

How NMCA geospatial data are supporting the national handling of the COVID-19 crisis

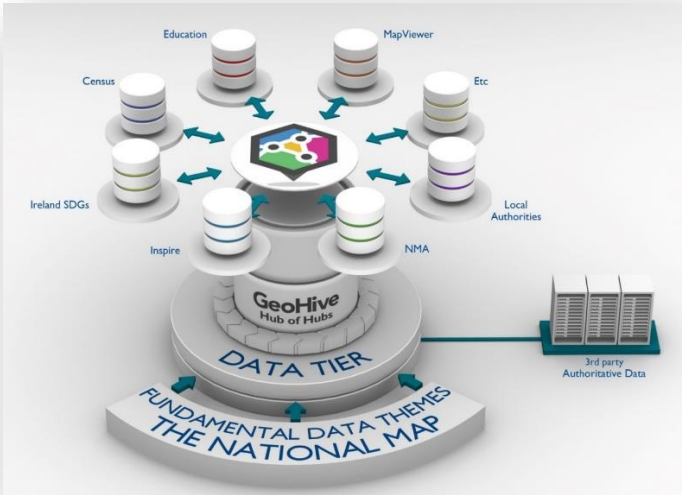
- *Case study from Ireland*

Colin Bray, CEO & Chief Survey Officer
EuroGeographics Webinar, 11th June 2020



Rialtas na hÉireann
Government of Ireland

Ireland's geospatial data hub



GeoHiveDev

Data Strategy

Stáin na hÉireann
Government of Ireland

Vision:
To establish a data ecosystem that will improve how we govern, manage and re-use the data in a secure, efficient, and transparent way, for the benefit of citizens, businesses and policy makers.

Public Service Data Strategy 2019-2023

The National Map
Explore National Map data, services and applications.
[Explore MicroHive](#)

Statistics & Mapping
Explore geospatial statistics, services and applications.
[Explore MicroHive](#)

Housing & Planning
Explore geospatial housing & planning data, services & applications.
[Explore MicroHive](#)

Environment
Explore environmental data, services and applications.
[Explore MicroHive](#)

INSPIRE
Explore National Map data, services and applications.
[Explore MicroHive](#)

Heritage & Archaeology
Explore National Map data, services and applications.
[Explore MicroHive](#)

Statistics & Mapping

GeoHive Home / Statistics & Mapping MicroHive

It is now readily accepted that integrating statistical and geospatial information is critical for:

- local, sub-national, national, regional, and global decision making processes;
- measuring and monitoring the targets and global indicator framework for the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development;
- supporting data sharing between institutions and enhancing the interoperability of geospatial and statistical information;
- unlocking new insights and data relationships that would not have been possible by analysing socio-economic, environmental or geospatial data in isolation;
- promoting investment and capability building in geospatial and statistical information;
- building institutional collaboration between geospatial and statistical communities; and,
- examining new sources of data that includes geospatial information, for example mobile phone data.

