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SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS (D2)
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Kennedy Space Center: Creating a Spaceport Reality from the Dreams of Many

Abstract

On December 17, 1903, Orville Wright piloted the first powered airplane only 20 feet above the ground near Kitty Hawk, North Carolina. The flight lasted 12 seconds and covered 120 feet. Who would have guessed that the bizarre looking contraption developed by brothers in the bicycle business would lay the ground work eventually resulting in over a million passengers moved daily in a sky filled with the contrails of jets flying at over 30,000 feet in elevation and over 500 miles per hour. Similarly, who would have guessed that the destructive nature of V-2 rockets of Germany would spark the genesis of spaceflight to explore our solar system and beyond? Yet the interest in using the Kennedy Space Center (KSC) continues to grow. Potential customers have expressed interest in KSC as a location for testing new rocket engines, servicing the world's largest airborne launching platform for drop-launch rockets, developing multi-use launch platforms that permit diverse customers to use the same launch platform, developing new spacecraft, and implementing advanced modifications for lifting 150 metric ton payloads to low earth orbit. The multitude of customers has grown and with this growth comes a need to provide a command, control, communication, and range infrastructure that maximizes flexibility and reconfigurability to address a much more frequent launch rate of diverse vehicles and spacecraft. The Ground Systems Development and Operations (GSDO) Program Office at KSC is embarking upon these developments to realize the dream of a robust spaceport. Many unique technical trade studies have been completed or are underway to successfully transition KSC into a multi-user customer focused spaceport. Like the evolution of the airplane, GSDO is working to transform KSC infrastructures that will turn once unthinkable space opportunities into a reality for today.