Australian Government

**Department of Education,
Skills and Employment**

DATA STRATEGY
2021–2022

MESSAGE FROM THE
SECRETARY

Our department plays an important role in Australia's economic recovery through quality education, training and employment services.

We are committed to making better use of data for all our work. The sharing and use of data can help us understand what people need to make informed choices about their education, training and employment, and to ensure people experience the associated wellbeing and economic benefits.

We all use, collect and manage data in some way. And we have a wealth of data and knowledge in our people and our collections. From early childhood, through schools, higher education, skills and training and employment, our department is rising to this challenge by developing our capabilities and systems to make the most of our data, and by supporting others to use our data to deliver broader public benefit.

The data challenges during COVID-19 and the 2019–20 bushfire season have highlighted the need to continue to improve our data and strengthen our links both internally and externally. There are opportunities to learn from localised areas of strength to lift the capability of the department as a whole and the Data Centre will provide a leadership and coordination point to ensure our data use and stewardship is systematic, safe and confident.

Our Data Strategy sets out our path for the next two years and supports all of us enhance our work and deliver on our goals. We will harness the power of our data, communicate insights drawn from our data and grow our data capability while upholding high standards of privacy and security. The Data Strategy reflects our data culture, one that recognises our expertise and supports our 'responsibility to share' in a safe way to ultimately benefit all Australian society.

I'd like to thank everyone who contributed to the development of our Data Strategy. We are well positioned to take advantage of our data to deliver forward-thinking solutions for Australia, and I look forward to working with you all towards this goal.

Dr Michele Bruniges AM

MESSAGE FROM THE
DATA CHAMPION

I am pleased to present the 2021-2022 Data Strategy which represents the combined data vision across the Department of Education, Skills and Employment.

2020 was an extraordinary year, with multiple crises and challenges. These crises highlighted the depth and breadth of data and information across the department and reinforced the need to continue to strengthen our data and analytical capability, and our data linkages with other agencies.

As part of this Strategy, the Data Centre will allow us to draw on the expertise of all areas of the department with advanced data skills. This will allow us to leverage our strengths and support the capability of the entire department to embed a curiosity for data and evidence in developing policy, managing programs and delivering our services. We aim to continually improve the way we use data to seek better outcomes and reflect the expectations of all our stakeholders while acknowledging and accommodating the differences across the department.

Our Chief Data Officer, Data Subcommittee and Data Analysts Network are important internal features of our data culture and how we incorporate data in our work. Externally our linkages with the rest of the Australian Public Service through the Data Champions Network and directly with our partner agencies such as the Australian Bureau of Statistics, Department of Social Services, Services Australia, and the Australian Tax Office are important to ensuring the department contributes to the broader APS data agenda.

The key to a successful Data Strategy is always the people involved. I encourage everyone in the department to take part and make better use of data to help serve the Australian community.

David Pattie

PURPOSE OF THE DATA STRATEGY

This Data Strategy sets the strategic direction for the department's data capability, handling, analysis, sharing and development. It is aligned with the Australian Government reform agenda for the APS. It will support us to create and harness data for better service delivery and policy development, improve our approach to data sharing and management and enhance our capability with using cutting edge data analysis techniques and tools. The Strategy reflects the need to maintain public trust in how we protect the privacy of individuals, and how we use data in decision-making.

VISION STATEMENT

We will optimise the use of our data and evidence to support Australians to experience the wellbeing and economic benefits offered by quality education, skills and employment. We will do this by building on and lifting up our data capability and engaging with cutting edge data, tools and techniques.

ALIGNMENT WITH OTHER STRATEGIES AND POLICIES

Alignment with Government data policy

In December 2019, the Australian Government's reform agenda for the APS, Delivering for Australians, was released, alongside the Government's response to the Independent Review of the Australian Public Service. The Review's final report delivered 40 recommendations, of which Government agreed 35 either in full or part, and provided a comprehensive platform for change. The Government's response highlighted the importance of data and evidence to understand the needs of all Australians. The key data recommendations agreed by Government were to:

– establish separate digital and data professions to build capability and support career paths in these critical areas, and

– share and protect data for better services and policies, and

– make data open by default.

