## Ball Aerospace Completes Integration of NASA's IXPE Observatory, Begins Testing IXPE will measure the polarization of cosmic x-rays to study exotic objects in the universe

BROOMFIELD, Colo., Jan. 29, 2021 / PRNewswire -- Ball Aerospace recently completed the spacecraft and payload assembly integration of NASA's Imaging X-Ray Polarimetry Explorer (IXPE) space-based astrophysics observatory at its Boulder, Colo. facility. Ball will now begin environmental testing of the integrated observatory, which includes all instruments and the spacecraft bus.



Scheduled to launch later this year, once on orbit, 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, such as black holes.

"It is truly a pleasure to work with an integrated team that includes government, industry, academia and international partners on a mission that will gather exciting and important science, supported by Ball's commitment to delivering science at any scale," said Dr. Makenzie Lystrup, vice president and general manager, Civil Space, Ball Aerospace. "Moving IXPE into environmental testing is an important step gearing up towards launch this year as it ensures the observatory will be able to withstand the effects of the launch into space."

IXPE is a Small Explorer, or SMEX mission, which is part of NASA's Astrophysics Explorer Program. The IXPE mission is led by NASA's Marshall Space Flight Center, with support from Ball Aerospace, the Italian Space Agency (ASI), Laboratory for Atmospheric and Space Physics at University of Colorado Boulder and other partners. Dr. Martin C. Weisskopf, NASA Marshall Space Flight Center, is the principal investigator for the mission.

Ball is responsible for providing the IXPE spacecraft, mechanical and structural elements of the payload, observatory assembly, and integration and test. The spacecraft for IXPE is based on Ball's smallest Ball Configurable Platform (BCP) model. Ball built a similar BCP for NASA's recently completed Green Propellant Infusion Mission (GPIM), which was safely deorbited on October 13, 2020, burning up during re-entry into the atmosphere, leaving no trace of space debris. Ball also built two additional BCP small satellites that are currently performing on orbit: STPSat-2, which launched in November 2010, and STPSat-3, which launched in November 2013. The two STP satellites were built for the U.S. Air Force Space Test Program's Standard Interface Vehicle (STP-SIV) project.

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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," "positions" and similar expressions typically identify forwardlooking 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 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 capacity, supply, and demand constraints and fluctuations, including due to virus and disease outbreaks and responses thereto; availability/cost of raw materials, equipment, and logistics; competitive packaging, pricing and substitution; changes in climate and weather; footprint adjustments and other manufacturing changes, including the startup of new facilities and lines; failure to achieve synergies, productivity improvements or cost reductions; unfavorable mandatory deposit or packaging laws; customer and supplier consolidation; power and supply chain interruptions; potential delays and tariffs related to the U.K's departure from the EU; 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; and tariffs, trade actions, or other governmental actions, including business restrictions and shelter-in-place orders in any country or jurisdiction affecting goods produced by us or in our supply chain, including imported raw materials; 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 above plus: the extent to which sustainability-related opportunities arise and can be capitalized upon; changes in senior management, succession, and the ability to attract and retain skilled labor; 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; the ability to manage cyber threats; litigation; strikes; disease; pandemic; 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 policies, orders and actions related to COVID-19, the U.S. government elections, stimulus package(s), budget, sequestration and debt limit; reduced cash flow; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures, and their effects on our operating results and business generally.



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