



Australian Government

Department of Infrastructure, Transport,
Regional Development and Communications

Data Strategy 2021–24

**Better access to timely,
high quality data**

October 2021

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Foreword



Our work at the Department of Infrastructure, Transport, Regional Development and Communications depends greatly on our ability to harness the power of data. We use data to build our evidence base – to provide advice and to deliver programs, services and fit-for-purpose regulation – which is key to good decision making.

Technology is transforming what we can do with data – the way we collect, manage, use and share it. The Data Strategy positions us over the next three years to realise the benefits technology offers and to do even more with data. It focuses on embedding best practice data governance and management across the department, ensuring we have the right Information and Communications Technology (ICT) platforms and tools, and growing our data culture and capability.

A Project Steering Committee informed the development of the strategy. Leonie Holloway chaired the Committee which comprised representatives from across the department. In bringing the strategy together, we have also drawn on best practice in data management and expertise across the Australian Public Service.

I thank the Project Steering Committee for their work on this new Data Strategy. The Data, Analytics and Policy Division, working across the department, is responsible for delivering the strategy. I am pleased to introduce our senior leaders for this important work.

Data leadership spans all levels. I encourage you to contribute to the success of this Data Strategy.

Christine Dacey
Chief Operating Officer



Senior Data Leader

Gayle Milnes is the First Assistant Secretary of the Data, Analytics and Policy Division. As our department's Chief Data Officer, Gayle is leading the delivery of the Data Strategy and is accountable for enterprise-wide governance and use of data as an asset. Gayle's Division is leading work to build a data-driven culture and set the standards and approach to data management in the department. She works closely with the Chief Digital Officer to ensure our enterprise data management platform (RADAR -Ready Access to Data, Analysis and Reporting) meets our data needs.



Chief Digital Officer

Maxine Ewens is focusing on our future use of technology and works across the department on the delivery of technology capability to support our major business systems transformation programs. Maxine is leading the ICT Review and working to implement recommendations arising from this work.



Data Champion

Justin Lu is the Head of the Bureau of Communications, Arts and Regional Research. As our department's Data Champion, Justin is leading our work to embed best practices in the use, sharing and re-use of data across the department. He represents the department in initiatives across the Australian Public Service to strengthen data leadership, collaborate on opportunities for common data collection, management and use and efforts to improve our workforce's data capabilities and literacy.

Executive Summary

The Data Strategy 2021–24 aims to provide the department with better access to timely, high quality data, making for better decisions and helping realise our vision of connecting Australians, enriching communities and empowering regions.

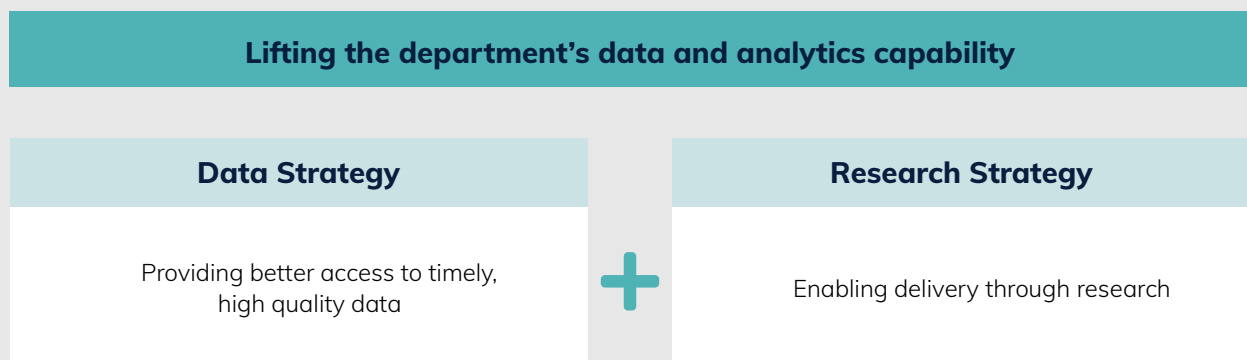
The strategy identifies three strategic objectives that go to embedding best practice data governance and management, having the right ICT platforms and tools, and growing our data culture and capability. It commits to actions to achieve these objectives. Among these, we will update and improve our data asset register, further develop RADAR – Ready Access to Data, Analytics and Reporting – as our enterprise data management system, and strengthen data skills across the organisation.

