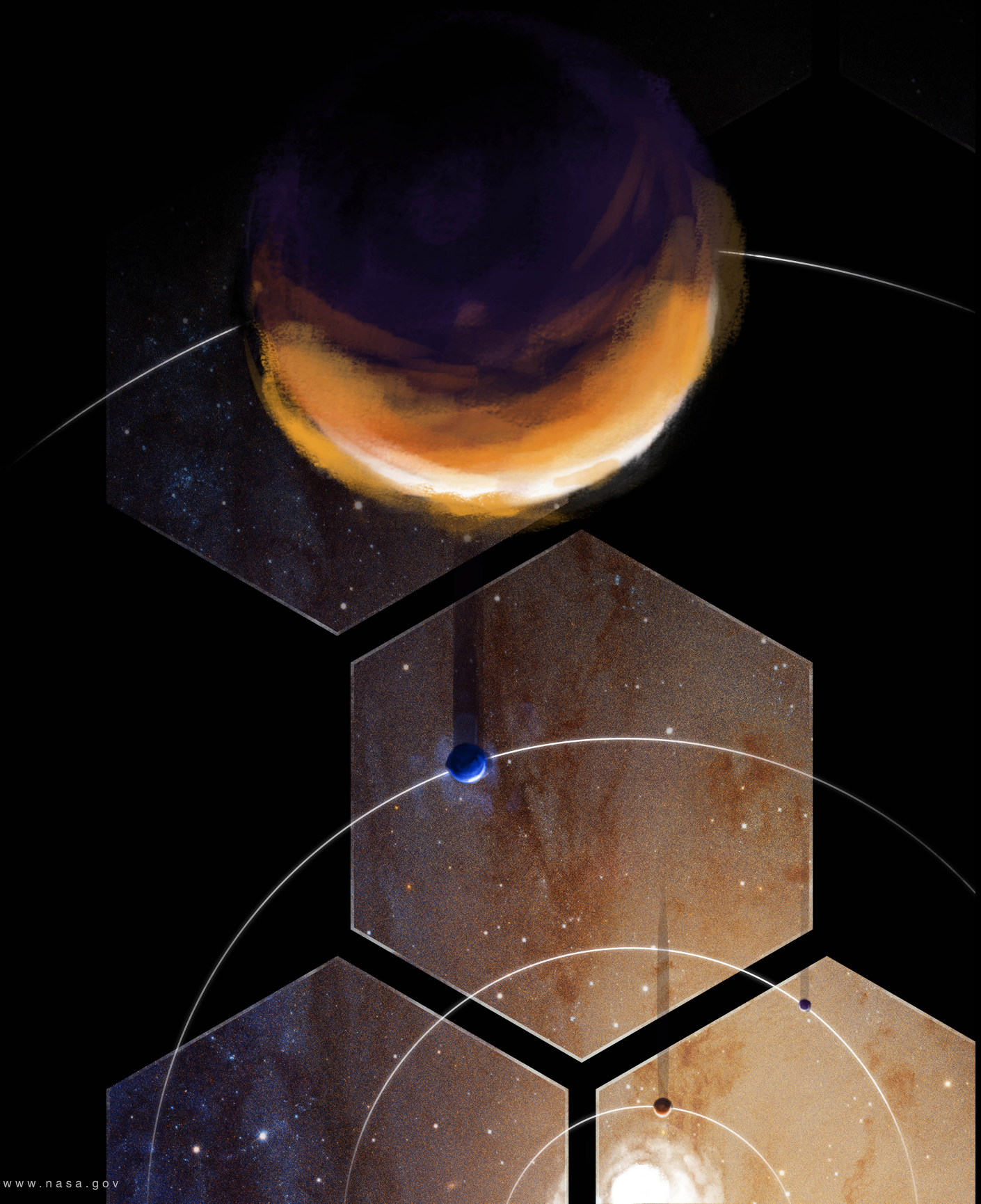
National Aeronautics and Space Administration

L U V O I R



www.nasa.gov

LUVOIR

Large UV/Optical/Infrared Surveyor

Mission Concept

http://asd.gsfc.nasa.gov/luvoir

LUVOIR is a concept for a highly capable, guest observer-driven space observatory with tens to thousands of times the science grasp of HST. LUVOIR would enable transformative breakthroughs in a wide range of exoplanet science, general astrophysics, and solar system studies.

Telescope

Segmented, deployable UV/optical/near-IR telescope

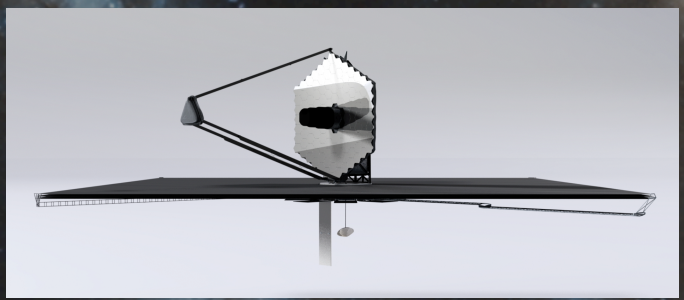
Ultra-stable to enable high performance coronagraphy

Serviceable and upgradable (25 year lifetime goal for non-serviceable components)

Earth-Sun L2 orbit

Two sizes to be studied :

- LUVOIR-A : 15 m diameter, for launch in an SLS or equivalent
- LUVOIR-B : 9 m diameter, for launch in a Delta IV Heavy or equivalent



Candidate Instruments

ECLIPS: Coronagraph with imaging spectroscopy

- Total bandpass: 200 – 2200 nm
- 10^{-10} contrast
- IWA - OWA: ~ 4 - 64 λ/D

LUMOS: Multi-object spectrograph and imager

- Total bandpass: 100 – 400 nm
- Resolution: 500 < R < 65,000

HDI: High resolution wide-field camera

- Total bandpass: 200 – 2500 nm
- Field-of-view: 2’ x 3’

POLLUX: Spectropolarimeter (European instrument)

- Total bandpass: 100 – 400 nm
- R = 120,000
- Circular + linear polarization