

SMi present its 15th annual conference on...

Unmanned Aerial Systems

19th - 20th
NOV
2015

**Examining the Integration of Unmanned Systems
within the Military Sphere**

Holiday Inn Kensington Forum, London, UK

*"Excellent range of
topical subjects from
well-placed,
knowledgeable
speakers."*

Delegate
2014

WHY ATTEND THIS EVENT:

- **Examine** the integration of UAVs into protected national and international air space
- **Discuss** the influence of commercial tech developments and give a critical analysis of the ramifications of these on the military
- **Evaluate** the importance of scale and the impact of small and nano-sized UAVs on training and operations
- **Debate** the use of autonomous UAVs in ISR, combat support and law enforcement
- **Explore** the measures being taken to counter UAS strikes

CHAIRMAN 2015:

Squadron Leader (Ret'd) Keven Gambold,
CEO, **Unmanned Experts**



EXPERT PANEL INCLUDES:



Lieutenant Colonel Matthew A. Dooley, Chief Unmanned Ground Systems/Lethality Branch, **HQ TRADOC United States Army***



Colonel Robert Kiebler, Commander, 49th Wing, Holloman AFB, **United States Air Force**



Colonel Enrique Martinez, Chief of the Acquisition Programs Section, **Spanish Air Force**



Colonel Birger Mejlholm, Commander, Danish Army Intelligence Centre, **Danish Army**



Captain Nicklas Fredriksson, Squadron Commander 2IC, TUAV, **Swedish Armed Forces**



Intendant Carlos Henrique Madureira Ribeiro, Head of Operations, **Portuguese Police Force**



Jean-Youri Marty, Deputy Director, Capability, Armament & Technology Directorate, **European Defence Agency**



Tom Buckner, RPAS & Airworthiness Staff Officer, **NATO HQ**

*Subject to final confirmation

PLUS AN INTERACTIVE HALF-DAY PRE-CONFERENCE WORKSHOP

WEDNESDAY 18TH NOVEMBER 2015 | 12.30PM – 5.30PM

Counter-UAS: The Next Arms Race?

Hosted By: **Squadron Leader (Ret'd) Keven Gambold,** CEO, **Unmanned Experts**

www.uasconference.com

Register online or call us on +44 (0) 20 7827 6000



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8.30 Registration & Coffee

9.00 Chairman's Opening Remarks


 Squadron Leader (Ret'd) Keven Gambold, CEO, Unmanned Experts

UAVS IN OPERATIONS

OPENING KEYNOTE ADDRESS

9.10 U.S. Air Force Remotely Piloted Aircraft Training

- RPA 101
- Training and working with our International partners
- Pilots and sensor operators
- Challenges and successes

 Colonel Robert Kiebler, Commander, 49th Wing, Holloman AFB, United States Air Force

9.50 2025 Horizon of the Unmanned Aerial Systems in the Spanish AF

- Class I Systems: the Air Force as facilitator
- Class II Systems: Licenses and Training. The UAS School
- Class III systems:
 - 2015: The interim solution, what we need now
 - 2020: The EMAL, what the national industry wants to develop
 - 2025: The EuroMALE, international cooperation
 - 2025+: UCAVs? What the Air Force really wants

 Colonel Enrique Martinez, Chief of the Acquisition Programs Section, Spanish Air Force

10.30 Morning Coffee

11.00 The Use of UAV in Police Work - The Portuguese

- The protocol
- Technical requirements from the police
- Missions: Experimental and Operational phases
- Operational and Technical Problems faced

 Intendant Carlos Henrique Madureira Ribeiro, Head of Operations, Police Special Unit, Portuguese Police Force

11.40 UAV Integration within the Swedish Army

- Evaluating the impact of UAV's in supporting ISR operations and enhancing combat capabilities
- Reviewing developments in national air space integration from a military and civilian perspective
- Discussing the ramifications on the training of military personnel
- Looking at the likely future trends of UAV usage by the Swedish Army

