



MONASH University

# Research Data Management Strategy and Strategic Plan 2012 – 2015

13 April 2012, Version for Public Release

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on behalf of the Research Data Management Subcommittee of the Monash Research Committee.



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## Context

Monash University is a recognised leader world-wide and in Australia for efforts to improve the management of the data generated by and used for research. The University's research data management achievements to date have been documented separately in the [Summary of research data management at Monash 2006-2011](#).

The University's success can be attributed to a number of factors, which define the approach taken at Monash University and distinguish it from the approaches that may be taken by other institutions:

- Senior management of the University recognises the importance of research data management and has invested in this area for more than five years. Research data management has received a higher priority at Monash University than in any other Australian university.
- Research data management has been treated as a multi-faceted issue requiring a university-wide effort, collaborative approaches and a strong sense of shared responsibility.
- Research data is defined broadly and principles are articulated, as much as possible, in format-agnostic ways. Data is produced and consumed in a variety of formats, including digital, print and physical, and the institution recognises that all formats need to be managed.
- Although technology, standards and stakeholder requirements are constantly changing, Monash University has decided to be a leader and early adopter. This involves a range of 'best practice' and 'best effort' activities that aim to practically and incrementally improve how research data is managed. Being a leader involves sharing information, expertise and tools with other organisations to build national capability, not just through the lead agent role in the Australian National Data Service (ANDS), but also as an institution.
- Research data management infrastructure is seen as an essential platform for twenty-first century research. The University seeks to balance the efficiencies that come from a well-managed portfolio of standardised tools with researchers' requirements for flexible and innovative solutions that support research, and does not adopt a 'one size fits all' approach.

The University now needs to invest in an extended program of coordinated research data management activities that holistically addresses technology, professional development and cultural change if it wishes to continue to enjoy the benefits that accrue from improved research data management, to consolidate its leadership role and to seek opportunities in this area for further funding and impact.

# Terminology

The term “research data” is used at Monash University in multiple ways. This reflects local practice as well as a history of varying usages at the Federal government level, and can be a cause of confusion.

This document uses “research data” in two ways, both of which are aligned with the *Australian Code for Responsible Conduct of Research* (2007), the guidelines provided by the federally-funded Australian National Data Service, and the [Monash University Research Data Management Policy](#) and its associated procedures.

1. *Data that is created by researchers in the course of their work, and for which the institution and its researchers have the primary long-term responsibility.* This type of data comprises or contributes to the observations, outcomes or findings of the research (i.e. is an *output* of the research) and can take a variety of forms, including:
  - Statistics and measurements
  - Results of experiments or simulations
  - Observations e.g. fieldwork
  - Survey results – print or online
  - Interview recordings and transcripts, and coding applied to these
  - Images, from cameras and scientific equipment
  - Textual source materials and annotations.
2. *Third-party data, which may have originated within the institution or come from elsewhere.* Many Monash researchers source data from elsewhere for re-use (as an *input*) as part of research projects. This data must be managed legally and ethically, and in accordance with terms and conditions specified by the data owners (e.g. in contracts, licences, re-use agreements). Depending upon the terms and conditions of re-use, Monash University and its researchers may be responsible for any new datasets (*outputs*) that have been derived from the third party data.

“Research data” is also used at Monash to refer to or encompass information about grant applications, publication counts and evidence of research outputs and outcomes. This usage reflects the terminology used for the Federal government’s Higher Education Research Data Collection and for the Excellence in Research for Australia (ERA) quality assessment. In this strategy document, information of this kind is referred to as “research *administration* data”, in line with the recent establishment of the Research Administration Systems Board and Research Administration Strengthening Project.

