



**An  
Phríomh-Oifig  
Staidrimh**

Central  
Statistics  
Office

# Ireland's innovative approach to monitoring the COVID-19 Outbreak through geospatial visualisation

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# Presenter Bio

**Kevin McCormack is responsible for sourcing, developing and the dissemination of the national statistical data for the Irish UN SDG Indicators. In this role, he works closely with Ordnance Survey Ireland (OSi), Department of Communication Climate Action and Environment (DCCAE), Government Organisations and Esri-Ireland.**

**At the international level, he is UNECE's Western European Delegate to the UN Inter Agency Expert Group on SDS (IAEG-SDG) and co-chairs the IAEG's Working Group on Geospatial Information (WGGI).**

**Kevin holds a BSc in Applied Sciences (Maths & Chemistry) from Trinity College Dublin, a MSc in Actuarial Science from University of Leicester and a PhD in Statistics from University College Cork.**



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# CSO – Statement of Strategy 2017-2020

*We are transforming how we work. Our modernisation programme encompasses a new integrated statistical business process model and the technological and organizational capability measures required to deliver our strategy. This model is built on the Generic Statistical Business Process Model (GSBPM) developed by the United Nations Economic Commission for Europe. It will operate across all business areas of the CSO. The aim of this is to improve the volume, timeliness and quality of our statistical products.*



*The CSO will support the implementation of the new integrated statistical business process model by building capacity in our people, structures and performance. We will embrace the opportunities provided by the data and technological revolution to improve how we carryout our business and transform how we work.*



# UNSD/Esri – FIS for SDGs Programme

The Irish Central Statistics Office (CSO), in collaboration with Ordnance Survey Ireland (OSi) and Esri Ireland, are currently participating in the **UNSD/Esri Federated Information System (FIS) for the Sustainable Development Programme**. This is an exemplar of both inter agency and public-private sector partnerships

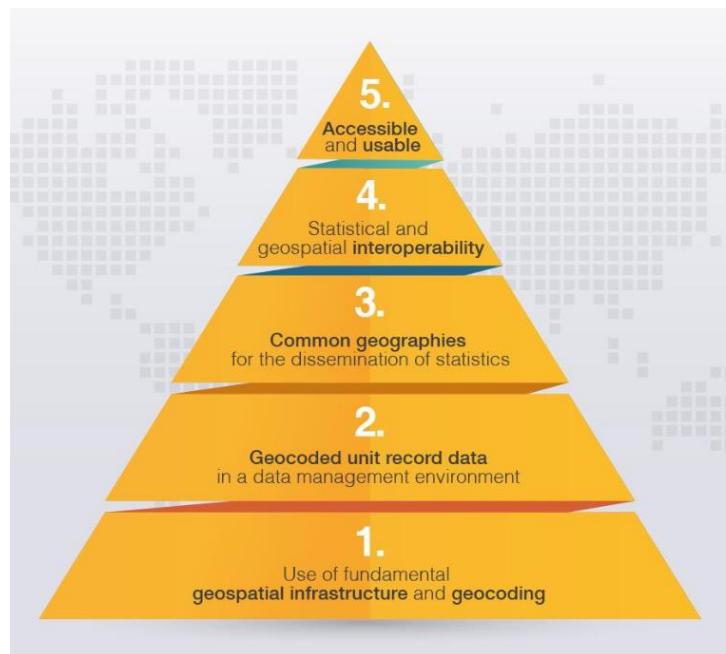
This programme commenced in May 2017 with a goal to develop and deploy a new approach for monitoring the UN SDGs using geographic information systems – “geospatial potential of statistical data.”



# The Global Statistical Geospatial Framework (GSGF)

The Global Statistical Geospatial Framework (GSGF) is a high-level framework which facilitates consistent production and integration approaches for geo-statistical information.

It is generic and permits application of the framework principles to the local circumstance of individual countries.



# UN-GGIM's Integrated Geospatial Information Framework (IGIF)



The Integrated Geospatial Information Framework provides a basis and guide for developing, integrating and strengthening geospatial information management.

