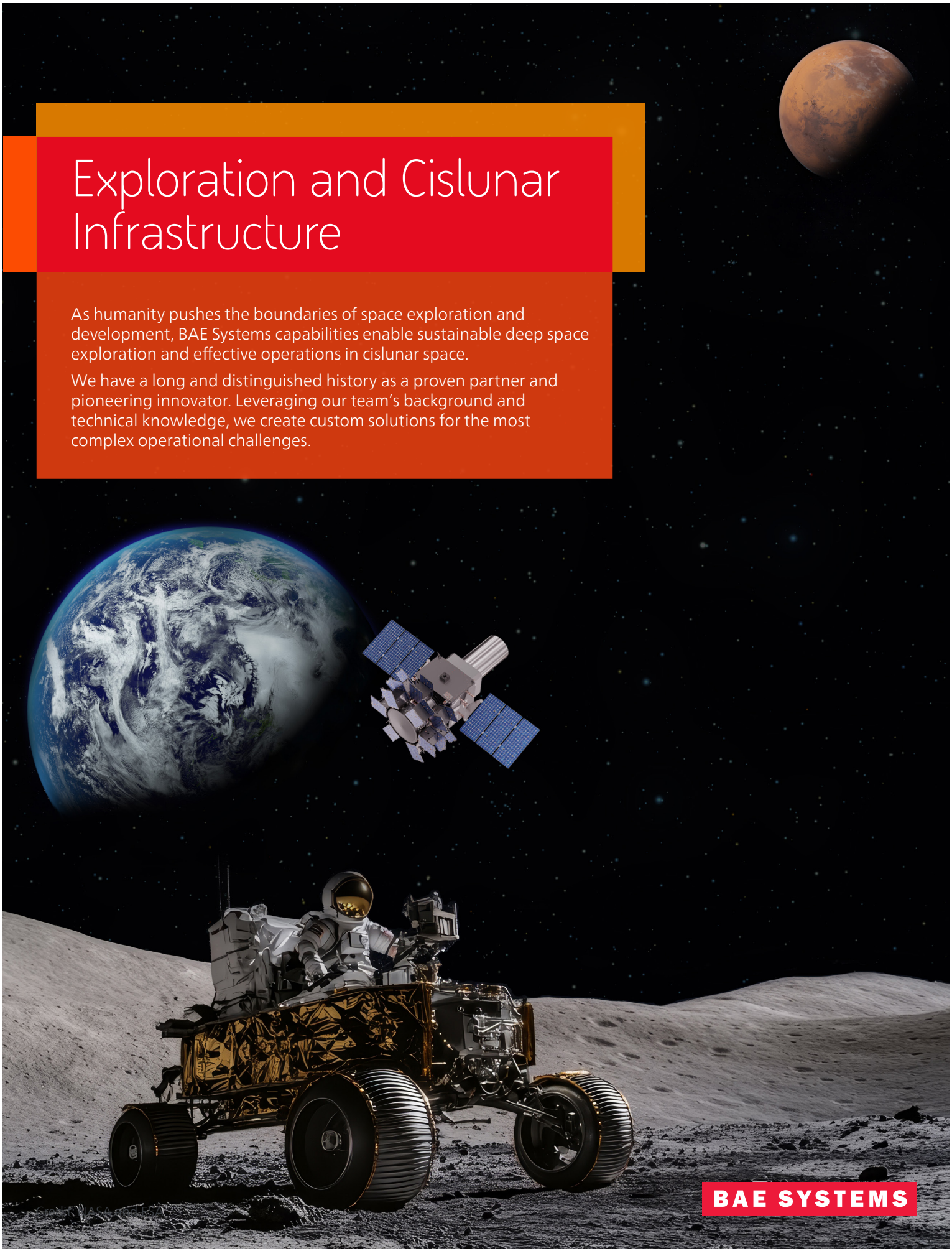
Exploration and Cislunar Infrastructure

As humanity pushes the boundaries of space exploration and development, BAE Systems capabilities enable sustainable deep space exploration and effective operations in cislunar space.