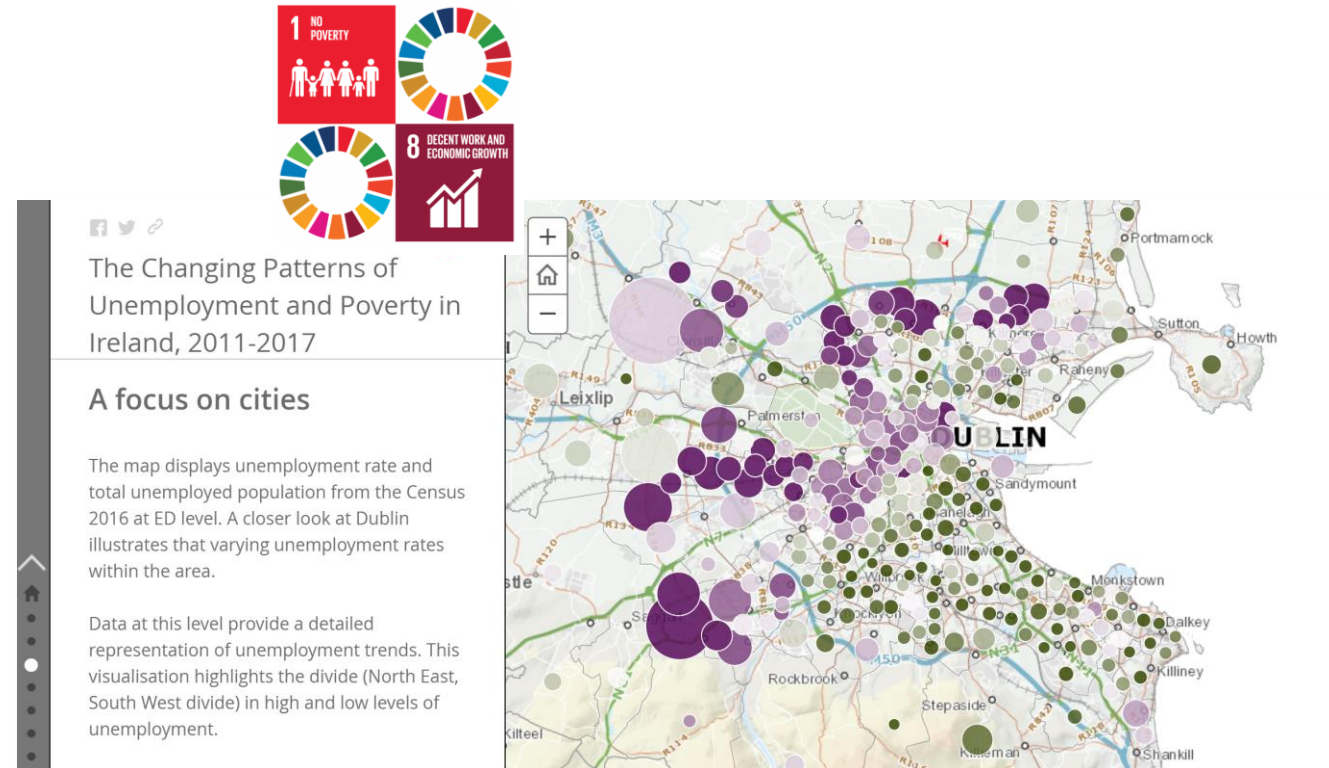
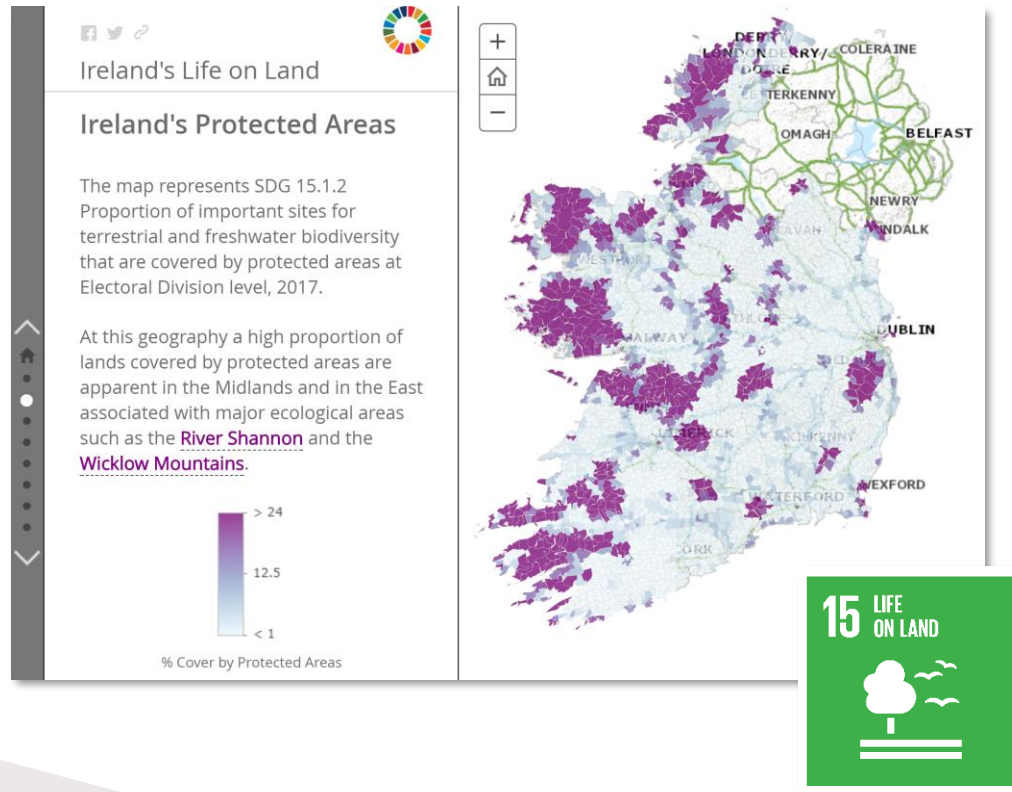
Global Statistical Geospatial Framework: Linking Statistics & Place, UN-GGIM

[Explore Statistical Data](#)

Total Population of Ireland by Small Area - 2016 Census




Ireland's UN SDG Reporting Hub



Then

Full-screen Snippet

Coronavirus **COVID-19**



If you have fever and/or cough you should stay at home regardless of your travel or contact history.

