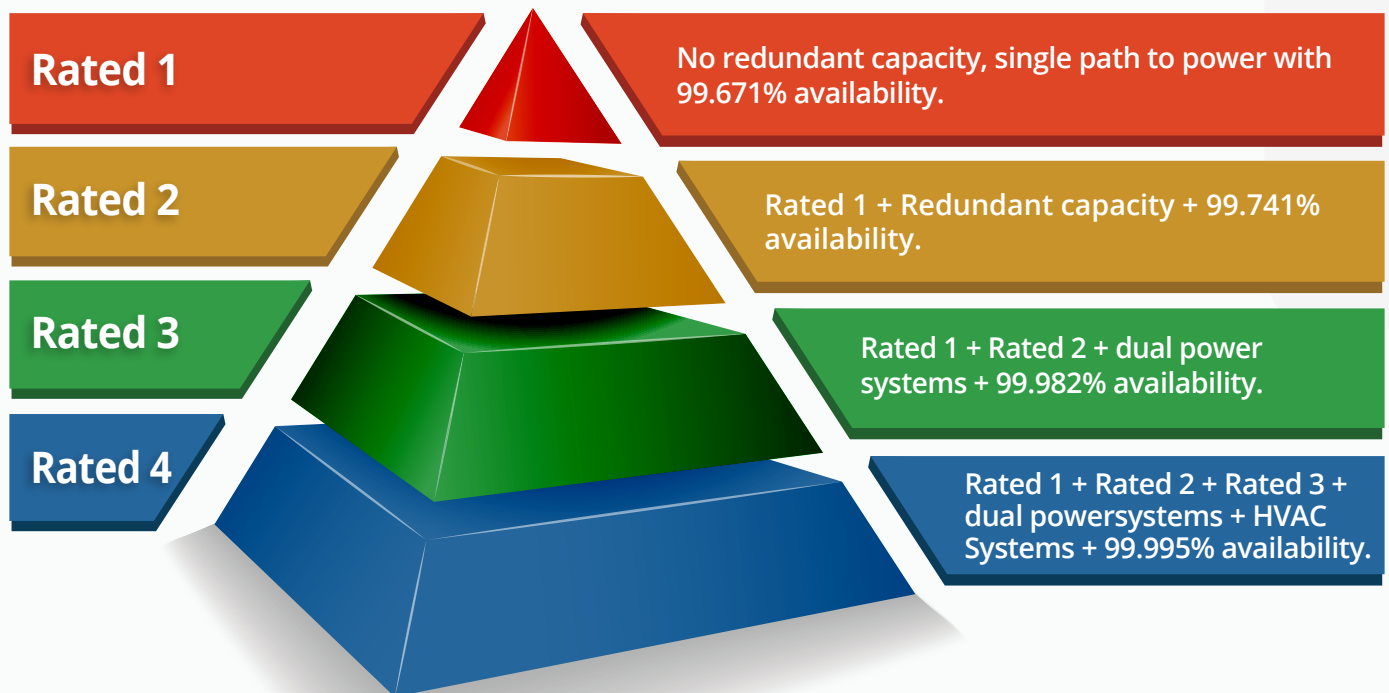
#### 04. Mission Critical Equipment Services:

PRASA'S Electrical Reliability Services is an authorized Emerson service provider with access to their OEM parts, technical support and design engineering resources. With this expertise, PRASA can provide solutions for Chloride, Custom Power, and any other manufacturer's emergency power system. PRASA offers a wide variety of services to ensure these systems are performing properly and will support the critical load when power is interrupted.

Whether you need startup support, routine maintenance or emergency response, we have the personnel and the technical expertise to support your service needs.

