

# UAV DACH - German Language Working Group

By Bernhard Freiherr von Bothmer, Chairman



UAV DACH was set up in January 2000, with support from EURO UVS. The primary objective of UAV DACH is to represent all A, CH, D, NL interests from UAS industry as well as research institutes. For that purpose it contributes to the development of operational requirements, concepts and procedures for national and international UAS flights in controlled airspace, GAT and cross-border flights.

### Members

Austria: Schiebel Elektronische Geräte  
Switzerland: RUAG Aerospace, Swiss UAV  
Germany: Autoflug, Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Deutsche Flugsicherung (DFS), Diehl BGT Defence, EADS Deutschland, Elektroniksystem- und Logistik-GmbH (ESG), EMT Ingenieurgesellschaft, Industrieanlagen Betriebsgesellschaft (IABG), Orbitale Hochtechnologie Bremen System (OHB), Rheinmetall Defence Electronics, Stemme UMS  
The Netherlands: ADSE

### Taskforces and Subgroup Activities

#### Subgroup Certification and Qualification

- Development of future Airworthiness Requirements for UAS as a function of UAS Autonomy
- Contribution to European/NATO efforts and initiatives for certification of UAS
- Close cooperation with the German Bundeswehr Technical and Airworthiness Center for Aircraft (WTD 61)
- Discussion and promotion of spectrum requirements for Communication, Command & Control of UAS
- Close cooperation with the German Network Agency (BNetzA) for WRC2011

#### Subgroup Experiment

For the purpose of demonstration of civil usage of UAS, different potential users like coastal border, pollution control or natural gas high pressure pipeline operators have been contacted.

#### Subgroup Sense & Avoid (S&A)

The S&A data pool covers the following topics:

- Existing regulations to S&A
- Technology studies on S&A for UAVs (e.g. ERAST, AFCST)
- S&A functionalities / technologies available or required for manned and unmanned aircrafts and related issues such as Human Factors, Data Link

Taking into account the background from this activity the S&A subgroup is currently preparing a S&A Solution Matrix (SAvE) as a S&A knowledge basis providing a survey of:

- relevant S&A Top Level Requirements
- required functions / technologies and their TRL
- technology gaps / critical issues
- the definition of a roadmap for S&A implementation to UAS considering additional topics such as:
  - Terminologies related to S&A;
  - Operational requirements of the manned aviation world;
  - Human factors;
  - Certification and training;

to support the system engineering process for a generic S&A system needed to operate UAS in non-segregated airspace.

SAvE will provide a kind of interactive knowledge retrieval system which shall be made accessible to the community via the UAV-DACH web portal. SAvE will be realised in different stages of expansion.

### Air Law

The group consists of members of the German MoD, Bundeswehr Technical and Airworthiness Center for Aircraft (WTD 61), German BMI, VC (Cockpit association), German CAA (LBA), German MOT etc. This group tries to support the official stakeholders by dealing with: a) international and national law, b) certification of UAS, c) licensing of «pilots», d) airspace rules and regulations, e) liability and insurance. The air law subgroup will further develop the above mentioned points and will present them to the legislator in order to contribute to the ongoing discussions, as well as to other EU member states.

### Accomplishments

Starting in 2000 the following subjects have already been worked on by task forces: a) Examination of regulations relevant under aviation law; b) Participation in the JAA/Eurocontrol task force on UAS; c) Licensing of civil UAS pilots, sense & avoid tests; d) USAR Paper

From 2005 to 2006 comments were formulated on: a) certification policy of EASA, A-NPA-16-2005 as well as RSP in 2006; b) Eurocontrol UAV OAT; c) preparing WRC 2007/11 in respect to the UAS-Datalink; d) support of NATO-FINAS (Flight in non-segregated Airspace); e) cooperation with the UAS Germany (MoT, DLR, DFS) and BDLI (German Aerospace Industries Association), Taskforce UAV; f) LTF 1550.

In 2007 UAV DACH has identified the following prerequisites for future civil use of UAS: a) allocation of adequate frequency spectrum for Command & Control (Support of German Network Agency (BNetzA) in preparation of WRC2011); b) establishment of feasible certification routes for UAS manufacturers; c) development of procedures for integration of UAS into civil airspace; d) preparation and response to EASA CRD against A-NPA 16-2005; e) support of NATO-FINAS and JAPCC Flight plan UAS; f) ILA Berlin - UAV DACH Symposium (30 May 2008); g) work in the EUROCAE WG 73; h) work in EDA Qualification SG UAS; i) support of AIRTEC UAV World 2008 in November 2008.

The vast experience of the member companies of UAV DACH is their common motivation for taking part in the legislative process, which will help unify the necessary safety standards for the pan-European use of civil UAS.

For additional information visit [www.uavdach.org](http://www.uavdach.org) or contact [info@uavdach.org](mailto:info@uavdach.org)

