Unmanned Aircraft Systems Integration in the National Airspace System

NASA's Ikhana aircraft could be the first large unmanned aircraft system to fly in the National Airspace System without the requirement of an escort aircraft in 2018 outside of Class A and Special Use Airspace. Above, this image taken from a NASA King Air shows a Honeywell King Air intruding on the Ikhana’s airspace during a test flight June 13. New technology flying on Ikhana alerted the pilots to the presence of the intruder and allowed the aircraft to maintain safe separation. (NASA / Carla Thomas)

NASA's Unmanned Aircraft Systems Integration in the National Airspace System, or UAS-NAS project, works on identifying, developing and testing the technologies and procedures that will make it possible for UAS to have routine access to airspace occupied by human-piloted aircraft.

The UAS-NAS project uses modeling, simulations and flight tests to develop and test technologies that provide safe, effective, secure capabilities including detect and avoid (DAA) and command and control (C2).

Teams of NASA researchers have been working with the UAS community since 2011 to address the technical barriers to routine UAS operations.

Data results from UAS-NAS work inform the minimum operational performance standards that the Federal Aviation Administration (FAA) is using for development of technical standards and operational approval guidance.

Four NASA centers support the UAS-NAS project: NASA’s Ames Research Center and Armstrong Flight Research Center in California, Langley Research Center in Virginia and Glenn Research Center in Ohio.

The UAS-NAS project is within the Inte-
The SIERRA-B unmanned aircraft system developed at NASA's Ames Research Center in California is the main platform for a new flight test series. (NASA)

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