

# TECHNOLOGY HORIZONS

A publication by Zetron, the pilot plant specialists

**SPRING 2024**

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Horizons is also available on our website at [zetron.com](https://www.zetron.com)



## DECARBONIZING CRITICAL INDUSTRIES AT SCALE WITH ELECTRIC HYDROGEN

Empowering leaders in the energy transition, Electric Hydrogen unlocks low cost, reliable green hydrogen production for its customers to achieve its mission of decarbonizing critical industries - such as fertilizer, plastics, steel, transportation, and logistics - at scale. Their approach hinges on delivering a fully integrated 100MW Electrolyzer Plant, designed for deployment to reduce total project and production costs of green hydrogen. The company's first 100MW Electrolyzer Plant will be shipped to a customer site in TX this summer.

In San Jose, CA, Electric Hydrogen operates a 10MW Plant that mirrors the same process flow design and skid-modularized approach of their 100MW Electrolyzer Plant. This is a stark contrast to how chemical plants are designed today - stick-built and plagued with construction overruns. Due to the skid-modularization by Zetron, the time from

delivery of first skid module to San Jose to a commissioned plant was less than 5 months.

Common real-world project requirements like the spatial limitations of the plant's location required iterative adjustments to the layout, striking a delicate balance between operational efficiency and accessibility. Amidst tight construction timelines, the convergence of a demanding schedule and intricate complexities within the supply chain necessitated adaptive strategies. Impressively, Zetron managed to expedite the construction process, resulting in a significant reduction in design to shipment process. Notably, Electric Hydrogen's initially challenging schedule was not only met but surpassed, with the plant being dispatched by the end of August 2023.

Collaboration stands as the cornerstone of both Electric Hydrogen and Zetron's trajectory. The successes achieved are a testament to the collaborative efforts of a diverse array of stakeholders and seasoned project engineers. This collaborative synergy enhances their capacity for innovation and effective problem-solving.

"Zetron was a fantastic partner who provided both the engineering assistance and the manufacturing capabilities required to complete this project within a modified urban space, all while remaining flexible for our unique needs," said Christopher May, Electric Hydrogen's project manager.

To learn more about Electric Hydrogen, visit [www.eh2.com](https://www.eh2.com) or reach out via email to [sales@eh2.com](mailto:sales@eh2.com). ■



# SUCCESSFUL COOPERATION BETWEEN ZETON AND CLARIANT - REALIZATION OF ANOTHER GREAT PROJECT



In the dynamic world of technological developments and industrial progress, cooperation between suppliers and customers is crucial. A fine example of such fruitful cooperation can be found in Clariant's Ethoxylation project. It has led not only to innovative solutions for small, compact systems, but also to a strong and lasting relationship.

Clariant is a focused specialty chemical company headquartered in Switzerland, specializing in the production of a wide range of chemicals for various industries, with an emphasis on sustainability and innovation. Among other things, the company offers process development solutions for polymers. In the area of R&D, Clariant and Zeton have collaborated on research and development initiatives during several projects in multiple locations within and outside Europe.

How did this partnership between Zeton and Clariant come to fruition? One of the cornerstones of this collaboration was proactive thinking and the application of extensive know-how and craftsmanship. Traditional ways of thinking were challenged, resulting in a shift from a fixed idea, such as a project in a fume hood, to a flexible and mobile system that can be placed anywhere (see image). This approach has not only improved system efficiency but also increased flexibility.

Zeton places a strong emphasis on quality and reliability in its projects. The "First Time Right" principle was also perfectly implemented in this latest project delivered, which contributed to smooth execution and minimal disruptions during the implementation phase.

What does collaboration in the project look like for both parties? Clariant is a customer who appreciates the fact that the process is carefully managed by Zeton from the concept phase to delivery. This proactive approach helps ease their operational burden, allowing them to focus on their core business. It provides reassurance, knowing that they remain in control of the project, while Zeton ensures smooth execution which promotes efficiency.

