



Forum 360: The Dawn of Digital Engineering

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AIAA 2018 SciTech

January 8, 2018



A New Paradigm is Needed for the Mission to Mars

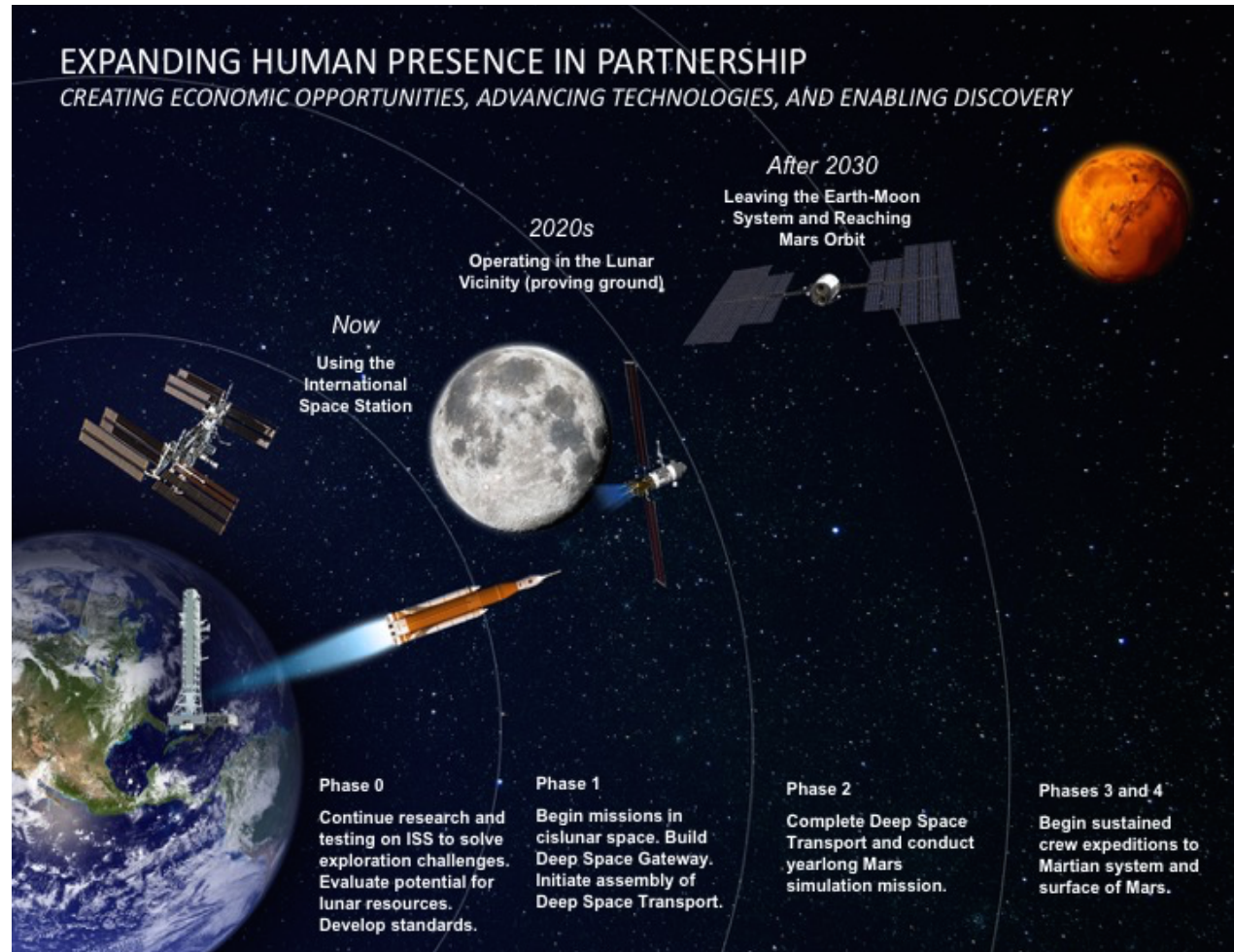


250 miles
International
Space Station

Today's strategy for LEO does not work for tomorrow's deep space missions

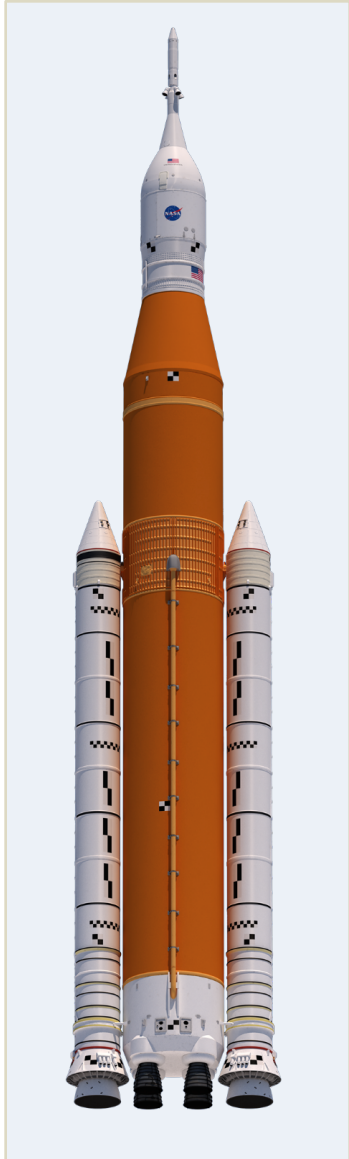
Today, we rely on the 4 R's:
resupply;
repair by replacement;
redundant hardware;
retreat to earth

For Mars and beyond:
a new paradigm is needed
– can the Digital Twin help?





