Open Data Strategy for Northern Ireland

2020-2023

Contents

Foreword

I am proud to launch this Open Data Strategy for Northern Ireland which sets out our strategic priorities for the years ahead.

Sue Gray
Permanent Secretary
of the Department of Finance

This strategy will provide the platform and parameters to drive forward, with our many partners and stakeholders, an ambitious agenda on Open Data and transparency. Open data is hugely important in enabling us to engage in a more meaningful way with wider society and also generate opportunities for the local economy.

Achieving the ambitious and demanding aims of the strategy will require genuine collaboration between the Northern Ireland Civil Service and wider public sector organisations. It must be a core function and as Government Departments we must lead by example.

I thank all those who have contributed to this strategy. Its delivery will require the same spirit of collaboration and constructive challenge. I look forward to continuing with this level of engagement to ensure we use Open Data as a force for good and to support the Programme for Government objective of improving the lives of people in Northern Ireland.

Executive Summary

The Open Data Strategy for Northern Ireland 2020-2023 ("The Strategy") is an ambitious blueprint for driving a transparency agenda across government and creating a resource which will improve the economy and lives of people in Northern Ireland.

The Strategy is a result of collaborative effort by central and local government and a range of private sector innovators and many others.

It sets out a challenging plan which, when delivered, will see a seismic change in the adoption of Open Data principles and insights to the way we live and the way we conduct our public services.

This Strategy will enable the public to make more informed decisions and the public sector to deliver better services. It will, through better internal consumption of data and more publication of government-held data, improve policy making, stimulate economic growth and improve our environment. Enabling greater access to government-held data will provide new insights to and recognition of, the services government deliver.

The Strategy builds upon the progress made since the publication of the inaugural strategy in 2015 which set out for the first time how the Northern Ireland Civil Service would start to address the challenge and opportunity presented by opening up access to government data.

The Strategy will seek to embed Open Data into the business culture of organisations across the Northern Ireland public sector. By freeing up their data for re-use, public sector organisations are opening up possibilities that can be powerful drivers for social and economic benefit, provide transparency in government decision making and hold public authorities more accountable to the public.

The release of data and the delivery of this Strategy will inspire many new initiatives in the public and private sectors alike.

The Strategy will deliver its aims through four main themes:

1. Increasing the rate of publication and sharing of government information as Open Data;

2. Promoting the innovative use of Open Data as a means for advocating its benefits;

3. Engaging with the NI public sector to promote Open Data and its potential through a series of events, including the establishment of an innovation fund, and running Open Data competitions; and

4. Placing strong emphasis on the need for training in Open Data leading to a more skilled and aware workforce who will, in turn, embed and sustain Open Data as a business function, rather than as an ad hoc activity carried out by specialists.

The Open Government Implementation Group will oversee the implementation of the new strategy and will be supported in this work by an Advisory Panel. These bodies, comprising representatives from the NI public sector, industry, academia and civic society will provide direction, challenge and support to the Open Data team in their work to realise the actions detailed in the Strategy's Implementation Plan.

The ambitious Implementation Plan is detailed at **Appendix A** and an accompanying timeline setting out when key Implementation Plan actions will be achieved is detailed at **Appendix B**.

Principles

The Open Data Strategy for Northern Ireland 2020-2023 sets out a number of principles to ensure:

1. **Northern Ireland public sector data is open by default.**
   Open by default is the first guiding principle that will facilitate and accelerate Open Data publication.

2. **Proactive data publication**
   Proactive data publication will be encouraged, with monitoring and reporting mechanisms used to highlight those organisations that lead proactive publication and those that do not.

3. **Make data accessible and easy to use**
   We will continue to improve the experience of users. Making data easily discoverable is vital to drive publication and data consumption. Equally, quality matters. Accessibility is about making data easy to use by adopting approaches such as tidy data principles. We will support publishers by utilising modern tools to improve their data quality.

4. **Enhanced Governance & Engagement**
   We will establish new governance arrangements to drive the Open Data Strategy. An overarching Board, which will comprise Open Data and Open Government interests, will be responsible for promotion, uptake and compliance.

