



**HOSOKAWA  
ALPINE**

SUCCESS STORY

# **STANDARDIZED ELECTRICAL DESIGN FOR SPECIAL MACHINE CONSTRUCTION**

**WS** **EAD**  
ELECTRICAL ENGINEERING

### At a glance:

#### Customer

- Hosokawa Alpine AG, Augsburg
- Plant designer for the processing of powders, granulates and bulk materials
- 700 employees

#### Situation

- Individually tailored machines to the needs of global customers
- Uniform standards for development and commissioning are required
- Electrical documents should be created automatically as far as possible

#### Software use

- WSCAD SUITE
  - Electrical Engineering
  - Cabinet Engineering
  - Project Wizard (Generating)

#### Benefits

- Standardization of electrical design for special machine construction
- 20 to 30 percent faster when creating electrical documents
- Uniform company-wide standards simplify purchasing and service

*Hosokawa Alpine AG from Augsburg is consistently pushing ahead with standardization in its electrical design. This saves a lot of time, increases the efficiency of processes and increases the quality of products. The two prerequisites for standardization are a modular well structured product portfolio and an appropriate electrical CAD software.*

Powders, granules or bulk solids – we encounter them every day in all walks of life. From soya to barley, tablets or coatings for the automotive industry – the precursors for such products are often crushed by plants that come from Augsburg. For more than 110 years, Hosokawa Alpine, which is based in Augsburg, has been supplying high-quality machines and systems for a variety of inhouse recycling tasks and the processing of powders, granules and bulk solids. 700 employees develop and manufacture with great expertise.

Their worldwide customers, with different requirements from all branches of the process industry, demand a lot from the engineering teams at Hosokawa Alpine. Depending on the consistency, intended use or manufacturing process of the various end products, they have to tailor the machines exactly to the needs of the customer. All components of the mo-

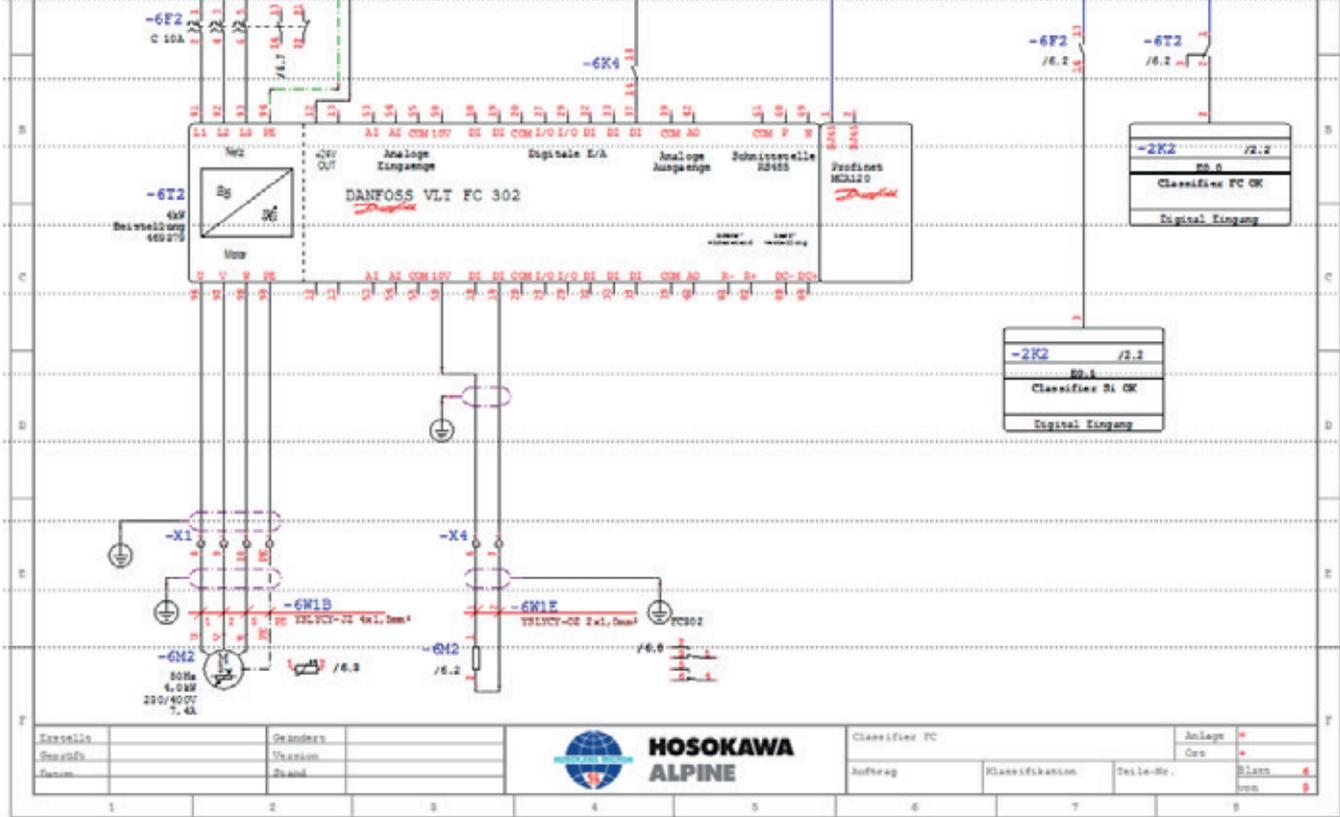
dern mills and classifiers have to work seamlessly together, from engineering down to manufacturing. State-of-the-art automation and visualization guarantee high process stability and easy operation. The electrical engineers at Hosokawa Alpine use the electrical CAD solution from WSCAD to design the required documentation and the design of the control cabinets.

