

DATAVOLT

CULTIVATING CLEANER CONNECTIONS



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Rajit Nanda

Chief Executive Officer,



A FORCE BEHIND THE DEVELOPMENT AND OPERATION OF ENVIRONMENTALLY CONSCIOUS DATA CENTRES, DATAVOLT IS EMPOWERING DIGITAL TRANSFORMATION THROUGH SUSTAINABLE INFRASTRUCTURE.

Cultivating Cleaner Computing Power

PROJECT MANAGED BY:
DECLAN JONES

Backed by over 250 years of leadership experience, and a reputation for pushing the boundaries of innovative designs, DataVolt is positioning itself as a trusted partner in the delivery of secure, scalable, and sustainable infrastructure solutions. Specifically, the organisation has established itself as a pioneering developer and operator of data centres engineered for minimal environmental impact and optimal efficiency.

“DataVolt’s future-ready approach to digital infrastructure solutions involves the integration of renewable energy, advanced technology, and efficient water usage and cooling systems. The result is an eco-friendly data centre package for hyperscalers, large enterprises, and governments in search of sustainability.

“The nexus of power and water has been the defining hypothesis for the last two decades of growth in our world,” says CEO Rajit Nanda. “Two years ago, DataVolt identified a shift – the new emerging thesis of this decade was the nexus between power, water, and data.

“Once we had identified this, it became a question of how we would utilise our enviable capabilities – totalling more than \$100 billion in energy industry infrastructure – and channel that into the world of data and intelligence.”

A NEW VISION

Since then, DataVolt had developed a new vision: to build the next generation of data centre infrastructure. Uniquely,

the company approaches data processing from an energy first perspective, leveraging strong ties to energy providers via the company’s backers, Vision Invest: – in the modern AI era with increasingly power hungry applications, access to a reliable energy supply is vital for data centre operations.

“From the USA to China, DataVolt is an exception in that we are the only organisation taking on data and digital infrastructure having built our reputation in energy and power,” Rajit states. “That is where our name comes from: DataVolt is data plus power.”

DataVolt data centres are carefully designed to handle the complex requirements of an ever-changing digital landscape. It is, though, the company’s energy sector advantage that helps to differentiate DataVolt solutions.

“We bring with us a heritage of power and unmatched control over sustainable energy sourcing,” Rajit remarks. “It gives us a real edge in the area of AI-driven data centres.”

“Data centres of the future are all going to be large super campuses, and we already have >>

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Rajit Nanda,
CEO, DataVolt.



Smarter Air for a Smarter World



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Cooling the Future

| Daikin Empowering Saudi Arabia's Digital Vision

Precision Cooling for the AI Era:

Daikin at the Core of Saudi Data Centers

From smart cities and machine learning to autonomous vehicles, as the use of digital technologies and AI solutions accelerates across Saudi & the Middle East, demand for scalable, high-performance digital infrastructure is growing rapidly. Data centers are the backbone of this digital transformation, powering enterprises and government entities with secure, high-speed processing and storage capabilities.

Under the strategic directives of the region's leaders, Saudi is positioning itself as a global powerhouse in Artificial Intelligence and Digital Transformation. Datacenters are a cornerstone of the national digital transformation and economic diversification strategy. By leveraging its geographical position and balanced political relations, Saudi Arabia seeks to become a regional data hub.

Building and operating a data center, however, is a complex and resource-intensive endeavor from a technical, financial, and environmental aspect. These facilities require uninterrupted power to function, resulting in substantial energy demand and environmental impact. Approximately 40% of this energy is consumed by cooling systems needed to prevent overheating.

Engineered for critical applications:

Daikin's ready cooling solutions

Daikin's cooling solutions are precisely engineered to deliver exceptional reliability and energy efficiency, addressing the unique challenges faced by data center operators in the hot climate zones. The comprehensive product portfolio includes high efficiency air-cooled chillers, water-cooled chillers, PRO-W fan wall units, and PRO C CRAH units, all complemented by extensive control solutions tailored to the needs of each customer.

The chiller portfolio includes screw compressors equipped with dedicated variable frequency drives (VFD) designed & manufactured in-house, and mounted onto the compressor for better reliability and efficiency. These units deliver superior energy efficiency, thanks to an optimized screw design and the integration of a specially engineered VFD. This integration enables precise matching of compressor output to the varying load demands of a data center, and ensures full redundancy for each refrigerant circuits, ensuring exceptional part-load efficiency, lower PUE, and reduced operating costs. Additionally, the use of refrigerant-cooling significantly boosts reliability, especially for applications in extreme ambient conditions.

Despite their large cooling capacities, Daikin's products are compact. This is specifically true for free cooling units with a configuration that does not exceed the unit footprint. Dedicated data center configuration includes an integrated active harmonic filter in the unit's electrical panel to maintain compactness.

Daikin's Pro-W Fan Array Units offer unmatched flexibility and scalability, thanks to the modular design for space constrained sites. Specifically engineered for large and hyperscale data centers, these units feature chilled water coils and advanced controls for real-time demand management, delivering cooling capacities of up to 500 kW.

