

# TECHNOLOGY HORIZONS

A publication by Zetron, the pilot plant specialists

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IN THIS ISSUE

Zetron to deliver six process trains to Hydrodec of North America, LLC

Zetron and Corbion Purac meet challenging project schedule

Charitable fundraising award for Zetron staff in Canada

Chris Brown wins 2014 Petrobras innovation award

AND MORE!



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## ZETON TO DELIVER SIX TRANSFORMER OIL PROCESSING TRAINS TO HYDRODEC

As recently reported in a news release by Hydrodec Group PLC, Zetron is on track to deliver six transformer oil processing trains to Canton, Ohio-based subsidiary Hydrodec of North America, LLC in the first quarter of 2015. The first two trains will be delivered earlier, on an accelerated schedule, in the fourth quarter of 2014, allowing installation to be staged on site.

During a recent visit to Zetron, Hydrodec Process Technology Engineer Kieran Channon commented: "I have been really impressed by how nicely the first

transformer oil process skid is coming together. The Zetron team, from engineers through to skilled technicians on the shop floor, certainly take pride and ownership of their work. This is most evident in the quality of the unit that has been constructed to date, and the tremendous attention to detail. Once operational, I have no doubt that this new generation of transformer oil re-refining plants will be world class, and a significant step up on the operating platform they will both expand and replace."

According to Zetron's project manager Craig Soulsby, "Hydrodec is taking advantage of Zetron's ability to rapidly replicate the processing plants, with an initial order for two trains being closely followed by an additional four more. As a result, significant savings in engineering cost and overall project schedule will be realized by Hydrodec, with multiple processing trains being designed and built in parallel, all the while maintaining exceptional build quality across all units in Zetron's climate-controlled manufacturing facility in Burlington, Ontario." ■

**“WE HAVE EXPERIENCED A TRUE AND VALUABLE PARTNERSHIP IN ZETON DURING THE DEVELOPMENT OF OUR AMBITIOUS PROJECT.”** TEUN DE WEERD, PROJECT MANAGER, CORBION PURAC

# CHALLENGING THE MEANING OF FAST-TRACK PROJECT EXECUTION

In December 2012, a new cooperation began between Corbion Purac and Zeton B.V. The main goal was the design and fabrication of a new demonstration plant, which would generate important design data for a new commercial scale plant.

Corbion Purac involved Zeton from an early stage, during which we jointly finalized the process flow diagrams for the demonstration plant. While executing the preliminary engineering work, Corbion Purac determined that following Zeton's fast-track project approach would not deliver the initial demonstration plant data in time. With more than a three month time gap, the demonstration plant would not be useful for providing the required input for the design of the commercial scale plant. By increasing the team manpower resources, creating flexibility in the design, and in some cases taking calculated (and well-considered) risks to overcome obstacles, we were jointly able to shorten the overall project schedule and meet the requested start-up date.

A crucial factor in meeting the project timeline was the ordering of the major equipment in parallel with the development of the design of the integrated process plant. This was particularly important as the chemicals used in the process placed high demands on the materials of construction, requiring, in some cases, special alloys with long delivery times.



The module design and overall plant layout can have a major impact on project execution and schedule. Whereas the original plan was to transport the modules by road and therefore use smaller modules - the initial plant design contained six modules with an overall height of 24 meters and a footprint of 10 meters by 6 meters - the team decided to revise the design to include larger modules and then ship three modules by water. Shipment of fewer modules also reduces the installation work at site and results in an earlier start-up date. Deciding on the ideal floor height and overall module layout allowed Zeton to assemble the plant in a shorter timeframe.

This project proved once again the importance of teaming up early in the project. Having a clear focus on the most critical requirements, and making key decisions early in the project, are essential to realizing the project within the framework set out by our customers. This result could not have been achieved without the strong cooperation and flexibility of the project team at Corbion Purac, who understood perfectly what Zeton required in order to deliver their project on time. Congratulations to both project teams on this impressive achievement!

