



ICAO

RPAS2015

Remotely Piloted Aircraft Systems Symposium
ICAO Headquarters, Montréal, Canada
23 – 25 March 2015

DAY 1 – MONDAY, 23 MARCH 2015

OPENING SESSION

09:30 – 09:40	Welcome Remarks Dr. Olumuyiwa Benard Aliu , <i>President of the Council, ICAO</i>
09:40 – 10:30	Keynote Speeches Margus Rahuoja , <i>Director, Aviation and International Transport Affairs, Directorate General Mobility and Transport, European Commission (EC) (confirmed)</i> Michael Whitaker , <i>Deputy Administrator, Federal Aviation Administration (FAA), United States (US) (confirmed)</i> Dave Vos , <i>Head of Project Wing, Google (confirmed)</i>
10:30 – 11:00	Coffee Break – Exhibitor Demonstrations <i>Sponsored by: CAE</i>
11:00 – 12:30	RPAS - what is the world doing and what is needed? Moderator Stephen Creamer , <i>ANB, ICAO</i> Presentations <ul style="list-style-type: none"> Luc Tytgat, <i>Director, Strategy and Safety Management, European Aviation Safety Agency (EASA) (confirmed)</i> John Hickey, <i>Deputy Associate Administrator for Aviation Safety, FAA, US (confirmed)</i> Patrick Gandil, <i>Director General, DGAC, France (confirmed)</i> Marion Blakey, <i>Chairperson of Council, International Coordinating Council of Aerospace Industries Associations (ICCAIA) (confirmed)</i> Catalin Radu, <i>Deputy Director Aviation Safety, Air Navigation Bureau, ICAO (confirmed)</i>
12:30 – 14:00	Lunch – Exhibitor Demonstrations <i>Sponsored by: ESRI – Environmental Systems Research Institute</i>



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SESSION 2 *Setting the scene*

14:00 – 15:30	<p>Setting the scene Showcasing a diverse set of current and near-term operations from around the world that highlights the need for a comprehensive and harmonized regulatory framework to support growth and development.</p> <p>Moderator Council Representative, Representative of _____ on the Council of ICAO</p> <p>Presentations</p> <ul style="list-style-type: none"> • Scott Dann, Director, Strategic Development, General Atomics Aeronautical Systems, Inc. (confirmed) • Jon Resnick, Position, DJI Innovations (confirmed) • Takashi Kohno, Researcher at Institute of Aeronautical Technology, Japan Aerospace Exploration Agency (JAXA) (confirmed) • Alvaro da Silva Marques, UAS Manager, Brazilian Federal Police (confirmed) • Ian Davies, Position, Easyjet (invited)
15:30 – 16:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: AeroVironment</i></p>
16:00 – 17:00	<p>Setting the scene Showcasing a diverse set of current and near-term operations from around the world that highlights the need for a comprehensive and harmonized regulatory framework to support growth and development.</p> <p>Moderator Margaret Jenny, President, RTCA (confirmed)</p> <p>Presentations</p> <ul style="list-style-type: none"> • Paola Santana, Position, Matternet (confirmed) • Marc Moffatt, Positions, ICATS (confirmed) • Jay Shively, Human Systems Integration Lead, National Aeronautics and Space Administration (NASA), US (confirmed) • Rob Eagles, Director, ATM Infrastructure, International Air Transport Association (IATA) (confirmed)
17:00 – 17:30	<p>ICAO RPAS Panel</p> <ul style="list-style-type: none"> • Leslie Cary, RPAS Programme Manager, ICAO (confirmed) • Randy Willis, ICAO RPAS Panel Chairman (confirmed)
17:30	<p>Welcome Reception – Exhibitor Demonstrations</p>



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	<i>Sponsored by:</i>
	<i>End of Day 1</i>
DAY 2 – TUESDAY, 24 MARCH 2015	Thread 1
WORKSHOP 1 <i>Airworthiness</i>	
09:00 – 10:30	<p>AIRWORTHINESS – getting them off the ground and back safely, the airworthiness paradigm The Airworthiness workshop will highlight the regulatory challenges and considerations for type and airworthiness approvals for RPA, RPS and RPAS as a complete system. Regulators and manufacturers will present the processes through which certification was achieved.</p> <p>Moderator John Hickey, Deputy Associate Administrator for Aviation Safety, FAA US</p> <p>Presentations</p> <ul style="list-style-type: none"> • Markus Farner, Chairman of FOCA RPAS Working Group, <i>Federal Office for Civil Aviation (FOCA), Switzerland (confirmed)</i> • Stephen George and Bruno Moitre, ICAO RPAS Panel Airworthiness Rapporteurs (confirmed) • Mike Gadd, Manager Aircraft Certification, Civil Aviation Authority, United Kingdom (confirmed) • Andrew Jones, Position, Thales UK (confirmed)
10:30 – 11:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: CANSO</i></p>
11:00 – 12:30	<p>Moderator Luc Tytgat, Director, Strategy and Safety Management, EASA</p> <p>Presentations</p> <ul style="list-style-type: none"> • Doug Davis, Director, Office of Airworthiness, Northrop Grumman (confirmed) • Ron van de Leijgraaf, Position, Joint Authorities for Rulemaking on Unmanned Systems (JARUS) (confirmed) • Otmar Leitner, Position, Schiebel (confirmed) • Benny Davidor, Head, Unmanned Air Systems Department, CAA, Israel (confirmed) • Michael Allouche, IAI-MALAT Airworthiness Manager, Israel Aerospace Industries (IAI) (confirmed)
12:30 – 14:00	<p>Lunch – Exhibitor Demonstrations</p> <p><i>Offered by: ICAO</i></p>