# HOW ARE DATA CENTER RATING LEVELS CLASSIFIED & WHY ARE THEY IMPORTANT?

## TIA-942 STANDARDS FOR DATA CENTER



### ◇ **RATED-1:**

*Basic Capacity (Uptime 99.67%, 28.8 hours of annual downtime)*

A Rated-1 data center provides dedicated site infrastructure to support information technology beyond an office setting. Rated-1 infrastructure includes a dedicated space for IT systems; an uninterruptible power supply (UPS) to filter power spikes, sags, and momentary outages; dedicated cooling equipment that won't get shut down at the end of normal office hours; and an engine generator to protect IT functions from extended power outages.

### ◇ **RATED-2:**

*Redundant Capacity Components (Uptime 99.75%, 22 hours of annual downtime)*

Rated-2 facilities includes all Rated-1 capabilities and add redundant critical power and cooling components to provide select maintenance opportunities and an increased margin of safety against IT process disruptions that would result from site infrastructure equipment failures. The redundant components include power and cooling equipment such as UPS modules, chillers or pumps, and engine generators.

### ◇ **RATED-3:**

*Concurrently Maintainable (Uptime 99.98%, 1.6 hours of annual downtime)*

A Rated-3 data center includes all Rated-1 and Rated-2 capabilities, and requires no shutdowns for equipment replacement and maintenance. A redundant delivery path for power and cooling is added to the redundant critical components of Rated-2 so that each and every component needed to support the IT processing environment can be shut down and maintained without impact on the IT operation.

### ◇ **RATED-4:**

*Fault Tolerance (Uptime 99.99%, 0.8 hours of annual downtime)*

Rated-4 site infrastructure builds on Rated-3, adding the concept of Fault Tolerance to the site infrastructure topology. Fault Tolerance requires all power and cooling components to be 2N fully redundant. If any single power or cooling infrastructure component fails, processing will continue without interruption. IT processing can only be affected if components from two different electrical or cooling paths fail.

### ◇ **POWER & AIR SOLUTIONS WITH RESPECT TO DATA CENTER RATING LEVELS:**

In accordance to the Data Center Rating levels we design and scale the Power need of the same. Being an Enterprise Business Partner with Vertiv enables PRASA to offer the best in class UPS systems which are scalable and redundant. True on-line, double conversion, three-phase UPS system that provides a scalable solution for growing data centers. The UPS allows growth from 20 to 60 to 80 kVA, and from 80 to 100 to 120 kVA.



Prasa has been one of the pioneers in mastering the art of building end-to-end data centers for a prestigious list of customers. We have been at the forefront of providing data center build solutions and specialize in it. We make the most of every opportunity to serve our customers by building a customized data center that satisfies all their needs and requirements.

The team of experts at Prasa is known to deliver innovative solutions that are highly efficient, scalable, and agile. We provide the best data center consultancy services in India and now we're outreaching globally as well. Our in-depth knowledge & vast experience of more than 28 years in building data centers has helped us develop an in-house expertise over the data center skill-sets elaborated in the below timeline:



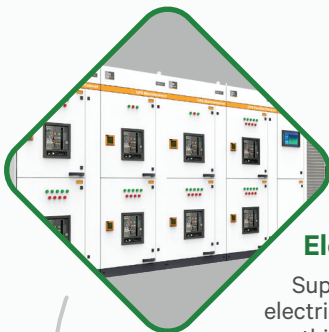
#### Civil Works

Providing & fixing civil structures to ensure a level & smooth texture of exposed walls, columns, ceilings & match aesthetics of existing or new structure.



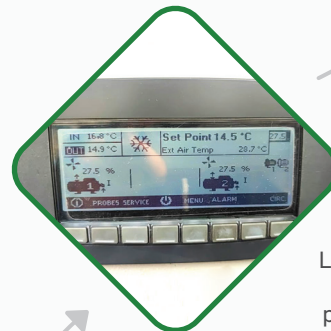
#### Transformer

SITC of IEC compliant transformers suitable for the complete IT & Non-IT power requirement. Dry as well as oil-cooled transformers can be implemented as per the site requirement.



