ORGANO: Japan's Water Treatment Engineering Company Eyes Global Expansion

A leading Japanese water treatment engineering company with 70 years of experience, Organo Corporation is leveraging advanced technologies to expand its solutions for the semiconductor, pharma, energy and environmental sectors worldwide.

"We believe that our technologies, particularly as they benefit the semiconductor industry, have advantages in the U.S. that will enable the same growth there we have seen in the Asian region."

Masayuki Yamada,
President, Organo Corporation

Organo Corporation was established during the initial flourishing of Japan's industrial sector shortly after World War II. Since then, the company has grown in tandem with Japanese industry to become a comprehensive water treatment engineering company developing purification solutions used in various fields such as semiconductors, energy, and pharmaceuticals. Key to Organo's success in recent decades was the establishment of its own integrated R&D center in 1986, which has served as the hub for its innovation for more than 35 years.

"Along with rapid economic growth in Japan after WWII, there was a huge demand for deionized water. Organo responded to this by developing technology that helped us achieve an impressive track record," says Masayuki Yamada, President of Organo Corporation. "Technology such as ion exchange resin combined with the data and know-how we have accumulated over the years has enabled us to provide a variety of water purification solutions to meet the exact needs of our customers."

These solutions include Ultra-Pure Water (UPW) systems for semiconductor manufacturing, which help to remove impurities in the manufacturing process; condensate polishing systems for power plants, which protect steam turbines from corrosion; distillation and purification water systems for the pharmaceutical industry; decolorization, desalination and separation systems for sugar refineries; and UPW systems for laboratory and high-precision trace analysis.

In the semiconductor industry, miniaturization not only of final components but throughout the manufacturing process has created demand for a high level of purity control in order to remove microscopic impurities between the production stages. Purity control is critical to ensure semiconductor quality and performance, and Organo's UPW systems have proven invaluable in the production process for modern semiconductors.

"Not only do we provide equipment capable of stable production of UPW, but our ability to remove a small number of specific ions or extremely small particles contributes significantly to yield improvement in semiconductor manufacturing," Mr. Yamada reveals. "It's our independently developed analytical techniques that help our systems detect impurities at concentrations lower than anything detectable by analyzers currently available in the market. By identifying water quality issues early, our customers can prevent manufacturing problems and boost their profit"

Benchtop UPW equipment, μ series

All this means that Organo is well positioned to take advantage of the U.S. semiconductor industry boom thanks to major investments and the recently-passed CHIPS and Science Act, which will provide $52.7 billion for semiconductor R&D, manufacturing, and workforce development. It has already established one foothold, an Arizona office that has provided solutions for a Taiwanese semiconductor customer, and will continue with operation and maintenance there while casting a wider net for opportunities with other semiconductor manufacturers in the U.S.

Next generation UPW system at R&D center

As Mr. Yamada explains: "We believe that our technologies, particularly as they benefit the semiconductor industry, have advantages in the U.S. that will enable the same growth there we saw in the Asian region."

"We also see major potential for Organo in the Indian market," he adds.

While it may require some time to accomplish, an increase in investment for the pre-processing of semiconductors will inevitably lead to a significant surge in demand for UPW. Organo also has its eye on other industries overseas in need of its technologies as it looks to continue growing its international operations.

"We are not just a strong ally to the semiconductor industry", Mr. Yamada stresses. "We are also looking at pharmaceuticals, especially the growing industry of biopharmaceuticals. Organo has extensive experience in this field in areas such as validation which require very tight controls." A second, growth area is the overseas market for Pure Water (PW) and UPW equipment in laboratories. Research institutes, medical facilities, and industrial laboratories all require small amounts of PW or UPW, and Organo's track record in the domestic market means it already has the know-how to serve these needs abroad.

A third growth area where Organo stands to make a positive environmental impact is Organic Solvent Refining Systems. "Our technology for recycling NMP (N-Methyl-2-pyrrolidone) contributes significantly to carbon neutrality," notes Mr. Yamada. "In addition, we are exploring purification technologies for organic solvents other than water." He adds that Organo's innovative technology for sewage treatment facilities also has potential in overseas markets.

After years of progress and innovation, Organo now promises to grow even more as it pursues its ambitious goals for global expansion with a laser focus on sustainability. Organo invites investors who believe in its vision and the limitless potential of its water treatment engineering technologies to join its journey.

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