



## Operation and maintenance of drinking water wells to optimise performance and water quality - 2nd phase (WellMa2)

### Context

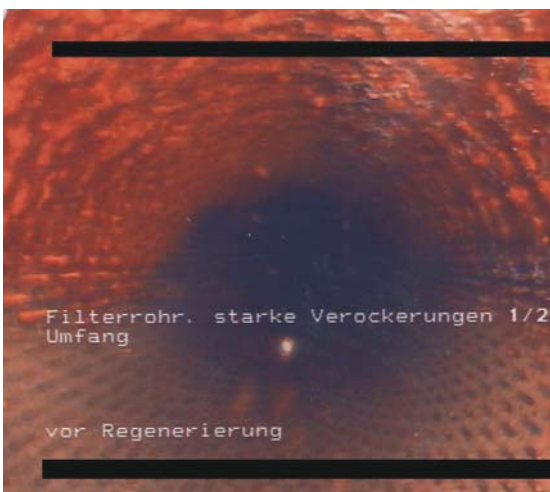
The capacity of drinking water wells, i.e. the yield for a given drawdown, is often decreasing after a certain time of operation. This effect is called well ageing and is due to different processes related on the one hand to the geology and hydrochemistry at any given well site and on the other hand to the construction and operation features of these wells. The mechanisms and processes are still not fully understood. To avoid impacts on water quantity and quality, wells must be maintained and operation must be adapted to the site conditions and the well characteristics.

### Aim

- Optimisation of monitoring, maintenance, regeneration and operation of drinking water abstraction wells with respect to costs, energy efficiency and sustainability in order to sustain the well's performance and water quality

### Work packages

- 1) Assessment of the impacts of intermittent pumping on iron deposits in drinking water wells
- 2) Evaluation of the effectiveness in time and space of the preventive maintenance with H<sub>2</sub>O<sub>2</sub>
- 3) Development of decision support tools providing an optimised monitoring, early warning and pre-diagnosis, and economic considerations on well maintenance
- 4) Decision support and test application for regeneration technologies in order to support the selection of the most efficient regeneration method



Downhole Camera view into a vertical filter well with reddish brown iron encrustations



Diagnosis campaign at selected wells: Hydrochemical and microbiological analyses

Duration 2<sup>nd</sup> Phase: 05/2009 - 04/2012

Project Volume 2<sup>nd</sup> Phase: 1.007.000€

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### Project Partners

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