



## Official Statistics

### User

Central Statistics Office of Ireland (CSO) and Ordnance Survey Ireland (OSI)

### Partner

Esri Ireland

### Challenge

Create new channels for disseminating geospatially referenced data from the enumeration process so data users could perform their own analysis and produce their own maps.

### Solution

Use GeoHive® built on ArcGIS Hub as the technical platform for collaborative projects.

### Results

Improved ability to inform government policy decisions, encouraged investment in Ireland's economy, access to meaningful data, citizen engagement.

## Irish Case Study

Joining forces, the Central Statistics Office of Ireland (CSO) and the Ordnance Survey Ireland (OSI) collaborated to make the country's 2016 census data more meaningful and accessible. The agencies launched two new data portals that are making information about Ireland's people, environment, and prosperity available in ways that previously were not possible.

### Challenge

Every five years, the CSO conducts a census survey of the country's 4.8 million residents, at 1.5 million households, across an area of 70,000 km<sup>2</sup>. Enumerators had been using the "long form" method to collect data about everything from people's employment status to their means of getting to work. The office traditionally presented this census data in statistical tables and published it in reports that contained a few maps and diagrams. Administrators realized, however, that they could add value to census data by presenting it in geographic context. Furthermore, if CSO provided GIS capabilities and interactive web applications, data users could make their own maps and do their own analysis.

CSO collaborated with OSI, the country's national mapping agency, via a formal memorandum of understanding. Both organizations had been playing active roles in the government's public-sector reform plan; both organizations worked with data and analytics; and both organizations used the ArcGIS platform. The two organizations agreed to work together to create new channels for disseminating geospatially referenced data.

Just a few months after CSO and OSI had signed the memorandum, the United Nations and Esri invited the agencies to participate in a research project to develop and deploy a new method of monitoring the UN's Sustainable Development Goals (SDGs).

According to Esri, what makes data exploration like this feasible is having all the information in one place, which is what Esri and the UN Statistics Division (UNSD) are doing in their joint research exercise. For the project, participating member states use their existing data systems by deploying ArcGIS Hub in conjunction with ArcGIS Enterprise to help their national statistics offices integrate SDG-related data into their own work.

The exercise asks statistic offices to align their data and systems with other in-country SDG stakeholders, including National Mapping Agencies (NMAs), health ministries, natural resource and environmental agencies, and private-sector statistical data producers.

Ireland was one of seven countries selected for this groundbreaking initiative and the only country from Europe. The opportunity provided a clear focus for the partnership and provided the impetus for CSO and OSi to launch an ambitious, collaborative development project.

## Solution

OSi had already developed a data-sharing platform called GeoHive®, based on the ArcGIS Hub solution, so CSO and OSi decided to use GeoHive as the technical platform for their collaborative projects. GeoHive acts as a “hub of hubs,” allowing the same data to be presented to different audiences, with different views, in subportals known as micro-hives.

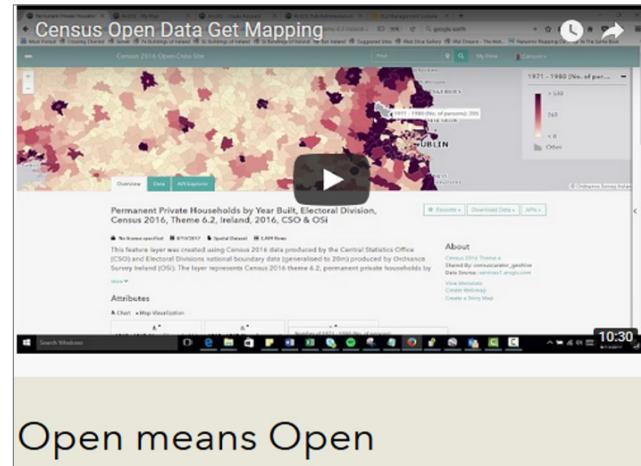
While working on the UN SDG project, CSO and OSi decided to create a micro-hive to present Ireland’s Census 2016 Small Area Population Statistics (SAPS). For the first time, data would be geospatial and open. The resulting census portal ([census2016.geohive.ie](http://census2016.geohive.ie)) allows data to be viewed, accessed, and downloaded in map form across 31 administrative counties, 95 municipal districts, 3,409 electoral divisions, and 18,641 small areas. Datasets include globally unique identifiers (GUIDs) to connect statistics and geography, which is a necessary step for using standard common IDs for spatial data in Ireland.

