

Implementing the Vision 2nd Space Exploration Conference



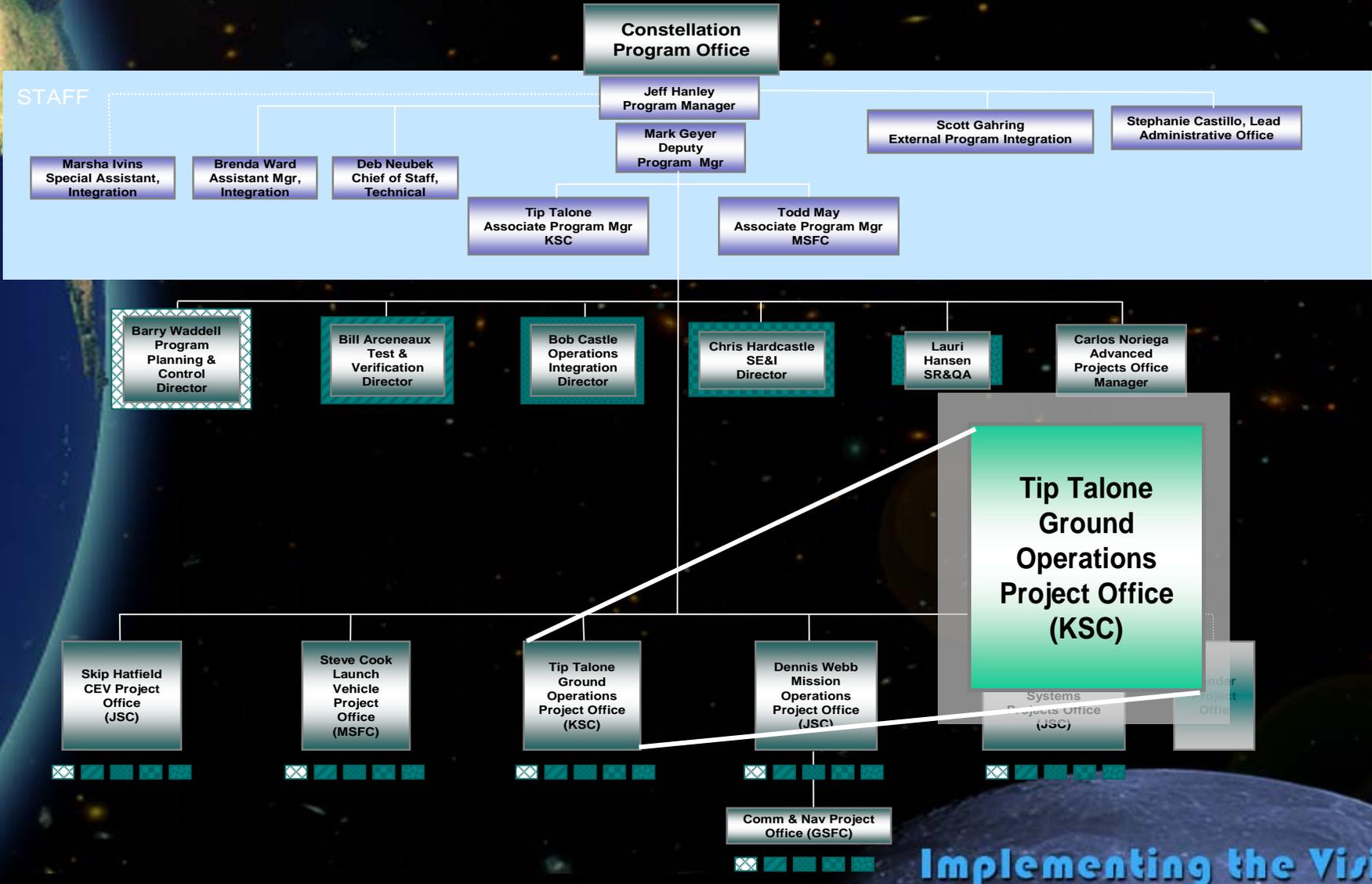
KSC Constellation Project Overview

