Department of Science, Information Technology and Innovation

Open data strategy

2015–16

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Purpose

The purpose of this document is to outline the strategic direction for open data within the Department of Science, Information Technology and Innovation and demonstrate the department's commitment to the wider open data community.

Audience

The intended audience for this document includes business and industry; universities; research institutions; not-for-profit organisations; local, state and federal government bodies; communities and the public. The intent is for this document to be used in the wider open data community to assist in the decision-making process to enhance the knowledge economy within Queensland.

Executive summary

This strategy identifies the Department of Science, Information Technology and Innovation's plan to deliver the Queensland Government's open data initiative.

It aligns with the government's priority to ensure Queensland Government information is publicly available, including through open data, providing Queenslanders with economic and social benefits such as the opportunity to create applications, establish research programs, start new businesses, and assist with improving government service delivery.

The Department of Science, Information Technology and Innovation (DSITI) is the lead agency for the Queensland Government's open data initiative. This is appropriate given our leadership of digital government, information and communication technology modernisation, administration of Crown copyright and other intellectual property, innovation, digital economy and startup programs across the government.

Advance Queensland

Advance Queensland is the Queensland Government's leading initiative designed to diversify the state's economy, create the knowledge-based jobs of the future, stimulate increased levels of innovation, drive productivity improvements across the economy, and build on our natural advantages.

DSITI plays the lead role in delivering academic research, science translation, commercialisation and business support programs and related funding under Advance Queensland.

The DSITI *Open data strategy 2015–16* will support Advance Queensland by releasing new and enhanced datasets to enable startups, entrepreneurs, industry and universities to:

- co-create new services and products
- contribute to improving the delivery of government services
- create jobs of the future.

Our strategy also contributes to developing knowledge and skills for jobs of the future by supporting startup and open data events with financial and in-kind sponsorship. Open data events encourage people from government, industry, academia and the public to come together to develop innovative ways to use and re-use open data.

Our program

The DSITI *Open data strategy 2015–16* is based on our commitment to deliver open data value to Queenslanders through the following outcomes.

Government aims for open data	DSITI open data value outcomes
Support Queensland's developing digital economy and the creation of knowledge-based jobs of the future	Providing datasets to the research sector and industry to support new services and business models
Improve government service delivery	Greater customer service co-creation
Capture the public interest	Open data awareness to enhance skills and use by developers and the public
Increase the openness and transparency of government and its processes	Greater customer trust in DSITI and services based on open data
Be used and analysed by researchers or non-government organisations	Make user-friendly datasets available, e.g. API format, easy to find and use
Report on customer feedback and experience	Staff culture change focused on customer benefits and need to share
Promote public debate	Citizen engagement on government policy and service development

Open data principles

While DSITI's fundamental approach to opening up its data will be guided by the principle of 'share first', other key guiding principles are:

- Government data will be available for open use where practicable—we will make government data openly available under flexible licences, allowing for re-use by the public including by business, researchers and individuals.
- Government data will be available free—we will make our data available free, except if the charge is statutory or cost recovery related and has a clear net benefit for the Queensland community.
- Government data will be in open and documented formats and easy to find—we will make our data easily discoverable through data.qld.gov.au in accessible formats that promote its re-use.
- Government data, where not provided through an open API, will be refreshed in a regular, consistent manner with a stable structure to facilitate third parties to build on and rely on the data.
- Government data will be released within set standards and accountabilities—we will make our data available in a timely and relevant manner unless it is restricted or closed for reasons of privacy, public safety, security, commercial confidentiality or compliance with the law. Each business unit will be accountable for the release of appropriately licensed data in accordance with set standards.
- Government data will be promoted for use by Queensland business, entrepreneurs and governments—we will look to engage with Queensland businesses, entrepreneurs (particularly startups), researchers and government agencies to beneficially use open data to develop new products and services that create prosperity for Queensland.
- Government data will be prioritised for release based on economic and social benefits—we will look to engage with our stakeholders and customers to identify and track economic and social benefit.

DSITI recognises the importance of making government information accessible to the community and is committed to the open data agenda. The department will implement and continually review the appropriate data access processes and mechanisms to ensure the confidentiality, integrity and availability of our data.

