



Queensland Government research and development **overview 2014–15**

Compiled by the Office of the Queensland Chief Scientist

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What is research and development?

Research and development (R&D) is 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications'.



basic
research



strategic and
applied research



experimental
development



administration
support



Why does the Queensland Government invest in R&D?



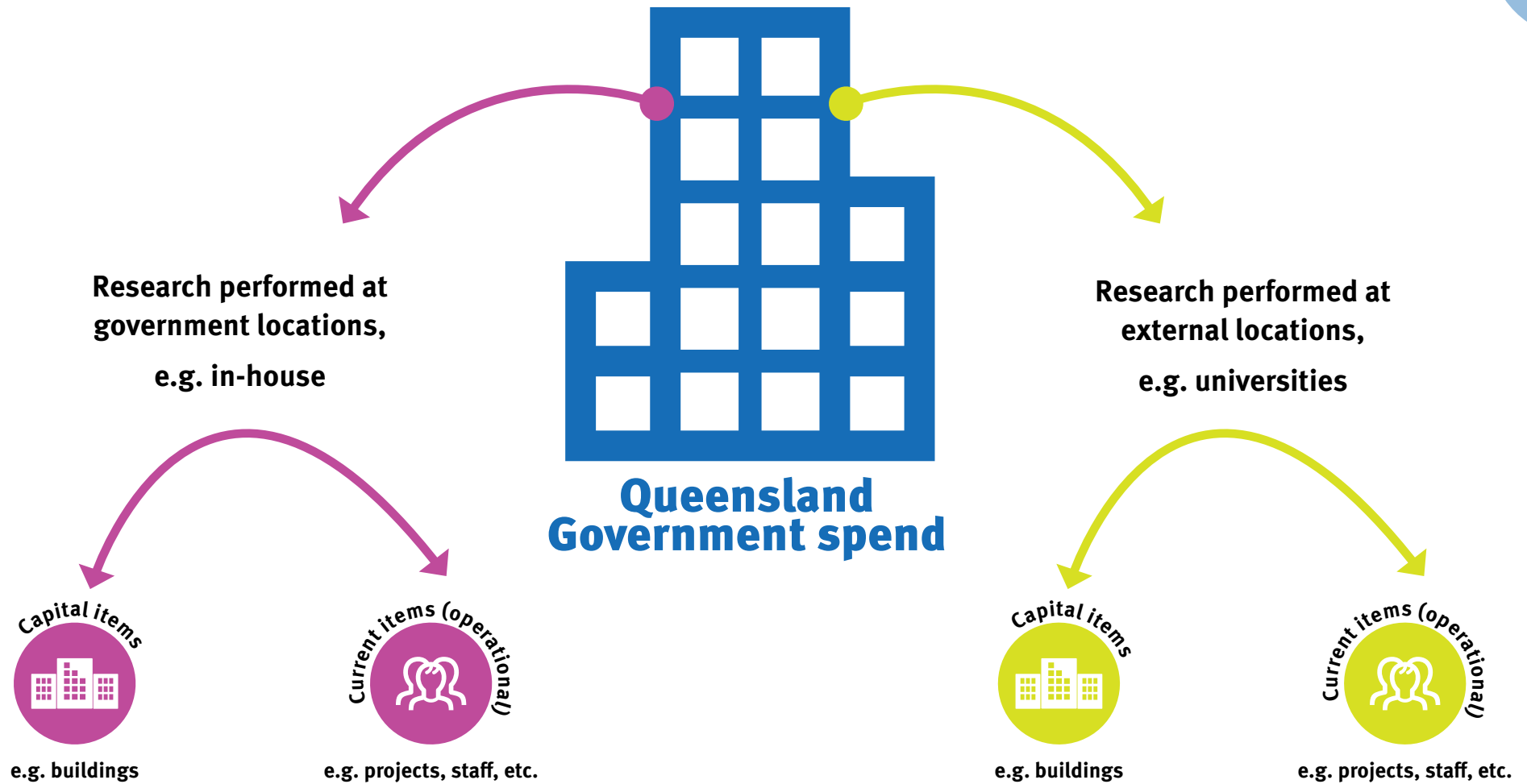
Where does research funding come from?

Queensland Government departments perform and fund a variety of research in locations across the state. Research is performed on government sites and/or at external sites, e.g. universities.

Support is obtained directly from Queensland Government departmental funds and from external sources (leveraged funds).