5. **Promoting innovative use of Open Data**
   Supporting innovation by providing funding opportunities for individuals/companies to demonstrate what they can do with Open Data is key to building up use cases that show the value of Open Data, as is providing opportunities to promote the work of Open Data influenced innovators.

6. **Cultivate an Open Data community through partnerships**
   We will build upon the interest which Industry has raised - with more formal cooperation, seeking to develop those partnerships in order to share knowledge and expertise, to further drive the Open Data agenda.

7. **Demonstrate the value and impact of Open Data**
   We will evaluate the impact of Open Data releases at a local level, focusing on many new use cases to identify the benefits of releasing public sector data.

Vision and Aims

Our Open Data Vision is to stimulate the availability and use of Open Data, to build trust in government services through a greater commitment to transparency and demonstrate the value of Open Data as an agent of economic growth, whilst also supporting the burgeoning Open Data ecosystem that has developed locally.

We will achieve this by:

- Accelerating the current rate of Open Data publication within our public sector with a focus on key thematic areas (such as grants, fiscal transparency, geospatial, statistics);

- Supporting the innovative use of data via an Open Data Innovation Fund and competitions;

- Publishing our Northern Ireland transparency commitment through our Open Data portal and reporting transparently on progress; and

- Promoting Open Data within Government Departments and showcasing the benefit of re-use within the public sector.

Expediting Change

Theme 1: Culture of Active Publication

This Strategy will unlock and increase, year on year, more government information.

We will achieve this by working with partners across the Northern Ireland Civil Service, the wider public sector and the developer community to address issues with low publication rates and break down barriers to publishing information on the OpenDataNI portal.

We will use the latest technology to make it easier for public sector organisations to publish their data.

In seeking to achieve our ambitions for publishing larger amounts of data, it is our aim to:

- Identify and prioritise for release, through analysis of Information Asset Registers, key datasets; e.g. statistical, geo-spatial and fiscal data, that will be published on the OpenDataNI portal;

- Enhance rates of public sector Open Data publication by establishing agreements with Departments and NI public sector bodies to publish a percentage of datasets from Information Asset Registers;

- Facilitate the publication of Open Data by reducing the need for manual intervention by working with the development community to create an automated publication pipeline;

- Improve the quality of data through the use of open source data validation platforms; and

- Work towards embedding a culture of Open Data as 'business as usual' across the NICS and wider NI public sector.

Theme 2: Supporting Innovative Use

We will drive a cultural shift towards more active publication through demonstrating the impact and value of Open Data.

A core component in achieving this aim will be through the promotion and innovative use of data hosted on the OpenDataNI portal. We will showcase and share these success stories – of how users are exploiting data to make a real difference.

The portal already hosts a number of showcases which show what can be achieved when working with Open Data in new and innovative ways. With more data being published year on year over the life of the new strategy, the potential for re-using the data rises significantly.

We will enhance our services and online open data platform to make it easier for customers and users of open data to easily see what new datasets have been published; make search functionality easier and simplify download of datasets.

We will establish a series of initiatives designed to encourage innovative use of data hosted on the OpenDataNI portal. It will aim to foster innovative use of data by committing to:

- The creation of an Open Data Innovation Fund aimed at the local technology and developer community;

- Hosting a variety of Open Data competitions to include competitions pitched at different levels of data user (including schools and undergraduate students) and themed competitions; and

- The establishment of an annual NI Open Data award to recognise excellence.

Theme 3: Promotion and Engagement

We will showcase and promote a wider understanding of how Open Data is making a real difference to society and the economy.

Our engagement strategy will detail how we will share knowledge and encourage and advise the NI public sector of the benefits and opportunities presented by greater publication and use.

We will identify and work with partners within all NICS Departments, at operational and Board level, to stimulate discussions and promote Open Data with the intention of embedding a more proactive 'business as usual' approach rather than a more specialised, reactive activity.

Learning from models developed by other Open Data advocates, including the Open Data Institute, we will establish and support a network of local champions across both the NICS and wider public sector, to take forward practical steps to implement and sustain Open Data within their own organisations.

We will continue to build links with the secondary, tertiary and higher education sectors to encourage appetite for exploiting the data we make available.

We will actively communicate shared expectations and promote the sharing of lessons and good practice.