An increasingly data-driven government requires strong ethical guidance. The Secretaries Board has agreed to a set of agency responsibilities to build Trust in Government Data Use. These commitments cover the protection, transparency, engagement, communication of benefits, and accountability of the use of government data.

The Office of the National Data Commissioner (ONDC) guidance on minimum agency data standards, called the Foundational Four, details minimum data governance standards and provides additional foundations for agencies to improve their capability, maturity and data culture.

It identifies four key focus areas; leadership, strategy, governance, and asset discovery. Addressing the Foundational Four will strengthen the department to better use and manage data.

The Data Availability and Transparency legislation, which will assist the Australian Public Service to better share and use its data, is being progressed by the ONDC. This legislation aims to streamline the sharing of government data to deliver better services, decisions and government for all Australians therefore lining up with the reform agenda.

The Data Strategy closely follows the leadership and direction being set by the Department of the Prime Minister and Cabinet and the ONDC to make sure that contributions are increasingly joined-up to the broader public service data agenda.

Alignment with internal policies and strategies

The Data Strategy was informed by the previous data strategies from the Department of Jobs and Small Business and the Department of Education and Training and broad consultation across the department. It is also in line with community expectation that the government collects, uses and shares data appropriately and safely.

The Data Strategy complements other department-wide strategies such as the Corporate Plan, the Strategic Policy Committee Priorities, the Information Management Strategy, the Integration Taskforce initiatives and the ICT Strategy.

STRATEGIC
OVERSIGHT

The Executive Board has agreed to establish a strengthened central data capability, to be overseen by the Chief Data Officer and championed by the First Assistant Secretary, Analytics and Data Division.
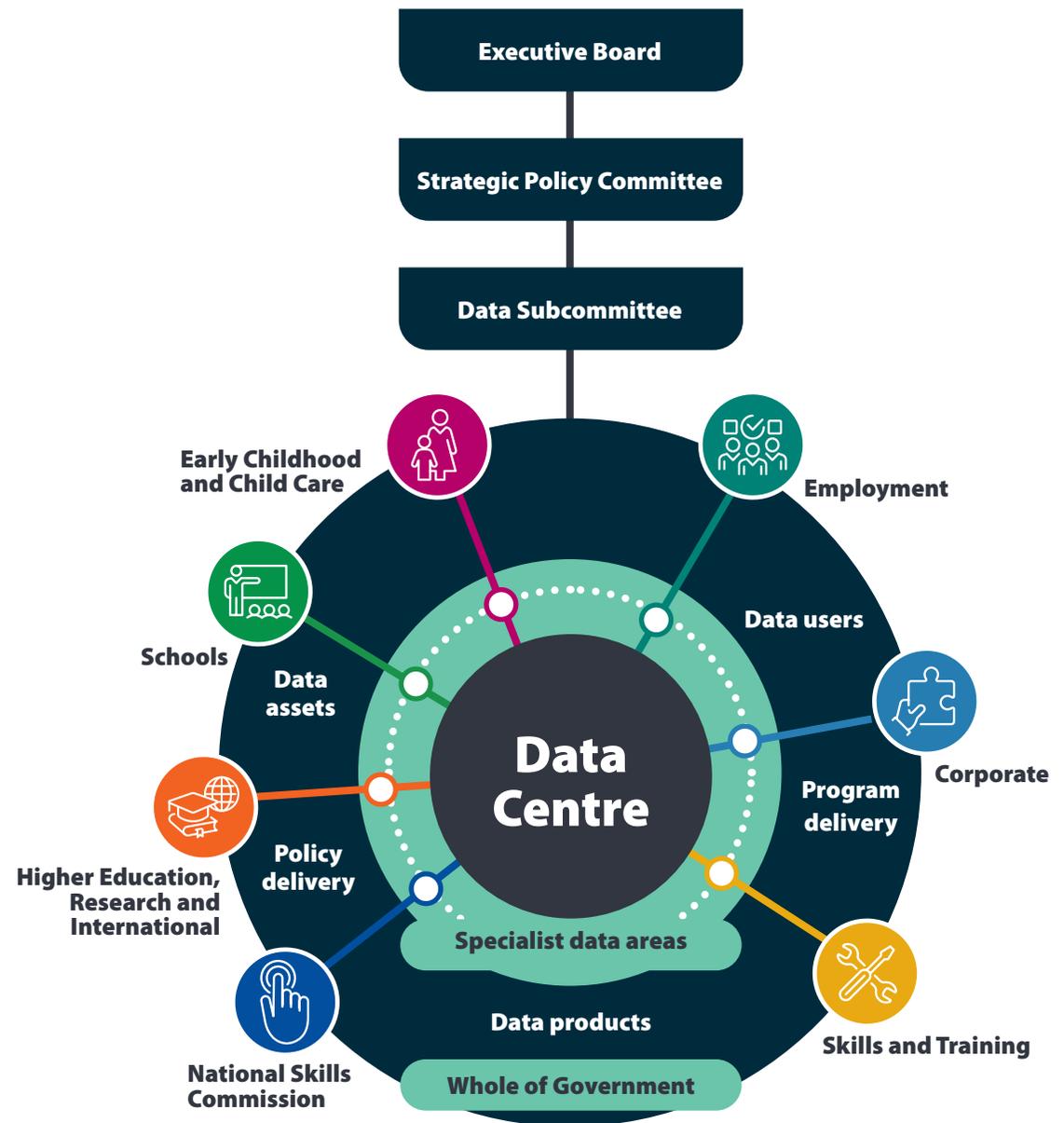
The Data Centre will report to and receive tasking from the Strategic Policy Committee through the Data Subcommittee to ensure Data Centre activities support policy and program development.

