



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	<p>Welcome Remarks Dr. Olumuyiwa Benard Aliu, <i>President of the Council, ICAO</i></p>
09:40 – 10:30	<p>Keynote Speeches Michael Whitaker, <i>Deputy Administrator, Federal Aviation Administration (FAA), United States (US)</i> Filip Cornelis, <i>Head of Unit in charge of Aviation Safety, Aviation and International Transport Affairs, Directorate General Mobility and Transport, European Commission (EC)</i> Dave Vos, <i>Head of Project Wing, Google</i></p>
10:30 – 11:00	<p><i>Coffee Break – Sponsored by: CAE</i></p> <p><i>Exhibitions and Flight Demonstrations</i></p>
11:00 – 12:30	<p>RPAS - what is the world doing and what is needed?</p> <p>Moderator Stephen Creamer, <i>Appointed Director, Air Navigation Bureau (ANB), ICAO</i></p> <p>Presentations</p> <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	<p><i>Lunch – Sponsored by: ESRI – Environmental Systems Research Institute</i></p> <p><i>Exhibitions and Flight Demonstrations</i></p>


DAY 1 – MONDAY, 23 MARCH 2015
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 Kerryn Macaulay, <i>Representative of Australia on the Council of ICAO</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Scott Dann, <i>Director, Strategic Development, General Atomics Aeronautical Systems, Inc. (confirmed)</i> • Jon Resnick, <i>Policy Lead, DJI Innovations (confirmed)</i> • Masaaki Nakadate, <i>Senior Researcher at Institute of Aeronautical Technology, Japan Aerospace Exploration Agency (JAXA) (confirmed)</i> • Marc Moffatt, <i>Executive Director, ICATS (confirmed)</i> • Ian Davies, <i>Position, Easyjet (confirmed)</i>
15:30 – 16:00	<p style="text-align: center;">Coffee Break – Sponsored by: AeroVironment</p> <p style="text-align: center;">Exhibitions and Flight Demonstrations</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, <i>President, RTCA (confirmed)</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Paola Santana, <i>Co-Founder and COO, Matternet, Inc. (confirmed)</i> • Jay Shively, <i>Human Systems Integration Lead, National Aeronautics and Space Administration (NASA), US (confirmed)</i> • Rob Eagles, <i>Director, ATM Infrastructure, International Air Transport Association (IATA) (confirmed)</i>
17:00 – 17:30	<p>ICAO RPAS Panel</p> <ul style="list-style-type: none"> • Leslie Cary, <i>RPAS Programme Manager, ICAO (confirmed)</i> • Randy Willis, <i>ICAO RPAS Panel Chairman (confirmed)</i>
17:30	<p style="text-align: center;">Welcome Reception Hosted by the Delegation of the United Kingdom</p>



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End of Day 1

DAY 2 – TUESDAY, 24 MARCH 2015

Thread 1

WORKSHOP 1 *Airworthiness*

<p>09:00 – 10:30</p>	<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, <i>Deputy Associate Administrator for Aviation Safety, FAA US</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Stephen George and Bruno Moitre, <i>ICAO RPAS Panel Airworthiness Rapporteurs (confirmed)</i> • Markus Farner, <i>Chairman of FOCA RPAS Working Group, Federal Office for Civil Aviation (FOCA), Switzerland (confirmed)</i> • Mike Gadd, <i>Manager Aircraft Certification, Civil Aviation Authority, United Kingdom (confirmed)</i> • Andrew Jones, <i>Manager ISTAR Air Operations, Thales UK (confirmed)</i>
<p>10:30 – 11:00</p>	<p>Coffee Break – Sponsored by: CANSO</p> <p>Exhibitions and Flight Demonstrations</p>
<p>11:00 – 12:30</p>	<p>Moderator Luc Tytgat, <i>Director, Strategy and Safety Management, EASA</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Doug Davis, <i>Director, Office of Airworthiness, Northrop Grumman (confirmed)</i> • Ron van de Leijgraaf, <i>Former JARUS Chairman, Joint Authorities for Rulemaking on Unmanned Systems (JARUS) (confirmed)</i> • Otmar Leitner, <i>Head of Airworthiness Department, Schiebel (confirmed)</i> • Benny Davidor, <i>Head, Unmanned Air Systems Department, CAA, Israel (confirmed)</i> • Michael Allouche, <i>IAI-MALAT Airworthiness Manager, Israel Aerospace Industries (IAI) (confirmed)</i>
<p>12:30 – 14:00</p>	<p>Lunch – Offered by: ICAO</p> <p>Exhibitions and Flight Demonstrations</p>



DAY 2 – TUESDAY, 24 MARCH 2015

Thread 1 (continued)

