



Safety and Mission Assurance - Moving Forward

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NASA Office of Safety and Mission Assurance

Our Mission:

Protect



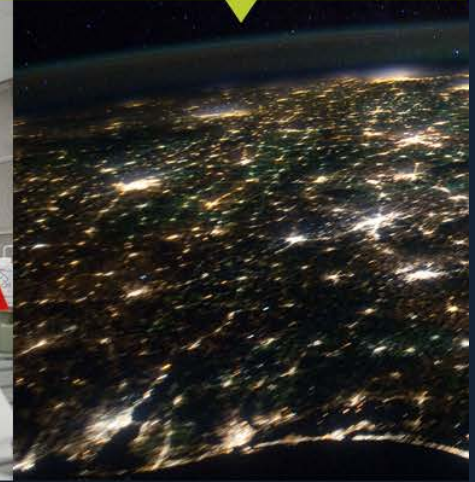
Humans:
Public, Crew,
Workforce



Missions



Assets:
Facilities, Equipment,
Systems



Environment:
Terrestrial, Orbital,
Planetary

Changing Environment

Missions



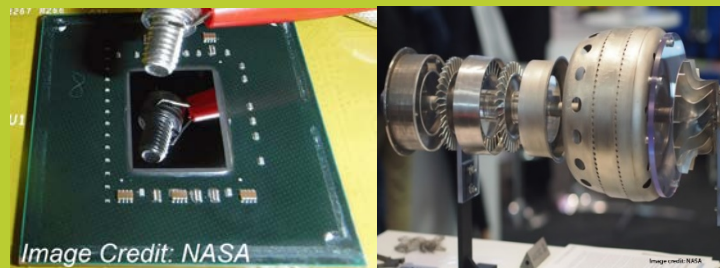
Acquisition Models



Engineering Practices



Technologies and Manufacturing





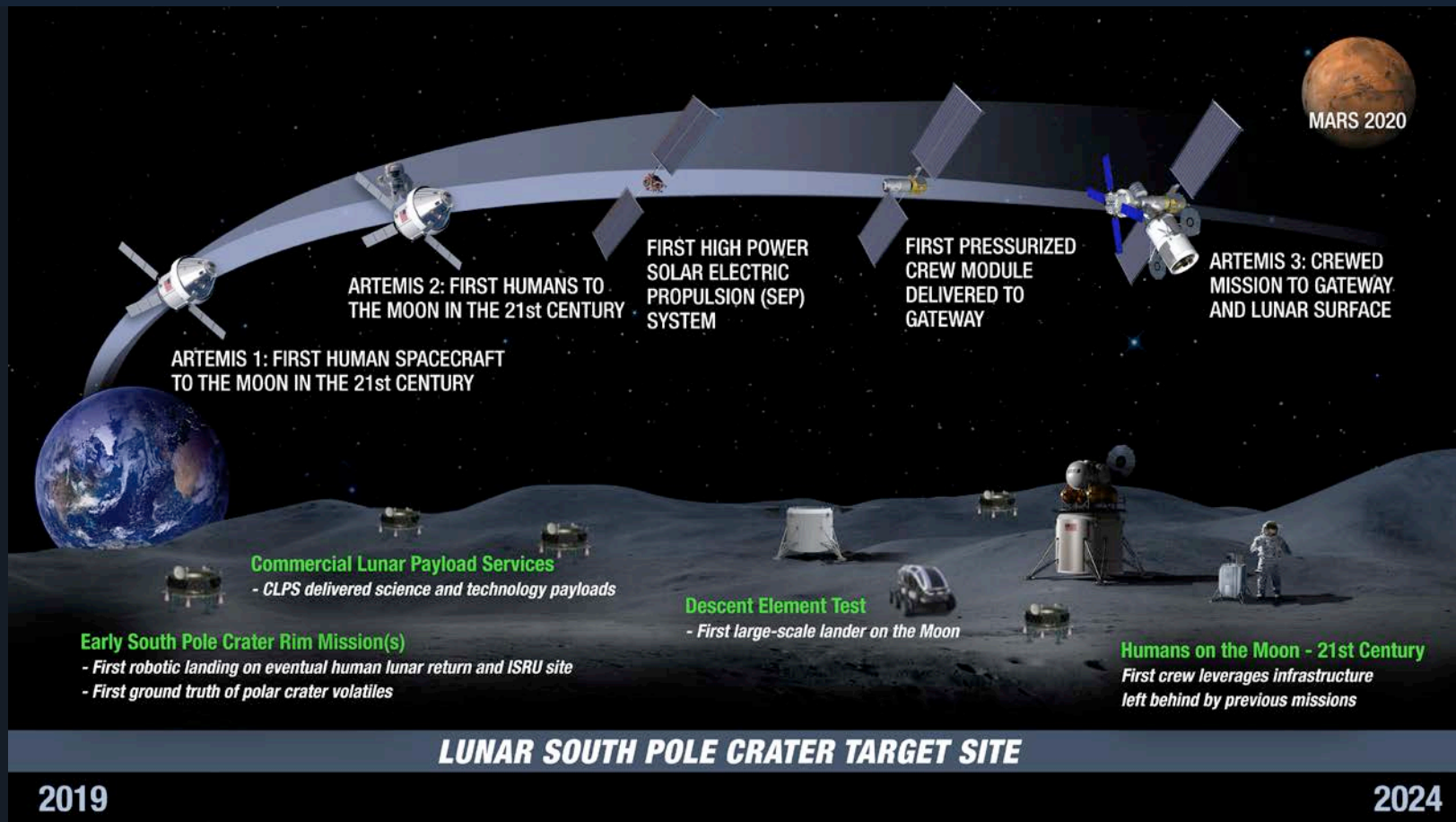
OSMA Focus Areas

**Objectives-Driven
and Risk-Informed
Assurance**

**Digital
Transformation**

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|-------------------------------------|--------------------------------|-----------------------------------|--------------------------------------|----------------------------------|
| Safety Performance Objectives | Objectives-Driven Standards | Assurance LCR Success Criteria | High Value, Collaborative RD&T | Model-Based Mission Assurance |