#### Company-wide standards lead to high efficiency

The electrical engineer Christian Ziegler and his colleagues design the required electrical standards in order to be able to develop consistently throughout the company at high quality. This includes basic work for the PLC controls as well as the design of schematics: defining parts, drawing symbols, creating macros and variants and making them available in libraries.



*Powders, granules or bulk solids – many of the starting materials for day-to-day life products are crushed by high-quality machines coming from Hosokawa Alpine based in Augsburg. For example jet milling through interparticle collisions within the gas jets with the Fluidized Bed Opposed Jet Mill AFG.*



Hosokawa automatically generates electrical documentation using the Electrical Engineering module of the WSCAD software in conjunction with the Project Wizard.

“This way our schematics are structured identically across all engineering disciplines and all departments. And our employees work more efficiently”, says Christian Ziegler, while underlining the advantages of company-wide standards. “The same applies to the final commissioning at the customer: the software and control cabinets of the different machines are built according to the same concept and are easy to understand.”

The current symbols and parts data for the company’s own database are downloaded from wscaduniverse.com, the world’s largest electrical CAD library. It has parts and symbols in WSCAD and EDZ\* format. The portal has currently 1.4 million parts from 380 manufacturers. The standardized use of materials leads to larger quantities and this enables purchasing to negotiate better terms and con-

ditions. The link between WSCAD and ERP systems is provided via the PLM/ERPsync interface. The bill of material generated in WSCAD contains all relevant information. This removes manual work (copying and pasting) or searching for order numbers, etc. No manual transmissions, no search for order numbers, and rarely any questions for the engineers.

The standardization team at Hosokawa provides a WSCAD design kit to their engineering colleagues. The kit has been continually enhanced.

