



Metallbau Müller GmbH

HiCAD and HELiOS for exclusive tailor-made solutions close to water

The most elegant way to the water is a jetty. A boat jetty, a bathing jetty, a rowing jetty. And because such accessible structures preferably complete public beaches, boat harbours or swimming facilities, they have to meet various requirements. One example would be the extensive design specifications for water sports facilities on inland waterways – the RiGeW (Richtlinie für die Gestaltung von Wassersportanlagen an Binnenwasserstraßen – Guidelines for the design of

water sports facilities on inland waterways). The maritime custom-made products of Metallbau Müller GmbH are also manufactured according to certified standards and defy all weather conditions: “Our floating jetties are made of torsion-resistant aluminium alloys,” says Martin Müller, Technical Director of the family-owned company in northern Germany. “Their surface made of hardwood, softwood or WPC is resilient and durable.”



REFERENCE REPORT

The company, which was founded in 1996 and has developed from a shipbuilding supplier to a specialist builder of floating jetties, also delivers the accessories: Swimming ladders made from steel or stainless steel, stairs with sheet metal quintet, lighting systems and rescue accessories.

“The system is based on a modular concept. All elements can be moved individually so that the capacity of their surface can be optimally utilised,” explains Martin Müller. “The materials we use defy all weather conditions and also look aesthetically pleasing.” The products made of aluminium, steel and stainless steel are all individually manufactured by Metallbau Müller GmbH. The company on the Mecklenburg Lake District receives orders from all over the German-speaking world.

Designed in 2-D until 2020

“Up to 2020, we have designed our components in 2-D,” says the Technical Manager. “In a program like this, each line or contour is drawn individually. Creating a complex system this way is very time-consuming with the six different views that could theoretically be generated. In addition, there are sections and details that all have to be redrawn. Furthermore, bills of material that exist in different granularities have to be written.”

Before the use of a 3-D CAD program, the creation of the workshop drawing had taken up the largest share of valuable time: 80 percent. “However, we aimed for the 80/20 approach, which means that the designer uses

20 percent of his time to fulfil 80 percent of the work, namely the creation of the drawings,” explains Martin Müller. This means that the other 80% are available for the tasks that are more serious from a business point of view: structural analysis, structural design, designing new products, training junior designers and much more.”

Significantly faster with 3-D CAD

Since November 2020, the company has benefited from simplifications that can be attributed to the many functions and automatisms of a 2-D/3-D end-to-end CAD software: HiCAD. “We use the Steel Engineering Suite and are glad to have taken this innovative step,” says Martin Müller. However, he still created the manufacturing documents manually: “From the pool of finished projects, the construction elements can be derived in a short time, and through the derivation, the drawings are always supplied at the same time.

In addition, we do not draw in the classical sense, but model with already stored standard parts. We don't draw lines but connect profiles as 3-D objects.” All views, sections and details are generated from a single drawing. No component is generated twice in order to have different views. “The drawing of the model is done in 3-D, whereupon HiCAD automatically generates all the views. In 2-D, each view had to be created again in a separate drawing. The time saved in drawing creation is enormous. It amounts to – if I create everything from a single object instead of from three views – 60%.”

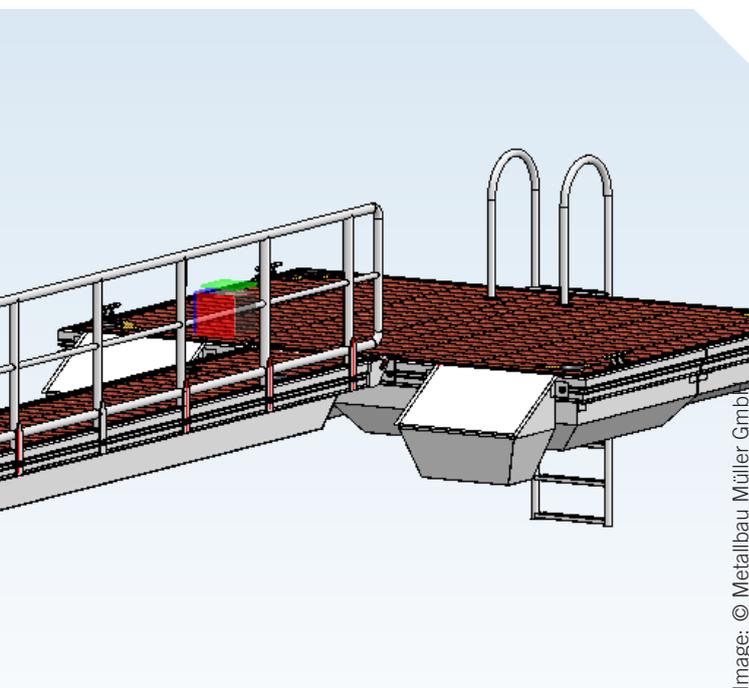


Image: © Metallbau Müller GmbH



Transparency through collision control

“Changes that occur during the manufacturing process often mean that collisions are not detected in the 2-D world, but they immediately are in 3-D,” says Martin Müller, explaining his move away from a purely 2-D program. “In 2-D, changes are often not adopted in all drawings and lead to production errors or, in the worst case, to unsuccessful assembly on the construction site. Experience has shown that the costs for removal and re-transportation are high and could be avoided.” Another advantage is that any changes made during the design process can be automatically applied to all drawings and do not have to be transferred manually. The latter also harbours a high potential for error, which wastes unnecessary resources.