We will invest in active student participation programmes, especially targeting those studying ICT, data analytics and data science. We will highlight to academia the opportunities presented by Open Data which will drive a demand for more information to be made available for re-use, in turn
leading to a rise in the number of datasets published.

Theme 4: Building Competence and Capability

Moving towards a "business as usual" approach to Open Data publication is only feasible if there is a significantly greater awareness of Open Data principles and targets - and supported by staff in public sector organisations who have capability in publication and consuming data. Developing appropriate skills to publish and making staff aware of Open Government and Open Data are vital to delivering outcomes.

We will assist and support our public sector data leaders and actively promote data publication in their business areas. We will invest in and grow the skills and capability of our experienced staff and highly talented public sector staff working across all of our businesses areas - to publish and also to consume data from other public sector data sources in order to improve our performance and public services.

A suite of new on-line materials will be created and made available to staff across NICS. Online resources and education programmes on Open Government and Open Data will focus on raising awareness across NICS whilst demonstrating how straightforward Open Data publication is.

Bespoke senior civil service/senior leadership masterclasses will be organised, with the aim of encouraging greater government collaboration with the pubic and bringing Open Data and its potential to the decision makers within NICS Departments and the wider NI public sector.
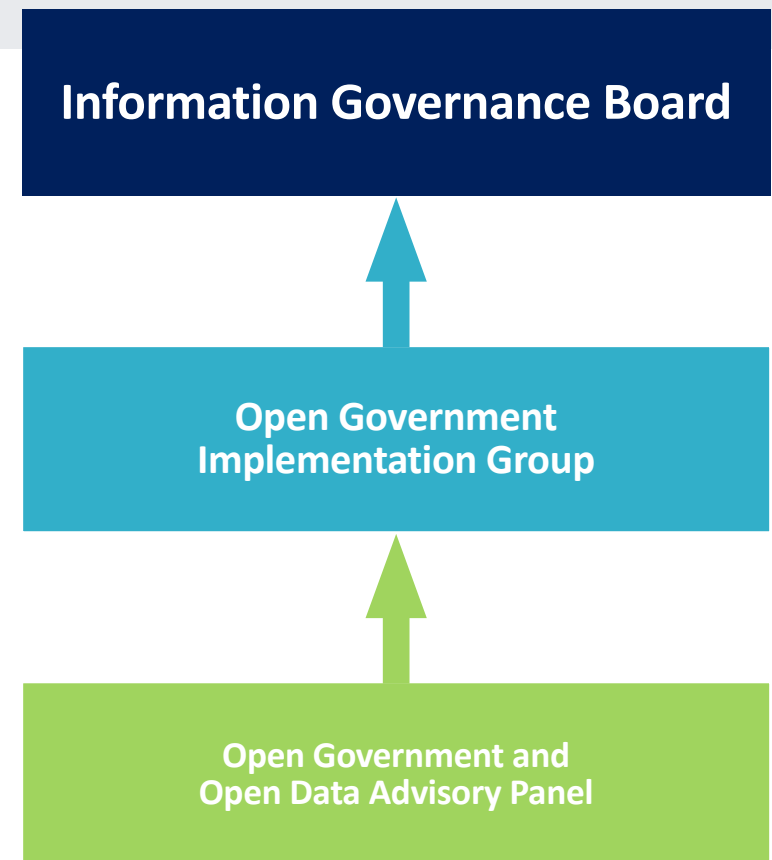
Governance

Strong governance and leadership will be key to achieving and driving forward the Open Data Strategy.

Information Governance Board (IGB) is the key decision-making body within the NI Civil Service for all matters relating to innovation and governance in Information Management, Information Technology, risk management and Information Assurance. IGB is comprised of senior NICS Departmental Board representatives.

The Open Government Implementation Group has responsibility for driving forward the Open Government and Open Data agenda across the NI public sector and ensuring delivery of the Northern Ireland Open Government commitments in the UK National Action Plan and the delivery of the Open Data Strategy. The Group is comprised of representatives from all NICS Departments and the wider public sector. The Board will actively seek to identify obstacles and solutions to overcome these in a collaborative way.

Open Government and Open Data Advisory Panel comprising representatives from sectors including industry, the developer community, academia and civic society will provide advice, guidance and challenge to the Open Government Implementation Group.