An Enterprise Data Management Program Board has been established to monitor implementation of the strategy. Chaired by the department's Chief Data Officer, it includes the organisation's Data Champion,

Chief Digital Officer, business representatives from across the department and an APS Data Leader from an external agency. Implementation of the strategy will be led by the Data Policy and Management team within the Data, Analytics and Policy Division.

The strategy builds on the capabilities of the former Departments of Infrastructure, Transport, Regional Development and Cities, and Communications and the Arts. It complements the department's new Research Strategy for 2021–24. The Data Strategy is informed by and contributes to initiatives across the Australian Government to better collect, manage, use and share data, such as the Australian Data Strategy and the APS Data Professional Stream.

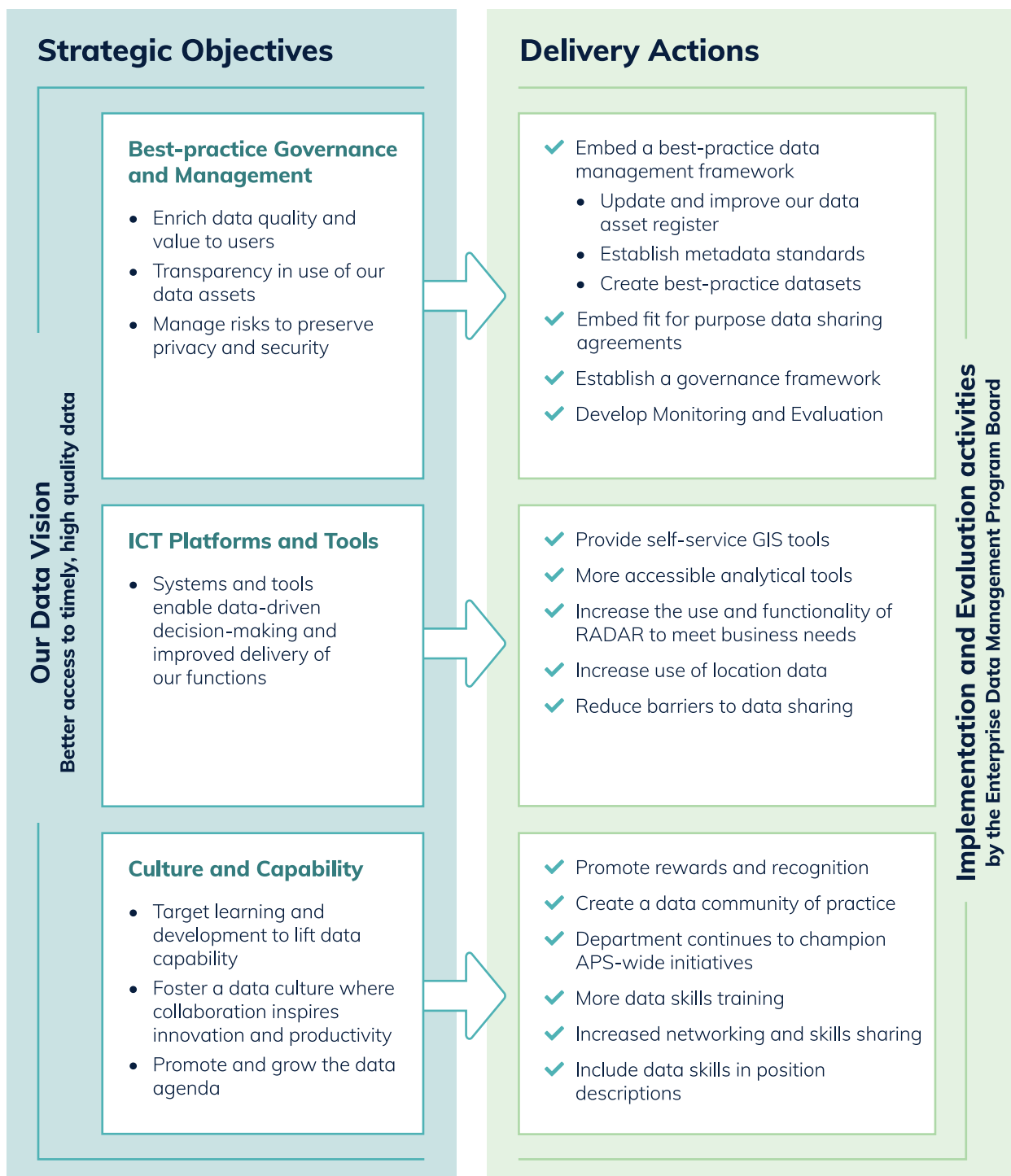
Figure 1: Relationship between the Data and Research Strategies



