Autodesk Geospatial

Autodesk® Topobase™

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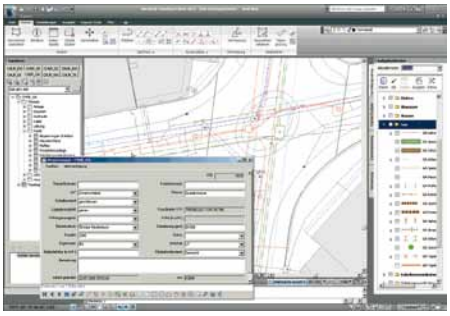
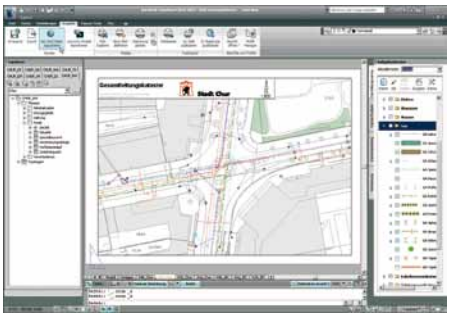
Customer Success Story





The perfect blend of CAD and GIS: the versatile functionality of Autodesk Topobase opens up a wide range of possibilities.

City of Chur

A Down-to-Earth Attitude to Innovation

Swiss town uses Autodesk® Topobase™ to manage municipal data – and more

The Project

It was clear that Chur's GIS system would have to be replaced sooner or later. Running in a UNIX environment since 1991, the system had not been enhanced as frequently as the increasing data volume demanded. On the other hand, it included features that no other GIS solution offered at the time the city chose it. It was used to manage both municipal data, e.g. survey data and land use plans, as well as network data, thus serving as a central database for the authorities and water, gas and electricity utilities. The new GIS of choice had to offer the same functionality, be able to import all existing data and, of course, fit the available budget.

The upside: There was plenty of time to prepare for the change. The city's GIS experts had roughly two years to specify requirements, issue invitations to bid, select and fine-tune the solution of choice, migrate existing data, test and implement the new system and arrange for training. The first set of data to be adapted to the new system covered utility networks and land usage plans, followed by official surveying data half a year later. In 2010, Chur will launch the third migration phase, incorporating documentation of the electricity network as well as intranet and internet versions of the city's geography.

The first impression: The Topobase users in Chur still have plenty to learn in terms of CAD, but they have already managed to accelerate asset data management and improve the retrieval and supply of GIS information.

The Challenge

The city of Chur is in many ways unique: It is the oldest city in Switzerland, the only one with a cable car that takes you straight up into the mountains to the skiing region, the only ‚metropolis' on the Milan-Munich axis ... and probably the only town in Switzerland to maintain a comprehensive, almost 20 year-old GIS database. Previously, complex UNIX-based software was used to manage region-wide survey data and land use plans as well as water, wastewater, gas, telecommunications, cable and electricity networks. This database was accessed both by authorities and providers – thus, consistency was a matter of course.

The new GIS of choice had to offer the same or better functionality and be able to import all existing data. Data entry clerks needed a tool that was flexible and easy to use, while decision-makers were on the lookout for a „developable GIS platform", an extensible solution that would protect their investment in both system and data on a long-term basis. The new GIS had to easily blend in with the existing GIS infrastructure and adapt to new process requirements. And last but not least, GIS data had to be utilised to its full potential.

"Autodesk Topobase meets our main requirement, which is to again place all data at all users' disposal in one central database. Plus, it offers more possibilities than our previous GIS system. It is so much easier to retrieve and supply GIS information now."

Reto Conrad
Geoinformatics department, City of Chur

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"We chose the perfect time to switch systems. It was foreseeable that the old GIS would not be able to keep pace with growing requirements. But there was no immediate need to replace it, so we had plenty of time to get the new system underway."

Urs Zimmermann
Geoinformatics department, City of Chur

The Solution

Following a comprehensive bidding procedure, the city of Chur narrowed its choice down to three providers. Its specifications and questionnaires – with roughly 1,000 questions – filled an entire folder. The department had already set up the overall concept and determined the necessary interfaces – and even the required data model. Each applicant was evaluated in terms of system performance, product presentation and service offerings, the description of the solution and, ultimately, pricing.

And Autodesk Topobase stood the test. The project owners decided to go straight for the new software generation that had only just been introduced. As one of the first users of the new technology, the city of Chur experienced a few ‚teething troubles', but nevertheless benefited from the system's versatility and discovered various new capabilities.

Autodesk Consulting provided professional project management services to facilitate implementation. Standardised project procedures included thorough preparation as well as processes that quickly got the system up and running again when problems occurred. According to Reto Conrad from the Geoinformatics department at Chur's Civil Engineering and Land Surveying Office, who was in charge of the migration project, „implementation went pretty smooth."

Autodesk Topobase manages utility network tasks just as reliably as the old system and has even introduced major improvements, e.g. a user management solution that provides each user group with a group-specific project view. Administrators can tailor data capture forms to display only the information relevant for a group's field of activity, thus enabling a more focussed and faster work approach. The system is configured for 20 concurrent users accessing the database simultaneously.

Autodesk Topobase users can also access data from third-party systems. FME, for instance, is connected to Topobase and serves as a reliable import and export platform. The bottom line: Topobase is more flexible, both in terms of GIS, CAD, and image data exchange, and in terms of functionality. Now that employees at the Geoinformatics department can add new functions without coding, Autodesk Topobase provides the ideal basic technology for Chur's plans to expand its GIS infrastructure.

The Result

The city currently deploys modules for gas, water, wastewater, communications, land planning, and surveying. An electricity module is pending deployment. Data is captured and updated by a team of ten employees. „We have succeeded in bringing all data ‚under one roof'", Urs Zimmermann reports. „And there is so much more that we do with the new GIS." End users can create thematic maps on their own and add them to their reports and data analyses to better represent their work. In addition, Autodesk Topobase offers various grading capabilities, which enhance the value of GIS data.

Topobase also helps consolidate GIS and internet/intranet systems, which makes it much easier to implement the web-based GIS component.

Employees particularly appreciate the new system's asset data management features, which are more powerful and easier to use. „We haven't organised much in the way of CAD training to date," Reto Conrad explains, „so some employees are not yet familiar with the versatility of CAD." But it is just a matter of time until they overcome their initial apprehension. All in all, Chur chose the right time to switch to the right system, and has achieved more than originally stipulated in the bidding procedure – including the recent addition of a regional surveying office, that, like the city of Chur, has decided to deploy Autodesk Topobase and meanwhile receives technical support from Chur's GIS experts.

For More Information

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

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