Ball Aerospace Selected to Develop Aerocapture Technology Under NASA Propulsion Research Study

PRNewswire
BOULDER, Colo.

NASA recently selected Ball Aerospace & Technologies Corp. to pursue advances in ballute aerocapture, an in-space propulsion innovation. Ball Aerospace was one of 15 organizations chosen to pursue 22 propulsion technology research proposals totaling $20 million that NASA says could revolutionize exploration and scientific study of the solar system. These awards are part of the In-Space Propulsion Technologies, Cycle 2, which is designed to increase the efficiency of space missions and enable new missions that are impossible or impractical with current propulsion technologies.

"Ballute aerocapture is really on the cutting edge of space technology right now, and we feel very fortunate to be involved with NASA at this early stage in its development," says Harold Reitsema, director of Space Sciences Advanced Programs at Ball Aerospace. "This technology will reduce the cost of planetary exploration, and increase the opportunity to gather valuable scientific data about planets we've previously been unable to study."

Aerocapture uses atmospheric drag to slow down an incoming satellite so that it enters an orbit around a planetary body more efficiently. Like a drag racer's parachute, the satellite is equipped with a "ballute," a combination of balloon and parachute, which slows the satellite enough to go into orbit around the target planet. Attached ballutes also protect the satellite and its payload from the extreme environment encountered while entering the orbit by deflecting heat. The most important advantage of aerocapture is that it reduces the amount of propellant required to send a satellite into its proper orbit. This lowers launch costs and allows more room on the spacecraft for scientific payloads.

Because of the fuel savings and lower-cost launches, aerocapture techniques will allow scientists to study more types of planetary bodies, including Neptune, and Titan, the largest moon of Saturn. The technique chosen for the NASA contracts leverages previous, successful aerocapture work contracted to Ball Aerospace over the past few years. The new contract includes concept development and hypersonic testing of materials.

Ball Corporation is one of the world's leading suppliers of metal and plastic packaging to the beverage and food industries. The company also owns Ball Aerospace & Technologies Corp. With the addition of Ball Packaging Europe, acquired in December 2002, Ball expects to report 2003 sales of approximately $5 billion, of which approximately $4.5 billion will come from its two packaging segments and $500 million from its aerospace and technologies segment.

Forward-Looking Statements:

The information in this news release contains "forward-looking" statements. Actual results or outcomes may differ materially from those expressed or implied. As time passes, the relevance and accuracy of forward-looking statements contained in this release may change. The company currently does not intend to update any particular forward-looking statement except, as it deems necessary at quarterly or annual release of earnings. Please refer to the Form 10-Q filed by Ball Corporation on May 13, 2003, for a summary of key risk factors that could affect actual results or outcomes. Factors that might affect the Packaging segments or business of the company are: fluctuation in consumer and customer demand; competitive packaging material availability, pricing and substitution; the weather; fruit, vegetable and fishing yields; company and industry productive capacity and competitive activity; lack of productivity improvement or production cost reductions; regulatory action or laws, the German mandatory deposit or other restrictive packaging legislation, such as recycling laws; availability and cost of raw materials, energy and transportation; the ability or inability to pass on to customers changes in these costs, particularly resin, steel and aluminum; pricing and ability or inability to sell scrap; and international business risks (including foreign exchange rates) particularly in the United States, Europe and in developing countries such as China and Brazil. Factors that may affect the aerospace segment or business are: funding, authorization and availability of government contracts and the nature and continuation of those contracts; and technical uncertainty associated with aerospace segment contracts. Factors that could affect the company as a whole include those listed plus: successful and unsuccessful acquisitions, joint ventures or divestitures and the integration activities associated therewith including the integration and operation of the business of Schmalbach-Lubeca AG, now known as Ball Packaging Europe; the inability to purchase the company's common stock; regulatory action or laws including those related to corporate governance and financial reporting, regulations and standards, business consolidation investment costs and the net realizable value of assets associated with the company's activities; goodwill impairment; changes in generally accepted accounting principles or their interpretation; litigation; antitrust, intellectual property, consumer and other

issues; strikes; boycotts; increases in various employee benefits and labor costs, specifically pension, medical and health care costs incurred in the countries in which Ball has operations; rates of return projected and earned on assets of the company's defined benefit retirement plans; interest rates and level of company debt; terrorist activities, war or catastrophic events; and U.S. and foreign economic conditions.

SOURCE: Ball Aerospace & Technologies Corp.

CONTACT: Emilia Reed, +1-303-939-6551, or Rachelle Wood,
+1-303-939-6606, both of Ball Aerospace & Technologies Corp., media@ball.com

Web site: http://www.ballaerospace.com/
