His Excellency Mr Duncan Lewis AO DSC CSC
Australian Ambassador to Belgium, Luxembourg, the European Union and NATO

Research Data Alliance, Gothenburg, Sweden, 18 March 2013

Topic: “Towards an Open Access Research Data without Barriers or Borders – RDA Mission”

INTRODUCTION

Thank you Professor Wood.

Commissioner Kroes and distinguished guests.

Good morning. It is a pleasure to be here and an honour to be asked to speak at this important launch.

As Josh Sommer said in the Nature Medicine Journal in 2010, perhaps dramatically, ‘The delay in sharing research data is costing lives’¹. And so it is—we have no time to waste.

It’s a pleasure to see such a large group of like-minded researchers and governments working towards a common goal. Australia, the EU and the US have much in common through shared values etcetera. One societal aspect we all share I the Irish—Ireland is an EU member state and has generated large immigrant populations in the US and Australia that has produced Presidents and Prime Ministers. It is the thoughts of the great Irish playwright and Nobel Prize winner George Bernard Shaw I want to begin with this morning. Bernard Shaw wrote:

> If you have an apple and I have an apple and we exchange apples then you and I will still each have one apple.
> But, if you have an idea and I have an idea and we exchange ideas, then each of us will have two ideas.

With the words of George Bernard Shaw ringing in our ears, it’s an honour for me to represent Australia and talk to you about our ideas and how committed we are to enhancing international collaboration on digital research data.

In 2007, a key Australian report, Towards an Australian Data Commons, posed two questions ’Why data and why now?’ and proceeded to reply by noting simply that, ‘We are in a data deluge. It can only continue and grow in intensity’.

This report was seminal in Australia’s development of its approach to research data.

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¹ Sommer, Josh 2010. ‘The delay in sharing research data is costing lives’, Nature Medicine, vol. 16, no.7.
It recognised that the number, frequency and resolution of data sources was rising.

It recognised that information is becoming universally ‘born digital’.

And it recognised that the value of data rises as collections and aggregations are formed around it, and as the data becomes more available.

We are certainly here today to talk about how data can become more available.

We Australians are here to further strengthen collaborations that we have developed over recent years with the European Commission, the United States of America and our other international partners.

Australia’s participation in European Commission activities, including last year’s meeting in Rome that my esteemed colleague, Commissioner Kroes mentioned earlier, has opened doors for us internationally. It has opened doors for all of us internationally.

And one of the most important of those doors has led us to the Research Data Alliance. Data-driven innovation is critical to scientific progress, commercial success and societal outcomes for the coming years. Common tools, standards and best practice are necessary to remove needless impediments to international collaboration. The Research Data Alliance has been launched to achieve just these goals.

WHY WE ARE HERE

The world - and our understanding of it - is changing rapidly.

And we need to keep up!

We’re here today ultimately to advance global cooperation on science and research. And to do that, we need to advance global cooperation on digital research data.

Recognising the monumental size and complexity of data – research data – as one of the drivers of this change, and adapting accordingly, is absolutely essential.

And now is the time.

It’s that simple. At least articulating the goal is.

And the attendance at this launch indicates the level of recognition that this goal is receiving globally.

Some of the most pressing problems for our planet require new ways of undertaking, sharing and harnessing the significant amounts of research data that is available.

Australia has much unique research data and is keen to partner with others on data rich research.
We in Australia have invested significantly in research data and its associated infrastructure and we stand ready to partner.

**A KEY AUSTRALIAN EXAMPLE**

If I might move straightaway to an Australian example . . .

We want your help looking after our possums!

Some of Australia’s possums live in rainforests in the tropical north of Australia. They live as high in the rainforests as they can so they can stay cool enough. If the temperature rises for too long, they will die.

So Australia needs national parks that are tolerant of seasonal temperature rises so that they can support the possums, which means that we need to better understand climactic variations.

And this in turn means that we need very good climate modelling, good data on possums, and good data on tropical habitats.

Australia can do the research on possums, but we seek partnerships to build international data collections that model climate and the tropical response to climate change.

**EXAMPLES OF OUR INTERNATIONAL PARTNERSHIPS IN DATA**

We have many other data intensive research projects that are world-class and are forging international partnerships.

Partnerships that enable complementary capabilities to tackle new complex problems of national and global significance together.