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Thread 1 (continued)

WORKSHOP 2 Operations

14:00 – 15:30	<p>OPERATIONS – getting them off the ground and back safely: the operators' path</p> <p>The Operations workshop will highlight the regulatory challenges and considerations for RPAS operator certification and approval. Regulators and operators will present the processes through which certification and approval was achieved.</p> <p>Moderator <i>Javier García Soruco, Representative of Bolivia on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Rune Storvold, <i>Position, Arctic Council Arctic Monitoring and Assessment Programme (AMAP) (confirmed)</i> • Gerry Corbett, <i>ICAO RPAS Panel Operations Rapporteur (confirmed)</i> • Muriel Preux, <i>Director, RPAS Programme, Direction Générale de l'Aviation Civile (DGAC), France (confirmed)</i> • Bastien Mancini, <i>Position, Delair Tech (confirmed)</i> • Craig Spence, <i>Secretary General, International Council of Aircraft Owner and Pilot Associations (IAOPA) (confirmed)</i>
15:30 – 16:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: General Atomics</i></p>
16:00 – 17:30	<p>Moderator <i>Maria Helena Faleiro T. de Almeida, Representative of Portugal on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Yoge Patel, <i>CEO, Blue Bear (confirmed)</i> • Jim Williams, <i>Manager, Unmanned Aircraft Systems Integration Office FAA, US (confirmed)</i> • Paul McDuffee, <i>Position, InSitu (confirmed)</i> • Amir Valiev, <i>President, Unmanned Aircraft Systems Association of Russia (UASA) (confirmed)</i> • Michael Rossel, <i>Deputy Director General ACI World, Airport Council International (ACI) (confirmed)</i>
End of Day 2 Thread 1	



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Thread 2

WORKSHOP 3 *ATM Integration*

09:00 – 10:30	<p>ATM INTEGRATION – getting to know the rules and fitting in safely</p> <p>The ATM integration workshop will explain the step-by-step approach required for the safe introduction of RPAS operations into the air navigation system.</p> <p>Moderator Philippe Merlo, <i>Director of Air Traffic Management, Eurocontrol</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Mike Lissone, <i>ICAO RPAS Panel ATM Rapporteur (confirmed)</i> • Doug Davis, <i>Position, Civil Air Navigation Services Organisation (CANSO) (confirmed)</i> • Parimal Kopardeka, <i>Position, NASA (confirmed)</i> • Cyro Cruz, <i>Position, Department of Airspace Control (DECEA), Brazil (confirmed)</i>
10:30 – 11:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: CANSO</i></p>
11:00 – 12:30	<p>Moderator Raphael W. Bokango, <i>Representative of Tanzania on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Ruth Stilwell, <i>Observer on the Air Navigation Commission (ANC), International Federation of Air Traffic Control Associations (IFATCA) (confirmed)</i> • Thomas Mildenerberger, <i>Vice-President, Vereinigung Cockpit, International Federation of Airline Pilot Associations (IFALPA) (confirmed)</i> • Martin Radusch, <i>ATM Policy Staff Officer, Bundeswehr, Germany (confirmed)</i> • Brian Guimond, <i>Manager, Military Operations and UAS, Nav Canada, Canada (confirmed)</i> • Catherine Ronflé-Nadaud, <i>Professor, École Nationale de l'Aviation Civile (ENAC), France (confirmed)</i>
12:30 – 14:00	<p>Lunch – Exhibitor Demonstrations</p> <p><i>Offered by: ICAO</i></p>



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Thread 2 (continued)

