

EcoCFlex



Machinery

ePLAN[®]
electric³

ePLAN[®]
fluid

ePLAN[®]
ppe

DÜRR
Ecoclean

refines collaborative engineering with EPLAN

Consistent with the trend for environmentally friendly components

In Monschau, Dürr Ecoclean's CLA division develops tailor-made solutions for auto manufacturers. Dürr Ecoclean had a resounding success three years ago with its new EcoCFlex system. It has a six-axle robot in the middle that feeds components to surrounding work stations for de-burring, high-pressure washing, spray cleaning, injection flood washing and drying. There is a growth market for such systems because the automotive industry is pushing to achieve better fuel efficiency with lower emissions, which in turn raises the standards for cleanliness and smoothness in engine blocks and cylinder heads. In engineering, total data continuity is a must and the EPLAN Platform is used to design integratively across all disciplines.

“A division of the Dürr Group, Dürr Ecoclean of Monschau, Germany, is a global leader in developing and manufacturing efficient, cost-effective component cleaning machines and systems. Its products, sold worldwide, range from smaller equipment for industrial cleaning to complex, partially automated systems. Besides manufacturing in Monschau, the company has another plant in Germany as well as production facilities in France, the Czech Republic, China and the United States.”

ePLAN your engineering

FRIEDHELM LOH GROUP

Uniting design functions around EPLAN



Disciplines working in concert with each other

The company's product philosophy "Keep the whole process in view" also applies to engineering. In 2008, Dürr Ecoclean replaced the software it previously used for process and fluid engineering and migrated completely to the EPLAN Platform. Now, electrical design, fluid design and instrumentation and control (I&C) engineering work together in an integrated manner, using the same database and data.

Each discipline's work is transparent to the others. A change made by a designer in one discipline is visible to all, and since the data is stored in the same shared database, they can not only view each other's work, but also incorporate the same data without needing a special interface. This breaks with the tedious and error-prone tasks they had to perform with their former, non-integrated software packages, transferring data manually among disciplines and then error-checking to make sure it was identical in all three. And, since all disciplines can now see what the others are doing with the EPLAN Platform, they work in harmony with each other.

Methodical migration to a new CAE technology

These advantages were apparent even in the planning of the move to the latest suite of EPLAN software products. In order to achieve a smooth transition without disrupting projects already underway, Dürr Ecoclean took a step-by-step approach. In July 2008, electrical engineers migrated from the old EPLAN 5 to EPLAN Electric P8, EPLAN's new generation flagship electrical engineering package. Next came the switchover to EPLAN Fluid (for pneumatics and lubrication engineering) and EPLAN PPE (for process instrumentation and control engineering). The latter is mainly used to create P&I diagrams. This provides more workflow flexibility since the changes made by the electrical engineers are automatically updated in the P&IDs. In EPLAN PPE, modules have been defined for functional assemblies such as filters and vacuum dryers and the EPLAN database archives these modules for all three disciplines.

Organizational alignment for a more efficient workflow

Dürr Ecoclean was quite aware that just adopting a common CAE platform wouldn't capture all of the advantages of integration. There had to be changes at the organizational level, too. To this end, process and fluid engineering design, previously part of mechanical engineering, were folded into the electrical design group. Electrical designers were trained in EPLAN PPE to help remove a bottleneck since previously only one designer was tasked with creating the P&I diagrams. Now, anyone in the electrical design group can do it.



ePLAN[®]
*electric***8**

ePLAN[®]
fluid

ePLAN[®]
ppe

Meeting

international customers'

REQUIREMENTS

Dürr Ecoclean was able to prove the advantages of integrated design in its first master project using the EPLAN Platform. Several large systems were designed for a U.S. machine tool manufacturer. From the very beginning, all electrical, process control and fluid designers were able to switch from the I&C view to electrical or fluid layouts without a need for interfaces. And since they worked off the same database, they could incorporate data automatically in seconds, instead of having to input it manually every time – another major time saver.

Schematics in desired standard and language

Dürr is able to easily create electrical diagrams directly in the NFPA norm, commonly used in the U.S., with EPLAN Electric P8's conversion function. When switched from one standard to another, all diagrams retain complete cross-referencing and full functionality. Moreover, EPLAN's translation function translates project documentation into any language to further satisfy international specifications. Since the translation is now performed by a common database serving all disciplines, uniformity is achieved in all translated technical terms.

Deployment throughout the global organization

Beginning with the factory in Loué, France, other Dürr Ecoclean locations will migrate shortly to the EPLAN Platform. Then data can be shared across all locations as well as all disciplines. The goal is that all systems, diagrams and documentation will be created according to the same standards regardless of geographical location. Also, plans are in place to connect the EPLAN database to the company's business system beginning with the ability to transfer component requirements from EPLAN to SAP. In a second phase, when the designer working in EPLAN specifies the need for a component, SAP will allocate or order it.

Machinery

ePLAN[®]
electric

ePLAN[®]
fluid

ePLAN[®]
ppe

Achieving design uniformity
across all disciplines

SUMMARY

As a leading manufacturer of part cleaning equipment for automotive production, Dürr Ecoclean is known for building high-quality, tailor-made systems. In engineering, switching from various outdated, non-integrated software packages to the EPLAN suite of products was accompanied by merging fluid and process control engineering into the electrical design group. Now all three disciplines share the same data in real time, including modules stored in their common EPLAN database, with major gains in efficiency and accuracy, and a more collaborative approach to project design management.

Find out more about Dürr Ecoclean on www.durr-ecoclean.com

ePLAN Your Engineering



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

Published in 2009

www.eplan-your-engineering.com