

# A reliable TARDIS for precious research data

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Groundbreaking technology to securely store, transmit and share the massive amounts of raw data used in scientific research has supported several high-profile discoveries only two years after it was rolled out.

Discoveries including the secret to the activation of an enzyme, [plasmin](#), that breaks down blood clots, the mapping of an antibacterial, PlyC, that could be a viable alternative to antibiotics, and the mechanism by which perforin, a protein vital to the immune system destroys [rogue cells](#) in the body, were all supported by an [innovative research](#) data management

system developed at Monash University.

The MyTARDIS system was developed by Monash [biochemist](#) Associate Professor Ashley Buckle in partnership with [software engineer](#) Steve Androulakis from the Monash e-Research Centre (MeRC). The innovative program collects and catalogues research data, from, for example, the Australian Synchrotron, making it searchable, then securely transmits it back to the researcher's institution for analysis.

Associate Professor Buckle said the system was one of very few worldwide to address the problem of more effective management of research data.

"There is an international push to make not only research findings, but the supporting data publicly available," Associate Professor Buckley said.

"With MyTARDIS we are leading the pack and facilitating transparency, which will benefit research outcomes overall."

MyTARDIS also allows the data to be shared publicly, a cause championed by the Australian Research Council and National Health and Medical Research Council. The PlyC, perforin and plasmin studies, all led by Monash researchers, are among the first with full datasets available for use by other scientists.

MeRC Director Professor Paul Bonnington said a deliberate embedding of software engineers with researchers ensured the input of the end-users - scientists - at every step of the development process.

"We understand that [researchers](#) are on a 'journey of the unknown' and that the technology requirements are not understood at the start of the research," Professor Bonnington said.

"We find that if we build the IT infrastructure and systems as the research progresses in an iterative manner with the software engineer working as part of the research team, the resulting IT systems are far more likely to meet the needs of the research community and to deliver real impact."

Currently being used by more than 10 institutions nationally including the University of Melbourne, the University of Queensland and the Australian Nuclear Science and Technology Organisation, MyTARDIS could easily be rolled out internationally.

Provided by Monash University

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