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## Nidec's Motor for Battery-assisted Bicycles is Adopted for Use in Taiyo Yuden's Regenerative System that Keeps Them Running for 1,000km per Charge

Nidec Corporation (TSE: 6594; OTC US: NJDCY) ("Nidec" or the "Company") today announced that a motor that it developed for regenerative system-based battery-assisted bicycles has been adopted for use in FEREMO™, the regenerative power assistance system\*<sup>1</sup> that Taiyo Yuden Co., Ltd. ("Taiyo Yuden") produced **keeps a bicycle running for up to 1,000km on a single charge**\*<sup>2</sup>.

### TAIYO YUDEN

### Nidec



Taiyo Yuden's regenerative power assistance system, FEREMO™, and a prototype bicycle with it



Nidec's motor for regenerative system-based battery-assisted bicycles

FEREMO™, the regenerative power-assisted system that Taiyo Yuden developed, uses its power-assisting motor as a generator when the person on a bicycle puts on the brake or has his/her feet off the pedals, to collect and reuse motion energy. This feature enables FEREMO™ to enjoy a significantly longer **per-charge running distance, or up to 1,000km**, than conventional power-assisting systems. In addition, with speed suppressed while the regenerative system is on, one can ride a bicycle safely even on a downhill.

Nidec's power-assisted bicycle motor installed in FEREMO™ was designed exclusively for the system. While conventional power-assisting systems merely engage in powered operation (*i.e.*, driving a motor with battery-generated electricity), this new motor operates as a generator when a bicycle decelerates, engaging in regeneration (*i.e.*, rotating a motor with external power to generate electricity). In comparison with the Company's other existing motors, this latest model boasts **30% more regenerative electric power, which is an industry-leading power generation efficiency**, to help FEREMO™ achieve the 1,000km travelling distance. Furthermore, unlike assistance-only motors, load is constantly on the motor, making it more durable, low-noise, and radiation-efficient than conventional models.

As the world's leading comprehensive motor manufacturer, Nidec stays committed to developing products with its technologies to make light, thin, short, and small products, as well as productivity enhancement and control technologies; and to proposing, at an overwhelming speed, revolutionary solutions that contribute to the lives of people around the world.

\*1. FEREMO™ and  are Taiyo Yuden Co., Ltd.'s registered trademark or trademark for use in Japan.

\*2. According to Taiyo Yuden's prototype vehicle measurement patterns (eco mode: 1,000km; middle mode: 200km; and high mode: 100km) based on the Japanese Industrial Standards (JIS D9115:2018)