Tip Talone

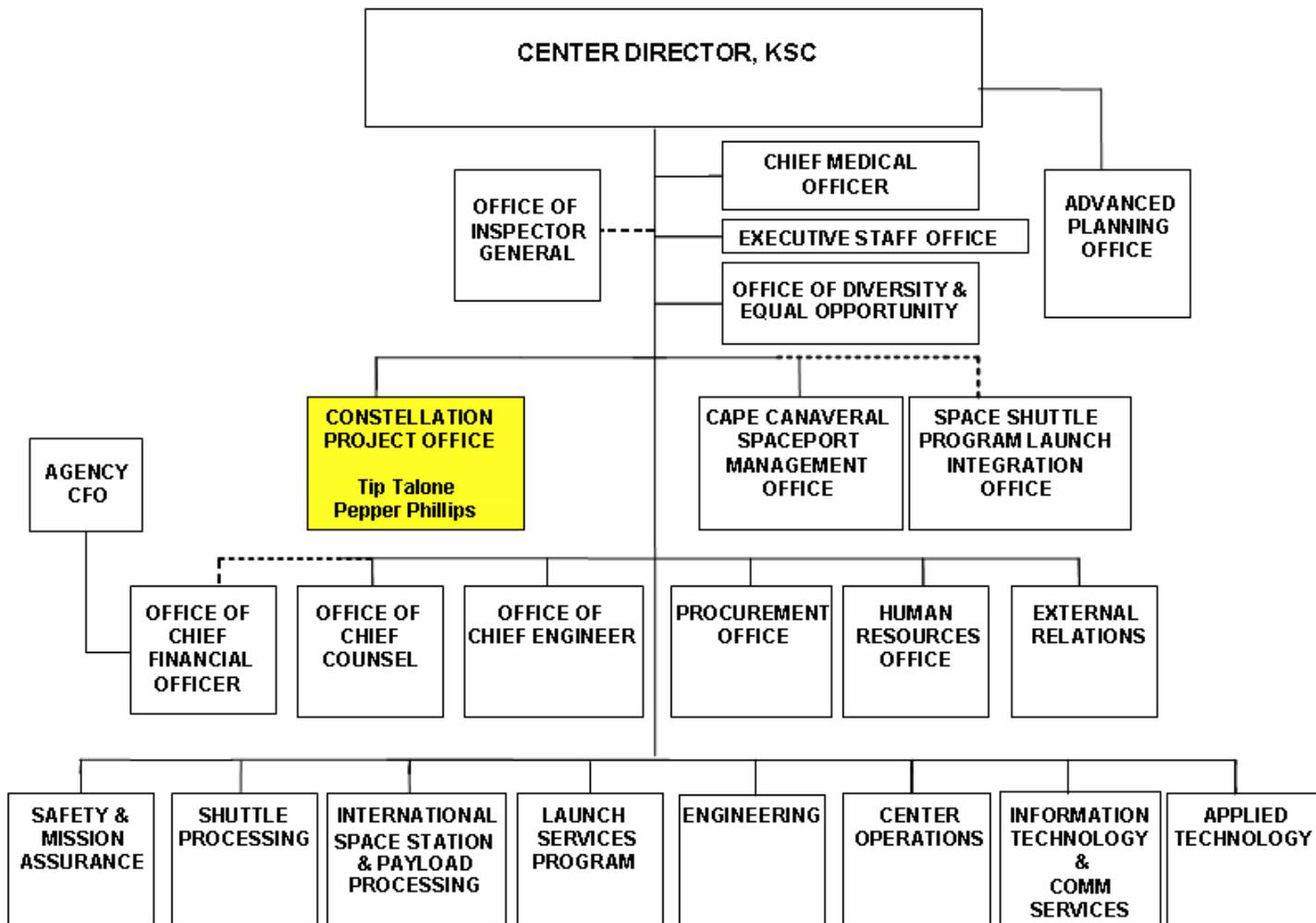
***KSC Constellation Project Office
Ground Operations***