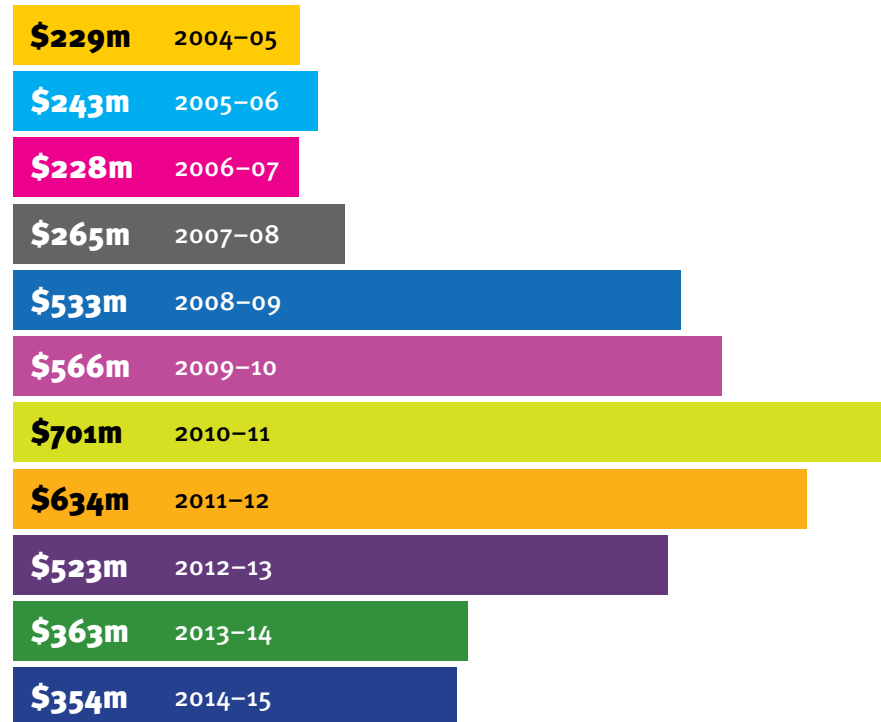


What do we spend R&D money on?



Our historical spend on R&D

Total Queensland Government spend on R&D including leverage



An additional:

\$0.96

was secured from external sources for every dollar invested by the Queensland Government, from the Australian Government, universities and businesses

In 2014-15:

\$180m

was Queensland Government money

\$174m

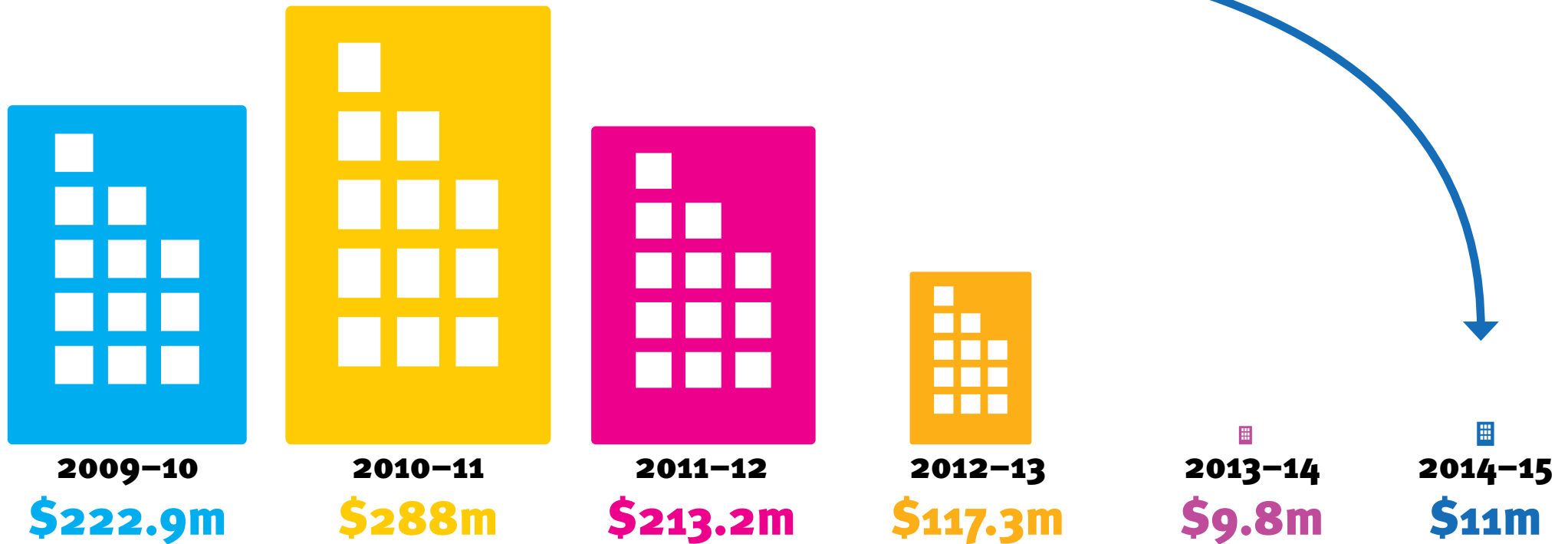
was funding that came from external organisations

\$354m

was spent on R&D in 2014-15 —a 3% decrease from last year

Funding for research has been consistent for the last two years.

