THE SENATE
SELECT COMMITTEE ON ADOPTING ARTIFICIAL INTELLIGENCE (AI)
ANSWERS TO QUESTIONS ON NOTICE
Commonwealth Scientific and Industrial Research Organisation (CSIRO)
17 July 2024

AGENCY: Commonwealth Scientific and Industrial Research Organisation (CSIRO)

TOPIC: Funding to replace Setonix

REFERENCE: Question on Notice, Hansard page 39

QUESTION No.: 1

QUESTION TEXT:

Senator SHOEBRIDGE: Do you have the funding and the support needed to turn on the next iteration in 3½ years from now? There's a global chip shortage, and it's a bit of a 'hunger games' out there for this kind of computing.

Mr Stickells: At this point, it's not confirmed. We are well supported by the NCRIS program, as an operating facility, and we are contributing our input into the National Digital Research Infrastructure Strategy, the NDRI, which is a part of the road map for research infrastructure, supported through the Department of Education. I'm obviously active in supporting that and looking for that process to commence in this financial year, because, as you've pointed out, Senator, it is a process that takes time to invest in infrastructure to replace it as it gets to end of life.

Senator SHOEBRIDGE: It's also an incredibly tight market, and you've to get your order in early; otherwise, it's going to be another three-year delay in terms of getting access to the chips. That's my loose understanding of the market at the moment. It's incredibly tight, with already significant delays. Am I wrong in that?

Mr Stickells: No, it is a competitive market. One only has to look at the market valuations of Nvidia as an indication of the demand for their product, which is this leading GPU architecture.

Senator SHOEBRIDGE: Just so I don't misunderstand your evidence, Mr Stickells, a positive decision in this financial year would be important for you in terms of that timeframe and of ensuring that the transition to the next generation can work effectively.

Mr Stickells: It would be very positive for Pawsey and its partners to have that degree of certainty to allow the process to be as seamless as possible.

Senator SHOEBRIDGE: Do you have any idea—and you can take this notice on if you like—what the kind of budgetary envelope is for that?

Mr Stickells: I will take that on notice and also just acknowledge that my efforts would be to also work in concert with our national centre here in Canberra. Both national centres provide an important level of support.

Senator SHOEBRIDGE: You can give as much context as you like in the answer.

Mr Stickells: I think it's important that that both takes a national view and gets support from regional governments. It needs a level of scale and direction that is important for the nation.

ANSWER

Pawsey's current high-performance computing, AI and data storage hardware was procured through competitive market tenders and funded by a $70m Commonwealth grant received in

2018/19. The main system, Setonix, was procured for $48m following a competitive tender process. Approximately 80% of the compute power in Setonix is supplied by GPUs that provide the technical platform for AI applications for scientific research. Setonix commenced operations in 2022 and is built on a scalable, heterogenous platform that allows for upgrades and expansions through its normal operational life. To meet growing demand for scientific research using AI, a mid-cycle upgrade for Setonix that focussed on AI architectures would be in the range of $150-$200m and full replacement towards the end of the decade, would exceed $500m. This excludes supporting infrastructure, software development and skilled expertise to operate the host facility.

In terms of international benchmarks in 2024, the Canadian Government announced $2 billion over five years to launch a new AI Compute Access Fund and a Canadian AI Sovereign Compute Strategy.
(See https://www.canada.ca/en/innovation-science-economic-development/news/2024/06/government-of-canada-launches-public-consultation-on-artificial-intelligence-computing-infrastructure.html).

Other countries (e.g. the UK) are also considering similar investments.
(See recent media reports regarding prior announcement of investment allocated to computing power for AI research - https://www.bbc.com/news/articles/cyx5x44vnyeo and https://www.gov.uk/government/news/technology-secretary-announces-investment-boost-making-british-ai-supercomputing-30-times-more-powerful).