



## METALLICA Stahl- und Fassadentechnik GmbH

### Sustainable BIM projects with HiCAD

Sophisticated metal and glass constructions in façade construction as well as structural steelwork - primarily for the DACH region - that is what METALLICA Stahl- und Fassadentechnik GmbH stands for. Since January 2020, the former STRABAG METALLICA AG has been making a name for itself as an independent Stahl- und Fassadentechnik GmbH: with international projects of all sizes in steel, aluminium and glass façade

construction - from planning and production to the assembly of the façade elements. Facade construction projects are implemented by planning, calculation and installation teams in Hungary and Austria. The HiCAD CAD software and the PDM system HELIOS from the ISD Group in Dortmund are used.



**METALLICA**

# REFERENCE REPORT



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*We had to switch from 2-D to 3-D for this.“*

*Harald Gremsl, design manager METALLICA Stahl- und Fassadentechnik GmbH*

#### Making contact with ISD on the BIM info event

Both companies got to know each other in 2016, at a BIM information event in Linz. „BIM remains a central topic for facade engineering,“ says Harald Gremsl, design manager of Metallicas division. „Thanks to BIM, we facade engineers are involved in the planning at an early phase. We had to switch from 2-D to 3-D for this. The three-dimensional model provides realistic and complete information. BIM enables us to detect combination errors of the most varied inputs at short notice and to take targeted measures to correct them. Material specifications and costs can be integrated, schedules can be added and quantities and sizes can be inquired. The 2-D/3-D associativity of HiCAD is essential for the 51-year-old to work together on a virtual project in real-time: „The foundation for our planning is the conceptualized building in three-dimensional space. Each element within the 3-D planning process contains additional information to the engineering drawings. However, the previous 2-D model will still be in use. After all, it contains information that enables control of the structure during use. 2-D remains important for us for a long time to come, particularly in the field of metal-glass facades.

#### HiCAD: for the mullion-transom facade

„After an ISD presentation at our premises in Graz and a successfully completed test project, we decided to use HiCAD. After a hands-on seminar in Linz and a four-day training in Graz, the cross-industry CAD software by the ISD Group was fully implemented in our company“, explains Harald Gremsl. The challenges which were mastered with HiCAD and have to be mastered in the future cannot even be counted on one hand: They include „complete building casings, punched window and window bands, mullion and transom constructions with steel attachments, element facades and rear-ventilated facades, as well as weight locksmith work and trapezoidal sheet metal.“ These requirements can be easily met with cross-industry CAD software such as HiCAD - particularly for steel constructions and sheet metal processing. For a project successfully completed with HiCAD, a prime example is the „Ganztägige Neue Mittelschule Stammersdorf“ (GTNMS, New full-day secondary school Stammersdorf): „The bidirectional LogiKal® 3-D interface in HiCAD gave our designers full access to special beams for facades, light roofs, windows or doors of all common manufacturers from the LogiKal® libraries.

#### GTNMS Stammersdorf

- > 2250 m<sup>2</sup> Mullion-transom facade
- > 185 m<sup>2</sup> Punched window elements
- > 860 m Sub-structure
- > 1001 m Attic covers
- > 38 single or double doors
- > 206 Windows in mullion, transom and punched elements
- > 460 m<sup>2</sup> Woven mesh facade made of stainless steel
- > 300 m<sup>2</sup> movable sunscreen lamella
- > 3 Technical control centers

Image: © METALLICA Stahl- und Fassadentechnik GmbH, GTNMS Stammersdorf





„Thanks to the automated processes in HiCAD a lot of time can be saved.“

Harald Gremsl, design manager METALLICA Stahl- und Fassadentechnik GmbH

Building connections and transitions could be realized troublefree with 3-D sectional views“, explains Harald Gremsl. He also praises the feature function in HiCAD enabling him to trace the drawing history of a component and thus every single work step. „Modified drawings in facade engineering are daily fare,“ says the Austrian. „If the feature technology is activated in HiCAD, all steps of the design process can be recorded in a log. Subsequent adjustments can be applied quickly without repeating annoying steps.“

#### HiCAD: for the element facade

Harald Gremsl likewise appreciates HiCAD's capability to filter the 3-D part structure according to various criteria, e.g. in order to search for sheet metal of a certain material. For the project „UNH“ at Kundmannngasse in Vienna, the CAD solution by the ISD Group proved to be a time-saving software solution, particularly with its automated sheet metal cuts.

#### HELiOS: PDM for management

HELiOS, the PDM system of the ISD Group, was implemented at METALLICA Stahl- und Fassadentechnik GmbH simultaneously with HiCAD. Previously, planning data had been searched and organised using the Win-

dows Explorer. „Everything is a bit more time-consuming“, says the design manager, describing the continuous project flow with HiCAD and HELiOS as follows: „The design planning follows special specifications with regard to architecture, formwork, statics etc. in the conventional AutoCAD 2-D with Athena attachment. After the details have been prepared, the data for the construction of the model is obtained or reconstructed by the respective work groups. Then we build our prototype in HiCAD until it can be positioned. Next we import it into the HELiOS system. After itemisation, the production drawings are exported to the HELiOS database as DWG, PDF or STEP data via HiCAD, checked, edited and transferred to the manufacturing companies.

#### Outlook: BIM capability continues with training intervals

Harald Gremsl draws a positive conclusion from the use of a cross-industry CAD software as HiCAD. „Unfortunately, the introduction of the software was a bit long-winded due to corporate requirements. In the end, HiCAD and HELiOS were well received by all employees. Thanks to HiCAD's IFC interface, we will be able to use BIM databases to insert parts of other workgroups into the HiCAD drawing, e.g. parts for concrete structures. We will also be able to forward IFC data to the

#### UNH Kundmannngasse, Wien

- > 4.616 m<sup>2</sup> Element facade tower
- > 888 m<sup>2</sup> MT-facade Aluminum base
- > 2.070 m<sup>2</sup> MT-facade Steel base
- > 325 m<sup>2</sup> MT-facade, SG-façade
- > 364 m<sup>2</sup> Composite window with attic 14. OG
- > 251 m<sup>2</sup> Technical control centers  
Sandwich panele
- > 208 m<sup>2</sup> bottom view Sheet tray panels
- > 610 m<sup>2</sup> attic cover
- > 175 m<sup>2</sup> visual protection with sheet  
metal lamella

Image: ©METALLICA Stahl- und Fassadentechnik GmbH, UNH Kundmannngasse



required departments, e.g. statics, and have them checked.” Regular training intervals by ISD and the solid support of the Dortmund software developer left nothing to be desired at present.

#### In brief:

- › METALLICA Stahl- und Fassadentechnik GmbH
- › Industry: Facades, Steel Engineering, Metalworking
- › Software: HiCAD, HELIOS, AutoCAD, LogiKal® i.a.
- › Services: Custom steel designs, light to medium-heavy steel engineering, various facades, metalwork and tinsmith work
- › <https://www.metallica-fassade.com/>

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