## Ball Aerospace Completes Preliminary Design Review of NASA's IXPE Mission



IXPE Mission Rendering

BOULDER, Colo., Aug. 8, 2018 / PRNewswire / -- A preliminary design review of NASA's Imaging X-Ray Polarimetry Explorer (IXPE) space-based astrophysics observatory was completed in late June at Ball Aerospace's Boulder, Colo. facility led by NASA's Marshall Space Flight Center, with support from Ball Aerospace, the Italian Space Agency (ASI) and other industry partners.



IXPE is a Small Explorer, or SMEX mission, which is part of NASA's Astrophysics Explorer Program. Dr.Martin C. Weisskopf, NASA Marshall Space Flight Center, is the principal investigator for the mission. Once launched in 2021, IXPE will measure the polarization of cosmic X-rays to improve our understanding of the fundamental physics of extreme and exotic objects in the universe.

"The IXPE mission is an excellent example of a highly-integrated government and industry working together for a common goal," said Jim Oschmann, vice president and general manager of Civil Space, Ball Aerospace. "IXPE will explore, and for the first time discover, hidden details of some of the most unique objects in our universe, such as neutron stars and stellar and supermassive black holes."

Ball Aerospace is responsible for providing the IXPE spacecraft, mechanical and structural elements of the payload, observatory assembly, integration and test and mission operations for IXPE. Ball Aerospace will leverage its Ball Configurable Platform (BCP) heritage, a satellite bus that has a history of exceeding mission design life. The BCP has a broad spectrum of capabilities, is highly-reliable and has proven stability and pointing performance, which are essential for astrophysics missions. For example, the versatile BCP line has flown in a variety of orbits with a wide assortment of payloads, including electro-optical payloads (Kepler photometer, Deep Impact imagers, Ozone Mapping and Profiler Suite spectrometer) with high-accuracy pointing requirements such as NASA's Kepler telescope. The IXPE mission will fly the smallest BCP model, about the size of a mini refrigerator, which is similar in size to the BCP built for the upcoming launch of NASA's Green Propellant Infusion Mission.

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## **Forward-Looking Statements**

This release contains "forward-looking" statements concerning future events and financial performance. Words such as "expects," "anticipates," "estimates," "believes," "targets," "likely" and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical fact. Such statements are based on current

expectations or views of the future and are subject to risks and uncertainties, which could cause actual results or events to differ materially from those expressed or implied. You should therefore not place undue reliance upon any forward-looking statements and any of such statements should be read in conjunction with, and, qualified in their entirety by, the cautionary statements referenced below. The company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Key factors, risks and uncertainties that could cause actual outcomes and results to be different are summarized in filings with the Securities and Exchange Commission. including Exhibit 99 in our Form 10-K, which are available on our website and at www.sec.gov. Additional factors that might affect: a) our packaging segments include product demand fluctuations; availability/cost of raw materials; competitive packaging, pricing and substitution; changes in climate and weather; competitive activity; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation, power and supply chain influence; changes in major customer or supplier contracts or a loss of a major customer or supplier; political instability and sanctions; currency controls; changes in foreign exchange or tax rates, including due to the effects of the 2017 U.S. Tax Cuts and Jobs Act; and tariffs or other governmental actions in any country affecting goods produced by us or in our supply chain, including imported raw materials, such as pursuant to section 232 of the U.S. Trade Expansion Act of 1962; b) our aerospace segment include funding, authorization, availability and returns of government and commercial contracts; and delays, extensions and technical uncertainties affecting segment contracts; c) the company as a whole include those listed plus: changes in senior management; regulatory action or issues including tax, environmental, health and workplace safety, including U.S. FDA and other actions or public concerns affecting products filled in our containers, or chemicals or substances used in raw materials or in the manufacturing process; technological developments and innovations; litigation; strikes; labor cost changes; rates of return on assets of the company's defined benefit retirement plans; pension changes; uncertainties surrounding geopolitical events and governmental policies both in the U.S. and in other countries, including the U.S. government elections, budget, seguestration and debt limit; reduced cash flow; ability to achieve cost-out initiatives and synergies; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures, including with respect to the Rexam PLC acquisition and its integration, or the associated divestiture; the effect of the acquisition or the divestiture on our business relationships, operating results and business generally.

## SOURCE Ball Aerospace

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