How to Prevent

- Wash**
your hands well and often to avoid contamination
- Cover**
your mouth and nose with a tissue or sleeve when coughing or sneezing and discard used tissue
- Avoid**
touching eyes, nose, or mouth with unwashed hands
- Clean**
and disinfect frequently touched objects and surfaces
- Stop**
shaking hands or hugging when saying hello or greeting other people
- Distance**
yourself at least 2 metres (6 feet) away from other people, especially those who might be unwell

All people are advised to:

- > **Reduce** social interactions
- > **Keep a distance** of 2m between you and other people
- > **Do not** shake hands or make close contact where possible

If you have symptoms visit [hse.ie](https://www.hse.ie)
OR phone HSE Live **1850 24 1850**

Symptoms

- > Fever (High Temperature)
- > A Cough
- > Shortness of Breath
- > Breathing Difficulties



Affected Regions

Check the list of affected regions on www.hse.ie

For Daily Updates Visit

www.gov.ie/health-covid-19
www.hse.ie

Ireland is operating a containment strategy in line with WHO and ECDC advice



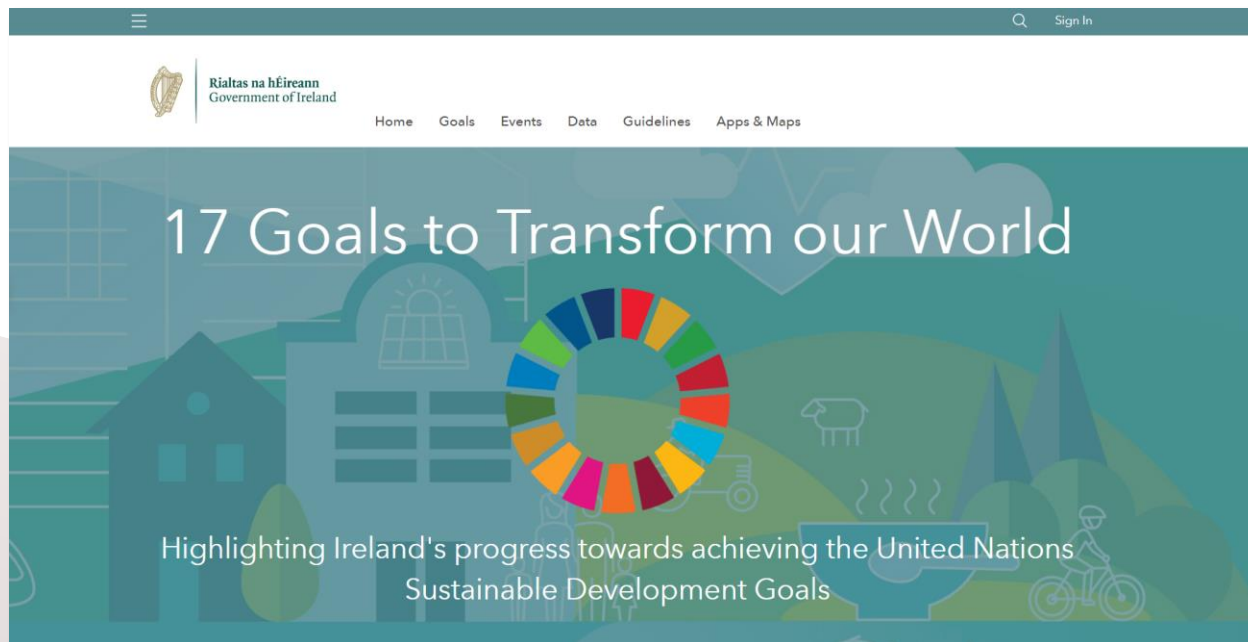
Rialtas na hÉireann
Government of Ireland

Refocusing Ireland SDG team on COVID-19

Geospatial Data and GeoHive Platform



Statistics and Data Governance



GeoHive COVID-19 Group



Memorandum of Understanding



An Roinn Tithíochta, Pleanála agus Rialtais Áitiúil
Department of Housing, Planning and Local Government

Service Level Agreement



Ordnance Survey
Ireland

Framework Agreement

Memorandum of Understanding



An Phríomh-Oifig Staidrimh

Central Statistics Office



esri Ireland
THE SCIENCE OF WHERE™



Ordnance Survey
Ireland



Rialtas na hÉireann
Government of Ireland

GeoHive COVID-19 Group

Purpose

- To coordinate the technical, data, policy, and financial activities related to providing key data and tools, via GeoHive the State's geospatial data hub, to inform Ireland's response to the COVID-19 outbreak.