We spent **\$11m** on capital investments (infrastructure) in **2014-15**



↑ \$3m
increase in capital investment from the previous year.
Advance Queensland will continue to build our capacity in research with a strong focus on collaboration and translation.

Where did the money for R&D come from?



\$55m

was sourced from universities and businesses



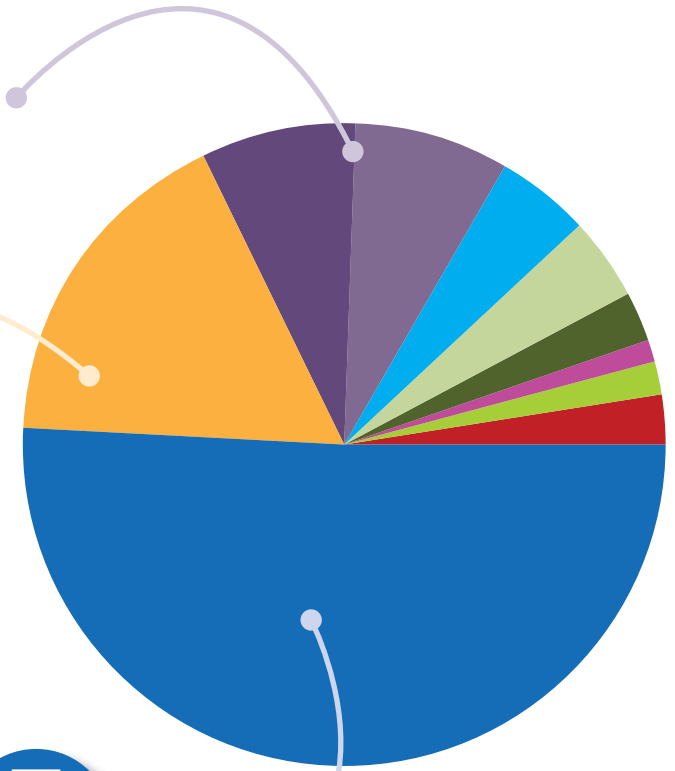
\$60m

was sourced from Australian Government through collaborations and competitive funding schemes

