December 24, 2020
Sanyo Chemical Industries, Ltd.

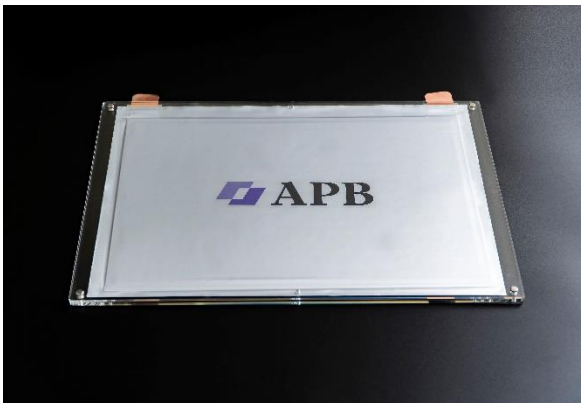
HAPSMobile and APB reach basic agreement to develop storage batteries for HAPS using All Polymer Battery

Sanyo Chemical Industries, Ltd. (Kyoto, Japan, “Sanyo Chemical”) announced today its affiliate; APB Corporation (“APB”) and a subsidiary of SoftBank Corp.; HAPSMobile Inc. ("HAPSMobile”) have reached a basic agreement to collaborate on the development of high energy density storage batteries for the High Altitude Platform Station (HAPS) stratospheric telecommunications platform being developed by HAPSMobile.

HAPS is a stratospheric telecommunications platform that can provide mobile Internet connectivity, such as LTE and 5G, from the stratosphere to areas without Internet access. For its HAPS business, HAPSMobile is developing the "Sunglider" unmanned aircraft, which will be equipped with a large capacity and lightweight storage battery to provide long-term service.

All Polymer Battery, the first large-scale bipolar lithium-ion battery module, has been developed jointly by Hideaki Horie, the current CEO of APB, and Sanyo Chemical. To achieve high quality batteries, a bipolar structure has been developed where the current flows through the cellular interfaces perpendicular to the electrode plane. The electrode material of All Polymer Battery is wrapped with gel-like polymer containing an electrolytic solution. With the adoption of such technologies, All Polymer Battery is characterized by such features as high reliability, high energy density, and innovative manufacturing processes at the same time. With few parts required, thanks to bipolar structure and polymer-based constituent material, All Polymer Battery has high flexibility in size and shape of the cells, which will help us to create thicker electrodes and larger cells.

HAPSMobile and APB believe that All Polymer Battery may be able to support Sunglider's long stratospheric flight times due to its high energy density and high reliability. By taking advantage of the bipolar structure of All Polymer Battery, both companies will endeavor to eliminate wiring parts necessary for high voltage, increase the ratio of polymer in the components, and adopt next-generation electrode materials that contribute to high energy density with high reliability.



All Polymer Battery (laminated)

Sunglider

About HAPSMobile Inc.

HAPSMobile Inc. is a subsidiary of SoftBank Corp. that plans and operates a High Altitude Platform Station (HAPS) business with the aim of bridging the world's digital divide. HAPSMobile is primarily engaged in network equipment research and development for the HAPS business, construction of core networks, new business planning and activities for spectrum usage. AeroVironment, Inc. is HAPSMobile's minority owner and aircraft development partner for "Sunglider," a solar-powered unmanned aircraft designed for stratospheric telecommunications platform systems that flies approximately 20kms above ground in the stratosphere. HAPSMobile has a strategic relationship with Loon, a subsidiary of Alphabet, the parent company of Google. For more information, please visit https://www.hapsmobile.com.

Established: December 21, 2017

President and CEO: Junichi Miyakawa

Business Area: Research, development, operation and management of solar HAPS and network devices
Core network building, management and operation
Acquisition of frequency for solar HAPS
Business development using solar HAPS

Headquarters: 1-9-1 Higashi-shimbashi, Minato-ku, Tokyo

About APB Corporation

Established: October 2018

CEO: Hideaki Horie

Business Area: R&D, production and sales of lithium ion batteries

Headquarters: 1-3-9 Kanda Sudacho, Chiyoda-ku, Tokyo

Press Contacts

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