Vision

- To provide key data and tools to inform Ireland's operational intelligence and situational awareness efforts in response to the COVID-19 outbreak

Terms of Reference, March 2020

GeoHive Covid-19 Response Coordination Group

Name	GeoHive Covid-19 Response Coordination Group
Membership	<p>The membership of this group consists of the following organisations:</p> <ul style="list-style-type: none">• Ordnance Survey Ireland (OSi)• The Central Statistics Office (CSO)• The Department of Housing, Planning, and Local Government (DHPLG)• the All-Island Research Observatory (AIRO)• Esri Ireland. <p>The associated levels of responsibility and accountability are defined in a separate RASCI matrix.</p>
Goals for the Group	<p>The goals for this group are to:</p> <ol style="list-style-type: none">1. Build a participation network that facilitates the “collect once, use many times” philosophy of the Public Services Data Strategy for geo-statistical data in the response to the Covid-19 outbreak.2. Introduce geospatial and statistical data governance procedures that focus on reducing/removing data duplication.3. Maximise the use of the State’s geospatial hub (GeoHive) through appropriate data collection and data visualisation.
Group Working Methods	<p>The GH-COVID19-RCG meets on a daily basis with all meetings held using remote video/phone conferencing to maintain social distancing.</p> <p>The Group has established a:</p> <ul style="list-style-type: none">• GeoHive Covid-19 response platform with public, private and secure virtual data room capabilities• Geo-statistical data governance and management sub-group to provide expertise in support of the Government’s Covid-19 response• GeoHive technical architecture sub-group to provide the expertise in support the Government’s Covid-19 response.
Group Documentation	<p>A Terms of Reference (TOR), Data Governance and Stakeholder Relationship mapping is in place to manage the governance and co-ordination of the stakeholders involved and communication channels.</p> <p>A shared programme repository has been established.</p>

1

To build a participation network that facilitates the “collect once, use many times” philosophy of the Public Service Data Strategy in the response to the COVID-19 outbreak

2

To introduce geospatial and statistical data governance procedures that focus on reducing/removing data duplication

3

To maximise the use of the GeoHive through appropriate data collection and data visualisation



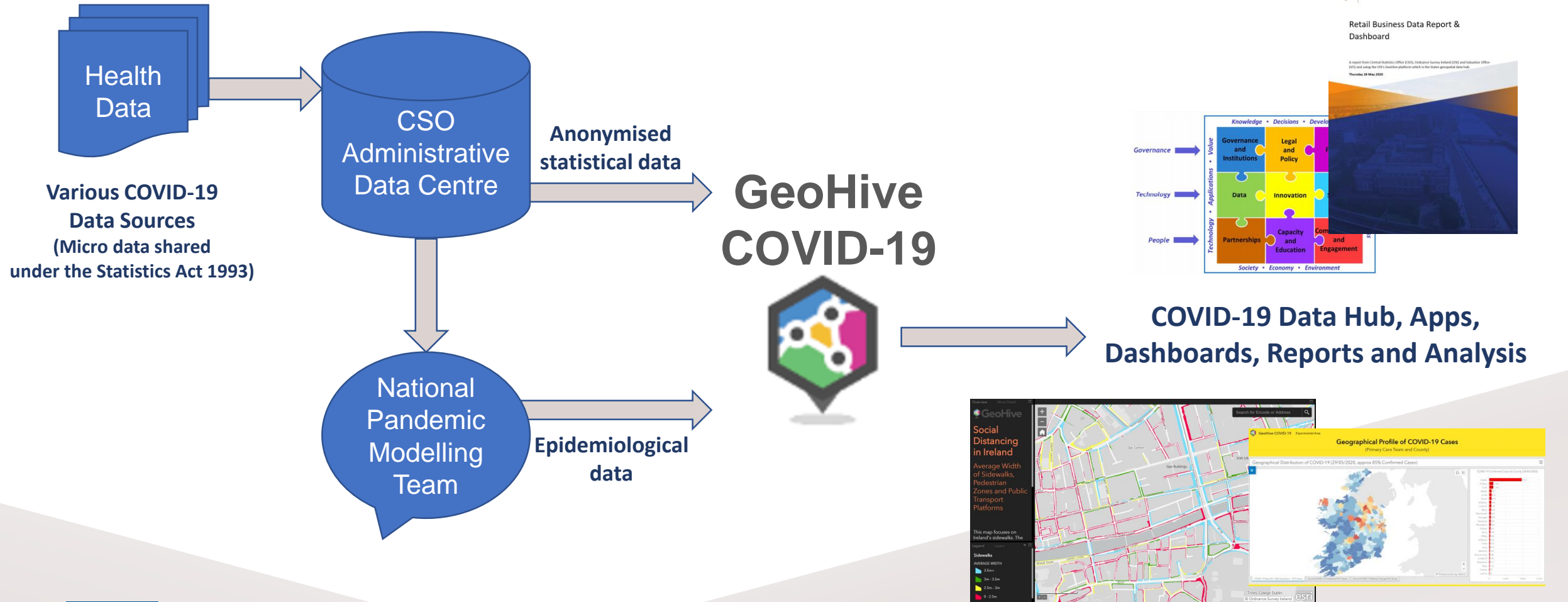
Rialtas na hÉireann
Government of Ireland