We have a long and distinguished history as a proven partner and pioneering innovator. Leveraging our team's background and technical knowledge, we create custom solutions for the most complex operational challenges.



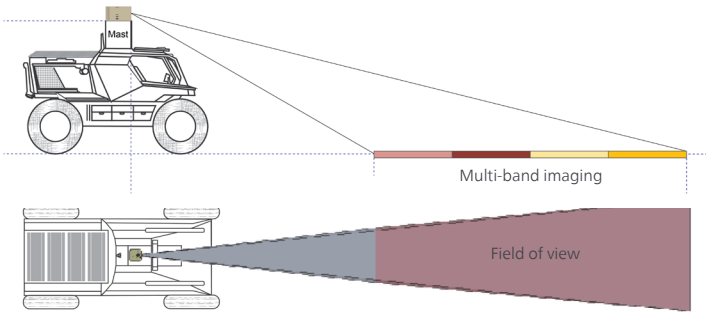
BAE SYSTEMS

For decades, BAE Systems has solved some of the most challenging problems in harsh environments. We have experience tailoring solutions for customized missions; from providing cryogen tanks and dewars to the NASA Space Shuttle program to imaging Pluto in high resolution. We are leveraging this experience to deliver solutions for the next phase of humanity's exploration to the Moon and beyond, as well as cislunar infrastructure.

Spectral imaging for Lunar science and resource utilization

BAE Systems is combining its heritage in space imaging with its expertise in high-rate manufacturing of ruggedized, tactical cameras to deliver resilient, high-performance solutions for exploring the Moon.

Our work on the Lunar Compact Infrared Imaging System (L-CIRiS) and instrumentation payloads for the Lunar Vulkan Imaging and Spectroscopy Explorer (Lunar-VISE) are enabling science and exploration on the Moon.



Artist rendering of BAE Systems spectral sensor conducting Lunar prospecting onboard the Lunar Terrain Vehicle.

Dynamic Space Operations

BAE Systems is leveraging our Evolve spacecraft solutions to support Dynamic Space Operations (DSO). Our Evolve solutions line provides spacecraft configured from proven modular building blocks in single or dual string options across a range of capabilities to meet even the most complex performance requirements and mission needs. The first spacecraft with DSO capabilities is on contract with bus delivery in 2027.

Achieve more on a single launch with the ability to host additional spacecraft as secondary payloads.

Thermal systems for Lunar and deep space exploration

Human exploration in deep space requires high fidelity thermal management systems to navigate the extreme environments of space. Our cryogenic instrument experience spans over 50 years with systems based on cryostats, dewars, cryo-radiators and cryocoolers.

As both the manufacturer and integrator of these cryogenic technologies, we can optimize system performance based on requirements and customer priorities of cost, schedule, risk and performance. Our Integrated Multi-Layer Insulation (IMLI) technology and expertise in cryocoolers can be leveraged for zero-boil-off system applications required for sending humans to the surface of the Moon and beyond.

Phased array antennas supporting human space flight

Artemis II crew observing the Orion spacecraft built for their mission with BAE Systems PAAs integrated.

BAE Systems is proud to be a part of NASA's Artemis program through Orion, a spacecraft designed to carry humans on groundbreaking deep space missions. BAE Systems provides the phased array antennas (PAAs) for the mission, which serve as one of the primary means of voice, data and video communications for the Orion spacecraft through all mission phases from launch to reentry to splashdown.

Based on our decades of experience delivering phased arrays for space, airborne, ground and marine applications, our PAAs provide overlapping 360-degree coverage around the craft for uninterrupted, high-data-rate communication with the NSN, DSN and TDRSS (CTN Mode) or directly with the Lunar Gateway or ISS (Prox Mode).

Our PAAs flew aboard the Artemis I mission in 2022 and will fly onboard Orion throughout all subsequent planned missions.

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