DSITI has responsibility for a significant amount of important and sensitive information, and will commit to develop, document, implement, maintain and review appropriate datasets for release to ensure this information is made available to the public where appropriate by:

- identifying all its current datasets and assessing their respective appropriateness for release to the public
- establishing and promoting an appropriate data release culture within the department
- implementing a data release process and data preparation guide to provide departmental officers involved in the process with the tools to make appropriate decisions to release data
- satisfying the department's information security requirements
- adhering to all legal and legislative requirements.

Governance

Since the commencement of the government's open data initiative, DSITI has had in place a whole-of-department group representing business areas within each division to oversee the implementation of this strategy.

To drive the changes needed and sustain DSITI leadership in open data, open data will remain as a standing item on the DSITI Information Steering Committee agenda and be reported quarterly to the DSITI Board of Management.

Scope of responsibility

DSITI is responsible for a wide range of policies, programs and whole-of-government roles including:

- the consistent management of open data across the Queensland Government, including within DSITI
- science and innovation policy
- strategy and investment in relation to science
- digital economy policy and services
- business and government innovation services
- environmental and natural resource science and research
- interstate, national and international science collaborations
- the consistent management of Crown intellectual property and copyright across government
- government enterprise architecture policy and security frameworks
- government ICT project assurance
- government ICT services and delivery
- government ICT infrastructure and solution services
- significant government records of enduring value for historical or other reasons
- delivery of services to business, industry and the public (e.g. climate information)
- corporate services to the rest-of-government cluster of departments
- documenting the story of Queensland and providing library visitor and information services.

DSITI works closely with a diverse range of stakeholders and customers including:

- businesses
- associations
- community groups
- universities and research organisations
- local, state and federal government organisations
- the Queensland public
- Queensland public service staff.

DSITI strives to be a highly innovative agency, with the goal to be the model agency for efficient and responsive services, particularly digital services, to customers internal and external to government.

The department plays an important role in enabling and adopting innovation and digital practices in government, in business and in the community.

Types of data held

DSITI holds the following types of data:

- economic and social data—datasets that have the potential to create economic and social opportunities and statistics relevant to Queensland Government agencies
- big data—ICT industry data, research and development (R&D) data, scientific, research and collections data, as well as historical public records
- performance data—government products and services, service delivery timeframes and costs, and financial data
- satisfaction and experience data—client satisfaction data with government products and services.

DSITI is a data-rich agency, with services delivered to external and internal clients. Most of this data is in the form of digital information or digital infrastructure. These services also form part of information-rich value chains between our suppliers and end consumers.

The opportunity for sharing data with customers, partners and suppliers to improve outcomes for government and the public is therefore significant.

Much of this data is presently held in information systems at individual business unit level. The longer term transformational benefits will accrue as we migrate to new or enhanced systems that are designed around accessible data and services, and co-created by more digitally aware staff, customers and suppliers.

The following table summarises the key types of data held by the different DSITI business units to deliver their respective value propositions to customers.

Business unit	Major customers	Major value proposition	Key data/datasets held
Strategic ICT			
ICT Strategic Procurement	Queensland Government agencies, ICT industry/ suppliers	ICT procurement support services	ICT contracts in use
Queensland Shared Services			
	Queensland Government agencies	Corporate information services	Agency/staff/payment, etc. service use
Change & Operations			
Corporate Services	DSITI divisions	DSITI corporate services	Corporate service use
Digital Productivity & Services			
Digital Economy and Productivity	Small to medium enterprises, associations, universities, councils	Digital productivity tools and advice	ICT industry data
Queensland State Archives	Public, researchers, Queensland Government agencies	Government records custodian	Historical government indexes
One-Stop Shop Implementation Office	Public	Customer service	Customer experience metrics
	Queensland Government agencies	Channel efficiency	Service/channel use