Data, infrastructure and processes

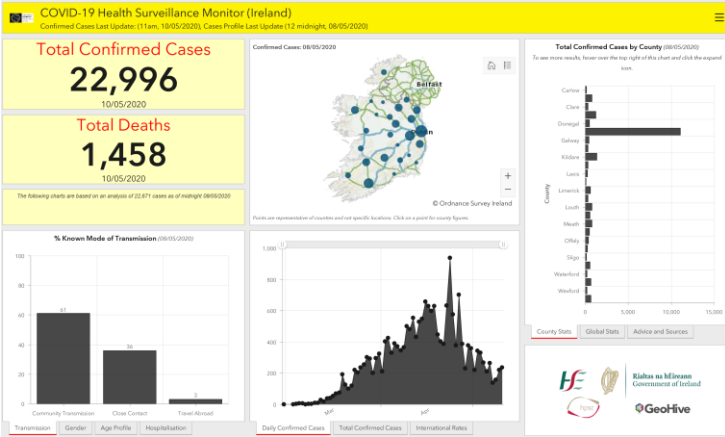
The Group has established:

- ✓ GeoHive COVID-19 response platform with public/private/secure virtual data hubs
- ✓ Geo-statistical data governance and management sub-group to provide expertise in support of the national COVID-19 response
- ✓ GeoHive technical architecture sub-group to provide the expertise in support of the national COVID-19 response
- ✓ 8 initiatives delivered to date which are summarised in the following slides