# Research Data Management Strategy 2012-2015

## 1. Introduction

The [Australian Code for the Responsible Conduct of Research \(2007\)](#) assigns researchers and their institutions the responsibility of addressing ownership, storage and retention, and accessibility of research data. At a policy level, Monash has responded to the Code through the development of a high-level research data management policy framework, which was endorsed by Academic Board in December 2010 to be promulgated actively throughout the university community throughout 2011. There is increasing recognition also that access to research data can raise the research profile of individuals and institutions, increase returns on public investment, promote open inquiry and enable innovative re-use of data to achieve research and community goals.

Continued investment in infrastructure is required, but to make the most of technical tools and services, research data management skills and expertise also need to be developed and retained. Existing pilot programs for building awareness, knowledge and practical skills need to be expanded and offered more flexibly to many more researchers, while professional staff need opportunities to grow into new roles or re-focused positions that prioritise the management of Monash-produced research outputs to the same extent as corporate information and acquired collections of scholarly publications.

This Strategy takes as its starting point the following statement of intent.

Monash University recognises that research data that is better managed, more discoverable and available for re-use will contribute to increased research impact, enhanced research practice (including collaboration) and improved education outcomes. The University aims to maintain its national leadership role around research data management and to fulfil compliance requirements and community expectations. All members of the Monash University community share responsibility to improve research data management in a coordinated and integrated way. This strategy supports the research, education and professional services strategies developed as part of the Monash Futures program.

Five themes have been identified, which map to the goals outlined in the higher level work taking place under the banner of Monash Futures. While this strategy implies a greater commitment to demonstrating the contribution of data management to the University's research performance, it also reinforces the value of activities designed to raise awareness, capabilities and researcher engagement, areas in which benefits can be intangible and difficult to measure quantitatively.

## 2. Contribution of research data management to the Monash Futures agenda

Research data management themes	Alignment with Monash Futures
<p><b>1. Excellence and impact</b></p> <p>Research data is increasingly seen as a first class output and not just a by-product of research. The University needs strategies to maximise investment in the creation and capture of research data and ensure that the dissemination of data contributes to formal and informal measures of research impact.</p>	<ul style="list-style-type: none"> <li>• Translating research to deliver impact (Research Strategy)</li> </ul>
<p><b>2. World class infrastructure</b></p> <p>Researchers need systems and facilities to manage research data well. An appropriate balance needs to be struck between institutional goals around security, efficiency and reporting, and researchers' needs for flexible and innovative solutions that enable collaboration outside the institution.</p>	<ul style="list-style-type: none"> <li>• World class infrastructure (Research Strategy)</li> <li>• Better utilisation of technology (Improved Services)</li> <li>• Efficient, end-to-end processes reducing double-handling and cutting out unnecessary steps (Improved Services)</li> <li>• Services designed based on staff needs and issues (Improved Services)</li> </ul>
<p><b>3. Skills and knowledge</b></p> <p>Researchers need programs that will help them build the skills and knowledge that they need to take advantage of available infrastructure and make the most of their data. The development needs and career paths of data management professionals in central units will also be addressed so that the University can recruit, retain and develop high quality staff.</p>	<ul style="list-style-type: none"> <li>• Superior research training (Research Strategy)</li> <li>• Talent enhancement (Research Strategy)</li> <li>• "Our graduates are the best prepared of their generation, able to reach their full potential in a highly competitive global environment" (Education Strategy)</li> <li>• "An institution which develops the optimal skills, talents and careers of its academic and professional staff" (Education Strategy)</li> </ul>
<p><b>4. Integrity and professionalism</b></p> <p>Research data must be managed in line with University policies, national and state legislation and national guidelines. International best practice and community expectations should inform the ways in which research data is managed at Monash University.</p>	<ul style="list-style-type: none"> <li>• Professionalising research management (Research Strategy)</li> <li>• Transparent high-quality data and information management (Improved Services)</li> <li>• Services designed based on staff needs and issues (Improved Services)</li> </ul>
<p><b>5. Leadership and collaboration</b></p> <p>Monash University is recognised by other organisations in Australia and internationally as a leader in research data management. Technologies and expertise are transferred to other organisations, enhancing Monash's reputation and facilitating collaboration opportunities.</p>	<ul style="list-style-type: none"> <li>• "We have an ambition to become one of the world's top research &amp; teaching institutions" (Monash Vision)</li> </ul>

