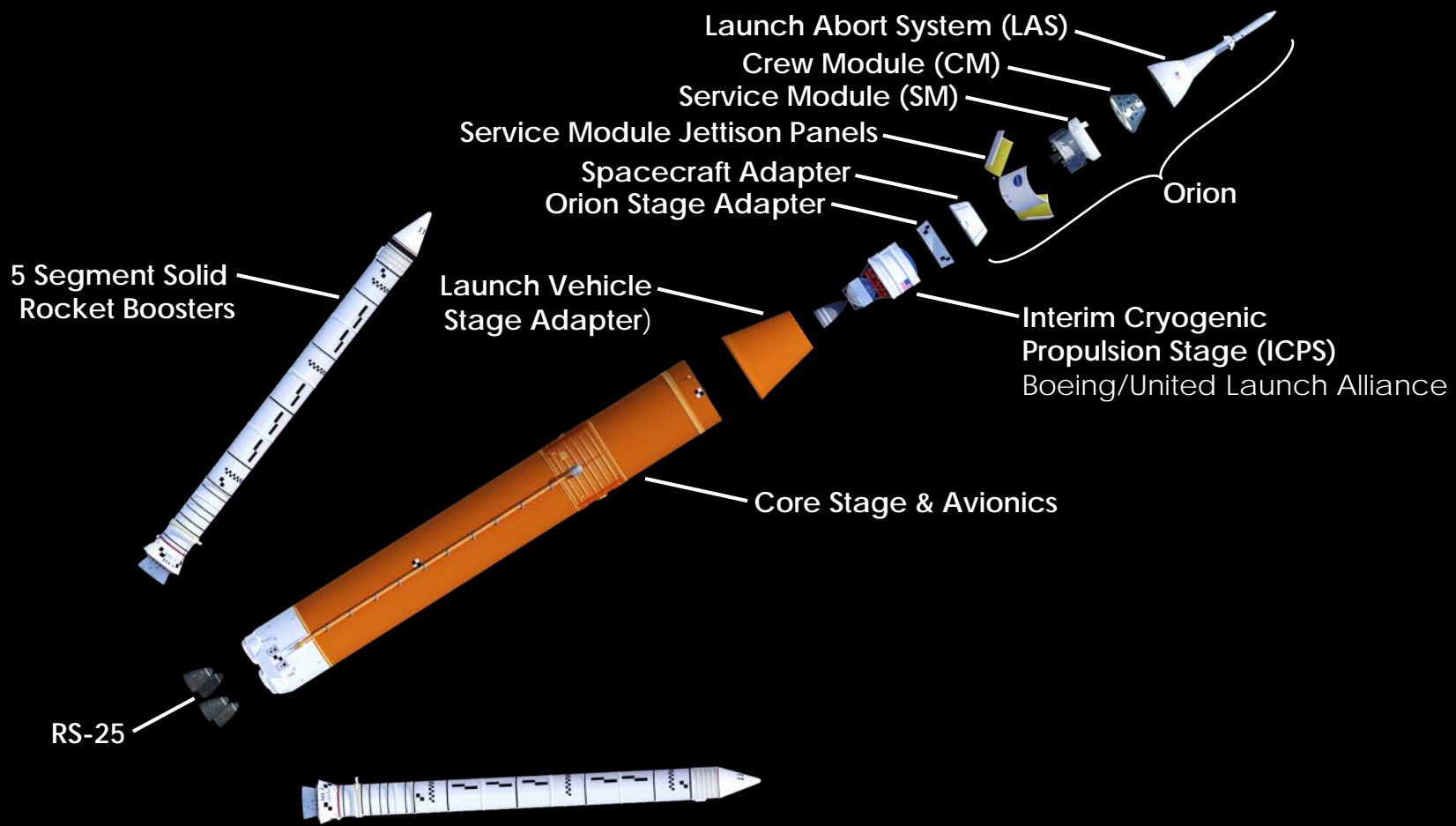




SLS OVERVIEW AND PROGRESS

John Honeycutt

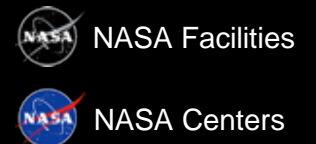
Program Manager
Space Launch System Program
October 6, 2017



SLS BLOCK 1 CONFIGURATION FOR EM-1



- Engaging the U.S. Aerospace Industry
- Strengthening Sectors such as Manufacturing
- Advancing Technology and Innovation for Deep-Space Exploration

