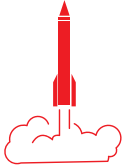


L3HARRIS: PARTNERING WITH NASA FOR 60-PLUS YEARS



Legacy of success built upon solutions for most major unmanned and manned NASA spaceflight programs since 1960



First two-way communications between a satellite (Echo) and Earth enabled by L3Harris technology



NASA's TDRS enabled with L3Harris unfurlable satellite antennas and ground systems



Technology for Apollo included telemetry for command and lunar modules and camera used by Neil Armstrong for extreme close-ups of lunar soil



Shuttle missions used L3Harris technology on board every spacecraft



Hubble telescope relies upon L3Harris fine guidance and focus control equipment for mission success



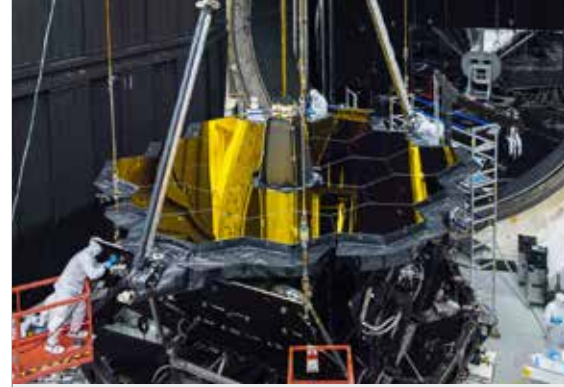
Images of Mars taken by L3Harris imaging sensors on the Mars Sojourner Rover provided new insights of the red planet



On-orbit radios from L3Harris are used on the International Space Station to advance communications technologies



Next-gen imaging systems, like the James Webb Space Telescope, depend upon L3Harris' specialized expertise



James Webb Space Telescope. Photo credit: NASA/Chris Gunn

DELIVERING MISSION SOLUTIONS TO PUSH THE BOUNDARIES OF HUMAN KNOWLEDGE

L3Harris' partnership with NASA spans the agency's 60-plus year history, beginning with miniaturized electronic tracking and pulse code technologies for early spacecraft; continuing through the Mercury, Apollo, space shuttle and International Space Station missions and contributing to exciting new programs, such as the James Webb Space Telescope and Orion's first crewed flight.

With the company's headquarters and many key operations located on Florida's Space Coast, multiple generations of L3Harris employees have experienced first-hand the excitement of NASA missions. For many, these missions were the inspiration to pursue careers in advanced technologies.

COMMUNICATIONS AND TELEMETRY

L3Harris communications and telemetry technologies have served many key NASA missions. Our antenna system for **Echo**, NASA's earliest communications satellite, enabled the first active, two-way communications between a space satellite and Earth. Our pulse code modulation (PCM) technology for NASA's **Nimbus weather satellites** marked the first use of PCM in an orbiting space vehicle and helped deliver unprecedented long-term forecasts.

Other L3Harris solutions, including our unfurlable space antennas, ground systems and ground-based antennas, have played a major role in NASA's **Tracking and Data Relay Satellite System** since the program's beginning. L3Harris' 5-meter unfurlable space antenna supplied critical communications monitoring connectivity with the Jupiter-orbiting Galileo spacecraft. Our fine guidance and focus control equipment has served the **Hubble Space Telescope** throughout its nearly three decades of operation.

Similarly, manned missions have relied on L3Harris communications and telemetry systems. **Mercury** astronauts used L3Harris radio technology to communicate with tracking stations. L3Harris equipment performed flawlessly aboard **Apollo** spacecraft and lunar modules. Apollo missions also relied on an L3Harris antenna system to help recovery teams locate command modules after splashdown. L3Harris technology was on board every **space shuttle**, either providing direct mission support via onboard computers and electronics, or as part of the spacecraft's payload. The **International Space Station** depends on onboard audio/video distribution technology from L3Harris and is using our reconfigurable software-defined radio technology to advance communications technology.

IMAGING AND REMOTE SENSING SYSTEMS

L3Harris' imaging and remote sensing systems and services for NASA programs have enabled scientists to gain a clearer picture and better understanding of the earth, moon, planets and larger universe. Our remote sensing technology enabled NASA to deliver many firsts, including the first photos of the earth from the moon and extreme close-ups of the lunar surface taken by **Apollo** astronauts on the moon. Our imaging sensors enabled the **Mars Sojourner Rover** to capture unprecedented images of Mars' surface. L3Harris' Advanced Baseline Imager is now delivering revolutionary new products for weather forecasting as the primary instrument on the new **Geostationary Operational Environmental Satellites-R Series**, a collaborative NOAA and NASA program.

NASA's **Chandra X-ray Observatory** has captured images of deep space phenomena using an imaging system designed and tested by L3Harris. L3Harris integrated components to form the optical telescope element of the **James Webb Space Telescope**, and we designed and administered its cryogenic testing. L3Harris is the prime contractor on the **Nancy Grace Roman Space Telescope**, which along with Webb promises to unveil some of the most enduring mysteries of the universe. Looking further ahead, we will provide the crucial audio communication system on board the **Orion** spacecraft in support of NASA's first human deep-space exploration mission.



L3Harris: Partnering with NASA for over 60-Plus Years

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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