CaaS

Cooling as a Service
Refresh the planet

Case Study

Hospital chain in India turns to Cooling-as-a-Service

A leading hospital chain based in Hyderabad planning 10 new facilities in major cities in India over the next 2-3 years entered a 12 year CaaS contract with Smart Joules. Engaging a single agency to take care of their cooling needs ensures efficient management, high quality and sustainability as well as lower costs over the system's lifecycle.

The first project is currently ongoing and due for completion in early 2023.

Region
India, Hyderabad

Sector
Healthcare

Customer name
KIMS Sunshine Hospital

Retrofit or new
New

Project size
10,000 TR (10 facilities)

Technology
Variable speed Water-cooled Chillers, VFD pumps, Advanced IOT based automation systems

Refrigerant
R134A

Investment
USD 5 million

Partners

BASE

SMART JOULES

SET ALLIANCE

Background

As critical infrastructure, Hospital HVAC systems are of utmost importance to maintaining a comfortable environment for patients through temperature and humidity control, maintenance of vital equipment, and preventing cross-contamination.

The Covid-19 pandemic has reinforced the importance of designing adequate ventilation systems and providing proper indoor air quality.

At the same time, the healthcare sector is responsible for 4% of global carbon emissions.

Research suggests around 60% of a typical Hospital's energy consumption comes from HVAC systems, therefore highlighting the need for improved efficiency to reduce carbon emissions and reduce costs in the healthcare industry.

The solution

Smart Joules' revolutionary JouleCOOL Cooling-as-a-Service model delivers highly efficient and sustainable cooling services, providing a build-implement-own-operate-maintain-optimise model for cooling infrastructure.

Smart Joules' significant expertise in cooling can deliver the lowest life cycle cost of cooling, superior quality of service with industry-beating SLAs, and much greater ease of management.

JouleCOOL tackles the high cost of cooling by offering more efficient design, intelligent equipment selection and continuously optimized & automated operations to its customers.

"The shift from thinking of just electricity or water as essential utilities to energy end uses such as cooling/heating and compressed air as utilities sold under "as-a-service" business models presents an enormous capacity to save energy, reduce carbon footprint while enhancing profitability of business operations. What this partnership represents is a step towards the future of energy, where efficiency is not the last priority but takes centre stage in a facility's core functioning as the default choice."

- Arjun P. Gupta, Founder & CEO, Smart Joules

Smart Joules has been in operation since 2015 and works with other leading Indian hospital chains, including Apollo, Fortis, Aster and CARE.

Benefits of CaaS:

Many benefits flow from the model:

- Greater convenience for the client who deals with a single entity rather than multiple equipment providers.
- Zero capital investment in the chiller system by the client, freeing capital for investment in other key areas. The client bears no performance risks, as Smart Joules provides guaranteed efficiency and assumes full responsibility and accountability for performance.
- Guaranteed long-term high energy and water efficiency levels, leading to substantially lower utility expenses.
- Lower operation and maintenance costs through optimised design, equipment selection and continuous optimisation of operations.
- High-quality specialised cooling service provider utilising the latest technologies for cooling system optimisation, driving substantial improvement in service quality through greater visibility into operations, reliability and automated record keeping.
- Earn more green building points under LEED / ECBC / GRIHA etc. using advanced technologies and an innovative business model.
- Strengthening of clients' brand value as a facility focused on sustainability and efficiency through adoption of a greener cooling system with advanced technology.

CaaS model:

The CaaS model consists of several elements:

- Planning, design, procurement, construction, installation, testing, and commissioning of all the chiller plant room equipment necessary for provision of the cooling service.
- Supply of a 1200 TR chiller plant room with chillers, pumps, cooling towers, automated tube cleaning system and advanced IOT system for fully automated and continuously optimised operations.
- Operating, servicing and maintaining the entire air conditioning system on the premises throughout the term of the contract.
- Guaranteed industry leading Chiller plant efficiency throughout the term.
- Contract Term - 12 Years. During the contract duration, Smart Joules owns, operates and maintains the assets. After 12 years, the customer has the option to renew the contract with Smart Joules, or to modify it as per their needs.

Financially, Smart Joules has brought equity into the project and is engaged with several financiers to co-finance the assets.

Breakdown of fee Payable to Smart Joules

1. Infrastructure fee: Fixed monthly fees based on capacity of the installed cooling system.
2. Fixed O&M fee: Covering AMCs, manpower, repairs, spares, consumables, software, analytics, asset insurance, etc., based on the facility's service and quality requirements.
3. Efficiency fee: Based on the difference between actual energy efficiency measured in the month (kWh/TRh) and Smart Joules' fixed energy efficiency (kWh/TRh) levels for the chiller plant, and considering actual cooling loads (TRh/month) experienced in the facility, and actual electricity tariffs (Rs/kWh) for the month as per the electricity bill.

Contact Information

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As India is one of the most affected countries by global temperature rise, sustainably cooling its health facilities is a crucial challenge.