December 4, 2017

Ascent's Superlight Thin-Film Solar Selected for Jupiter Deployment Demonstration by the Japan Aerospace Exploration Agency

THORNTON, CO , Dec. 04, 2017 (GLOBE NEWSWIRE) -- Ascent Solar Technologies, Inc. (OTCBQ: ASTI), a developer and manufacturer of state-of-the-art, lightweight and flexible thin-film photovoltaic (PV) solutions, announces that the company has fulfilled a third order from the Japan Aerospace Exploration Agency (JAXA) for custom PV products designed specifically for JAXA's upcoming solar sail deployment demonstration project.

In this most recent purchase, JAXA placed the entire order, comprising of small area test cells and large, 19.5cm x 30cm monolithically-integrated modules, all on a very thin, 25 micron (0.001 inch) plastic substrate which is half the thickness of Ascent's production substrate for standard product. JAXA placed this order after achieving the desired experimental results from previous shipments and subsequent electrical, mechanical and environmental testing. The 19.5cm x 30cm module is a custom design to match the anticipated deployment mechanism and PV layout for the final Jovian spacecraft.

The deployment project is the next milestone of JAXA's evaluations of Ascent's PV in providing solar power for an upcoming mission to Jupiter and additional challenging missions under consideration. This decision followed earlier rounds of promising results, and the Company's flexible, monolithically integrated copper-indium-gallium-selenide (CIGS) solar module continued to operate well when being tested and subjected to the environmental extremes anticipated in deep space with significantly reduced solar insolation.

"JAXA's Jovian mission is a testament to the advancements being made in orbit, both in terms of its objectives, as well as the extremes in which the vehicle is required to operate," stated Dr. Joseph Armstrong, Chief Technology Officer and founding member of Ascent Solar. "Our experience in fulfilling the latest order requires key process modifications that were necessary to provide those thinner modules in a production environment, and we are pleased to be able to successfully translate that into production. It is JAXA's intent to use the 19.5cm x 30cm modules in a deployment demonstration based on the agency's previous IKAROS (Interplanetary Kite-craft Accelerated by Radiation of the Sun) project that was demonstrated in orbit in 2010."

As a point of reference, a link to the webpage describing the previous IKAROS mission can be found here: http://www.isas.jaxa.jp/e/enterp/missions/ikaros/index.shtml

"We are very honored to be selected by JAXA once again to advance to the next stage of the upcoming Jupiter mission," said Victor Lee, President and CEO of Ascent Solar. "Not only were we able to demonstrate a product of superior quality in the initial order, but we were able to take the challenge and deliver much thinner and lighter weight products in this order on the 25 micron substrate from our optimized production tooling to the same level of quality as our standard 50 micron substrate product. This is a strong testament to Ascent's leadership in thin-film solar development, particularly for deep space application."

ABOUT ASCENT SOLAR TECHNOLOGIES, INC:

Ascent Solar Technologies, Inc., an ISO 9001-2015 certified company, is a developer of thin-film photovoltaic modules using flexible substrate materials that are more versatile and rugged than traditional solar panels. Ascent Solar modules were named as one of the top 100 technologies in both 2010 and 2015 by R&D Magazine, and one of TIME Magazine's 50 best inventions for 2011. The technology described above represents the cutting edge of flexible power and can be directly integrated into consumer products and off-grid applications, as well as other aerospace applications. Ascent Solar is headquartered in Thornton, Colorado, where the company's quality management system has achieved ISO 9001:2015 certification. More information can be found at www.AscentSolar.com.

ABOUT JAPAN AEROSPACE EXPLORATION AGENCY (JAXA):

The Japan Aerospace Exploration Agency (JAXA) was born through the merger of three institutions, namely the Institute of Space and Astronautical Science (ISAS), the National Aerospace Laboratory of Japan (NAL) and the National Space Development Agency of Japan (NASDA). It was designated as a core performance agency to support the Japanese

government's overall aerospace development and utilization. JAXA, therefore, can conduct integrated operations from basic research and development, to utilization. More information can be found at http://global.jaxa.jp

Forward Looking Statements

Statements in this press release that are not statements of historical or current fact constitute "forward-looking statements." Such forward-looking statements involve known and unknown risks, uncertainties and other unknown factors that could cause the Company's actual operating results to be materially different from any historical results or from any future results expressed or implied by such forward-looking statements. In addition to statements that explicitly describe these risks and uncertainties, readers are urged to consider statements that contain terms such as "believes," "belief," "expects," "expect," "intends," "intend," "anticipate," "anticipates," "plans," "plan," to be uncertain and forward-looking. The forward-looking statements contained herein are also subject generally to other risks and uncertainties that are described from time to time in the Company's filings with the Securities and Exchange Commission.

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