

INFRASTRUCTURE MANAGEMENT IN SWISS MUNICIPALITIES



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Challenge

Swiss municipalities own about half of the existing public infrastructure in the country (e.g. roads, sewerage systems, electricity and water supplies), worth over 460 billion CHF. They face enormous challenges, not only in operating and maintaining the infrastructure, but also in planning replacements and future investments. Crucial problems are long life cycles of infrastructure components, divided responsibilities, lack of knowledge on the part of decision makers and insufficient information.

Major parts of the entire infrastructure have to be replaced over the next decades, because they were built in the second half of the 20th century and are now nearing the end of their life cycle. This will increase the demand for investment in infrastructure even more.

What municipalities need in order to meet this challenge are suitable processes based on tailored infrastructure management strategies. Typical management instruments support these processes and help to plan, coordinate and make decisions based on key facts and figures.

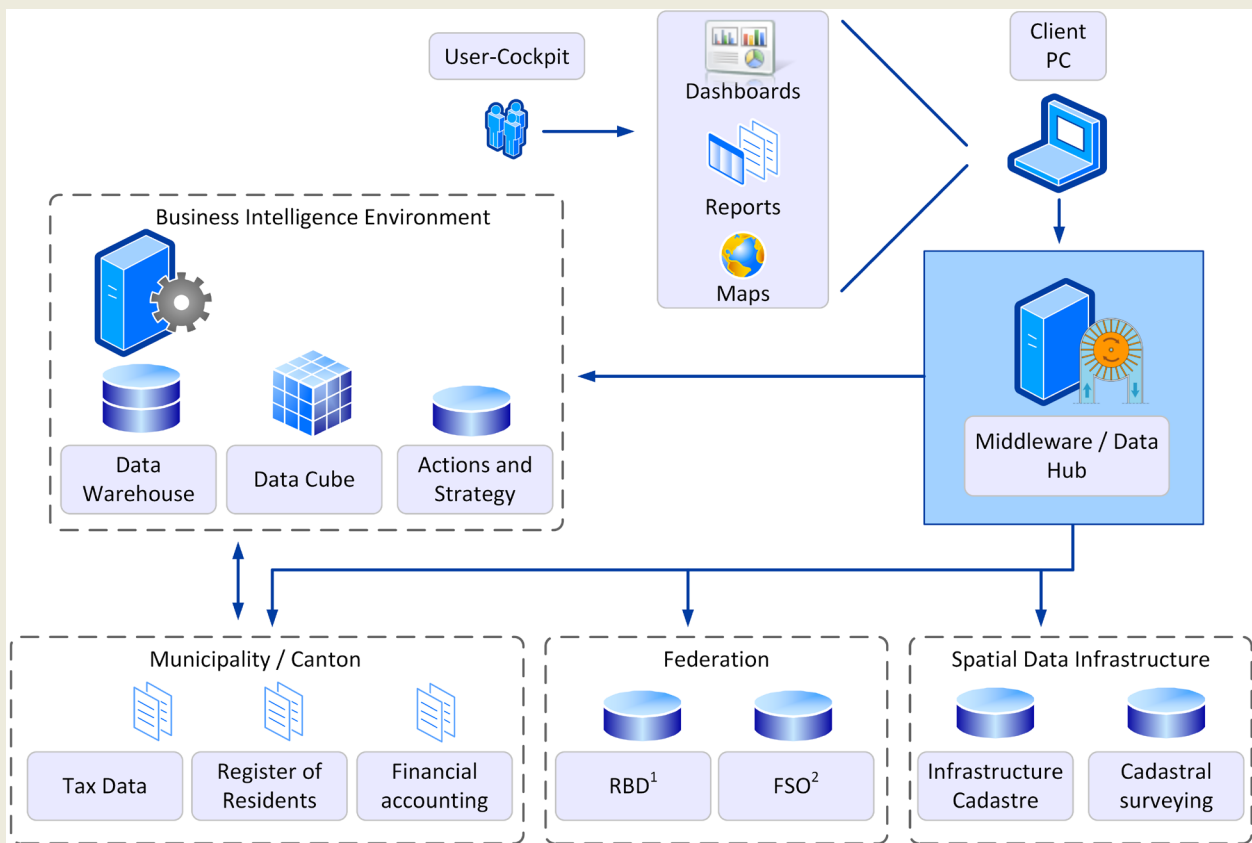
Solution

An interdisciplinary team from the Bern University of Applied Sciences works together with several industry partners, three municipalities (Wohlen bei Bern, Moosseedorf and Bonaduz) and the wastewater management authority Abwasser Uri to develop a specialized instrument that supports the efficient and coordinated management of municipal infrastructure. A service-oriented system architecture (see figure) allows to integrate numerous data sources. The combination of different data sets and the possibility to relate this data to particular geographical locations provides new valuable information. Key features include: planning of long-term infrastructure investment, coordinating the planned actions and visualizing relevant management information for both administrative and executive needs (dashboard).

Apart from the system's technical capabilities, appropriate management processes have to be established. Infrastructure strategies will be defined, in close collaboration with the municipalities, from which specific goals and actions are derived. Such a fact based management instrument aligned to an objective-driven management process, will be able to support long-term sustainable development in municipalities.

Further information:

www.ictm.ti.bfh.ch, www.gemeindecockpit.ch



1 Federal Register of Buildings and Dwellings, 2 Swiss Federal Statistical Office