Using the Census 2016 portal, anyone can explore Ireland’s latest census data by theme, combine multiple data layers to create maps, embed maps in other applications, and download data or connect to it via a series of open-standard application programming interfaces (APIs).

Four months later, in November 2017, CSO and OSi launched another micro-hive, this time for sustainable development statistics. The Ireland SDG portal (<http://irelandsdg.geohive.ie>) data specifically aligns to the UN’s 17 development goals, 169 targets, and 230 indicators. The SDG portal incorporates Census 2016 variables from CSO as well as more than 100 spatial datasets ranging from biodiversity to traffic accidents. The portal provides over

fifty indicators relating to Ireland’s progress toward SDGs. Users can see very specific information such as the total unemployed females in each electoral ward.

As an extension to the two portals, the joint team created a series of ArcGIS Online story maps to highlight key issues indicated by the CSO Census 2016 data and other open-data sources. Its first story map addresses climate change and unemployment issues and brings together data, interactive maps, images, and narratives to tell the story behind the statistics. People don’t need technical skills to use the story map. They simply access the map in their browsers and zoom to an area of interest to see how the issue affects that location.



Census 2016 Open Data

## Results

### Improved ability to inform government policy decisions

By making it easier for policymakers, researchers, and government officials to visualize statistical information, the Census 2016 portal and Ireland SDG portal will play key roles in supporting government decision-making. Story maps will be particularly helpful in highlighting critical issues in society. For example, one recently completed story map, based on Census 2016 data, shows that 40 percent of children in Ireland live in rented accommodations and are therefore at risk of poverty and homelessness if rental prices increase. Story maps open issues for discussion and help to inform government policy.

### Better information to encourage investment in Ireland’s economy

The Irish agency responsible for attracting foreign investment to Ireland—the Industrial Development Authority (IDA)—uses the Census 2016 portal to identify the best locations for local and foreign business investments. For instance, the agency can map potential areas meeting the criteria for graduates, skilled labor force, and transportation links and use the maps to attract investors.

## Easy access to transparent, meaningful data for all citizens

For the first time, anyone can access Ireland's 2016 census data in a geospatial format that is easy to understand and use. This improves public-sector transparency because any citizen can see the data on which government policies are determined. In addition, not-for-profit organizations can use the Census 2016 portal to see, for example, where there are high levels of unemployment. They can then better allocate their resources. They can also map areas with the greatest need and use them to lobby the Irish government to increase its support.

## A powerful way to engage citizens in important issues

Story maps that link to the UN's SDGs, CSO, and OSi help the Irish government raise awareness of important issues that affect the country, such as the need to protect biodiversity and preserve water quality.

## A cost-effective mechanism for meeting UN reporting requirements

Significantly, Ireland's new SDG portal will support the Irish government by making it easier for the government to meet the UN's SDG reporting obligations. Prior to the launch of the portal, there was no single repository for all the data that the Irish government would need to find and analyze to produce the reports. Now, government working groups responsible for UN reporting can more easily find the pertinent data without having to duplicate effort or waste time manipulating data. As a result, the agencies produce reports quickly, which will reduce costs by saving time.

The Irish government cites the Ireland SDG portal as a best-practice example of how public-sector organizations can share and use data. This country-owned, country-led project is a new strategy for the future development of Ireland's public service. It is opening the way for policies that envision shared data across government sectors that facilitate easier access to services, better service delivery, and better decision-making, and promises to drive government efficiency.