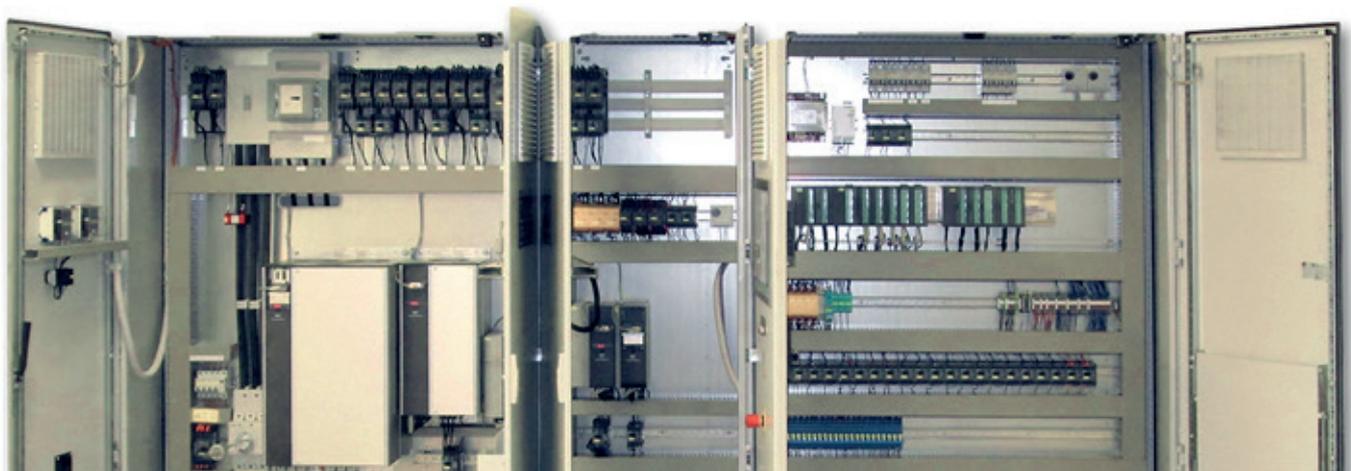
Engineers don’t have to design symbols, macros and their variants. They just have to pick them from the online database. New additions include the so-called sets, with the help of which schematics can now be generated for the most part at the touch of a button.

