

Data61 Challenges

Data61 Challenges bring together research, industry and government collaborators to develop and deploy data and digital technology platforms for large scale and lasting benefit for Australia.

The Opportunity

Data and emerging digital technologies will play a pivotal role in the transformations that are required in society, the economy and the environment.

Australia’s past economic success was driven to a large extent by its primary industries like mining and agriculture. Future economic growth however cannot rely on this. Over the coming years Australia has a \$315 billion economic opportunity enabled by data and digital technologies.

From a societal standpoint our growing and aging population, ongoing urbanisation and concerns about our environment all present opportunities for Australia to demonstrate leadership domestically and on the global stage.



Technology

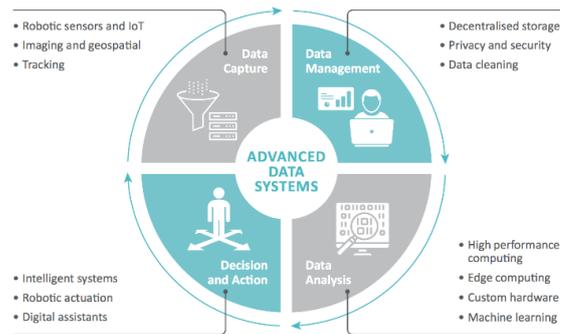
Developments in data and digital technologies are diverse and continue to develop. Technologies that create, manage, analyse and act on data are necessary for Australia’s success.

The Australian research and development community including Data61, universities and industry participants are leading aspects of these digital technologies.

When coupled with cutting edge research from science disciplines such as agriculture, energy, health and the environment the impact can be transformative.

We in CSIRO call this approach “Digital + Domain” – data and digital technology combined with domain expertise and science capability.

DATA INNOVATION RELIES ON SPECIALISED SYSTEMS FOR DATA CAPTURE, MANAGEMENT, ANALYSIS, AND ACTION



The Data61 Challenge Program

The Data61 Challenge program is a mission based innovation program that extends the “Digital + Domain” approach to include industry as integral and essential contributors to achieving a common objective.

The Challenge program is more than a series of collaborative research activities. The goal of the program is to develop and deploy platform technologies based on these transformative data and digital technologies. These platforms will be the result of research and development work programs and be ready to be used by industry, government and others.

We know that success in achieving significant impact is often determined by non-technological factors. These may for example include government policy and regulation, standards and work practises, social acceptance and readiness to adopt

new technology. The Challenge program is designed so that organisations best placed to address these factors are active contributors and have a complimentary roles to the technologists.

The intent is that this holistic approach will provide the technology and conditions that will motivate and enable industry investment in new products, services, business models and jobs. It is this industry investment that will ultimately achieve the outcomes for Australia whether they be economic, societal or environmental.

A Collaborative Model

Data61 Challenges develop science and technology and bring it to life with real world use cases, commercialisation and market development – this requires multi-disciplinary collaboration. Data61 will provide core digital technologies and program leadership. Other members of the collaboration bring with them a contribution that speaks to their strengths. Examples of these contributions include knowledge of Industry needs and real use cases, science capability, intellectual property, technology development, market access and development, policy support and financial investment.

We start by identifying broad opportunity areas – these may be sector specific (eg: digital agriculture, precision health) or multi-sector (cybersecurity, supply chains). This is done through a combination of market analysis, industry and government engagement and by working with researchers in these domain areas.

Having identified an opportunity area and formed an initial view on the technologies that are likely to be required we will engage with internal and external collaborators to define a transformational vision over a 5 to 7 year timeframe with desired outcomes in the short and medium term. Informed by this vision we invite collaborators to work with us. Together we then validate and refine the vision and define a program of work. We anticipate engaging with collaborators both individually and with consortia.

The work program is then structured in fixed period iterations or “sprints” of several months. This approach allows course corrections to be made as required and in response to changing technology and market conditions. Organisations can participate for shorter or longer periods typically from one to several years.



Food Provenance – Our First Mission

Food security and guaranteeing the authenticity and quality of food are all topical in Australia and globally.

In June 2017, CSIRO released its food and agribusiness future growth roadmap - entitled “Unlocking value-adding growth opportunities for Australia”. An industry consultation process identified “traceability and provenance” as one of five enablers of growth. Other enablers include food safety and biosecurity, market intelligence and access, collaboration and knowledge sharing and skills.

Food Provenance is the subject of our first Data61 Challenge area. We have identified and are working on a range of technologies that address product identification, information processing and human factors affecting consumer confidence. Initial research, industry and government partnerships are being formed. In the short term we will be working with our collaborators to define the vision, roadmap and measures of success.

Getting Involved

Each organisation will have different reasons to participate. For governments, investment into the Challenge program ensures that government resources are focused on real world impact. Industry participants will benefit directly from the technology platforms that result from the program. Researchers can undertake their efforts knowing that there is the intent to translate that research into real-world impact. For all participants the opportunities to work on a multi-disciplinary, multi-organisational mission will provide new insights, create new opportunities and develop stronger working relationships.

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WE DO THE EXTRAORDINARY EVERY DAY

We innovate for tomorrow and help improve today – for our customers, all Australians and the world. We imagine. We collaborate. We innovate.

FOR FURTHER INFORMATION

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