WORKSHOP 4 *Civil/Military*

14:00 – 15:30	<p>CIVIL/MILITARY – working together for a common future</p> <p>The Civil/Military workshop will present experience gained by civil and military stakeholders working collaboratively to facilitate the safe integration of RPAS in non-segregated airspace.</p> <p>Moderators</p> <p>Giorgio Cioni, <i>Head of Aerospace Capabilities Section, Defence Investment, Northern Atlantic Treaty Organization (NATO)</i></p> <p>Catalin Radu, <i>Deputy Director Aviation Safety, Air Navigation Bureau ICAO</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Allan Storm, <i>International Staff - Aerospace Capabilities, NATO (confirmed)</i> • Alban Galabert, <i>RPAS Advisor, Direction de la Sécurité de l'Aéronautique d'État (DSAE), France (confirmed)</i> • Randy Willis, <i>UAS Integration Office, FAA, US (confirmed)</i> • Lance King, <i>Policy Board for Federal Aviation, DoD, US (confirmed)</i> • Robert Sant, <i>COO, Malta ATS (confirmed)</i>
15:30 – 16:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: General Atomics</i></p>
16:00 – 17:30	<p>Presentations</p> <ul style="list-style-type: none"> • Mike Bishop, <i>Position, Japan Self Defense Force, JCAB and USAF (invited)</i> • Jonathan McMullan, <i>Wing Commander, Royal Australian Air Force (RAAF), Australia (confirmed)</i> • Dominique Colin, <i>Position, Eurocontrol (confirmed)</i> • Mitchell Fox, <i>Position, United Nations Headquarters, New-York (invited)</i> • Nichola Rennet, <i>RPAS expert at Military Aviation Authority, Ministry of Defense, UK (confirmed)</i>
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WORKSHOP 5 Technology

09:00 – 10:30	<p>TECHNOLOGY – a critical element for integration</p> <p>The Technology workshop will present technical and operational challenges posed by command & control and detect & avoid. It will highlight the need for collaboration between standards-making organizations, industry and regulators to facilitate safe integration of RPAS in non-segregated airspace.</p> <p>Moderator <i>Alexey Novgorodov, Representative of the Russian Federation on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Michael Neale, ICAO RPAS Panel Command & Control (C2) Rapporteur (confirmed) • Vaughn Maiolla, Communications Panel Secretary, ICAO (confirmed) • Nico Nijenhuis, Position, Clear Flight Solutions (confirmed) • Denis Koehl, Senior Advisor for Military Affairs, Single European Sky ATM Research Joint Undertaking (SESAR JU), EU (confirmed) • Paul McDuffee, CoChair SC 228, RTCA (confirmed)
10:30 – 11:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: CANSO</i></p>
11:00 – 12:30	<p>Moderator <i>Víctor Aguado, Representative of Spain on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Gerhard Lippitsch, ICAO RPAS Panel Detect & Avoid Rapporteur (confirmed) • Alexander Engel, Technical Program Manager, European Organisation for Civil Aviation Equipment (EUROCAE) (confirmed) • Brandon Suarez, Position, General Atomics (confirmed) • Dieter Moormann, Professor, RWTH Aachen University (confirmed) • Gokhan Inalhan, Professor, Istanbul Technical University (confirmed)
12:30 – 14:00	<p>Lunch – Exhibitor Demonstrations</p> <p><i>Offered by: ICAO</i></p>



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Thread 3 (continued)

WORKSHOP 6 *National Regulations*

14:00 – 15:30	<p>NATIONAL REGULATIONS – sharing real world practices</p> <p>This workshop will allow national authorities to present their current approaches on unmanned aviation regulations particularly for small, simple systems. The unmanned aviation industry is growing exponentially. By sharing information and working collaboratively, States may pursue a harmonized approach to ensure the safety of persons, property and other aircraft.</p> <p>Moderator Knut Magne Skaar, <i>Representative of Norway on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Éric Sivel, <i>Chairman, JARUS (confirmed)</i> • Sam Twala, <i>Position, CAA, South Africa (confirmed)</i> • Jim Williams, <i>Manager, Unmanned Aircraft Systems Integration Office-FAA, US (confirmed)</i> • Fabien Guillotin, <i>Position, DGAC, France (confirmed)</i>
15:30 – 16:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: General Atomics</i></p>
16:00 – 17:30	<p>Moderator Olivier Caron, <i>Representative of France on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Mike Gadd, <i>Manager Aircraft Certification, Civil Aviation Authority, United Kingdom (confirmed)</i> • Karen Tarr, <i>Inspector Special Flight Operations, Transport Canada (confirmed)</i> • Ales Böhm, <i>Manager Unmanned Aerial Systems Section, CAA, Czech Republic (confirmed)</i> • Markus Farner, <i>Chairman of FOCA RPAS Working Group, Federal Office for Civil Aviation (FOCA), Switzerland (confirmed)</i>
End of Day 2 Thread 3	