Data Strategy 2021–24

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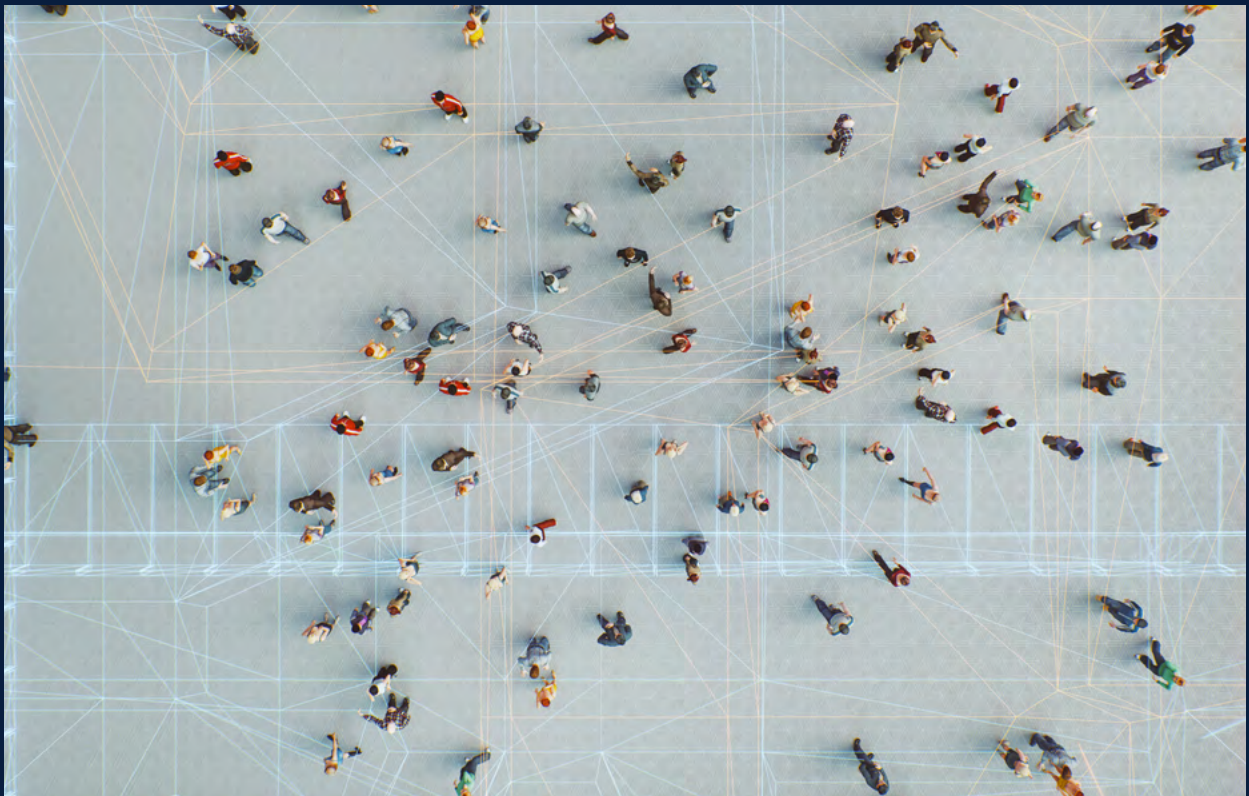
These actions support our department in realising multiple strategic objectives.