Teun de Weerd (Corbion Purac project manager):

**“We have experienced a true and valuable partnership in Zeton during the development of our ambitious project. Zeton demonstrated great basic engineering skills and excellent executional capabilities. Flexible attitude was shown in solving some of the more difficult challenges in the course of the project. The project was delivered well in time, despite the sharp time schedule, without compromises to the quality or functionality.”** ■



# ZETON IS AWARDED INVENTOR OF THE YEAR PRIZE FOR INNOVATION BY PETROBRAS

Zeton is pleased to announce that Chris Brown, Zeton Inc.'s VP Engineering and a founding employee of the company, has been awarded the Petrobras 2014 Inventor of the Year prize for the invention of a non-mechanical biomass feed valve used in the Gasification Pilot Plant project. The awards are given to Petrobras employees and partners whose past inventions led to successful patent applications by Petrobras.

Zeton's representative in Brazil, Roberto Bieler of Farbitec, attend the August 20, 2014 award ceremony, and accepted the trophy and certificate on Chris' behalf (see photo). While most of the partners were universities, Zeton was one of the few companies, and the only foreign one.



Zeton would like to thank Mr. Marco Antonio Haikal Leite, Technical Advisor of Petrobras, for nominating Chris and Zeton for this award. We would also like to

thank Roberto Bieler for attending the ceremony and accepting the award on Chris' behalf. ■

## TEAM SPIRIT HIGHLIGHTING THE ACCOMPLISHMENTS OF OUR STAFF IN THE DUTCH AND CANADIAN OPERATIONS

### ZETON RECEIVES "SICKKIDS BELIEVE AWARD" FOR CHARITABLE FUNDRAISING EFFORTS

On September 5, 2014, Zeton was presented with "The SickKids Believe Award" by SickKids Foundation/ Heatwave Events, in recognition of being the top fundraising team in the 2014 Heatwave Halton charity beach volleyball tournament. The ceremony included a very inspiring speech from a previous patient of the Hospital for Sick Children, and a SickKids Ambassador, Alexandra, who told her story of being diagnosed with a rare form of childhood bone

cancer at the age of 13 and her extensive treatments over the next 7 years.

This year's annual Heatwave tournament, held earlier in June 2014, saw Zeton teams compete for the fifth year in a row, and resulted in Zeton being crowned tournament champions for the third time in five years. Zeton is proud to be a part of this event and congratulates all participants and fundraising contributors for their outstanding success both on and off the volleyball court!



# IN BRIEF

## HIGHLIGHTING RECENT AND COMPLETED PROJECTS AND ENGINEERING STUDIES

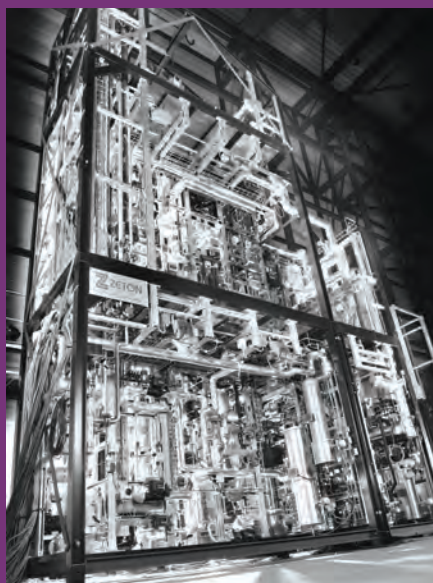
- A recycle hydrocracker pilot plant
- An absorption bed pilot plant
- A six-method FCC catalyst deactivation unit
- An engineering study for a novel hydrogen production plant
- A crude oil desalting pilot plant
- Six transformer oil processing trains
- A natural gas to chemicals demonstration plant
- An alternative energy and chemicals demonstration plant
- A lab scale biomass steam explosion unit
- A basic engineering study for a catalysed fast pyrolysis pilot plant



Continuous polymerization oscillating flow reactor pilot plant



Slurry processing skid for heterogeneous reactions



Synthetic fuels pilot plant



Two-stage hydroprocessing unit



## CONTACT US

TO DISCUSS YOUR PILOT PLANT REQUIREMENTS,  
OR ITEMS IN THIS ISSUE OF HORIZONS, PLEASE CONTACT:

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