Information Governance Board

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Open Government Implementation Group

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Open Government and Open Data Advisory Panel

Measuring Success

We will know we have achieved the strategy's aims when we can demonstrate:

- There has been a sustained increase in the amount and variety of information published via the Open Data Portal;

- A wide variety of innovative 'use cases' are promoted on the Open Data Portal;

- An automated publication pipeline is in place and is proven to be successful;

- The working partnership with local developers has led to the development of data validation tools to ensure better quality data that is easier to use;

- A culture of proactive publishing can be seen in all Departments; and

- Staff working in information management and data across the NI public sector have access to on-line resources and are aware of the potential of Open Data and its role in transparency and improving public services.

Supporting Compliance

The Strategy facilitates and underpins compliance with a range of major drivers for change including General Data Protection Regulation, Open Data and Public Sector Information Directive, Openness by Design, UK Open Government National Action Plan and Geospatial Data initiatives.

General Data Protection Regulation

In May 2018, countries across the European Union adopted the General Data Protection Regulation (GDPR). The regulation provides a precise definition of personal data, as well as defining the rights of data subjects in relation to data held about them by public bodies.

With the adoption of GDPR, it is of the utmost importance to ensure that the principle of 'open by default' is entirely consistent with the concept of 'privacy by design', to ensure that no personal or sensitive information is published as Open Data.

Open Data and Public Sector Information Directive

As the data landscape changes, and of particular relevance to Open Data, initiatives such as the re-cast of the Reuse of Public Sector Information Regulation (to become the Open Data and Public Sector Information Directive) reinforces the move towards the position of 'open by default' for government information.

Adopted in June 2019, the revised directive will:

- Identify a list of key datasets, such as geospatial and statistical data, to be provided free of charge. Such datasets have a high commercial potential and can accelerate the emergence of value-added information products and services and the development of Artificial Intelligence;

- Stimulate the publishing of dynamic data and the uptake of Application Programme Interfaces (APIs);

- Remove exceptions which currently allow public bodies to charge more than the marginal costs of dissemination for the re-use of their data; and

- Enlarge its scope of the Directive to include a wider range of data held by public undertakings, such as research data resulting from public funding and data governed by public-private agreements.

European Union Member states are required to transpose the revised directive into each state's national law within two years.

Openness by Design

The Information Commissioner's Office (ICO) is the UK's independent body set up to uphold information rights in the public interest, promote openness by public bodies and data privacy for individuals.

In line with these aims, ICO has published its new access to information strategy, Openness by Design, in order to be more proactive and increase the impact of regulation of information right laws, thus allowing individuals to have more confidence in the openness and accountability of public authorities and have more opportunity to participate in public life.

It aims to improve standards of accountability, openness and transparency, and raising awareness of access to information rights and make them more accessible.

Open Data has been identified as a key component of the ICO's strategic plan and they will promote the use of Open Data publication by public authorities as a tool of transparency as well as taking regulatory action in cases of non-compliance with relevant legislation.

Open Government National Action Plan

Coinciding with the new Open Data Strategy for Northern Ireland 2020-2023, the fourth UK National Action Plan (NAP4) for Open Government has recently been published.

Founded in 2011, the Open Government Partnership (OGP) is a multilateral initiative that aims to secure concrete commitments from national and subnational governments to promote open government, empower citizens, fight corruption and harness new technologies to strengthen governance.

Each member state has formulated an Open Government Action Plan designed to promote and enhance transparency in government with clear published commitments.

NAP4 includes commitments to publish more key datasets as Open Data and more information to high quality standards on the 5* scale as well as commitments regarding promotion of data re-use.

Northern Ireland commitments which are included in NAP4 are summarised here.

Geospatial Data

The EU INSPIRE directive has played an important role in opening up access to geospatial data. The directive sought to enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries. Through its Discovery, View and Download Services, it supports the opening up of access to data within the confines set by the INSPIRE licence.