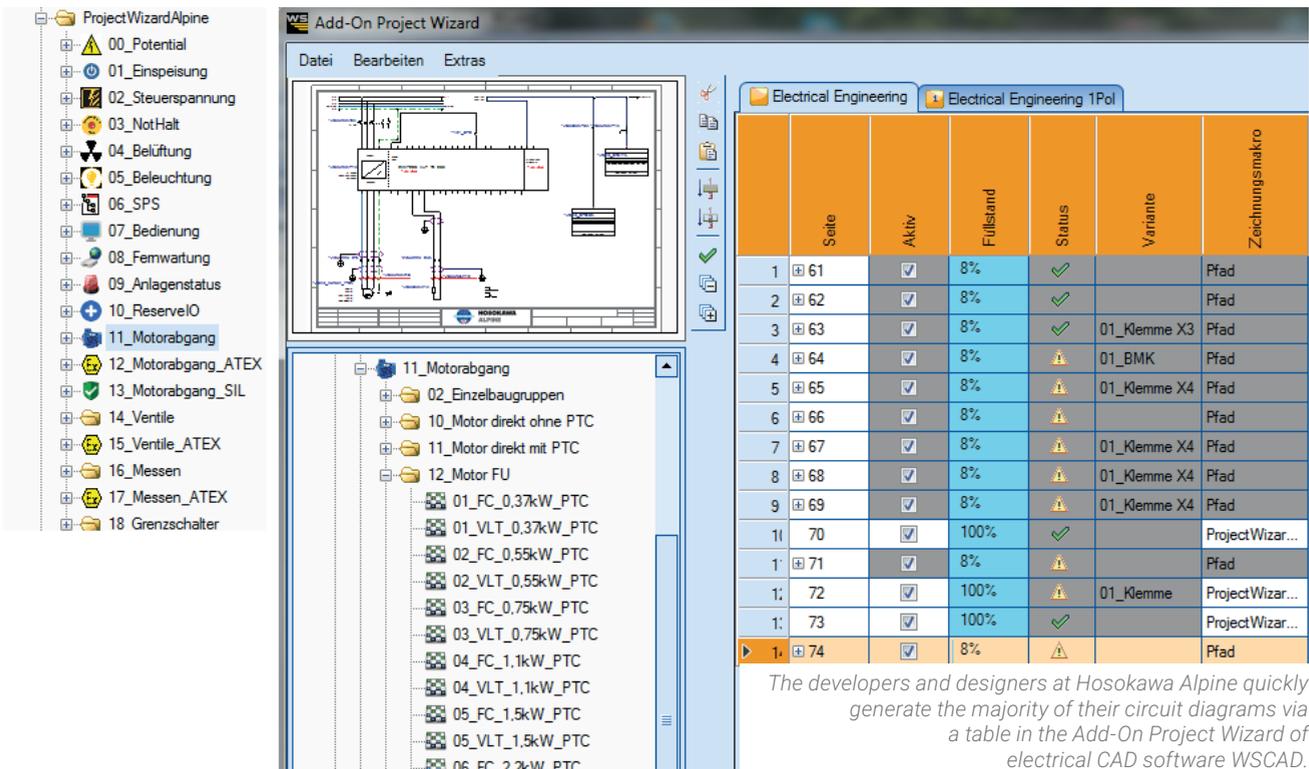
#### Faster with the Project Wizard

In order to efficiently use the standardized library, engineers are working with WSCAD Project Wizard. With this small Add-On to the WSCAD software, a complete motor control system, for

” By creating enterprise wide macro libraries we make sure that our schematics are structured identically in all departments. This way our employees work more efficiently.”

The electrical plan for this control cabinet was created by drag-and-drop in the WSCAD Project Wizard.





The developers and designers at Hosokawa Alpine quickly generate the majority of their circuit diagrams via a table in the Add-On Project Wizard of electrical CAD software WSCAD.

example, including frequency converters, cables and fuse protection can be easily integrated into the schematics. It only takes a few clicks. For this purpose predefined sets are integrated into the Project Wizard. A set consists of several macros, which in turn, are composed of different symbols and variants. Depending on the design – for example, the power rating of the drive – all the required electrical components with the appropriate parts are now stored in the variants. By combining multiple sets, the entire schematic is created at the touch of a button. This is fast and ensures that all schematics are consistently structured and standardized. Only little or no rework is required. The change of sets can occur from a central location, and is updated immediately for all engineers. “This way, we can further increase our standards and degree of automation. Our engineers can design schematics faster and in better quality”, says Christian Ziegler, while appreciating the new possibilities with the Project Wizard. “The slightly higher overhead initially

” The slightly higher overhead initially is well worth the effort. After just a few months we are now already working about 20 percent faster than before. And we are only at the beginning. This is valuable time that we can now invest in the individual design of each machine and in new projects.“

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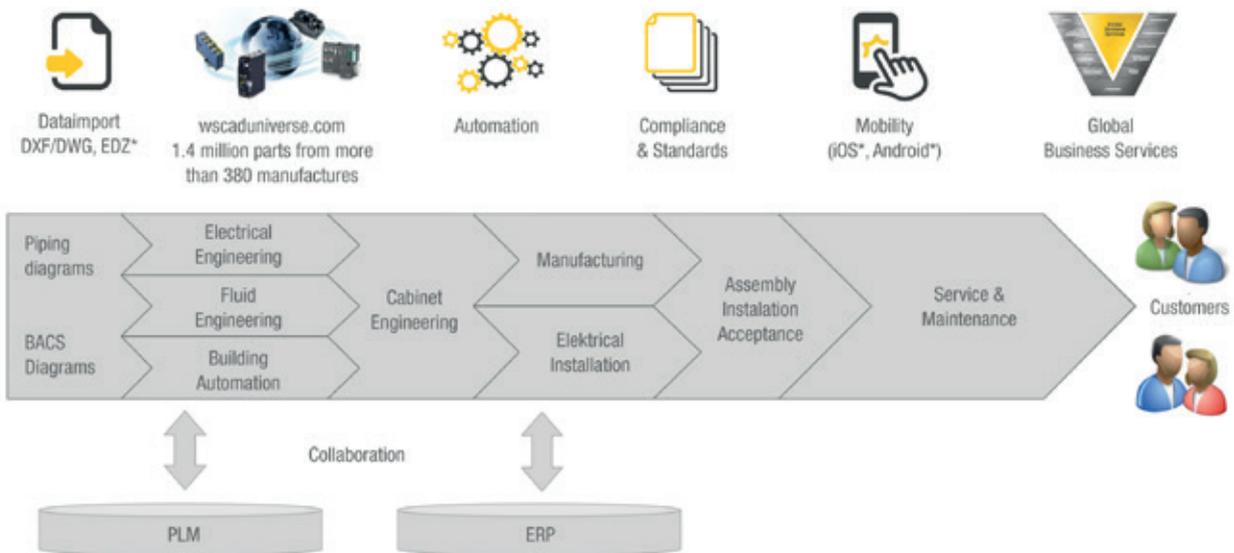
To ensure that all colleagues know which sets are available, there are clearly described libraries, which also contain the structure of a schematic. The suitable sets and macros can be conveniently dragged from the central library and dropped into a project table. For example, a complete drive train can be designed and documented in a single step. Christian Ziegler adds: “This is valuable time that we

