Ball News Releases

Ball Aerospace Selected for Four NOAA Operational Weather Studies

BOULDER, Colo., June 29, 2020 /PRNewswire/ -- Ball Aerospace was selected by the National Oceanic and Atmospheric Administration (NOAA) for four, six-month study contracts that will inform mission, spacecraft and instrument concepts for future operational weather architectures and Earth observation capabilities. Ball Aerospace is also collaborating on a fifth study contract awarded to L3Harris Technologies.

"Operational weather satellites are a critical part of the nation's infrastructure, playing a key role in keeping the public safe and the economy strong by enabling forecasters to predict and reduce the impacts of extreme weather events," said Dr. Makenzie Lystrup, vice president and general manager, Civil Space, Ball Aerospace. "Through close coordination with the broader weather community, Ball developed a series of innovative technology and mission solutions to meet NOAA's most critical space-based observational needs in an affordable and sustainable way, and these studies are a continuation of this effort."

The five study contracts include:

- Auroral Imager in Tundra – Ball is working with Computational Physics, Inc. to perform a trade study of cost and performance between two promising technology strategies for a dedicated auroral imager in a highly elliptical Tundra orbit, long recognized as a useful vantage point for global auroral imaging. Auroral imagery provides important space weather situational awareness for users of technologies affected by auroral phenomena, such as power grids and aviation services.
- Ball Operational Weather Instrument Evolution (BOWIE) Microwave – This concept study will evaluate the baseline design of Ball's BOWIE-M instrument and explore optimization of performance and cost. BOWIE-M leverages recent advances in microwave component miniaturization and advances in antenna technology to enable a future disaggregated constellation of low-cost, high-performance atmospheric sounding instruments. Approximately half the size of current instruments flying on operational polar-orbiting weather satellites, BOWIE-M is designed to deliver similar capability at reduced cost. Ball is collaborating with Atmospheric and Environmental Research (AER), a Verisk business, that will lead a trade analysis of the instrument design and performance.
- BOWIE Compact Hyperspectral Infrared Observations (CHIRO) – This instrument concept study will focus on technology and performance trades for a cost-effective, high-performance smallsat solution for hyperspectral infrared sounding from geostationary orbit.
- BOWIE Low-Earth Orbit (LEO) IR Sounder – Through this study, Ball will explore compact instrument designs to meet NOAA's atmospheric vertical temperature and moisture profiling requirements, identifying technology roadmap options to address cost versus performance for infrared sounder instrument(s) for rapid insertion into Low-Earth Orbit.
- Joint LEO Sounding Mission Study – Ball is working with L3Harris and PlanetiQ for this mission concept study, which will evaluate an all-industry smallsat mission, hosting both microwave and infrared sounding instruments (provided by Ball and L3Harris, respectively), and GNSS-RO sounding sensors (provided by PlanetiQ). The team will also explore how the mission can be optimized for cost and performance while meeting the LEO sounding requirements of NOAA's future operational weather architecture. Ball will also perform an accommodation assessment of the baseline instrument designs, from all study participants, using a Ball small satellite for insertion in various orbits. In addition to an instrument integration assessment, Ball will study commercial launch options to enable a delivery-on-orbit acquisition model for a complete sounding system that NOAA would own and operate.

Ball has played key roles on numerous operational weather satellite programs, including the Ball-built Suomi National Polar-orbiting Partnership (Suomi NPP) satellite, which launched in 2011, and the Joint Polar Satellite System-1 (JPSS-1) satellite, now NOAA-20, which launched in 2017. In addition, Ball is also currently manufacturing the Weather System Follow-On satellite for the U.S. Space Force.

Powered by endlessly curious people with an unwavering mission focus, **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.

About Ball Corporation

Ball Corporation (NYSE: BLL) supplies innovative, sustainable aluminum packaging solutions for beverage, personal care and household products customers, as well as aerospace and other technologies and services primarily for the U.S. government. Ball Corporation and its subsidiaries employ more than 18,300 people worldwide and reported 2019 net sales of $11.5 billion. For more information, visit www.ball.com, or connect with us on Facebook or Twitter.

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 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; availability/cost of raw materials and logistics; competitive packaging, pricing and substitution; changes in climate and weather; footprint adjustments and other manufacturing changes, including the start up of new facilities and lines; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation; power and supply chain interruptions, including due to virus and disease outbreaks; 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 affecting goods produced by us or in our supply chain, including imported raw materials, such as those related to COVID-19 and those pursuant to Section 232 of the U.S. Trade Expansion Act of 1962 or Section 301 of Trade Act of 1974; 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: 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 and the success of information technology initiatives; 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, 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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