 Captain Nicklas Fredriksson, Squadron Commander 2iC, TUAV, Swedish Armed Forces

12.20 Networking Lunch

1.20 NATO's RPAS Activities and Goals

- NATO's RPAS Policy & Objectives
- Work of RPAS-Related NATO Organisations
- Alliance Ground Surveillance System (NATO's Rs)
- Q-4 HALE RPAS Coming in 2017-18)
- RPAS Exercise Program
- RPAS Standardization Efforts
- International RPAS Cooperation



Tom Buckner, RPAS & Airworthiness Staff Officer, NATO HQ

SMALL UNMANNED SYSTEMS

2.00 AETHER – Persistent Aerial Surveillance using a Small Unmanned Aircraft System

- Tethered UAS
- Persistent Stare
- Indefinite Endurance
- Low-cost system solution



Dr Stephen Prior, Reader in Unmanned Air Vehicles, Aeronautics, Astronautics and Computational Engineering, University of Southampton

2.40 Afternoon Tea

3.10 Danish Small Unmanned Aircraft System in Operations

- The system, PUMA AE
- National operations and exercises
- International operations (Afghanistan and Iraq)
- Flying military SUAS in Danish Civilian Airspace



Colonel Birger Mejlholm, Commander, Danish Army Intelligence Centre, Danish Army

PANEL DISCUSSION:

3.50 Autonomous Weaponised Drones - Future Warfare & Ethics



- Discussing what the current state of "lethal autonomy" and when will it be ready for the battlefield
- Debating the benefits versus the disadvantages of autonomous drones
- Examining state of legislation and ethical humans rights arguments in relation to autonomous technology
- How sophisticated are the algorithms? Is "humanity" necessary to make the correct split second decision between friend and foe?



Intendant Carlos Henrique Madureira Ribeiro, Head of Operations, Police Special Unit, Portuguese Police Force



Dr Stephen Prior, Reader in Unmanned Air Vehicles, Aeronautics, Astronautics and Computational Engineering, University of Southampton



Dr Donough Wilson, Innovation Lead, Aviation, Defence and Homeland Security Innovation, VIVID/futureVision

4.50 Chairman's Closing Remarks and Close of Day One

Register online at www.uasconference.com • Alternatively fax your registration to

8.30 Registration & Coffee

9.00 Chairman's Opening Remarks



Squadron Leader (Ret'd) Keven Gambold, CEO, Unmanned Experts LLC

KEYNOTE ADDRESS

9.10 Session Reserved for HQ TRADOC



Lieutenant Colonel Matthew A. Dooley, Chief Unmanned Ground Systems/Lethality Branch, HQ TRADOC United States Army*



George K. Gonsalves, Unmanned Aircraft Systems and Aviation Analyst, HQ TRADOC United States Army*

AIR SPACE INTEGRATION & POLICY

9.50 Preparing the future for European RPAS

- Developing solutions to ensure safe air traffic integration (including sense & avoid)
- The need for reliable and efficient SATCOM links
- Towards a European solution in the MALE RPAS segment
- The strong dual use dimension of RPAS related activities



Jean-Youri Marty, Deputy Director, Capability, Armament & Technology Directorate, European Defence Agency

10.30 Morning Coffee

11.00 The European RPAS Roadmap - RPAS Activities in SESAR 2020

- Assessing how SESAR aims to ensure the safe and seamless integration of RPAS into the European Aviation System – particularly within the context of the Single European Sky (SES) initiative
- Evaluation of insight from SESAR RPAS demonstration activities bringing together operators, manufacturers, air navigation service providers (ANSPs) and regulatory authorities
- Aligned with the EU RPAS Roadmap, definition of the future R&D RPAS activities in SESAR 2020 Programme; the aim of this phase is to provide also the basis for RPAS requirements within the edition 2015 of the European ATM Master Plan
- Explore current and future market trends, building scenarios related to the market, various industries, the RPAS value chain and the institutional framework needed for integration



