

Ball Aerospace and Microsoft Selected by Air Force to Demonstrate Cloud Processing Capabilities for LEO Satellite Constellations

Demonstration to show a processing capability of large, distributed constellations of small satellites providing data streams simultaneously, worldwide

BOULDER, Colo., Sept. 17, 2019 /PRNewswire/ -- Ball Aerospace and Microsoft were selected to demonstrate agile cloud processing capabilities in support of the U.S. Air Force's Space and Missile Systems Center's Commercially Augmented Space Inter Networked Operations (CASINO) project. The demonstration will show how simultaneous, worldwide data streams from large, distributed constellations of small satellites can be processed quickly using Microsoft's Azure cloud and Ball Aerospace algorithms.

Additionally, the demonstration will include a single downlink directly into a Microsoft data center using a Ball Aerospace phased array antenna.

"Together with Microsoft, we will show how this type of data processing system, which leverages Ball phased array technology and imagery exploitation algorithms in Azure, is flexible and scalable -- designed to support additional satellites and processing capabilities in the future," said Steve Smith, vice president and general manager, Systems Engineering Solutions, Ball Aerospace. "Overall, this type of data processing in the cloud can provide actionable, relevant information quickly and more cost-effectively to the end user."

The prototype effort, facilitated by the Defense Innovation Unit, will evaluate Ball Aerospace's use of Azure as the cloud platform for CASINO to leverage Microsoft's deep expertise in data protection, security and privacy.

"Essentially this is the ultimate intelligent edge scenario, where massive amounts of data must be processed at the edge, whether that edge is in space or on the ground," said Tom Keane, Corporate Vice President, Azure Global, Microsoft. "This partnership with Ball Aerospace enables us to bring satellite data to ground and cloud faster than ever, leapfrogging other solutions on the market. Our joint innovation in direct satellite-to-cloud communication and accelerated data processing provides the Department of Defense, including the Air Force, with entirely new capabilities to explore as they continue to advance their mission."

Microsoft Azure enables innovation with integrated cloud services, data processing and advanced analytics, and an open application platform that provides the building blocks to rapidly develop, deploy and manage intelligent solutions.

Ball Aerospace has more than 30 years of data processing experience, including developing unique and accurate exploitation algorithms for satellite systems. Ball is streamlining the integration of new features into operational systems, bringing essential mission capabilities into operations faster than before using an open architecture approach that eliminates the single-contractor integration bottleneck in traditional software development models. This modern software development practice succeeds by enabling external tool developers to rapidly design and test capabilities in an operations-like environment without risking system security or stability. Ball also has five decades of experience delivering electronically-steered flat panel, or phased array, antenna solutions for military and government customers, with two decades of experience delivering planar phased array terminals.

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 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 17,500 people worldwide and reported 2018 net sales of \$11.6 billion. For more information, visit www.ball.com, or connect with us on [Facebook](#) or [Twitter](#).

About Microsoft

Microsoft (Nasdaq "MSFT" @microsoft) enables digital transformation for the era of an intelligent cloud and an



intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more. Microsoft Azure enables innovation with deeply integrated cloud services, data and advanced analytics, and an open application platform that provides the building blocks to rapidly develop, deploy and manage intelligent solutions. Microsoft is committed to supporting the full spectrum of government data to help agencies quickly and easily achieve their necessary requirements. With the choice of using Azure and Azure Government, U.S. government agencies can leverage the compliance coverage they need across regulatory standards.

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 demand 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 startup 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; 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 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, its integration, the associated divestiture, and their effects on our operating results and business generally.

SOURCE Ball Aerospace

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