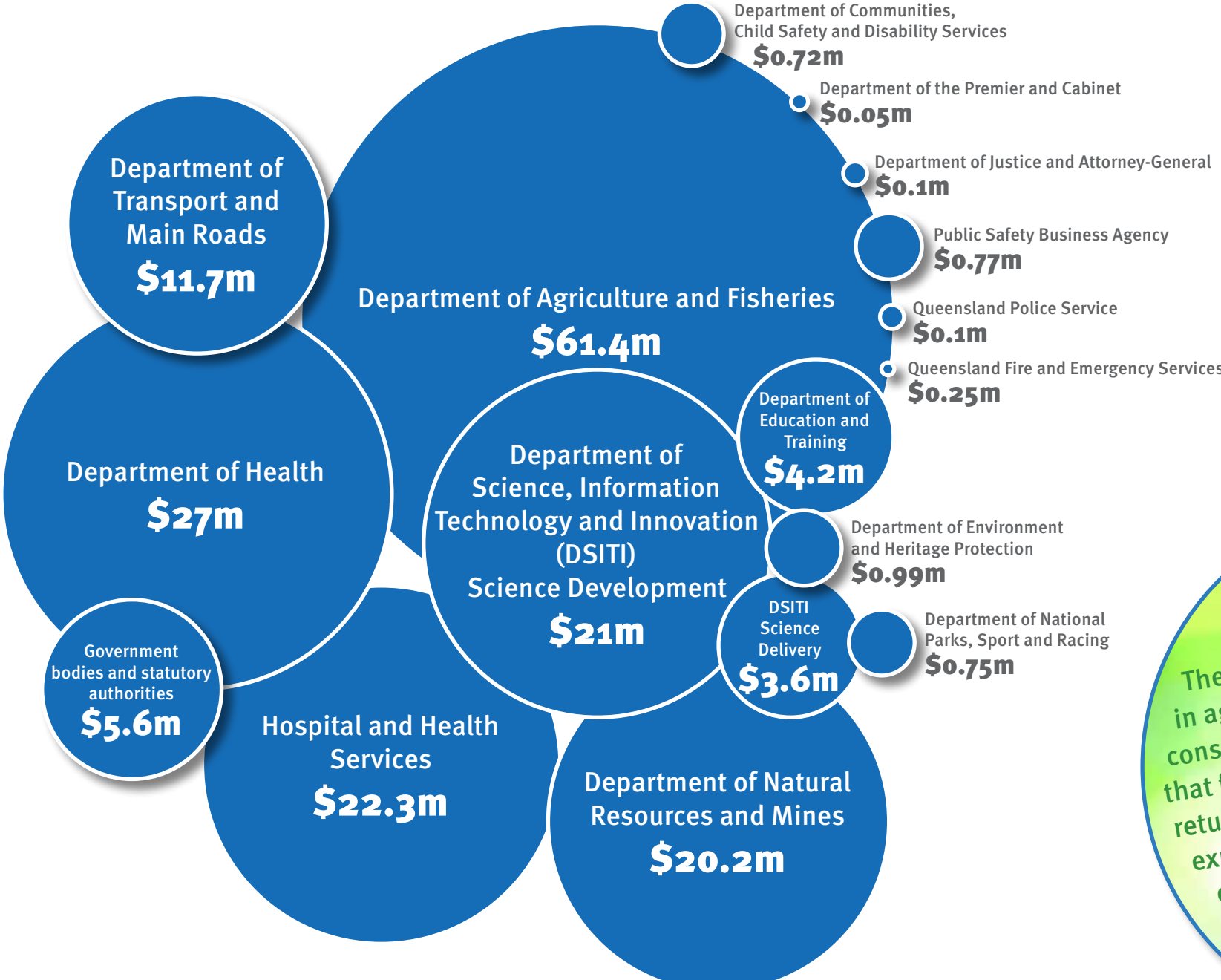


\$180m

(51%) was sourced from Queensland Government departments

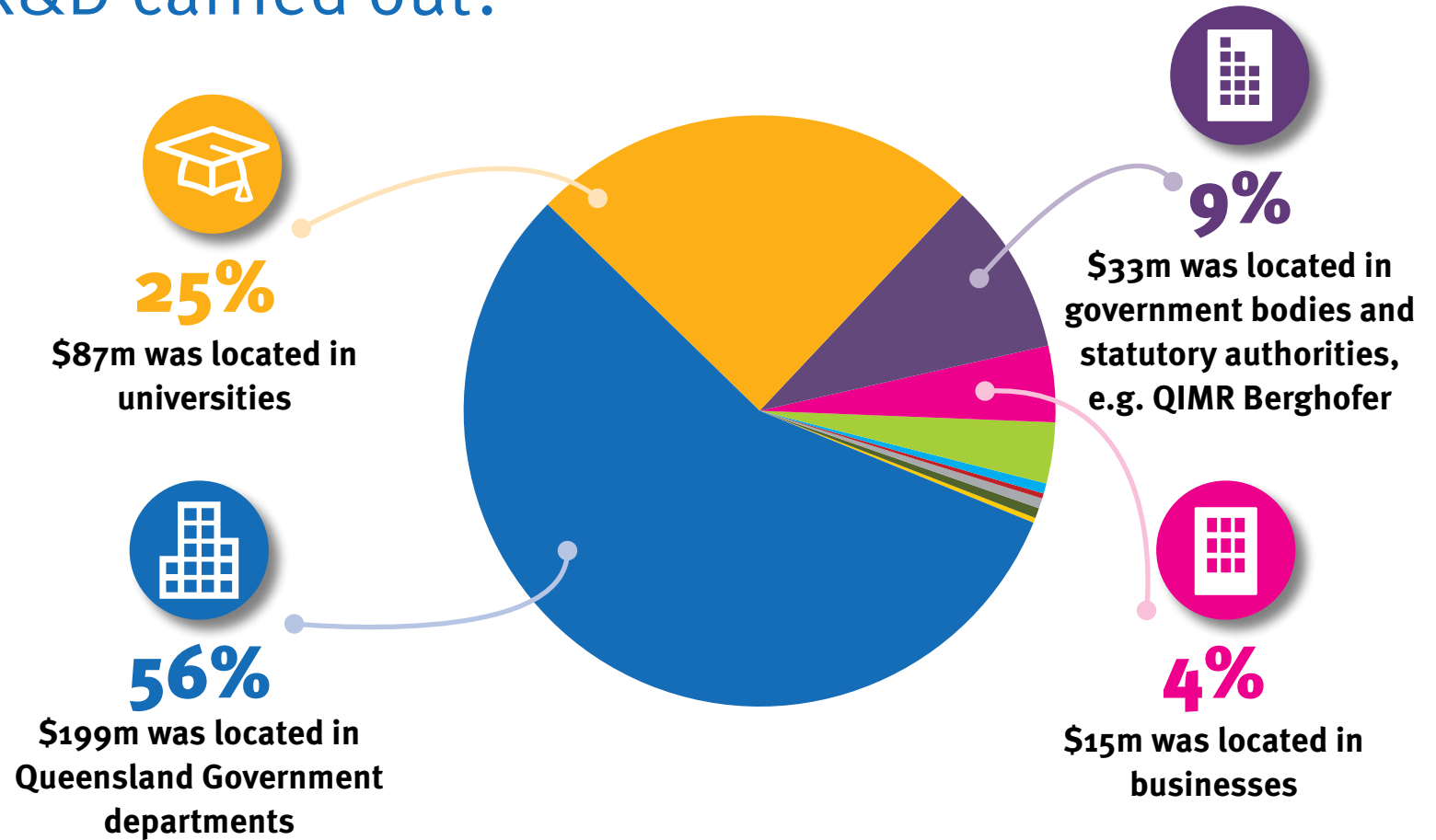


Departments' spending on R&D



The returns from investing in agricultural R&D consistently demonstrate that for every \$1 invested, returns of up to \$10 can be expected over the course of 25 years.

