



5★★★★★ Service

How one Swiss luxury hotel is maintained through a pure-web HMI/Scada system and industrial automation software.

The Dolder Grand Hotel has towered above Zurich like a fairytale castle since 1899. It goes without saying that over the years, the five-star superior hotel has been regularly upgraded to the latest state of the art. In 2017, maintenance of the existing building management system became a major problem: The manufacturer was no longer able to service the aging software. The solution to this dilemma was found in HTML5-based HMI/Scada system atvise®, distributed by Tyrolean automation provider Industrial Automation. The future-proof and industry-tested software controls and monitors the luxury hotel's systems, helping to ensure a relaxing stay for its guests. This also saves the hotel operator a lot of energy and trouble. By Helmut Zauner

The Dolder Grand Hotel is somewhat reminiscent of the Disneyland fairytale castle. Interestingly, Walt Disney was once a guest at the Dolder – as were many other celebrities, a number of whom became regular guests. For example, Michael Jackson, Albert Einstein, Rihanna, and the Rolling Stones, to name just a few: The furnishings of Suite 100 are even dedicated to the latter. The hotel is also very popular with international guests. To ensure that the feel-good factor is maintained in all 175 rooms – including 15 single and 100 double rooms, 48 junior suites, 7 suites, 4 top suites and a residence – the building requires reliable, modern control technology. The manufacturer of the previous building control system was just beginning to develop an up-to-date HTML5-based control system when problems with the old product became widespread, prompting the hotel's technical managers to take action. An HTML5-based control system is based on pure-web technology – a concept that has allowed atvise® software to be successfully implemented as a visualization and Scada product in various industrial sectors over many years. This was the argument from Roland Demont, owner of Demont Engineering, whose team has long provided maintenance of control technology at the luxury five-star hotel, when asked for an alternative approach to the hotel's control system.

Energy data management system as a door-opener

At his suggestion, operators looked into visualization and Scada software atvise®, produced by Austrian manufacturer Bachmann Visutec and supplied by Tyrolean automation provider Industrial Automation. The company was initially skeptical about how secure and reliable the software would be, as it was developed using pure-web technology. After all, there was no reference project from any other hotel at the time. Other solutions were also considered. Finally, the decision was made in favor of atvise® – partly due to the successful implementation of certified energy data management system Acron, also from Austrian provider Industrial Automation, six months earlier. With this software, energy consumption in the



Guests use a tablet to set the temperature in rooms and suites, among other things.

hotel was reduced by 45 % within a very short space of time. Since then, a number of operations have been, and continue to be, converted and integrated into the system to further reduce energy costs. A significant side effect soon became apparent – thanks to Acron, maintenance costs were significantly reduced. Detailed operating data can be recorded and monitored over long periods, and a wide range of graphical display options enables the prompt detection of deviations, with faults quickly rectified. The high-performance and manufacturer-independent Historian tool also features an authenticated reporting system, making up-to-date sustainability certificates available at the touch of a button. Incidentally, the Acron system at the Dolder Grand Hotel is currently the largest in Switzerland, with well over 10,000 process variables in building service engineering.

Conversion during operation

Conversion of live operations controllers and communication with over 320 older Beckhoff controllers posed a great challenge. These controlled all primary systems such as ventilation, refrigeration, sanitary and heating systems, as well as room technology. The controllers, particularly for the latter, were not designed to meet the required performance – such as OPC UA communication. But a smart solution was again identified: The room controllers were simply equipped with a slim atvise web server. This allows guests to conveniently adjust parameters, such as room temperature, to their individual needs using atvise®. Room control is still via app at present, but as soon as telephone services, audio and video have also been integrated into atvise, everything will be operable via a browser.