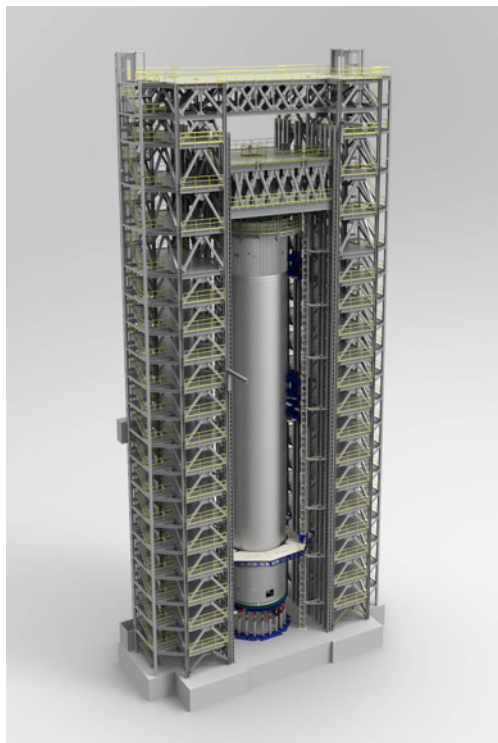
NASA Missions



Modeling and Simulation-Based Certification



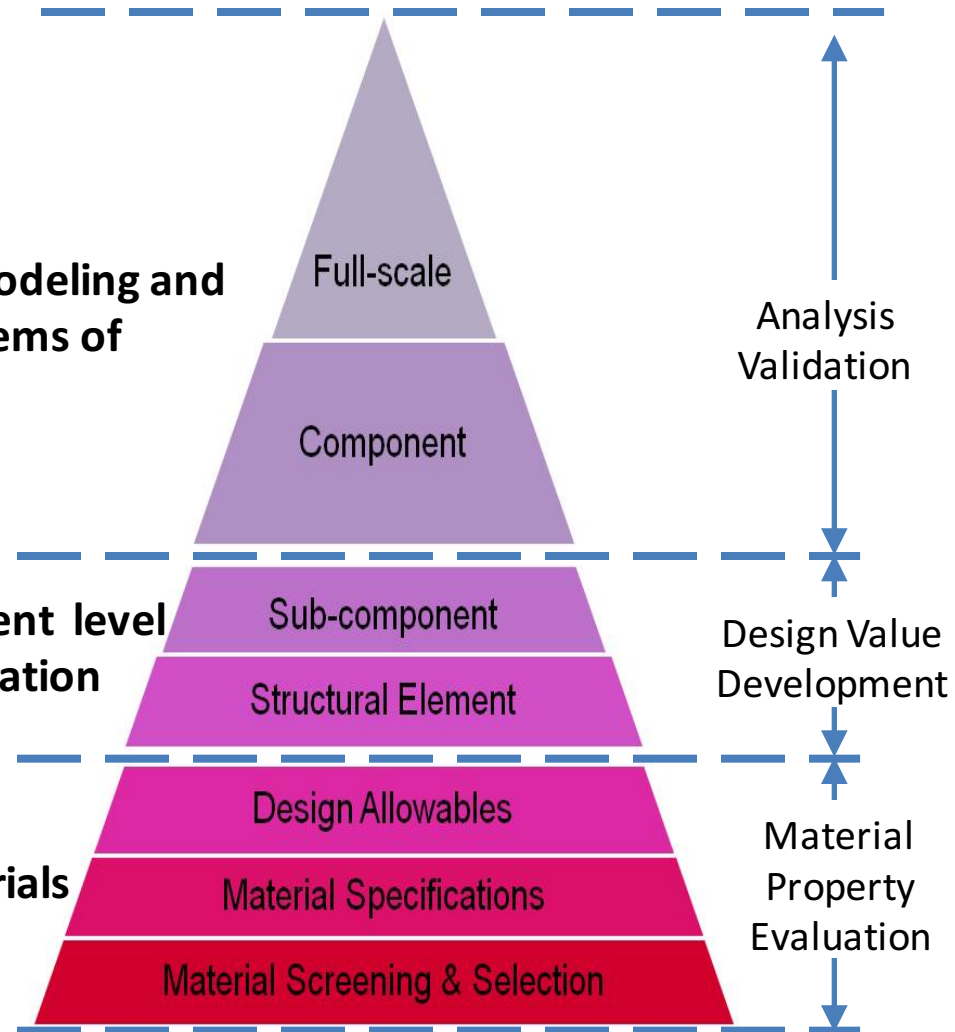
**Extensive testing,
done to support
analysis, today**



Interdisciplinary modeling and simulation for systems of systems

Discipline/component level modeling and simulation

Physics-based modeling for materials and processes



The Mars Generation



Systems Thinking, Entrepreneurship, Cultural Agility, Critical Thinking

Joseph E. Aoun, "Robot-Proof, Higher Education in the Age of Artificial Intelligence"