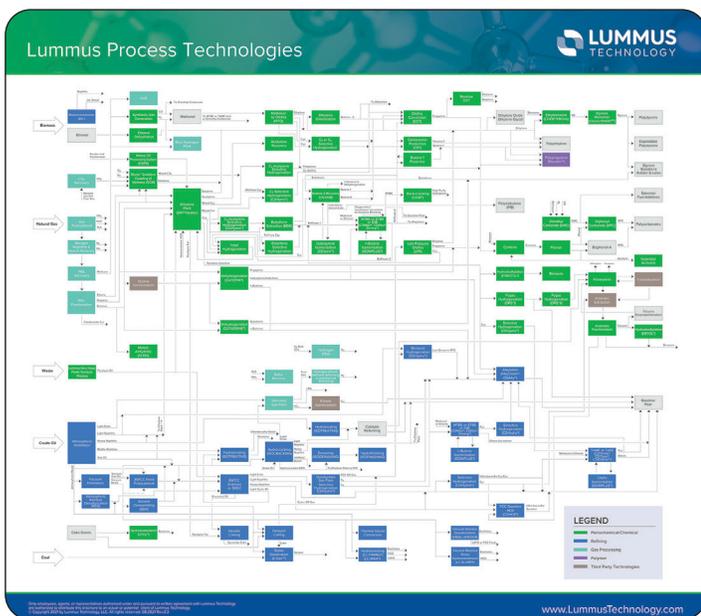




Lummus Technology

Diverse, Integrated and Sustainable Technologies for the Downstream Energy Industry

With a heritage spanning more than 110 years and a focus on innovation has created a portfolio of nearly 150 technologies, 4,100 patents and more than 2,400 licensed units, Lummus is a global leader in developing technology solutions that make modern life possible and focus on a more sustainable, low carbon future. We license process technologies in clean fuels, renewables, petrochemicals, polymers, gas processing and supply lifecycle services, catalysts, proprietary equipment and digitalization to customers worldwide.



Global Strength, Local Expertise

At Lummus, being close to our customers enables us to provide superior solutions. Our global reach covers the world's major markets while our local presence allows us to build relationships and respond quickly to customer needs no matter the region. Regardless of the location, any Lummus employee can tap into our entire organization to create the right solution for each customer.

R&D Leadership

Research and development are fundamental to creating innovative solutions that match the most sophisticated partner and customer needs. At our three strategically located research and development centers in Texas, California and Germany, we have established a track record for commercializing new technologies that is unparalleled within the industry.



Innovation Applied. Performance Delivered™

Polymers and Petrochemicals

Our petrochemicals portfolio offers unique and commercially proven solutions to produce olefins, aromatics and carbonates. We offer customization to most clients' available feedstocks and desired products worldwide.

Lummus Novolen® gas phase process allows to produce a full range of polypropylene resins. We offer a full range of polypropylene products as well as catalysts to produce high margin specialties.

Clean Fuels

Lummus' state-of-the-art conversion processes (FCC, alkylation, etherification, hydrotreating and isomerization) produce gasoline blend stocks and high-value petrochemicals (propylene, butenes and high purity isobutylene). Our refining portfolio produces gasoline blend stocks that meet strict quality standards and the high-octane content required by modern high compression engines. Our portfolio also addresses crude to chemicals objectives with its high severity RFCC technology for both olefin and aromatics production.

Chevron Lummus Global, a Chevron and Lummus Technology joint venture, is a recognized leader in hydroprocessing and bottom-of-the-barrel technologies to produce clean and renewable fuels, petrochemical feedstocks, and premium base oils. Its technology portfolio offers complete solutions to produce these high-value products from even the most challenging feedstocks.



Green Circle

Lummus' business, Green Circle, focuses on using the company's capabilities to capture new opportunities in the energy transition and circular economy. Green Circle provides economically and technically sound solutions to processing solid wastes containing plastics; processing various renewable bio-based feedstocks to value-added chemicals, polymers and fuels; and decarbonizing refinery and petrochemicals assets.



[LummusTechnology.com](https://www.lummustechnology.com)

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Services and Supplies

For more than 100 years, we have provided process industries around the world with the design and supply of specialized process equipment. We offer proprietary critical equipment based on patented designs that are essential to the proper functioning and performance of our licensed processes. In addition to designing and supplying fired heaters, deNOx units, heat exchangers, ethylene furnaces, delayed coking heaters and reactor internals, we provide lifecycle services that includes technical support for plant startup, troubleshooting, performance improvement and personnel training.

Lummus Consultants is an independent advisory team that provides guidance using deep commercial, technical and project experience for power, oil and gas, petrochemical, refining and government segments. We serve project developers, owners, sellers, buyers and their lenders and financial advisors, providing project finance, and mergers and acquisitions support, and has more than 30 years of experience in supporting global financial sector and investment groups.

A joint venture between Lummus Technology and TCG Digital, **Lummus Digital** is an accelerator



of digitalization services to the refining, petrochemical, and gas processing industries and more. We know complex manufacturing and how to take the data from its processes to drive understanding and improvements at every level. From monitoring to analysis to prediction, we help optimize business' operations for higher yields, better performance, asset management and facility profitability.

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