NASA Masters Forum 20

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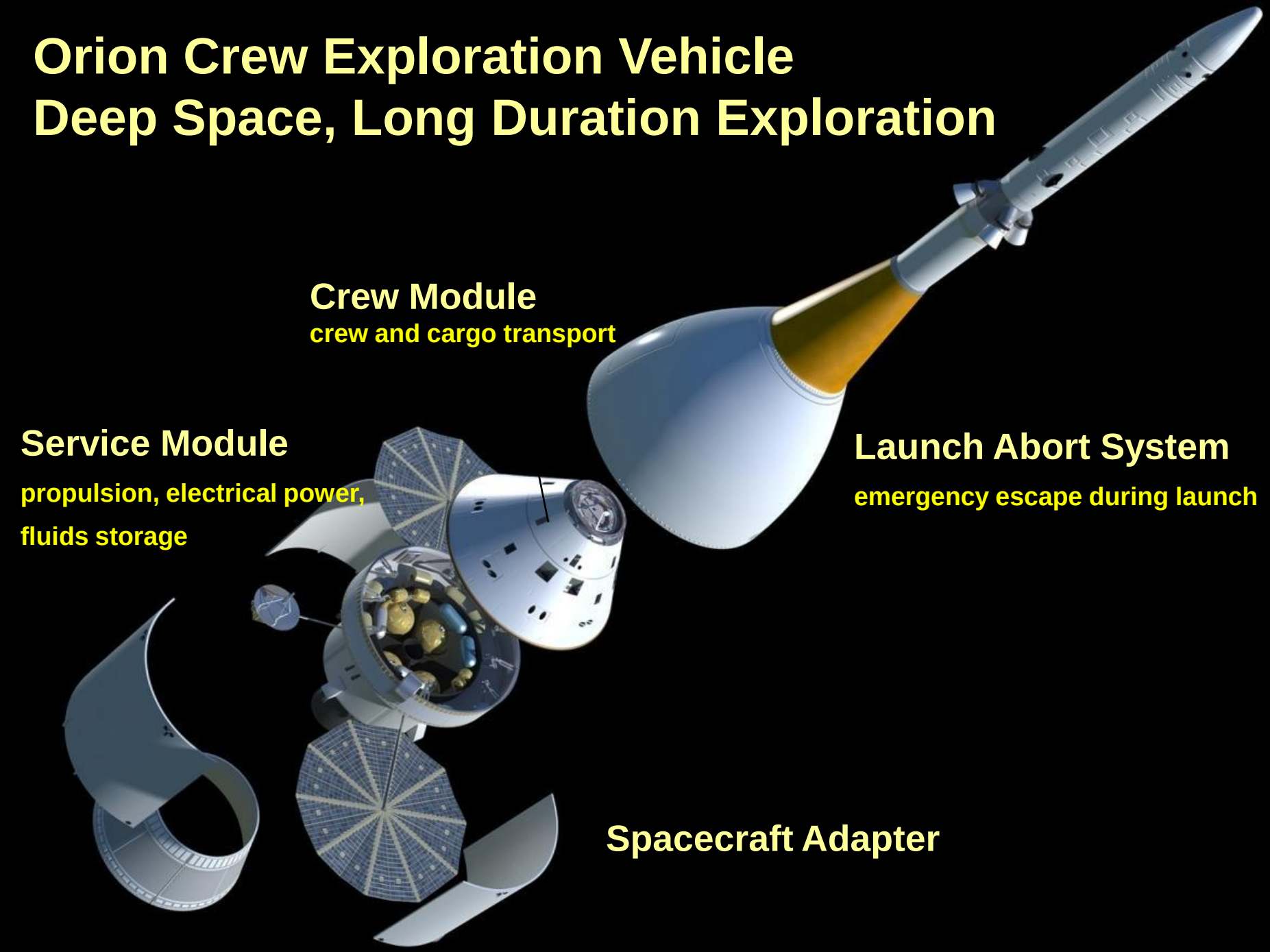
Vice President & Program Manager
Orion Crew Exploration Vehicle Program
Lockheed Martin Space Systems Company

