Adelholzener Alpenquellen: Identify perspectives, exploit potential

zenon – a solution for all tasks

With the zenon Product Family, Adelholzener Alpenquellen is able to handle all tasks in production monitoring and supervision, in the management of consumption, in building services and in water supply and disposal. The solution is characterized by flexibility, openness and user-friendliness.

In order to further exploit the potential of the zenon Product Family, Herbert Schrobenhauser, in charge of control and process technology at Adelholzener Alpenquellen GmbH, together with his colleagues, restructured, reconfigured, enhanced and modernized their complete solution. zenon is now used for production data management, consumption data management with the zenon Analyzer, for building services and for visualization and control of the waste-water plant. In

order to create a consistent look & feel for efficient working, the people in charge also harmonized the controls and the user interfaces. "We see COPA-DATA as one of the leading providers of HMI/SCADA systems and have decided to use the software for various reasons. In the first instance, due to the platform independence offered and thus the possibility to use it on various target devices. Furthermore, it is a very intuitive tool that requires no programming. An important advantage is that
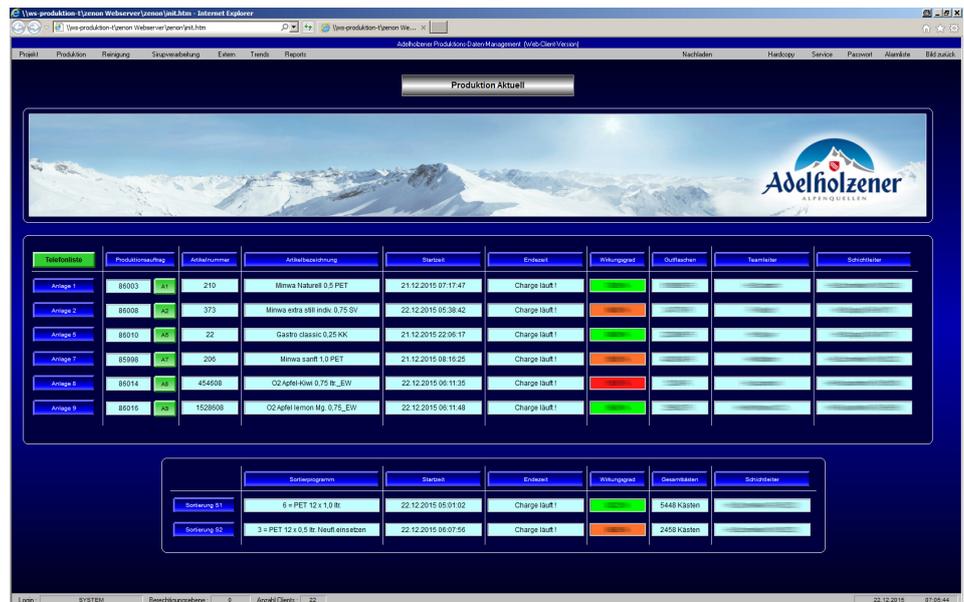
The production data management shows, among other things, the production orders on different lines, the number of "good" bottles and the effectiveness of the plant.

the solution can be utilized in house by different users – from an electrical designer just as with employees from maintenance. This reduces training and administration work considerably", explains Herbert Schrobenhauser. "It was also important for us to work with a provider who can react quickly even when it comes to demanding tasks and who will support us, without bureaucracy, for any questions."

MODERN IT PLATFORM, SIMPLE USER ADMINISTRATION

All applications now run as virtual machines on VMware; this is a total of ten servers with zenon-based applications. These are applications such as a line diagnosis system, the spring server, the waste-water equipment, production and consumption server as well as the burglar alarm for external springs. Adelholzener also uses the zenon web server with 25 clients to be able to portray projects in the intranet or Internet. The user administration of this application is integrated into the Active Directory. The people in charge of production no longer need to take on the task of creating or deleting user credentials. Instead, they only need to inform the IT department of which tasks or which role an employee performs. Employees can thus log in with a single sign-on.

