

Joint Air and Space Power Conference 2006

PANEL 2

"UAC in the long view- future developments (the bigger picture)."

Dr Retzer - NC3A, Director C2 Systems

- Introducing members of panel and remarks:
- Persistence surveillance capability- important and will develop - AAR, better air vehicles and groups of UAVs.
- Urban Operations - mini and micro UAVs to provide local ISR capability to ground/mobile units.
- Sensor products need to be shared more effectively at all levels.
- Special purpose combat UAVs will be further developed and used.
- Communications UAVs used as relay.
- Need of UAS systems, integrated data, of critical importance within C4ISR context.
- Fusion vital and Internet Protocol Networks as opposed to links - who owns the network not important.
- Need of service-orientated networks.
- Integration of battle labs to address exercise and training aspects.

Mr Schartenburg - COS Systems

- Sensor platforms in the stratosphere.
- Continuous operations in a geostationary position.
- High altitude airships with long endurance - 12-18 months - autonomous operation of several sensors.
- Line of sight broadband data using HF laser converters.
- Operational altitude of 20kms.
- Use as combat relay station and tactical data links.
- Comparable with satellites with visual cone of 500kms (maximum range of Link 16).
- View of 50,000sq-kms.
- Benefits - early warning and cueing of ballistic missiles plus broadband communications and communications relay.
- Not armed with missiles but could use countermeasures.

Mr Moseman - Northrop European HQ

- Block 40 Global Hawk - MTI and SAR.
- AGS - widespread areas of regard - images at short notice to a range of customers. Requires centralised control but ability to serve numerous customers at same time.
- Reach back and reach forward are vital aspects but demand high volumes of communication channels and increased load on distribution systems.
- Have to attack the issue of bandwidth - frequencies and how to organise and disseminate data.

Dr Decuyper - RTO Research Technology Organisation

- Heads are MC and CNAD with strong links with ACT.
- Integrated concepts and technologies for UAVs - paper work done.
- UAVs as Force Multipliers - another paper work.
- Micro UAVs (10cms) as new activity.

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Mr Nesbitt - Thales Raytheon Systems

- UAS and NATO ACCS.
- Allocation and planned use of resources vital.
- How will ACCS interact with UAS - doctrine, training, interoperability.
- ACCS operational fielding in 2009 - for CAOCs plus ARS (replacing current CRCs).
- UAV contribution to common operating pictures.
- UAV integration into planning, execution and mission monitoring cycles.
- ACCS and protection against non-friendly UAVs.

Q&A

Comment: ACCS is a long time coming. ACCS slippage will take us to 2009. Air Command Systems Int (ASCI).

Q - Which missions would you exclude for manned aircraft? How would you solve the propulsion problem for the Strat airship?

A - Propulsion will not be combustion. It must be a contained electrical system that is mass neutral using solar cells.

Q - Predator is able to connect to immense source of data from the ground. Huge challenge is getting the existing information in a digital form for digital-digital exchange. (?)

A - Look at assets already out there to leverage existing knowledge. Information must be put into common coordinate system before fusing the data - this is a challenge. This requires intelligence before fusion occurs.

Q - Bandwidth limits - where are the limits of bandwidth? Is it technological?

A - Physical limitation is in the transport of information. Frequencies can be bundled. SDR can give us more possibilities in the future. Link-16 has a range limitation then range extension.

UAV bandwidth need is narrow, but the product to be used drives the BW need. We need to better manage the available resources. NATO is not represented at the UN Telecommunications Forum so our interests are not represented.

We need to break away from the pipe - we need to get away from the single application users. We need to share the service. THIS ALREADY HAPPENS!

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The requirement for BW is determined by the application in use. If we can automate the process onboard the UAV we can minimize the BW.

Q - UA Vs are unique in terms of their size. What do you foresee in the development of future weapons systems?

A - Size is not an issue. Customer specifies the requirement that drives the size. We will have single and multi-mission systems that need to be combined to support the CONOPS.

Q - Going back to the challenge of JAPCC to develop flight plan. How do we centralize the effort to field capability within NATO? Data for example, how do we centralize the data? Should we baseline this flight plan based on the network? What should our organizational theme be for today?

A - Address the user's requirements first. Look first at the operational requirements then break it down to the system requirements. What are the operator needs?

Centralizing theme is what is the mission type? Group them by mission type.

Q - How do we integrate existing systems into current system? What would you like to invest in to operate UA Vs in the NATO environment?

A - Most pressing issue is the threat from missile defence. Missile is not doable without a network. Start with this practical requirement and as it evolves we'll better understand the need better. We start with standards such as Link-16, etc. and we need to talk architectures as well. Reference architecture is an important foundation - NC3A is doing this.

The agency (NC3A) needs high-level guidance on standards to move ahead when a roadblock exists.

Q - We need to be resource centric, not platform centric. Management of resources is handled in stovepipe fashion. (?)

A. Yes.

Comment: AGS could be a forcing issue for NNEC and UAS. We must move ahead in a joint manner - topic is joint for tomorrow.