

3RD SPACE EXPLORATION CONFERENCE & EXHIBIT

Lunar Surface Systems

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CONSTELLATION



Background on NASA Studies



- ◆ **Exploration Systems Analysis Study (ESAS) defined only a limited framework for Lunar surface activities**
- ◆ **To prepare for early transportation milestones, it was necessary to assess impacts of eventual surface activities on Altair and Ares V**
- ◆ **Lunar Architecture Team Phase 1 (LAT1) in the fall of 2006 attempted to put more structure to surface activities and refine concepts**
- ◆ **Lunar Architecture Team Phase 2 (LAT2) in spring/summer of 2007 examined a number of additional approaches**



Background on NASA Studies (cont'd)

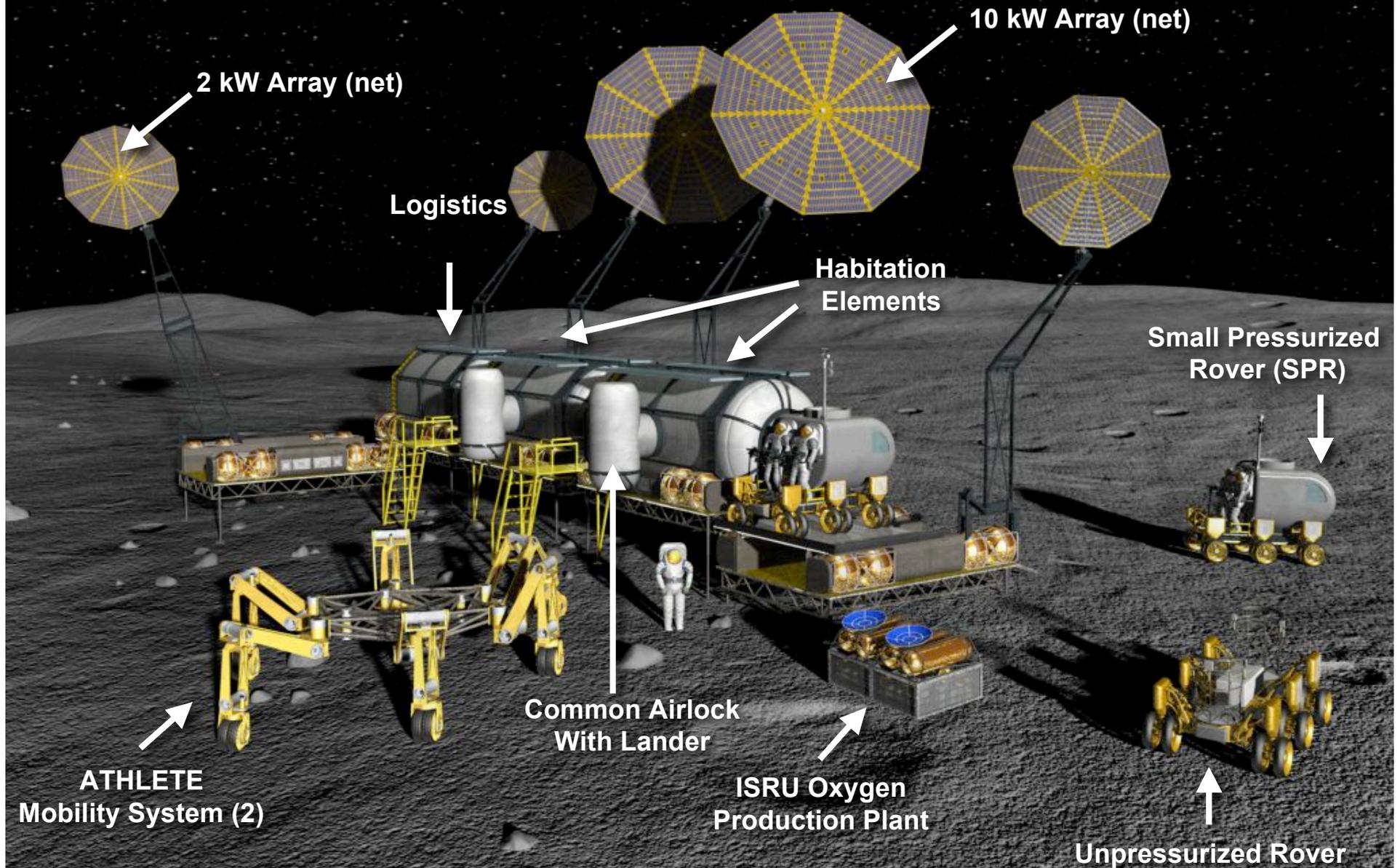


◆ **The Constellation Lunar Architecture Team (CxAT Lunar) started in fall 2007 and is currently preparing for a June 2008 review**

- Emphasis is on the transportation architecture and understanding performance trades
- Examining key driving requirements from the surface systems that impact transportation elements

- ◆ **Habitation, eventually for long duration stays**
 - Must provide both life support and safe haven
- ◆ **Mobility to enable expanded exploration, for both humans and payloads**
- ◆ **Power infrastructure for both day and night operations**
- ◆ **Communications, both to Earth and within the lunar community**
- ◆ **Science support, labs and infrastructure**

Conceptual Lunar Outpost Surface Systems



Sample Campaign Analysis

