CONNECTING THE UNMANNED SYSTEMS COMMUNITY ACROSS THE GLOBE
Unmanned Aircraft Systems: An Industry Perspective

Unmanned Aircraft Systems Action Summit 5: Emerging Trends in UAS – Looking to the Future
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Alerus Center, Grand Forks, North Dakota

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President and CEO
Association for Unmanned Vehicle Systems International
(AUVSI)
About AUVSI

The mission of AUVSI is to promote and support the unmanned systems industry through communication, education and leadership

- In its 38th year, AUVSI is the *world’s largest non-profit organization* devoted exclusively to unmanned systems

- AUVSI represents more than **6,000 members** from **2,100 organizations** in **55 allied countries**

- *Diverse membership* from industry, government and academia

www.auvsi.org
AUVSI Events

- AUVSI’s Unmanned Systems North America Symposium and Exhibition
  - The World’s Largest Unmanned Systems Event
  - Over 6,500 Delegates and 450 Exhibitors from more than 30 Countries
  - 150+ Technical Presentations

- AUVSI’s Unmanned Systems Program Review
  - Military and Civilian Government Agency Updates on Unmanned Systems Programs
  - Specific Days Targeted to Air, Ground and Maritime Systems
  - 600 Attendees

- International Conferences and Tradeshows – Asia-Pacific, Canada, East Asia, Europe, Middle East

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UAS: A Booming Industry

- The UAS market, both defense and civil, is a promising segment in the aerospace industry, and one that has the potential to create tens of thousands of new jobs in the coming years.

- However, for these jobs to materialize, federal regulations on the use of UAS in the NAS must be addressed.

- Globally, the unmanned systems market was estimated to be between $5.5 billion and $6 billion dollars in 2010, growing at the rate of between 3 – 5% over the next decade.

- Over the next ten years, there are a few factors that will influence market growth either positively or negatively:
  
  1. Access to Airspace
  2. Expansion of civil/commercial UAS operations
  3. Global Conflict – particularly U.S. and allied nation involvement in future conflicts

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AUVSI’s Advocacy Efforts on Behalf of the Industry

- AUVSI is becoming the go-to advocacy source for staffers and Members on Capitol Hill. Our Advocacy Team is on the Hill regularly.

- As an example: The only changes made to the UAS sections of the House FAA bill were made at the request of AUVSI. Our suggestions were often taken word-for-word

- FAA Small UAS Rulemaking Roadshow
  - AUVSI will utilize our Chapters and work with industry to collect comments to the proposed small UAS rule when it’s released later this year

- It is critical that as an industry, we provide comments to the FAA – they are relying on all of us to provide them with the technical data they need

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Access to Airspace – What is Being Done

- For the first time ever, an FAA reauthorization bill will include language on UAS
  - The last time Congress passed a major FAA reauthorization bill was back in 2003
  - The FAA is currently operating under their 19th extension

- The Senate passed their FAA bill on 17 March (S. 223), and the House followed on 1 April (H.R. 658). A final bill is currently being negotiated in conference. You can find a copy of the bills on our Advocacy Documents website at www.auvsi.org

- Both FAA bills include language requiring the FAA to:
  - Develop a comprehensive plan on integrating UAS into the NAS,
  - Include language creating test sites,
  - Call for the creation of industry standards,
  - Simplify and shorten the current certificate of authorization (COA) process.
The provisions AUVSI would like to see in the final FAA bill include:

- Setting a deadline of 30 Sept., 2015 for the FAA to integrate civil UAS into the NAS
- Creating 6 unmanned aircraft test sites
- Allowing UAS to fly beyond line-of-sight, 24/7, in the U.S. Arctic
- Allowing for the expedited access into the NAS for public safety agencies (such as law enforcement and fire departments)
- Defining small unmanned aircraft as weighing less than 55 pounds
- Consulting with the unmanned aircraft systems industry when setting policies and standards
- Annual reports to Congress on UAS activities
NextGen and UAS

▪ First and foremost, our industry must ensure that UAS are included in NextGen development and implementation – because the future of aviation will undoubtedly include UAS
  
  ▪ Through AUVSI’s Advocacy efforts, the FAA bill now includes language requiring UAS industry participation

▪ Sense and Avoid Technology
  
  ▪ In order for pilots, controllers, and the public to become assured that UAS can fly safely in unsegregated airspace – our industry needs to prove that our platforms can sense and avoid other aircraft
    
    ▪ This is a technical challenge – but we’re making significant progress

▪ An important part of NextGen is Automatic Dependent Surveillance Broadcast (ADS-B), which will help UAS broadcast its location to other pilots and controllers

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The Civil Market

- DOD will most likely remain the top UAS market for the near term.

- However, once UAS are granted more access to the NAS, the civil market has the potential to eclipse the defense market.

- Law Enforcement and First Responders (fire, rescue, EMS) are two of the most wide-spread, non-defense UAS applications.
  - As smaller platforms mature and gain access to the NAS, more local police and fire departments will purchase small UAS, which they will use to protect public safety.

- Although first responders will likely be the next mass users of UAS, there are dozens of other civil applications ......

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Challenges Facing UAS

- Access to the NAS
- Sense and Avoid
- Risk Acceptance/Public Acceptance
- Standards/Certification/Training
- Power/Energy
- Communications/Frequency Spectrum
- Cyber Security
- Liability and Insurance
- Export Controls
- Civil Liberties

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Opportunities

- What I wouldn’t give to be 19 years younger
- Technical maturation will continue, which will allow us to safely field UAS in the NAS
  - There are systems and uses we haven’t even dreamed of yet
  - However, for this new industry to flourish, we need government regulations to catch up
    - Laws and Regulations don’t come out of thin air. They require a lot of work, data collection and analysis, education, and persistence, but most of all, leadership.
    - So, get involved in a standards setting body, write the FAA, contact your federal and state representatives, or spend some time at a school talking about the importance of robotics and Science, Technology, Engineering, and Mathematics (STEM).

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GET INVOLVED
Questions?

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