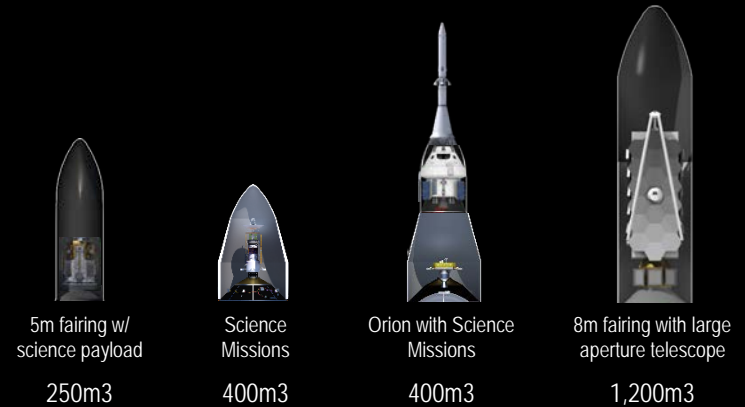


SLS NATIONWIDE TEAM

WORKING WITH OVER 1100 CONTRACTORS IN 42 STATES

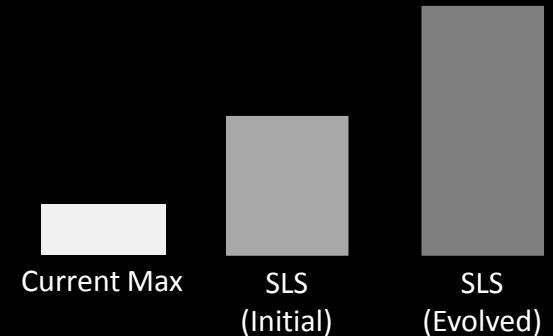
VOLUME

- Space Launch System will be able to offer payload accommodations with five times more volume than any contemporary launch vehicle
- Payload fairings of up to 10-meter diameter are being studied



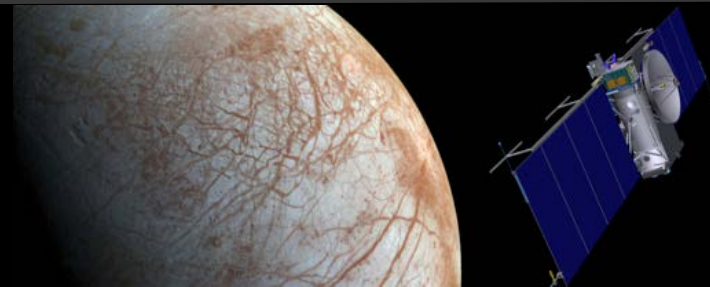
MASS

- Space Launch System will offer an initial capability of greater than 70 metric tons to low Earth orbit; current U.S. launch vehicle maximum is 28 t
- Evolved version of SLS will offer Mars-enabling capability of greater than 130 metric tons to LEO



DEPARTURE ENERGY

- SLS offers reduced transit times to the outer solar system by half or greater
- Higher characteristic energy (C3) also enables larger payloads to destination