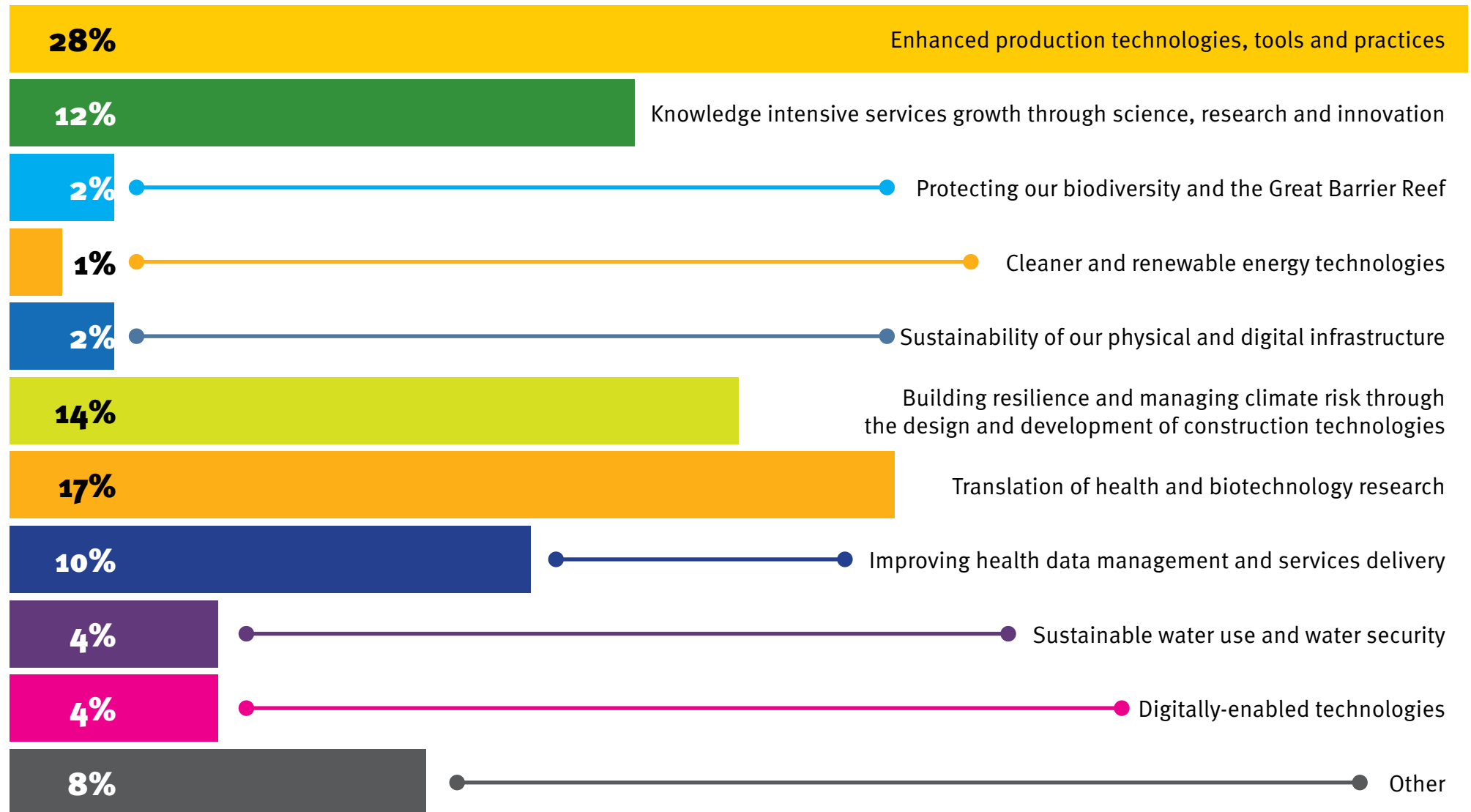
Where is the R&D carried out?



In 2014–15, significant contributions to Queensland's Open Data Program were provided by DSITI's Science Delivery unit in the areas of climate and species data, and spacial, monitoring and modelling.