EFFICIENT CONTROL AND OPERATION OF THE FILLING PLANTS

The beverages produced by Adelholzener are produced using a total of six filling plants with a fill capacity of 500 million

bottles per year: two glass reusable bottle plants, two PET reusable bottle plants and two PET single-use bottle plants. Adelholzener fills an average of two million bottles per day. The production data management includes the display of the filling lines, the cleaning systems, the syrup processing and the external connections such as to the mineral water tanks, the gas tanks and steam plants. The zenon-based application collects all data that is generated in these plants and processes and analyzes it to compile relevant information and findings. The people in charge and shift leaders can, for example, view information on cleaning, short-term heating and syrup processing, the start and end times of the production run of a filling line and the number of "good" bottles, but also interruptions to the running of the plant and the down times. Adelholzener uses "zenon Extended Trend" to calculate and display the effectiveness of a plant. The module presents the data in curve form with different scaling – the effectiveness of a plant for a day, week or month, for example. All data from the production data management is stored in a Microsoft SQL database so that higher-level systems can also access the information from production.

CONSISTENT MANAGEMENT OF CONSUMPTION

Adelholzener collects the data from all points of use in the consumption data management. This includes water, electricity, heating, chemicals, gases and compressed air. The application serves, for example, to establish which daily consumption
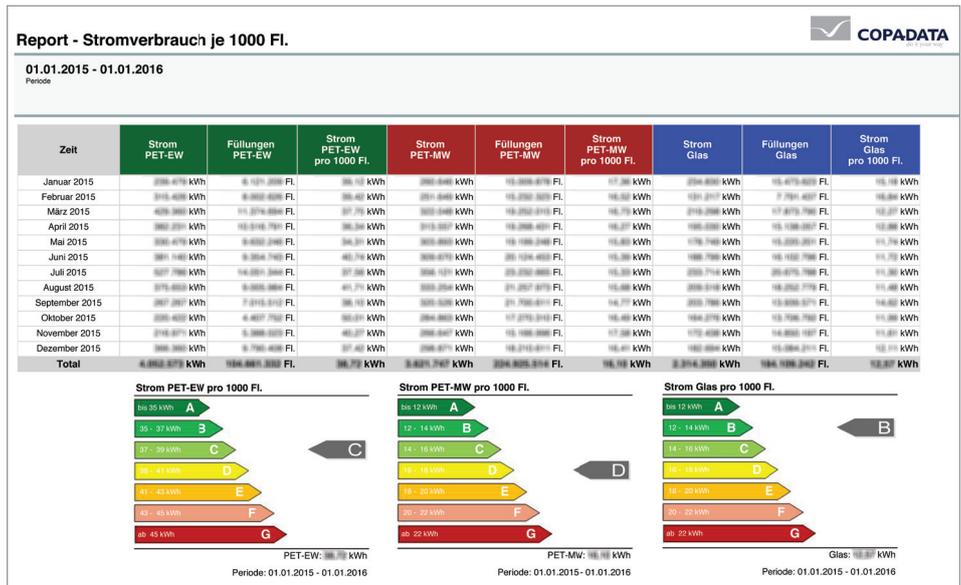
Reporting with the zenon Analyzer: In this report, Adelholzener is showing the power consumption per 1,000 liters of filled bottles during the year. The energy consumption is also divided into energy efficiency classes for PET reusable bottles, PET single-use bottles and glass bottles.

arises for each medium, or rather what amount of consumables are needed in order to produce 1,000 bottles (fillings). The employees in charge can have all current data and key figures shown in the consumption management and can be informed of limits being exceeded or interruptions to production using the alarm management in zenon. All relevant consumption data is logged with a time grid of one minute and can thus be called up at any time by using the trend display. The waste water that is diverted into the waste-water plant is graphically displayed in waste-water statistics. The power consumption, which is measured by approximately 250 metering devices in the company, is recorded in zenon by Adelholzener for each piece of equipment, such as short-term heating, blow-molding machines, filler block. The consumption of gas is evaluated for each day; Adelholzener also visualizes the gas supplies in the tanks. Using the overview for the gas tanks, the purchasing department can check the current status of the gas supply and trigger reorders accordingly. In addition, Adelholzener can have a display of the amount of compressed air consumed in the individual lines for example. The consumption data management saves the absolute values and works with daily consumption figures. Just like production data, all consumption data is saved in a Microsoft SQL database.