Software products used at the Dolder

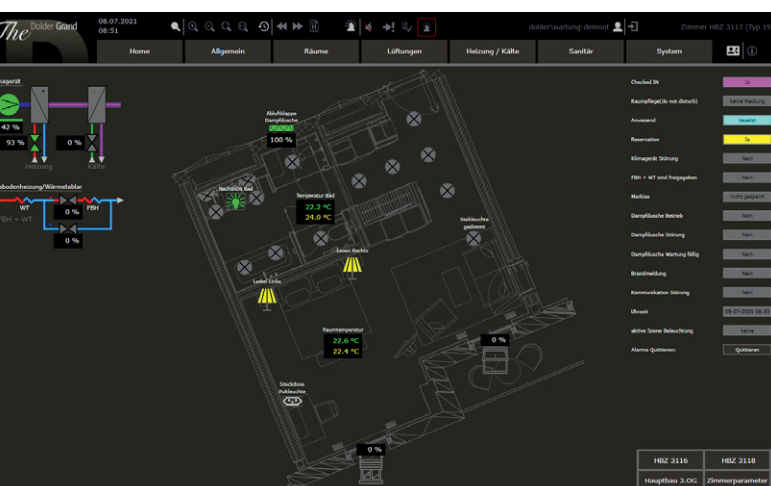
- **atvise®** is the first platform- and manufacturer-independent HMI/Scada system in pure web technology with available hot standby redundancy. Using native web technology, data and visualizations

The five-star superior Dolder Grand Hotel offers pure luxury.





- ▶ Roland Demant, Managing Director of Demant Engineering, and his team maintain automation at the Dolder Grand Hotel. The Swiss company, based in Rüti, has been involved in industrial automation for over ten years and has been working with the Tyrolean automation supplier Industrial Automation for the same period.



- ▶ The atvise® scada system processes over 1.1 million data points in the hotel.

are available at any location via any standard browser. atvise® has been consistently implemented based on OPC UA, which defines standardized, vertical, object-oriented working, and much more.

- **atvise® hmi** provides a fully-functional web HMI as a standard product. With many available process interfaces, a convenient engineering tool and unlimited freedom in user interface design, it contributes to shorter development cycles and cost reduction.
- **atvise® scada** is a Scada solution based on OPC UA, which breaks down the rigid automation pyramid and the associated technical constraints. Scalability and flexibility are the focus of a Scada system that adapts to the required overall architecture, not vice versa.

- Implemented as a scalable and OPC UA-capable multiprotocol server, **atvise® connect** extends the communication interfaces of atvise® hmi and atvise® scada. With this driver solution, a large number of industrial controllers can be connected ensuring the best performance in industrial data acquisition.
- With the **Acron Historian** tool, comprehensive data and information from all plants is consolidated efficiently, forming the basis for well-founded evaluation and analysis processes. The comprehensive range of functions makes it possible to analyze and optimize plants and operational processes precisely, reliably and accurately. In addition, Acron allows all authenticated evaluations and reports to be produced.

OPC UA - the basis of communication

At the Dolder Grand Hotel, atvise® now processes 1.1 million data points. A total of four server systems were installed: One main server and one independent server per building. Communication to hotel operations, as well as to the external alarm system of a Swiss manufacturer, is via the future-proof OPC UA interface. For the alarm system in particular, this offers the advantage that all alarms have been parameterized in atvise® with all required information and text, and then delivered ready-made to the alarm system, reducing duplicate entries.

One system for all operations

It is often the case that appetite comes with eating. And so it was for engineers at the hotel. More and more hotel operations are now being implemented with atvise®. Even the concierge uses the web-based system to monitor all exterior doors. If a guest forgets to close a window or turn off the air conditioning when leaving the room, the concierge can do this from their workstation with the click of a mouse. This in turn saves a great deal of energy. The entire spa area – which comprises 14 swimming pools – is also soon to be integrated.

About the author:

Helmut Zauner is a freelance trade journalist and owner of the PR agency HZ.Comm. He researched this article on behalf of Industrial Automation.

Fotos: Dolder Grant Hotel, H. Zauner



FIND OUT MORE:

www.atvise.com



CONTACT

Florian Blümel
Teamleader Sales
Bachmann Visutec GmbH

info@bachmann.info