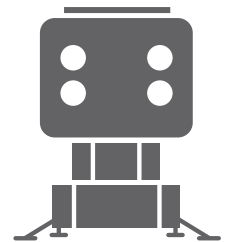
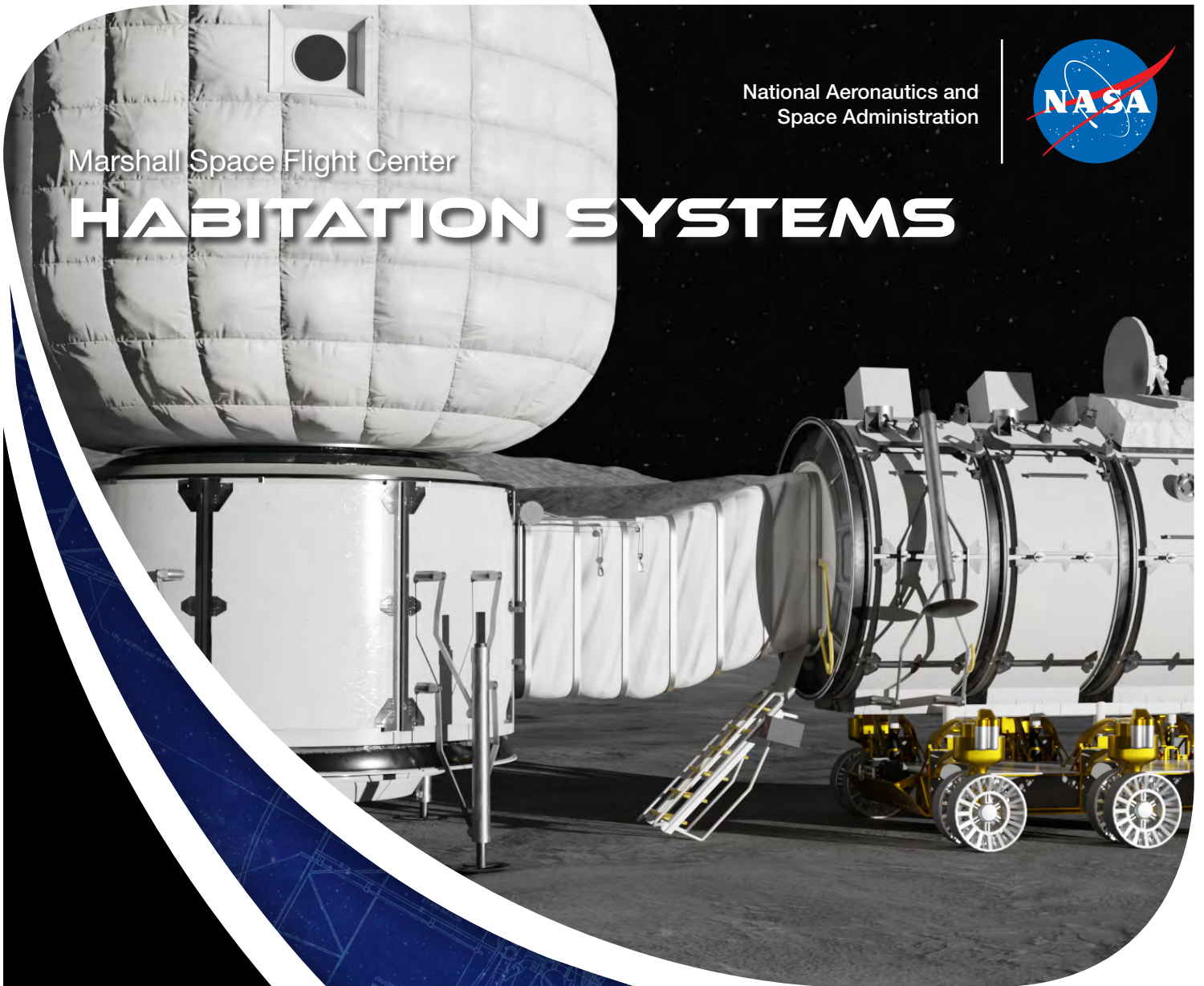


National Aeronautics and
Space Administration



Marshall Space Flight Center

HABITATION SYSTEMS



Marshall Space Flight Center develops next generation habitation systems to make living and working in space and on planetary bodies possible.



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Advanced Manufacturing

Unique expertise in applying state-of-the-art advanced manufacturing methods to support development, integration, and production of advanced habitation systems from early technology development phase to flight readiness and certification milestones

Structural Strength and Dynamics Analysis and Testing

Unique facilities and decades of personnel experience to provide proof, limit, failure, development, qualification, and flight acceptance testing for spacecraft structural components, advanced material structural systems (inflatable softgoods and composites) and other space systems, including design of custom test instrumentation and comprehensive photogrammetry

Time-effective testing of biaxial and shear stiffness parameters, including biaxial failure loads, enables a clear and efficient approach to characterizing and implanting advance habitation structural materials

Hazardous, large-scale creep, proof and rapid burst testing capability not readily available elsewhere

Avionics Design, Manufacturing, and Testing

Ability to simulate avionics hardware/software through all phases of mission from pre-launch through spacecraft development, and notional mission operations, using subsystem models, component models, and input/output hardware to communicate with flight-like avionics

Concept Development and Demonstration

Rapid development and analysis of physics-based models to yield an end-to-end design capability for preliminary concepts. Includes evaluation of unique operational concepts and environmental consideration and design sensitivity impact analysis

Fabricate habitation mockups at any scale and facilitate Human/System-in-the-Loop assessments to evaluate, refine, and inform design decisions (operations, outfitting, payloads, utilization, etc.) through an expansive and customizable demonstration platform

Decades of experience in both launch vehicle and space systems design

Space Environmental Effects Testing

Environmental test facilities can simulate ascent launch profiles, deep space vacuum, external exposure conditions (radiation, micrometeoroid and orbital debris, lunar dust, etc.), and variable breathing air compositions to replicate internal deep space habitation systems operating environments.

Comprehensive range of electromagnetic environmental effects testing services

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