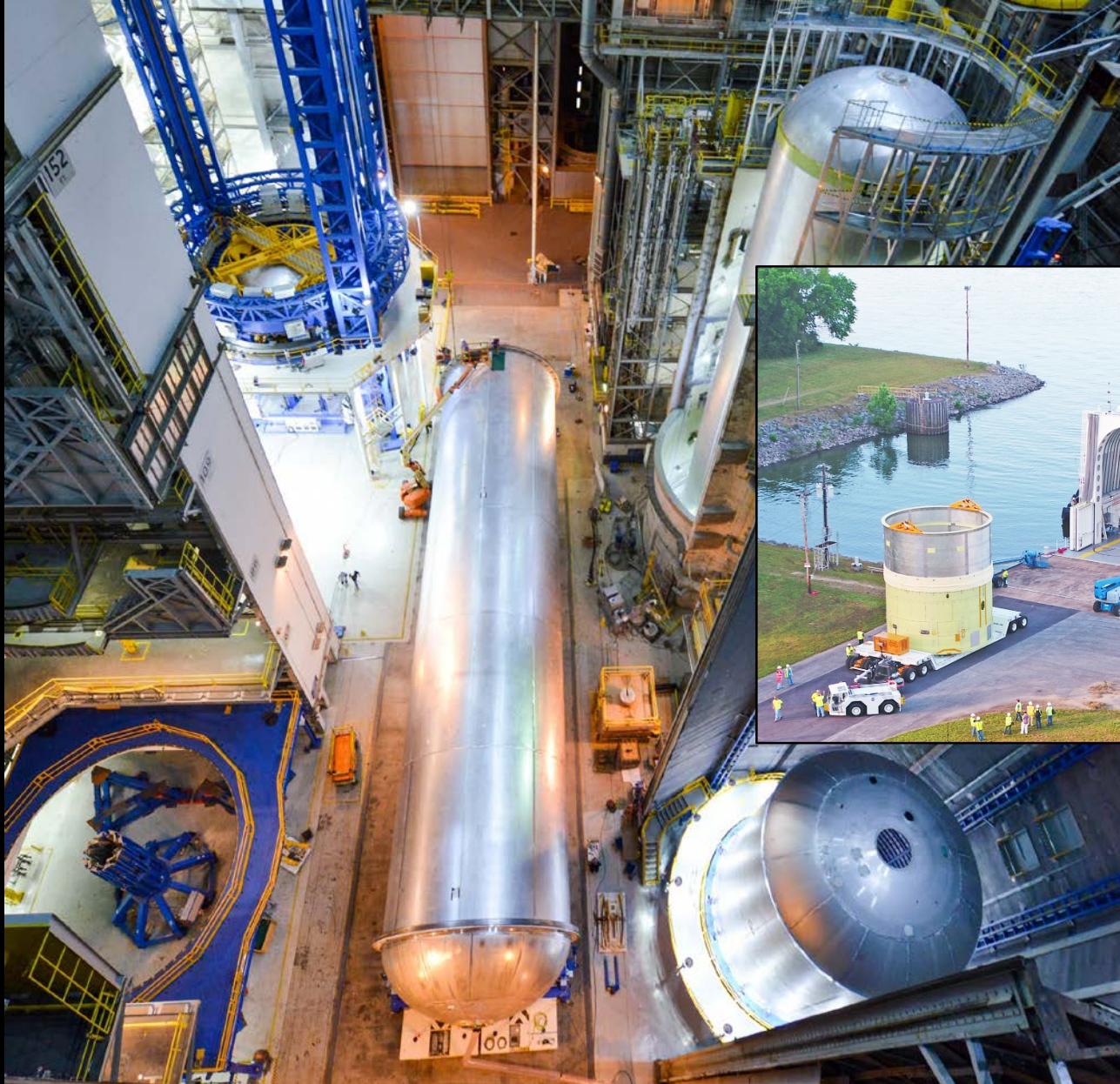
BENEFITS OF SPACE LAUNCH SYSTEM

VEHICLE CAPABILITIES



FIVE-SEGMENT SOLID ROCKET BOOSTERS

PHOTOGRAMMETRIC MARKINGS APPLIED, ORBITAL ATK TEST FACILITY, PROMONTORY, UTAH

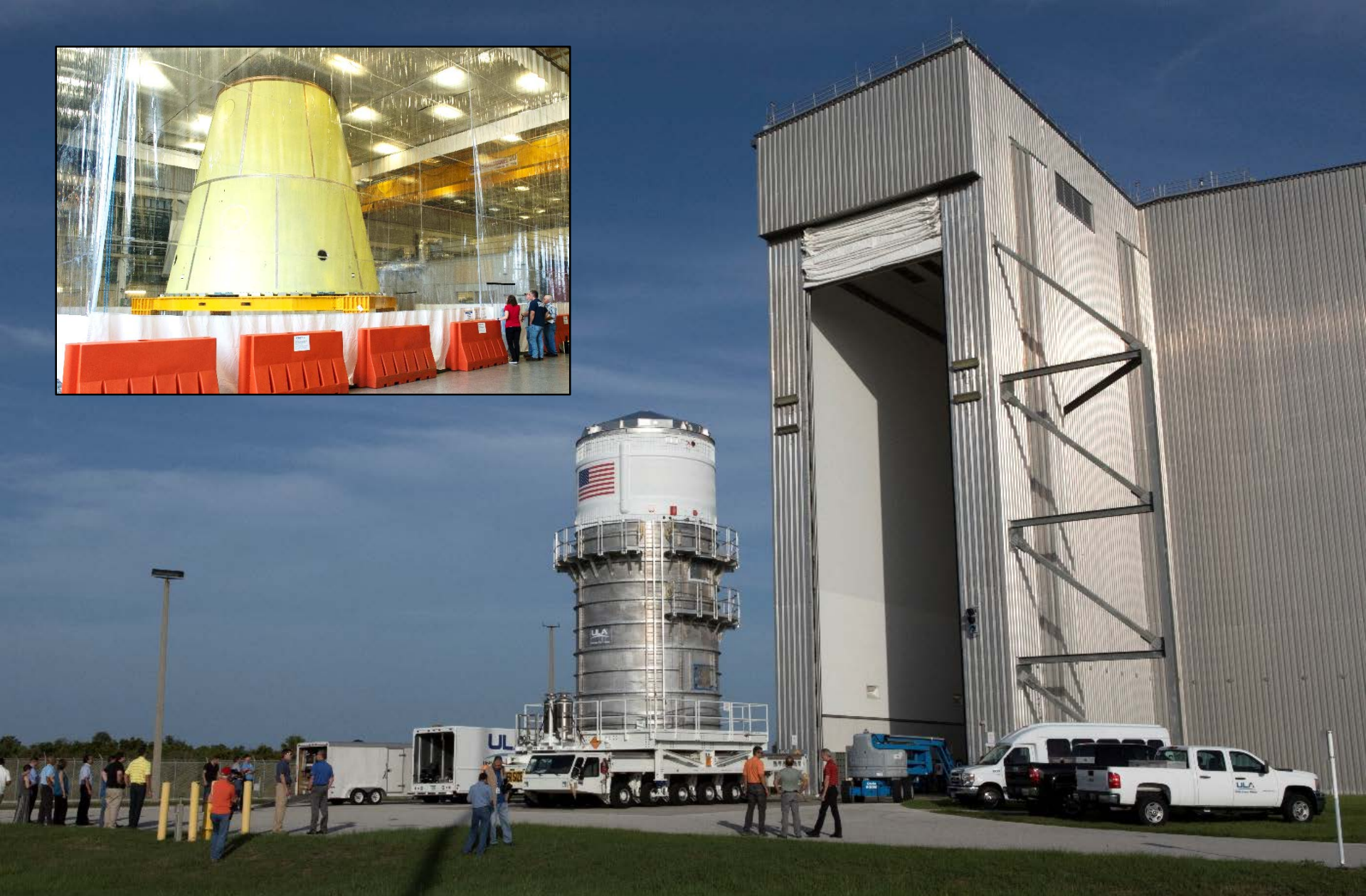


WELDING THE WORLD'S LARGEST CORE STAGE
NASA'S MICHLOUD ASSEMBLY FACILITY, LOUISIANA



LEVERAGING THE RS-25 ROCKET ENGINE

RS-25 HOT FIRE TESTING, NASA'S STENNIS SPACE CENTER, MISSISSIPPI



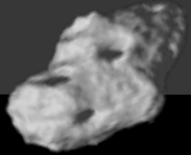
INTERIM CRYOGENIC PROPULSION STAGE

NOW AT KENNEDY SPACE CENTER



MOON

- Lunar Flashlight (NASA)
- Lunar IceCube (Morehead State University)