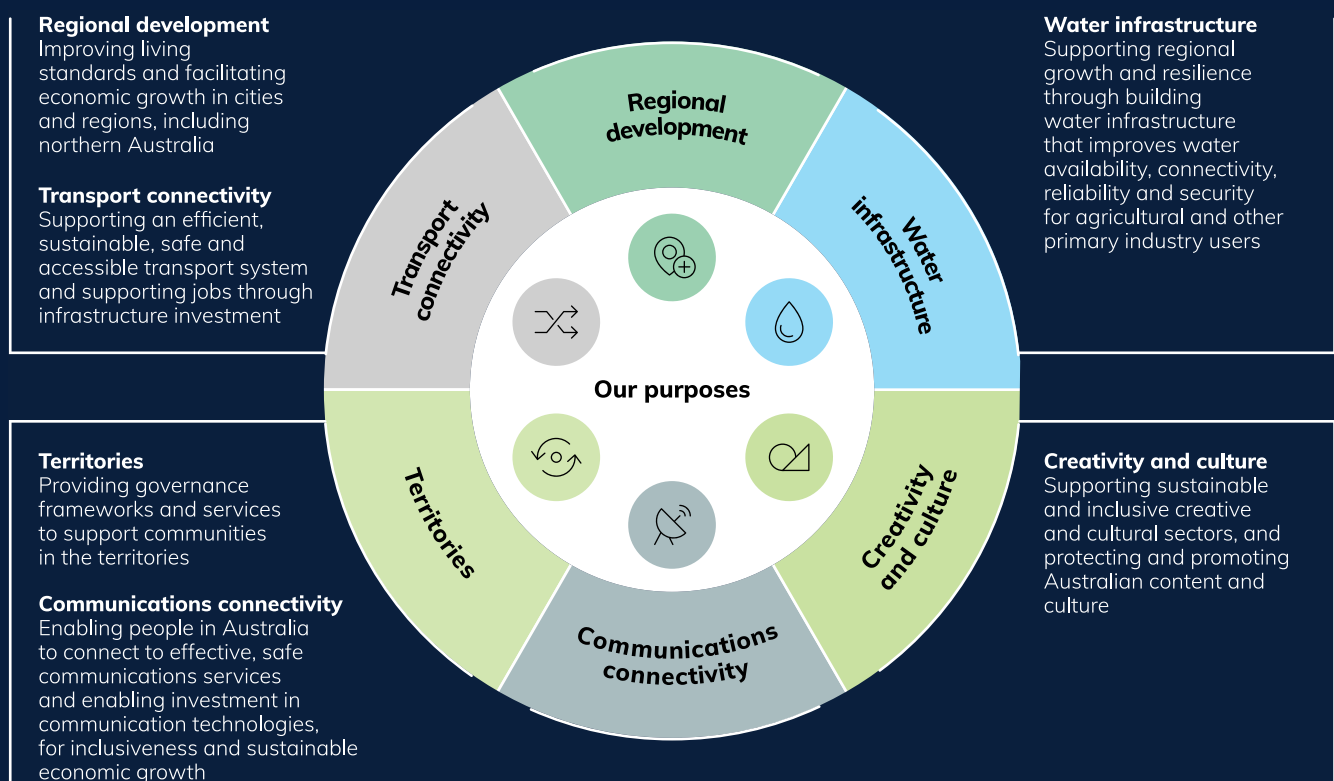
Our Data Vision

The actions we take to implement our Data Strategy will provide the department with:

Better access to timely and high quality data, helping realise our vision of connecting Australians, enriching communities and empowering regions.



