

FEBRUARY 2022 | HydrocarbonProcessing.com

# HYDROCARBON PROCESSING®

## DIGITAL TECHNOLOGIES

THAT ARE OPTIMIZING PLANT OPERATIONS

Protecting OT environments against  
**TARGETED CYBER ATTACKS**

How are  
**BIOFEEDSTOCKS**  
affecting processing units?

**HISTORY OF THE HPI:**  
Technologies evolve, and new  
discoveries made during the 1930s

Gulf Energy®



## What is the future for the HPI?

*Hydrocarbon Processing* sat down with Helion Sardina (HS), Chief Commercial Officer, Lummus Technology. In this interview, Mr. Sardina offered his market insight on the COVID-19 pandemic, the process technology industry now and in the future, and its role in the energy transition.

### How did COVID-19 affect the hydrocarbon processing industry in 2021?

**HS:** When COVID hit in 2020, it plunged the refining and petrochemicals industries into a deep downturn, except for products such as polymers that are tied to the medical sector. Fortunately, 2021 was not as severe as 2020, and the industry is close to a worldwide recovery.

The pandemic resulted in lower plant utilization rates and caused some construction projects to be delayed. Due to our company's diversification and longer-term planning and execution windows for customers, we fared much better than most other players in our industry. We did, however, experience challenges and delays in being able to deliver proprietary equipment for ongoing projects and re-loading catalysts for our licensees.

### Do you foresee similar impacts in 2022?

**HS:** Based on our current pipeline, we are seeing previously delayed projects now moving forward. If efforts to curb the pandemic are successful, it will bring our global markets back into balance. As a result, we anticipate increased consumer activity, which fuels growth in our business and industry.

### What are some of the key drivers and technology developments shaping the market today? In the next 5 yr?

**HS:** We need to transform current technologies and develop new ones that minimize environmental impact and

contribute to the circular economy. It is also important that we provide refiners solutions that help them pivot away from declining transportation fuels by repurposing existing assets to meet the growing demand for petrochemicals.

Lummus' efforts include developing and administering licenses focusing on world-scale crude-to-chemicals projects. We have added energy conservation components to our portfolio, such as gas turbines in our ethylene crackers. We have teamed up with New Hope Energy, which has a leading plastic waste conversion technology that produces pyoil that can be co-fed into a refinery or petrochemical plant with fossil fuel-derived feedstocks. With this partnership, we have applied our expertise to scale up the plant design to ensure it can have a significant impact on the end-of-life plastics challenge.

### What role will process technologies and companies like Lummus play in the energy transition?

**HS:** Customers across all regions are requiring more environmental, social and governance compliance, and a lower carbon footprint at their existing facilities.

In late 2020, Lummus established Green Circle to focus on the circular economy and provide energy transition solutions. We have developed new technologies related to the energy transition, while continuing to enhance existing technologies that produce renewable and cleaner fuels, lower the carbon footprint of our customers' downstream investments and help facilities co-process circular products.

Our industry has a long and lasting legacy of making things work. We know how to convert hydrocarbons into fuels and consumer products. This is one thing that has not changed. Therefore, process technologies and the companies that license them can build on this legacy in the energy transition.

### How does the process technology industry need to evolve going forward?

**HS:** Our licensees are under pressure to reduce emissions and become more environmentally friendly, and we can help them lower the carbon intensity of their plants.

We must provide every one of our licensees the most efficient plant design, which translates to the lowest impact to the environment. This holistic approach can reduce the overall carbon footprint while also improving plant operating expenses. We need to continue minimizing feedstock consumption, optimizing energy use, extending the use of catalysts and reducing emissions.

On the surface, those do not typically sound like they go together—plant operations and environmental cleanliness. However, process technology licensors have historically produced technologies that have helped customers increase efficiency, emissions and waste reductions and savings in their operations.

Our industry can also evolve by accelerating digitalization, an area where we have been slower than some other industries in adopting. At Lummus, we formed a joint venture with TCG Digital. The JV works with our existing customers and prospects to implement digital solutions for their refining, petrochemical and gas processing assets, as well as across the hydrocarbon processing value chain.

We see opportunities to further the digitization of our industry—from performance monitoring, system optimization and remote management of facilities, among others—to empower industry leaders with smarter ways to do business. **HP**



**HELION SARDINA** has spent his entire career with Lummus Technology, serving in different management roles of increasing responsibility. At present, Mr. Sardina is Lummus' Chief Commercial Officer, where he

is responsible for overseeing all aspects of sales and business development for the company.