Recognizing the high energy consumption of data centers, Daikin's offerings are meticulously designed to achieve optimal Power Usage Effectiveness (PUE). This is accomplished with EC fans with IES motors, optimized water coil circuiting, pressure-independent control valves, and Active Harmonic Filters (AHF) to minimize harmonic distortions and enhance power. Daikin ensures reliability through an N+1 redundant design on fans, coupled with an integrated Automatic Transfer Switch within the unit's assembly.

The Pro C CRAH from Daikin is a versatile solution for raised and hard floor installations, with a cooling capacity of 30 to 250 kilowatts. It features advanced heat exchangers, high-efficiency fans, control valves, and harmonic filters for stable performance. For reliability, it includes automatic transfer switches and ultracapacitors for rapid fan activation during power disruptions, ensuring consistent operation even during outages.

Smart optimization with Daikin's iPlant manager

To help data center operators enhance cooling efficiency, Daikin has launched the iPlant Manager - a smart, centralized platform designed to optimize the performance of chiller plants. Leveraging machine learning and model predictive control, this advanced system significantly improves energy efficiency.

Daikin: A long-term partner

Today's high-performance data centers are the backbone of digital economies. Their success depends on robust, efficient, and intelligent cooling systems that adapt to regional needs while maintaining superior performance. Understanding these needs, Daikin offers expert support every step of the way, from initial consultations and system design to fast delivery, smooth installation, and ongoing maintenance.

Daikin engineering experts are ready to work with you to design the ideal data center tailored to your needs. Our commitment is to deliver year-round efficiency and decrease your annual running costs, empowering you to drive the future of your business while advancing performance, sustainability, and operational excellence.

With over a century of cooling innovation, a global team of 103,000 professionals, and 120 manufacturing facilities across five continents, Daikin offers advanced solutions rooted in expertise. These solutions are tailored to meet the Saudi critical infrastructure needs, ensuring data centers driving the region's AI transformation are equipped with efficient, sustainable cooling systems for the digital future.



a track record of designing and executing those types of large projects. We are similarly experienced in AI-first infrastructure, meaning we can anticipate large rack densities and scale-up facilities with the support of technologies like direct-to-chip liquid cooling."

BUILDING FOR THE FUTURE

As Rajit suggests, a hallmark of DataVolt's recent success has been the company's willingness to build for the future rather than retrofitting facilities from the past. The approach has assisted the company in its home market of Saudi Arabia, as well as growth markets like Africa and Central Asia.

Across its footprint, DataVolt is supporting AI infrastructure growth and sovereign cloud models. Crucially, the company

has specifically designed its data centres in keeping with growing demand.

"In terms of sovereign build out, it's important to recognise that governments and enterprises today need data localisation," Rajit notes. "More regulatory control and digital independence is the paradigm we are all operating under, so our whole business model and entire infrastructure stack supports national clouds, local hosting compliances, and public/private partnership frameworks."

As well as being highly advanced technologically, every new DataVolt data centre campus is designed to align with the company's ambitious Net Zero vision. Predicated on pillars of renewable energy and circular cooling, these Net Zero data centres are at the heart

of DataVolt's commitment to sustainability – both internally, and for the company's clients. The company recently announced plans to develop a 1.5GW facility in Oxagon, Saudi Arabia, which is set to be the Kingdom's first sustainable, net-zero AI factory campus.

"We have taken Net Zero from aspiration to action at DataVolt," Rajit asserts. "We are proud to be part of a group with a very strong ESG framework, so we push for Scope 1 and Scope 2 decarbonisation right across the value chain – from material sourcing, right through to how we undertake operations."

AMBITIOUS PLANS

Operating on a broad scale, DataVolt requires a talented workforce to enable the smooth running of the business and encourage its growth. Consequently, developing local talent pools and securing a pipeline of future employees has become an important activity for the business. Just this month, DataVolt launched a new Data Science and AI Diploma in Saudi Arabia, adding to its existing sponsorship of 120 digital infrastructure engineering students across both the Kingdom and Uzbekistan.

"Talent is very scarce," Rajit declares. "This, in particular, is one of the most difficult industries for recruitment and talent sourcing. As a result, we have made significant investment into training programmes and academy partnerships to help us build capabilities from within. These are long-term, multi-year initiatives that will develop the operators of tomorrow."

Many of DataVolt's comprehensive training plans will reach completion around the same time that the company's first data centres go into full operation, enabling a smooth

transition from education to full-time employment for participants. This process is likely to begin around the end of 2026. Until then, DataVolt is looking to consolidate its market presence, navigate regulatory challenges, and prepare itself for some of the exciting projects ahead.

"Whether we are operating in Saudi Arabia or Uzbekistan, we encounter unique compliance and licensing hurdles," Rajit comments. "It has encouraged us to become an active partner to government agencies, exhibiting our ability to deliver reliable, affordable, win-win solutions for national economies."

"Going forward, we remain focused on our home market of Saudi Arabia, alongside increasing activity in Africa and

Central Asia. Headlining our ambitious plans are key projects like the data centre campus and AI hub we are creating for Oxagon in Neom, Saudi Arabia. With construction imminent, it is our single biggest project to date, and one of the most ambitious AI-ready Greenfield projects on the planet. Elsewhere, in Uzbekistan, we

are underway on construction of our first 12 MW Net Zero data centre in Tashkent.

"Saudi is an ideal hub for strategic exploration into burgeoning markets like Africa. Wherever we operate though, at DataVolt, we have the ability to perform transformational projects that will shape the future." ☺





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