



## Ingenieurbüro Dipl. Ing. Gronow Invest in HiCAD- benefit from 2D/3D

Since 1998, Berlin's engineering office Gronow designs system technology for energy systems – including planning service, construction supervision and system documentation. Until 2003, managing director Holger Gronow relied upon drawings created with AutoCAD 2D. Before he was introduced to 2-D/3-D consistent software HiCAD along with PDM system HELIOS at Cebit Trade Fair, he had created “vast amounts of drawings which were only understandable by putting them about each other.”

### **With 3D from technical draftsman to design engineer**

“Nowadays, it makes no sense to work with 2-D only since one already must think spatially due to collision

check”, claims the civil engineer by justifying his decision for the 2-D/3-D consistent design software by Dortmund's ISD Group. “Moreover, one is more flexible in exchanging data with others who only work with 2-D”, he adds.



# REFERENCE



Stocktaking of a chemical plant for oil production with Scalypso (©IBG)

Certainly, a drawing solution such as HiCAD would be particularly challenging for his coworkers and him: “The bottom line was not the financial investment in HiCAD but the time accorded to our coworkers during working time and parallel to practice with 2-D in order to draw in 3-D. For this, background information is necessary, for example where a particular part has to be mounted, whereas the 2-D drawing is solely about the alignment.” Holger Gronow’s design engineers have filled their knowledge gaps with regard to the required design practice within six months – with a clear conclusion: “3-D is much more convenient. We work more efficient, faster and more correctly than the competition.”

#### **Scalypso Interfaces for plant design planning**

The 3-D drawing also includes the 3-D measurement for a fast acquisition of complex spatial, building and plant structures. “Our office uses Scalypso Converter to display 3-D laser scan data in photo-realistic representation. At the touch of a button the user transfers individual elements as c-edges selectively to HiCAD and provides

the basis of further design works”, says the Berliner entrepreneur.

#### **P + ID schemes as ideal planning foundation**

Holger Gronow uses all functionalities provided by HiCAD, except for the Sheet Module – but with P + ID leading the way: “As classical plant construction planners we sound out the on-site basis and display them by means of P + ID drawings first. We make use of HiCAD’s extensive standard part catalogue and its link to million TraceParts. The standard symbols of vessels, appliances, heat exchangers, valves and measuring instruments function as planning foundation. The pipeline construction is one domain of our performance. All lines representing a pipeline are being marked with nominal width, nominal pressure, medium, pipe class and identification number.”

The assignment of a pipe class provides safety between engineering offices, particularly where it concerns dangerous substances such as gas. The same applies to the 3-D representation in pipe gaps. The automate process



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*Holger Gronow, Ingenieurbüro Gronow*



Final installation of a pipe bridge over DB Netz AG's railway system (©IBG)

in the drawing – which is possible thanks to HiCAD – plays just as a key role for Holger Gronow: “To create a BOM automatically from P + ID at any time saves us a lot of time, particularly when it is more detailed.”

#### **Steel Engineering: A supporting element in Plant Engineering**

Since pipelines are also steel constructions, HiCAD's Steel Engineering is in his field of particular importance. “When using steel beams, we work with the Identical Part Search of HiCAD. In Plant Engineering it is insufficient to just change the variables. However, maximum safety is only granted with dismantling if the nominal width of a pipe or the pipe runs change subsequently in its dimensions.”

#### **Multicad Projects and winner of HiCAD Award 2016**

“With HiCAD we designed a gas pressure regulator substation and a rail crossing with a drive for a district heating pipeline amongst others“, says Holger Gronow. “In transitional buildings and lifting holes the isolation valve, pipelines and various subsections as measurement inst-

umentation had to be mounted in – all of which are Multicad projects. However, as far as route construction is concerned, AutoCAD has turned out more convenient.” The Berliner company was awarded with the HiCAD Award 2016 because it designed a plant for storing and discharging of a chemical solution into a mine shaft with HiCAD, setting apart from the masses of other submissions with its complexity, visualization, function simulation as well as its cross-industry use.

