CONTRIBUTING STAKEHOLDERS

NMSU-PSL-TAAC

By Doug Davis

New Mexico State Universty - Physics & Science Lab - Technical Analysis & Applications Center(TAAC) was created for, and has been committed to, the safe integration of Unmanned Aircraft Systems (UAS) into the National Airspace System (NAS). Over the past year, TAAC has been successful in achieving the goals in the following areas:

- **Small UAS Airworthiness** - TAAC will be developing a unique streamlined process for integrating small UAS (sUAS) into the NAS. This activity is expected to provide significant flexibility for sUAS users prior to the expected sUAS rulemaking anticipated in 2013.

- **UAS Demonstrations in the NAS** - TAAC has operated university-owned UAS and through the UAS FTC has had other proponents operate in the NAS. NMSU/PSL has had military payloads (to include classified activity), proprietary payloads, and other unique assets flown on UAS. Selected functions of these demonstrations have included sense and avoid, electronic countermeasures, CONOPS, tactics and training, and vulnerability assessments.

- **Weather sensor integration** - TAAC is working with a weather sensor manufacturer to develop a weather forecasting capability that can be fitted on a small to medium sized UAS. This forecasting capability has the potential to insure that a UAS can avoid hazardous weather not depicted by current systems.

- **Extended range of Aerostar** - TAAC successfully flew the Aerostar beyond the frequency line of sight limitations previously identified by the manufacturer.

- **sUAS technology demonstrations** - TAAC continues to be the place to demonstrate sUAS capabilities. This past year we conducted several technology boundary spanners demonstrations and have 10 proposed for this year.

- **DHS sUAS Night OPS** - With approval from the FAA, TAAC conducted a week long exercise/study using a small UAS equipped with Navigation lights and IR Beacons and flown under several different scenarios, e.g. Border CONOPS.

TAAC Vision

TAAC continues to focus on the needs of the UAS community, as communicated by our partners and customers, specifically on the following two capabilities:

- The need for a Rapid Response Capability and Delivery
- The need for Traditional Research and Development/Test & Evaluation

TAAC has been involved heavily as a service provider and researcher for over 10 years in the domestic United States. The time has come to take up the leadership mantel and begin to drive global solutions to the problems plaguing the integration of UAS into civil airspace. TAAC has developed a strategic plan to do just that.

Key elements of the plan are:

- Expanding the capabilities of the Flight Test Center
- Expanding on our current Science and Technology Expertise Domains with Particular focus on:
  - Safety Risk Management & Safety Management Systems Processes
  - Human Factors
  - Training
    - Payloads & Pilots
  - Airspace: Creating a Significant Global Subject Matter Expertise that focuses on airspace integration solutions for the global community
  - Payload/Sensor Technology Center
    - Development
    - Packaging
- Building on our current Training capability, and
- Leveraging and expanding our UAS Flight Operations

In support of this, and with a vision for positioning TAAC for the future, we have created an Advisory Board that consists of the following Aviation Leaders:

- MG Ken Israel (ret), Lockheed Martin
- Carl Johnson, Northrop Grumman
- Nick Sabatini, Former FAA Associate Administrator
- Chris Benich, Honeywell

This Board will be critical to the long-term strategic planning that will take TAAC into the future and will allow us to achieve our goal of creating a “Global Center of Influence.”

For more information about the TAAC and the Flight Test Center, please contact:

Stephen B. Hottman
at: Tel.: +1-575-646.9202, shottman@psl.nmsu.edu;
Doug Davis
at: Tel.: +1-575-646-9582, ddavis@psl.nmsu.edu;
or visit www.psl.nmsu.edu/uav.

Doug Davis
New Mexico State Universty
Physics & Science Lab
Technical Analysis &
Applications Center
Global UAS Strategic
Initiatives