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## **Zeon and Microwave Chemical to Begin Demonstration in a Project for Applying Microwave Processing to Elastomer Manufacturing toward Achieving Carbon Neutrality**

Zeon Corporation  
Microwave Chemical Co., Ltd.

**Zeon Corporation (Zeon; head office: Chiyoda-ku, Tokyo; President and CEO: Tetsuya Toyoshima) and Microwave Chemical Co., Ltd. (Microwave Chemical; head office: Suita City, Osaka; President: Iwao Yoshino) have concluded an agreement on conducting a demonstration in a project for applying microwave processing\*<sup>1</sup> to elastomer manufacturing.**

The combustion of fossil fuels serves as the primary power source in the manufacture of elastomers and other chemical products. Process electrification using renewable energy sources is therefore required as a carbon neutrality initiative of the chemical industry. However, electrification without changing the conventional manufacturing process is not economically feasible. Against this backdrop, Zeon and Microwave Chemical discovered that the application of microwave processing, which can transfer energy directly to the target material, has the potential not only to clear that economic challenge but also to improve productivity. In this project, the two companies are aiming to electrify the power source for elastomer manufacturing by applying microwave technology to a part of the process and also to innovate the manufacturing process.

Zeon and Microwave Chemical have been conducting a proof of concept\*<sup>2</sup> for the project up to fiscal 2022. From fiscal 2023 onward, we will conduct a demonstration at Microwave Chemical's Osaka plant (Suminoe-ku, Osaka City) with the goal of social implementation by fiscal 2027. Together with Microwave Chemical, Zeon will work to realize carbon neutrality and contribute to a sustainable Earth and safe and comfortable life for people.



Microwave Chemical Osaka plant, where the demonstration will be conducted

**Zeon's Initiatives for Carbon Neutrality**

Zeon is promoting a transformation in "monozukuri" to realize carbon neutrality and a circular economy as a Group strategy under its medium-term management plan. Furthermore, it is working to reduce its own CO<sub>2</sub> emissions (Scope 1 and 2) by 50 percent from levels in fiscal 2019 by 2030 under its Carbon Neutrality Master Plan. As measures for attaining this target, Zeon is making advances based on the three pillars of promoting energy savings, reforming processes, and converting energy sources. The project corresponds to saving energy and reforming processes in the elastomer business, and Zeon will accelerate its efforts for early implementation.

**About Microwave Chemical Co., Ltd**

Microwave Chemical is committed to advancing and streamlining product manufacturing and chemical reaction processes, developing new materials that are difficult to manufacture using conventional technologies, and contributing to electrification, which is essential for decarbonization, through the effective use of microwaves. In partnership with manufacturing companies, especially chemical manufacturers in Japan and overseas, the company leverages its proprietary microwave chemical technology platform to provide a one-stop solution, from research and development of microwave processes at the laboratory scale, bench scale plant and pilot plant, to engineering for the design, installation, and start-up of commercial plant.

\*1 A chemical process that produces heat based on the same principles as a microwave oven. The technology is vital to electrification in the industrial sector (replacing conventional processes using fossil resources with processes using electricity), which is essential for achieving carbon neutrality.

\*2 Verification prior to prototype development to determine the feasibility of new methods

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