### 3. Benefits of research data management

#### Researchers

- Save time and improve data quality: repetitious handling is (semi-) automated; data is better organised and easier to find; collections and methodologies are not duplicated
- Get easier access to both raw and processed data they need
- Build skills in data management that enhance employability
- Can more easily find and get access to expertise and infrastructure
- Increase their profiles through data dissemination and subsequent citation and re-use
- Find new audiences and new collaborators
- Gain clarity of ownership of copyright and intellectual property, and terms and condition of re-use
- Reduce risk of theft, loss or mis-use of data, and damage to reputation that may result
- Are rewarded for sharing and disseminating data

#### Institution

- Improve awareness of research practices and opportunities
- Identify more research outputs, and measure citation/re-use of those outputs
- Stimulate new networks and collaborations (research, research platforms, and professional communities of practice)
- Increase compliance and reduce risk
- Improve readiness for audits and changes in funding agency requirements
- Increase funding opportunities

#### Capability partners (eSolutions, e-Research Centre, University Library)

- Improve forward planning and seek economies of scale
- Greater uptake, and more effective use of platforms and facilities
- Increased awareness of researchers' needs
- More streamlined processes for delivering advice and information
- Sustainability through sharing of expertise and re-use of infrastructure – at Monash University and with other institutions

## 4. Research data management at Monash University by 2015

Further developing the statement of intent, aims for research data management can be grouped around five themes:

Excellence and impact	World class infrastructure	Skills and knowledge	Integrity and professionalism	Leadership and collaboration
<ul style="list-style-type: none"><li>• More research data discoverable and available for re-use</li><li>• Re-use of Monash data contributes to formal and informal measures of research quality and impact</li><li>• Systems and policies help make research data available more quickly and easily</li></ul>	<ul style="list-style-type: none"><li>• Systems and facilities that support data management are expanding and improving</li><li>• Researchers make more use of these systems and facilities</li><li>• A range of institutional and discipline-specific needs are catered for</li><li>• Local infrastructure leverages national and international services and facilities</li><li>• Infrastructure supports the management of data, regardless of format</li></ul>	<ul style="list-style-type: none"><li>• Researchers have the knowledge and skills they need to manage data well, and understand the benefits of making data discoverable and available for re-use</li><li>• Data management skills are seen as essential for research and transferable to other workplaces</li><li>• Research data contributes to the educational outcomes of students from an early stage in their academic career</li><li>• Data management professionals have career paths and development opportunities</li><li>• Professional development opportunities meet the needs of researchers from different disciplines and at different career stages</li></ul>	<ul style="list-style-type: none"><li>• Managing data well is seen as a key part of research integrity and professional practice</li><li>• Compliance with Section 2 of the <i>Code for Responsible Conduct of Research</i> is improved</li><li>• All Monash researchers understand their obligations and take practical steps - as individuals and teams - to improve how research data is managed</li><li>• Research data management advisory and technical services are increasingly coordinated and integrated</li></ul>	<ul style="list-style-type: none"><li>• Monash University leads and actively participates in global, national and regional research data initiatives</li><li>• The University is regarded as a partner of choice for collaborative work in this area</li><li>• Data management technologies developed at Monash University are successfully adopted by other organisations</li><li>• Monash University is seen by other institutions as an authoritative source of information and advice</li></ul>

## 5. Next steps and priorities

1. In early 2012, establish a Research Data Management Implementation Working Group under the auspices of the Research Data Management Subcommittee of the Research Committee.
2. The Research Data Management Implementation Working Group will be responsible for developing and implementing a communications plan for this Strategy, including processes for faculty and campus consultation.
3. Concurrent with the consultation process, a number of high priority projects from this Strategy will be planned. These are:
  - a. Framework for the dissemination of research data and metadata (Working Group)
  - b. Framework for technical architecture supporting research data management (Working Group)
  - c. Project to re-develop, expand and better coordinate the program of research data skills development available to Monash researchers (Library)
  - d. Pilot data planning project (Library)
  - e. Other initiatives as determined by the Research Data Management Subcommittee of the Research Committee