Realising the objectives of our Data Strategy supports our department's purposes¹



¹ Department of Infrastructure, Transport, Regional Development and Communications Corporate plan



What is data?

For the purposes of this Data Strategy, we define data² as:

...any information in a form capable of being communicated, analysed or processed (whether by an individual or by computer or other automated means)

and

Public sector data is data lawfully collected, created or held by or on behalf of a Commonwealth body...

This includes, but is not limited to:

- our program and service delivery data (such as the transport Infrastructure Investment Program and the Indigenous Languages and Arts Program)
- data collected through regulatory functions (such as in Vehicle Safety Operations)
- all third-party data provided to the department, including data managed under confidentiality or other restricted arrangements, and
- data types that are structured (databases), semi-structured and unstructured.

The scope of this Data Strategy is intended to apply to information and platforms that are not already managed with their own governance systems in Corporate Services. Therefore, it does not apply to information captured, stored, managed and accessed through the following platforms, such as:

- Parliamentary Document Management System (PDMS)
- Finance systems
- SAP or any other employee information system.

Ideally, all of department's data should be within scope of the Data Strategy and can be revisited in a future Data Strategy as our practices mature.

² Defined by the Office of the National Data Commissioner in the Data Availability and Transparency Bill 2020 (the Bill), introduced on 9 December 2020.

Context





There is increasing recognition across governments about the importance of access to timely and high quality data in shaping policy advice and developing programs, services and fit-for-purpose regulation. Decisions must be based on the best evidence available and assurances on the quality of that evidence can only be made when the best data management practices are in place.

The Australian Government's Digital Economy Strategy positions Australia to be a leading digital economy by 2030. It foreshadows an Australian Data Strategy. Other whole-of-government data-focused activities include the Data Availability and Transparency Bill 2020, the Open Data Agenda, the Australian Public Service Data Professionals stream as well as policies and standardised practices for data management. It includes initiatives to unlock the value of data in the economy, enhance government services and support Australia to become a leading digital economy by 2030³.

This Data Strategy has been developed by the department's Data, Analytics and Policy Division and informed by a Project Steering Committee drawn from across the organisation. We considered a wide range of information and perspectives, including the many policy and program interests across the department, activities within the department such as the Research Strategy 2021–24 and the Technology Strategy 2020–25, broader work underway across the Australian Public Service⁴ and recognised external best-practice data management frameworks.

Principles

We identified four relevant data principles as reference points:

-  Data is a fundamental business enabler
-  Data should be open and shared by default
-  Data should be high quality and high value
-  Data should be transparent, safe and trusted

³ 2 Department of Prime Minister and Cabinet, [Data and the digital economy](#), 6 May 2021

⁴ Office of the National Data Commissioner, [The Foundational Four – starting an ongoing data improvement journey](#), 2020

Drivers for change

Five drivers influenced the development of this Data Strategy.

1

Business areas want greater access to and use of data, and the tools and capability uplift to enable this. There is strong support for a data strategy that contributes to providing evidence-based policy, strategic advice, delivering programs and services and fit-for-purpose regulation.

2

There are opportunities to reduce the barriers to data sharing and collaboration to unlock the value of departmental data.

3

Advancements in technology create opportunities to better manage the task of gathering, processing and analysing increasing volumes of data, but also present risks and challenges.

4

Whole-of-government developments such as the Open Data Agenda, the Australian Public Service Data Professionals stream as well as policies and standardised practices for data management support us to do better with our data.

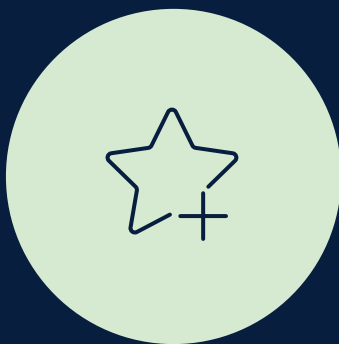
5

The development of the RADAR platform (Ready Access to Data, Analytics and Reporting) as the department's enterprise data management platform. It is an enabling service to advance actions under this Data Strategy, although governance arrangements continue to apply to data held in other platforms.



