Aerospace and Defence Industries Association of Europe

By David Kershaw

Introduction to ASD

ASD represents the aeronautics, space, defence and security industries of Europe in all matters of common interest, with the objective of promoting and supporting the competitive development of these sectors. ASD has 28 member associations in 20 countries and represents over 2000 companies with a further 80 000 suppliers, many of which are SMEs. The industry sectors employ approximately 676 000 people, with a turnover of over 137 billion.
The Aircraft Sectoral Group (ASG), within ASD, is responsible for Military Air Power issues (manned and unmanned) and includes the European Aircraft Industries engaged in the development, production, support and service provision of European Air Power System solutions as prime contractors.

ASD Vision of the Future Regarding UAS

New emerging challenges for air power will have an impact on the military and security operational environment over the next twenty years and will have a significant impact on the shape and nature of the European Technological and Industrial Base (ETIB). In 2006 ASG formulated a vision in support of future air power, and in 2009 published a Food for Thought paper concerning «European Future Air Power Systems in the 2035+ perspective».

European Industry today has the opportunity to build on established technology to fly UAS and put them to use for many beneficial public services. Furthermore, we have the potential to build a strong competitive industrial position with a disruptive technology in a strategic market. By direct engagement with senior stakeholders ASD aims to achieve the following:

- Raise awareness of the importance of UAS as a significant sector that can make a difference to the protection of European population, resources and environment as well as become a source of new employment;
- Stimulate active political support, including specific actions leading to a regulatory framework necessary for the integration of UAS into non-segregated airspace;
- Create an environment where opportunities for investment in R&T are developed which will result in a stronger ETIB;
- Inform the community of progress already made in the area of regulations, and actions necessary to place European industry in a leading position worldwide.

UAS-related R&T

The principal challenge is integration of systems. Investment has been made in demonstrators including the development of Sense and Avoid technologies and the ability to command and control Unmanned Aircraft at greater than visual range. However key areas of technology that require further development include:

- Separation Provision and Collision Avoidance;
- Safe recovery systems, decision-making and autonomous behaviour;
- Secure command and control systems and links;
- Air Traffic Management interfaces;
- Taxi, automatic take-off and landing;
- Weather detection and protection;
- Control station development including Human Factor interface;
- Health monitoring and fault detection;
- Platform, payload and system integration;
- Propulsion and power systems to maximise endurance and fuel efficiency at high altitude;
- Miniaturisation and cost reduction.

Civil/military Cooperation

UAS must be able to operate without segregation from other airspace users. The solution lies in civil/military agreement leading to a joint Regulatory framework that is flexible enough to allow European industry to develop technology solutions that are cost effective. Industry acknowledges the regulatory challenge and believes the answer implies a real involvement of the industry in the rulemaking process. This process should assume that civil and state UAS flying over Europe will comply with common UAS-specific European safety objectives, including rules for operational control, qualification of ground operators, certification, and standards for secure communications links for data transfer and control. Political intervention and industrial engagement is urgently required to address the regulatory framework.

The UAS Working Group

In 2008 the ASG, the Air4All team and other key UAS stakeholders within ASD formed the UAS Working Group (UAS WG) which has been engaged in a number of activities in 2009/2010 to develop the UAS industrial base within Europe. As a group they lobby the various funding bodies including the EC and EDA and look to build relationships across the different sectors.
Specifically the UAS WG aims to:

- Develop a set of concept of operations for UAS ATM integration and provide an authoritative view of the R&T road map together with priorities for UAS development in support of the ETIB;
- Develop a strategy to make a strong representation of UAS issues within the Single European Sky initiative;
- Be the authoritative Industry body for UAS issues internally and externally to ASD; furthermore, lobby within Europe for funding whilst mindful of other industrial bodies priorities;
- Form a common response within ASD to lobby EASA/ Eurocontrol for appropriate regulations.

Key achievements and way forward for 2010:

- Production of a CONUSE paper, a prioritised set of critical UAS technologies and a White Paper that identifies a mechanism to respond to critical issues;
- Presentations to European Parliament, Air ATN Conference, ESA and EDA;
- Seek to further strengthen links across the ASD community including External Affairs, Airworthiness, ATM, Standards, EqSME and externally through EDA, SESAR and EC;
- Act as the industrial focal point for the European UAS Conference 2010, leading to the formation of a High Level UAS Group to support EU ambitions for UAS integration into the airspace;
- Continue to lobby the EC for growth in UAS investment and develop innovative solutions.