Business unit	Major customers	Major value proposition	Key data/datasets held
Strategic Policy & Innovation			
	Small to medium sized enterprises, industry associations, startups, entrepreneurs, universities, and Queensland Government agencies	Innovation tools and advice and information on the commercialisation of IP Crown IP management	Grants, industry and agency data
Science			
Science Delivery	Local, state and federal government, universities, private industry, CSIRO and other research organisations	Scientific information, including environmental and natural resource assessment, modelling, monitoring and analysis	Environment/natural resource science and research related to air, soil and water quality, wave and storm tide monitoring, water hydrology, climatic variability wetlands, land use mapping and native vegetation
Science Development	R&D organisations, collaborators and investors in Queensland science, universities	R&D priorities and support, including Queensland Science Capability Directory	Research data, grants and funding data, Science Capability Directory
State Library of Queensland			
	Public research community, industry	Public information access	Historical information, collections, library data
Queensland Government Chief Information Office			
	Queensland Government agencies	Queensland Government ICT strategy and governance	Government ICT performance
Office of the Queensland Chief Scientist			
	Science organisations, academia, government	Science investment priorities	R&D expenditure

Corporate datasets

In addition to these datasets, all business units hold corporate datasets, such as operational performance, service delivery, and finance and customer satisfaction data. Key DSITI corporate datasets reported on the Open Data portal include annual reports, consultancies and overseas travel.

Revenue generating datasets

DSITI has two business units that generate revenue from the sale of data:

- CITEC Information Brokerage does not collect its own datasets, but accesses agency datasets such as land titles, and packages them to registered commercial users for a fee. These are closed datasets and cannot be shared.
- Science Delivery creates and analyses data for various purposes, primarily related to the legislative obligations of other Queensland Government departments. It also transforms environmental, natural resource and climatic data from a number of agencies to develop internet-based applications. While most of the science data is open, some is either shared or closed data due to contractual or legal obligations.

Overarching data identification process

DSITI's overarching data identification process includes:

- staff engagement through:
  - monthly meetings of the DSITI *Open data strategy* implementation working group
  - regular update at the corporate governance Board of Management meeting
  - the use of DSITI's internal staff communications, including Yammer, to share activities and identify new ideas
  - the promotion of open data through involvement in internal and external open data competitions, identifying dataset ideas and uses for our datasets
  - collaboration with other agency open data leads and teams to identify opportunities and improvements
  - the provision of specialist assistance to help train staff, identify datasets and format the datasets to comply with open data release standards
- customer engagement through:
  - the invitation to suggest ideas via the Open Data portal and through other forms of communication (where used by business areas) such as social media, satisfaction surveys and blogs
  - regular engagement with business and industry associations, university and research organisations, and Queensland's startup community
  - supporting open data events, e.g. national events like GovHack and startup weekends.

Data released and standards

The release program for DSITI business units will be updated regularly and published as a dataset on the Open Data portal.

New datasets will be assessed prior to publication based on their suitability, viability and potential value to business and the community.

Each dataset will be self-published by the dataset owner on the Open Data portal following the Director-General's or delegated authority's endorsement.

All datasets are published on the Open Data portal with descriptive metadata information. Datasets are published on the Open Data portal under the Queensland Government's publishing data release standards.

Spatial datasets available on the Open Data portal and published on QSpatial, Queensland Globe or QGIS are released under the ANZLIC metadata profile based on the established Australian/New Zealand and international standards. This approach facilitates interoperability within and between agencies and jurisdictions, both within the region and internationally, by providing a consistent basis for communicating information about resources.

A *Data release management policy* and governance framework developed for DSITI to guide appropriate management of the data release process is under review to align with the department's maturity to prioritise dataset release based on economic and social benefit. This policy establishes the underlying principles and obligations of DSITI concerning data and dataset releases. It describes the mandatory requirements for, and minimum standards to be met by, the department data custodians when determining how to release data and still comply with regulatory requirements.

In relation to personal privacy, the department is guided by the privacy principles in Queensland's *Right to Information Act 2009* and Queensland's *Information Privacy Act 2009*, which support the delivery of government services and open government while preventing the misuse of personal information. Some of the datasets will be cleansed of identifiable information.

Information delivered through the portal will be provided through a spectrum of release methods ranging from:

- links to external datasets
- hosted datasets
- data APIs.

Information delivered through the portal will be provided for re-use by third parties undertaking application development or data analysis in documented machine-readable formats such as:

- CSV—Comma Separated Values
- XLS—Microsoft Excel Spread sheet
- XML—Extensible Mark-up Language
- RDF—Resource Description Framework, modelling information
- KML/KMZ—Keyhole mark-up language, suitable for viewing in Google Earth, Google Maps or other supported applications
- Shapefiles—ESRI shapefile overlays (spatial data).

