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DUG Technology Plans to Build Carbon-Free HPC Data Centre in Western Australia

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May 25, 2021 -- DUG Technology Ltd (DUG or the Company) has unveiled a proposal to build the world's first carbon-free high-performance computing (HPC) campus powered by renewable energy, with plans to lease 45 hectares of land in Geraldton, Western Australia.

The facility would become home to one of the largest HPC installations in the world, with the initial six megawatt data hall having a capacity in excess of 200 petaflops, with plans for expansion to multi-exaflop scale once the proposed ten data halls are commissioned. Capital expenditure would be staged with demand in line with DUG's HPC strategy to build long lead-time infrastructure early, and populate with compute just-in-time.



The world-class campus would utilise DUG's patented immersion-cooling technology providing some of the most energy efficient HPC on the planet. It is planned to ultimately be powered by solar and wind, and an onsite hydrogen battery system is also being investigated as part of the project. The goal for the campus is to be completely powered by renewables – to accelerate science while simultaneously helping clients achieve their carbon-reduction goals and meet environmental, social, and governance (ESG) requirements.

The project has the full 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 (refer to ASX announcement dated 15 April 2021) with respect to green innovation and radio astronomy.

Geraldton would become the largest of DUG's global network of data centres building on expertise gained with the design and construction of the Company's innovative Houston facility at Skybox. The Houston centre received global recognition as a winner in the 2019 Data Center Design Awards. The planned new campus turbocharges research and big data science for DUG's diverse client base across the global technology, tertiary education and resource sectors which includes, Curtin University and Harry Perkins Institute of Medical Research. Its location is 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. The Company plans to design and operate the facility to meet requirements for the provision of services to all levels of the public sector.

DUG chose the Mid West town of Geraldton as it is rapidly becoming one of the world's premier renewable energy regions. It has an ideal climate for both wind and solar, which complement each other to enable round-the-clock power supply. 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 a latency of only 3.5 milliseconds from Geraldton to Perth – which makes it as good as a CBD location.

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. Using existing cash reserves, the five million AUD budget to build the initial data hall has been approved by DUG's board while details for the energy storage solution remain to be finalised. Just-in-time purchasing for compute allows flexibility and adaptability to evolving hardware availability and client needs.

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 award-winning 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."

"We are thrilled with the support we have received from clients such as Curtin University and the SKA team. This project has such important economic, environmental and social implications. We would be delighted to work with the Yamatji people and extremely proud to be bring employment and training opportunities to regional Australia and indigenous youth."