December 6, 2006

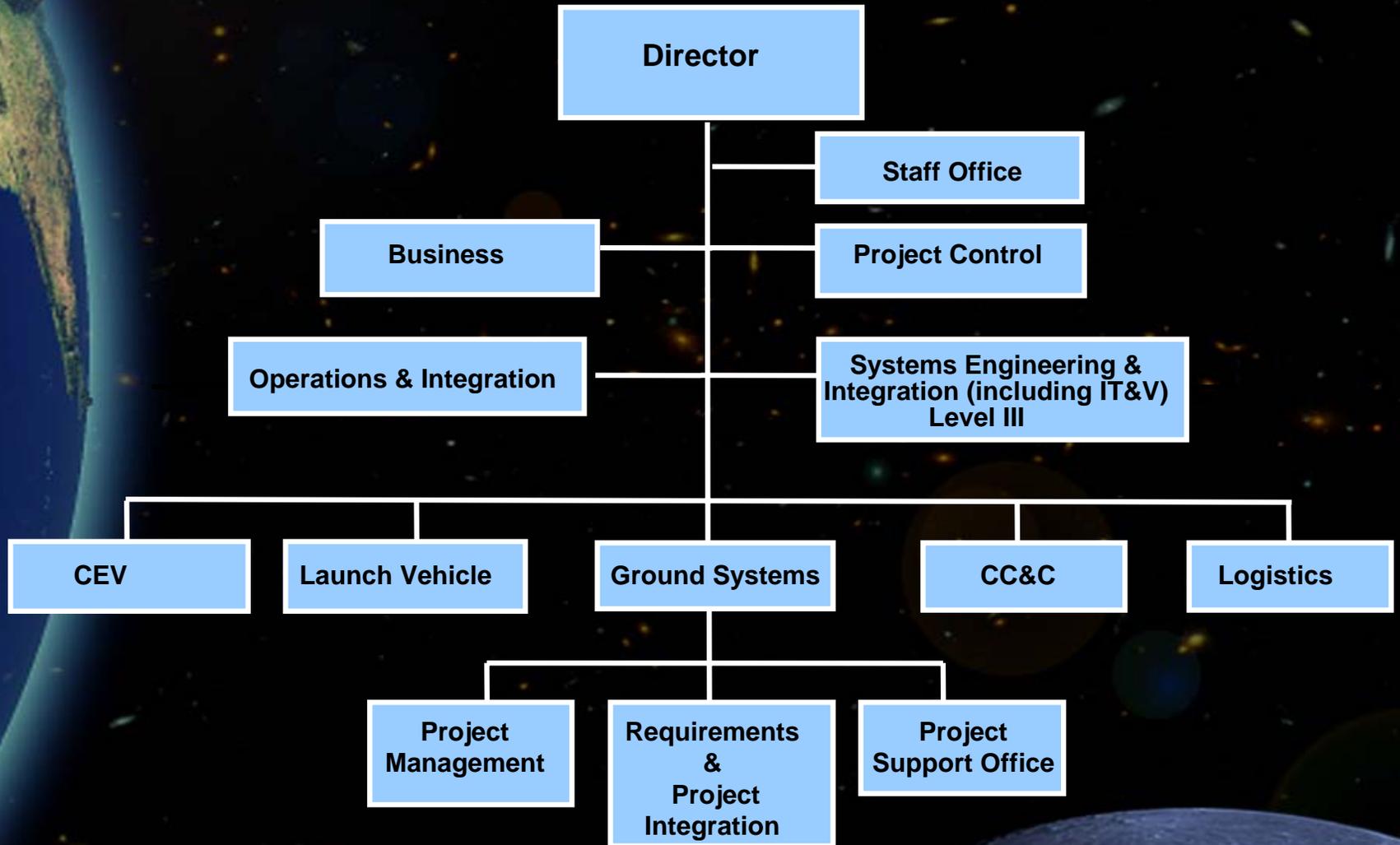
Constellation Program Office



Kennedy Space Center



KSC Constellation Project Office



KSC Constellation Ground Operations Project Office



Primary Responsibilities:

- KSC Project Office under Constellation Program
 - Level 2 Associate Program Manager
 - Level 3 Ground Operations Project Manager
- Ground Systems Requirements
- Ground Systems Design/Build (Facilities, Systems, GSE)
- Flight Hardware Elements Design Support
- Flight Elements Ground Processing, Integration, Launch, and Recovery Operations Planning
- Test and Verification Planning
- Logistics Planning
- Support To Program-Level Requirements Development
 - “Level II” Requirements
 - Operations Concepts
 - Constellation Architecture
 - Integrated Test and Verification

Launch Pad 39 – Saturn/Apollo



Saturn V on mobile launcher (ML) with launch umbilical tower (LUT) and mobile service structure (MSS)

Launch Pad 39 - Shuttle



Shuttle with rotating service structure (RSS) extended



Shuttle with rotating service structure (RSS) retracted

Launch Pad 39 – CEV/CLV



Clean Pad (Integrated Mobile Launcher)

- Stack Elements in VAB
- Vehicle/launcher umbilicals mate; integrated testing in VAB
- Transport integrated and verified flight vehicle to Launch Pad
- Launcher/ground systems mate
- Service (L-time driven only), arm, crew on-board, Launch