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WORKSHOP 7 *Licensing*

09:00 – 10:30	<p>LICENSING – remote pilots, a new licence to fly</p> <p>The Licensing workshop will discuss the approach for licensing a new category of aviation professional, the remote pilot, and competencies for remote pilots and RPA observers.</p> <p>Moderator <i>Wolfram Celedón, Representative of Chile on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Henri Rodenburg, ICAO RPAS Panel Licensing Rapporteur (confirmed) • Nicole Barrette-Sabourin, Technical Officer Operational Safety, ANB ICAO (confirmed) • John Illson, Chief, Operational Safety Section, ANB ICAO (confirmed) • Lance King, Policy Board for Federal Aviation, DoD, US (confirmed) • André Clot, Position, EuroUSC (confirmed)
10:30 – 11:00	<p>Coffee Break – Exhibitor Demonstrations</p> <p><i>Sponsored by: CANSO</i></p>

WORKSHOP 8 *Safety Management*

11:00 – 12:30	<p>SAFETY MANAGEMENT – a proactive start</p> <p>Safety management has become a common practice in manned aviation. For the safe integration of RPAS operations, the operators need to develop and implement safety management practices overseen by the civil aviation authorities.</p> <p>Moderator <i>Aysha Alhameli, Representative of the United Arab Emirates on the Council of ICAO</i></p> <p><u>Presentations</u></p> <ul style="list-style-type: none"> • Miguel Ramos, Technical Officer Safety, ANB ICAO (confirmed) • Éric Perrin, Position, EUROCONTROL (confirmed) • Robert Dodd, Position, The Aloft Group (confirmed) • Mike Gadd, Manager Aircraft Certification, Civil Aviation Authority, United Kingdom (confirmed)
12:30 – 14:00	<p>Lunch – Exhibitor Demonstrations</p> <p><i>Offered by: ICAO</i></p>



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Thread 4 (continued)

WORKSHOP 9 Security

14:00 – 15:30

SECURITY – system protection

This workshop will address aviation security considerations, such as the physical security of the aircraft and remote station, communication links and their associated encryption and personnel practices.

Moderator

Mark Rodmell, *Representative of the United Kingdom on the Council of ICAO*

Presentations

- **Steven Berti**, *Chief, Aviation Security and Facilitation Policy Section, Air Transport Bureau ICAO (confirmed)*
- **Alistair Munro**, *ICAO RPAS Panel C2 Rapporteur (confirmed)*
- **Juan Domingo-Lobato**, *INFOSEC Expert, Airbus Defence & Space (confirmed)*
- **Erwan Le Ho**, *Position, Thales Alenia Space (confirmed)*

15:30 – 16:00

Coffee Break – Exhibitor Demonstrations

*Sponsored by: **General Atomics***

WORKSHOP 10 Legal

16:00 – 17:30

LEGAL – working with the existing framework

This workshop will consider questions related to the applicability of the Convention on International Civil Aviation, legal liability and responsibility as well as privacy rights.

Moderator

Mark Allen, *Representative of Canada on the Council of ICAO*

Presentations

- **Christopher Petras**, *Legal Officer, Legal and External Relations Bureau ICAO (confirmed)*
- **Anna Masutti**, *Professor, University of Bologna, Italy (confirmed)*
- **Mark W. Bury**, *Assistant Chief Counsel, FAA (confirmed)*
- **Chris Proudlove**, *Position, Global Aerospace (confirmed)*
- **Laurent Archambault**, *Position, Selene Avocats (confirmed)*

End of Day 2 Thread 4



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DAY 3 – WEDNESDAY, 25 MARCH 2015

SESSION 3 INTEGRATION

09:15 – 10:00	<p><i>Coffee Break – Exhibitor Demonstrations</i></p> <p><i>Sponsored by: Thales Alenia Space</i></p>
10:00 – 12:00	<p>INTEGRATION This session will bring together the key issues identified in each of the workshops to form a shared comprehensive picture of where we are and the way forward.</p> <p>Moderators Nancy Graham, <i>Director ANB, ICAO</i> Stephen Creamer, <i>ANB, ICAO</i></p> <p>Panelists:</p> <ul style="list-style-type: none"> Moderators from day 1 and day 2
12:00 – 14:00	<p><i>Lunch – Exhibitor Demonstrations</i></p> <p><i>Offered by: ICAO</i></p>

DAY 3 – WEDNESDAY, 25 MARCH 2015

SESSION 4 NEXT STEPS AND CONCLUSIONS

14:00 – 15:15	<p>NEXT STEPS AND CONCLUSIONS Based on the comprehensive picture, this session will discuss how to proceed at the industry, national, regional and global levels.</p> <p>Speaker Stephen Creamer, <i>ANB, ICAO</i></p>
15:15 – 15:30	<p>Closing Raymond Benjamin, <i>Secretary General, ICAO</i></p>
<i>End of Day 3</i>	