# Appendix A: Draft strategic plan 2012-2015

## 1. Excellence and impact

By 2015 a far higher proportion of Monash University's data collections will be readily discoverable and more accessible for re-use. Technical systems and policy frameworks (e.g. licensing) will assist researchers to disseminate data in timely and effective ways, and ensure that researchers are appropriately attributed – and increasingly, rewarded – for their role in contributing data to the 'research commons'. Discoverable and accessible data will contribute to formal measures of Monash research impact: publications for which the associated data are available will be cited more often, and data will increasingly be cited as a research output in its own right. The University will seek opportunities, through ANDS and as an institution, to promote data as a first class research output and to develop methodologies for measuring value in this area. The dissemination of data will also increase informal impact, as stakeholder communities outside the research sector, including industry, government agencies, schools and community groups, recognise Monash as a creator of data collections that can be re-used in different contexts to support the public good, and where appropriate, commercial innovation.

Goal	Initiatives	Key measures	Responsibility/key stakeholders
<b>1.1 Develop a coordinated framework for dissemination and discovery of research data and metadata</b>	<ul style="list-style-type: none"> <li>• Develop a flexible framework that articulates the benefits to the University and incentives for researchers of disseminating data and metadata. The framework should cover:               <ul style="list-style-type: none"> <li>○ Current and emerging systems for making data more discoverable both within Monash and externally (e.g. providing metadata to discovery services)</li> <li>○ Opportunities to link research data with other types of Monash research output and research-related metadata</li> <li>○ Guidelines for responsible dissemination (including implications for commercialisation, e.g. patents).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Framework developed by end of 2012</li> </ul>	<ul style="list-style-type: none"> <li>• <b>CIO</b></li> <li>• University Librarian</li> <li>• Director, MeRC</li> <li>• <i>[Research Data Management Implementation Working Group]</i></li> <li>• Research Administration Systems Board</li> </ul>
<b>1.2 Increase research impact through re-use of Monash data</b>	<ul style="list-style-type: none"> <li>• Contribute to, and adopt standards and technologies arising from, (inter)national initiatives in data citation, including DataCite and the ANDS Digital Object Identifier service</li> <li>• Contribute to (inter)national activities around incorporation of data into assessment of research quality (e.g. ERA, HERDC) and investigate inclusion of published data collections in internal assessments</li> <li>• Consolidate work on data licensing and usage agreements (for both open and restricted access)</li> </ul>	<ul style="list-style-type: none"> <li>• Contributions made to data citation initiatives; examples of adoption of standards and technology</li> <li>• Contributions made to activities on the inclusion of data within research quality assessments</li> <li>• Improved information about data licences and usage agreements (including model agreements) available to Monash researchers by end of 2012</li> </ul>	<ul style="list-style-type: none"> <li>• <b>University Librarian</b></li> <li>• Library</li> <li>• MeRC</li> <li>• eSolutions</li> <li>• Research Administration Systems Board</li> <li>• Research Office</li> </ul>

## 2. World-class infrastructure

By 2015 Monash University will have expanded and improved the quality and functionality of infrastructure for research data management. A portfolio of both discipline-specific and versatile research data management solutions will be in place for collecting, organising and sharing digital research data: this infrastructure will leverage local and national data storage, meet a range of researchers' needs, and be regarded as best practice in the sector. Uptake of these digital data management solutions and the underpinning data storage by researchers will have substantially increased by 2015. Significant efforts will also have been made to improve the storage and management of print and physical data, and to facilitate the conversion of data to digital formats to support new research methods and outcomes.

