ORDNANCE SURVEY OF NORTHERN IRELAND®

CASE STUDY

UTILITIES

The Impact of Positional Improvement on Northern Ireland Electricity

Northern Ireland Electricity

Background

It is important to be able to show our customers how the Positional Improvement (PI) of our Largescale mapping can impact on the work that they do.

The most significant impact will probably be upon customers who overlay OSNI Largescale mapping with their own layer of data.

This case study illustrates how the update in PI affects the data used by Northern Ireland Electricity (NIE). It also explains how the positional differences could be addressed to produce a fully reconciled and positionally improved dataset to support the business' daily operations.

The Journey from Relative to Absolute Accuracy

Historically, OSNI Largescale mapping focused on a high degree of relative accuracy. With the development of technology, the ability to combine and analyse digital datasets within a Geographical Information System to support policy and decision making, has become more commonplace. Where business operations are required to be compliant with Global Positioning Systems (GPS), engagement with PI becomes a vital investment for the future.

Useful Terms

What is 'relative accuracy'?
Relative accuracy is the difference in the distance measured between two points on a map and the true distance between these same two points. The distance is measured using conventional large scale surveying methods.

What is 'absolute accuracy'?
Absolute accuracy is the distance between the position of a point on a Large Scale Map and its true position within the reference frame. In assessing PI, the true position is measured using GPS.

Examining the Shift

Figure 1.1 shows a network of blue NIE utility cables that has been overlaid upon a backdrop of OSNI Largescale mapping, both based on surveys that give good relative accuracy. We can see that the utility cables lie predominantly directly beneath the footpath of this residential street.

As part of the pilot review project, LPS have now updated the OSNI Largescale mapping in this area with PI. We can see the extent of the shift if we compare the OSNI Largescale mapping before and after the PI update. Figure 1.2 shows the original data in red, with the positionally improved overlay in green.

Figure 1.1

Figure 1.2

By laying the network of NIE utility cables upon each backdrop, we can see that the positional shift has clear implications for the overlaid data. This can be shown more clearly if we focus in on a smaller area:

Figure 1.3

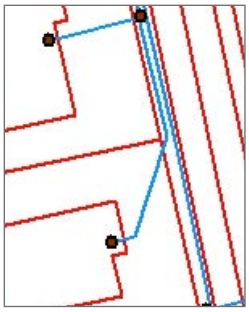
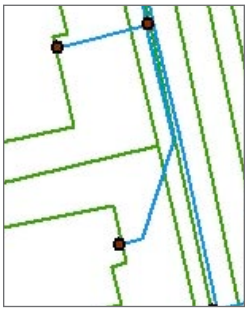


Figure 1.4



Laid on the **original OSNI Largescale mapping** (Figure 1.3), the blue NIE utility cable is shown running directly beneath the footpath.

Laid on the **positionally improved OSNI large scale mapping** (Figure 1.4), the blue NIE utility cable is now shown running beneath the road.

Can these datasets be reconciled?

To minimise disruption to operational service delivery, it is likely that NIE will want to reconcile these datasets in an automated and systematic way.

It is possible for NIE to invest in an appropriate software package from the marketplace to complete this task.

If NIE decide to make this investment, a link file will be made available to help ease the data integration. LPS link files clearly illustrate the exact positional differences for each point on the OSNI Largescale data between the pre and post positionally improved detail.

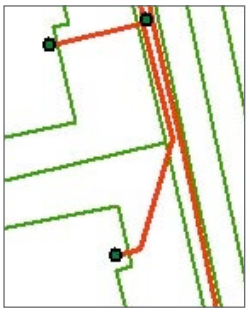


Figure 1.5

NIE sees positional accuracy as a crucial aspect of efficient and accurate service delivery. Having invested in an appropriate software package NIE have undertaken a data reconciliation exercise. Their map (Figure 1.5) now correctly shows their utility cable running directly beneath the footpath on the updated OSNI Largescale mapping.

Both the OSNI Largescale mapping, and NIE's information which has been laid upon it, are now positionally improved and aligned to GPS.

Benefit of engaging with PI

Positionally improving your data supports policy and decision making and is a vital investment in future planning.

This case study has illustrated how PI affects NIE whose operational systems are compliant with GPS.

If you would like to discuss the impact of PI in your business area in more detail, please contact us and we will be happy to meet with you.

YOU CAN CONTACT US ON:

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