The Pawsey Supercomputing Centre

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

What is the Pawsey Supercomputing Centre?

Makes a major contribution to scientific knowledge

Empowers world class research

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