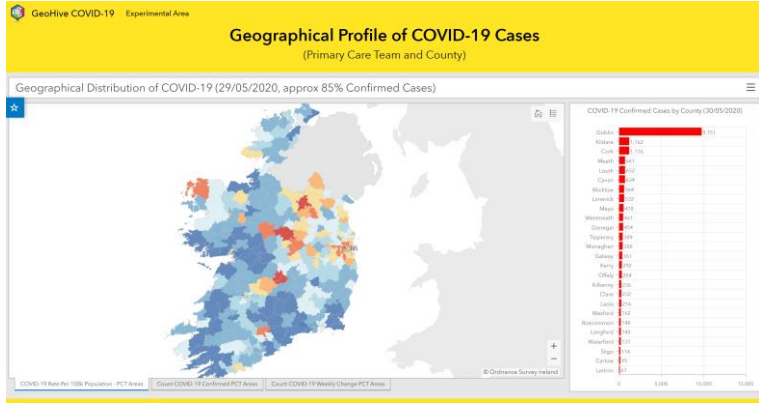
COVID-19 Data Ecosystem



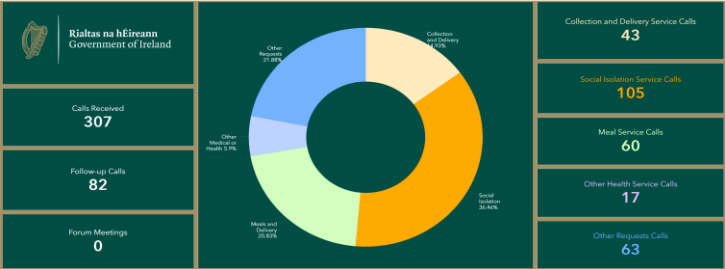
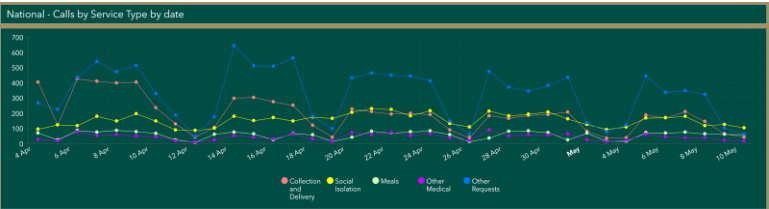
Public COVID-19 Dashboard

GeoHive service	Apps	Usage
<p>Publically available Health Surveillance Monitor Dashboard for the Department of Health.</p> <p>https://geohive.maps.arcgis.com/apps/opsdashboard/index.html#/29dc1fec79164c179d18d8e53df82e96</p>		<p>Updated daily.</p> <p>Over 750,000 hits since 18 March on desktop; 650,000 on mobile devices.</p>

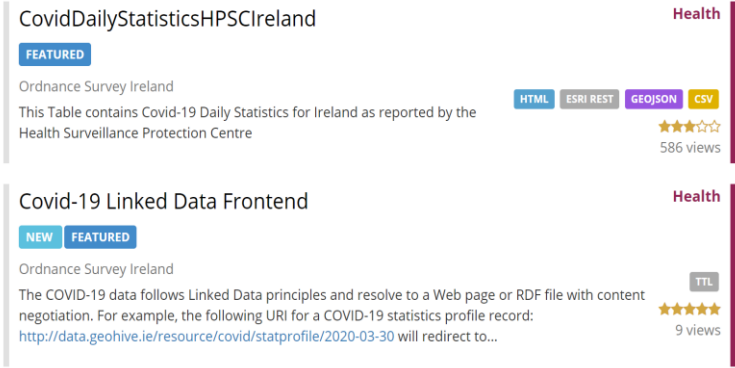
NPHET / DOH secure data hub

GeoHive service	Apps	Usage
<p>Secure data hub to provide geo-statistical visualisation for the National Public Health Emergency Team (NPHET) and the Department of Health (DOH).</p> <p>Restricted access for nominated NPHET and DOH personnel.</p>		<p>Updated daily.</p> <p>Over 80 National Public Health Emergency Team key personnel actively using the service.</p>

Local Authority dashboard

GeoHive service	Apps	Usage
<p>Local Authority Community Support GeoHive data platform under the Government’s “Community Call” initiative to provide supports or services to any vulnerable person who needs them.</p> <p>https://community-call-covid-19-geohive.hub.arcgis.com/</p>	 <p>The dashboard displays a donut chart showing the distribution of service types: Social Isolation (36.45%), Collection and Delivery (24.52%), Other Requests (21.88%), Other Health (9.1%), and Meals and Delivery (8.05%). To the left, a list of metrics shows: Calls Received (307), Follow-up Calls (82), and Forum Meetings (0). To the right, a list of service call counts shows: Collection and Delivery Service Calls (43), Social Isolation Service Calls (105), Meal Service Calls (60), Other Health Service Calls (17), and Other Requests Calls (63).</p>	<p>Public and secure dashboards; updated daily.</p> <p>Publically available for use by all Local Authorities with a daily data supply.</p>  <p>The chart shows daily call volumes for five service types from April 6 to May 10. The y-axis ranges from 0 to 700. The legend indicates: Collection and Delivery (red), Social Isolation (yellow), Meals (green), Other Medical (purple), and Other Requests (blue). Social Isolation and Other Requests show the highest call volumes, peaking around 500-600 calls per day.</p>

