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DUG brings large-scale green HPC to indigenous people's land in Australia

14h | Antony Savvas

DUG Technology says it plans to build a "carbon-free" high-performance computing as-a-service campus over ten halls, on indigenous people's land in Australia.

It will be powered by renewable energy, with plans to lease 111 hectares of land in Geraldton, Western Australia.

The initial 6MW data hall will have a capacity in excess of 200 petaflops, with plans for expansion to "multi-exaflop scale" once the proposed ten data halls are commissioned, said the company.

The campus will use DUG's patented immersion-cooling technology and will "ultimately" be powered by solar and wind, said the company. An on-site hydrogen battery system is also being "investigated" as part of the project.

The project has the support of the Yamatji Nation Board. The land is expected to pass to the Yamatji Nation Trust later this year as part of the Yamatji Nation Indigenous Land Use Agreement. The planned project includes opportunities and training for the Yamatji people, and is also part of the Curtin University MoU partnership with respect to green innovation and radio astronomy.

Geraldton would become the largest of DUG's global network of data centres, building on the expertise it gained with the design and construction of its Houston, Texas facility - the site it opened in 2019.

The location of the latest project is said to be ideal to play a key role in Australia's involvement in the Square Kilometre Array (SKA) Project - one of the largest international scientific research projects in history.

With respect to connectivity, a commercial high-speed fibre is available and the site is close to the Mid West TAFE which has an AARNET large fibre connection. There is latency of only 3.5 milliseconds from Geraldton to Perth.

Subject to approvals, construction is set to begin in the third quarter of 2021, with the Stage 1 data hall due to be commissioned in the first half of 2022. Stage 1 has a budget of around US$4 million.

DUG CEO and founder Matt Lamont said: "As demand for HPC continues to grow exponentially around the world we must invest in world-leading, carbon-free, cost-effective HPC solutions for our clients.

"We developed our DUG Cool immersion system to reduce the energy footprint of our data centres. Having the ability to utilise this technology at scale would solidify the Geraldton campus as the world standard in environmentally-friendly HPC."