Orion Crew Exploration Vehicle
Deep Space, Long Duration Exploration



Crew Module
crew and cargo transport

Service Module
propulsion, electrical power, fluids storage

Launch Abort System
emergency escape during launch

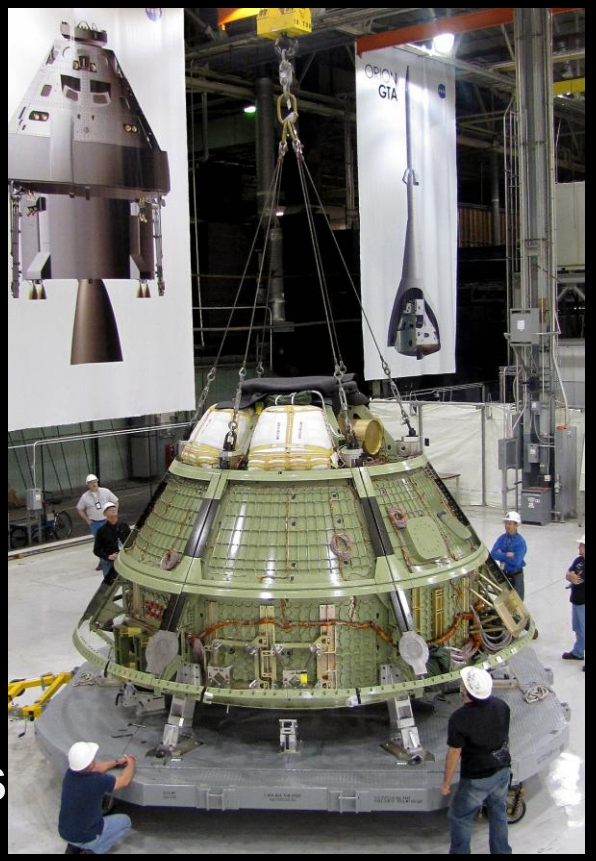
Spacecraft Adapter

ORION: Preparing to Fly

- Strong, bi-partisan political support
- Excellent program execution
- Transition to Multi-Purpose Crew Vehicle
- Orbital Flight in 2013
- Crewed Operations by 2016

Politically Supported … Technically Sound … Financially Sustainable

LESSONS LEARNED: Do It Right … From the Start



- Build an effective Industry–NASA customer relationship
- Partner with states/communities to invest in new capabilities
- Communicate program progress and purpose to the public & elected officials
- Control what you can … Anticipate your challenges … Adapt to unexpected change beyond your control

A Successful Program Builds on a Strong Foundation

LESSONS LEARNED: Make It Better ... When Challenges Occur

- Align funding and mission to budget and policy
- Adopt commercial practices where they apply
- Modify approach to program oversight vs. insight
- Change the plan and accelerate the schedule

