



TGM Kanis Turbinen GmbH

Short project timelines and constant stability in the power grid thanks to HiCAD and HELiOS

TGM Kanis Turbinen GmbH has made a name for itself as a planner, developer and manufacturer of complete steam turbine sets for the energy sector in Europe since 2006. Meanwhile the Nuremberg-based company has sold 100 steam turbines since its foundation – thanks to its 80 employees and the utilization of innovative CAD and PDM software systems. “The fact that the turbo set of the “Stadtwerke Hürth” was running stable in the power grid after a total project timeline of only 10 months was a great success in our company history, since project timelines are normally about one and a half years”, proudly reports Stefan Hengl. The highly complex and sophisticated turbine unit with an axial exhaust steam system, controlled extraction and

bleeds as well as an enormous scope of delivery including the turbine, generator, transmission, oil system, condenser, evacuation system, main condensate system, low-voltage switchgears and complete control system was designed with the CAD system HiCAD. The management of the extensive design data took place in the PDM system HELiOS – both are software solutions of the Dortmund-based ISD Group.



REFERENCE REPORT



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Stefan Hengl, Process Engineer at TGM Kanis Turbinen GmbH

“Given the complexity of this turbo set with a performance of more than 20 Megawatt, such a short period between placement of order and realisation is an amazing achievement”, emphasizes the Project Leader at the Bavarian turbine manufacturer. “We do not make ‘off the shelf’ products, but custom-made individual machines. In the process, HiCAD supports our three pipeline planners from start to finish.”

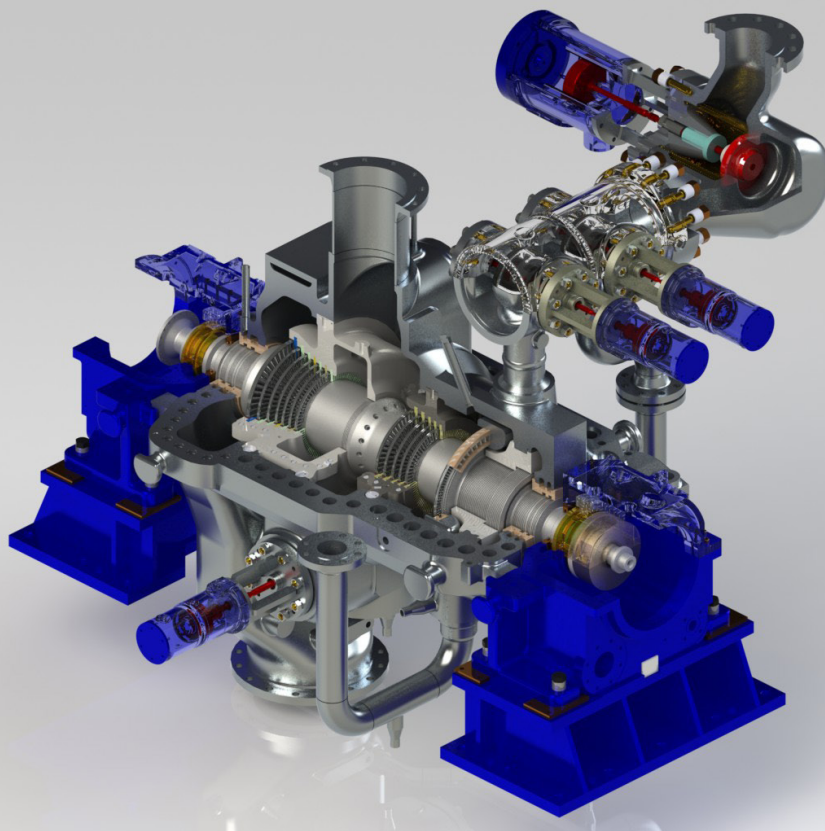
Customer proximity due to office in Nuremberg and hotline

