Democratizing the adoption of AI for startups and enterprises using 100% renewable energy

Accelerating AI adoption by building next-generation data centers powered by renewable energy to provide high performance AI services.

Business needs

IREN sought to gain a competitive edge by accelerating the launch of its AI Cloud Service offerings for start-ups and enterprises – while reducing the environmental impact of these energy-intensive workloads.

Business results

Democratizes access for compute and energy intensive AI workloads for start-ups and enterprises.

Delivers sustainable AI Cloud Services powered by 100% renewable energy.

Accelerates data transfer rates, three times faster than anything seen before by balancing power, performance, and cost-efficiency.

Expedites IREN's time to market following quick delivery turnaround.

Solutions at a glance

- Dell PowerEdge XE9680 servers with NVIDIA Tensor Core GPUs
- Dell AI Factory with NVIDIA

NVIDIA

DELLTechnologies

Delivering on IREN's AI vision

As start-ups and enterprises increasingly rely upon AI workloads, IREN aimed to capitalize on this growing demand by offering power-dense compute services with a difference – using 100% renewable energy to power its data centers. Headquartered in Sydney, Australia, IREN has built data centers in North America to offer AI Cloud Services close to sources of renewable energy such as hydro, solar and wind.

With the cost of AI integration proving a barrier to entry for many businesses, IREN wanted to make power-dense workloads more accessible by bypassing the need for direct hardware investment - but it needed to act swiftly to be among the first businesses to offer such a service. Having assessed numerous options and received assurances about meeting its time to market goals, IREN chose Dell Technologies as its primary provider of data center infrastructure solutions.

Proven power, scalability, and tolerance

IREN deployed the Dell AI Factory with NVIDIA, consisting of large clusters of PowerEdge XE9680 servers with NVIDIA H100 GPUs.

By combining Dell's AI infrastructure and NVIDIA's industry leading GPUs with comprehensive turnkey strategies and automated workflows, the Dell AI Factory with NVIDIA enables organizations with the confidence to securely develop and deploy generative AI at scale. For IREN, this allowed them to provide a cost-effective and scalable solution for AI workloads.

AI Cloud Services help IREN's customers smoothly deploy and integrate AI solutions for their business. By granting them on-demand access to NVIDIA GPUs and allowing the dynamic adjustments of GPU resources, LLMs can be tailored to unique project needs.

This makes IREN the go-to service provider for businesses running financial, gaming, and virtual reality workloads,

delivering high-quality, real-time graphics rendering for immersive experiences – all within a cost-effective service.

One business customer, a Web3 accelerator and hub, was impressed with the performance of IREN's GenAI infrastructure, with data transfer rates three times faster than anything they'd seen before — illustrating how choosing renewable energy doesn't mean prioritizing sustainability over performance.

Moving with speed and purpose

Prior to launching its offerings, IREN had sought an experienced partner to guide its AI hardware journey and support its growth ambitions. While it already had the security and operational control of its own data center facilities, it had additional requirements. These included a physical infrastructure capable of supporting power-dense computing applications; a reliable solution that would ensure a high degree of uptime; and an experienced partner with market-leading AI credentials. IREN opted for the Dell Technologies AI Factory with NVIDIA to make these AI plans a reality in the shortest possible time.

Following a consultation with Dell's pre-sales team to understand IREN's needs, the PowerEdge XE9680 servers with NVIDIA H100 GPUs were recommended for its ability to handle AI, cloud, and GPU-based workloads, while delivering the performance and scalability IREN's customers require. Just as crucially, Dell was able to meet IREN's stringent delivery timelines, enabling it to capitalize on the emergence of AIaaS and GPUaaS and position itself as a market leader.

Flexibility was also important to IREN. The form factor of the PowerEdge XE9680 servers enables well over 70kW per rack in terms of power density. To meet growth in demand, IREN can easily increase rack density by fitting more compute capability into its purpose-built data centers.
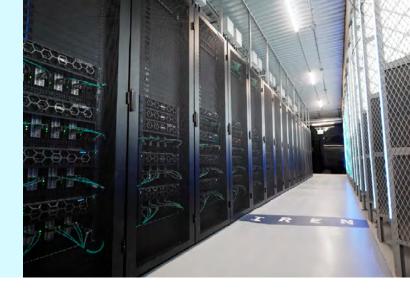
> "The system performance has been extremely good. Our customers are very happy with it, and we're able to offer that in a cost-effective manner with very high uptime."
>
> Kent Draper
> Chief Commercial Officer, IREN

NVIDIA

> "**Dell overcame supply and demand imbalances to deliver servers with GPUs when others couldn't, allowing IREN to be early to market with AIaaS.**"
>
> Kent Draper
> Chief Commercial Officer, IREN

With IREN's data centers located in some of the warmest environments in the US, the PowerEdge XE9680 was chosen for its reliability in hot temperatures. Capable of operating using 100% outside air cooling in 35-degree heat, it provides consistent performance, all year round — essential for IREN as it seeks to minimize downtime for its customers.

Advancing the AI space

Balancing power, performance, and cost-efficiency is crucial for meeting the growing demand for sustainable AI Cloud Services. IREN's success lies in harnessing efficient renewable energy with PowerEdge servers equipped with NVIDIA H100 GPUs delivering the capacity and capability to support its customers.

Prioritizing renewables such as wind, water and solar enables IREN to keep its footprint light, but its impact unmistakable. IREN has found that compared to working with a hyperscaler — where customers may only be able to afford compute capacity for two months — its AI Cloud Services solution provides a year's worth of compute at the same cost. As a result, IREN's partnership with Dell and NVIDIA is reshaping how businesses, from start-ups to enterprises, approach AI workloads.

Dell's industry-leading position at the forefront of this AI revolution was a catalyst for IREN building its own AI factory.

The strategic partnership between IREN and Dell Technologies looks set to continue. With future Dell products such as the PowerEdge XE9680L — complete with NVIDIA's advanced GPUs and liquid cooling — set to transform IREN's huge expansion potential into reality, the possibilities for eco-friendly growth that empower AI initiatives seem limitless.

> "**We like how Dell looks holistically at our data centers as AI factories, where the entire cluster works together, so we can provide the type of services we want to offer.**"
>
> Kent Draper
> Chief Commercial Officer, IREN

Learn More About Dell Technologies AI Solutions and AI Factory with NVIDIA

Connect on Social. X in

D&LL Technologies

NVIDIA