For example, we have established an Integrated Marine Observation System – IMOS - an integrated collection of observation equipment in Australia’s oceans that gathers physical, chemical and biological data, made available openly and freely for the benefit of Australian marine and climate science.

- And through this initiative, we partner with the EU and the US on the Ocean Data Interoperability Platform project, or ODIP, to harmonise ocean data standards to make a global difference.

We have established the Terrestrial Ecosystem Research Network – TERN - to capture data from flux towers (which measure the movement of carbon dioxide, water vapour and energy between the terrestrial layer and the atmosphere), satellites and field surveys to provide a comprehensive description of Australia’s ecosystems. This data facilitates the effective management and sustainable use of Australia’s fragile ecosystems.
And through the Terrestrial Ecosystem Research Network, we’re collaborating with the National Ecological Observatory Network in the US to build a global data picture of ecosystems.

And of course, we are partnering with South Africa in creating unprecedented levels of data for astronomy research through the Square Kilometre Array radio telescope.

- The Square Kilometre Array will be 50 times more sensitive than any other radio instrument - able to detect an airport radar on a planet 50 light years away.
- Its dishes will produce 10 million times the current global internet traffic.

And while I’m certain that this audience can speak in more technical terms, I am astounded by the suggestion that the raw data collected by the Square Kilometre Array in a single day would be enough to fill 15 million 64 gigabyte iPods and would take nearly two million years to play back!

It is clear that the volume and complexity of data present great opportunities as well as great challenges.

AUSTRALIA’S APPROACH TO RESEARCH DATA

I’d like now to talk more about the Australian perspective on research data.

Last year, the Australian Government released its National Research Investment Plan.

This plan informs decisions by the Australian Government in relation to its level and balance of research investment over the next three years.

So, it won’t come as a surprise that data management was identified as a key component.

In fact, the plan states: “Australia’s key research challenges will be increasingly data intensive and data driven”.

The Plan was developed by the Australian Research Committee (ARCom) which is chaired by the Chief Scientist for Australia and includes senior officials from across the Australian Government and university sector.

Recognition at a high level of Government as well as from the Chief Scientist is an important step.

The Plan also highlighted the need to examine a whole-of-government approach on open access to publicly funded research.

I’ll come back to open access a little later.
Before the National Research Investment Plan, Australia considered data through the lens of the supporting research infrastructure.

The 2011 Strategic Roadmap for Australian Research Infrastructure lays out very clearly the priorities for research infrastructure in Australia on a national scale.

In the same way that the National Research Investment Plan recognised the importance of data, so did the Roadmap.

It clearly stated that Australia’s ongoing research success will depend on the development and improved management of national and global research data environments.

So it’s no wonder that Australia is an eager participant in the Research Data Alliance.

**eRESEARCH INFRASTRUCTURE AS A BASIS FOR PROGRESS**

I spoke earlier about some of the data intensive initiatives in Australia, like the Integrated Marine Observing System and the Square Kilometre Array.

But it’s becoming quite clear that there is an increasing range of research capabilities across multiple discipline areas that rely on complex and massive datasets. For example, the boundaries are often pushed in health research, climate projections and bioinformatics.

Capabilities such as Bioplatforms Australia, which is partnering with the European Molecular Biology Laboratory to establish an online data resource that mirrors some of the data and services provided by the European Bioinformatics Institute.

Another example is the Population Health Research Network (PHRN). This is a ground-breaking Australian initiative which creates a national data linkage network that brings together Australian health data and connects it with social data, such as justice and education data, in order to underpin vital health research. Research such as monitoring pneumonia-related hospitalisation rates amongst indigenous children in order to assess the effectiveness of health campaigns and vaccine programs.

And to come back to possums and climate related research, and to working out some of the impacts climate change may be having:

- it is necessary to match data from Intergovernmental Panel on Climate Change projections with painstakingly taken individual observations of possums with remote sensed data about the state of the environment such as the state of foliage in national forests, or long term time series of rain data.
- All towards establishing whether a habitat may be one in which possums can survive in now or into the future.
To provide the underpinning infrastructure necessary to advance these research capabilities and others, the Australian Government has invested over $500 million in eResearch infrastructure.

Infrastructure that enables researchers to create, analyse, model, store and access data.

