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With Space Shuttle Endeavour's successful completion of the first International Space Station assembly mission last night, the Shuttle program has begun fulfilling a role established during Shuttle's design more than 30 years ago and has inaugurated a new era in a continually improving, safer and more affordable Shuttle program, says Shuttle designer, builder and co-operator Boeing.

Thirty-six of the 45 assembly missions required to complete the Station by 2004 will be Shuttle flights, as the fleet hauls into space a majority of the more than 100 major structural components that will comprise the Station.

The Shuttle is prepared for this rigorous schedule, however. Not only is Shuttle the most reliable launch vehicle in the world with a 98.9 percent success rate, but Shuttle's continually improving on-time launch rate benefits ISS's short 10-minute launch windows. The nine Shuttle-Mir missions clearly demonstrated Shuttle's ability to launch on time under tight constraints.

ISS assembly missions also maximize use of Shuttle's broad capabilities, including transporting people and cargo to and from orbit; rendezvous and docking; structural assembly, maintenance and repair; deployment and retrieval of payloads; and the ability to support spacewalks. In addition, Shuttle has already served as a valuable test bed for refining and honing ISS assembly and operating procedures and new technologies.

Following assembly completion, Shuttle will perform logistics missions, transporting crews, supplies and scientific equipment to and from the Station.

"Endeavour's mission demonstrates why Shuttle, with its ability to transport crews, is the only vehicle that can assemble ISS and supply it after completion," says Rick Stephens, Boeing Reusable Space Systems vice president and general manager. "Shuttle has unique capabilities and operating characteristics specifically designed for precision space assembly, such as its ability to provide a platform for most of the 850 hours of American and Russian spacewalks required to assemble and maintain ISS."

Beyond ISS assembly, Stephens sees Shuttle continuing to evolve to meet America's human space flight requirements well into the next century. "Shuttle's capabilities and versatility are unique and critical both during and after ISS assembly and operations," he said.

"With the fleet less than a quarter through its design life and with costs and performance continually improving, it's important that we protect the nation's investment in Shuttle through prudent and affordable upgrades of the Shuttle system to ensure America maintains its ability to transport humans into space.

"Like its aircraft counterparts still flying long after their replacements were touted, Shuttle has been continually upgraded to improve safety and reliability, reduce turnaround time, eliminate obsolescence and cut operations costs," he added.

Stephens cited supporting figures. "From its peak in 1992, the cost of operating Shuttle has been reduced 27 percent, saving taxpayers more than \$4 billion. Yet despite the budget cuts, performance continues to improve: processing time is down 23 percent, and in-flight anomalies are down more than 70 percent while on-orbit time has increased 174 percent.

"With prudent investments in upgrades and planned flight rate increases, we see the cost of transporting a pound of cargo to orbit on Shuttle decreasing 70 percent from today's levels by 2005.

"It's simply not prudent to consider phasing out Shuttle until a new, human-rated successor has been put in place and proven with respect to safety, reliability, performance, cost-competitiveness and other key factors," Stephens concludes. "Boeing is relying on the results of NASA's Space Transportation Architecture Study, to be completed in early 1999, to provide future direction for our 21st century expendable and reusable launch systems."

Boeing is under contract to the United Space Alliance for Space Shuttle orbiter production, modifications and operations and for overall Shuttle system and payload integration services, with additional responsibility for launch and mission support.

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