



# Artemis IV Landing Site Process Overview

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# Cross Artemis Site Selection Analysis (CASSA)

## MULTI-DIRECTORATE COORDINATION TEAM



Jake Bleacher  
Chief Exploration Scientist  
ESDMD



Tamra George  
Surface Mission Planning Lead  
ESDMD/M2M



Brad Bailey  
Assistant Deputy Associate  
Administrator for Exploration  
SMD



Sarah Noble  
Artemis Lunar Science Lead  
SMD



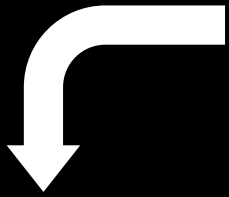
Kristen John,  
Technical Integration Lead,  
Lunar Surface Infrastructure  
Program, STMD

## TECHNICAL ASSESSMENT TEAMS

- Mission availability assessments (M2M MAIA)
- Site Availability Assessments (M2M HLS)
- Deorbit, Descent and Landing Assessment (M2M HLS)
- Science Objectives Assessment (SMD)
- Technology Objectives Assessment (STMD)
- Site Planning and Logistics Assessment (M2M and ESDMD)
- Lunar Data Assessments (AGDT)
- Project Teams (IPs etc) as needed.

**All Artemis site selections get approved  
at HQ/DPMC level**

# Iterative Process for Artemis Lunar Landing Site Selections



*Entrance Criteria: Determine strategy and architecture of lunar surface infrastructure and various elements being considered for the mission (Utilization, HLS, EVA, LTV, Pressurized Rover, Initial Habitation, Logistics, CLPS, etc).*

## STEP 1

Determine Agency objectives that drive site selection (utilization, logistics, infrastructure etc)

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## STEP 2

Consider capabilities of each element to meet the Agency strategy

## STEP 3

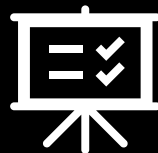
Determine potential acceptable slope sites in areas that meet Agency objectives and vehicle capabilities.

## STEP 4

Geospatial analysis.

## STEP 5

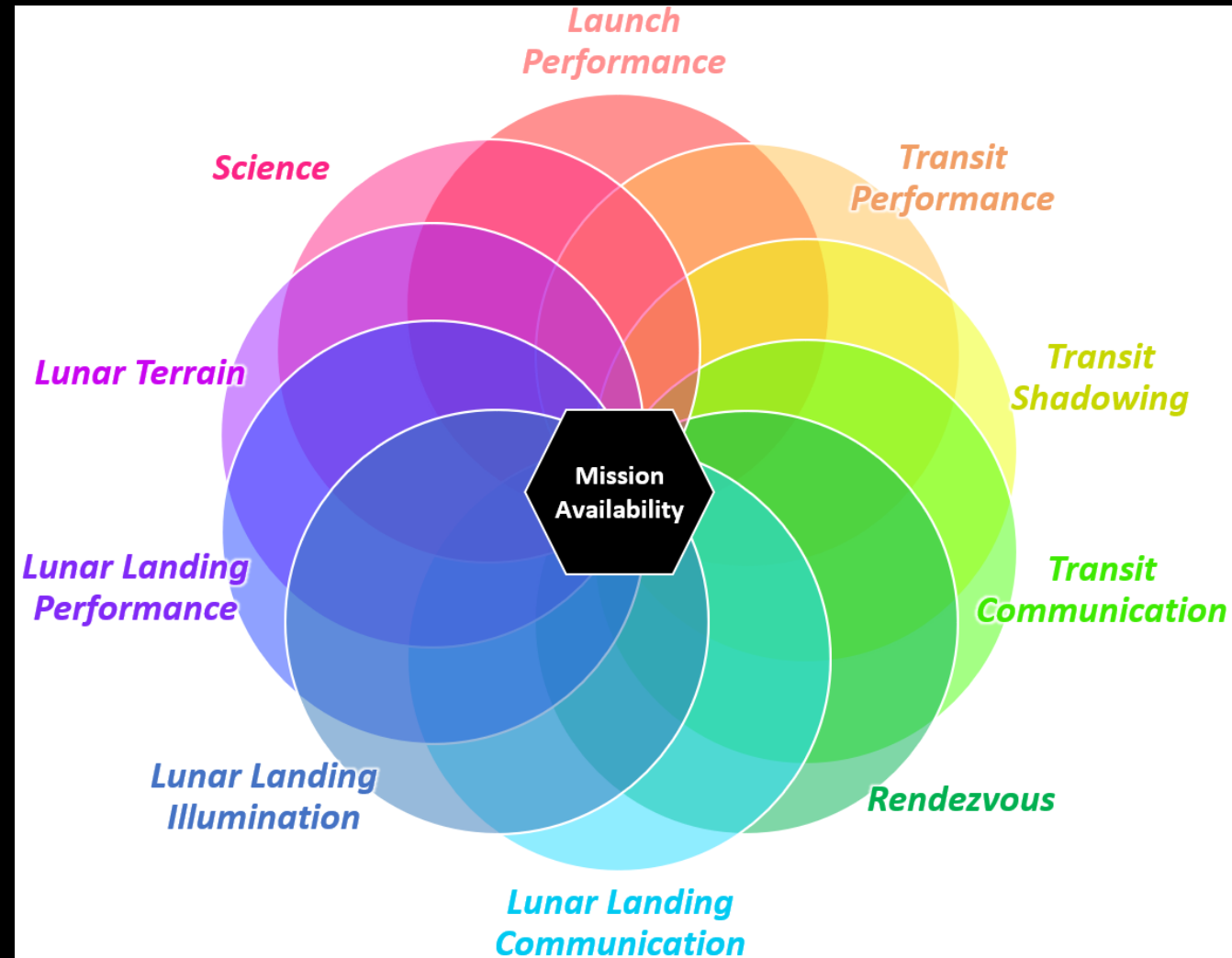
Apply weighted Figures of Merit (FOMs) for various sites to maximize and balance drivers with mission availability.