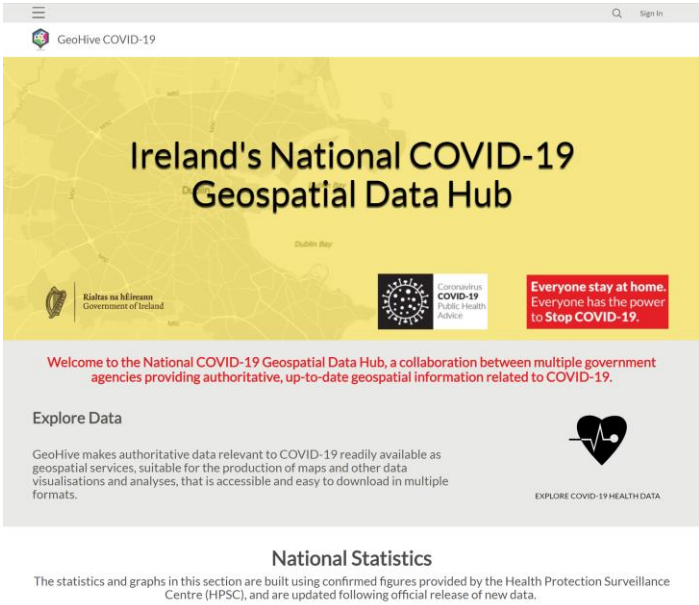
5* Linked Open COVID-19 data

GeoHive service	Apps	Usage
<p>Daily Open Data update to data.gov.ie as 3-star and 5-star linked open data.</p> <p>https://data.gov.ie/dataset?q=covid&sort=score+desc%2C+metadata_created+desc</p>	 <p>The screenshot shows two data services on the GeoHive platform. The first service, 'CovidDailyStatisticsHPSCIreland', is marked as 'FEATURED' and has a 5-star rating with 586 views. It is described as a table containing daily COVID-19 statistics for Ireland, reported by the Health Surveillance Protection Centre. The second service, 'Covid-19 Linked Data Frontend', is marked as 'NEW' and 'FEATURED', also with a 5-star rating and 9 views. It is described as following Linked Data principles, resolving to a web page or RDF file with content negotiation. Both services are categorized under 'Health'.</p>	<p>Updated daily.</p> <p>Between 3k and 13k hits per day for the 6 services.</p>

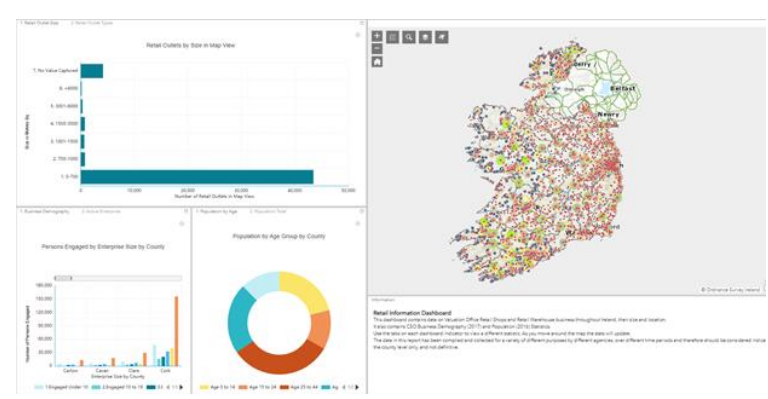
An Garda Síochana data hub

GeoHive service	Apps	Usage
<p data-bbox="132 432 853 611">Geo-statistical visualisation of traffic volume data for An Garda Síochana (Irish Policing Service).</p> <p data-bbox="132 696 766 803">Restricted access for nominated Garda personnel.</p>	 The screenshot displays a complex dashboard for traffic data analysis. At the top, a map of Dublin is overlaid with green circular markers of varying sizes, representing traffic volume at different locations. To the right of the map are four donut charts labeled 'Traffic Flow North', 'Traffic Flow East', 'Traffic Flow South', and 'Traffic Flow West', each showing a percentage distribution. Below the map, the dashboard is divided into several sections: 'Analysis of TII Traffic Data for Covid-19 Operation Fanacht' with a map of Ireland showing yellow dots; 'Volume by Direction' with a bubble chart; 'Volume Box Plot January by Day of...' and 'Volume Box Plot April by Day of...' with bar charts; and a '2020 Time Series Volume (April Filter)' with a line graph showing a downward trend over time.	<p data-bbox="1646 432 2390 611">Secure access for all Senior Garda Personnel and Garda Control Room for traffic mobility and trend analysis.</p>