The department will employ a modified hub and spoke model for data activities.

The Data Centre will be responsible for centralised activities to promote the effective use of data in the department. It will act as a centre of excellence for data management, data communication, data integration, data sharing and data visualisation and provide advice on best practice data analysis and data science as required.

Individual data teams with specialist data knowledge and skills will continue to manage data and conduct analysis, drawing on Data Centre capability as needed.

Recognising the deep expertise that already exists in some areas of the department, selected functions of the Data Centre will be virtual as it does not make sense to duplicate these capabilities. Instead, the Data Centre will establish sufficient knowledge and expertise to connect users to the relevant experts across the department. The Virtual Data Centre will provide advice and support to the department in their field of expertise.

Executive Board

Strategic Policy Committee

Data Subcommittee

Early Childhood and Child Care

Employment

Data users

Schools

Data assets

Data Centre

Corporate

Program delivery

Higher Education, Research and International

Policy delivery

Specialist data areas

National Skills Commission

Data products

Skills and Training

Whole of Government

Data Subcommittee

The Data Subcommittee is a forum to agree on approaches to better address policy and program delivery issues, test ideas, take a whole-of-department and whole-of-government view of data management and foster collaboration on key initiatives.

The Data Subcommittee is guided by and reports to the Strategic Policy Committee. It advises on the use of data to guide policy decision making and better program implementation through the department. It provides a best practice framework to line areas in meeting whole-of-government and whole-of-department data objectives.

Data roles

To fulfil the vision of the Data Strategy we must make it relevant to all staff, helping them recognise their place in the data landscape. The definitions below aim to establish a common language and understanding of the data skills and capabilities that are used and needed in our department. This in turn provides the basis for mapping and developing the data capabilities required to support the implementation of the Data Strategy. All departmental staff should recognise themselves as data users, while some staff employ specialised capabilities as part of their role, and others have a mix of activities that will require them to undertake a range of the functions listed at any given time.

This section outlines the high-level roles and responsibilities of the key roles under the Data Strategy.

Data Subcommittee

Provide strategic oversight on data use and data management.

Responsible for ensuring work on policy and strategy is supported by high quality evidence.

Provide guidance on the future state for data management and drive improved capability.

