

Ball Aerospace Completes Integration Milestone for NASA's Green Propellant Infusion Mission

First-ever U.S. demonstration of non-toxic spacecraft fuel set for 2016 launch

PR Newswire

BOULDER, Colo.

BOULDER, Colo., Oct. 5, 2015 /PRNewswire/ -- Ball Aerospace, prime contractor for NASA's Green Propellant Infusion Mission (GPIM), has integrated the propulsion subsystem onto the BCP-100 spacecraft bus and begun system performance and environmental testing as the project heads toward a 2016 launch date.

The [Green Propellant Infusion Mission](#) aims to revolutionize spaceflight by demonstrating improved overall propellant efficiency while reducing the toxic handling concerns associated with the traditional hydrazine propellant. The Ball-led validation mission, will characterize the green fuel's performance on orbit during a 13-month mission that also hosts three experimental payloads.

"GPIM is the key mission to demonstrate a green monopropellant alternative to hydrazine," said Jim Oschmann, vice president and general manager of Civil Space at Ball Aerospace. "Everyone in the industry, from NASA to our industry partners to green propellant suppliers, is eager to see 10 years of American-led research and development realized with this spaceflight mission."

The Aerojet Rocketdyne-provided Green Propellant Propulsion Subsystem was delivered to Ball Aerospace in August and was integrated onto the Ball Commercial Platform (BCP-100) spacecraft bus in less than two weeks. Prior to launch, the subsystem will be loaded with a non-toxic propellant called AF-M315E, developed by the Air Force Research Laboratory. In addition to a simplified launch process for future spacecraft, the GPIM technology offers increased payload space and longer mission duration.

"NASA is always looking for new technologies that also allow us an opportunity to improve safety and cost efficiency," said Trudy Kortes, program executive for NASA's [Technology Demonstration Missions](#). "GPIM additionally affords us an opportunity to test an environmentally friendly fuel in space for the first time, and there's nothing more rewarding than a trailblazing mission."

GPIM is the third build of the BCP-100 spacecraft bus. Roughly the size of a mini refrigerator, the BCP-100 can host a minimum of four independent payloads and demonstrates the ability to rapidly access space by using standard interfaces on a standard spacecraft bus.

In addition to the Green Propellant Propulsion Subsystem, three Department of Defense (DoD) Experiments Review Board (SERB) experimental payloads will fly aboard GPIM. Two of the three payloads previously flew on the Ball-built STPSat-3, which launched in 2013. This is the third time Ball has integrated DoD (SERB) payloads to the BCP-100 platform. The SERB chooses experiments based on a high potential to provide new or enhanced warfighting capabilities for the DoD. Payloads are designed to be compatible with the spacecraft bus, resulting in lower spacecraft non-recurring costs, shorter acquisition timelines, decreased spacecraft build costs, and increased spaceflight opportunities.

GPIM is sponsored by NASA's Space Technology Mission Directorate. In addition to Ball Aerospace and Aerojet Rocketdyne, the team includes the U.S. Air Force Research Laboratory at Edwards Air Force Base; the Air Force Space and Missile Systems Center at Kirtland Air Force Base, New Mexico; and three NASA field centers: NASA's Glenn Research Center in Ohio, NASA's Kennedy Space Center in Florida, and

NASA's Goddard Space Flight Center in Maryland. The Technology Demonstration Missions program office at NASA's Marshall Space Flight Center manages GPIM.

Ball Aerospace & Technologies Corp. supports critical missions for national agencies such as the Department of Defense, NASA, NOAA and other U.S. government and commercial entities. The company develops and manufactures spacecraft, advanced instruments and sensors, components, data exploitation systems and RF solutions for strategic, tactical and scientific applications. Ball continues to invest and innovate in affordable, high resolution imaging systems, contributing to the needs of civil, military and commercial customers. For more information, visit www.ballaerospace.com.

Ball Corporation (NYSE: BLL) supplies innovative, sustainable packaging solutions for beverage, food 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 14,500 people worldwide and reported 2014 sales of \$8.6 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" and similar expressions identify forward-looking statements. Such statements are subject to risks and uncertainties, which could cause actual results to differ materially from those expressed or implied. 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 risks and uncertainties 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. 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; crop yields; competitive activity; failure to achieve 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 loss of a major customer or supplier; political instability and sanctions; and changes in foreign exchange or tax rates; 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 the U.S. government budget, sequestration and debt limit; reduced cash flow; ability to achieve cost-out initiatives; interest rates affecting our debt; and successful or unsuccessful acquisitions and divestitures, including, with respect to the proposed Rexam PLC acquisition, the effect of the announcement of the acquisition on our business relationships, operating results and business generally; the occurrence of any event or other circumstances that could give rise to the termination of our definitive agreement with Rexam PLC in respect of the acquisition; the outcome of any legal proceedings that may be instituted against us related to the definitive agreement with Rexam PLC; and the failure to satisfy conditions to completion of the acquisition of Rexam PLC, including the receipt of all regulatory approvals.

Photo - <http://photos.prnewswire.com/prnh/20150930/272742>

Logo - <http://photos.prnewswire.com/prnh/20130925/LA85786LOGO>

<http://ball.mediaroom.com/2015-10-05-Ball-Aerospace-Completes-Integration-Milestone-for-NASAs-Green-Propellant-Infusion-Mission>