At national level, the creation of a Geospatial Commission to develop the UK's geospatial strategy and promote best use of such data was announced in November 2017. The Commission is seeking to improve accessibility, interoperability and quality of data. Their 1st Annual Plan was published in April 2019 with a commitment to make key parts of Ordnance Survey's MasterMap open under the Open Government Licence, although it hasn't committed to make Northern Ireland equivalent data (held by Land & Property Services) available under OGL.
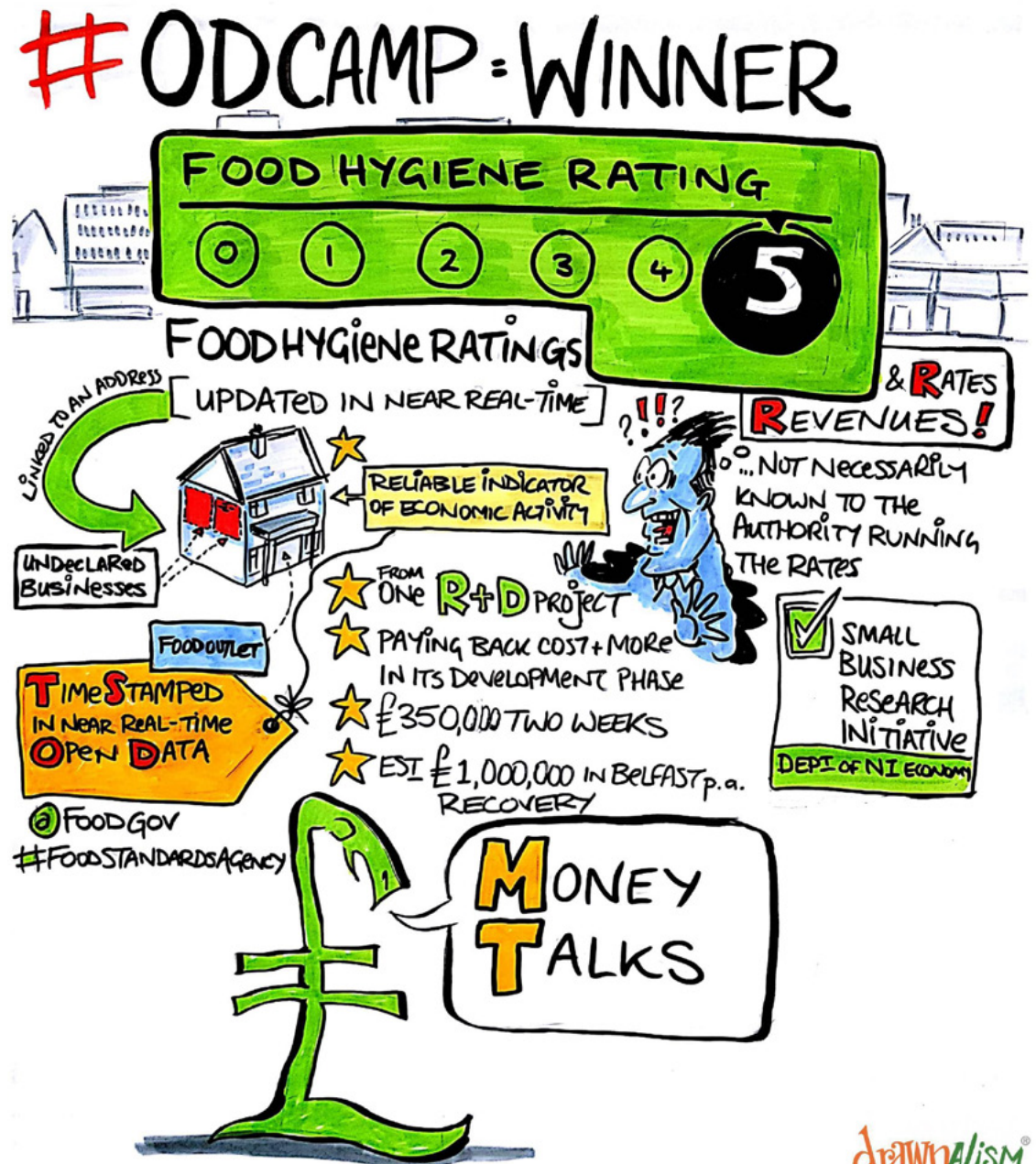
Open Data and Innovation

Open Data and Small Business Research Initiative
Belfast City Council and Department of Finance's Land and Property Services sought assistance with a business challenge when attempting to identify business premises being occupied and used but where the appropriate business rates revenue was not being collected.

