



AI-ready Infrastructure Starts With a Different Blueprint

AI workloads now require newer, more power-intensive clusters, changing how digital infrastructure must be designed.

AI capacity planning now spans the wider infrastructure network.

It is about regional coverage: where capacity is deployed, how it connects, and how each facility balances density, thermal performance, water use, carbon impact, resilience, and long-term adaptability.



Sustainability begins before the first workload runs.

Best-practice design choices include:



Lower-carbon materials



**Design for Manufacturing
and Assembly**



**Circular construction
practices**



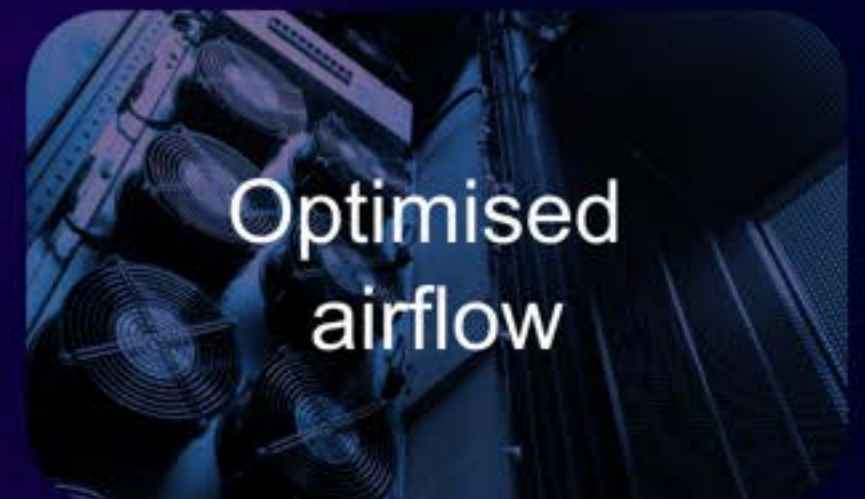
**Battery-powered site
equipment**



**Climate-responsive
architecture**

High-density AI workloads push conventional cooling models to their limits.

An AI-ready facility needs thermal architecture designed around sustained performance.



Best-practice facilities are designed to **reduce dependence on potable water through circular strategies.**



Recycled water for cooling systems



Condensate recovery



Cooling tower blowdown reuse



Rainwater harvesting



Water usage effectiveness optimisation

The aim is not only to consume less, but to design water loops that are more resilient by default.



Nxera's DC Tuas in Singapore shows what the next blueprint can look like.

Singapore's highest power density

Singapore's largest liquid-cooled multi-tenanted data centre

Water use effectiveness engineered beyond Green Mark Platinum

TIA-942 Rated 3 infrastructure with N+1 redundancy



AI scale needs infrastructure that works as one system.

From cooling and water to carbon, resilience and operations, every layer must be designed for sustainable growth.

Nxera is engineering that blueprint for the AI era.

