

NPR-RIKEN CORPORATION and Harmonic Drive Systems Inc. have agreed on the joint development of the next-generation “Resin Strain Wave Gear Reducer”

~With a focus on engineering plastic's properties, we cultivate the ever-expanding up-and-coming market, such as Robotics~

NPR-RIKEN CORPORATION (Headquarters: Chiyoda-ku, Tokyo; Representative Director, Chairman and CEO: Yasunori Maekawa; hereinafter “NPR-RIKEN”) and Harmonic Drive Systems Inc. (Headquarters: Shinagawa-ku, Tokyo; President and Representative Director: Akira Maruyama; hereinafter “Harmonic Drive Systems”) have agreed on the joint development of “Resin Strain Wave Gear Reducer” by utilizing the engineering plastic's properties, in order to cultivate the new potentials of strain wave gear reducer and expand into new markets and new applications.

In this development, we have focused on “resin material”, in the field where metal-based strain wave gear reducer used to be the mainstream. By fusing NPR-RIKEN's cultivated manufacturing technology of super engineering plastics and Harmonic Drive Systems' long-cultivated production technology of strain wave gear reducer, we aim to launch new products to the market targeting the applications where further weight reduction and low noise are required. We will proceed with the joint development, taking into consideration the idea of future commercialization.

Background and aim of the development

Strain wave gear reducer is a small-sized, light-weight precise control reducer and has become widely adopted in fields such as industrial robots and semiconductor manufacturing equipment. Recently in the industrial world, the needs for service robots, wearable devices, and micro-mobilities have diversified, such as the demand to share space with humans, to be able to run for long hours with batteries and weight reduction of the devices.

In these applications, different values, including “safety when in contact with humans”, and “decreasing electricity consumption by thorough weight reduction” become far more necessary than durability and toughness like a metal. Both companies have newly utilized the engineering plastic properties and will capture new needs in the up-and-coming market.

【Inquiries】

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