Strategic objectives guiding us

We identified seven strategic objectives under three broad headings to pursue through the life of the Data Strategy.



Best-practice governance and management

1. Enrich data quality and value through governance to ensure its availability, accuracy, integrity, applicability, timeliness and security for the organisation to fulfil its purposes.
2. Ensure transparency and accountability in using public resources, and commercial/private sector data, through regular reporting on how the department is using its data assets.
3. Uphold Australian Privacy Principles⁵ and security requirements through proactively managing risk to prevent, detect and respond promptly to incidents or breaches.



ICT platforms and tools

4. Advance data-driven decision-making through ICT architecture and systems that enable more rapid and comprehensive responses to policy and strategic advice and delivery of programs, services and fit-for-purpose regulation.



Culture and capability

5. Boost foundational and specialised data skills and capability through learning and development programs and workforce planning to meet the department's purposes with the changing environment. This should be flexible to respond to emerging data collection and analysis technologies.
6. Inspire innovation and productivity through culture, collaboration, skills and capability and leadership to stimulate national social and economic prosperity.
7. Contribute to and learn from the whole-of-government data agenda through collaboration and engagement across the APS and with the data community.

⁵ Office of the Australian Information Commissioner, [Australian Privacy Principles](#)

Actions we will take

We have identified a set of actions across the department. Data owners and custodians will remain responsible for management of their data collections.



Best-practice governance and management

The Chief Data Officer will lead the adoption of best-practice data management and sharing processes and take steps to embed whole-of-government data commitments and policies within the department.

The Data, Analytics and Policy Division will lead the establishment of a data asset register using standardised metadata and conduct a data stocktake process to catalogue our collections.

The Data, Analytics and Policy Division will develop the protocols and guidance material for business areas to embed best-practice data management practices and reduce barriers to

data sharing. This will support partnerships and collaboration across all levels of government, industry, universities and research organisations.

An Enterprise Data Management Program Board has been established as the governance mechanism overseeing the implementation of actions under this Data Strategy and will ensure a robust monitoring and evaluation process is established and conducted. As part of the department's governance arrangements, the Enterprise Data Management Program Board will periodically provide reports to the department's Operations Committee.



ICT platforms and tools

The Data, Analytics and Policy Division will lead work to identify priority functionality in RADAR to increase its use and identify ways to optimise our access to the analytical data tools we need and the systems to support data sharing.

The Data, Analytics and Policy Division will continue to lead the work to create a self-service geospatial portal and encourage the inclusion of location data in datasets.



Culture and capability

The Chief Data Officer and the Data Champion will identify opportunities to foster a strong data culture, such as through building a community of practice and a rewards and recognition process. They will work collaboratively with other divisions to improve data capabilities and literacy, including through skills sharing, our Learning and Development program and recognition of data skills in role descriptions.

Our actions will deliver benefits

For the Data Strategy to be successful, it must have department-wide relevance, be realistic to implement and align with broader government objectives. The benefits should be able to be observed at multiple levels.

Realisation of these benefits will be important indicators of the Strategy's effectiveness and will be observed through a **monitoring and evaluation** process developed as part of the implementation plan.



Best-practice governance and management will improve our operations and ...

- ensure data collection, management and use aligns with best-practice and whole-of-government data policies and requirements, as well as overarching departmental priorities
- provide a means to ensure proper and accountable use of data resources
- maximise the potential of our data assets, including making data publicly available, where appropriate
- support continuous improvement of capability and data practices
- identify data needs and gaps and provide a co-ordinated approach to data collection, storage, access and use, and
- streamline reporting processes, and provide a single source of truth by reducing duplication and overlap in data acquisition and analysis.