Goal	Initiatives	Key measures	Responsibility/key stakeholders
2.1 Develop a coordinated and flexible framework for technical development of research data infrastructure	<ul style="list-style-type: none"> <li>• Develop a flexible framework supporting research data management infrastructure, which:               <ul style="list-style-type: none"> <li>○ articulates current and emerging technical requirements and policy issues for interoperability between research data management platforms and:                   <ul style="list-style-type: none"> <li>▪ institutional repository</li> <li>▪ systems for managing research administration information</li> <li>▪ systems for data processing, analysis, visualisation, imaging, and collaboration</li> </ul> </li> <li>○ describes the processes and responsibilities in selecting, developing, deploying, and supporting research data management platforms at Monash</li> <li>○ places technical infrastructure in the context of legislative, policy frameworks, and others including relevant accreditation processes (e.g. ISO27001/2 and ISO17025)</li> <li>○ encourages sustainability, through promoting measures such as:                   <ul style="list-style-type: none"> <li>▪ adopting community-based solutions</li> <li>▪ developing and adopting sustainable maintenance and support models</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Framework developed by end of 2012</li> </ul>	<ul style="list-style-type: none"> <li>• <b>PVC Research &amp; Research Infrastructure</b></li> <li>• MeRC</li> <li>• eSolutions</li> <li>• Library</li> <li>• <i>[Research Data Management Implementation Working Group]</i></li> <li>• Research Administration Systems Board</li> <li>• Research Office</li> </ul>
2.2 Relevant and effective research data management platforms	<ul style="list-style-type: none"> <li>• Be aware of the best-of-breed research data management solutions for particular research disciplines and institutional needs</li> <li>• Strategically deploy and develop RDM platforms for research disciplines with specialised needs</li> <li>• Provide versatile institutional RDM platforms to cater for disciplines that do not have or need a specialised solution</li> <li>• Pursue research grants and national e-Research infrastructure funds (i.e.</li> </ul>	<ul style="list-style-type: none"> <li>• Good fit for purpose, as demonstrated by feedback from researchers and good uptake and ongoing use of the solution</li> <li>• Platforms are accredited to appropriate standards</li> <li>• Increase in grant submissions and</li> </ul>	<ul style="list-style-type: none"> <li>• <b>PVC Research &amp; Research Infrastructure</b></li> <li>• MeRC</li> <li>• eSolutions</li> <li>• Library</li> <li>• Research Administration Systems Board</li> </ul>

	<p>NeCTaR and ANDS) that further enhance research data management infrastructure for researchers at Monash</p> <ul style="list-style-type: none"> <li>• In each of the deployed platforms: <ul style="list-style-type: none"> <li>○ strategically automate data capture</li> <li>○ facilitate the organisation and documentation of research data</li> <li>○ ensure that research data is shareable, that it can be made highly accessible and discoverable, and that is easily reusable</li> <li>○ ensure research data is well linked</li> <li>○ enable unique identification of research data</li> <li>○ integrate research data management platforms with relevant processing, analysis, visualisation/imaging, and collaboration tools</li> <li>○ strategically facilitate the publication/dissemination of research data metadata and related research artefacts to high impact journals, publications, research community sites, and national research commons</li> <li>○ provide support for the citation of research data</li> <li>○ support the licensing in the reuse of research data</li> <li>○ improve compliance of digital data storage and research data management platforms with standards for long term retention and archiving</li> <li>○ strategically comply with ISO27001/2 and ISO17025, and other emerging accreditation standards.</li> </ul> </li> </ul>	<p>awards due to accreditation</p> <ul style="list-style-type: none"> <li>• Longer system lifecycles</li> </ul>	<ul style="list-style-type: none"> <li>• Research Office</li> </ul>
<p><b>2.3 Align digital data storage infrastructure with research and data management requirements</b></p>	<ul style="list-style-type: none"> <li>• Ensure the data storage strategy for Monash aligns with researchers' needs</li> <li>• Ensure the data storage strategy meets data management requirements</li> <li>• Pursue national research infrastructure funds (e.g. RDSI) that further enhance research data storage infrastructure available at Monash</li> </ul>	<ul style="list-style-type: none"> <li>• Research and data management needs reflected in proposed data storage strategy</li> <li>• Procured data storage that meets requirements of the research domain</li> <li>• Increased use of storage infrastructure for research data</li> <li>• Successful RDSI proposals</li> </ul>	<ul style="list-style-type: none"> <li>• CIO</li> <li>• eSolutions</li> <li>• MeRC</li> <li>• Library</li> </ul>
<p><b>2.4 Improve access to non-digital research data</b></p>	<ul style="list-style-type: none"> <li>• Investigate strategies to improve storage of non-digital data, including off-site storage at the CAVAL Archival and Research Materials (CARM) Centre, Bundoora</li> <li>• Investigate strategies for digitisation of research data (in non-digital format)</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation completed by end of 2012</li> <li>• Action plan established 2013</li> </ul>	<ul style="list-style-type: none"> <li>• University Librarian</li> <li>• Library</li> <li>• eSolutions</li> </ul>

