



ITAS Salzgitter GmbH – engineers for civil engineering, wastewater & rehabilitation – was commissioned by the Facility Management department of the Volkswagen plant in Wolfsburg to develop a sewer rehabilitation plan. The sewer system of the factory premises is comparable to that of a small town, but more demanding because of numerous, branched-off structures obstructing access. In addition, the client makes high demands to data compatibility and transparency. Using BaSYS PISA, the BARTHAUER software solution for rehabilitation planning, ITAS can provide efficient task-driven solutions and thereby reduce processing times for sewer rehabilitation by about 20 per cent.

“With enhanced efficiency, the developed workflows have changed the complete sequence of operations of sewer rehabilitation, from data collection to implementation planning and approval. In particular, the communication via sub-databases with the client has proven to be a very reliable process.”

Dipl.-Ing. Joachim Papesch,
Managing Director, ITAS

ITAS Salzgitter GmbH

ITAS Salzgitter GmbH is an engineering firm specialising in the rehabilitation planning, consulting and project management of technical infrastructure. Building on many years of experience and specialisation, the ITAS engineers live the claim to always find the most cost-effective and technically most rational solution for their customers. One of their principles therefore is: “The early detection of the nature and extent of the damage is often already halfway to its elimination.”

The engineers use the powerful tools of Barthauer Software to do their advance planning. Their objective is efficient and cost-effective sewer rehabilitation that benefits the customer. In collaboration with the Facility Management department, ITAS Salzgitter assisted in taking stock of the sewer system by means of a TV inspection and created a damage assessment of the factory premises from the results. Proposals for the rehabilitation and its cost shall now be submitted.



Sewer lines run under the production lines

At the Wolfsburg site, Volkswagen operates a separation process through an extensive sewer system. The length of the rainwater and wastewater channels is comparable to the network of a small town, amounting to a total of about 350 km. A sewer system of about 230 km accounts for small-sized connecting channels leading from the individual wastewater and rain water collection points to the collecting channels. The network of main and collecting channels is 120 km long.

70 per cent of the sewage pipes are located below the production halls and are therefore not easily accessible. This already complicated the detection and evaluation of the lines and must be taken into account when planning the rehabilitation operations. In an industrial plant of this size and structure, sewer rehabilitation is of decisive importance.

Overview with uniform plans

In the first step, it was necessary to gain an overview of the condition of the sprawling sewer system. From the available as-built drawings and the visual inspections, uniform plans should be drawn up. The emphasis is on the simplification and standardisation of site plans and databases with the aim

of accomplishing the flow of data between client and service provider across divisions. Therefore, the staff of the Facility Management department wanted to have access to digital plans and rehabilitation planning in the ISYBAU exchange format in accordance with the wastewater guidelines.

The proven ISYBAU concept enables the uniform and consistent exchange of all wastewater data. Originally designed for properties belonging to the Federal Government, the ISYBAU standard is now widely used by industry professionals. Barthauer Software GmbH was involved in the development of the ISYBAU concept from the beginning and so could provide a network information system that perfectly supports the standard.

Always the right data format

To simplify the generation of uniform plans, it was necessary first of all to convert data from different data sources, formats and inspection procedures, and to eliminate problems in the database. The BaSYS PISA rehabilitation module made plausibility checks available that show, among others, differences between the master data recorded during the inspection and the existing master data. Data of all the current standards