Chief Data Officer

Responsible for promoting, delivering and reporting on data management and architecture improvements across the department and will coordinate department-wide activities in support of the Data Strategy.

Data Custodian

The draft Data Availability and Transparency Bill recognises Commonwealth bodies that control data lawfully created, collected or held by or on behalf of Commonwealth bodies as data custodians.

Responsible for the safe custody, transport and storage of data and implementation of business rules pertaining to the technical environment.

Accountable for data quality.

The roles of data steward and data custodian are complementary.

Data Steward

Maintains responsibility for the day-to-day management of data collected and held by an agency, manages data quality, privacy, safe access, sharing and usage arrangements, and proactively manages data risks.

Manages data assets on behalf of others and in the best interests of their agency.

Provides guidance as to how data can be used and ensures that it remains fit for purpose.

The roles of data steward and data custodian are complementary.

Data User

Has at least basic data literacy, including interpreting evidence from data reports, to be used in day-to-day roles to support program management, policy development and internal administration of the department.

Data Analyst

Extracts data and performs reporting, data analysis, data mining and/or modelling, using data programming languages.

Performs predictive analysis, causal analysis, designs and applies machine learning, optimises code.

Data Developer

Works with data analysts and users to transform collected data into a form that they can use for analysis and sharing, documents the transformation process and provides contextual information about the data suited to a broader audience.

Ensures the source data is fit for purpose and appropriately documented for a technical audience. Identifies and implements improvements to the quality and context of the underlying sources data.

Data Architect

Selects and implements the most appropriate system to house a data source and provides technical support to protect and maintain the integrity of the data.

Data Translator

A communication role between data analysts and executive decision-makers. Specifically, skilled at understanding the department's needs, can talk to policy, data and technology requirements and easily communicate this to others.

Data Policy and Law Experts

Supports data related activities within the department by collaborating across data roles to develop policies and processes that support their work and align with regulatory obligations and community expectations.

Manages contracts between the department and data storage companies and advises on risk management.

OUR OBJECTIVES

We will increase our use of evidence to support policy and programs.

We will improve the capture, management, quality and use of data.

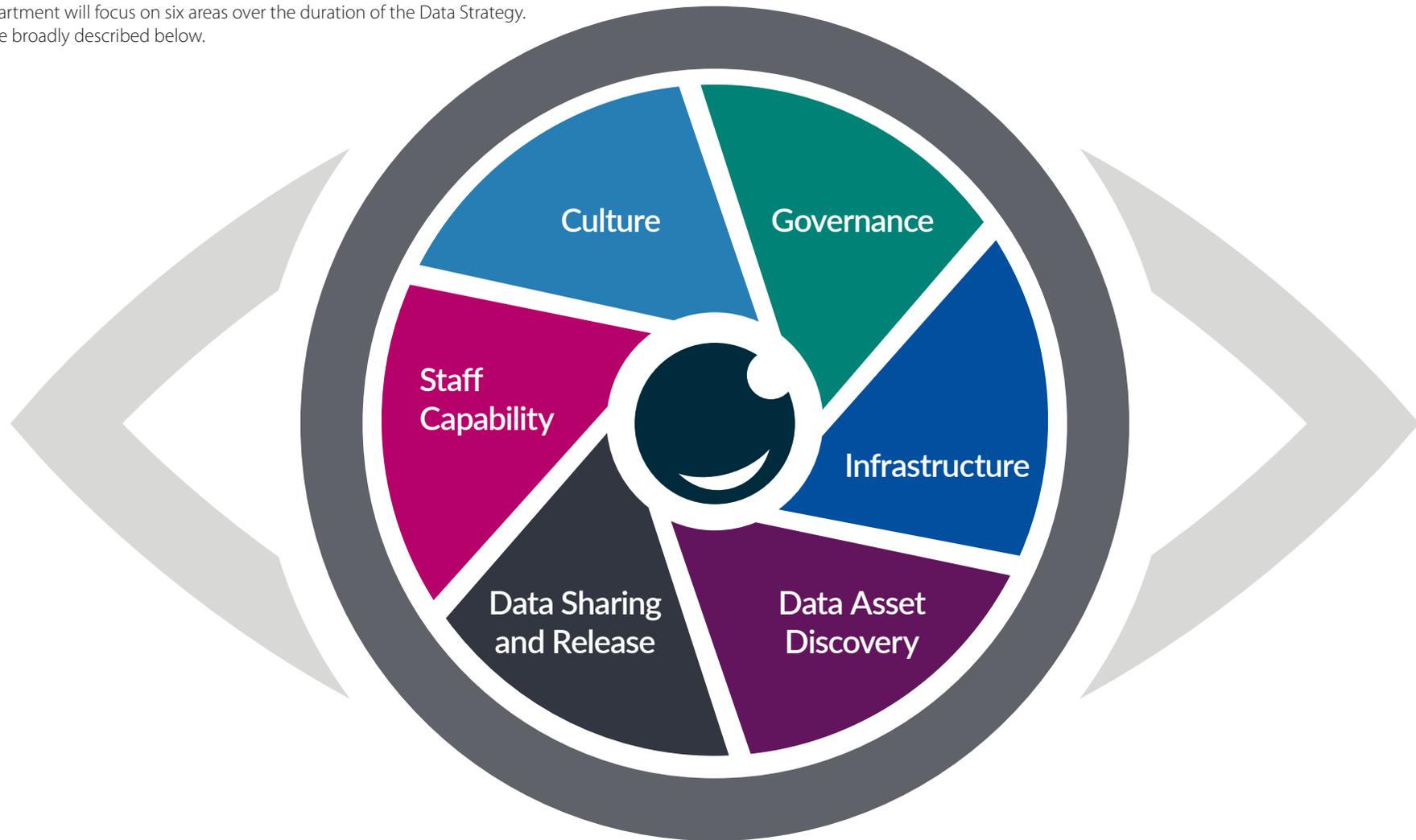We will enhance our analytical and data science capability.

