

ePLAN[®]
fluid

ePLAN[®]
electric

SCHILLER

Automation

Highly efficient interdisciplinary engineering

Sharing EPLAN database improved productivity

Family owned and managed, SCHILLER AUTOMATION is a global business focused primarily on two specific high-tech product fields: Microelectronic subassemblies for industries like automobile manufacturing and assembly, and photovoltaic products for the fast-growing solar power business. If a manufacturer of power electronics requires a system for bonding ceramic substrates to aluminum heat sinks or a maker of solar cells requires a system to handle glass substrates or solar wafers, SCHILLER has an effective solution.

Fully automatic handling with great precision

Each SCHILLER system performs fully automated handling using linear axes or robotics with maximum precision because a variance of even a tenth of a millimeter can be too much for the jobs involved.

“The closer two or more engineering disciplines work together, the more productive they get and the more structured a company becomes. SCHILLER AUTOMATION GmbH used the introduction of fluidPLAN (now EPLAN Fluid) to group fluid power design with electrical engineering design in EPLAN 5 and has been benefiting ever since from improved work processes. Running both off the same database has helped standardize design and production, and engineers are looking forward to another leap forward shortly when the company upgrades both programs to the latest EPLAN releases.”

ePLAN your engineering

ELECTRICAL

engineering design
has been standardized

The different design disciplines cooperate very closely. Mechanical and electrical engineering designers collaborate to a great extent. // As soon as there is a basic understanding of what a customer's new machine system will look like, we begin the electrical design work. We have no choice. Time is short. //



EPLAN makes design highly efficient

Since off-the-shelf solutions usually won't do, the company relies on CAD-supported design to initiate every project. The mechanical design department alone has 35 employees but only four electrical designers because as Karl-Heinz Ruoff, head of electrical engineering design, explains, so much of what they do has been standardized.

Fluid technology aligns with electrical design

Four years ago, project design at SCHILLER was restructured. Fluid power was originally part of mechanical engineering – and designers tended to give the assembly crews a great deal of latitude. "Specifications were rather vague; there was no uniform internal company standard," says Karl-Heinz Ruoff. This did not conform to the company's high quality standards and given the increasing importance of pneumatic equipment and – for the robot grippers – vacuum technology, the decision was taken to shift fluid power to the electrical design group.

SCHILLER became one of the first users of fluidPLAN (now EPLAN Fluid). "This made sense from the very beginning, since the pneumatic drives and axes in our systems are almost always controlled electrically or electronically," says Siegfried Ruoff, a member of the electrical engineering team. "The grippers, which are central elements in our designs, are also equipped with electro-pneumatic axes and are controlled by means of PLCs."



ePLAN[®]
fluid

ePLAN[®]
electric

DATABASE

and schematics
are the same in both disciplines

Two views of the same schematic

Since the electrical engineering design team uses EPLAN 5, they share the same database with the fluid power designers. "In the end we use the same schematic in both disciplines," says Siegfried Ruoff. "The screen displays the view relevant to the discipline of the engineer working on it. One designer is responsible at that point for both disciplines and can change the view from the pneumatic element to the corresponding sensor and back." Automatic cross-referencing facilitates the work of both design groups.

Connected to the purchasing and service departments

The combination of the two EPLAN programs is integrated into the commercial process: Excel[®]-based bills of materials with part numbers are generated from the data in EPLAN, then processed directly by the purchasing department which orders components. The schematics and diagrams are also used in after-sales service. The schematics for electrical engineering and fluid power, usually about 50 pages, are part of the complete documentation. For assembly and installation work, the schematics for pneumatics work in fluidPLAN are given to the mechanical engineer, while the E-CAD data from EPLAN 5 are given to the electricians.

SCHILLER AUTOMATION created component libraries in the database for various manufacturers, which also increased productivity.

"Our customers often specify the manufacturer to be used," says Siegfried Ruoff. "The corresponding data and drawings are already stored in EPLAN – as modules that we have in part combined into macros, for example, for maintenance units."

There is no need to access the catalogues of component makers such as Festo except when new parts are created.

ePLAN[®]
fluid

ePLAN[®]
electric P8

“This standardization results in a higher degree of transparency and the cross-references between electronic and pneumatic components simplify troubleshooting,” says Karl-Heinz Ruoff, head of electrical engineering design.

Great improvement in productivity and quality

SUMMARY

SCHILLER AUTOMATION has made great improvement in productivity and quality by aligning its hydraulic and electrical engineering disciplines on the EPLAN Platform. It's also possible to carry out last-minute changes rapidly and without errors or inconsistencies. Standardizing at the design level has resulted in standardizing of products, since the fluid power controls are now being designed in a more consistent and deliberate manner rather than being finalized during manufacturing. These advantages will have an even greater impact when the company upgrades shortly to the latest EPLAN electrical design software, EPLAN Electric P8, and the new EPLAN Fluid. In the new EPLAN Platform, the individual engineering disciplines are even more closely aligned.

Find out more about Schiller on www.schiller-automation.com

ePLAN your **e**ngineering



EPLAN Software & Service GmbH & Co. KG · Monheim · Germany
info@eplan.de · www.eplan.de

Published in 2008

www.eplan-your-engineering.com