### 3. Skills and knowledge

By 2015 Monash University's researchers – including Higher Degree by Research students and, over time, Honours and undergraduate researchers – will have well-developed data management awareness, knowledge and skills. Data management skills will be seen as essential graduate skills that are necessary in the research sector and transferable to a range of other workplaces. The University will offer a range of professional development opportunities – both stand-alone and embedded in the curriculum, delivered through as many channels as possible – that meet the needs of researchers in different disciplines and at different career stages. The development needs and career paths of data management professionals in central units will also be addressed, and the University will be able to recruit, retain and develop high quality staff that contribute both to the University and national capability.

Goal	Initiatives	Key measures	Responsibility/key stakeholders
<b>3.1 Develop the data management skills and knowledge of Monash researchers</b>	<ul style="list-style-type: none"> <li>Project to re-develop, expand and better coordinate the program of research data skills development opportunities available to Monash researchers</li> <li>Work with faculties and the new Monash Institute of Graduate Research to explore embedding research data management skills development in coursework curricula and professional development offerings</li> </ul>	<ul style="list-style-type: none"> <li>Continuous improvement in program of learning opportunities, in terms of number and range of opportunities</li> <li>Increased attendance (e.g. enrolment / attendance statistics)</li> <li>High quality training (e.g. participant feedback, impact surveys)</li> </ul>	<ul style="list-style-type: none"> <li><b>University Librarian</b></li> <li>MeRC</li> <li>eSolutions</li> <li>Director, Monash Institute of Graduate Research</li> <li>Associate Deans of Research and Research Training</li> </ul>
<b>3.2 Develop the skills and knowledge of professional staff</b> <ul style="list-style-type: none"> <li>Library staff</li> <li>Technical staff – MeRC and eSolutions</li> </ul>	<ul style="list-style-type: none"> <li>Provide targeted development opportunities for professional staff</li> <li>Support opportunities for professional staff to network and participate in communities of practice – Monash, national, international</li> <li>Proactively address staff retention and career planning</li> <li>Promote research data management career paths at entry level through guest lectures, placements, and participation in curriculum review</li> </ul>	<ul style="list-style-type: none"> <li>Continuous improvement in program of opportunities to gain skills and knowledge and to network with other data management professionals</li> <li>Retention of key staff</li> <li>Feedback from staff</li> </ul>	<ul style="list-style-type: none"> <li><b>University Librarian</b></li> <li>CIO</li> <li><b>Director, MeRC</b></li> </ul>
<b>3.3 Integrate research data skills as part of research-led teaching</b>	<ul style="list-style-type: none"> <li>Integrate data management concepts and services into the Graduate Certificate of Academic Practice (GCAP)</li> <li>Map data management knowledge, skills and attributes to educational frameworks such as the Research Skill Development (RSD) framework, the Monash graduate attributes, Australian Qualifications Framework, professional accreditation schemes and other relevant frameworks.</li> <li>Develop action plan for increasing access to, and re-use of, research data by Honours and undergraduate researchers.</li> </ul>	<ul style="list-style-type: none"> <li>GCAP contribution made in first semester 2012 and evaluated for inclusion in future years</li> <li>Skills mapping work completed by June 2012</li> <li>Action plan developed by December 2012</li> </ul>	<ul style="list-style-type: none"> <li><b>University Librarian</b></li> <li>Library</li> <li>Office of the PVC Teaching and Learning</li> <li>Monash Institute of Graduate Research</li> <li>MeRC</li> </ul>

