

Enclosure
Manufacturing

ePLAN[®]
*electric**8*

ePLAN[®]
cabinet

SCHUBERT

Elektroanlagen

Cost and time savings with automated enclosure design

Automated enclosure design aids success

Schubert Elektroanlagen is an Austrian leader in manufacturing electrical equipment and systems for the energy, environment, water and plant engineering sectors. Located in Obergrafendorf, about 70 kilometers west of Vienna, the company owes part of its current success to advanced automated design for enclosures and other equipment developed in EPLAN Electric P8 and EPLAN Cabinet. Schubert has been manufacturing enclosures since its inception in 1965. Some 20,000 square meters of mounting panel surface is produced annually on 3,400 square meters of production floor.

ePLAN your *engineering*

FRIEDHELM LOH GROUP

“Employing direct data transfers from EPLAN Cabinet to set up its CNC and wire processing machines allows Schubert to compete aggressively on price without sacrificing the high quality standards for which it has been known.”

GREATER flexibility with

EPLAN Electric P8 and EPLAN Cabinet

“EPLAN Cabinet’s ability to provide the exact positioning of all components, from the power distribution rail systems to the smallest accessories, along with the integrated collision check function is a considerable advantage over previous methods,” says production manager Manfred Bandion.



Cost effective one-stop shopping

“We are competitive internationally even against low-wage countries thanks to our excellent quality and extremely short project turnaround times that we can guarantee by our reliance on state-of-the-art CAE and CAM systems from the design stage – including generation of all documentation – through production,” says production manager Manfred Bandion, a 32-year veteran of the company.

Schubert is a leading manufacturer of switch- and control gear, one of the few vendors who can offer one-stop shopping for the full range of EI&C (electrical instrumentation & control) technology. Its products and services support a wide range of public and private infrastructure projects: hydroelectric power plants, power installation and distribution, high- and medium-voltage installations, wastewater treatment, sewage, composting, waste incineration, water treatment and supply, irrigation and artificial snow-making equipment.

Recognizing benefits of EPLAN Electric P8

The planning and design of the power supply and switchgear systems are done with EPLAN Electric P8 at six workstations. Schubert had been using EPLAN electrical design software for many years. It immediately recognized the value of upgrading to EPLAN Electric P8 as soon as it hit the market in 2006. Schubert became one of the first companies in Austria to adopt it for its advanced capabilities that greatly accelerate project work and improve design consistency and efficiency. Manfred Bandion adds: “Thanks to its database-centric structure, EPLAN Electric P8 provides us with much greater flexibility allowing us to respond much faster to customer requirements. The software supports us throughout the process with its extensive error check mechanisms as well as with the possibility of directly integrating manufacturer data in the form of macros with ease.”

Quality manufacturing through exact design

Schubert also played a leading role in launching EPLAN Cabinet for enclosure manufacturing in which the mechanical layout and structure of the enclosures are created in 3D from schematic data. Even before the official debut of Cabinet, Schubert participated in its beta testing. Designers at four workstations build out enclosures from different manufacturers.



ePLAN[®]
electric 8



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cabinet



MANUFACTURING

data

direct to CNC and wire processing machines

Driving CNC machining work

Schubert's use of EPLAN Cabinet goes well beyond basic enclosure design. By sharing the same EPLAN database as EPLAN Electric P8, it allows users to import data like the bills of materials from the electrical design software – a huge time saver compared to inferior CAD systems, as is its ability to import enclosure data. On the output side, Cabinet not only provides accurate design documents but also sends NC data directly to drilling and milling machines, like the CNC machine Schubert has used since 2001. "Adding this CNC machine was a milestone in the growth of the company," underlines Bandion. "Thanks to the interface in EPLAN Cabinet, since 2007 design drawings, once approved, are transmitted directly to the 4-axis CNC machining center that produces holes and cut-outs with a 10th of a millimeter precision." This facilitates highly economical, just-in-time manufacturing of completely drilled mounting panels with correctly cut-out doors.

On route with perfect cabling

EPLAN Cabinet lays out the optimal routing for cables as soon as the placement of components is determined. The program identifies the shortest possible length that respects electromagnetic compatibility (EMC) requirements and sets the specification for each required wire with the proper designation and length for making the cable. Since the beginning of 2008, cable preparation has been fully automated on a Komax Zeta 633 which handles 36 different wire types from 0.5 to 6 mm². The machine automatically cuts wires to specification, provides them with wire ferrules and labels them. This takes the manual labor out of cable manufacturing and drastically improves reliability – assuring that standards relating to the identification of cables and wires at every connection point are adhered to.

Streamlining wire processing

After the wire specs and lengths are set in EPLAN Cabinet, the program combines them into logical wire bundles and the specs are transferred via an interface created by EPLAN to the wire processing machine.

“Thanks to the interface between EPLAN Cabinet and the wire processing machine, we were able to extend the benefits of computer-aided design a step further into the manufacturing process,” says Bandion. “It enables us to provide even better quality and pricing to our customers than we could in the past, and that's saying a lot, since our standards were already very high.”

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*electric***3**

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cabinet

The EPLAN Platform
delivers a high degree of automation
SUMMARY

Schubert Elektroanlagen is a leader in employing the automated design capabilities of the EPLAN Platform to drive its enclosure manufacturing. The company uses EPLAN Cabinet to precisely design enclosure systems and benefits from the direct data transfer capability to its CNC machine. The engineers also use Cabinet to assign the wire specs and lengths for the cabling for each enclosure, and then transmit the data to a wire processing machine that assembles the cables automatically. This degree of automation is helping the Austrian manufacturer of electrical control systems and other products remain cost-competitive with low-cost producers abroad while maintaining the highest quality.

Find out more about Schubert Elektroanlagen on www.elektroanlagen.at

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