Differentiated bills of material at the push of a button

Particularly relevant to his day-to-day work is the automation of bills of material. “Bills of material show me what parts make up a product. E.g. quantity, material, weight, item, functionality. Usually the bill of materials is so extensive that it is displayed on a separate sheet and attached to the drawing,” says Martin Müller. HiCAD offers him numerous functions such as the assignment of filters, the selection of various sorting criteria and format settings, the editing of BOM items, the configuration of BOM attributes, and much more. In addition to the output of the printer, the user can also export the bill of

materials to various file formats, e.g. MS Excel. It is also extremely convenient to switch between the structure and quantity list with a single click.

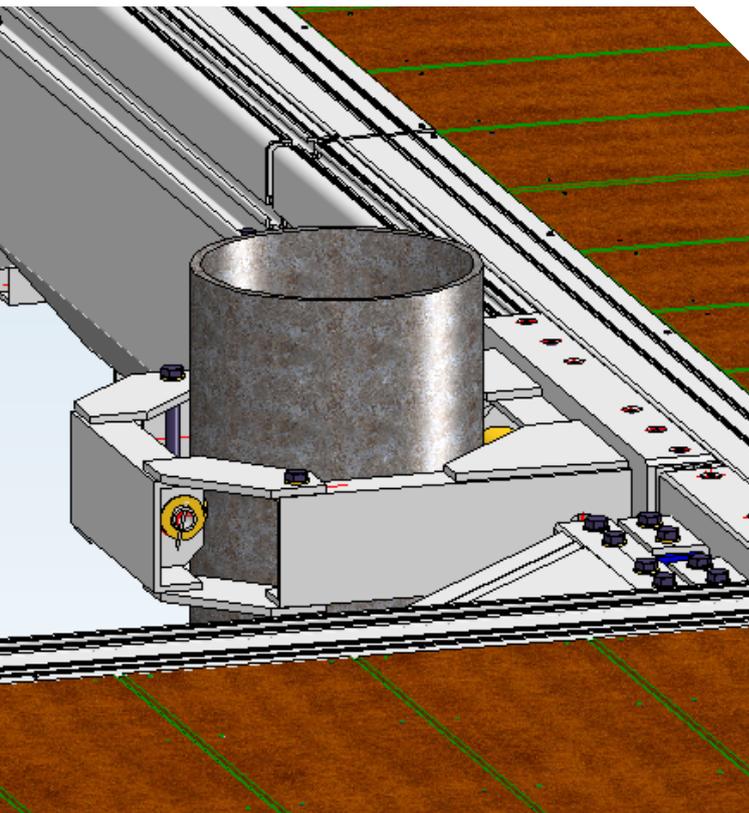
At Metallbau Müller GmbH, the bills of material are designed differently for various departments – similar to other companies: “The purchase receives a summary from all profiles and can be ordered directly afterwards. Production receives the saw list as well as structure lists etc. directly at the push of a button – with the simultaneous transfer of all changes,” says Martin Müller. “By creating these documents automatically, you can minimise the error rate and save time in other business processes.”

Instead of searching for a long time: HELIOS

The company also saves time with the PDM system HELIOS, which was implemented together with HiCAD and comes from the same developer. “We can now retrieve drawings faster and manage them better.” Each new drawing is tagged with technical characteristics and can be filtered out more quickly from a large number of similar drawings during a search. The list of results is shortened accordingly and is much clearer,” says the Technical Director.

All goals achieved

When asked whether Martin Müller had achieved all the goals he had formulated in an explicit specification



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*Martin Müller,
Technical Director Metallbau Müller GmbH*

sheet, he gives positive feedback. He also felt in good hands with the ISD Group on a human level. "If you ever call the hotline, you are connected with a contact person after 20 seconds at the latest. A good value."

Brief company profile:

- > Metallbau Müller GmbH
- > Industry: Metal/steel engineering
- > Software: HiCAD, HELiOS
- > Services: Production of floating jetties made from aluminium alloys, floating boathouses and complete marinas with several hundred berths
- > www.metallbau-rechlin.de



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