Our science and research priorities

Percentage of total spend



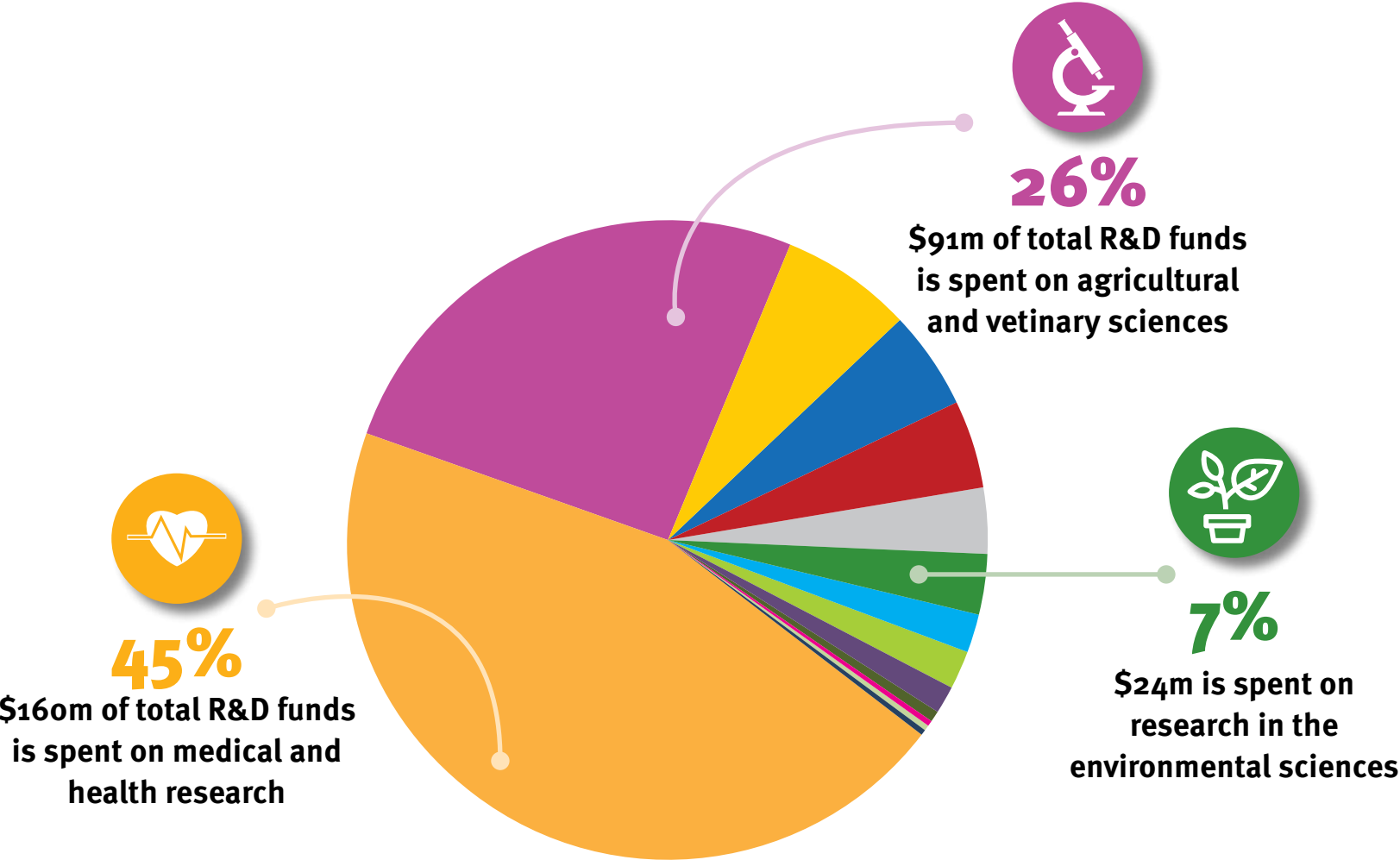
* The Queensland Science and Research Priorities are available on the [OQCS website](#)



Significant investment (from 1998–2011) in capital, people and projects has laid a strong foundation for research groups working in medical and health research in Queensland.

