

CONTRIBUTING STAKEHOLDERS

University of North Dakota

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UAS Activities

The University of North Dakota (UND), located in the Upper Great Plains in Grand Forks, North Dakota, recently celebrated the 40th anniversary of the John D. Odegard School of Aerospace Sciences, one of the world's premier collegiate flight training programs. With a fleet of over 100 aircraft in five locations, UND offers a rigorous academic program of study that underlies an intensive immersion into all aspects of aviation, annually producing 400-500 graduates who go on to rewarding careers in commercial aviation, air traffic control, airport and aviation management, and flight education.

The Aerospace College teams with the College of Engineering and Mines, the School of Nursing and the Psychology Department in educating the next generation of pilots, engineers, software developers, human factors specialists, flight physiologists and airspace managers in multiple projects and programs devoted to the rapidly evolving world of unmanned aviation.

Since landing its first research grant from the Federal Aviation Administration in 2005 (a regulation study that analyzed the entire set of Federal Aviation Regulations with reference to the applicability to unmanned aircraft operations and development), UND has subsequently been awarded an additional four grants for further in-depth regulation studies and to develop a data assimilation methodology for the FAA's regulatory oversight of Certificates of Authorization or Waivers.

In the last 12 months UND has obtained more than 25 Certificates of Authorization to operate a variety of unmanned aircraft in more than 13 different locations, and has operated aircraft for research and development purposes (both airframe and payload designs) in the majority of those locations, providing data to the FAA and to the research community regarding the payloads carried, as well as the operational challenges of operating unmanned aircraft in the national airspace. UND is the sponsoring entity for a COA in the Beaufort and Chukchi Seas, north of Barrow, Alaska, in support of a marine mammal study utilizing Insitu's ScanEagle UAS deployed aboard a ship specially outfitted for that mission. Other COA operations have involved remote sensing of crops and payload testing in North Dakota and Minnesota, and other COA applications for similar projects are pending.

UND personnel have served on the FAA's Small UAS Aviation Rulemaking Committee, the Arctic Monitoring and Assessment Program UAS committee that met in Oslo, Norway in October of 2008, and numerous other standards committees, as well as a Department of Defense Airspace Task Force and the UAS Steering Committee, Base Realignment Impact Committee, City and County of Grand Forks, which is assisting in the planning of the bed down of the U.S. Air Force's Global Hawk UAS in Grand Forks scheduled for 2010.

UND is a partner in a \$56 million contract with the U.S. Air Force to provide courseware and training modules for the MQ-1 and MQ-9 pilot training programs. Additional partnerships are in development for other DoD training programs and two UND Predator Instructor Pilots are currently providing training for the U.S. Customs and Border Protection MQ-9 unit in Grand Forks.

UND has been designated as a Center of Excellence for Aviation Research by the Federal Aviation Administration and the State of North Dakota, and has been under contract since 2007 to the Department of Defense Federal Initiative, Joint Unmanned Aircraft Systems Center of Excellence at Creech Air Force Base, Nevada, in a project entitled: «Unmanned Aerial System Remote Sense and Avoid System and Airborne Payload Analysis and Investigation.» The project is focused on the development of a ground-based sense and avoid mitigation strategy for the integration of UAS in the national airspace, utilizing a variety of radars and data fusion devices to detect non-cooperative targets.

UND currently owns and operates two types of small UAS and is in the process of acquiring a larger, more robust system that will be utilized in a wide range of research and development roles, from payload development and validation to radar and airspace management studies. UND's aviation professionals and qualified instructor pilots are routinely sought out for their opinions and expertise in the planning and execution of UAS training and operations, and are providing courseware and instruction support to the federal government and an ever-growing list of private industry organizations who have committed substantial resources to UAS development.

The capstone of all this effort has been the creation of a Center of Excellence for UAS Education and Training, which will serve the Department of Defense and other governmental agencies as well as the UAS industry. This Center will combine the three existing Centers under the umbrella of one organization, to be based at the Grand Forks Air Force Base, and with a Center Director and a full time professional staff that will be devoted to UAS research and development, with a particular emphasis on pilot training and education. Along side of this new Center will be the world's first collegiate aviation degree program dedicated entirely to the unique field of unmanned aircraft, and that program will offer its first classes in the Fall of 2009.

UND is prepared to lead the way in UAS education and training, and is proud to be part of this exciting and forward-thinking industry.

