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ebook

Transform your internal data management with ckan

Table of **Contents**

Why use **CKAN** to power your internal data management platform?

CKAN – the Comprehensive Knowledge Archive Network – is widely recognised as robust open source software with the ability to power open data portals; front facing web applications designed to make data more discoverable and easier to share and interpret. But CKAN can also power internal data management platforms, or internal asset registers as they are sometimes known.

An internal data management platform is designed to efficiently and securely gather and store an organisation's data assets in one central on-line location. Through a web interface, it then enables these assets to be catalogued and managed over their life cycle. This includes being shared with internal users and external collaborators and agencies, within a highly controlled environment.

Internal data management platforms are designed to help organisations manage the increasing data assets they have at their disposal.

Corporates, large not-for-profits, universities, and government departments and statutory bodies – any organisation for which data use, integrity and accessibility is paramount – can use a CKAN internal data management platform to store, manage and share critical internal data assets efficiently and securely.

The following ebook will demonstrate how you can maximise the benefits of CKAN to boost your internal data management. It will outline:

- The key features of a CKAN-based internal management platform and how they can be used to meet your internal data management needs.

- How to make open source software such as CKAN, which is already highly secure, even more so.

- Examples of how Link Digital has used CKAN to help organisations improve their internal data management and contribute to real work change.

Open source software   Internal data management

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What is CKAN?

CKAN is a sophisticated piece of open source software launched in 2006 that can be configured and set up to function as an open or internal data platform once it is deployed and hosted on a web server. Being open source means that the original source code has been made freely available, allowing anyone to redistribute and modify it. Link Digital is a global expert in CKAN and what is referred to as a 'co-steward' of the software, serving to support the community of users and contributors that collaborate with the project.

ckan

Features of a **CKAN-based** internal data management platform

Governments at all levels, as well as corporations and large not-for-profits, are collecting more data than ever before. This sheer mass of data can make it difficult to draw real insights and benefit from it. There are also major issues relating to sharing data effectively and securely, both internally and with external collaborators.

A CKAN-based internal data management platform is a powerful, flexible approach to managing your data assets across multiple departments, organisational branches, and internal and external users, in a highly secure, controlled access environment, throughout the data's life cycle.

Metadata management

Utilise advanced descriptive metadata and cataloguing features, including specific keywords and metadata tags, to organise and classify internal data sets. This improves search functionality and ensures faster, smoother data location and retrieval. The ability to track changes to your metadata also delivers greater accountability, transparency and traceability around who is accessing your data.
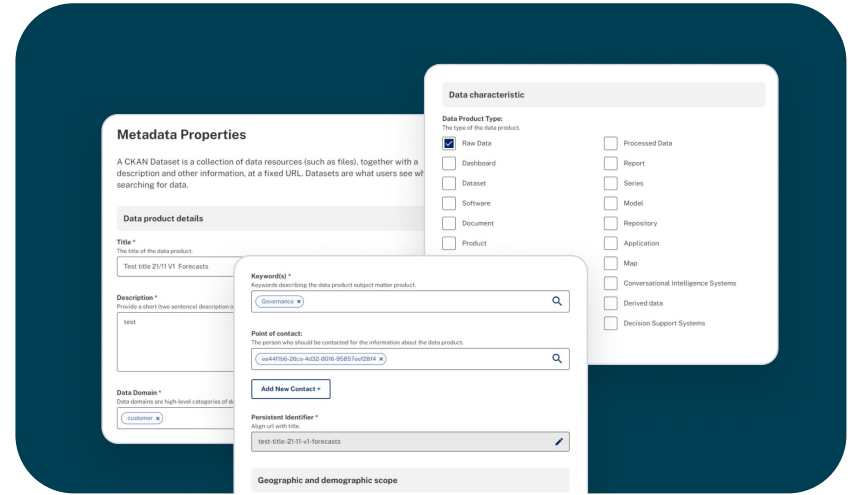

Advanced access controls

Set permission settings to control critical and sensitive internal data at a group or individual level, to fit the needs of a particular project or your organisation more generally. This includes the ability to simplify administration by enabling group creation with predefined access permissions. This enables you to share data in a highly secure, controlled access environment.

