Czech Unmanned Systems Manufacturers Association



By Martin Balda, President

General Information

Since its establishment in 2006, the Unmanned Systems Manufacturers Association concentrates at the communication between industry active in UAS area and potential unmanned vehicles users. The main goal is to put through the idea of UAS usage as a standard working instrument for wide range usage with the same quality as currently piloted services and open a completely new portfolio of services provided only by UAS. The main tasks of our association are:

- Actively participate on the establishment of legislative framework
- for development, manufacturing and operation of the UAS.
- Try to receive an empowering of association for national management of the UAS in sense of Civil Aviation Act.
- Support and evolve unmanned vehicle research and development.
- Represent and coordinate the actions of individual members. Defend members' economic interests.
- Look after promotion and education development.

The key activity of participation in preparation of the national legislative framework was successfully accomplished in the spring 2010 when the new supplement of the Civil Aviation Act for UAS < 150 kg operations was submitted for legislative process approval. This concept of the supplement to Civil Aviation Act is focused at the UAS operations in visible line-of-sight range and in areas without other air traffic. It defines the UAV applications for commercial, experimental and research activities. It describes requirements for registration, operator's qualification, application etc. for different UAV categories.

AVBS was also in 2010 guarantor of the 2nd International conference for Unmanned Aerial Systems organized in Prague. AVBS introduced the Future Vision idea, presenting National project Integrated System of Unmanned Aerial Systems. This system is based on the central monitoring station ensuring the flight control and interconnection of the Integrated system and sufficient number of autonomous stationary stations where UAS can take-off and landing. The network of these stations provide the service for different state bodies as Integrated Rescue System (Fire fighters, Police, Ambulance) for e.g. Search&Rescue missions, National Radiation Protection Institute for periodical and also emergency radiation monitoring etc.

Members of the Association

Honeywell

Honeywell Aerospace is a \$12.7b business that provides integrated avionics, engines, electrical and mechanical systems and services solutions to customers worldwide. Honeywell conducts Research and Development at four Research and Technology sites throughout Europe, including Prague and Brno, Czech Republic, where the Single European Sky ATM Research (SESAR) program is executed. With its strategic focus on EU partnerships and programs, it employs more than 300 engineers and scientists in the region to address the specific EU needs. Honeywell's portfolio includes the T-Hawk, a ducted fan UAS that was developed for the US Army. Its global Research and Technology team is developing technologies that that will enable safe integration of UAS into non segregated airspace - Sense & Avoid, Fault Tolerant Control, Command & Communication. Honeywell also participates in the development of legislation

for the safe integration of UAS into non segregated airspace through the activities of Eurocae WG-73, RTCA SC-203 and the Czech Ministry of Transport. Our partners and customers benefit from world-class engineering knowledge of systems, software, mechanical, electronic and electrical hardware, testing, modeling and simulation.

TL elektronic

TL elektronic is a world leader in the development and manufacturing of digital aerospace instruments and equipment and it has extensive know-how. TL elektronic is fully approved to design and manufacture civil and military aviation products and to verify civil aviation products. Currently, TL elektronic is developing an automatic supply parachute called "AMPAD". This technological demonstrator of avionics incl. DSA systems and a motorized driving unit that is powered by a hydrogen fuel cell should become the basis for future UA.

Brno University of Technology

Apart from educational activities, Brno University of Technology (BUT) has research and development activities and provides also scientific and engineering services to the aircraft industry. It has long time experience with aircraft design and testing. In the field of UAS, BUT initiated development of VUT001 MARABU experimental aircraft and also smaller VUT700 SPECTO to support civil UAV applications. BUT's major competence is airframe design and safety/reliability analyses of systems.

ESC (Evolving Systems Consulting)

ESC is a European company with offices in Munich, Vienna and Prague. ESC aerospace laboratories (including HAES CCUAS LABS, The Hacker Model Prod. & Evolving Systems' Competence Center for Unmanned Aerial Systems) are headquartered in Prague. ESC specializes in electronics, especially embedded microcontrollers, data transmission and microwave high frequency applications. ESC is developing 4 UAS production lines (HAES 90, 400, 700 and HAES Scanner) in 2010. ESC's R&D development in Unmanned Control Systems (ESCUCS) includes S&A Collision Avoidance System; UAS Ground Segment modules compliant with STANAG 4586 w/ C2 integration; longterm aims also include UGV and even UUV. ESC is active in space projects (incl. ESA projects) - flight software for various satellite payloads, GSE software, data processing.

ZDZ MODELMOTOR s.r.o.

ZDZ is a traditional producer of two stroke aircooled engines for radio controlled models established in 1992. Range of product starts at small single cylinder 40 ccm (4HP; 1,1kg) and is closed by flat fourcylinder boxer engine with displacement of 420 ccm (38HP; 10,5kg). Whole range of ZDZ engines can be optionally equipped with electric starter and brushless power generator for more comfortable usage in UAS application. ZDZ now targets its development towards bigger engine from 20HP up to 60HP with special focus to reach the best possible SFC and possibility to run the engine in altitudes above 3500m using fuel injection. engine ZDZ 210B2RV is used in UAS Manta designed by VTULaPVO.

Secretariat

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