Access for Service / Arm / Crew Access from Launcher

Vehicle Assembly Building Saturn/Apollo



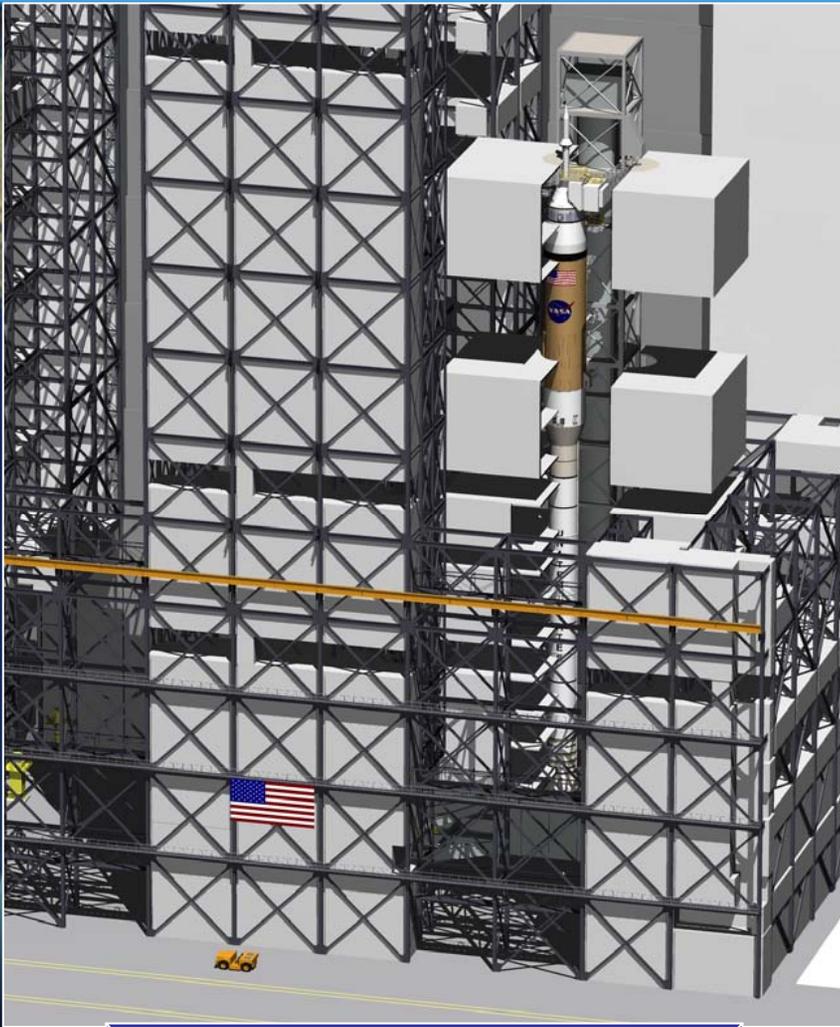
Saturn V / Apollo in VAB, platforms extended



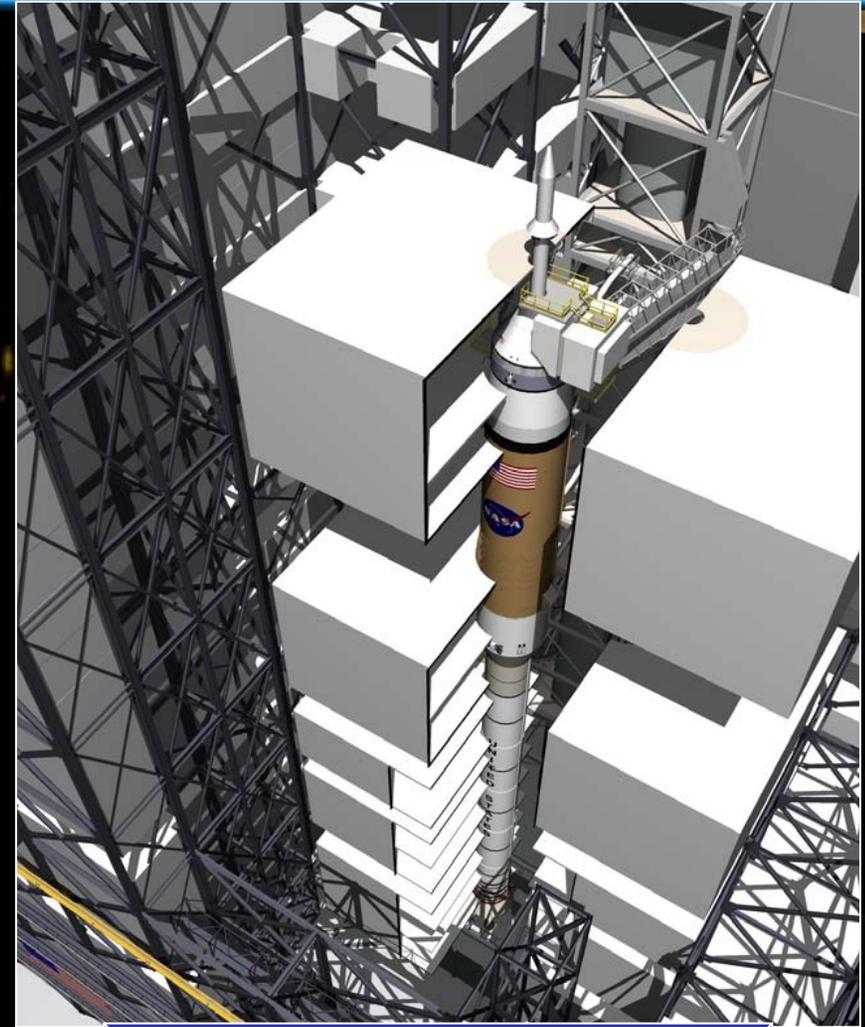
Saturn V / Apollo in VAB, platforms retracted