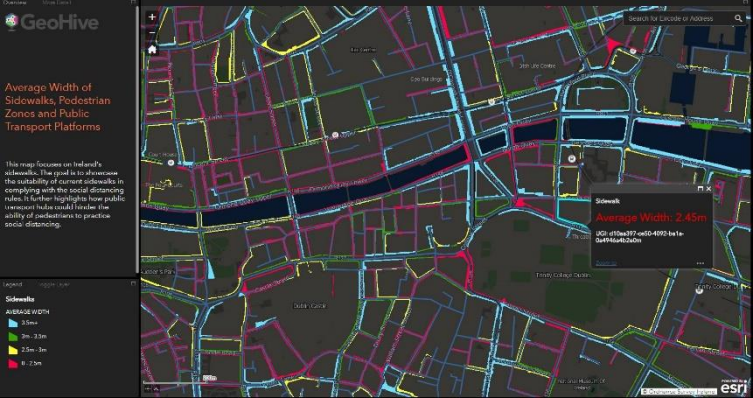
National COVID-19 data hub

GeoHive service	Apps	Usage
<p>Publically available National COVID-19 Geospatial Data Hub as a central location for up-to-date geospatial information related to COVID-19.</p> <p>https://covid19ireland-geohive.hub.arcgis.com/</p>		<p>Free access with additional resources in development including StoryMap and new dashboards.</p>

Dept. of An Taoiseach business dashboards / reports

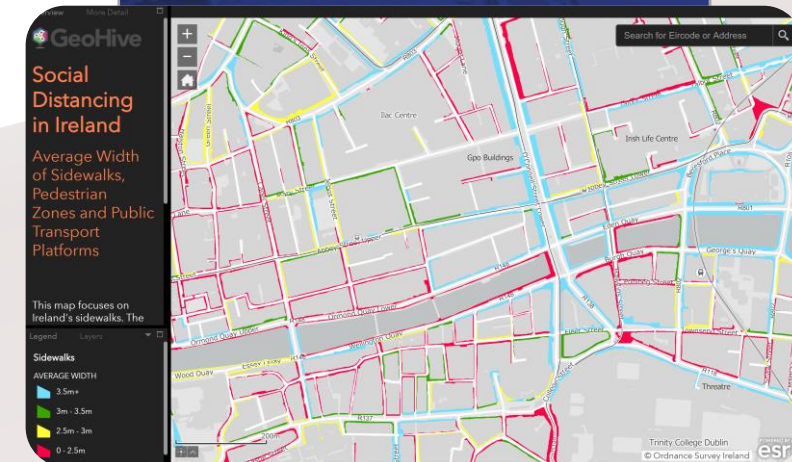
GeoHive service	Apps	Usage
<p>Department of An Taoiseach (Ireland’s Prime Minister) for recovery phase planning.</p> <p>Map-based dashboard that displays business and retail information, showing the classification, density and size of business premises by location.</p>	 The screenshot displays a complex dashboard with multiple data visualizations. On the left, there's a bar chart titled 'Retail Outlets by Size in Map View' showing the distribution of retail outlets across different size categories. Below it, a smaller bar chart shows 'Persons Engaged by Enterprise Size by County'. In the center, a donut chart represents 'Population by Age Group by County'. To the right, a map of Ireland is shown with numerous colored dots representing business locations. A legend on the far right explains the map's data, noting it's based on 2011 Census data and includes a disclaimer about the data's accuracy and use.	<p>Secure data hub to visualise the impact of a decision to reopen a particular part of the economy; dashboard with business location data, classified by business type.</p> <p>OSi have also provided business data reports and analysis.</p>

National Transport Authority service

GeoHive service	Apps	Usage
National Transport Authority and Local Authority service for Social Distancing in Ireland which includes average width of Sidewalks, Pedestrian Zones and Public Transport Platforms.		Data service that focuses on Ireland's sidewalks to showcase the suitability of current sidewalks in complying with the social distancing rules.

Next steps include

- ✓ Support key Government decision-makers to inform Ireland's Roadmap for Reopening Business & Society
- ✓ Expand data and visualisation tools
- ✓ Develop, with key national stakeholders, StoryMaps on the National COVID-19 response
- ✓ Continued data management of open data services



Key takeaways / lessons learnt

- COVID-19 Pandemic has formalised OSi's geospatial data hub, GeoHive, as an authoritative standardised public sector **data collaboration platform**.
- **Geospatial data and apps** have played a key role in revealing **insights, patterns and trends** as part of the Ireland's COVID-19 response.
- Geospatial and statistical **data governance** removed duplication and enabled sharing.
- Rapid response due to **re-use of existing platform**, however there was still a significant data management overhead due to various standards used across data sources.
- Resulted in the real understanding of the **value that geospatial data and infrastructure** plays in enabling data sharing, collaboration & analysis to gain insights and to manage.



COVID-19
RESPONSE

Thank you