Denis Koehl, Senior Advisor to the Executive Director, SESAR Joint Undertaking

11.40 Current and Future Use of UAV's by the British Armed Forces

- Evaluating the current use of UAV's by the British Armed Forces
- Analysing trends and increased future use of UAS
- Parliamentary scrutiny of UAS usage by the British Armed Forces
- SWOT Analysis of UAS usage



Louisa Brooke-Holland, Defence Analyst, House of Commons

12.20 Networking Lunch

1.20 Co-ordination, Harmonisation and Standards in Support of Low Level RPAS (UAV) Operations

- Integrating smaller RPAS (UAV's) into segregated and non-segregated airspace.
- Safety assurance for small RPAS (UAV) system operations
- Small RPA, RPS compliance and regulation
- Major barriers to overcome for acceptably safe operations



Andre Clot, Centre Director, Eurousc

2.00 Civilian UAS Under a Transportation Policy Lens

- Looking at the role of automation in transportation across modes
- The economics of UAS for transportation
- UAS and humanitarian relief – when conventional transportation fails
- Aligning the regulator and the innovator
- Social acceptability



Alain Lumbroso, Economist, International Transport Forum, OECD

PANEL DISCUSSION

2.40 Air Space Integration, Innovation & Legislation Synergy



- Reviewing the current state of air space integration from both a national and international perspective
- What are the challenges in civilian versus military UAV air space management?
- Evaluating the procedural standards on construction, reliability and safety of UAV
- Where are we in relation to international synergy and cooperation?



Alain Lumbroso, Economist, International Transport Forum, OECD



Denis Koehl, Senior Advisor to the Executive Director, SESAR Joint Undertaking



Andre Clot, Centre Director, Eurousc



Jean-Youri Marty, Deputy Director, Capability, Armament & Technology Directorate, European Defence Agency



Captain Flemming Olstroem, Branch Chief IMINT & UAS, Danish Army Intelligence Centre

3.20 Afternoon Tea

TECHNOLOGY & FUTURE THINKING

3.50 Use of Unmanned Combat Aerial Vehicles Against Air Threats; Necessity and Feasibility

- The decreasing effectiveness of manned aircraft
- Overcoming the limitations of unmanned combat aerial vehicles
- New tactical and strategic roles for unmanned combat aerial vehicles
- Playing on the West's advantages



Dr Hans Heerkans, Assistant Professor, Behavioural, Management & Social Sciences, University Of Twente

4.30 New roles. New rules. New tools. New Thinking in Next Generation Unmanned Air Systems

- Present new thinking on next generation unmanned air systems and examining the key areas for this influential design thinking including:
 - radical new vehicle forms not limited by legacies carried over from manned aircraft
- Illustrate game-changing designs for super-massive trans-oceanic unmanned search and rescue vehicles, and immediate response humanitarian aid mission vehicles
- Propose remote, autonomous, air-to-air refuelling which could extend the on-site mission capability of these vehicles up to weeks or months at a time
- Evaluate developments in edge-of-space communications and internet broadband relay vehicles



Dr Donough Wilson, Innovation Lead, Aviation, Defence and Homeland Security Innovation, VIVID/futureVision

5.10 Chairman's Closing Remarks and Close of Day Two

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Defense Conferences



Counter-UAS: The Next Arms Race?

Workshop Leader: Squadron Leader (Ret'd) Keven Gambold, CEO, Unmanned Experts



Overview of workshop:

Despite export restrictions, advanced unmanned aircraft technology is now available to all comers, both civil and military, and their use is now commonplace in conflicts (Iraq today), skirmishes (Israel), border disputes (Georgia) and even in just keeping an eye on your neighbours (South China Sea). Military forces and Nation States are just waking up to the threat they pose and efforts to counter UAS / RPAS are relatively nascent. On the civilian side, the potential for terrorist use (the White House), industrial espionage (Apple's headquarters), or even causing riots (Serbian soccer match) has security officials scrambling to find a solution. Herein we review the threat, some approaches to counter it, and some efforts to counter the counter...