Queensland research areas

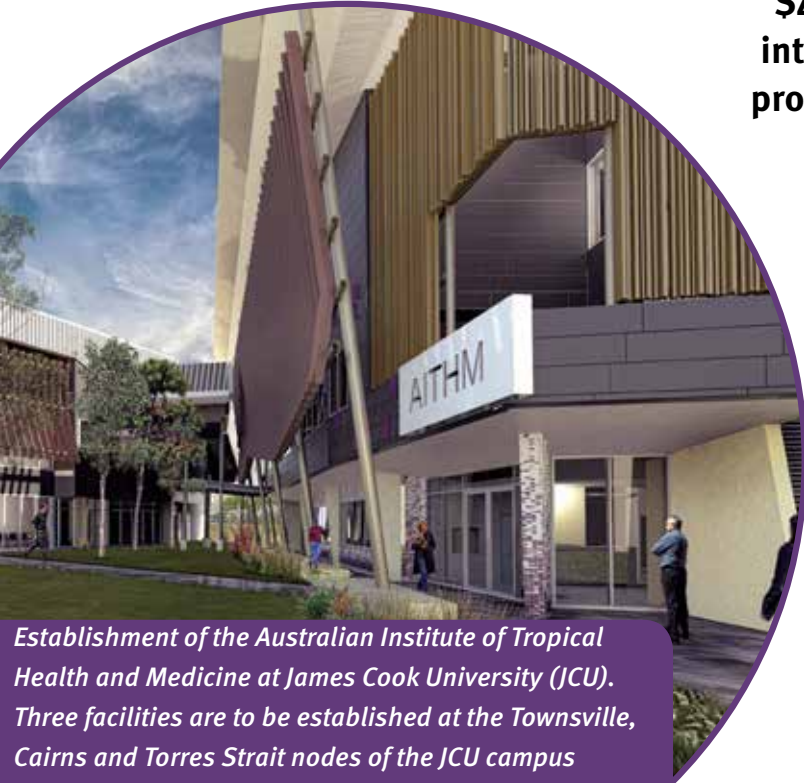
Research activity can be classified according to the field of research and the methods used in the R&D. For example, a project developing an artificial material for use in joint replacements would be aligned with engineering as it uses engineering-based techniques, rather than the health outcome.



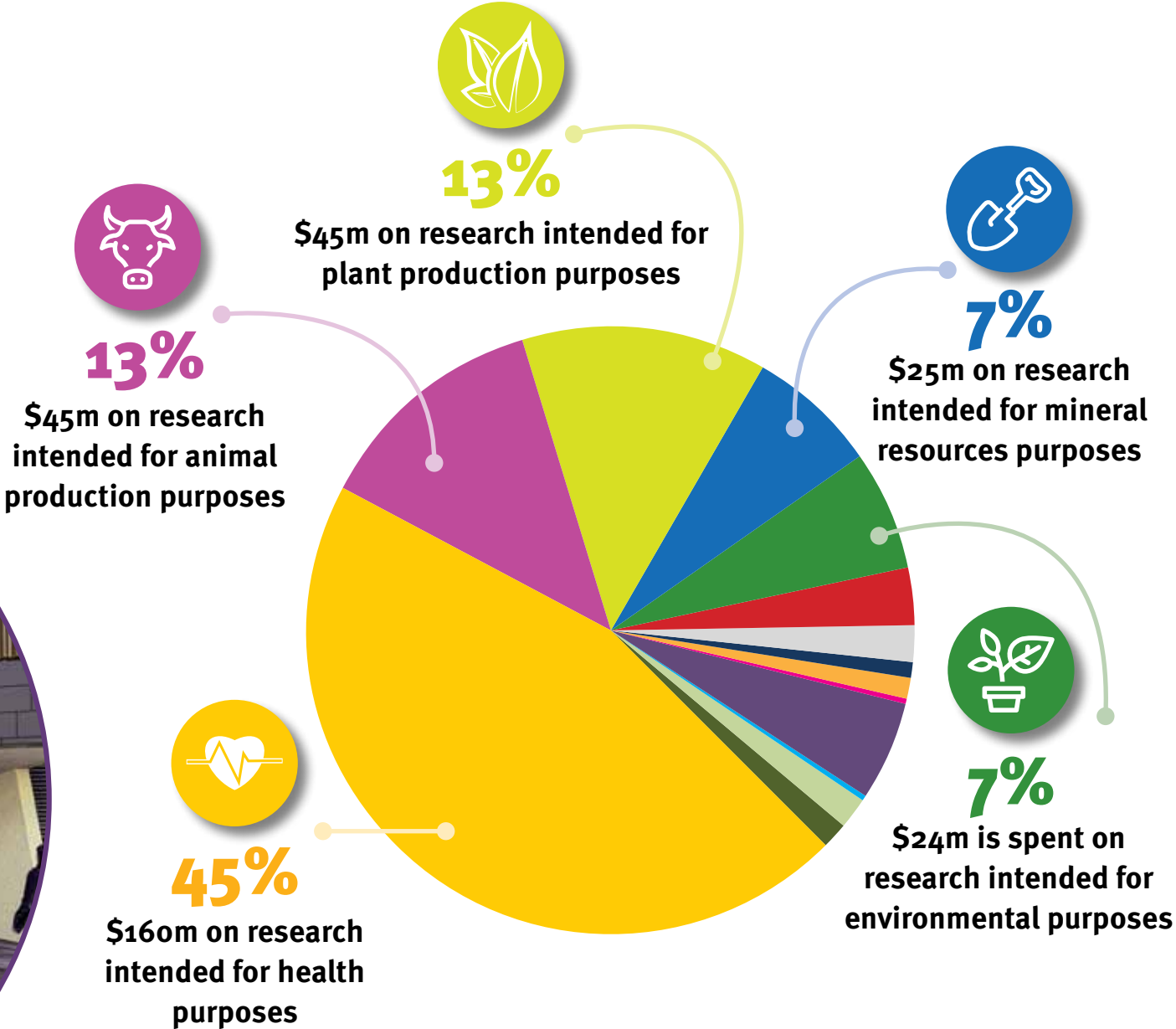
Queensland research outcomes

The outcomes of the research (or purpose) can be different to the area of research or methods used in the R&D.