Change and Challenge Bring Opportunity to Improve

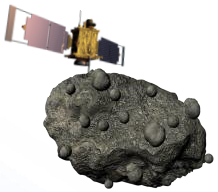
Stepping Stones Mission Model

2031-2035
Explore Mars from Deimos

2023
Deimos Scout

2019, 2023, 2025, 2029
Humans Explore Asteroids

2018
Explore the Moon's Far Side from Earth-Moon L_2 Point



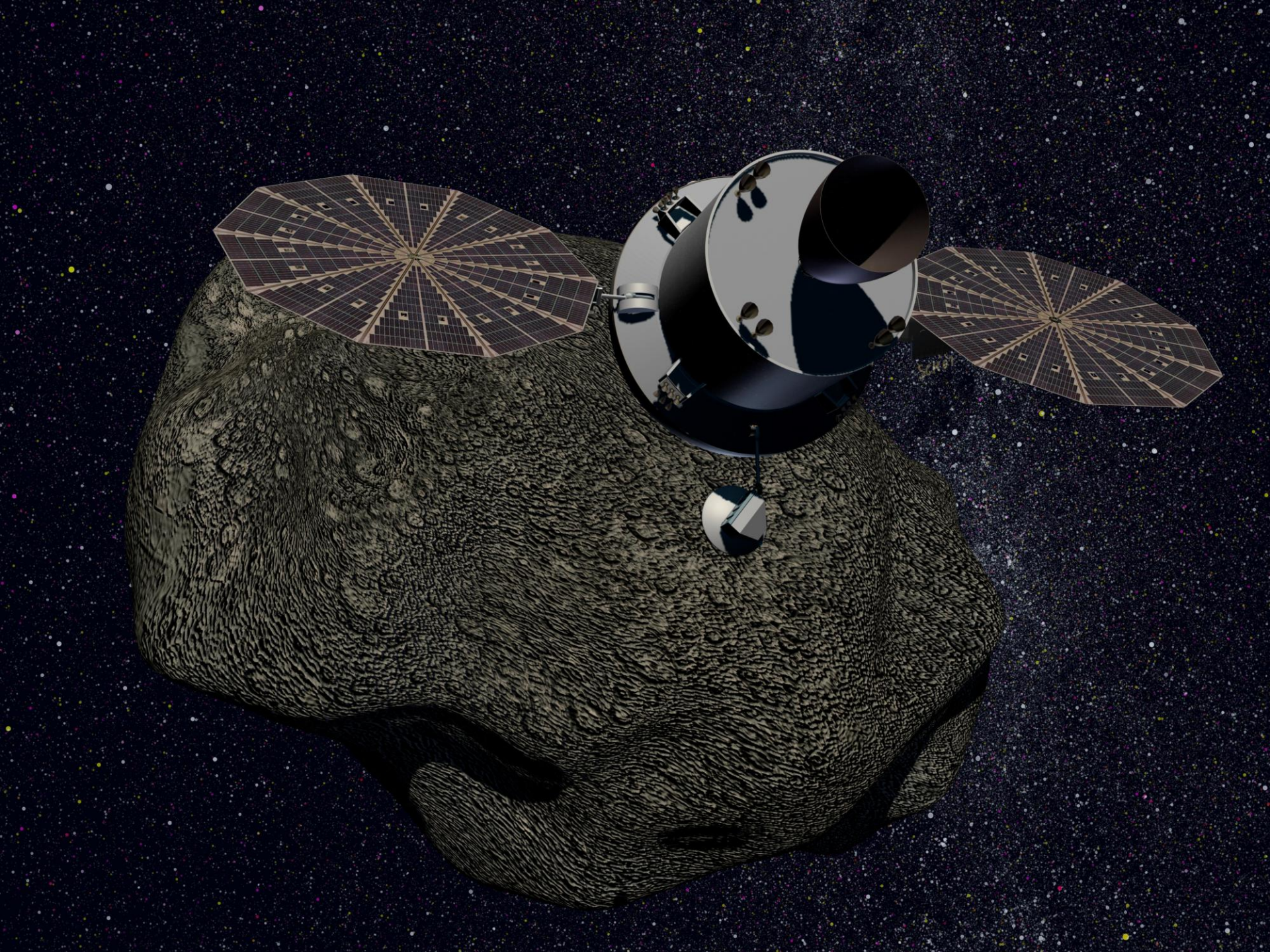
2017
Human Lunar Flyby

2016
Asteroid Survey

2017
Asteroid Scout

2016
SLS Test Flight

Stepping Stones: a series of increasingly challenging exploration missions, building incrementally towards America's long-term goal of exploring Mars. Each mission will address science objectives relating to the formation of the solar system and the origins of life.



Questions?