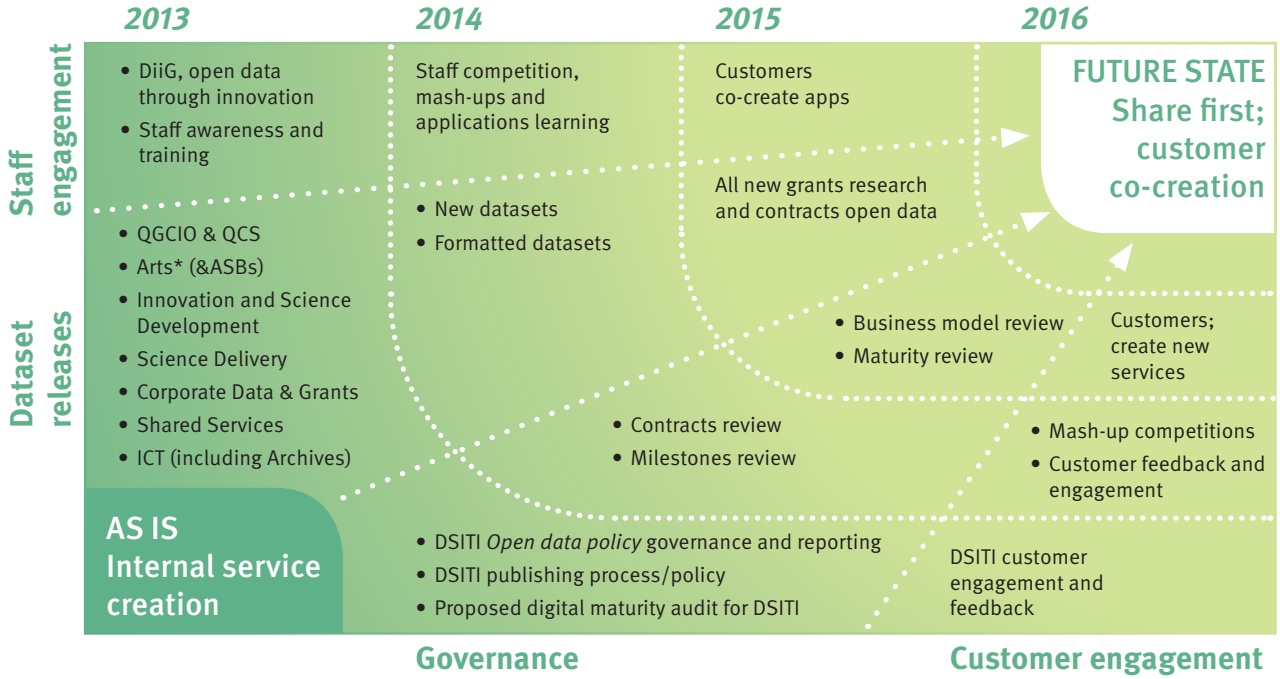
In addition to the raw datasets released through this strategy, the department will also continue to provide data in the delivery of information in a visual and user-friendly manner on Queensland Government websites, e.g. Queensland Government ICT dashboard.

The Queensland Government has an intellectual property framework in place governing the release of public sector information, which includes the Queensland public sector intellectual property principles and an information licensing framework for copyright material, including data.

The default licence applied to open data content will be the Creative Commons Attribution Licensing (CC-BY), with other licences being applied to content that requires restrictions. The CC-BY licence permits users to distribute, remix and build on a work, even commercially, as long as they credit (attribute) the original creator/s (and any other nominated parties).

Our roadmap

The following open data diagram summarises the short- and long-term DSITI initiatives and outcomes to become a share-first organisation using data to co-create new services and products.



**Under the Administrative Arrangements Order (No. 1) 2015, Arts Queensland and the statutory bodies (e.g. Queensland Museum and Queensland Arts Gallery and Gallery of Modern Arts) moved to the Department of the Premier and Cabinet (DPC). All datasets for these business areas are published under DPC. This machinery-of-government change also resulted in a name change for the department from the Department of Science, Information Technology, Innovation and the Arts (DSITIA) to the Department of Science, Information Technology and Innovation (DSITI).*

Our short- and long-term goals and objectives

In 2013, a wide range of DSITI datasets were published prioritising scientific, historical, cultural and grants data, corporate data and the establishment of governance processes, including data release management policy and publishing standards. Considerable internal exchanges of expertise and information were undertaken to promote an open data culture.

