Ball News Releases

Ball Aerospace Team Receives NASA Group Achievement Recognition

BOULDER, Colo., Nov. 13, 2018 /PRNewswire/ -- Ball Aerospace recently received a Group Achievement Award from NASA's Ames Research Center in California's Silicon Valley, recognizing the company for the innovative solution that enabled the continued use of the Kepler spacecraft for the K2 science mission.

After Kepler completed its primary mission, the second of four reaction wheels on Kepler ceased to work properly, preventing Kepler from continuing to point with precision. In May 2013, the Ball Aerospace Flight Planning Center (FPC) prevented a potential mission ending failure with a clever technique of using the solar pressure hitting Kepler and combining that with some of the thrusters to control the telescope. The FPC proposed, designed, tested and implemented the new approach that enabled the continued collection of scientific data – dubbed the K2 mission and expanded its scientific return dramatically.

"The Ball Aerospace culture fosters a collaborative and inclusive work environment, which enables us to understand the needs of, and work closely with, our NASA customer," said Makenzie Lystrup, vice president and general manager, Civil Space, Ball Aerospace. "The team's creative and collaborative approach became the K2 mission, which enabled further exploration and data gathering in our search for life, helping to uncover that our universe has far more planets than we ever imagined."

For nearly a decade, the Kepler and K2 missions have observed more than a half million stars and shown that the galaxy is teeming with terrestrial-size worlds. Many of those planets are near in size to Earth and orbiting in the habitable zone of their parent stars where liquid water could pool on the surface.

As the mission prime contractor on Kepler, Ball Aerospace built the spacecraft and photometer and was responsible for system integration, testing and on-orbit operations. Now retired, Ball engineer Doug Wiemer, was also awarded the NASA Exceptional Public Achievement Medal for his contribution to the K2 mission solution. The K2 mission used an innovative method to control spacecraft pointing by managing solar pressure and using thrusters. The FPC team was able to restart science collection in a matter of months and within the existing budget. Since 2013, the FPC team continued to identify and implement performance improvements including improved science pointing precision, higher science data downlink rates, more effective fault protection, and improved fuel efficiency. NASA retired the Kepler Space Telescope on Oct. 30, 2018.

Kepler has changed history by educating humanity about the universe, helped to verify that there *are* planets everywhere and that there are many places where life may exist. Nearly every star in the sky has at least one planet around it.

Ball Aerospace has a heritage of contributing to all of NASA's Great Observatories; Hubble Space Telescope, Compton Gamma Ray Observatory, Chandra X-ray Observatory and Spitzer Space Telescope. The tradition continues today with Ball's role on the James Webb Space Telescope and Wide-Field Infrared Survey Telescope (WFIRST).

Ball Aerospace pioneers discoveries that enable our customers to perform beyond expectation and protect what matters most. We create innovative space solutions, enable more accurate weather forecasts, drive insightful observations of our planet, deliver actionable data and intelligence, and ensure those who defend our freedom go forward bravely and return home safely. Go Beyond with Ball.® For more information, visit www.ball.com/aerospace or connect with us on Facebook or Twitter.

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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 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 and logistics; competitive packaging, pricing and substitution; changes in climate and weather; competitive activity; footprint adjustments and other manufacturing changes; 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, sequestration and debt limit; reduced cash flow; 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.

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