## 4. Integrity and professionalism

By 2015 Monash University's governance and policy framework for research data management will have demonstrably improved compliance with the *Australian Code for Responsible Conduct of Research*, provided more examples of best practice and consolidated data management as a key issue of research integrity. By 2015 policy and procedures will be promulgated across the University; faculties, units and research teams will better understand their data management obligations and will more regularly partner with each other and with central units in efforts to practically improve aspects of research data management.

Goal	Initiatives	Key measures	Responsibility/key stakeholders
<b>4.1 Increased awareness and adoption of policy framework</b>	<ul style="list-style-type: none"> <li>Plan and implement a project to roll out the policy framework to selected groups across the University</li> <li>Investigate processes for (self-)assessment and benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated increase in the number of faculties and academic units with local implementation strategies in place.</li> </ul>	<ul style="list-style-type: none"> <li><b>University Librarian</b></li> <li>Library</li> <li>Research Committee</li> <li>eSolutions</li> <li>MeRC</li> <li>Research Office</li> </ul>
<b>4.2 Increased focus on data planning</b>	<ul style="list-style-type: none"> <li>Investigate and develop or deploy data planning methodologies and tools</li> <li>Investigate institutional registration processes as part of data planning [Note: Also part of data/metadata dissemination framework.]</li> </ul>	<ul style="list-style-type: none"> <li>Data planning pilot undertaken and evaluated by mid-2013</li> <li>Data planning methodology and toolkits developed and refined for use from 2014</li> <li>Annual increase in proportion of targeted projects utilising data planning methodologies and tools</li> </ul>	<ul style="list-style-type: none"> <li><b>University Librarian</b></li> <li>Library</li> <li>Research Office</li> <li>eSolutions</li> <li>MeRC</li> <li>Research Office</li> <li>Research Committee</li> </ul>

## 5. Leadership and collaboration

By 2015 Monash University's reputation as a leader in research data management will be consolidated through increased engagement with Australian national infrastructure initiatives and more international, national and regional partnerships and collaborations. The University will be recognised by its peers as an authoritative source of technology and advice, and will be considered a partner-of-choice for data management related collaborative projects.

Goal	Initiatives	Key measures	Responsibility/key stakeholders
<b>5.1 Maintain and grow recognition as an international, national and regional leader in research data management</b>	<ul style="list-style-type: none"> <li>Continue to lead the Australian National Data Service (ANDS) in 2012-13, and in later years should funding become available</li> <li>Provide institutional support for, and engage with, national initiatives including ANDS, RDSI and NeCTaR</li> <li>Take a leadership role in Victoria in relation to data management related national initiatives with significant Victorian linkages (e.g. Synchrotron, NeCTaR) and state government initiatives (e.g. VeRSI)</li> <li>Participate in local, national, and international groups and forums</li> <li>Provide information and advice to other institutions</li> </ul>	<ul style="list-style-type: none"> <li>Invitations to participate in international, national, and local collaborations, networks and events</li> <li>Peer esteem and feedback</li> <li>Collaborations relating to research data management</li> </ul>	<ul style="list-style-type: none"> <li><b>DVC Research</b></li> <li>Library</li> <li>MeRC</li> <li>eSolutions</li> </ul>
<b>5.2 Enhance impact/uptake of Monash research data management technologies</b>	<ul style="list-style-type: none"> <li>Proactively transfer research data management technologies to international, national and local research institutions, research groups, infrastructure providers, and government agencies</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrated increase in re-use of Monash technologies by other institutions</li> </ul>	<ul style="list-style-type: none"> <li><b>Director, MeRC</b></li> <li>MeRC</li> <li>eSolutions</li> </ul>