We will ensure trust in our use of data is maintained.

We will manage our data as an enterprise-wide asset.

We will extend our ability to use cutting edge tools and technologies.

FOCUS AREAS

The department will focus on six areas over the duration of the Data Strategy. These are broadly described below.

CULTURE

AIMS

All our policy, program and service delivery is informed by analysis and data.

Good use of data is recognised as integral to all our key functions including policy, program and service delivery, research and analysis, compliance, briefings and reporting.

Staff understand the value of data to our business and the Australian community.

Staff have access to internal data in compliance with legislative requirements.

Communities of practice are available to support professional development.

Data use is widely promoted and clearly communicated.

WHAT SUCCESS LOOKS LIKE

We use our data as a reliable source of evidence to guide decision-making.

Our data is easily accessible and re-useable, leaving more time to explore and learn new insights.

We can interpret and act on the insights we gather from our data.

We are aware of how data is being used across the department.

We collaborate on data.

We identify as a high data use agency, both internally and externally.

The Data Strategy has been accepted across the department.

Internal and external clients are realistic and practical in their expectations.

STAFF CAPABILITY

AIMS

Establish the Data Centre to enhance capability across the department.

Grow staff capability to improve the ability to use, manage, interpret, and analyse data to make decisions.

Attract skilled data professionals to the department.

Help our staff gain access to the best tools and infrastructure they need to leverage the most value from our data.

WHAT SUCCESS LOOKS LIKE

We have department-wide involvement with the Data Centre.

Our staff see themselves as data users and can use data correctly.

We utilise the full capabilities of our specialist staff.

We make the most of our data capabilities because we are using the best tools to match our skill sets.

We will increase the number of staff that have undertaken some form of data training or development.

We recruit, develop and retain specialist data staff.

Increased self-service and self-reliance in utilising existing and new data products developed and deployed to address standard or low complexity data requests.

Enhanced capability to use cutting edge tools and technologies.

GOVERNANCE

AIMS

Develop the foundational elements for good proportionate data management.

Improve data quality across the department.

Establish responsibilities and accountabilities for data.

We have a good understanding of the privacy and ethics issues related to data.

