INTRODUCTION
The International Space Station, one of the most ambitious international collaborations ever attempted, is a convergence of science, technology, and human innovation that provides humanity a one-of-a-kind proving ground for Artemis as we go forward to the Moon and on to Mars. It is a demonstration platform for new technologies and a research laboratory for breakthroughs not possible on Earth, representing the most complex space exploration program ever undertaken.

In the more than two decades that humans have inhabited the space station, we’ve used the unique orbiting laboratory to build our understanding of how humans can safely live in microgravity, make groundbreaking advancements in medicine, test technologies that will help us travel farther into space, gain new insights into our home planet, and stimulate an emerging low Earth orbit economy.

BENEFITS TO HUMANITY
Station activities and research have led to new products to purify air and water in our homes, use of cold plasmas in wound treatment, tracking technology for laser-eye surgery, non-invasive temperature monitoring of babies in hospitals, and advancements in telemedicine.

Proteins crystallized on the space station have aided in development of a treatment for Duchenne’s Muscular Dystrophy (DMD) and is in Phase 3 clinical trials.

New combustion discoveries like “cool flames” may help reduce engine emissions.

More than 250 small satellites have been deployed from station since 2013, improving Earth-observation photography, internet access, and telecommunication services.

Several air-quality technologies developed for the space station have been demonstrated to help reduce the spread of COVID-19.

In 2019, the station was opened for commercial activities, including private astronaut missions.

ECOSTRESS data has been employed in efforts to reduce heat absorbed by city surfaces and help farmers efficiently water their fields.

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