|-------------------------------------|--------------------------------|-----------------------------------|--------------------------------------|----------------------------------|

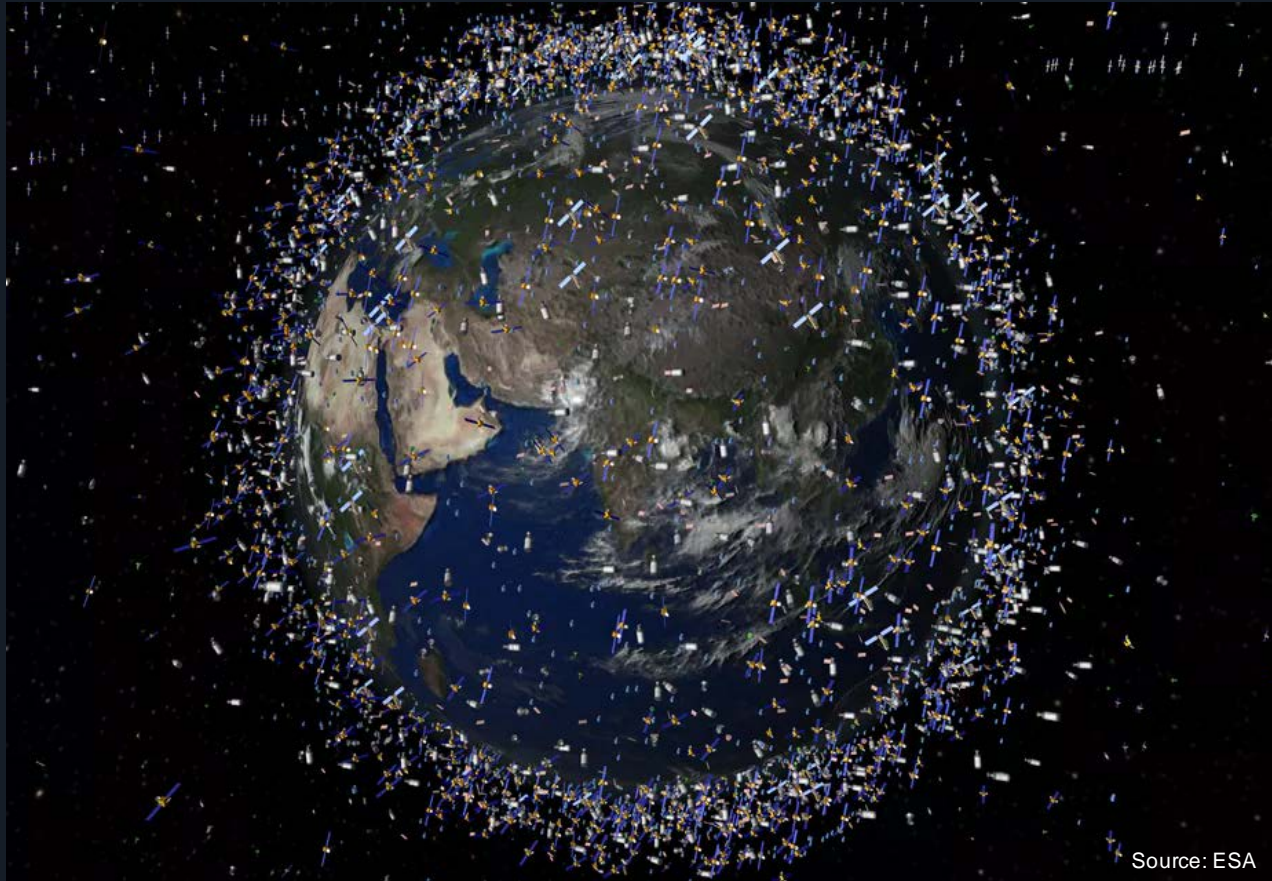
Understanding Reliability Matters...



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Source: ESA

The Ongoing Challenge

“The recently revised HRR standard represents a fundamental shift from telling developers how to create a safe design (by relying primarily on redundancy) to establishing a process for using a risk-informed design approach to produce a design that is optimally and sufficiently safe. The ASAP applauds switching to such a performance-based approach because it emphasizes early risk identification to guide design, thus enabling creative design approaches that might be more efficient, safer, or both.

However, this approach is viable only if a common understanding of "sufficiently safe" exists”

ASAP recommendation 2009-01-02a