

WEBfactory® Success Story

Zentrum Zukunft



Design meets Automation:

Visualisation system for the future centre

It is a question as old as humanity: What will the future bring? In many sectors trends and new technological developments can help estimate e.g. how a market will develop in the future. Experts agree that the sector of building automation will experience a boom in the future years. Energy efficient living and higher comfort are increasingly demanded today as well as age and disability adequate living or health monitoring. A question asked by many in this context: How will communication, building automation and energy supply look in the future? The largest energy provider for the north-western part of Germany, EWE, has installed in its "Future Centre" different technologies, among others, for the decentralised energy supply and invites interested persons to visits and trainings on site.

The whole building consists of an energy plant, training rooms and a three story residential area. The latter was executed as a building-in – a building, in the form of a residential cube. Over three levels this residential cube includes a kitchen, a bedroom and a living room. Thanks to the well thought-out architecture individual equipments for energy generation can simply be operated in turns and innovative new developments can be retrofitted with very little effort. The residential cube is not inhabited and serves as an exhibitional area.

Here and in the modern training rooms market partners, schools, universities, manufacturers, architecture and design agencies as well as communities and associations can learn about energy efficiency and new media in the buildings, within the organised training sessions.



Decentralised energy supply in comparison

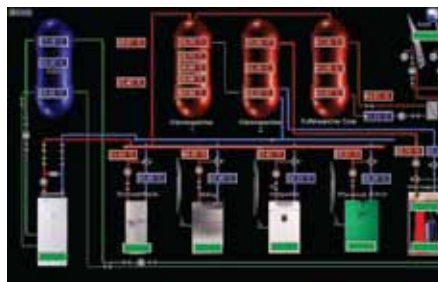
EWE is convinced, that future energy will come more and more from decentralised units. For this reason various decentralised solutions were integrated into the future centre. A solar plant for example, supplies the air conditioning with the required energy. Fuel cells, generating both electric current and heat, are also present in the building as well as a wood-pellet heating system or a vegetable-oil operated modular heating plant with an integrated Stirling engine.

The energy provider however does not only aim at integrating the individual types of energy supply, but also to present their conduct in real operation. To this end a flexible building management technology was required, to control and visualise the functionality and means of operation of the individual supply units. The automation technology experts of SIPATEC Prozessautomationstechnik GmbH were put in charge of building automation. In their turn, these experts decided to use the WEBfactory 2006 process visualisation software developed by WEBfactory GmbH Buchen for the control and visualisation of individual systems.

Openness due to the OPC interface

The aim was to be able to control and display all energy, heating and cooling devices centrally at one point and at the same time to be able to visualise the processes in a decentralised manner, from various locations in the house. The process guiding system implemented is ideal to this end. Heinz Schildgen, manager of SIPATEC GmbH names further reasons for the decision to use this system. „The following applies for this application and for the moment also for building automation: For the integration of a complex control technology the interconnection of external systems is always a special challenge.

However, using WEBfactory thanks to the OPC interface, this is easily done. In the complete application we had to integrate six external systems into the process control system. A sample: The training manager can use his touch panel to control which images are visualised on the respective displays via an individual energy supply unit or to be displayed on the large central display. Using an OPC software, communication presented no problems.“ At the same time the current and historical operating values of the individual systems must be represented clearly, without complications.



On the one hand, in this way individual technologies can be better compared. On the other hand these results should be clearly displayed during trainings without considerable additional effort. The trend and analyses functions integrated into the software are perfectly adequate for process and profitability analyses. These functions allow for current data to be displayed clearly and for historical data to be checked for various intervals of time.

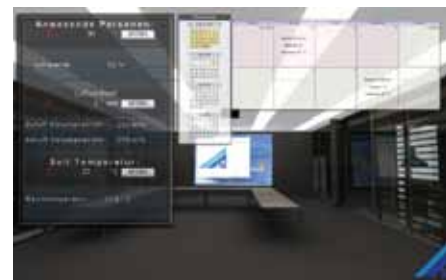
Visualisation and control

Along with the functioning technology a comprehensive operating design is extremely important to the automation experts of SIPATEC GmbH. „In industrial applications we are already used to unclear and non-designed user interfaces“ Schildgen states. „It is our aim to change this approach. This is also the reason why we wrote the motto „Design meets Automation“ on our banners.

Especially in the area of building automation the user requires comprehensive usage concepts, and a good design is included in such a concept. WEBfactory is ideal also in this case, as it was especially developed for the internet.“ Due to the web based system architecture and the consequent usage of standards in communication, data archiving and visualisation it is guaranteed that the developed applications can be used on the intranet and internet directly, without any additional adjustments. This also means that the integration of flash animations is no problem.



Because the developers of WEBfactory are aware of the benefit of the possibility for a good design, they already work on the integration of Silverlight into their software. In the Future Centre flash animations are currently still used for visualisation. The user sees the complete building, clicks on it and is “zoomed” inside. In this view the user can intuitively select the area he wants to control or display per mouse click.



Naturally, the process control system is not only used for visualisation. The web based system also takes over the control of individual systems. They can be called up individually using the browser. On the other hand, for individual system components, systems or even for all energy supply systems profiles can be generated and called up in case of need. Depending on the occupancy of the building the training room respectively the exposition area is heated or cooled accordingly. WEBfactory Add-Ons such as „SchedulerPro“ are perfectly adequate for this function. Building automation will be in more and more demand in the future. In the Future Centre you can already take a peak at what expects you in the next few years. The openness and the modern design of the building automation solution have a relevant contribution.