

The Pawsey Supercomputing Centre



A world class petascale supercomputing facility that 'makes big science happen'



Improves Australia's capabilities



Enables scalable computational approaches that provide insights into the biggest scientific questions



Empowers world class research

What is the Pawsey Supercomputing Centre?



Makes a major contribution to scientific knowledge



A 1000m² space housing four high performance computing systems



194

research projects are using it



1500

researchers are using it



600

Australians have been upskilled in high performance computing and data skills

Using Pawsey for cutting edge research



CASE STUDY #1:

Improving gas turbine efficiency

- ✓ Delivering gains to the aviation and electricity generation sectors including lowering carbon emissions
- ✓ Accelerating the gas turbine research and design process by at least a factor of 10
- ✓ Computational modelling of gas turbines enables a 1% boost to engine efficiency and reduces costs of air transportation and electricity generation
- ✓ Creates \$11 million in net value to the Australian economy between 2014-2050, with \$6.75 returned for every \$1 spent on research
- ✓ Includes environmental benefits from reduced CO₂e emissions worth \$0.5 million



CASE STUDY #2:

The Murchison Widefield Array

- ✓ Deepens our understanding of the universe
- ✓ Data processed and stored at Pawsey. Can detect massive solar storms to protect against catastrophic damage to power supplies and communication networks
- ✓ Provides an alternative to active radar monitoring for space debris to avoid collisions between satellites
- ✓ Puts Australia in the front pack of hosting the Square Kilometre Array
- ✓ The value to Australia of upskilling researchers, and their international publications, worth \$1.4 million annually
- ✓ The attraction and retention of world class talent worth \$9.8 million in net value out to 2050

www.pawsey.org.au

The Pawsey Supercomputing Centre is an unincorporated joint venture between



Curtin University



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