Governance →

Technology →

People →



Anchored by 9 Strategic Pathways, the Framework is a mechanism for articulating and demonstrating national leadership in geospatial information, and the capacity to take positive steps.

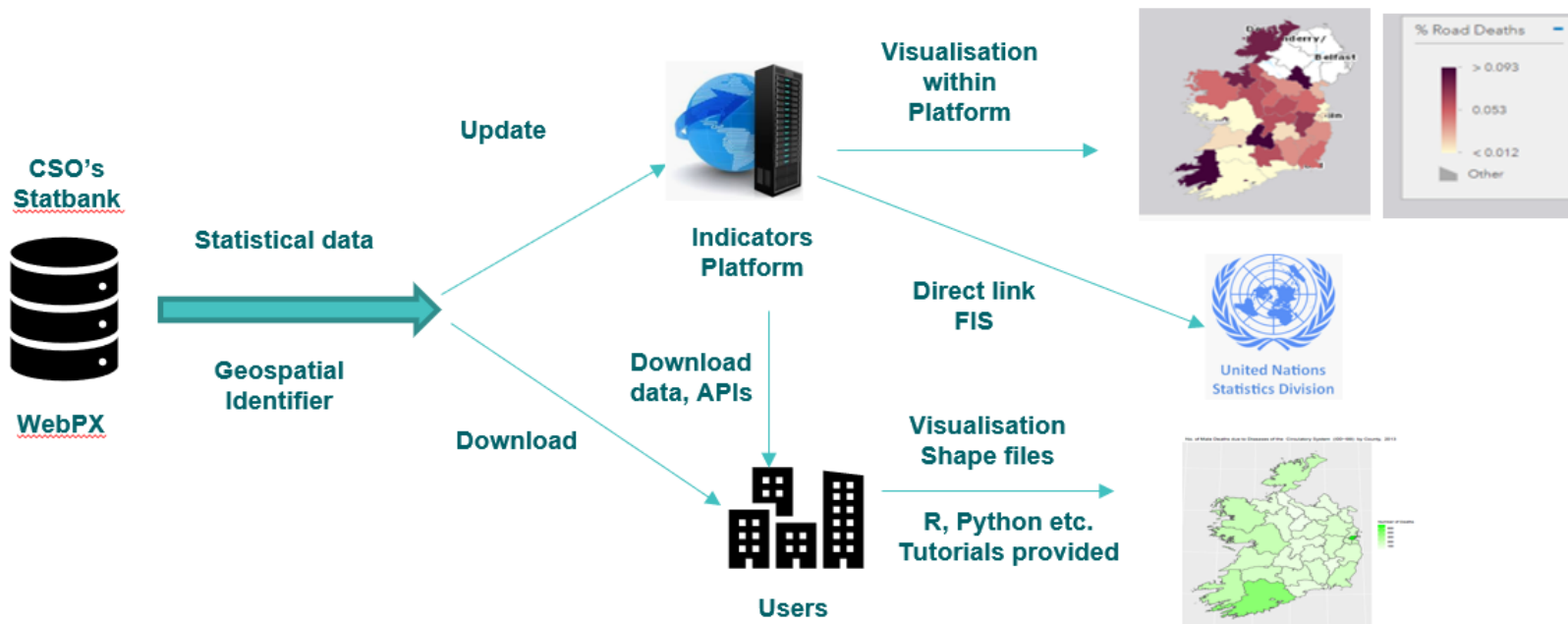


# Ireland's SDG reporting ecosystem

UNECE – GSBPM & EG-ISGI - GSGF

UN-GGIM - IGIF

GSGF, IGIF and GSBPM



# Refocus of the Irish SDG team to COVID-19

The Office of the Chief Medical Officer (CMO), has formed the Irish Epidemiological Modelling Action Group (IEMAG), to monitor and model the outbreak of COVID-19 in Ireland. The IEMAG report directly to the National Public Health Emergency Team (NPHE).