can now invest in the individual design of each machine and in new projects.” Hosokawa Alpine is thus successfully supplying special machines of consistently high quality, which result from an extraordinarily efficient product development process.

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We appreciate the new possibilities with the Project Wizard by combining multiple sets of macros to create the entire schematic at the touch of a button. This is fast and also ensures that all schematics are uniformly structured. Little or no rework is required. This way we can increase our standardization even further as well as our degree of automation.



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### An electrical CAD platform for all non-mechanical engineering tasks

With the electrical engineering solution from WSCAD, engineers and designers can efficiently complete all their „non-mechanical“ de-

sign tasks with just one software product and on a single platform. From electrical engineering and cabinet engineering, through process and fluid technology, all the way down to building automation and electrical installation. The replacement of a valve in the fluid plan, for example, is immediately visible in all schematics of the other engineering disciplines. This saves time and improves the quality of the results.

All symbols and parts data are located in a central database which, in turn, enables cross-disciplinary work without data breaches, misunderstandings and inconveniences.

It works in small or large projects, with multilingual capabilities and sophisticated user rights or even in teams with international projects.

Working with parent structure identifiers, importing data from other electrical CAD systems, reliable PLM/ERP integration and proven methods to automate engineering tasks are likewise part of the WSCAD solution. It comes with various options for the maintenance contract and excellent support.

WSCAD is part of the Buhl group with more than 800 employees. WSCAD has been developing electrical CAD solutions for three decades. Customers include medium-sized companies, international corporations and engineering service providers. More than 35,000 users rely on WSCAD software as their electrical CAD solution. The software is based on one core platform that covers six engineering disciplines: Electrical Engineering, Cabinet Engineering, Piping and Instrumentation, Fluid Engineering, Building Automation and Electrical Installation. Any change made to a component in one discipline immediately reflects in all the other disciplines. WSCAD methodologies for standardization, reuse and automation significantly reduce engineering time from several weeks to just a few hours or even minutes. At the same time, these practices also ensure a much higher quality of work.

wscaduniverse.com is by far the largest electrical CAD data library on the market offering over 1.4 million parts from more than 380 manufacturers. It is the only digital library that supports both WSCAD and Eplan\* users alike as well as 3D CAD data. Use and provision is free of charge for all users and manufacturers of parts and equipment. Maintenance engineers and service personnel are now able to scan devices and components within a control cabinet by using the WSCAD Cabinet AR App on their smartphones or tablets. This provides them instant access to the schematics, device tags, part data, 3D views and even the original data sheets from the manufacturers.

The WSCAD portfolio is completed by eleven seamlessly integrated service offerings from WSCAD Global Business Services such as: engineering and migration checkups, consulting and training, digitization of paper documents and conversion of thirdparty electrical CAD formats.

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