Success Story

Paul Gisler AG

Setting new standards in steel and metal engineering thanks to BIM-compliant 3-D CAD data

Long service life, low weight and versatility in terms of surface quality are excellent arguments for facade solutions made of aluminium. The Paul Gisler AG, which was founded in 1975 as a tinsmith's shop, is dedicated to this task - in the truest sense of the word - comprehensively: In addition to tinsmith's work, metal facades and various other metal productions, services such as roof inspections, flat roof work, installations of lightning protection and photovoltaic systems as well as energy consulting are part of the repertoire of the Swiss company.

Sheet metal - the rolling mill product made of metal - plays a central role for the Paul Gisler AG: "One house of the project presented here may consist of 180 different sheet metal cassettes. In addition, there are window frames, lintels, cornices, joists and other sheet metal parts. An enormous variety of parts, with similar but not identical components, all of which have to be

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REFERENCE REPORT

designed and installed quickly and efficiently", explains Adrian Wiss, CAD engineer at Paul Gisler AG. "A CAD system that speeds up this process from planning to manufacturing with numerous automatisms, functions and interfaces to other CAD systems, is indispensable for us". Since March 2018, the company in the picturesque town of Cham has been working with the CAD solution HiCAD by the Dortmund-based ISD Group. The HiCAD modules 'Sheet Metal suite premium' and 'Element Installation' have proven to be the perfect tools for using intelligent grid functions to clad facades with sheets, produce individual cladding sheets and their sub-structures with the help of general sheet metal processing functions, or semi-finished products such as gutter collection boxes in various dimensions. Both companies got to know each other at the Swissbau 2018. With numerous branches in Germany, Austria, Switzerland and The Netherlands, the ISD Group also presents itself as an internationally active, customer-oriented IT service provider.

Manage large part varieties with the HiCAD Constraint Manager

"With the HiCAD Constraint Manager (HCM) we can save a lot of time when developing our very many sheet metal part variants, which in turn contain various variables. With the HCM we can easily change the dimensions of the parts and their position in relation to each other, while adhering to the basic geometries", explains Adrian Wiss on the topic of parametric designing with HiCAD. "If you change one variable, the entire model adapts to the new constraints." Furthermore, he appreciates the flexible, free modelling offered by HiCAD, which even allows subsequent parameterisation. "Particularly in the area of targeted modification and detailing, there are sufficient possibilities within sketching to make changes. Since every processing step in which relationships between parts can be changed or removed is logged, we always have an overview of the entire design context. This has massively simplified the great effort involved in the classification of the profiled tubes for the Burgmatt object, since each of the facade segments has an individual grid, which has to be adapted to the overall width and to any integrated elements such as water pipes, sockets or lightning protection boxes."

Opening up of new markets with combined 2-D/3-D CAD and BIM

Before the use of HiCAD, the world in the factory hall of the Paul Gisler AG looked quite different: "It was common in our sheet metal industry to work with hand-drawn sketches, but the traditional production of aluminium sheet metal parts will become increasingly less important", points out Adrian Wiss. "With HiCAD we can automatically create workshop drawings and save various pre-settings to obtain drawings with different layouts. In addition, the BOMs, also generated at the push of a button, provide information on the respective properties of the sheet metal parts. This facilitates the creation of delivery notes, especially in the area of external services such as surface treatment, as the corresponding key

"The introduction of HiCAD went smoothly: Training courses were tailored to the respective industries and requirements and enabled us to realize our first projects."

Peter Gisler, Owner of the Paul Gisler AG, Cham, Switzerland

Image: © Paul Gisler AG, House cladded with sheet metal cassettes

data such as total surface area and weight of the parts to be processed can be output in a filtered manner." In order to remain competitive in the future, the CAD engineer considers BIM-compliant 3-D data indispensable, especially in the area of sub-structures. As an illustrative example, he cites the superstructure of the Burgmattstraße: "Normally, we receive 2-D drawings in DXF or DWG format from the architect. These are integrated into the HiCAD model drawings and made available in 3-D by means of conversion techniques. This enables a precise modelling according to specifications. In the future, architects will increasingly provide 3-D data directly, which will be imported to HiCAD via IFC interface. This means that a three-dimensional environment will be immediately available."

Efficient from 3-D CAD to NC machining

Design automation, too, plays a major role at the Paul Gisler AG. The company invested not only in 3-D CAD software, but also in a fibre laser: "It was clear to us that we not only wanted to purchase 3-D CAD software, but also quickly use the data generated from it for production. So we also bought a fibre laser with which we can cut copper and brass. We want to take the step towards industrialization, which means that objects are planned in advance on CAD and the data are then processed digitally. DXF data are transferred from the program to the laser machine, nested and produced."

First projects realized with HiCAD

„Digitalization involves many challenges, both with regard to the know-how to be acquired and the new processes," says Peter Gisler, owner and Managing Director of the Paul Gisler AG. HiCAD was well received by our employees. Terminologies dealing with part variables, referencing or parametrics were well explained. The users can see the connection and are ready to get familiar with a new way of working. The introduction of HiCAD went smoothly: Training courses were tailored to the respective industries and requirements and enabled us to realize our first projects. At the ISD branch in Solothurn, we first acquired the basic knowledge and then deepened and extended it to match our company-specific applications ", recalls Peter Gisler.

ISD Group: Great support and custom updates

"The cooperation with the ISD Group is, and has always been, very fruitful and positive," enthuses Adrian Wiss. "With the program updates many of our wishes could be realized within a very short period of time". Currently well-equipped with three HiCAD licenses, the company sometimes thinks about implementing a PDM system.

Image: © Paul Gisler AG, Adrian Wiss, CAD engineer at the Paul Gisler AG

"We use functions from two of HiCAD's industry solutions, namely, the Sheet Metal module and the general 3-D functions for the construction of the sub-structures - with our main focus being on sheet metal processing."

Adrian Wiss, CAD engineer at the Paul Gisler AG, Cham, Switzerland

So the introduction of HELiOS, also developed by the ISD Group, would be a further step in the right direction...

Short company profile:

- Paul Gisler AG
- Industry: Metal Engineering, Sheet Metal
- Software: HiCAD
- Services: Metal facades and roofs, tinsmith work, metal products, etc
- www.paulgislerag.ch

Image: © Paul Gisler AG. Sub-structure of a metal facade

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Version 25-122-019