- LunaH-Map (Arizona State University)
- OMOTENASHI (JAXA)



ASTEROID

- NEA Scout (NASA)



SUN

- CuSP (Southwest Research Institute)

EARTH

- EQUULEUS (JAXA)
- Skyfire (Lockheed Martin)

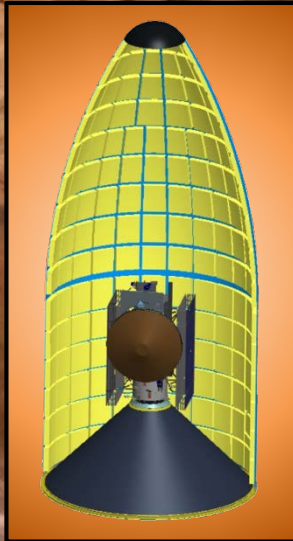


AND BEYOND

- Biosentinel (NASA)
- ArgoMoon (ESA/ASI)
- Cislunar Explorers (Cornell University)
- CU3 (University of Colorado Boulder)
- Team Miles (Fluid & Reason)



EM-1: ONE LAUNCH, MULTIPLE DISCIPLINES
SMALLSATS TO BE DEPLOYED FROM THE ORION STAGE ADAPTER



BUILDING THE EXPLORATION UPPER STAGE

NASA'S MARSHALL SPACE FLIGHT CENTER, ALABAMA



IT'S HAPPENING NOW!



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