

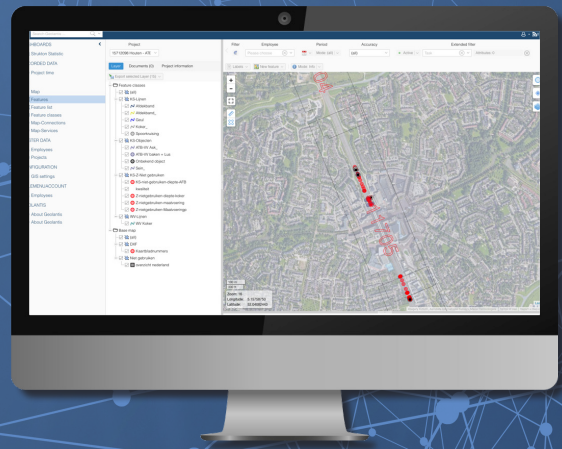
CASE STUDY

geolantis360



Strukton
Rail

Digital workflows for the utility industry



Strukton is a technology partner headquartered in the Netherlands. Its rail business works as a full-service provider for leading railway companies throughout the world. Their services ensure rail network availability is maintained at all times. To this effect, they have monitoring solutions, energy solutions, safety solutions, predictive maintenance solutions, and cost-monitoring solutions. They also are fully equipped to provide comprehensive maintenance solutions that take care of round-the-clock rail network availability through their smart technologies.

A Brief Overview

Smart Rail Maintenance - Robotics, power electronics, and analyzing data collected using artificial intelligence (AI) and the internet of things (IoT) are some of the examples of the smart technologies employed for rail maintenance.

Electrification - Electrification on the tracks is achieved by several sustainable options. Using solar energy, reusing braking energy, and upgrading power energy are some of the ways Strukton offers energy-efficient railway infrastructure.

Points Monitoring System - Gathers a large amount of data relating to the conditions of the points of a railway track. The software then analyses these points to check which ones need maintenance.

Cost Monitoring - Smart modules enable rolling stock maintenance at a lower cost. A Europe-wide machine park offers highly cost-effective options. Advanced maintenance lowers costs in the long term as well.

All-in-One Solution - Operations and maintenance of rolling stock need a holistic approach. Hence, the company combines all the above technologies and solutions to provide a comprehensive rail maintenance package.

Key Challenges

There were two primary issues that Strukton Rail was trying to solve.

1 Photographic View & Documentation of Pot Holing

Pot Holing is an established excavation procedure in which a test hole is created to reveal some of the portions of the underground infrastructure. It is one of the traditional ways to determine the location of a specific point that may need attention. In the utility world, this is a vacuum excavation process and determines whether any kind of construction material or other objects are obstructing the path of underground wires or cables.

Strukton, being a railway maintenance solution provider, often has to deploy field engineers to carry out pot holing along railway tracks. Random such areas are inspected for any potential damage. The challenge with this kind of underground asset monitoring lay in proper technical documentation. Photographic documentation of these points was preferred as that would be easier to refer to in the future. Photo documentation is also faster to interpret when the maintenance work is critical. However, the field engineers had no such option with their existing equipment.

2 Uploading CAD Files

Most field workers troubleshoot railway track issues based on the actual drawings of the vector lines that are saved in CAD files. However, in terms of sharing this data with supervisors who are at a different location or maybe sitting in an office, they had no option to upload the CAD files directly. They had to rely on older systems that allowed only PDF uploads. Needless to say, a lot of the details were lost when converting the drawings from CAD to PDF.



Thanks to its cloud-based approach, Geolantis was able to offer a seamless solution through which field engineers, supervisors, and technicians all have access to the same data

Effects of the Challenges on the Business

The challenges encountered in the field had a direct effect on the business:

1 Missing Context

In the absence of photographic documentation and CAD files, it was not easy to understand the context of the Pot Holing. It became an enormous challenge to deduce later which point had been excavated and what was the problem with it. With this information lacking, random pot holing had to be carried out repeatedly increasing the cost of maintenance.

2 Reliability on the Memory of the Crew

If at all, there was any chance of documenting what happened during excavation, it had to be done based on the memory of the field technicians, which may or may not have been correct. This proved a risky business as the crew excavates several underground assets on a day and remembering what was the issue with which point is almost an impossible task. At the end of the day, a lack of proper documentation meant substantial financial burdens for the company.

3 Redundant Work

With no way to store valuable information about the Pot Holing points, field workers often ended up excavating the same points over and over again. All they had to consult were each other's notes on paper, which easily may have missed out on vital data. Such faulty methods of storing information meant that the same work had to be repeated, resulting in redundancy and delay in other maintenance work.



Geolantis360 Solution

Strukton's underground asset monitoring tasks needed a comprehensive and smart solution. Thanks to its cloud-based approach, Geolantis was able to offer a seamless solution through which field engineers, supervisors, and technicians, all now have access to the same data. Here is how Geolantis360 has helped Strukton solve its challenges.

The software enables immediate visualization of the excavation point and captures a photograph of the underlying assets, which field engineers and supervisors can consult at any later time.

Field engineers can not only view the information on their mobile devices but can also enter valuable notes on the predefined forms of the Geolantis software. These notes, in turn, can be securely shared over the cloud with other workers.

Its map feature enables the field engineer to know precisely where a problem with an underground asset was last noticed. In this way, redundant work is avoided.

The location, the forms, and the photographs are all encompassed in a single recording for each point, which can then be replayed by any crew member. A simple tap on the mobile device shows them in an instant the damage that needs to be rectified.

Quick identification of issues, elimination of repeated work, instant sharing of information over the cloud, and paperless processing of all data are how Geolantis was able to help Strukton provide more cost-effective and reliable maintenance solutions to its vast clientele. [📍](https://www.geolantis.com)