Workflow management

Monitor data usage and metrics by creating real time reports and dashboards and efficiently automate data management tasks like approval and updates. Efficiently automate data management tasks like approval and updates.
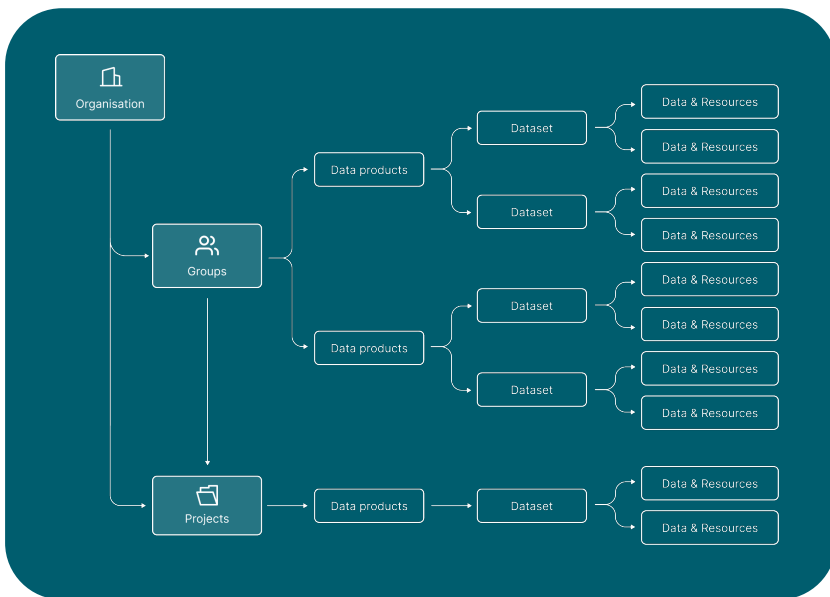
Application programming interface integration

Enable users to access datasets and other services stored on CKAN powered data portals and catalogues. A RESTful API allows developers to interact with all aspects of its open data platform, including extension development and the easy migration of data from other services and systems, including legacy systems.

Easy customisation

CKAN is also highly customisable **through a wide variety of extensions** that can vastly increase its basic functionality and integrate in a seamless manner with a user's existing data and digital operations.

Scalability

Easily scale up or extend the functionality of your CKAN-based internal data management system to meet the growing needs of your organisation, including the ability to store metadata and data with unlimited scalability in the cloud.

Greater data visualisation

Enable greater data visualisation by utilising extensions designed to integrate seamlessly with user's existing data tooling. These allow data to be presented visually using charts, graphs, infographics, videos and maps, for greater comprehension.
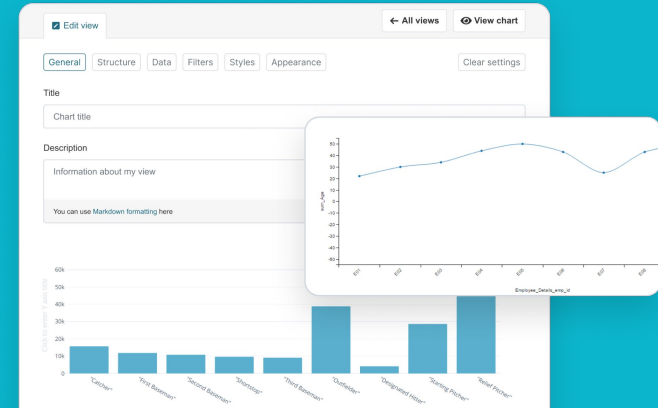
Support and maintenance