In 2014, new and reformatted existing datasets were released, including geospatial data. A Science for Solutions competition was held with both customers and staff to accelerate awareness and ideas for beneficial use of science-related open datasets. DSITI also sponsored a science challenge at the annual GovHack competition.

In 2014, DSITI launched release 2 of the public facing ICT Dashboard, which is a leading example of a government service which directly consumes open data published by all departments—Queensland Government ICT dashboard.

In 2015, the department included provision for open data in all new DSITI contracts, research and grants. DSITI also sponsored three Queensland Government related challenges at the annual GovHack competition.

DSITI will embrace the principles of 'share first', using open data to design new and improved policies and services with key partner organisations.

DSITI will undertake an open data maturity assessment to inform future actions beyond 2015–16. Understanding our maturity level compared to other jurisdictions will provide DSITI with the opportunity to set targets and performance goals to leverage improved information provision in support of the open data initiative.

Economic and social benefits goals and objectives

DSITI will look to engage with stakeholders and customers to enable us to track economic and social benefit to enhance our return on investment in open data and:

- identify whether datasets provide economic and social benefits to Queensland
- identify if they contain the relevant information
- identify the preferred formats.

In 2014–15, DSITI began this journey, identifying some stakeholders and customers who are benefiting from the release of DSITI datasets.

Economic and social benefit for business, researcher and the community case studies

A tool to assist farmers schedule their irrigation

> 'Having access to the data has significantly improved our ability to represent local weather.'

Steve Attard
Agritech Solutions

Soil datasets to inform client decision-making

> 'Quick, reliable access to soil datasets is critical in my day-to-day work.'

Jon Walton
Senior Soil Scientist, O2 Environment + Engineering

Queensland wildlife data

> 'Access to the WildNet data lets us develop a fuller understanding of the overall health of our biodiversity.'

Dr John La Salle
Director, Atlas of Living Australia

- Open datasets improve service delivery for customers—State Library of Queensland case study.
- Economic benefit for business and social benefit for their customers: Major family history providers such as 'Find my Past' and 'Ancestry.com' are using, or are planning to use, Queensland State Archives and State Library of Queensland open datasets as part of service offerings to their customers. This ensures that Queensland is well represented in these major resources used across the world.

Other jurisdications use DSITI open data to extend their service offering to their customers: Air quality datasets published by DSITI are sourced from the Queensland Government Open Data portal to feed into a world-wide map—Real-time air quality index visual map.

Contact information

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Website: www.slq.qld.gov.au

Further information

- Open data strategy: data.qld.gov.au/department-strategies
- Queensland Government Open Data portal: data.qld.gov.au
- Published datasets: data.qld.gov.au/dataset
- Publishing standards: publications.qld.gov.au/dataset/publishing-standards-data-qld-gov-au
- Information for developers: data.qld.gov.au/for-developers
- Case studies: data.qld.gov.au/case-studies

References

The following references are relevant to this document and are current at the time of publication.

Queensland legislation

- *Right to Information Act 2009*: www.legislation.qld.gov.au/legisltn/current/r/rightinfoa09.pdf

Office of the Information Commissioner

Guidelines on datasets and privacy:

- Dataset publication and privacy: www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-privacy
- Dataset publication and risk assessment: www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-risk-assessment
- Dataset publication and de-identification techniques: www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-de-identification-techniques

Access and licensing frameworks

- Australian Government's Open Access and Licensing Framework: www.ausgoal.gov.au
- Creative Commons Australia: creativecommons.org.au/about

Other resources

- Queensland Government website: www.qld.gov.au; and publications portal: publications.qld.gov.au
- Queensland Government Chief Information Office: www.qgcio.qld.gov.au/products/information-licensing
- Information access and use policy—IS33: www.qgcio.qld.gov.au/products/qgea-documents/548-information/2333-information-access-and-use-is33-info