Implementing the Vision
2nd Space Exploration Conference

Project Orion Overview

Skip Hatfield
Orion CEV Project Manager

December 6, 2006
Orion consists of four functional modules:

- **Launch Abort System** -- emergency escape during launch
- **Crew Module** -- crew and cargo transport
- **Service Module** -- propulsion, electrical power, fluids storage
- **Spacecraft Adapter** -- structural transition to launch vehicle
NASA and LM Working to Refine Requirements and Design Systematically

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RAC = Requirements Analysis Cycle  CRC = CEV Reference Configuration
Major NASA Technology Applications to Meet the Mission

Automated Rendezvous & Docking

Docking Systems

TPS “Heat Shield”

Parachutes

Landing Impact Attenuation

Retrorockets

Airbags

Implementing the Vision
Orion Production Infrastructure is Coming On-Line!

- **KSC / Operations & Checkout Building**
  - Highbay for all CEV final assembly
  - Highbay cleanout underway
  - Handover planned on 1 Jan 2007

- **Michoud Assembly Facility**
  - Primary structure manufacturing
  - Composite and metal fabrication
  - Initial outfitting to start 1 Jan 2007
Flight Test Program -- Progress Toward First Flight

- Completed agreement with USAF to develop the Abort Test Boosters (ATB)
  - Released Request for Proposal (RFI) to industry for the ATBs
  - Expect Jan-Feb selection

- Committed to first flight test in late 2008
  - Developing flight test articles with NASA and LM
  - Selected WSMR as launch site and flight range
# Orion Project Schedule Overview *

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- Prime Award
- SRR
- SDR
- PDR
- CDR
- Devt. LAS PA
- Proto LAS PA
- Trans. Abort
- Max Abort
- Tumble Abort
- High Alt. Abort
- Ares FT
- Orion Orbit FT1
- Orion Orbit FT2

1’st Human Launch 9/2014

*Current Estimate*