esri Ireland
THE SCIENCE OF WHERE®

Case study

Maximising the efficiency of field-based operations

Indigo

The Challenge

- Further improve efficiency in field-based data capture processes

The Benefits

- Significant, additional time savings in the field
- Cost savings from reduced resource requirements
- 65% success in consents process
- Exceptional accuracy across 12 million data fields
- More effective project and resource management

The digital infrastructure engineering services company Indigo was already firmly convinced of the benefits of using geographic information system (GIS) solutions, having previously achieved a 25% time saving with Esri's ArcGIS technology. Not content to stop here, however, Indigo has since upgraded and expanded its use of ArcGIS, maximising the efficiency of its field-based operations, and saving around 168 working days per year.

The Challenge

Indigo supports the rollout of broadband services to homes across Ireland, the UK and North America, by designing fibre networks. Across these three regions, it surveys up to 230,000 poles, 50,000 chambers and 50,000 ducts annually. Ten years previously, the company had replaced its customers' paper-based data capture methods with Esri's ArcGIS Collector App and achieved a time saving of 25% across a number of field-based processes.

This had been a remarkable achievement, but the time had come to push even further ahead. Indigo was growing rapidly, taking on additional clients and expanding its team of field workers. As its size and ambitions grew, so too did its appetite for even greater efficiency, and it started to think, could it do even more with GIS?

The Solution

Staff from Indigo's Design Operations Hub worked with Esri Ireland to evaluate the latest ArcGIS solutions and explore further opportunities for process improvement. Through this approach, the company identified that it could derive significant time and cost savings by migrating from ArcGIS Collector App to ArcGIS Field Maps and introducing additional ArcGIS products to improve project management and performance analysis.

Now more than 55 field surveyors working for Indigo use ArcGIS Field Maps on mobile devices to collect data on everything from the height and condition of poles to the size of duct and chamber capacity. While out on site, they can view and validate the design proposal and draw in the precise locations for new ducts and poles. "ArcGIS Field Maps offers a lot more functionality, including the ability to automate and prepopulate fields, and that's where a lot of our benefits come from," explains Colin Higgins, Fibre Design Manager at Indigo.

Alongside the migration to ArcGIS Field Maps, Indigo built several new apps using ArcGIS Survey123 to streamline other field-based processes, such as network quality auditing. One new app manages 'wayleaves,' which are formal consents from landowners permitting contactors to place and maintain infrastructure on their land. Each ArcGIS Survey123 form records successful contacts with landowners, as well as unsuccessful attempts to reach them, giving Indigo an audit of the entire consent process.

Indigo also introduced ArcGIS Insights and began using ArcGIS Dashboards for the first time to improve its oversight of the progress of projects and the performance of field-based staff. Used by up to 55 office-based and home-based staff, including designers and project managers, these solutions provide a clear, visual picture of how many assets have been surveyed, how long surveys take and whether projects are on track.

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>
> We expect to save thousands of euros per year in overhead surveys, but the true cost savings from using ArcGIS Field Maps across multiple business processes will be considerably more.
>
> Colin Higgins, Fibre Design Manager, Indigo

The Benefits

Significant, additional time savings in the field

With its migration to ArcGIS Field Maps, Indigo has achieved significant, additional time savings in its field-based data capture and verification processes. In overhead surveys, for example, ArcGIS Field Maps now prepopulates 13 of the 44 data fields, reducing the number of questions on the overhead survey by 28%. Assuming that each survey question takes two seconds to answer, Indigo saves at least 7 working days in a typical deployment area with 8,000 poles.

Cost savings from reduced resource requirements

Based on the time savings calculated, Indigo is reducing overall survey headcount by three field engineers and making corresponding resource cost savings. "We estimate that we will save around 168 working days per year, from using ArcGIS Field Maps to survey the overhead infrastructure alone," says Higgins. "We expect to save thousands of euros per year in overhead surveys, but the true cost savings from using ArcGIS Field Maps across multiple business processes will be considerably more."

65% success in consents process

The introduction of an ArcGIS Survey123 process for managing wayleave consents has had a dramatic impact on the business, with the number of successful contacts with landlords rising from just under 50% to over 65% in one year. "This is good news for our clients, as it means that their costs are reduced and they can roll out new infrastructure more quickly, according to the original plans," Higgins says.

Exceptional accuracy across 12 million data fields

The combined use of ArcGIS Field Maps and ArcGIS Survey123 is helping Indigo to improve the quality and completeness of its data, which amounts to 12 million new data fields annually. "Incorrect data can lead to wrong decisions, costly revisits to site and delays at the build phase," explains Higgins. "ArcGIS helps us to avoid manual errors and capture the accurate information we need to reach our annual target of 45,000 broadband-ready homes."

More effective project and resource management

With ArcGIS Insights, Indigo now has a clear, real-time view of project metrics, which helps it manage its programmes effectively and deliver on time. Indigo can see exactly how long it takes to survey poles in rural areas, as opposed to urban areas, and can use this knowledge to allocate the right level of resources to each project. As Higgins explains, "The resource planning benefits are huge. We can use the data from ArcGIS to be more accurate in our proposals and bid for new projects with confidence."

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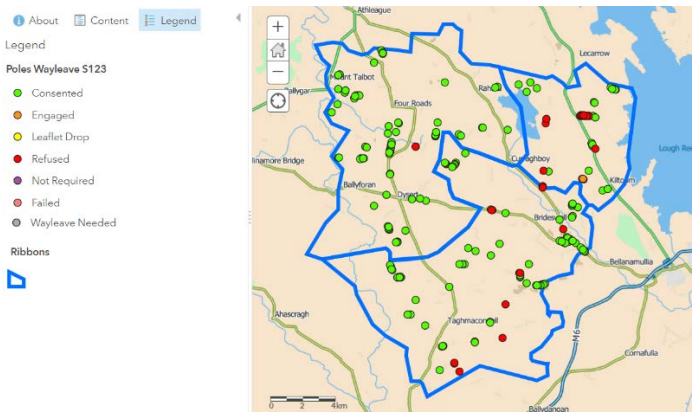

An ArcGIS Map showing the status of poles throughout a deployment area

Learn more at: esri-ireland.ie