

A Summary of Human Factors Research and Its Use in Certifying and Operating Unmanned Aerial Systems in the National Airspace System

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There are many efforts going on today to develop appropriate processes and make effective decisions for the design and operation of unmanned aerial systems to allow them to be used and integrated into the national airspace system (NAS). Those working in the FAA on the human factors aspects of these issues have stated that one of their biggest problems is that UAS human factors work is so distributed and not coordinated that it is difficult to develop an awareness of it and subsequently apply the results. They conclude that any progress made towards channeling all of that towards some common goal would be very useful. The purpose of this presentation is to meet begin meeting this need. As the problem statement implies, it is important to build upon previous human factors research and on-going studies to most effectively take the right human factors considerations into account (among many other considerations) during the efforts and decisions related to understanding how to certify vehicles and operations while maintaining the safety level of the NAS. This presentation will summarize the significant UAS human factors research that is available for this type of application and describe holes that still need to be filled with future human factors research to support the regulatory and operational decision making that is happening today. Human factors research focused on both military and civil operations will be included in the summary. The information presented will be framed by the civil aircraft certification process and the human factors considerations associated with certifying vehicles and operations for performance in the NAS.