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Author: Dr. John M. Horack
The Ohio State University College of Engineering, United States

Mr. Bradley Henderson
United States
Mr. Kohei Okamura
Starlab, United States
Dr. Luis Zea
Jaguar Space, LLC, United States
Mr. Winfried Aicher
Airbus Defence and Space - Space Systems, Germany
Dr. Carlos Grodsinsky
Voyager Technologies, United States
Mr. Michael Holguin
Starlab, United States

STARLAB - A NEXT-GENERATION SPACE STATION TO TRANSFORM SPACE-BASED RESEARCH AND HUMAN PRESENCE IN LOW-EARTH ORBIT.

Abstract

The *Starlab* program is an innovative and global collaboration, assembled to develop and implement the next-generation of low-Earth orbiting space stations, following the retirement of the International Space Station in 2030. Comprised of a global, commercial partnership, led by Voyager Technologies in the United States, along with Airbus GmbH, Mitsubishi Corporation, MDA Canada, Palantir, Hilton Hotels, The Ohio State University and others, *Starlab* will launch in 2029 aboard a SpaceX *Starship* launch vehicle, to carry-forward nearly 30-years of continuous research, operations, and human activity in low-Earth orbit, while pioneering the future of commercial spaceflight activities. Initiated in December 2021 through one of three NASA Space Act agreements under the Agency's Commercial Low Earth Orbit Development (CLD) program, *Starlab* will support and enable key research objectives and requirements from national space agencies - including NASA, ESA, JAXA, and CSA - while also fulfilling research objectives from the private sector, university, and non-profit communities. This paper provides an up-to-date overview of the *Starlab* program and its implementation, as the project approaches Critical Design Review (CDR) at the end of calendar year 2025. In this paper, we share a discussion of the physical attributes and parameters of the future orbiting space station, provide insight into the innovative commercial partnership that mirrors the existing governmental partnership of the ISS, discuss key research areas of focus, and articulate how interested parties can engage with us. *Starlab* is dedicated to creating social, economic, educational, and quality-of-life outcomes from cutting-edge research in space, for all people on Earth, through workforce development and STEM education, and through other innovative commercial endeavors in low-Earth orbit.