#### **PDM for safe document administration**

With the implementation of HiCAD in 2003 Holger Gronow determined a simultaneous commissioning of the PDM system HELiOS – also from Dortmund's ISD Group. “Even though we are not a large company using HELiOS' workflows since each designer works on one ongoing project, we are reliant on a safe document administration by means of systematic folders and subfolders which are automatically updated. If a customer approves that dangerous substances such as gas are allowed to flow through our pipelines, this information cannot be over-



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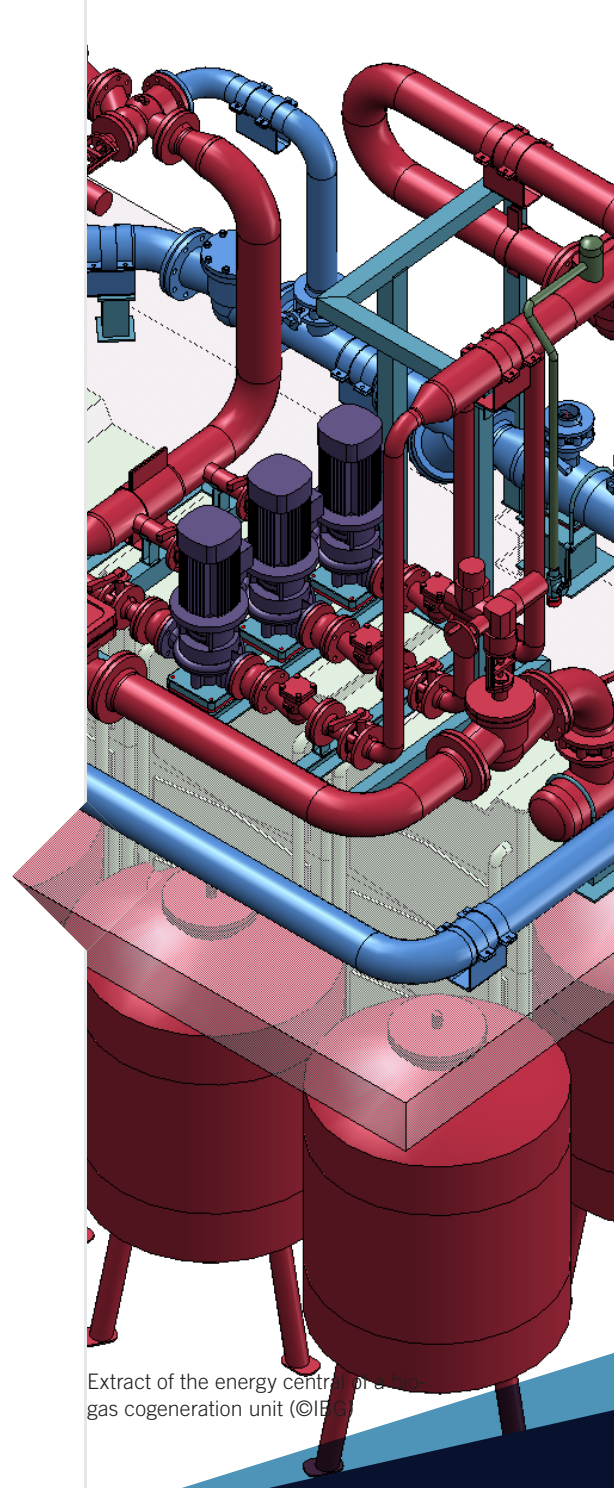
written by HELiOS and it is accessible for everyone at any place.”

**Bottom line: Thoroughly positive**

Even though the latest standards have not been added to the symbol library, the cooperation deserves a particularly good score according to Holger Gronow. Another license with more coworkers is planned in order to achieve the desired aims in plant and pipeline construction as before with HiCAD.

**In brief:**

- > Ingenieurbüro Dipl.-Ing. Gronow
- > Industry: Plant Engineering
- > Software: AutoCAD, HiCAD, HELiOS
- > Services: Plants for energy production and distribution, district heat supply and industry pipeline plants, pipeline construction
- > [www.buero-gronow.de](http://www.buero-gronow.de)



Extract of the energy centre of a gas cogeneration unit (©IF



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