And I’m pleased to report that these projects are moving us towards a robust, national approach to digital research data\(^2\) across the sector. Data such as is collected through such instruments as the Australian Square Kilometre Array Pathfinder, or from the sensors on seals that help marine observations in the Integrated Marine Observation System, or data that supports species research through the Atlas of Living Australia.

In practice, this has supported the Australian research sector’s ability to deal with large and complicated data sets.

It has brought efficiencies and effectiveness to areas of research, such as the mapping of the human genome. As many of you may know, until there was agreement globally to share data on individual gene sequences, we were unable to put together the human genome.

We now have a suite of state-of-the-art national facilities to boost Australia’s ability to conduct world-class research, to collaborate internationally, and to attract the best researchers from around the world.

**OPEN ACCESS TO DATA**

Coming back to open access, the *National Research Investment Plan* recommended that we examine a whole-of-government approach on open access to publicly funded research in order to capture the full benefit of the government’s research investment.

Australia’s principal national agencies responsible for funding research are the National Health and Medical Research Council – NHMRC - and the Australian Research Council - ARC.

Between them, they were responsible for the allocation of around AU$1.6 billion for research in 2011-2012; around 1.3 billion Euros.

Last year, the National Health and Medical Research Council adopted a mandatory open access policy on the dissemination of research findings. Data collection for public health is expensive and time consuming. Data sharing produces faster progress, better value for money and higher quality science.

\(^2\) The term ‘digital research data’ is intended to cover the broad range of research data (in digital format) across all scientific and research disciplines. Bioinformatics is one example of digital data, but there are so many more, collected directly in digital format from instruments, or digitised – for example 3D models of archaeological objects.
This policy came into effect on 1 July and brings the National Health and Medical Research Council in line with many other international health and medical research funding bodies.

In particular, the National Health and Medical Research Council is seeking to align with bodies like the National Institutes of Health in the United States, the UK’s Wellcome Trust charity and the UK Medical Research Council.

And the Australian Research Council’s move earlier this year to promote a policy of open access to research funded through the Council boosts Australia’s position on open access, right across the spectrum of research disciplines.

The Australian Government also supports open access to public sector data, including ensuring that it is open, accessible and re-useable.

And this is exciting too, for us, because we know that the data researchers need is not always generated by research activity. Governments collect and sometimes publish masses of important data and the more open it is, the more it can be used by researchers, by businesses and by citizens.

These moves by the Australian government and research agencies are recognition that, at least in principle, the results of publicly funded research should be widely available so that the maximum benefit can be gained from the knowledge created.

So, Australia has recognised the data deluge and it has recognised the importance of open access policies and it is acting now to respond to this new reality.

And as I mentioned before, the Australian Government is supporting national, collaborative projects that enhance Australia’s capability in digital research data.

THE AUSTRALIAN NATIONAL DATA SERVICE AS PART OF OUR INVESTMENTS

Key amongst these national projects is the Australian National Data Service, or ANDS.

The Australian National Data Service was established in 2007 and has received upwards of $75 million in direct government funding.

The Australian National Data Service helps researchers and institutions across the country to transform research data into managed, connected, findable and useable resources.

Importantly, the Australian Government is also providing support to enable the Australian National Data Service to participate in the Research Data Alliance as Australia’s Non-Governmental representative.

And we’re proud to do so.
It’s a natural extension of the work that the Australian National Data Service is doing in Australia, and the work that the Australian National Data Service has done internationally.

And it’s a logical step in international collaboration.

This support enables us to demonstrate Australia’s commitment to global cooperation.

And it gives us some bragging rights as we showcase Australia’s capability in digital research data.

It provides Australia with the connections and opportunities to partner with others in exploring some of the most pressing challenges of our time.

Challenges like an ageing population, managing our environment, understanding our distant past, all the way back to the Big Bang, and building cities that respond to all of these challenges.

Australia has invested in research data in all of these areas and wants to be a good research partner internationally.

We have already found advantage in international partnerships.

Australia’s pulsar data—data about stars emitting electromagnetic radiation—was recently made available for easy download and this has led to a strong research partnership with pulsar researchers in China.

Australia is greatly benefitting from its participation in the Ocean Data Interoperability Platform as Australia’s coast and Europe’s coast have some surprising similarities.

This is why Australia is so pleased to be involved in establishing the Research Data Alliance.

Sharing data without boundaries, building partnerships, and innovating together is exactly what Australia would like to achieve in partnership with you.

Thank you.