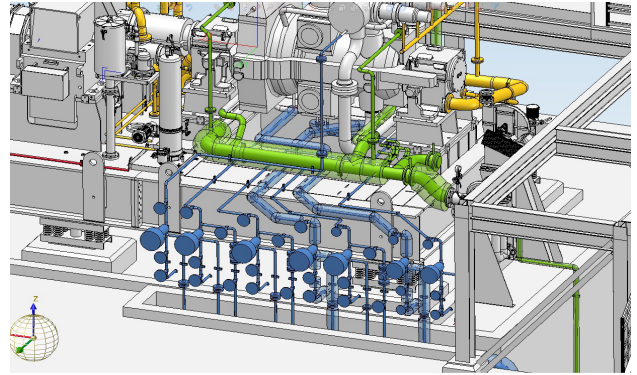
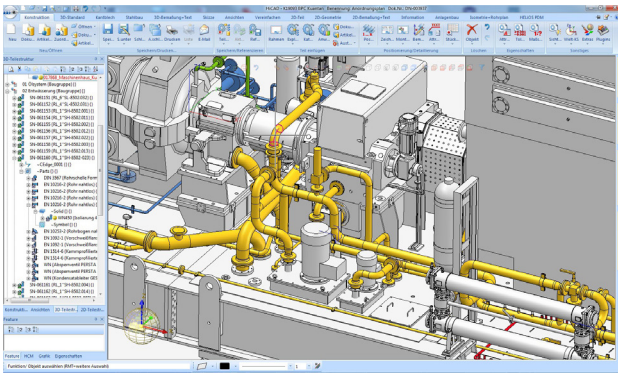
“We have been working with the ISD since 2010“, explains Stefan Hengl. “We were looking for a suitable pipeline planning tool. We were thinking of implementing the CAD

software PDMS, but the training effort that would have been required was too great and simply not in proportion to the pipeline planning work done at our company. We also took a look at Autocad, before we finally decided to buy HiCAD – not least because of the nearby subsidiary of the ISD in Nuremberg that provides us with updates on a regular basis, and the easily reachable hotline.”

HiCAD supports with multi-industry capability and 3-D design

The TGM Kanis GmbH uses HiCAD for 3-D layout and pipeline planning complete with isometries, while SOLIDWORKS is being used for arrangement planning, and Cadisson for the P&IDs. “Data exchange with these sys-





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tems is very important and takes place via STEP files. And one single software system enabling us to cover all areas greatly supports us in our striving for expansion and standardization”, explains Stefan Hengl, and says that TGM Kanis is currently examining the possibility to use the existing HiCAD-HELiOS interface a single, all-in-one solution in the future. “What we like about HiCAD is the layout and the automated 3-D functionality. For example, 3-D provides you with more detailed and insightful frontal cut-out views of pipes, and thus allows a better and safer planning than 2-D. The dynamic modelling technique is also a big plus, since in the most cases only individual components of a plant need to be parameterized. This requires less time than a fully parameterized construction of a plant“, explains Hengl. And since no pipelines exist without steel engineering constructions, HiCAD’s multi-industry capability is a major advantage here: “You can conveniently switch from steel profiles required for holding devices to pipeline planning. No circuitous import of models via interfaces is required, which helps us save time and avoid errors “, sums up Stefan Hengl.

HELiOS safely manages all required parts and pipe classes

HiCAD Plant Engineering is the ultimate CAD tool for planners and builders of plants – with modules for all conceivable tasks. Given the complexity of industrial plants, it is clear that a multitude of data are involved with cannot possibly be handled manually.

According to Stefan Hengl, the TGM Kanis GmbH has to deal with 40.000 pipe parts and 29 pipe classes while realizing up to 12 projects per year. In 2015 the PDM system HELiOS was implemented as a “trouble shooter”. A practical example illustrates the perfect interaction between HiCAD and HELiOS: “While drawing guidelines for pipes with HiCAD, you can always keep an eye on the pipe class defined in HELiOS, where the correct wall thickness for certain media is specified, and can automatically place the pipe parts on these guidelines. The simultaneous access to such information during referenced designing guarantees a high degree of planning security.” Workflows are currently not in use at the TGM Kanis GmbH, but will be implemented soon - compli



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ance with the ISO 9000 standard is just one reason for this.

HiCAD/HELiOS/ISD: A perfect package

In total, the ISD provides a perfectly tuned comprehensive package that enabled the TGM Kanis GmbH to shorten their project timelines significantly: "During the realization of our multi-million euro projects we have witnessed a significant increase in productivity. The training courses of the ISD and the experience of new staff members in the field of 3-D CAD help to ensure a fast and easy handling with HiCAD", says a visibly pleased Stefan Hengl.

Indeed, perfect requirements for HiCAD to become the all-in-one solution for the speedy Bavarian turbine manufacturer in the future...

In brief:

- › TGM Kanis Turbinen GmbH
- › Industry: Plant construction, steel engineering, pipework construction
- › Software: HiCAD, HELiOS, SolidWorks, Cadisson
- › Services: Planning; development, production and testing of stream turbine sets with a performance from 300 kW to 100 MW, and delivery to customers/users
- › www.tgmkanis.com



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