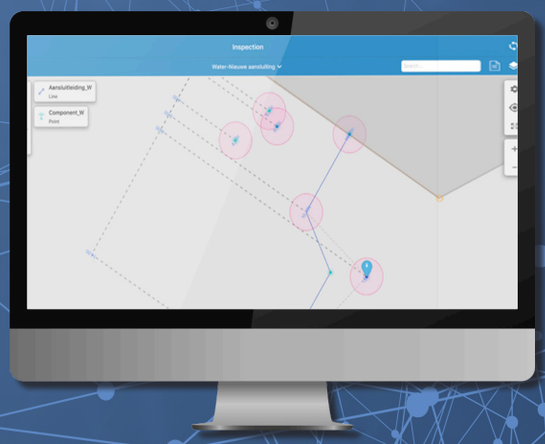
CASE STUDY

geolantis360 | Utility MAPPING

Digital workflows for the utility industry



Utility Mapping is one of the most innovative location and mapping' solution providers in Australia. Headquartered in Melbourne, it has a client base spread across the country, spanning multiple industries such as utilities, infrastructure, civil, geotechnical, design, facilities management, environmental organizations, and so on.

A Brief Overview

1 - Utility Survey - Using a combination of electromagnetic, geophysical, and high-frequency induction techniques, the company scans the survey site for underground utility structures. Some of the key features of this service include:

a. *Collecting and mapping information on all underground utility structures*

b. *Recording findings on manholes and pits along with their location*

c. *Delivering the findings using interactive file-formats*

d. *Non-destructive digging and potholing*

2 - CAD and BIM Modelling - The company provides 3D modelling services using computer-aided design (CAD) and building information modelling (BIM) techniques. The approach to 3D modelling involves the use of AutoCAD, plan sets, GIS, Micro Station, Revit, Asset Visualizations, NavisWorks, and 12d.

Further, the company's clash detection team helps the client with building their 3D models based on design plans by comparing them to existing sites in real-time.

3 - Concrete scanning - cutting concrete for any maintenance work has become simpler with Utility Mapping's non-destructive scanning. It uses high-frequencies to identify structures underneath the concrete surface so that potential damages to cables and other utility infrastructure is avoided during repair work. Clean areas are spray marked in real-time, and the areas that have utilities are mapped for future reference.

Key Challenges

The key challenges that Utility Mapping encountered are as below.

1 Real-time Resource Management

As Utility Mapping is a company that is spread across multiple locations, it often became a challenge to manage the resources at various sites, including personnel, vehicles, and equipment. Managers had no real-time view of the crew that was assigned work at different locations and had to wait till the end of the day or the end of the task to reallocate resources. This caused delays and a lot of manual intervention.

2 Lack of a Centralized Solution

Utility Mapping tried out various workforce management tools in the market but found them all to be disintegrated. The existing tools were either too complicated or performed only part of the functions that were required. For example, some tools only offered mapping solutions, while others provided taskforce management options only.

Information from the field to the office was often lost when trying to put multiple tools together for one single task. Utility Mapping needed a more centralized solution to address this challenge.

3 Paper-based documentation

Field workers used paper-based forms to update timesheets, job dockets, and other work-related data as most workers had to work in remote locations where cellular coverage was not reliable. This process resulted in erroneous and often delayed documentation.

For field managers and supervisors sitting at the office, converting these paper forms into digital workflows required additional time and effort, not to mention multiple applications that were difficult to use.

> *By gaining real-time access to asset information as well as workforce data, the management can now have a complete picture of the tasks being carried out irrespective of the geographical location of the crew.*

Effects of the Challenges on the Business

The challenges encountered by Utility Mapping began to directly affect their business in the following ways.

1 Errors Leading to Additional Costs

The workforce was so disconnected in the various parts of the country that it often seemed like a humongous task to collate all the activities that were taking place within the purview of the company's management.

The existing tools did not help bring the resources together and the manual processes intertwined with the complicated actions of these tools resulted in error-prone task management, which caused the company to spend in excess.

2 Delays Resulting in Inefficiency

Paper-based documentation was filled with incomplete data and hence, was unreliable. Additionally, such documentation methods were delayed in reaching the supervisors who could not then assign the workforce or validate the work done in real-time. Such delays caused redundant work, incorrect task assignments, and/or incomplete work, with no reliable data to fall back on.

Not being able to have a transparent picture of allocated tasks, the management could not foresee any glitches that may occur down the road. All of these increased the operational costs of the company.

Geolantis360 Solution

Utility Mapping began using the Geolantis360 solution initially as mapping software. In conjunction with an EMI locator and a GNSS solution, they found it extremely simple to record asset locations and directly upload to the cloud-based Geonlantis360 software.

Once the locations were mapped, Utility Mapping then moved on to the software's workforce and resource management module and soon realized that this is the holistic solution they have been waiting for.

The easy operations of the integrated solution provided by Geolantis seemed like the perfect solution to their connectivity challenges. Field workers can now record their locations, timesheets, job dockets, etc., in real-time by the press of a button on their mobile device.

The move from disjointed and paper-based documentation to Geolantis360's predefined forms and digital workflows has been a boon to field supervisors as well as the management sitting in the office. While field supervisors can now allocate workforce in real-time, the same information can be securely shared over the cloud to the executive teams, miles away.

With the help of the digital workflow, field supervisors can streamline the entire documentation and task management process, thus increasing efficiency and enabling the field personnel to complete tasks with zero errors in documentation.

By gaining real-time access to asset information as well as workforce data, the management can now have a complete picture of the tasks being carried out irrespective of the geographical location of the crew.

They can also visualize the data to look for patterns in workforce allocation and task completion and chalk out plans to avoid any unnecessary delays in the future. Redundancy is thus reduced, efficiency and accuracy are increased, and the costs keep coming down.