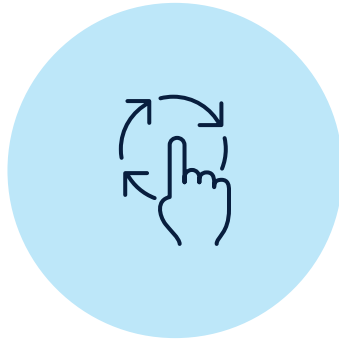
Make our policy, programs, service delivery and regulation functions more efficient and effective and to ...

- support government and Ministerial priorities and decision-making by providing more agility and efficiency in analysing issues and options
- improve the quality and efficiency of program management by improving data processing and handling, maximising returns on our funding investments
- assess program outcomes more quickly and efficiently by developing reports on individual projects
- understand trends and issues as they emerge, reducing administrative burdens on ourselves and stakeholders, and
- support collaboration across the department such as on communications and regional development.



IT platforms and tools to ...

- The Data, Analytics and Policy Division will lead work to further develop RADAR, to extend its functionality, increase its use and identify ways to demonstrate insight from data and communicate with a broader audience.



Strengthening our culture and capability to ...

- drive innovation and further develop a positive data culture
- satisfy public demand for transparency and accountability, and
- lift our skills and capabilities.

Governance and data management

The right governance mechanisms and approach to data management are needed to further improve our data capability and maturity and promote the whole-of-government data agenda.

Governance structure

A strong governance structure ensures the department is accountable against the objectives of the Data Strategy and for effective delivery of the actions in the implementation Plan. A strong group of data leaders and buy-in from the Senior Executive will drive the successful implementation of this Strategy.

The Enterprise Data Management Program Board is the key governance group for the Data Strategy. This Board meets regularly, is chaired by the Chief Data Officer and includes the Data Champion, the Chief Digital Officer, key business representatives within the department and an APS Data Leader from an external agency. The Data Policy and Management Section in the Division supports the Board and will lead the implementation activities across the department.

Other reporting mechanisms across the department ensure transparency at all levels and provide ongoing monitoring of progress towards realising the strategic objectives.



The Chief Data Officer, as Chair of the Enterprise Data Management Program Board, will periodically deliver a progress report to the Operations Committee on actions under the Data Strategy.



The Data Champion, Chief Data Officer and members of the Graduate Data Network will continue to represent the department in relevant forums across the APS in support of the Digital and Data agendas.



The Data Policy and Management section will support the department in the delivery of actions in the implementation plan towards improving data management (in line with APS-wide standards and initiatives), establishing a monitoring and evaluation framework and supporting engagement by data owners, custodians and users in the implementation process.

Data management

The department will embed a data lifecycle approach to managing data, covering all stages of the data lifecycle ranging from data collection to archiving and destruction. Our approach is set out in the diagram below:

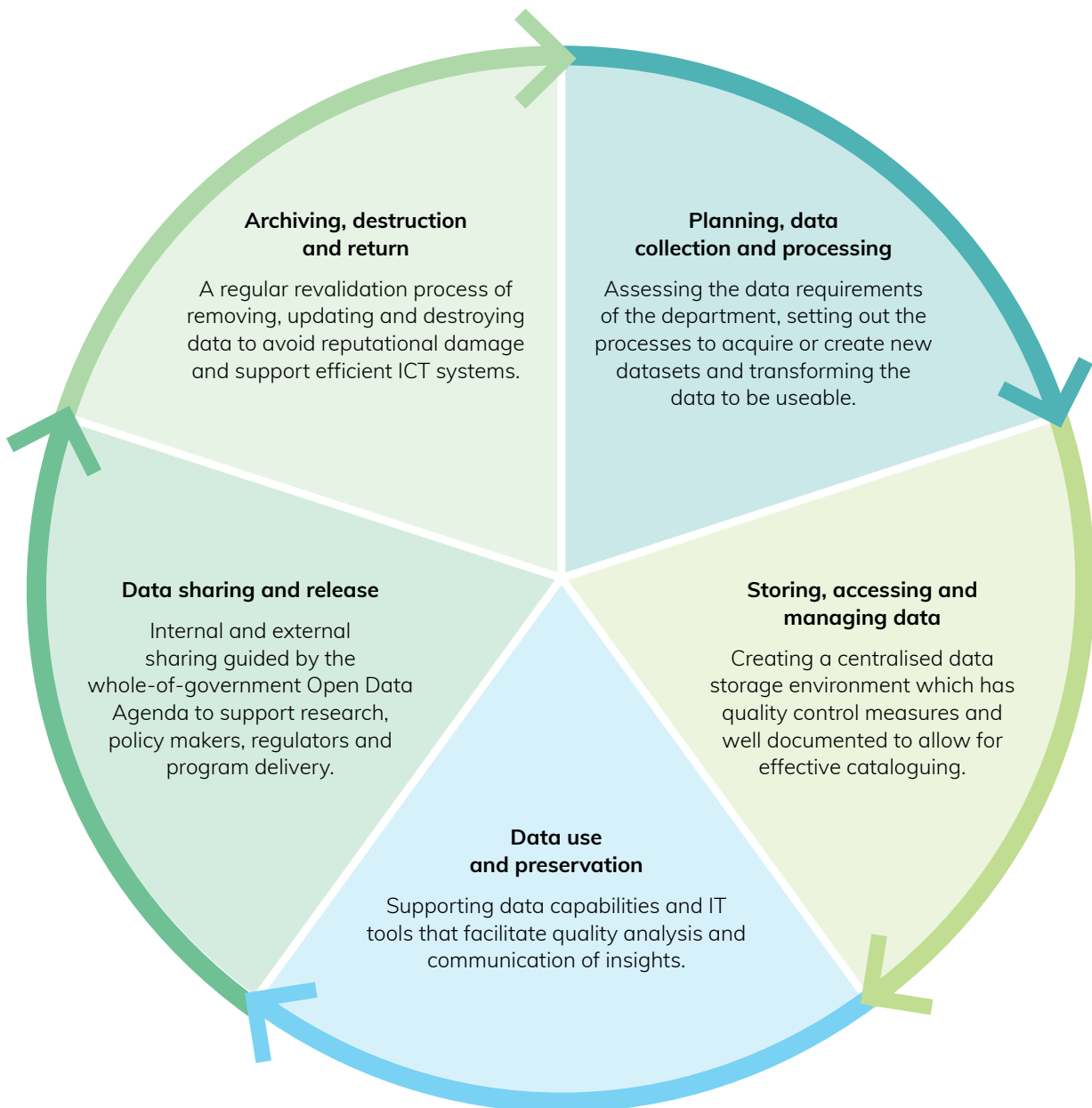




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Appendix A –

Glossary

Data Asset Register:

A record of all known datasets held by the department.

Data Catalogue:

An information source of the definitions and metadata information for all data elements in all data entities in all datasets in the data repository.

Data Custodian:

The person who has custody of an externally owned dataset. They must protect the interests and rights of the Data Owner.

Data Maturity:

A measurement of how advanced the department's data analysis is. A high level of data maturity is the stage where data is woven into the normal operations of the department and is incorporated into every material decision the department makes.

Data Owner:

The person or organisation who has the ultimate authority over the dataset. They are the approval authority for decisions about the sharing and release of the dataset.

Data Steward:

Maintains responsibility for oversight of the day-to-day management of a dataset held by an agency. They manage data quality, privacy, safe access, ethical sharing and usage and proactively manage data risks.

Dataset:

A collection of data associated with one or more of the department's policies and programs, in a structured form (e.g. database) or semi-structured form (e.g. xml).

Metadata:

Data that describes and provides information about a dataset and its data entities and data elements.

RADAR:

The department's enterprise-wide data management platform, an acronym for Ready Access to Data, Analytics and Reporting.

Technical Data Steward:

The person who provides technical assistance to the Business Data Steward for the dataset. Technical data stewards are usually IT specialists.

