Water supply Diessbach BE

AQUAbella online and new control technology

The 1000 inhabitant community of Diessbach in the Swiss canton of Berne obtains its drinking water from ESAG in Lyss and operates its own reservoir for the water supply. Because the previous components were obsolete and there were no spare parts left, the community had the control system renewed by STEBATEC in order to increase operational safety.

Figure 1: View after conversion

State-of-the-art technology

The control cabinet as well as all electrotechnical devices such as measurements, the control and the operating components were replaced. STEBATEC's 3-level control concept was used: Operation in standard mode (control level) is via the cloud process control system. On site, operation is carried out via the touch panel (local level). In case of malfunction (manual level), it is operated manually at the control cabinet, which functions via UPS (independent power supply) even in the event of a power failure (incl. UPS-supported extinguishing flap). As a further intervention option, the extinguishing flap can also be operated by means of a handwheel in an emergency.
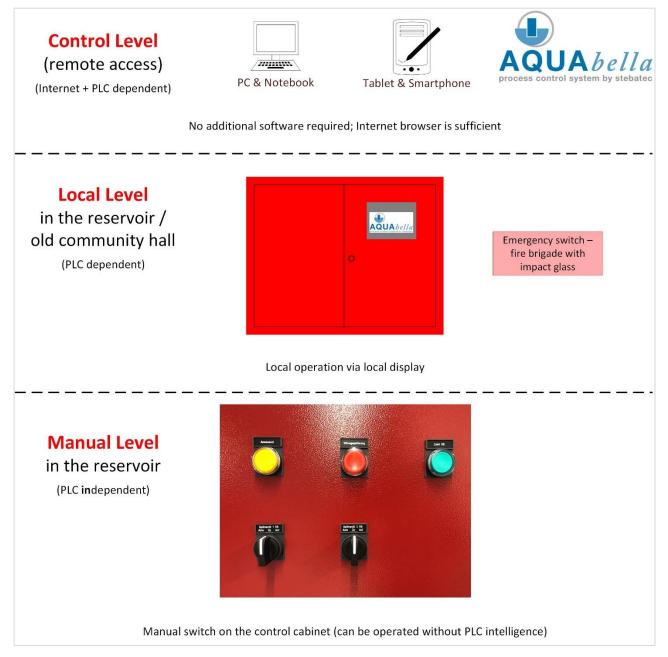

Figure 2: 3-level control concept

Safety and comfort

Running a server infrastructure of its own that is safe from the constantly changing threats from the Internet does not pay off for the Diessbach water supply. Nevertheless, the operating personnel should be able to monitor the function of the system at any time. These are the main reasons why the system is operated online via the AQUAbella cloud control system, which is operated on redundant servers at STEBATEC in Brügg. The control system connects via encrypted data connections VPN to the AQUAbella online server, while the system users log in online via web browser and HTTPS encryption on the user interface of AQUAbella. It offers a wide range of functions such as hydrograph display, parameterization of the control system, creation of reports and much more. In addition, a data interface to ESAG Lyss has been set up, which receives meter readings for billing.
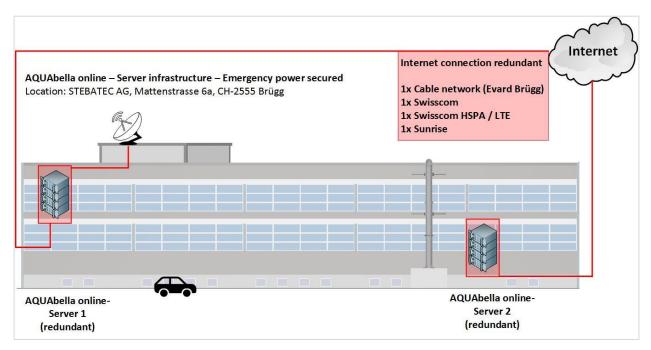

Figure 3: The STEBATEC company building at the headquarters in Brügg with two redundant and spatially separated servers and Internet connections.
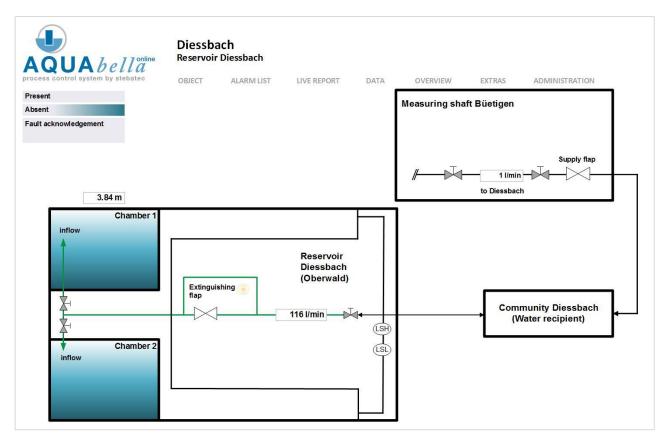
Figure 4: The process picture AQUAbella online, which is accessible via web browser via an encrypted connection in the internet.

One project - one company: From electrical planning to commissioning

A control set in which all components, from the control cabinet, the control software and the electrical installation through to the measuring devices, are replaced in the shortest possible time during operation, requires the coordination of versatile expertise and disciplines. The municipality of Diessbach has therefore decided to tackle this task with the 360° offer from STEBATEC instead of placing various orders with at least five companies and coordinating them. This reduced their coordination effort and the potential for project difficulties to a minimum.

Alarming with STEBalarm

If technical malfunctions occur in the operation of the water supply, the responsible persons must be informed immediately. STEBalarm offers a web interface integrated in AQUAbella for this purpose, in which the users can be created at the beginning with telephone numbers, pagers and e-mail addresses. For the planning of the stand-by service, the web interface allows for the input, to the hour, which persons are available at which times of the day and night in the event of an emergency. The alarms are ultimately set off directly on site or sent by the local control system.

Figure 5: Schematic representation of the functionality of STEBalarm.

Figure 6: The stand-by planning tool in the STEBalarm user interface.