Apply a user-centred focus to our data.

WHAT SUCCESS LOOKS LIKE

Foundational elements for good data management are developed and are proportionate to the risk.

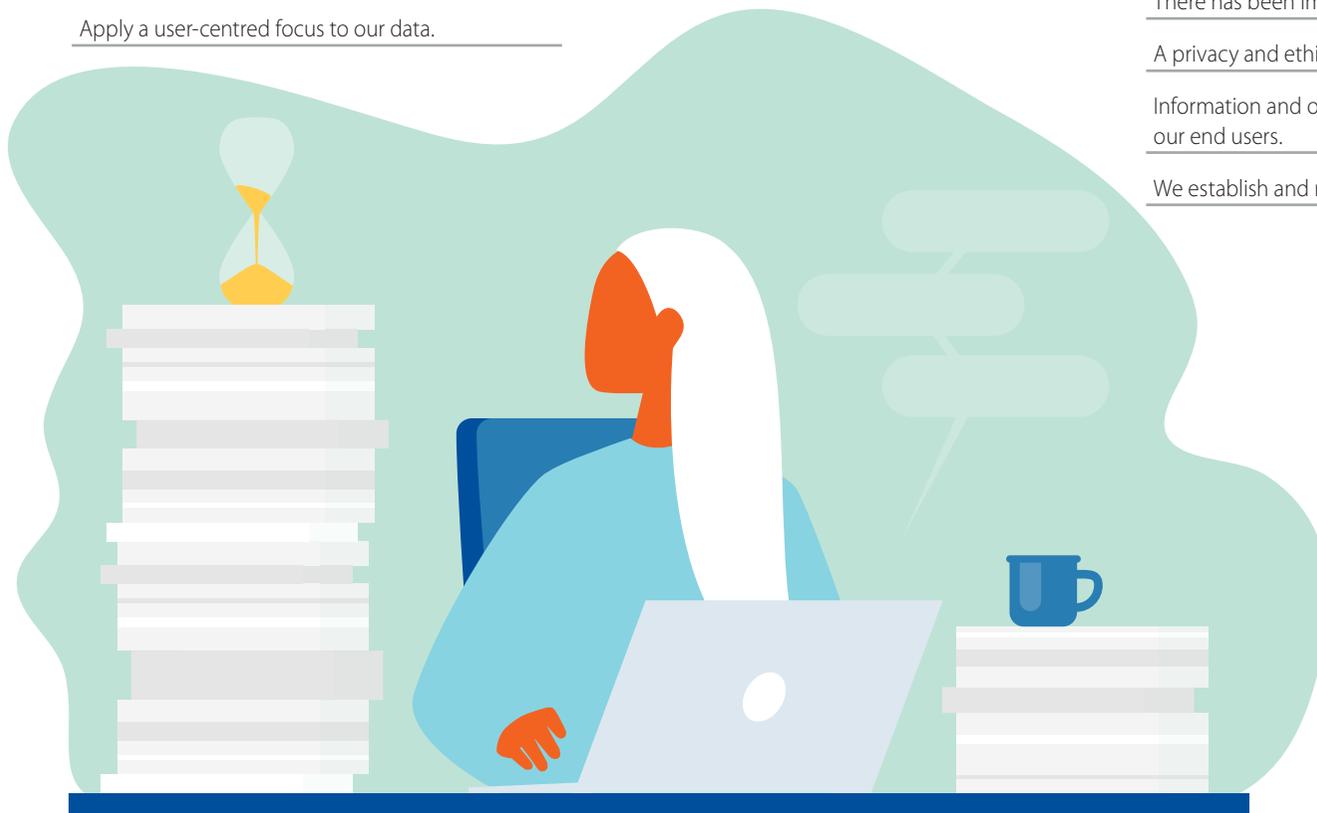Data risks are elevated to senior staff.

Staff in data roles have a clear understanding of their responsibilities.

There has been implementation of SES roles in data governance.

A privacy and ethics policy is developed.

Information and other forms of data services are tailored to the needs of our end users.