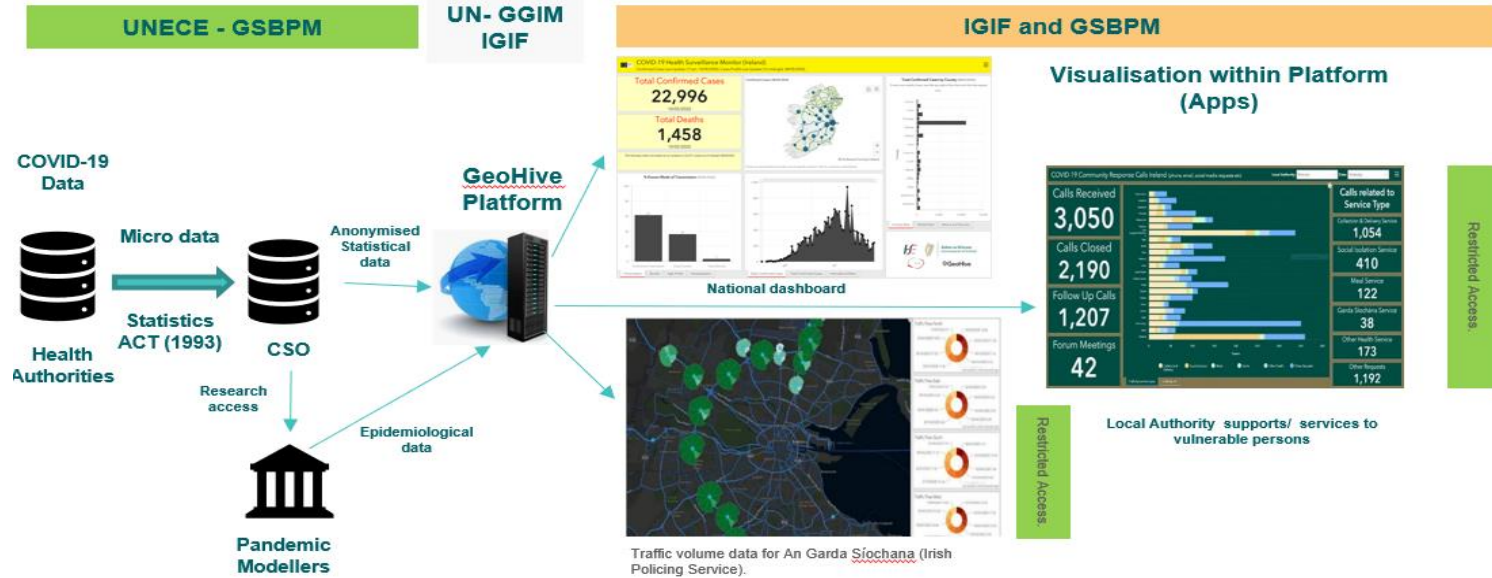
In response to the Coronavirus disease (COVID-19) outbreak, the Central Statistics Office (CSO) in collaboration with Ordnance Survey Ireland (OSI), the Department of Housing, Planning & Local Government (DHPLG) and the All Island Research Observatory (AIRO) in Maynooth University, along with Esri Ireland as technical partners, rapidly developed a National Covid-19 Data Hub on the GeoHive platform. GeoHive was identified as the State's geospatial data platform in the Public Service Data Strategy 2019 – 2023.

For this particular action this work has been designated as the GeoHive Covid19 Response Coordination Group, (GH-COVID19-RCG). The Group is part of the IEMAG





# Ireland's COVID-19 reporting ecosystem



# Ireland's COVID-19 Internal Hub

- You have seen an image of the public version of the National Covid-19 Data Hub. The National Covid-19 project partners use best practice methodologies and governance structures to ensure the appropriate overall management of the project and its data.
- There is an internal version of this National Covid-19 Data Hub that contains additional data, some of it sensitive. This internal site is only accessible in a secure manner by authorized individuals.
- Some examples of the data on this internal hub are:
  - Hospital admissions and discharges, by date, age and gender of patients.
  - ICU beds - occupied, by age, gender, dates of admission and discharge of patients, and this data is available for each hospital in Ireland.
  - Infections reported by geography (Census Electoral District (ED) 3,409 geographies), date, age, and gender.
  - Testing, dates of referral, test, lab results. Also the geography, ED, of the individuals tested.
  - Throughput of testing labs by date.
- The CSO has sourced these data from our Health Service Executive through our Statistics Act (1993).