Keep pace with changes and continuously improve the performance of your CKAN powered internal data management platform by drawing on the support and expertise of the global CKAN community.
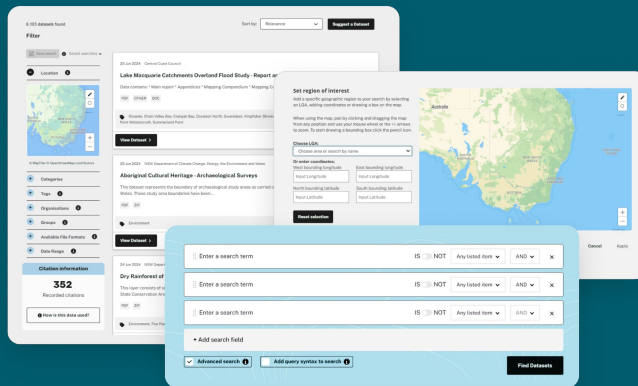
Why CKAN is the best choice
for your internal data management needs

The benefits of a CKAN-based internal data management platform include:

No vendor lock-in

Open source solutions such as CKAN eliminate the risk of vendor lock-in because users have the complete freedom to modify, upgrade or tailor solutions without incurring substantial financial outlays. No vendor lock-in means that users also keep complete control of their data and metadata.

Reduced cost

Because CKAN is open source, there are no licensing fees. Instead, financial outlays are associated with hosting and customisation by a third-party service provider. This makes it more accessible and cost effective. Additional cost saving can also be generated through the software's interoperability, easier integration and customisation, and reduced barriers to reuse.

cost reduction ↓

	24%
	18%
1,145,000	12%
1,105,000	8%

Improved data sharing

Creating one centralised platform for storing and internally sharing data can have a transformative impact on your organisation by simplifying and streamlining the process by which employees and can find, acquire, understand, and share the information necessary for research and development, to make sound data informed decisions, or to share with external collaborators.
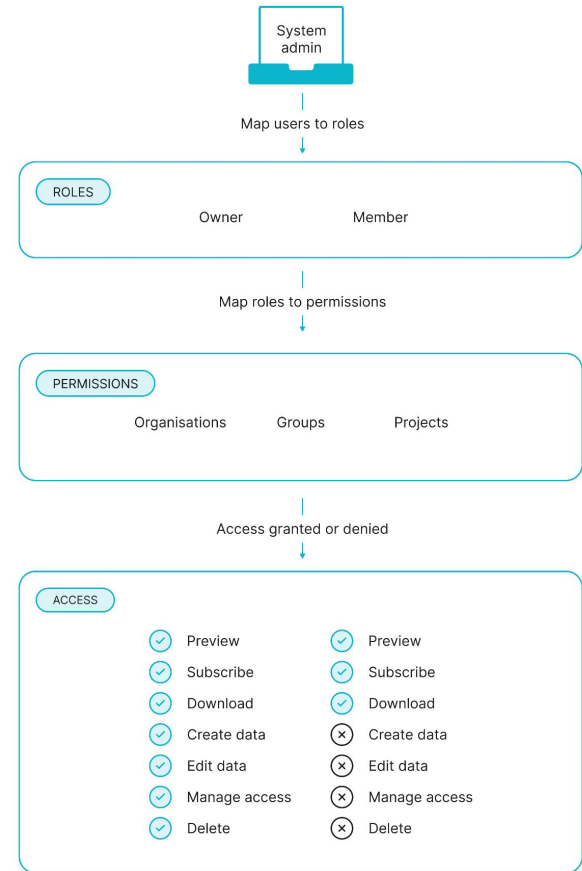
Better data management

An intuitive and highly customisable workflow enables data custodians to manage the complex movement of data across different parts of their organisation as well as with external collaborators. A single repository of data assets helps to prevent aged or incorrect data from being shared and automated updates and data validation ensure data is accurate.

Improved trust and accountability

The creation of a streamlined approval procedure for the sharing of your data improves transparency and can help to foster a culture of trust and mutual accountability. It also enables data custodians to discern and report on data usage over patterns over time and across different organisation's levels and functionalities.

Improved security

A CKAN-based internal data management platform operates behind corporate Identity Access and Management systems, allowing confidence when users are updated on the core security platform.

Making your **CKAN-based data management platform** secure

Open source software like CKAN can be made highly secure.

