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TOYOTA CENTRAL R&D LABS., INC.
DAIHATSU MOTOR CO., LTD.

Smart Power Hub® (SPH®), Jointly Developed by TCRDL and DAIHATSU, Wins the "2026 R&D 100 Awards"

– Promoting Field-tests of Microgrid Systems Utilizing SPH, a Compact, High-Efficiency Solution for DC Microgrids–





TOYOTA CENTRAL R&D LABS., INC. (Nagakute City, Aichi Prefecture; hereinafter "TCRDL") and DAIHATSU MOTOR CO., LTD. (Ikeda City, Osaka Prefecture; hereinafter "DAIHATSU") announced that the Smart Power Hub® (SPH®*), a high-efficiency electronic power converter jointly developed by the two companies, has won the 2026 R&D 100 Awards.

The R&D 100 Awards are international science and technology awards organized by R&D World in the United States. Established in 1963, the awards annually recognize 100 innovative research and development achievements from around the world involving new products, technologies, materials, and other developments that have been commercialized during the year. The awards are regarded as prestigious honors and are sometimes referred to as the "Oscars of Innovation." SPH, which received the award this year, is a high-efficiency electronic power converter that enables 3-port connections for power generation, power storage, and power consumption, and serves as a core component of a DC based microgrid system designed to utilize renewable energy efficiently. In addition to achieving high efficiency by reducing energy loss by approximately 45% compared with conventional systems, SPH achieves a compact design by utilizing components for DAIHATSU's compact electric vehicles, as well as uninterrupted power supply during momentary outages through ultra-high-speed control on the microsecond scale.

Field-tests of microgrid systems utilizing SPH have been promoted in multiple locations. Since October 2025, a field-test has been conducted at the Kokura Plant of TOYOTA MOTOR KYUSHU, INC., where electricity generated by solar panels at the plant is supplied to a parts manufacturing line, while surplus electricity is stored

in storage batteries. In addition, since December of the same year, a field-test has been promoted at a facility of MAEDA CORPORATION toward realizing flexible energy supply, including during disasters. In this system, SPH and storage batteries are integrated into a mobile container, while electric vehicles are also utilized as storage batteries, enabling electricity to be shared between the container and multiple buildings.
Going forward, TCRDL and DAIHATSU will continue technological development aimed at Business Continuity Planning (BCP) and the sustainable use of energy in local communities, while promoting the social implementation of the technology at community-based facilities such as small-scale stores and business establishments.

As members of the Toyota Group, TCRDL and DAIHATSU will continue working to contribute to the effective use of renewable energy and decarbonization in local communities toward the local production and consumption of energy and the realization of a carbon-neutral society, with the aim of creating a sustainable society.

*"Smart Power Hub" and "SPH" are registered trademarks of TOYOTA CENTRAL R&D LABS., INC.