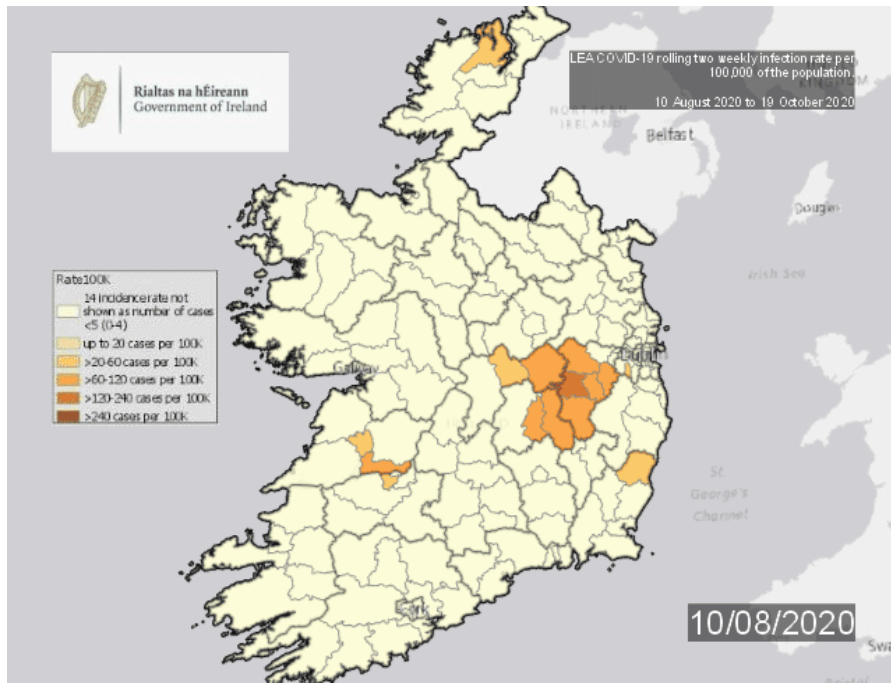


# Continuing work

- Deepen relationships with Health data providers.
- Support key national decision-makers with the authoritative geo-statistical data for evidence based decision making to inform Ireland's recovery phase of COVID-19.
- Expand on the volume of key data and visualisation tools (apps).
- Develop, with key national stakeholders, StoryMaps on the National COVID-19 response.
- Develop additional geo-statistical public and internal national dashboards.



# Example of Continuing Work Animation



# Example of Continuing work – Story Map

The CSO has developed a slider story map containing data relating to COVID-19 cases at rates per 100,000 of the population at Electoral District (ED) level, 3,409 geographies

There are 5 maps, and in each map there are 2 sets of data, the map on the left in each of the 5 maps contain data from the 20/06/2020 while the maps on the right contain data from 29/07/2020, 05/08/2020, 12/08/2020, 19/08/2020 and the 26/08/2020 in each map respectively



To view how the data changes from one time period to the next simply pull the arrows at the center of the map to the left or right.

Left map contains data from the 20/06/2020 in each maps while the map on the right contains data from different dates outlined below each map. To view the legend click on the legend icon at the bottom left of the map.

This example refers to data 05/08/2020



# Summary and Key Takeaways

- The complementary nature of the UNECE's GSBPM, the EG-ISGI's GSGF and UN-GGIM's IGIF is clearly presented in the Irish SDG and COVID-19 ecosystems.
- The FIS4SDG programme has resulted in the development of a close and successful relationship between the statistical and geospatial communities in Ireland and an associated SDG ecosystem.
- The SDG ecosystem was quickly refocused to measuring and monitoring the COVID-19 outbreak in Ireland and also to support the national response.
- Geostatistical Dashboards, Animations and Story Maps are innovative dissemination channels and are well received by various levels of data users as well as the general public.

