THE SPACE LAUNCH SYSTEM AND MISSIONS TO THE OUTER SOLAR SYSTEM

K. Klaus, K. E. Post, The Boeing Company, 13100 Space Center Blvd, MC HB4-20, Houston TX 77059, kurt.klaus@boeing.com & kevin.e.post@boeing.com

Introduction
America's new heavy lift launch vehicle, the Space Launch System (SLS), will take a leap of planetary science explorers. In addition to human linkage, the SLS can be used for most, if not all, of the National Research Council’s Decadal Survey for the Outer Solar System. The SLS capability enables larger payloads and faster travel times, reduced operational complexity when compared to the original concept studies. We will outline a number of mission concept teams from the Decadal Survey. All of our studies are preliminary and result in concept analysis exams which are generally drawn from the missions concept studies submitted to the Decadal Survey. The exception to this is the Europa Clipper mission which came directly as a result of the major Exploration Decadal Survey mission that was originally part of the EURO Flagship mission. Our goal is to investigate what the capabilities of the SLS would offer for these important science missions.

Europa Clipper - Mission Class: Flagship

Saturn Atmospheric Entry Probe - Mission Class: New Frontiers

Jupiter Trojan Tour and Rendezvous - Mission Class: New Frontiers

Uranus Orbiter with Probes - Mission Class: Flagship

Summary: The first launch of the SLS is scheduled for 2019 followed by the first human launch in 2021. The SLS in its existing configurations will enable a broad range of exploration missions which will serve to meet the needs for the future of the exploration and development of the outer solar system. The world needs a launch vehicle with the performance that today only the SLS will provide.