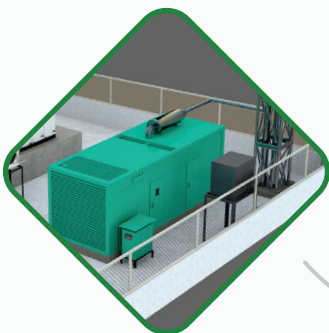
#### Electrical Works

Supplying & executing electrical works like cabling, earthing, lighting, installing rack sockets, plugs & integrating it with other infrastructure.



#### Chiller Temp. Display

LCD Display for water inlet and outlet temperature, programmed temperature set-point and differential, alarms description.



#### DG Set

Diesel generator set installation & maintenance by our professional engineers to ensure optimum & highly satisfactory performance.



#### Chiller

Installation & maintenance of latest air-cooled & water-cooled chillers & related equipment by our specialists.



### PAC

Precision air cooling systems installation & maintenance services to ensure smooth functioning by cooling & humidifying / dehumidifying the data center room.



### UPS & Batteries

Best-in-class uninterruptible power supply installation & maintenance work to ensure a seamless power supply & protection.



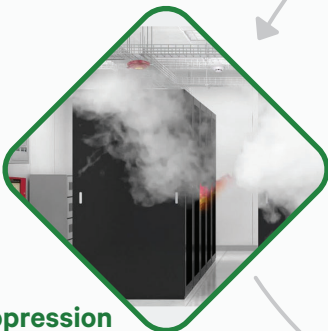
### UPS System

Easy to use LCD screen, Graphical LCD Display provides UPS Data, Alarms and helps in faults diagnostics and trouble shooting.



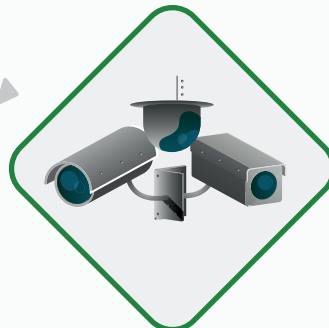
### Server Racks

SITC standard as well as non-standard server & network racks with intelligent PDUs for socket level monitoring & control.



### Fire Suppression

Ensuring utmost safety with installation & maintenance of fire suppression system including fire alarm, optical smoke detector, flashing led & drift compensation.



### Critical Security System

SITC of biometric cum card cum code access control system, CCTV surveillance and report repellent systems for uncompromised data center security.



### IBMS/DCIM

Supply and maintenance of integrated building management system software & integrator and data center infrastructure management services.

## SINGLE POINT DC SOLUTION PROVIDER



### ELECTRICAL SYSTEMS

- UPS & Battery
- Transformers
- Main Low-voltage Switch Board
  - Distribution Boards
  - Lighting Fixture & Control (Dimmer, Timer, Sensor, etc.)
  - Emergency & Exit Lighting
  - Wiring Device & Earthing
    - Other Small Powers (Switches, Sockets, Outlets, Cable Connections, etc.)



### MECHANICAL / COOLING SYSTEMS

- Drip / Drain Pans
- Chillers
- VFD- Variable Frequencies Drive
  - Precision Air Conditioners
- Fan Coil Units (FCU) Plumbing, 5 Drainage Duct
  - Chillers, Pipe Work Valves & Strainers
  - Grills, Diffusers, & Filters



### FIRE SERVICES

- Fm200 System/NOVEC 1230 Suppression System
  - VESDA System
- Detectors, Alarm Bells, & Buzzers
- Fire Extinguishers



### MONITORING / IBMS / DCIM

- Environmental Monitoring System
  - Surveillance System
- Water Leak Detection System
  - Access Control Systems / Intruder Alarm Systems



**At Prasa,** we understand that with vigorous technological advancements, customers are in a constant need of services that help them improve process efficiency, assure security, drive maximum value, and ensure growth in terms of revenue.

With the help of our in-depth understanding and domain expertise, we strive to provide services that cater to your existing needs as well as future business requirements. Our services are highly scalable, flexible, prompt, and accurate, depending on the requirements of our customers.





www.prasa-pl.com

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