# Mission Availability is a Multidimensional Challenge



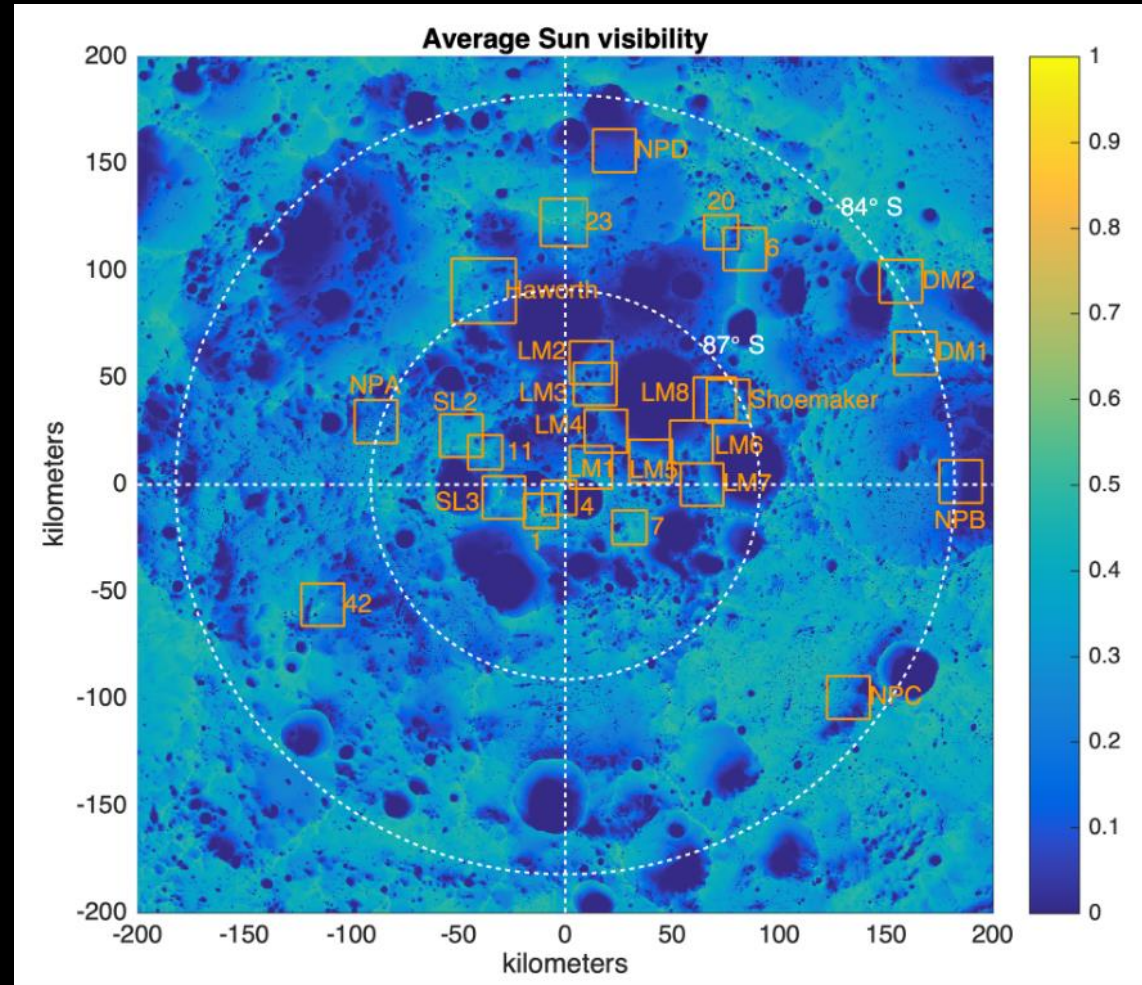
- Mission Availability is opportunity frequency at which the end-to-end mission can be viably conducted
  - Actual launch days, windows, periods
  - Some may acceptably be more constrained than others to achieve different objectives
- A distinct set of additional constraints must be incorporated when planning a human exploration mission (compared to science missions)
- Mission Availability analysis is an iterative process through design and development



# The Need for Flexibility



- 1) Constraints could drive other regions for mission availability needs
- 2) Site selection shifts when availability of elements shift
  - What other assets are available and their placement during mission timeframe.
- 3) The best place to land any lander is often also a place that is great for stationary multi-year elements.
  - This drives extra steps in process to balance strategic needs.
  - Each activity impacts determining final site selection



Multiple variables drive need for flexibility in site selection process



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