Why should you attend this workshop:

If you are attending a UAS Conference then this topic is going to be very important to you and your efforts in the coming months and years. Become wise to the issues and the potential solutions before it is too late!

Agenda:

12.30 Registration & Coffee

1.00 The UAS Threat

- Review the Proliferation of Military Systems
- Provide examples of 'other' nations UAS use
- Study civil UAS / drone capabilities
- Examine recent examples of civilian 'infringements'

2.00 Afternoon Tea

2.30 Military Counter UAS Efforts

- List the vulnerabilities of unmanned aerial systems
- Look at current fielded military C-UAS capabilities
- Review developing capabilities and programs

3.00 Counter Civilian UAS

- Highlight the difficulties of Civilian Counter-UAS
- Overview of current systems in development

3.30 Coffee Break

4.00 Counter C-UAS: The Arms Race

- Study efforts to 'harden' current Unmanned systems
- Provide outlook of future tech developments in C-UAS

5.00 Review of Workshop - Discussion, Questions & Answers

5.30 Close of Workshop

About the workshop host:



Leading a highly-trained and professional organisation on the cutting-edge of commercial and military technology adoption and operations. Dedicated military officer with an exceptional 18-year track record of planning and leading major multi-national programs and teams. An award winning instructor, evaluator and combat-experienced pilot on multiple aircraft types, including jet fighters and unmanned systems, with over 3600 total hours. A leadership, personnel welfare management, technical innovation and equipment procurement expert who is well-versed in team building across functional lines. Highly experienced in fast moving, rapidly changing environments with significant time pressures. A self-motivating and diligent individual with Commendations both airborne and on the ground. Widely traveled for projects, austere operations and overseas postings. Current Top Secret clearance, valid until 2016 and Masters-level education (Aeronautical Science) with CMI affiliation. Powerful, media-trained, communicator and reliable authoritative supervisor. Currently JAA Commercial Pilot License and studying German.

About Unmanned Experts®:

Unmanned Experts prides itself on both its name and its reputation; these elements stem directly from our carefully selected and highly-trained personnel. This growing, independent team of exceptional professionals has over 25,000 flying hours on UAS platforms and over 35,000 flying hours on manned aircraft. With Remotely Piloted Aircraft System (RPAS) pilots, operators and maintainers as well as specialists with expertise in all areas of unmanned operations, Unmanned Experts provides dependable, approachable and affordable mentorship in the UAS sector.

SMI DEFENCE FORWARD PLANNER

JUNE

Future Armoured Vehicles Eastern Europe

22nd - 23rd June 2015
Prague, Czech Republic

Helicopter Technology Eastern Europe

24th - 25th June 2015
Prague, Czech Republic

JULY

Air Mission Planning

6th - 7th July 2015
London, UK

SEPTEMBER

Military Flight Training

16th - 17th September 2015, London, UK

MilSatCom Latin America

22nd - 23rd September 2015
Maceio, Brazil

Defence Exports

30th September - 1st October 2015
Amsterdam, The Netherlands

OCTOBER

Airborne ISR

26th - 27th October 2015, London, UK

NOVEMBER

Global MilSatCom

3rd - 5th November 2015, London, UK

Social Media in the Defence & Military

19th - 20th November 2015
London, UK

UAS

19th - 20th November 2015, London, UK

Future Armoured Vehicles Survivability 2015

23rd - 24th November 2015, London, UK

DECEMBER

Military Airlift & Rapid Reaction Operations

1st - 2nd December 2015
Seville, Spain

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Conference: 19th – 20th November 2015 | Holiday Inn Kensington Forum, London, UK | Workshop: 18th November 2015

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(Shipped 10-14 days after the event)

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