Implementing the Vision

Integrated Mobile Launcher - VAB



CLV / CEV Stacking in VAB High Bay

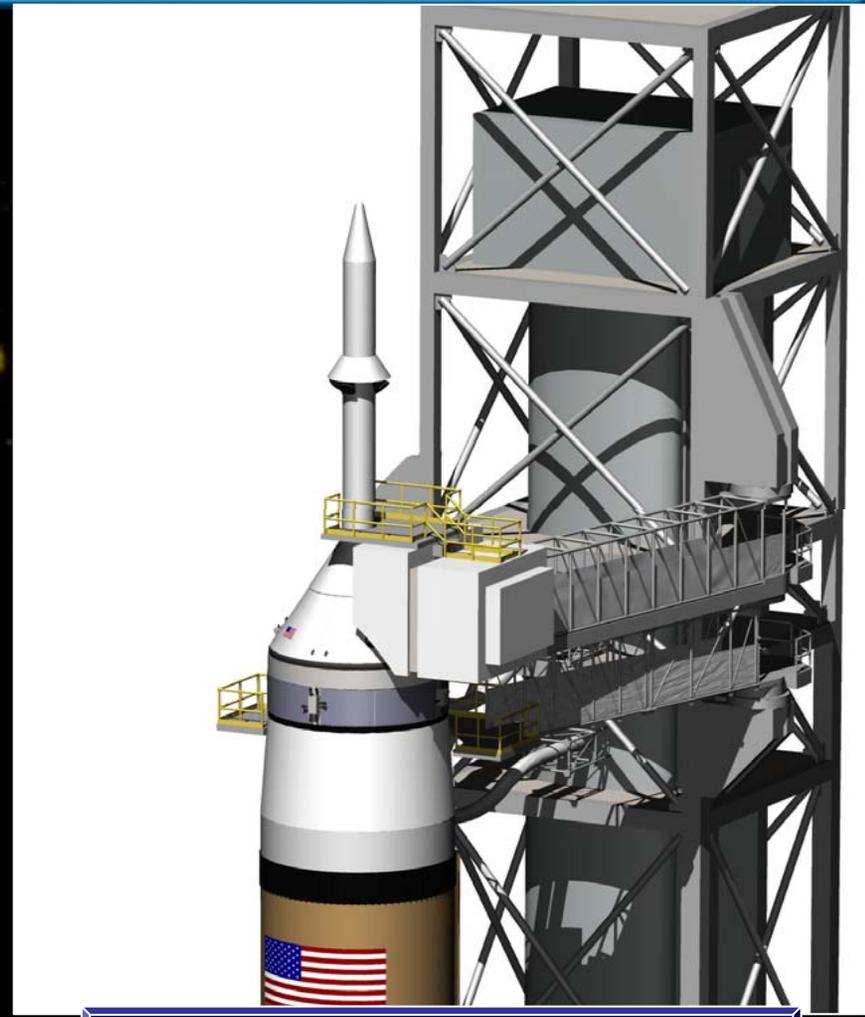


CLV / CEV Stacking in VAB High Bay

Integrated Mobile Launcher - Pad



CLV Integrated Mobile Launcher at LC-39



LUT platforms & Crew Access Arm