

Flow
control

ePLAN[®]
electric 8

POLYCONTROLS Technologies

Aiming high with EPLAN

Canadian firm helping design Venus probe

Polycontrols Technologies Inc. is a Canadian success story, a winner of the Canada Innovation Award specializing in products and services related to process control and flow measurement. Its strength is designing gas mixture systems for applications that require precise concentrations. For Polycontrols, having customers like the US National Air and Space Administration (NASA) relying on its expertise was a good reason not to let obsolete design tools keep it earthbound. In October 2010, the company switched to EPLAN Electric P8, along with the EPLAN Data Portal for importing component data directly from vendor catalogues, and has enjoyed major improvements in design efficiency and project turnaround times.

"We needed a new electrical design software package that would allow us to become more focused on our design process. We knew our efficiency in getting our projects to completion was often longer than planned and that our old CAD tool was slowing us down because of lack of accuracy in the information contained in the project documentation."

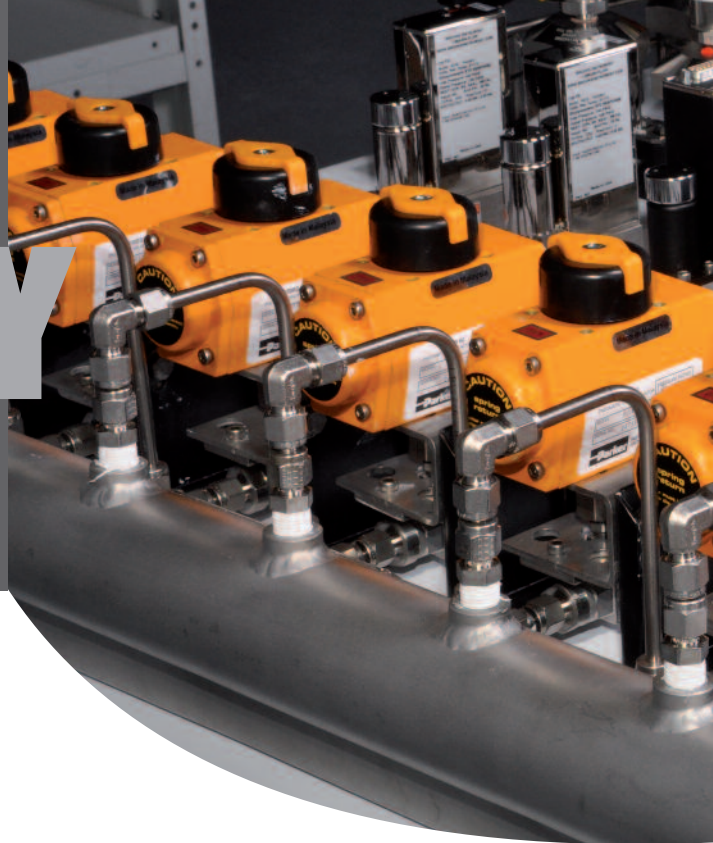
efficient engineering.

FRIEDHELM LOH GROUP

Focus

on

EFFICIENCY



Reproducing Venus atmosphere in minutes

Arguably the company's most fascinating project is helping NASA design and build a system to test the ability of the module for a planned Venus landing to resist that planet's hellish environment – an acidic combination of carbon dioxide, carbon monoxide, hydrogen chloride and nitrous oxide, with surface temperatures in excess of 460°C and atmospheric pressure about 90 times that of earth. Polycontrols has been working with engineers at NASA's John Glenn Research Center to develop a gas mixing system that will simulate the vacuum condition in which the rover components will be subjected during flight through the dense and corrosive atmosphere of Venus. The system consists of two free-standing cabinets connected to the chamber, one with all electrical equipment and a gas panel with all components. It will allow NASA engineers to reproduce Venus' atmosphere within a few minutes.

Needed more capable CAE tool

Today, Polycontrols operates the largest flow calibration laboratory in Canada at its headquarters in the Montreal suburb of Brossard. With its business growing, Polycontrols came to realize that remaining competitive in custom gas panel manufacturing and other specialty gas and fluid applications would require improving its design efficiency, productivity and accuracy.

Data Portal offers component support

"We needed a new electrical design software package that would allow us to become more focused on our design process," says engineering director Sylvain Desaulniers. "We knew our efficiency in getting our projects to completion was often longer than planned and that our old CAD tool was slowing us down because of lack of accuracy in the information contained in the project documentation."

Optimizing design is major time-saver

The work of its electrical engineers covers a wide range of flow control products: gas mixers, gas distribution panels, liquid delivery systems, samples conditioning units, liquid vaporizer and delivery systems, dissolution tables and test benches. In switching to EPLAN, Polycontrols expected the productivity and quality benefits of the new CAE would carry over to manufacturing and customer service, which it has. While the learning process with EPLAN took a little longer than anticipated, the benefits soon materialized. Polycontrols has achieved dramatic improvements in engineering efficiency. "We have been able to cut our design time significantly, and there are no errors showing up because of missed elements while in editing mode," says Desaulniers. "The quality of the schematics has been singled out as much better."



Project starts

made

EASY

Design savings carry over

“The time we are saving allows us faster prototyping and production gains, especially for medium-sized projects and large-scale applications. With the tightening of production schedules, it is very important to optimize productivity, implement lean processes and maximize standardization. EPLAN is making it possible to optimize our electrical design, which is critical. This alone is a significant time saver, and therefore a cost saver.”

Macros jumpstart design

For project engineer Eric Bessette, EPLAN is changing the company’s approach to design. “The ease in creating the preliminary design by importing macros and PLC schematics has allowed us to rethink our design procedures. We now can start by creating the core of a new system quickly, generate a parts list and proceed with purchasing what is required far sooner than in the past, then finish the job by numbering devices and wires and generating all required documentation without affecting the work already performed. This is especially useful where the customer doesn’t give us a lot of lead time to complete an order.”

Modifications made easy

Automating tedious tasks – like device wiring and numbering, which was always dreaded, never more so when it was necessary to make modifications – saves time and improves accuracy. “Today, it can take (just) minutes to generate all the device and wire numbering for a project,” says Bessette. “And how can I forget how secure projects have become with the total elimination of duplication in data for connections!”

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Flow control specialist reaps large benefits

SUMMARY

A provider of specialized flow control solutions, Canada's Polycontrols Technologies believed its old electrical engineering software was holding it back. It needed an upgrade to improve design productivity to meet increasingly stringent customer deadlines. After adopting EPLAN Electric P8 and EPLAN Data Portal, it has been able to reduce project design time significantly and eliminate common editing errors, leading to faster turnaround times. Many tedious tasks, like device wiring and numbering, have been automated, saving time and improving accuracy. Working in EPLAN has allowed electrical engineers to revise the sequencing of work by ordering components much earlier in the design process so production can start on schedule, even for orders that come with very little lead time.

Find out more about Polycontrols at www.polycontrols.com

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