NASA’s Exploration Architecture

September 19, 2005
A Bold Vision for Space Exploration

♦ Complete the International Space Station
♦ Safely fly the Space Shuttle until 2010
♦ Develop and fly the Crew Exploration Vehicle no later than 2014 (goal of 2012)
♦ Return to the Moon no later than 2020
♦ Extend human presence across the solar system and beyond
♦ Implement a sustained and affordable human and robotic program
♦ Develop supporting innovative technologies, knowledge, and infrastructures
♦ Promote international and commercial participation in exploration

“It is time for America to take the next steps.

Today I announce a new plan to explore space and extend a human presence across our solar system. We will begin the effort quickly, using existing programs and personnel. We’ll make steady progress – one mission, one voyage, one landing at a time”

President George W. Bush – January 14, 2004
A Safe, Accelerated, Affordable and Sustainable Approach

♦ Meet all U.S. human spaceflight goals
♦ Significant advancement over Apollo
  • Double the number of crew to lunar surface
  • Four times number of lunar surface crew-hours
  • Global lunar surface access with anytime return to the Earth
  • Enables a permanent human presence while preparing for Mars and beyond
  • Can make use of lunar resources
  • Significantly safer and more reliable
♦ Minimum of two lunar missions per year
♦ Provides a 125 metric ton launch vehicle for lunar and later Mars missions and beyond
♦ Higher ascent crew safety than the Space Shuttle
  • 1 in 2,000 for the Crew Launch Vehicle
  • 1 in 220 for the Space Shuttle
♦ U.S. system capable of servicing the International Space Station
♦ Orderly transition of the Space Shuttle workforce
♦ Requirements-driven technology program
♦ Annual “go-as-you-pay” budget planning
High Priority Lunar Exploration Sites

- Aristarchus Plateau
- Oceanus Procellarum
- Mare Tranquillitatis
- Rima Bode
- Mare Smythii
- Central Farside Highlands
- Orientale Basin Floor
- South Pole-Aitken Basin Floor
- South Pole
- North Pole