The project utilised the Small Business Research Initiative (SBRI) to seek innovative solutions to this challenge. Some project data was shared by government via data sharing agreements; however, applicants were also encouraged to use available open data resources. These included the Food Standards Agency Rating 'Scores on the Doors' data and Companies House data which are published as open data, available as an Application Programming Interface (API) under an open government licence.

These open data resources played a key role in informing research and development in the projects, using machine learning techniques on a range of data to identify businesses. A total of £500,000 of uncollected rates was identified during the pilot phase and as a result Belfast City Council have now procured a rates maximisation solution developed through this SBRI competition.

Most popular OpenDataNI datasets to date

1 **GP Prescribing Data**

2 **School Census (primary schools)**

3 **Department of Health Trust Boundaries**

4 **GP Practice List Sizes**

5 **Notifiable Infectious Diseases Reports**

6 **Translink Bus Stop List**

7 **Police Recorded Injury Road Traffic Collision Statistics Northern Ireland**

8 **NIEA Authorised Landfill Sites**

9 **Real Time Rail Stations Arrivals and Departures**

10 **Listed Buildings Northern Ireland**

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Implementation Plan

Theme 1 : Culture of Active Publication

No.	Action	Owner	When
1.1	NICS Departments to publish their Information Asset Registers (IARs) as open data on the OpenDataNI portal	Open Data Team, NICS Data Protection Officers (DPOs)	Year 1
1.2	NICS and the wider NI Public Sector, through analysis of Information Asset Registers (IAR), to prioritise the release of key/high value datasets including: • Reporting data • Fiscal transparency data (Government/Departmental spend) • Policy driven data • Public Consultation data • Grants data • Geospatial data	Open Data Team, all relevant data creators/producers	Years 1-2
1.3	Each Department to publish a percentage of datasets from their Information Asset Register as open data: • Year 1: Publish at least 25% of datasets from departmental IARs as open data; • Year 2: Publish an additional 20% of datasets from departmental IARs as open data; • Year 3: Publish an additional 20% of datasets from departmental IARs as open data; The above targets seek to overcome the slow rates of publication to date, to try to move towards not only open by default but a business as usual approach where publish by default becomes a business norm.	Open Data Team, NICS Departmental Boards, Senior Information Risk Owners	Years 1-3
1.4	To work with Non-Departmental Public Bodies, Arm's Length Bodies and Local Councils to increase the range and quantity of their information published as Open Data via the OpenDataNI portal, with the eventual aim of establishing specific publication targets.	Open Data Team, Public Sector Information Managers	Years 2-3
1.5	To work with NICS Departments & wider NI public sector to identify key/high value datasets that will be published via the OpenDataNI portal.	Open Data Team, NICS Information Managers, Public Sector Information Managers	Years 1-2
1.6	To increase the range and quantity of information published as open data on the OpenDataNI Portal.	Open Data Team, all relevant data creators/producers	Years 1-3
1.7	To break down institutional and cultural barriers that block the publication of information as open data by: • Developing more robust governance frameworks (establishment of departmental Open Data working groups); • Regular reporting on publication progress to Open Data Implementation Group(ODIG)/Information Governance Board (IGB) and Information Management Council (IMC); • Publishing monthly progress reports on Open Data publication; • Publishing minutes of Open Data Implementation Board on OpenDataNI Portal.	Open Data Team, OGIG, IGB, NICS Departments/ Departmental Boards	Years 1-3

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1.8	Commit to improving the quality of public sector information published as open data by working with the local developer community to enhance data quality, e.g. Integrate Project Lintol's open data validation platform into the open data publishing pipeline.	Open Data Team, developer community	Year 1
1.9	To increase the range of 4 and 5 star rated statistical data published on the OpenDataNI portal.	Open Data Team, NISRA	Years 1-3
1.10	Promote the publication of data to 'tidy data' principles/machine readability standards.	Open Data Team, data publishers	Years 1-3

