Walter Wettstein AG Kältetechnik

Traditional company is digitizing its pipeline design to further strengthen innovative power

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Products
Smap3D Plant Design

Walter Wettstein AG (WWAG) in Switzerland designs, builds and maintains industrial refrigeration plants and heat pumps for customers in the food, chemical and pharmaceutical industries, in the process technology as well as for sports facilities. The owner-managed, long-established company has been active in plant engineering since 1953 and has continuously expanded its portfolio: starting with cold storage and deep-freeze rooms as well as medium-sized refrigeration plants in the 1950s, through to large refrigeration plants and screw compressors in the 1970s to large ammonia (NH3) heat pumps for production plants, local heating systems and artificial ice rinks in the 1990s. Today, the focus is on resource conservation and maximum economic efficiency in plant design.

Consistency through integrated software solutions: Smap3D Plant Design, SOLIDWORKS CAD and PDM

Accordingly, the design software also had to cope with the increasing requirements in plant and pipeline design. The CAD solution, previously used for building technology, could no longer meet these requirements, says

Dominic Schnyder, Head of Design at Walter Wettstein. „We finally reached the limits of what was feasible for developing our own designs. This issue, as well as the desire for digitization, led us to look around for new software."

When exploring the market, WWAG finally decided on Smap3D Plant Design, the integrated solution for pipeline design, in conjunction with the SOLIDWORKS CAD system and the associated SOLIDWORKS PDM Professional for workflow-based operation. Already during the first discussions it turned out that the Smap3D solution is perfectly designed for the requirements of the refrigeration expert.

„During the consultation it became clear that the integration of product data into the CAD process was particularly important to the customer," reported Tim Frie, Sales Manager Europe at Smap3D Plant Design. „Our combined solution of P&ID, Piping and Isometric was able to implement this through its direct integration with SOLIDWORKS CAD and PDM, thus ensuring a continuous overall process in pipeline design."

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Head of Design
Walter Wettstein AG

Time saving through automation and pipe specs

First of all, the 2D flow diagrams of the resource-saving refrigeration and heating systems are created in the P&ID. During this process, all products can be pulled directly from the database into the P&ID diagram. In addition, all product information on various lists are updated automatically, which saves an enormous amount of time. In P&ID, predefined modules (subdrawings) – for example containers, pumps and piping systems - can also be stored in a catalog and used again and again. „With our P&ID subdrawings and the numerous automation functions in Smap3D P&ID, large schematics can be created quickly. As a result, we can automatically

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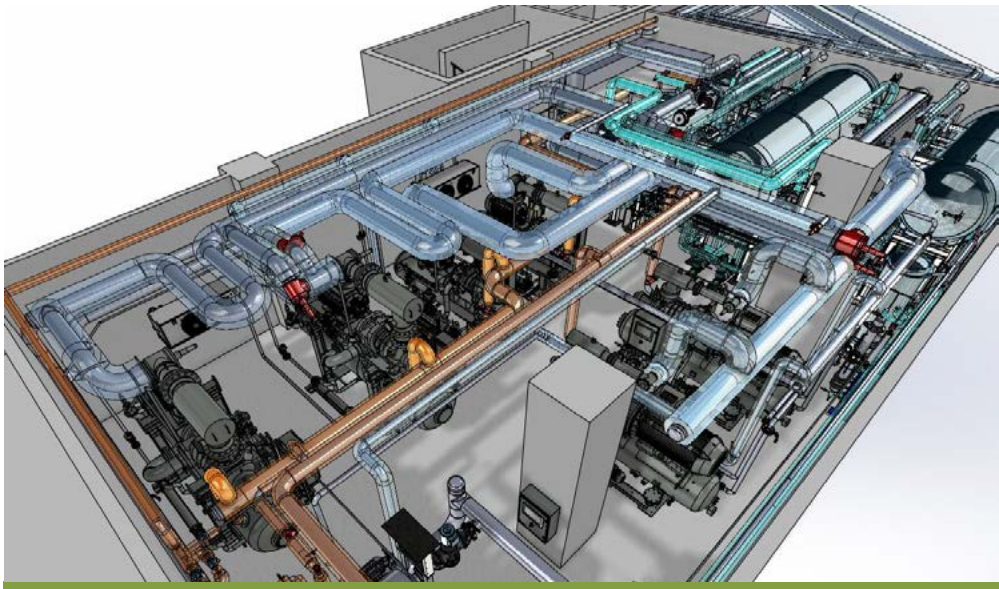
Tim Frie
Sales Director Europa
Smap3D Plant Design GmbH

generate the much-needed lists, such as electrical lists, early in the project phase. No comparison to the previous manual method - that was extremely time-consuming and error-prone,“ says Schnyder. The data is then transferred to Smap3D Piping, which performs the automated 3D piping design of the refrigeration plants.
The basis for this is formed by individually predefined pipe specs, which, in addition to the interaction of Smap3D P&ID and the direct integration of Smap3D Piping with SOLIDWORKS, were a further reason for choosing this solution. Pipe specs are specification tables in which the relationship of piping components (fittings, valves, etc.) to piping characteristics (diameter, pressure, temperature, medium, etc.) are defined once for each company, department or project. The software contains further additional and individual functions and settings for the respective pipe spec, which ensure an automated design process and guarantee process reliability.

End-to-end processes from design to fabrication

„By creating our own pipe specifications in accordance with the necessary requirements, such as the PED (Pressure Equipment Directive), we were able to significantly increase our level of automation and process reliability,“ said Schnyder. The pipe specs are stored centrally in the system, which not only facilitates the maintenance and management of the pipe specs, but also prevents individual errors by the respective user when generating the pipelines. „Ultimately, fabrication also benefits from this,“ affirmed Tim Frie. „Thanks to the consistency of the solution, the design data is passed through from the first step of process engineering to 3D piping and finally to pipe fabrication.“ Dominic Schnyder can only agree: „Thanks to Smap3D Isometric, we are able to create a complete piping isometry, including all parts and welding seam lists, with just a few clicks to hand it over to our fabrication department.“



From the first discussions to the successful use of the integrated software, the Swiss cooling technology company could always rely on a strong partner with its project support. Smap3D Plant Design's competent consultants and trainers stand out due to their many years of expertise in plant engineering and pass on their in-depth knowledge to the customer. In addition to the introduction and implementation of the solution, Smap3D Plant Design conducted training courses and workshops to familiarize the designers with the functions of the software and to demonstrate how to use it optimally in everyday work. „Of course, we are still available to Walter Wettstein now with support and maintenance services during ongoing operation, so that the company can continue to exploit the maximum potential of the Smap3D Plant Design solution," reports Tim Frie.

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The future is efficient and eco-friendly

Walter Wettstein is increasingly implementing its refrigeration systems with natural refrigerants such as ammonia (NH3) and carbon dioxide (CO2) and is paying great attention to minimize energy and water consumption. Explosive propane or synthetic refrigerants, which still contribute to the greenhouse effect, are being used less and less. With Smap3D Plant Design and SOLIDWORKS software, Walter Wettstein has found a holistic, powerful solution to drive this environmentally conscious approach to plant design, to constantly evolve and to continue creating detailed in-house designs in the future – for the sake of the environment.