We establish and maintain public trust in our use of data.

DATA ASSET DISCOVERY

AIMS

We establish foundational elements for data asset discovery.

Staff can easily discover what data we have, where it is held and its meaning.
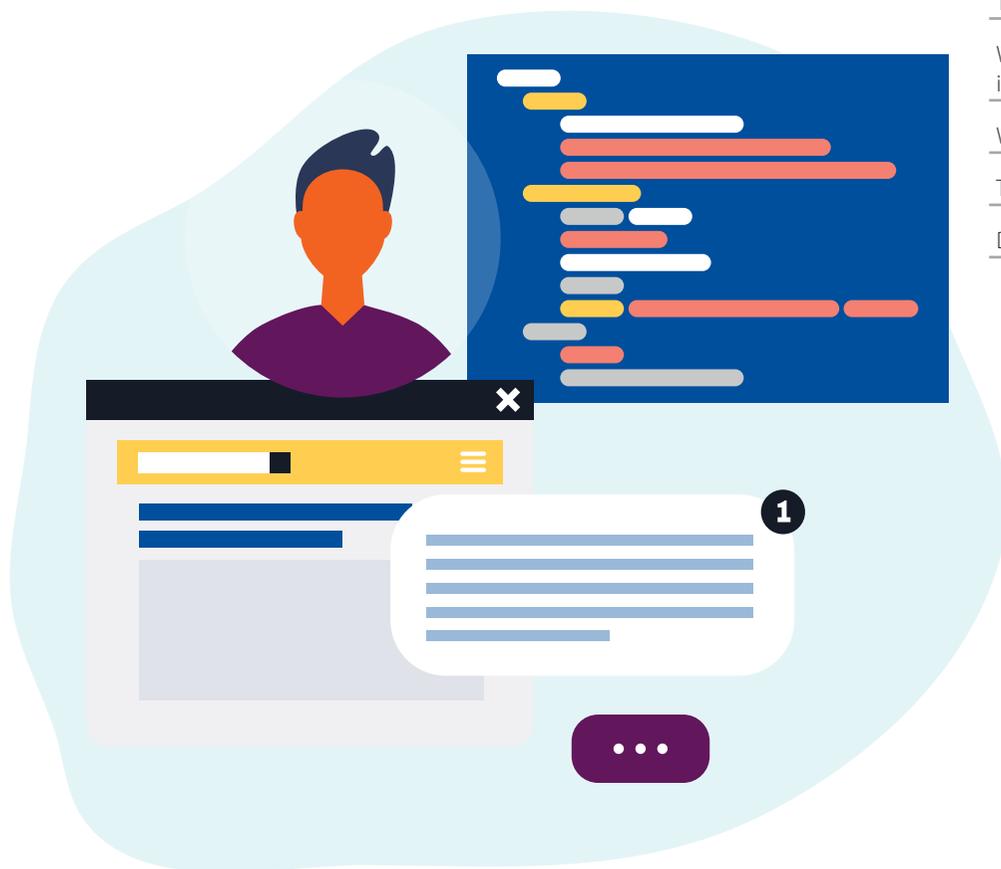
WHAT SUCCESS LOOKS LIKE

A network of staff contribute to the ongoing enrichment and understanding of our data.

The foundational elements for data asset discovery are widely used.

We have established permanent resources to maintain and continually improve the enhanced data catalogue and metadata capabilities.

We monitor the quality of existing data assets.

The Data Asset Design Protocol has been used for new data assets.

Data assets meet an agreed minimum metadata standard.

DATA SHARING AND RELEASE

AIMS

Data is safely shared internally and externally for public benefit purposes.

Data is released publicly where possible.

WHAT SUCCESS LOOKS LIKE

Departmental data is publicly discoverable and accessible.

Our key assets are made available for safe use.

We can safely and ethically access new data sources to meet our business needs.

We can confidently apply Trust in Government Data Use principles.

We are skilled in de-identifying and confidentialising data for public release.

INFRASTRUCTURE

AIMS

The technology infrastructure and systems in place support and facilitate the use of data, through appropriate collaboration and communication across the department.