Theme 2: Supporting Innovative Use

No.	Action	Owner	When
2.1	Open Data team will organise annual Open Data competition(s). Competitions to target particular open data stakeholder/interest groups including: • School Age level • Under Graduate level • Developer community	Open Data Team and relevant partners	Annually
2.2	Creation of an Innovation Fund for Open Data. Open Data team to develop awarding criteria for the fund.	Open Data Team, Open Government Implementation Group	Year 1
2.3	To work with consumers of data from the OpenDataNI portal to publicise re-use of information in innovative ways. Develop methods to incentivise users to work with Open Data team to do this.	Open Data Team, Departmental Communications teams	Years 1-3
2.4	To work with partners in government and the developer community on the best way forward to promote innovation in Open Data. E.g. to promote inclusion of Open Data in future Small Business Research Initiative funding challenges.	Open Data Team, relevant partners in central/local government and developer community, Departmental Communications teams	Years 1-3
2.5	To work with the local developer community in the promotion and sponsorship of developer focused events.	Open Data Team, developer community	Years 1-3
2.6	Promote the use of APIs as a means of sharing information between Departments/Public Sector bodies. Technical specifications for APIs will conform to standards developed by Government Digital Service.	Open Data Team, Government Digital Service, Strategic Design Authority	Years 2-3
2.7	To promote innovation in Open Data on the national and international stage.	Open Data Team	Years 1-3
2.8	Host an annual Open Data information/conference day, promoting the best examples of open data re-use in Northern Ireland.	Open Data Team, development community	Year 1-3
2.9	Examine the options for establishing an NI Public Sector Open Data Innovation award.	Open Data Team	Year 1

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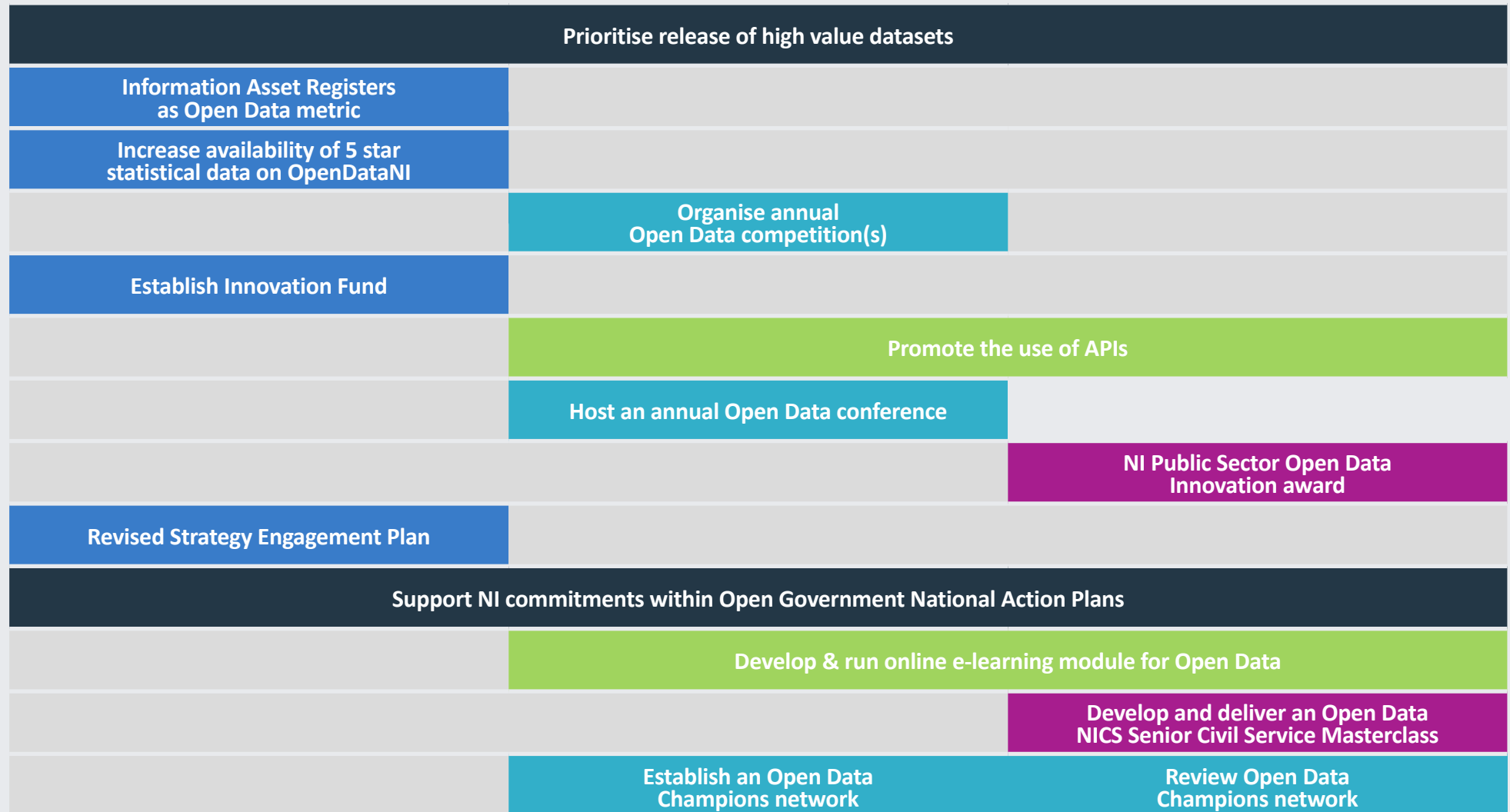## Theme 3: Promotion and Engagement