In addition to a core development team that contributes to keeping the CKAN software in good shape, it is supported by a large and expanding user base. This means CKAN is on a continuous improvement journey, with each successive version of the software looking at improving its efficiency, performance, stability, interaction, and usability.

The CKAN community provides support, advice and resources to in-house developers, and oversees the regular release of security patches and updates to address vulnerabilities and improve overall security. This third party review by a large group of people who are constantly overseeing the code for vulnerabilities means that open source software is arguably more secure than proprietary or closed source software.

The security of a CKAN internal data management platform can be further enhanced by engaging a third-party service provider, such as Link Digital. Effective data governance, defined as the policies, organisational roles and infrastructure to effectively oversee data availability, useability, quality and security, is vital.

As are the adoption of best practices within the host organisation, including:

11

User permission management practices

- Implement role-based access controls to manage user permissions and manage who can view, edit, publish and share your data.

- Use robust authentication mechanisms to control your CKAN internal data management platform. CKAN can be configured to support commonly used authentication processes, including OAuth, Lightweight Directory Access Protocol, single sign on and the use of API keys.

- Regularly audit user access to ensure strict compliance with organisational policies.

Data quality control procedures

- Use automated tools to validate data upon upload.

- Implement regular data quality checks and reviews.

- Encourage user feedback on the accuracy and usability of the data.
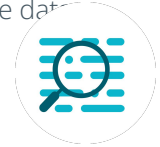
Adopt a regular maintenance schedule

- Regularly monitor key performance metrics to ensure your platform is running at optimal efficiency.

- Establish a regular maintenance schedule to ensure that the system remains updated, and your organisation is using the latest version of CKAN.

Regular user training and support

- Conduct regular training sessions for users to familiarise them with CKAN and its features.

- Stay connected with the CKAN community so you can benefit from new features, improvements and the most up to date security patches.

CKAN-based
internal data management
platforms **in action**

Link Digital has extensive experience providing organisations with customised internal data management platforms powered by CKAN. We can build you a reliable, cost-effective and secure solution to the internal challenges of better managing and sharing your data.

This includes out new Secure Data Exchange (SDE) approach to help organisations exchange data in a completely secure domain. While primarily aimed at government departments and related entities, SDE can be utilised by data custodians in other large, complex organisations, including not-for-profits and corporates, who are seeking to securely share data across their domain.
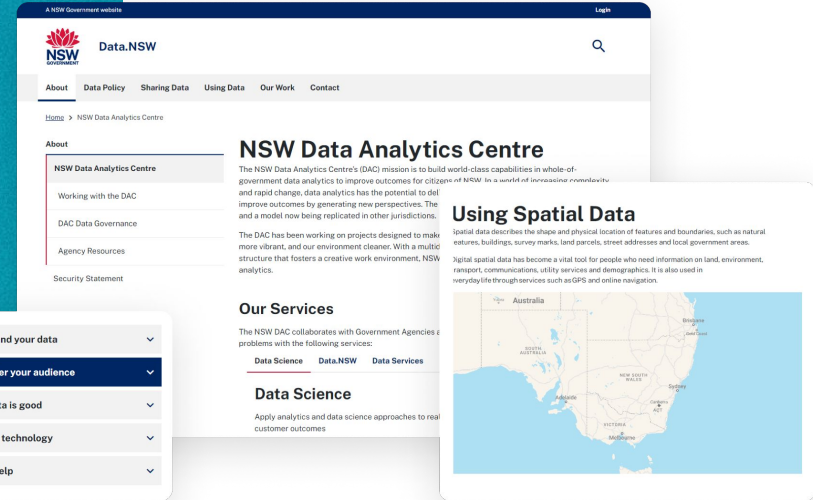
Other examples of our work include:

New South Wales Department of Planning, Housing and Infrastructure

Link Digital designed an internal data management platform designed to help DPHI better manage its data assets. The platform improves data quality, transparency and searchability by enabling staff to add information such as the precise nature and value of each data asset, its security classification and owner, as well as a detailed metadata description.

