

SoftBank Corp. and Nidec Jointly Develop Light-weight, High-efficiency and High-reliability Motor for High Altitude Platform Stations

Tokyo and Kyoto, Japan – June 27, 2023 – SoftBank Corp. (TOKYO: 9434) (“SoftBank”) today announced that it and Nidec Corporation (TOKYO: 6594; OTC US: NJDCY) (“Nidec” or the “Company”) have jointly developed a light-weight, high-efficiency, and high-reliability axial flux-type motor for High Altitude Platform Stations (“HAPS”). This newly developed motor also meets the specifications required for Sun glider, the unmanned aircraft system (UAS) developed by HAPSMobile Inc. (“HAPSMobile”) a subsidiary of SoftBank.



Sun glider, the unmanned aircraft system for HAPS developed by HAPSMobile (Reference)



HAPS Motor

The jointly developed motor boasts light weight, high efficiency, and high performance that enable UAS for HAPS to endure long flight times solely on solar power, and high thermal dissipation that keeps them performing stably in the stratosphere’s hypobaric environment. In addition, with the use of the magnetic circuit design technology, which Nidec has long nurtured in its small precision motor development, together with, among others, an optimized magnet arrangement to maximize magnetic field strength, a special design that encapsulates magnets in a rotor to improve reliability, and a unique, patents-applied motor assembly method for better performance, the HAPS motor has achieved a torque density of 12.5N·m/kg, despite its light weight.

Going forward, SoftBank and HAPSMobile will continue to develop various foundational technologies, like those for the latest motor, to commercialize HAPS, and promote HAPS businesses with the aim of creating a society where all can be connected to stable networks, anytime and anywhere, and to bridge the digital divide.

Nidec, on the other hand, as the world’s leading comprehensive motor manufacturer, stays committed to developing products based on its technologies to develop light, thin, short, small, high-efficiency, and highly controllable products, and to offering, at an overwhelming speed, revolutionary solutions that contribute to the lives of people around the world.

For more information on SoftBank’s R&D activities, please visit the SoftBank Corp. Research Institute of Advanced Technology website.

URL: <https://www.softbank.jp/en/corp/technology/research/story-event/014/>

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