No.	Action	Owner	When
3.1	To repurpose/refocus participation and work of the Open Government Implementation Group and the Open Government and Open Data Advisory Panel.	Open Data Team, Open Government Implementation Group, Open Government and Open Data Advisory Panel.	Year 1
3.2	To promote the benefits and potential of Open Data to NICS colleagues and wider public sector at events/fora including Departmental boards, NICS Board, Information Governance Board, via a revised Strategy Engagement Plan.	Open Data Team	Years 1-3
3.3	To establish an Open Data champions network across NI public sector. Consider formal Open Data Champions leadership programme following the Open Data Institute model.	Open Data Team/ Open Data Initiative Representatives	Years 1 & 2
3.4	NICS and wider public sector organisations to identify individuals with appropriate seniority to liaise with the Open Data team and to promote Open Data within their organisations.	Open Data Team, NICS Departments and wider public sector bodies	Years 1-3
3.5	Explore the possibilities for working with secondary, further and higher education sectors for promoting Open Data.	Open Data Team, relevant education sector representatives	Years 1-3
3.6	Significantly increase awareness of open data and the OpenDataNI portal in the university sector, identifying its potential use as both a teaching and research resource.	Open Data Team, QUB and UU.	Years 1-3
3.7	Establish formal working relationships with colleagues in Irish Open Data Unit, UK Central Government and all devolved administrations.	Open Data Team, Irish Open Data Unit, reps from UK government and devolved administrations.	Years 1-3
3.8	Open Data team to actively promote OpenDataNI initiative at IT industry and Information Management events/conferences.	Open Data Team	Years 1-3
3.9	Participate in open government and open data reviews/surveys including the NI Open Government Action Plan and associated national and international open data reviews (including the Global Open Data Index). Use these reviews as a barometer of progress by comparing NI performance against leading open data jurisdictions.	Open Data Team	Years 1-3

Theme 4: Building Competence and Capability

No.	Action	Owner	When
4.1	To develop an NICS online mandatory e-learning module for Open Data.	Open Data Team, CAL	Year 1
4.2	To refresh the NICS Open Data training and awareness programme.	Open Data Team	Year 1
4.3	To explore options for developing an Open Data NICS Senior Civil Service Masterclass.	Open Data Team	Year 1
4.4	To investigate options for establishing externally sourced open data training provision.	Open Data Team	Year 1
4.5	Provide training and support for proposed network of Open Data Champions.	Open Data Team	Years 1-3

Key Objectives Target Timeline

Year 1	Year 2	Year 3

Prioritise release of high value datasets

Information Asset Registers as Open Data metric

Increase availability of 5 star statistical data on OpenDataNI

Organise annual Open Data competition(s)

Establish Innovation Fund

Promote the use of APIs

Host an annual Open Data conference

NI Public Sector Open Data Innovation award

Revised Strategy Engagement Plan

Support NI commitments within Open Government National Action Plans

Develop & run online e-learning module for Open Data

Develop and deliver an Open Data NICS Senior Civil Service Masterclass

Establish an Open Data Champions network

Review Open Data Champions network

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