The platform's workflow allows for a tiered process of permissions to make data open. While some data assets are available only to those with access to the internal data management platform, data assets made open are automatically uploaded to the Sharing and Enabling Environmental Data platform, the NSW's open data resource for sharing environmental data, and can also be uploaded to state's Government Planning Portal, both of which were designed by Link Digital.
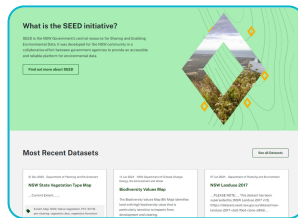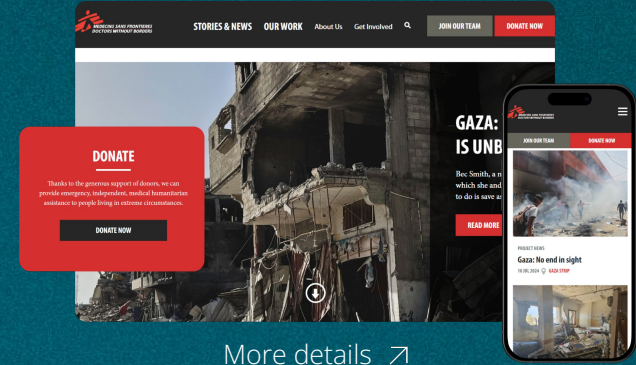

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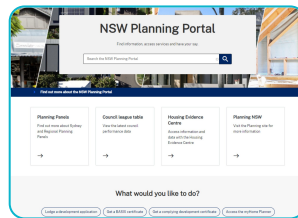
More details ↗

Médecins Sans Frontières/ Doctors Without Borders

Link Digital worked with the global humanitarian organisation MSF on an internal data management platform to improve the sharing of research collected by staff. In addition to improved data storage, MSF wanted a more streamlined process to reduce administration, while incorporating appropriate access levels to meet concerns regarding data security, particularly around cloud security for clinical data.

The platform is also designed to facilitate the sharing of information with external researchers, academics and decision-makers in MSF target countries. Currently in pilot phase, the long-term goal is for the DSP to become the centralised sharing facility for all MSF research data.

Canadian Watershed Information Network
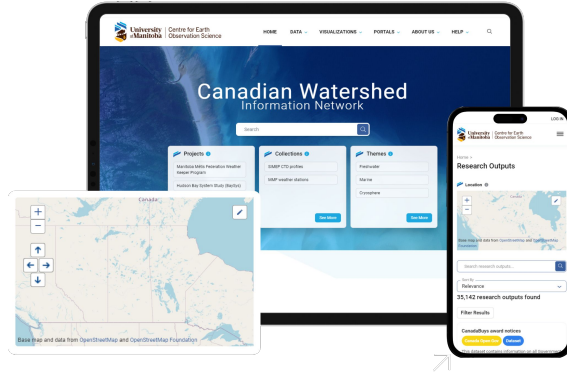
Managed by **University of Manitoba's Centre for Earth Observation Science, the CanWIN site** is an internal data management platform that collects and manages a large array of climate data, including spatial data, analyses and shares it with researchers.

In 2020, Link Digital overhauled the existing CKAN-based platform to allow for greater data storage capability and enable researchers to tell more complex stories about the data in their work. The job involved installing new visualisation tools, customising metadata templates to improve search efficiency, and adding user permissions to provide data sovereignty to Indigenous groups to give them granular control over their data. The changes have powered greater collaboration and enabled researchers to better collate and access data for analysis from a hyperlocal to global scale.

'Because CKAN is so customizable, we were able to create templates to enable us to link the different types of resources we collect (publications, facilities, datasets, projects, deployments, instruments, platforms) together to show how research programs and data collected are inter-connected. This enables researchers to better collate and access data for analysis from a hyperlocal to global scale. This also creates more reproducible data as all details of data collection and analysis can be recorded, and creates a more collaborative, open environment.'

Claire Herbert

Data Manager
Canadian Watershed Information Network
University of Manitoba

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Ready to **transform** your internal data management?

Explore our detailed case studies, request a demo, or speak with our CKAN experts to get started on your journey.

Get in touch