In conclusion, the collaboration between Zeton and Clariant illustrates not only the effective delivery of small, compact systems, but also the power of a strategic partnership. It goes beyond a traditional customer-supplier relationship and reflects a shared commitment to innovation, quality, and long-term success.

Every collaboration starts with a first step. Are you curious about how we can help you grow and be successful? Contact us today to find out how we can achieve your goals together! ■



# JOIN US AT ACHEMA 2024!

In June, we are excited to be present at ACHEMA, with booths in Hall 9.0 at F04 and E64-011. Our team consists of Dutch and Canadian experts who are eager to engage with you. And this year we have a native Spanish speaker at our main booth.

We welcome you to visit both our booths. Would you like to make an appointment with one of our experts or be sure of availability during your visit? Contact us at [marketing@zeton.nl](mailto:marketing@zeton.nl) or call +31 (0)53 4284100 to coordinate with our sales and technical team.

We would like to offer you the opportunity to get a free ticket.

Go to <https://www.chema.de/en/tickets> and use our voucher code: A\_awMwpu9q

Let's connect, collaborate and create at the ACHEMA 2024! ■

ACHEMA2024

10 - 14 June 2024

Frankfurt am Main, Germany



Hall 9.0  
Stand F04 and Stand E64-011

*Please visit us!*

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



## ADVENTUROUS SURVIVAL WEEKEND IN THE ARDENNES

In April, a group of 30 employees went to the Ardennes for a survival weekend. Starting at a campsite in Houffalize, they could choose from a variety of activities. From a climbing forest to a jungle course, mountain biking, hiking, and canoeing on the river, everything was possible. In addition, of course, there was plenty to eat and drink and, above all, lots of laughter.

It was great to see what happened when people from different departments were taken out of their ordinary environment and challenged to learn new skills. Away from their ordinary work, employees stepped out of their comfort zones and supported each other. With lots of laughter and nature around them, they made unforgettable memories and strengthened their bonds.

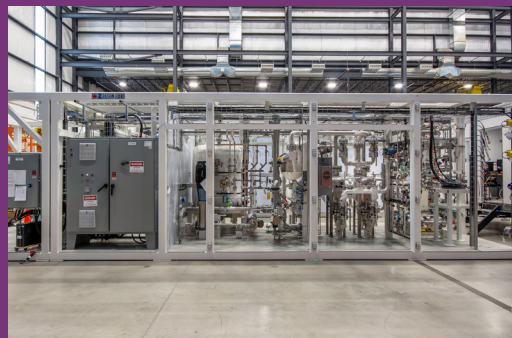
# IN BRIEF

## HIGHLIGHTING RECENT AND COMPLETED PROJECTS AND ENGINEERING STUDIES

- Design for a ContiUnity® crystallizer module
- Basic design for a carbon capture utilization plant
- A ContiUnity® commercial API production plant
- A depolymerization pilot plant
- A biocrude demonstration plant
- A natural gas reforming alternate technology demonstration plant
- A high purity gas distillation unit



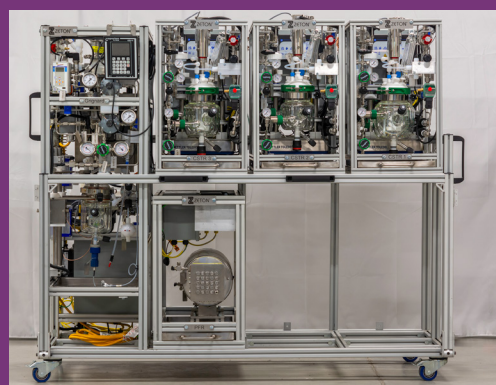
Industry-scale carbon dioxide dryer system



A 150 kW CO<sub>2</sub> to CO electrolysis plant



A gas fermentation pilot plant for fat production



A continuous platform for API production



## CONTACT US

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

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