For example, a project developing an artificial material for use in joint replacements would be aligned with the health outcome as this is the intended purpose of the research.



Establishment of the Australian Institute of Tropical Health and Medicine at James Cook University (JCU). Three facilities are to be established at the Townsville, Cairns and Torres Strait nodes of the JCU campus specialising in infectious and chronic diseases research.



Some of our research in use

Here are some excerpts of collaborative research currently being performed in Queensland. For the full stories, and other research programs, visit the [OQCS website](#)—we encourage you to take a closer look ...

Project ResQu

Project ResQu, a \$7 million two-year project funded by the Queensland Government, QUT, CSIRO, Boeing Research and Technology—Australia, and Insitu Pacific Ltd grew out of a vision to build a resilient Queensland through the application and growth of a burgeoning unmanned aircraft industry.

Queensland has established national and global leadership in a growing aerospace and unmanned aircraft industry which has been further advanced through the relationships and outcomes from Project ResQu.



Making chemotherapy safer to cure cancer

Each year more than one-third of cancer patients who receive chemotherapy in Australia suffer from an infection during, or soon after, receiving treatment as a consequence of the immunosuppression linked to chemotherapy.



Mater Research Institute—University of Queensland (MRI-UQ) researcher Associate Professor Ingrid Winkler was awarded a \$360,000 Smart Futures Fellowship from the Queensland

Government to undertake research into the complications of chemotherapy. The funding was provided over three years 2010–13, and was matched by MRI.

The complications of chemotherapy mainly derive from damage to the stem cells in the bone marrow that regenerate blood and immune systems, leaving patients susceptible to infections.

Queensland–British Columbia drug discovery alliance

This project aims to discover potential new drugs from natural products, drawn largely from Queensland's tropical regions, by establishing a research alliance between the Eskitis Institute at Griffith University, the Australian Prostate Cancer Research Centre at the Queensland University of Technology and two British Columbian-based research organisations—the Centre for Drug Research and Development and the Vancouver Prostate Centre at Vancouver General Hospital.

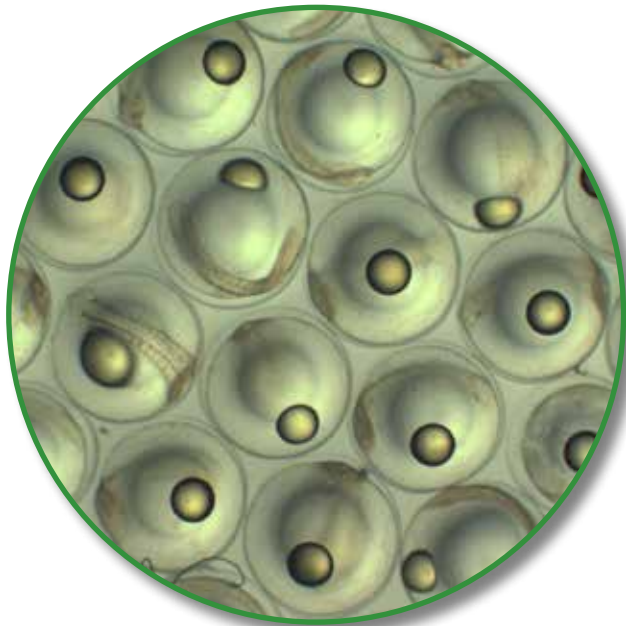


Some more of our research in use

Cobia—a new high-value fish product from Queensland

In eight years, the Department of Agriculture and Fisheries Cobia research and development team has taken Cobia from a wild fish with recognised aquaculture potential to an award-winning new seafood served in high-end Australian restaurants and Qantas business class.

The research program was a genuine multi-disciplinary partnership between different research groups within DAF, the university sector, and private industry.



Emergency vehicle priority

The Emergency vehicle priority is a revolutionary approach to creating safer communities through integrating intelligent transport systems with emergency service dispatch systems.

First conceptualised in 2006, an initial proof of concept project was introduced in Bundaberg in 2008 to explore feasibility.



Science of Learning Research Centre

In 2013 the University of Queensland was part of a consortium awarded \$16 million over four years from the Australian Research Council and industry partners for a Science of Learning Research Centre.

The Science of Learning Centre is a collaboration between two of Australia's leading research institutes, the Australian Council for Education Research (ACER) and the Queensland Brain Institute (QBI).