## Appendix B: Strategic dependencies

### Parent Strategies

- Research Strategy (Owner: Senior DVC & DVC (Research))
- Education Strategy (Owner: DVC (Education))
- Research Infrastructure Strategy (Owner: PVC Research & Research Infrastructure)

### Peer Strategies

- Data Storage Strategy (Owner: CIO)

### Child Strategies

- N/A

## Appendix C: Glossary and definitions

<b>Australian National Data Service (ANDS) – <a href="http://www.ands.org.au">http://www.ands.org.au</a></b>	A \$72M federal government program funded by the Department of Innovation, Industry, Science and Research. Monash University is the lead agent in ANDS, with CSIRO and the Australian National University. ANDS' objective is to have <i>More Australian researchers reusing research data more often</i> .
<b>Metadata</b>	Schematised information about attributes of an item or collection of research data that enables it to be identified, retrieved and re-used. Important metadata elements may include subject matter, creators and owners, and technical or contextual information that enables the data to be understood.
<b>National eResearch Collaborative Tools and Resources (NeCTaR) - <a href="http://nectar.org.au">http://nectar.org.au</a></b>	NeCTaR aims to use existing and new information and communications technologies, such as virtual laboratories and new e-research tools, to create new digital efficiencies specifically for the needs of Australian researchers. This \$48M program is funded by the federal government, and the University of Melbourne is the lead agent.
<b>Research administration data</b>	Information about grant applications, publication counts and evidence of research outputs and outcomes, collected at Monash to support institutional processes such as the Federal government's Higher Education Research Data Collection (HERDC) and for the Excellence in Research for Australia (ERA) quality assessment.
<b>Research data</b>	Monash University's Research Data Management Policy and associated procedures defines research data as the data, records, files or other evidence, irrespective of their content or form (e.g. in print, digital, physical or other forms), that comprise a research project's observations, findings or outcomes, including primary materials and analysed data.
<b>Research Data Australia - <a href="http://services.ands.org.au">http://services.ands.org.au</a></b>	An online service managed by ANDS, which aids in the discovery of more than 25,000 Australian research data collections. A range of Australian research organisations, including Monash University, are contributing metadata records about their institution's data collections to this service.
<b>Research data management</b>	Research data management includes the ways in which the data generated by and used for Monash research are created and captured, transferred, stored, retained, organised, documented, disseminated, reviewed, published, discovered, re-used, exploited, retained, archived and destroyed. It is a complex set of activities involving: <ul style="list-style-type: none"><li>• People – from many different areas of the university and with different roles and responsibilities</li><li>• Data – in all formats and of increasing volume and complexity</li><li>• Infrastructure (technology and facilities)</li><li>• Processes</li><li>• Standards and best practice – legislation, policies, funding agency requirements, metadata standards, technical protocols, audit and accreditation processes, discipline norms and the expectations of the broader community.</li></ul>
<b>Research Data Storage Infrastructure (RDSI) - <a href="http://rdsi.uq.edu.au">http://rdsi.uq.edu.au</a></b>	RDSI is a \$50m project, funded by the federal government and led by the University of Queensland. RDSI will enhance data centre development and support retention of and access to nationally significant data assets.
<b>Victorian eResearch Strategic Initiative (VeRSI) - <a href="http://versi.edu.au">http://versi.edu.au</a></b>	VeRSI, the Victorian eResearch Strategic Initiative, is an eResearch program established in 2006 and funded by the Victorian Government to accelerate and coordinate the uptake of eResearch in universities, government departments and other research organisations.