UAS Norway

By Ole Vidar Homleid, Secretary

Federating the Norwegian UAS Community

The Norwegian Association for Unmanned Aircraft (UAS-Norway) has recently been founded. A provisional board has been established by the founding members.
Important objectives will be to contribute to the establishment of a regulatory framework for UAV systems design and operations, in cooperation with the aviation authorities.
Norway has large, virtually uninhabited forest and mountain areas, which could be well suited for UAV testing and operations, when necessary permission are granted. The potential range of potential UAV applications is wide, but for Norway it may appear that forest fire detection, search for hydrocarbon and mineral resources, inspection of infrastructure, and surveillance of ocean areas would be tasks particularly well suited for UAVs.
We are working on the establishment of a national UAV test base in the south-eastern part of the country, including airfield with infrastructure and available airspace for testing and qualification of UAV systems. This could possibly become available also to international UAV operators. Our association shall be happy to co-operate with the international UAV community on matters of common interest, and we appreciate the opportunity to present ourselves through UVS International.
For more information, please refer to our web pages at www.uasnorway.org

Hereafter, some of the corporate members of UAS Norway are presented.

NORUT

In the last few years the scientific community has opened its eyes to the opportunities UAS offers in regard to collecting new and unique datasets in remote regions. Norut has been invited to join a few such projects with its CryoWing UAS. These still ongoing projects aim at understanding the future effects of climate change. In Antarctica, Norway and the United States have teamed up to drive a traverse from the Troll Station through Queen Maud Land to the South Pole and back. The role of the UAS is to fly a radar sounder to map regional snow distribution and determine the precipitation rates over the last hundred years. The project offers challenges in remote logistics, extreme cold and high altitude.
The CryoWing UAS is also involved in science in the North, with targets of
investigations being the development of Polar Lows weather systems, melting glaciers and the development of the arctic sea-ice cover. Instrumentation includes precision GPS systems, cameras, laser altimeters, meteorological sensors and radar sounders. All the operations are based out of Svalbard between 77º and 79º north, so cold and severe weather conditions also poses challenges here.
More on the Norut UAS project can be found at http://uas.norut.no

Prox Dynamics

Prox Dynamics specialize in micro-sized Unmanned Aircraft Systems. The company builds on more than 15 years of experience in the development and design of small unconventional electric powered helicopters. Through Proxflyer AS the company has a history of 4 world records for the smallest RC helicopter and it is recognized as having developed and patented the first ever inherently stable helicopter rotor system. This technology has been licensed to a Canadian company to produce and sell more than 2 million micro helicopters. The experience also includes extensive work with micro sized flapping wing aircraft.
Over the last 3 years the company has been working on

Norut CryoWing takeoff on the Antarctic Plateau, 3700 m.a.s.l. in December 2007, with Norut scientist Stian Solbø at the controls.
Photo: Jan-Gunnar Winther, Norwegian Polar Institute.

micro helicopter technology in support of a USA lead Nano UAS program and several flying prototypes has been built. Larger coaxial rotor helicopters for stereo-vision research has been delivered to universities and to US Army. During MAV07 in Toulouse, France one of the Proxflyer helicopters equipped with a video camera and a radio link took first place at the Indoor Spy Mission competition. The mission included precise maneuvering/landing, entering a house through a window and identifying targets inside the house before leaving the house via the same window.
Prox Dynamics is currently developing the PD-100, a small video camera equipped helicopter not more than 10 cm long, weighing less than 20 grams. First demonstration flights will be in 2008.
More information and contact details can be found on www.proxdynamics.com

Alfatroll

Alfatroll AS is a small company with a large goal: To develop and sell certified knowledge-based systems for the guidance of unmanned vehicles. A prototype of its patent applied technology is being used as a demonstrator to fly an advanced simulator.
Alfatroll is targeting one of the most challenging of all applications in the UAS arena: Reliable and comprehensive systems for controlling unmanned aircraft. The technology is useful for simple tasks like actually flying a pre-defined mission, but can also be programmed to deal with unexpected events and improvising actions on the basis of its stored knowledge base.
Due to its unorthodox design, the Alfatroll system is small and simple, yet fully deterministic, powerful and comprehensive. This is also the key to certification to airborne equipment standards. The people behind Alfatroll are experienced within flying and software development, as well as international management.
More information and contact details can be found on www.alfatroll.com

Scandicraft

Scandicraft is the leading Norwegian UAS service provider company. The company offers airborne data acquisition with both manned and unmanned aircraft. Our main products are power line inspection, georeferenced oblique pictures and aerial filming for the movie industry.
In 2007 Scandicraft got the Norwegian Microdrones dealership and can now offer UAV system sales and lease options. Scandicraft is offering a new remote controlled critical infrastructure protection system. The system consists of sensors guarding the outer border of a perimeter and a small autonomous UAV controlled from an operation center anywhere in the world. If there is a security breach the UAV is activated and will autonomously take off and scan the perimeter from the air and relay video in real-time to the operation center. The system will also come in a mobile version for vehicle mount, where the operator can activate the UAV without leaving the driver's cab. The system is developed in collaboration with the Norwegian Army. In addition to guard critical infrastructure, the system will also be suited for first responders units, event protection operations and guarding temporary perimeters like building sites.
More information and contact details can be found on www.scandicraft.com

UMS Norway

More than 1000 years ago, Norwegian technology transformed the seas, now we are conquering the sky by developing transformational technology to fulfill 21st Century War Fighter requirements. UMS Norway is an emerging force in Tactical Unmanned Air Systems. We specialize in development and production of unmanned systems for military and civilian use. UMS Norway develops and produces the equipment together with our clients to ensure that their requirements are met with the latest in technology. Our latest development is a Tactical Unmanned Ariel Vehicle «Bold Viking».
More information and contact details can be found on www.ums-norway.com

Simicon

Simicon has over the past years been developing a unique hybrid airvehicle - named the Simicon RotorCraft. The work has been funded by the Noregian Ministery of Defence, Innovasjon Norge and some private investors. During the last year the company has been involved in a project with the objective of improving the safety of maritime and offshore activities in the Arctic. Simicon has studied possible use of unmanned aircraft in Arctic in general, and in particular how the Simicon Rotorcraft could be used for environmental monitoring, search and rescue etc. The further plan is to seek funding for a 2-3 year «Arctic UAV» development and demonstration project.
More information and contact details can be found on www.simicon.no

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