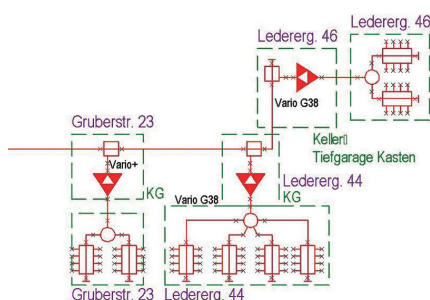# Autodesk Geospatial

AutoCAD® Map 3D

Autodesk® Topobase™

Autodesk MapGuide® Enterprise

Autodesk Consulting

Customer Success Story

Quick access: With one click, LIWEST employees can see if a house connection is affected by a malfunction in the system.

> "Determining the exact requirements was a challenge. But the experienced consultants at Autodesk helped us get up to speed quickly and keep an open mind for additional changes."
>
> *Karl Fuchs*
> *GIS project manager, LIWEST*

LIWEST Kabelmedien GmbH

Making the Move to Smart Design

LIWEST optimizes its cable network management with Autodesk® Topobase™ and the NET telecommunications solution by TKI

The Project

The cable operator LIWEST Kabelmedien GmbH (www.liwest.at) provides TV, high-speed internet, and standard telephone services to more than 125,000 customers in Upper Austria and the western part of Lower Austria—and its network continues to grow. For years, site and schematic plans were designed using AutoCAD®. As a result, LIWEST employees were working with approx. 2,000 A4 plans that were packed with information, but had no connection to each other.

To provide faster access to up-to-date network data and thus improve the quality of information, and of planning procedures in the long run, the company was looking for a software solution that would enable it to map the entire network topology while using existing data.

The solution of choice was Autodesk Topobase, implemented by Autodesk Consulting, because this meant that the company would be working with a single provider that could offer solutions for all upcoming issues. What is more, LIWEST would be able to import existing data into the new system and adjust it to future requirements and changes to the current data model.

The Business Challenge

LIWEST is a pioneer in the development and distribution of new multimedia offerings via TV cable. In 1985, the company activated its first satellite programs, and since 2004, customers can receive various high-resolution TV programs (HDTV) at favorable prices. Today, LIWEST offers

analog cable TV as well as more than 300 digital TV and radio programs and seven Special Interest packages via its 24Vision platform. The provider is the second-largest cable TV network operator in Austria, supplying every second cable connection in Upper Austria. In total, LIWEST services more than 111,000 analog cable TV connections, more than 16,000 digital TV connections, roughly 42,800 broadband internet connections, and 17,000 landlines.

The entire graphical documentation of the network had been created with AutoCAD. Site plans were based on the official plans by the Austrian Office of Metrology and Surveying. Only a few of them were linked to the signal layouts. It was difficult to derive precise information from this documentation as to when maintenance was next due, whether a specific connection would be affected by maintenance or repair work, or how alterations of the network infrastructure would affect individual house connections. It was also impossible to check properties of distribution frames, amplifiers, branches, and other telecommunications components based on those drawings.

A new information system was needed to map the entire network topology, for the most part using the information in the existing DWG drawings. This system was not only intended to make it easier to access information faster, but also to enable the roughly 60 field technicians to document their work on-site using tablet PCs.

Autodesk®

"While we cannot express the quality improvement in figures yet, it is already evident after this short period that failures in the system are identified and solved in less time, and that we can provide more precise information."

Karl Fuchs
GIS project manager, LIWEST

The Solution

Autodesk provided the software, consulting services, and technical support: Autodesk Topobase and standard telecommunications modules, industry-specific know-how, and a professional solution by Autodesk partner Tele-Kabel-Ingenieurgesellschaft mbH (TKI) in Chemnitz, Germany. Just half a year after the first meeting, the solution package was installed. "Autodesk has proven to be a very competent and reliable partner, supporting us throughout the project—from the development of the data model and migration path to implementing the new system," says GIS project manager Karl Fuchs.

It took a while to build a data model that met all of the wishes and expectations LIWEST employees had of the new system. Field technicians, drafters, and the extended design team all had their very specific requirements that needed to be accommodated. So before TKI and Autodesk began to develop a data model prototype, they took a close look at the existing plans and the users' requests. The prototype was then tested in a selected section of the service area. Based on the test results, the implementation team made adjustments to the data model and the screen views. Thanks to Topobase, changes can also easily be customized later on, while the system is running.

Section by section, the DWG data were transferred to Autodesk Topobase. The migration process was 'semi-automatic,' since each drawing had to be validated in terms of functional and technical accuracy. "Some of our drawings don't comply with the guidelines. But in the past, we were only interested in getting the visual representation right, so it did not matter if, for instance, a part was drawn on the wrong layer," explains Karl Fuchs. These discrepancies were corrected during migration, enhancing the data's value and quality.

At the same time, the user interfaces underwent some 'fine-tuning.' The system was made available to employees as soon as the data for a particular section had been processed. Knowledge gained during daily operations could thus be used immediately when preparing the next section. The transition of the entire service area to Autodesk Topobase was completed in late January 2009.

The project team consisted of the project manager, two drafters from the documentation department, two assembly and service technicians, two members of the planning team, and experts from Autodesk and TKI. "It's important to get people together," explains Karl Fuchs. "In this phase in particular, it was essential that all parties involved could communicate with each other and specify their individual requirements."

Once the first usable data were available, employees received their first lessons on using the new system. Training at this early stage helped users better understand the underlying concept of the system—after all, Autodesk Topobase features a completely different approach to information. Besides the simple act of drawing, it is of utmost importance that data is entered correctly. The automated validation checks in Autodesk Topobase ensure that all captured data meets the system's quality requirements.

The Result

Autodesk Topobase enables LIWEST employees to display network properties for any house connection. Repair, maintenance work, and other causes of interruption can be investigated simply by clicking on the connection.

Component properties also help determine services, e.g. in just a few seconds, employees can see if digital TV and/or broadband internet is available for a specific address. And if a field technician replaces or updates a component, the information is provided as soon as the technician completes the service entry.

"While we cannot express the quality improvement in figures yet," says Karl Fuchs a few months after the initial installation, "it is already evident that failures in the system are identified and solved in less time, and that we can provide more precise information."

For More Information

If you would like to learn more about Autodesk Topobase and other time and cost-efficient applications from Autodesk, please visit www.autodesk.com/topobase.

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