

## Testbed Development for All-Source Positioning and Navigation (ASPN) Program

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**Sponsor:** Defense Advanced Research Projects Agency (DARPA)



This program is a combined effort between the Air Force Institute of Technology (AFIT), The Ohio State University, and Ohio University to develop a testbed for ASPN. The ASPN program seeks to enable low-cost, robust, and seamless navigation solutions for military users on any operational platform and in any environment, with or without a global positioning system (GPS). AFIT leads the development of a testbed for Phase 1 of the program, which includes collecting navigation sensor data from a wide variety of sensors; generating truth data; preprocessing the collected data; generating a “standard” extended Kalman filter integration of the sensors; and providing everything to DARPA and/or the agents for the ASPN performers, so they can use the collected data to evaluate the performance of their algorithms and architectures. All three universities have significant experience in collecting and using these kinds of data sets, and the work performed will enable the ASPN performers to focus on their algorithms and architectures, rather than on collecting and calibrating data from real-world sensors.

### Further Reading:

Fisher, K. and J. Raquet, “Non-GPS Precision Position, Navigation, and Timing,” Air and Space Power Journal, Vol. XXV, No. 2, Summer 2011, pp. 24-33.