COMPREHENSIVE REPORTING

Adelholzener uses zenon Analyzer for consumption management. Adelholzener can integrate all relevant consumption data into comprehensive reporting using the tool

for dynamic production reporting. Herbert Schrobenhauser: "zenon Analyzer provides us with optimum support for monitoring our consumption accurately and for recognizing where there are weak points and in which areas we may be able to reduce consumption. Our management can also get a quick overview of the current consumption situation." Adelholzener currently generates 14 different reports. The most important data that the beverage manufacturer analyzes and graphically provides includes the energy and media consumption for the individual lines (PET single use, PET multiple use, glass): primarily power, but also water (filling water, process water, waste water) and compressed air (operating pressure, sterile air and blowing air). All consumption can be displayed using filter mechanisms showing daily, monthly or annual values. These reports can be generated as a pdf document and automatically sent to pre-defined e-mail addresses.

REFINED BUILDING SERVICES

In addition to the management of production and consumption, Adelholzener also uses zenon for its waste-water system and building services. The company's in-house waste-water plant and its clarification tanks are controlled and monitored in line with municipal rules using zenon. zenon displays the complete factory for the building control. By clicking on the respective factory building, the user gets detailed information on the components included, such as lighting control, window and blind control, shutter door control and smoke and heat extraction systems for fire prevention. In addition, the
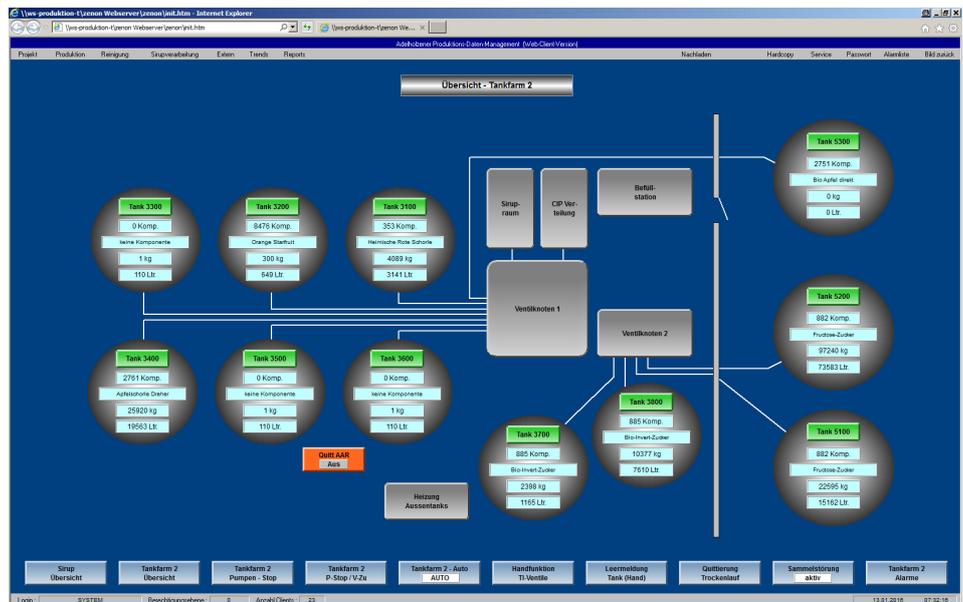
The visualization of the tank storage is part of the production data management and shows, for example, the respective fill levels of the tanks.

beverage manufacturer also monitors the heating, ventilation and air conditioning equipment. In this connection, alarm management is essential, in order to be able to quickly rectify interruptions with the respective equipment, according to the classification of the problem.

CONTINUED OPTIMIZATION OF THE OUTPUT

The aim of Adelholzener Alpenquellen is to operate and maintain production facilities efficiently with zenon, to carry out comprehensive monitoring of the actual output and consumption and at the same time to optimize the utilization of the plant. Herbert Schrobenhauser: "We have achieved this goal with zenon. It is one of our core principles to assure the quality of our products and also to identify further potential for optimization, in order to maintain and strengthen the viability of our company in the future."

Adelholzener Alpenquellen produces medicinal water, mineral water and soft drinks branded as Adelholzener and Active O2. The company employs around 450 employees. The beverage manufacturer primarily uses reusable bottles, with a percentage of approximately 80%. Adelholzener Alpenquellen GmbH always uses the latest technology for the filling lines and is thus in a position to implement its high demands for quality and hygiene during the filling process. Together with the machine suppliers for the filling lines, Adelholzener achieves the requirements for quality and environmental protection in an exemplary manner.