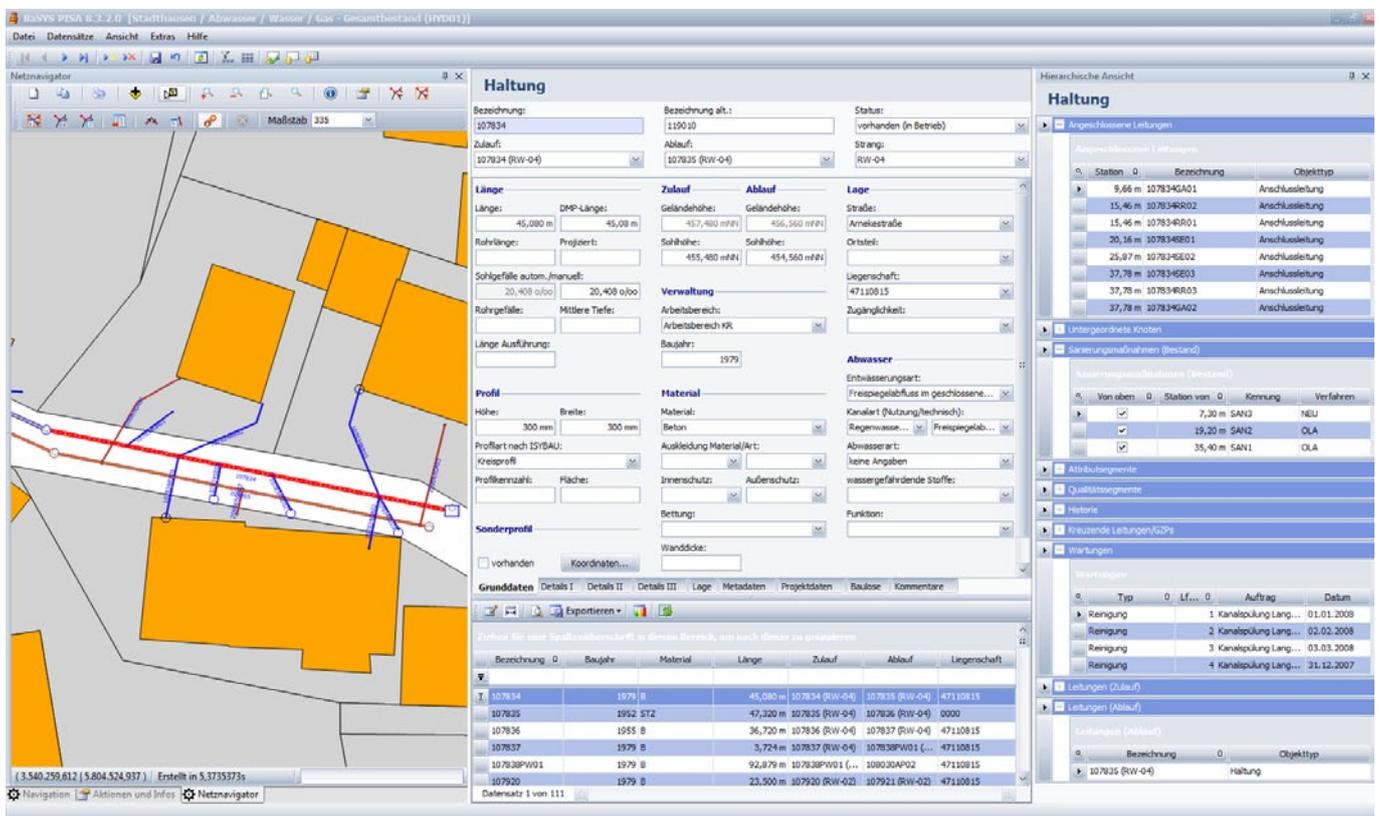


Figure: Section of a sewer plan with the network navigator in BaSYS PISA



and regulations from the TV inspections could be taken into account, tested and transformed. This way the ITAS engineers were able to ensure that through adjustment processes all data were indeed fed in without delays.

Perfect for large areas

In the next step, the TV inspections were evaluated and a condition assessment prepared. The layout of the Volkswagen factory premises with its multitude of branched-off, small-sized structures presented high demands to a network information system. "One of the key criteria for choosing BaSYS PISA was the possibility to comfortably and clearly process large areas with a variety of structures," says Mr Papesch (MEng), Managing Director of ITAS Salzgitter GmbH. Because BaSYS is backed by a sophisticated, powerful database management system with support of spatial geometry data management. This allows more sustainable and system-independent data storage of spatial data, which allows quick access to the topology. With this, branched-off and nested networks with many structures can easily be modelled and processed.

Assistance in the evaluation

Good graphical representation is particularly valuable to illustrate, analyse and assess damage from different perspectives when the visual inspection is evaluated. In BaSYS PISA the ITAS engineers also have direct access to the structural

condition assessments according to ISYBAU required by the client. This has improved the efficiency and accuracy of the condition assessment.

Increasing efficiency in the planning

BaSYS Pisa allows a clear comparison of the section-related rehabilitation operations of renewal, renovation and repair. The integrated cost estimate automatically determines the cost of rehabilitation or renewals. With the planning software, the engineers were able to create several rehabilitation alternatives, while at the same time allocate operations to several damage points and to compare them in terms of cost. "True planning and decision support for complex projects!" says an excited project manager.

The time spent on the planning of sewer rehabilitation have been reduced by 20 per cent since we started using BaSYS PISA," says Mr Papesch and adds: "We also provide our clients with great cost consistency and on-schedule reliability." Because, with the help of BaSYS PISA, workflows for complete rehabilitation planning, including comparison and identification of alternative rehabilitation methods, as well as setting priorities and determining the costs of rehabilitation were developed. This way ITAS could make the most cost-effective and technically most rational rehabilitation proposals to the Facility Management department at the Volkswagen plant in Wolfsburg and successfully complete the project.