An integrated approach to departmental investment in data assets.

Use emerging forms of data-driven technology.

Use our infrastructure to establish new data linkages and leverage existing linkages to assist with future work.

WHAT SUCCESS LOOKS LIKE

We have developed and maintain a roadmap of upcoming projects.

We use our understanding of our data to link it to new data sources to deliver new insights, promote better decision making and improve our program and service delivery.

Data and IT areas collaborate to pilot new technology to drive efficiencies, innovate and retain data integrity, with operationalisation in mind.

We have the ability to safely, securely and ethically access new data sources by drawing on our well understood, risk-appropriate processes.

We have our staff trained in new infrastructure to establish the appropriate linkages with data.
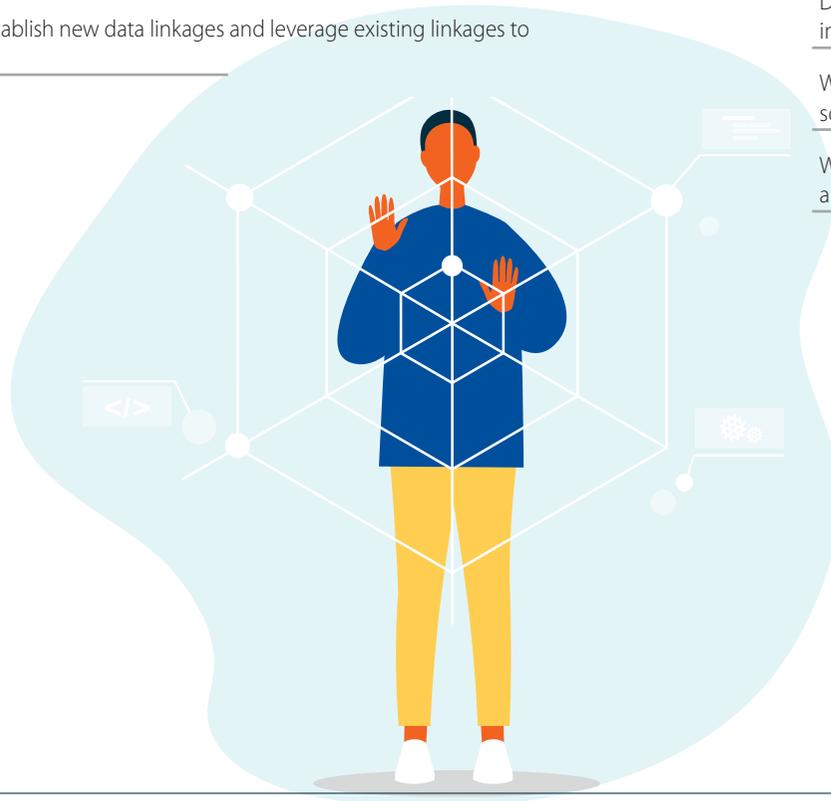
TOWARDS IMPLEMENTATION: THE ROADMAP

	2020		2021		2022
Culture	Establish Data Analysts Network (DAN)	Communications plan developed	One use-case per month showcased on Data Centre intranet page		Continue to host APS research conferences
Staff Capability	Stocktake of exisiting data capability	Workforce plan and recruitment for data staff	Develop data learning program. Promote existing learning content	Provide ongoing access to training for key analytical tools	
Governance	Establish the Data Centre	Facilitate staff connections via the Virtual Data Centre	Update Data Stewardship Manual	Data asset design protocol	Develop privacy and ethics policy
Data Asset Discovery	Metadata tool pilot. Stocktake of data work, tools and assets	Metadata Strategy	A searchable data asset register	Implement enhanced data catalogue	
Data Sharing and Release		Review current sharing and matching arrangements	Establish base data release protocols	Establish release policies and protocols. Data portal for external access	Review publicly available data and gap analysis
Infrastructure		Stocktake of data tools. Ensutre tools meet the needs of our analayst including visualisations	Developed Data and Analytics Platform Strategy		Platform for data engineers/scientists

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