

## Ball Aerospace Celebrates First Images from NASA's James Webb Space Telescope

*Ball Aerospace built the mirrors and optics that helped make first images possible*

BROOMFIELD, Colo., July 12, 2022 /PRNewswire/ -- Ball Aerospace, a business of Ball Corporation (NYSE: BALL), is celebrating with NASA and all of the mission partners, as NASA's James Webb Space Telescope shares its first images with the world. The Colorado-based company designed and built the advanced optical technology and lightweight mirror system that make these unprecedented images possible.



"It is awe-inspiring to see these images, which are the culmination of more than 20 years of really hard work by thousands of people across multiple companies, government agencies and academic institutions," said Dr. Makenzie Lystrup, vice president and general manager, Civil Space, Ball Aerospace. "These are just the first of what will be exquisitely-rendered and detailed images that will shed new light on the formation of the universe as well as the galaxies and stars within it."

Launched in December 2021, the James Webb Space Telescope (Webb) took approximately 30 days to reach its orbit near the second Lagrange point (L2) where it captured these images. During its month-long journey it went through the careful processes of deploying the sunshield and mirrors. Once Webb's main camera cooled-off enough to start supporting telescope alignment activities, Webb's optics team began meticulously moving the 18 primary mirror segments to form a single mirror surface that can capture extremely sharp and detailed images, like those just released.

Ball Aerospace worked with NASA's Goddard Space Flight Center and Northrop Grumman, the prime industry contractor, to innovate the 25 square-meter (~269 square feet) system consisting of 18 beryllium mirror segments working together as one unit. Ball also developed the cryogenic actuators and electronic flight control boxes used to keep the mirror segments properly aligned on orbit.

In addition to its work on Webb, Ball is playing critical roles in other upcoming space observation missions. It is partnering with NASA's Goddard Space Flight Center to develop the Wide Field Instrument for the Nancy Grace Roman Space Telescope and NASA/JPL by providing the spacecraft bus and telescope for the Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx). The Ball-built Imaging X-Ray Polarimetry Explorer (IXPE) launched last December to study exotic astronomical objects such as neutron stars and black holes. IXPE's first science image of Cassiopeia A, an object consisting of the remains of a star that exploded in the 17<sup>th</sup> century, was released on February 14.

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### About Ball Corporation

Ball Corporation (NYSE: BALL) 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 24,300 people worldwide and reported 2021 net sales of \$13.8 billion. For more information, visit [www.ball.com](http://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," 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 they 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](http://www.sec.gov). Additional factors that might affect: a) our packaging segments include product capacity, supply, and demand constraints and fluctuations and changes in consumption patterns; availability/cost of raw materials, equipment, 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; unfavorable mandatory deposit or packaging laws; customer and supplier consolidation; power and supply chain interruptions; changes in major customer or supplier contracts or loss of a major customer or supplier; inability to pass through increased costs; war, political instability and sanctions, including relating to the situation in Russia and Ukraine and its impact on our supply chain and our ability to operate in Russia and the EMEA region generally; 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 or jurisdiction affecting goods produced by us or in our supply chain, including imported raw materials; 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 above 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 actions or issues including those related to tax, ESG reporting, competition, 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; litigation; strikes; disease; pandemic; labor cost changes; inflation; rates of return on assets of the Company's defined benefit retirement plans; pension changes; uncertainties surrounding geopolitical events and governmental policies, including policies, orders, and actions related to COVID-19; reduced cash flow; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures, including the announced sale of our Russian business, and their effects on our operating results and business generally.



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