

hte – user-friendly visualization in research and development

Create innovation with zenon

As a provider of technology solutions for more efficient research and development, hte works together with numerous well-known companies from the chemical, petrochemical and mineral oil industries. The high-throughput equipment developed in-house tests and optimizes catalytic converters. To visualize the research and development processes, the company from Heidelberg now uses zenon from COPA-DATA.

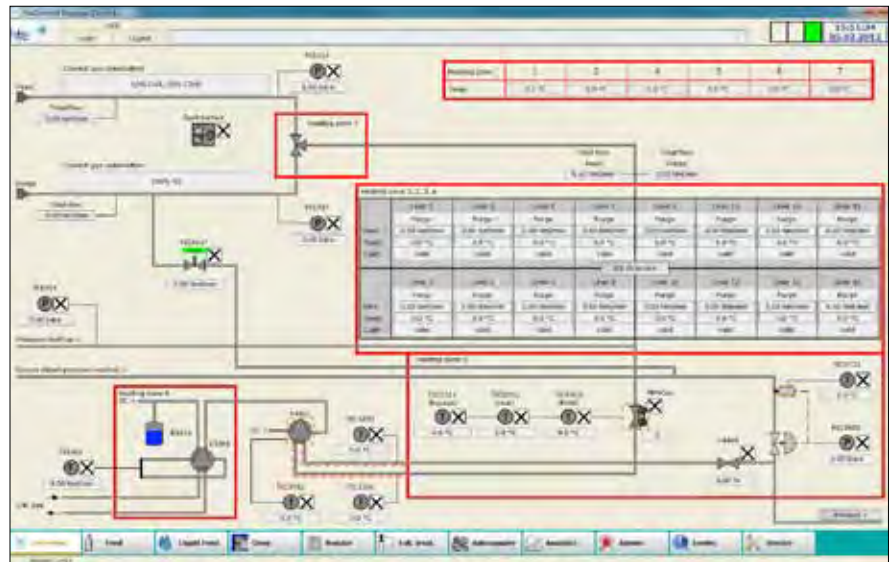


hte Aktiengesellschaft is a leading provider of high-throughput technologies and research and development services. As a technology provider, the company constructs and implements high-throughput systems and software solutions for research laboratories around the world. Furthermore, as a service provider, hte develops and optimizes new materials and processes for customers in its own laboratories. hte now operates over 40 different

reactor systems – from catalytic converter screening equipment through to test equipment for process optimization. The company, founded in 1999, is part of the BASF Group and works together with customers from the chemical, energy, refinery and environmental industries. Well-known customers of hte are BASF, Shell, the Sinopec Group and BP.

VISUALIZATION OF THE RESEARCH AND DEVELOPMENT PROCESSES

In order to offer their customers and the company's own employees in the research and development laboratories a modern,



hte has, with zenon, created a visually appealing and easy-to-understand user interface for users in research and development.

user-friendly interface for the equipment and a clear overview of the visualization of the processes, hte looked for HMI/SCADA software. Dr. Ringo Födisch, Director of Software Development at hte Aktiengesellschaft, evaluated different market-leading solutions with his colleagues and decided, after intensive analysis, on zenon from COPA-DATA. “The selection criteria for the suitable solution were, amongst other things, a high degree of flexibility and the ability to adapt to our requirements and a small amount of configuration and implementation work to achieve the desired visualization. zenon solves all of this very elegantly. The software makes it very easy to design an intuitive user interface from the underlying process system” explains Dr. Ringo Födisch. It was also important that the solution for the operation and monitoring of the machines fits into the IT system of the company and has a very streamlined design. The PLCs of the machines provide the necessary process data to both zenon and hte’s own in-house solution for the recording and evaluation of data during the research and development processes. Dr. Ringo Födisch comments: “There are HMI/SCADA solutions on the market that are far too complex for the operation and monitoring of individual machines and are also much too expensive. And there are also solutions on the market that are not compatible with the controllers or components that are established

in the market. With zenon, we have found a solution that is streamlined, cost-effective and open. The software masters all desired disciplines.”

CHECK, ADAPT, REGULATE

Now the researchers and employees in the laboratories can work interactively and efficiently with the visualization solution based on zenon. “The application we used before was an in-house development and only permitted machine operation by means of the command line interface – this is no longer state-of-the-art. With zenon, we have designed an application that is intuitive and easy to use,” explains Dr. Ringo Födisch. Users can, for example, click on different sections in an overview screen, switch to the detail views of the machines this way, gain an overview of the individual processes and attendant information and monitor and set system parameters. With the solution based on zenon it is, for example, possible to check and adapt temperatures and pressures. Furthermore, users can easily make process changes to the flow rules and, for example, open or close valves. In addition, there is the possibility to have analytical data, such as oxygen values, displayed.



Modern laboratories, machines and software applications guarantee optimum, industrially-relevant conditions and meaningful results for tests in the high-throughput area.

HIGH DEGREE OF ACCEPTANCE FROM CUSTOMERS AND EMPLOYEES

hte has now supplied its customers around 15 items of equipment with the zenon-based application. Also, the solution is already used on around 40 items of equipment in its own research and development laboratories. The judgment from end customers and employees in the company's own facilities is consistently positive. Dr. Ringo Födisch: "The expectations are very high nowadays, customers expect an intuitive user interface that provides a comprehensive overview of the current situation. With zenon, we are able to satisfy these demands. The application is accepted very well by our customers and also in our own research laboratories."

HTE STANDS FOR HIGH THROUGHPUT EXPERIMENTATION

High throughput experimentation works on the fundamental principle of parallelization, i.e. carrying out experiments at the same time. This makes it possible to carry out research and development more cost-effectively. As a result of parallelization, the experimental throughput can be increased without increasing staff costs or development times. In summary, the time period for the market entry of new products can be reduced considerably. In addition, the materials and feed quantities can be reduced through testing on a small scale, which leads to a considerable reduction in the costs per experiment. The automation of high-throughput workflows increases the reproducibility of the experiments. Parallelization ensures that all catalytic converters are tested under the same experimental conditions. In addition to a reduction of the cost per experiment, the use of high-throughput materials allows the testing of more test parameters in a shorter time. Test programs that would last several months with conventional methods can now be completed within a few weeks.