

Expert office for sewer rehabilitation

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Sustained value maintenance strategies for sewers with AQUA-WertMin 6.1

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AQUA-WertMin 6.1 is currently the only available ageing and condition forecast model for a cost minimising maintenance of sewer networks.*

* approved since the beginning of 2001 for the amended self control regulation in the German federal state Baden-Württemberg, complies with at least the requirements of the new DWA data sheet M 143-14 „Rehabilitation strategies“ of Nov. 2005.

On the basis of a complete condition evaluation economic rehabilitation strategies including future rehabilitation and financial requirements can be forecasted with the condition forecast model **AQUA-WertMin** on a short-term basis for a whole area within the budget (see pilot project Rheine for the compliance with SÜVVKan-NRW).

Furthermore, condition dependent inspection strategies for inspection intervals according to the self control regulation of Baden-Württemberg (EKVO-BW or SÜVVKan-NRW) can be calculated. With this forecast model and cost savings of up to 80 per cent timely and more reliable condition findings can be achieved.

The new version **AQUA-WertMin 6.1** was revised with the selective condition data collection and sewer forecast of the city of Dresden (1,650 km) and extended by the option of a constructional and hydraulic sewage disposal concept depending on the annual budget for renewal, renovation and repair. This allows for the simulation of a cost and condition development of a given sewage disposal concept and adaption to existing practical constraints on a short- and medium-term basis.

Another aspect is the objective calculation of the residual service life and the asset valuation according to the OVG judgement NRW with book losses after the draft of the new DWA data sheet A133, paragraph 4.5 of August 2005.

For further information and a free 30-days shareware version please visit our website <http://www.rehabilitation-strategy.com>.

In case of missing or partly inspected sewer networks reliable data can be developed with **AQUA-Selekt 4.0*** by means of a selective sewer inspection strategy in accordance with DIN EN 752, Part 5. This new inspection strategy was successfully enhanced in the BMBF research project Selerin from 1999 to 2002 in the cities of Braunschweig (1,200 km), Ingolstadt (18,000 house connections), community of Marpingen (75 km) and the waste disposal association of the German federal state Saarland (Entsorgungsverband Saar, EVS) (with 750 km of external main sewer).

* If you're interested in purchasing **AQUA-Selekt 4.0** please contact us at ki@aging-model.com.

The results were presented during the ATV-Bundestagung in Wolfsburg, Germany on 3 October 2003. The postponed first inspection can be carried out subsequently with the forecast option of **AQUA-WertMin** prior to the rehabilitation. An optical TV-inspection is carried out for representative network sections as qualitative sample and the condition development of uninspected sewers is projected with a statistical evaluation with a reliability of 95 %. For precise statements a sampling volume of 10 to 20 % is sufficient depending on the network size. The relative sampling volume decreases with increasing network size.

Existing inspections reduce the sampling volume. This method is particularly profitable for large sewer networks of more than 1,000 km and presents significant time and cost advantages compared with the conventional total inspection of the network condition.

Latest Reference: Value opinion on the partial privatisation of the sewer network Dresden with 1,630 km by means of sewer condition analysis (AQUA-Selekt 4.0) and sewer forecast (AQUA-WertMin 6.1).

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