WORKSHOP 2 Operations

<p>14:00 – 15:30</p>	<p>OPERATIONS – getting them off the ground and back safely: the operators’ path 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 Javier García Soruco, <i>Representative of Bolivia on the Council of ICAO</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Rune Storvold, <i>Senior Scientist at Norut in Tromsø, Norway, Arctic Monitoring and Assessment Programme (AMAP), Arctic Council (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>CEO, Delair Tech (confirmed)</i> • Craig Spence, <i>Secretary General, International Council of Aircraft Owner and Pilot Associations (IAOPA) (confirmed)</i>
<p>15:30 – 16:00</p>	<p>Coffee Break – Sponsored by: General Atomics</p> <p><i>Exhibitions and Flight Demonstrations</i></p>
<p>16:00 – 17:30</p>	<p>Moderator Maria Helena Faleiro T. de Almeida, <i>Representative of Portugal on the Council of ICAO</i></p> <p>Presentations</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>Vice President, government relations and strategy, InSitu (confirmed)</i> • Amir Valiev, <i>President, Unmanned Aircraft Systems Association of Russia (UASA) (confirmed)</i> • David Gamper, <i>Director, Safety & Technical, Airport Council International (ACI) (confirmed)</i>
<p>End of Day 2 Thread 1</p>	


DAY 2 – TUESDAY, 24 MARCH 2015
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>Presentations</p> <ul style="list-style-type: none"> • Mike Lissone, <i>ICAO RPAS Panel ATM Rapporteur (confirmed)</i> • Doug Davis, <i>Chair of Collaborative Airspace Workgroup, Civil Air Navigation Services Organisation (CANSO) (confirmed)</i> • Parimal Kopardeka, <i>Manager, Safe Autonomous System Operations Project, NASA Ames Research Center, US (confirmed)</i> • Cyro Cruz, <i>Commandant of Airspace Control Unit of Porto Alegre and RPAS Project Coordinator, Department of Airspace Control (DECEA), Brazil (confirmed)</i>
10:30 – 11:00	<p style="text-align: center;">Coffee Break – Sponsored by: CANSO</p> <p style="text-align: center;"><i>Exhibitions and Flight Demonstrations</i></p>
11:00 – 12:30	<p>Moderator Council Representative, Representative of _____ on the Council of ICAO</p> <p>Presentations</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 Mildenerger, <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>Head of the UAV Program, École Nationale de l'Aviation Civile (ENAC), France (confirmed)</i>
12:30 – 14:00	<p style="text-align: center;">Lunch – Offered by: ICAO</p> <p style="text-align: center;"><i>Exhibitions and Flight Demonstrations</i></p>



DAY 2 – TUESDAY, 24 MARCH 2015

Thread 2 (continued)

WORKSHOP 4 Civil/Military

<p>14:00 – 15:30</p>	<p>CIVIL/MILITARY – working together for a common future 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 Giorgio Cioni, <i>Head of Aerospace Capabilities Section, Defence Investment, Northern Atlantic Treaty Organization (NATO)</i> 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>
<p>15:30 – 16:00</p>	<p>Coffee Break – Sponsored by: General Atomics</p> <p><i>Exhibitions and Flight Demonstrations</i></p>
<p>16:00 – 17:30</p>	<p>Presentations</p> <ul style="list-style-type: none"> • Mike Bishop, <i>Director of the 5 AF Aviation Affairs Branch, USAF (confirmed)</i> • Jonathan McMullan, <i>Wing Commander, Royal Australian Air Force (RAAF), Australia (confirmed)</i> • Dominique Colin, <i>RPAS senior expert, Eurocontrol (confirmed)</i> • Mitchell Fox, <i>Chief, Air Transport Section, United Nations Headquarters, New-York (confirmed)</i> • Nichola Rennet, <i>RPAS expert at Military Aviation Authority, Ministry of Defense, UK (confirmed)</i>
<p>End of Day 2 Thread 2</p>	


DAY 2 – TUESDAY, 24 MARCH 2015
Thread 3
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>Presentations</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, Co-founder & CEO, 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 style="text-align: center;">Coffee Break – Sponsored by: CANSO</p> <p style="text-align: center;">Exhibitions and Flight Demonstrations</p>
11:00 – 12:30	<p>Moderator <i>Víctor Aguado, Representative of Spain on the Council of ICAO</i></p> <p>Presentations</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, Lead Engineer, General Atomics Aeronautical Systems, Inc. (confirmed) • Dieter Moormann, Professor, RWTH Aachen University (confirmed) • Gokhan Inalhan, Professor, Istanbul Technical University (confirmed)
12:30 – 14:00	<p style="text-align: center;">Lunch – Offered by: ICAO</p> <p style="text-align: center;">Exhibitions and Flight Demonstrations</p>



DAY 2 – TUESDAY, 24 MARCH 2015	Thread 3 (continued)
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WORKSHOP 6 <i>National Regulations</i>

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>Presentations</p> <ul style="list-style-type: none"> • Éric Sivel, <i>Chairman, JARUS (confirmed)</i> • Sam Twala, <i>Certification Engineer, CAA, South Africa (confirmed)</i> • Jim Williams, <i>Manager, Unmanned Aircraft Systems Integration Office-FAA, US (confirmed)</i> • Fabien Guillotin, <i>Programme Manager, DSAC, DGAC, France (confirmed)</i>
15:30 – 16:00	<p>Coffee Break – Sponsored by: General Atomics</p> <p><i>Exhibitions and Flight Demonstrations</i></p>
16:00 – 17:30	<p>Moderator Olivier Caron, <i>Representative of France on the Council of ICAO</i></p> <p>Presentations</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


DAY 2 – TUESDAY, 24 MARCH 2015
Thread 4
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 Wolfram Celedón, Representative of Chile on the Council of ICAO</p> <p>Presentations</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, Director, EuroUSC (confirmed)
10:30 – 11:00	<p>Coffee Break – Sponsored by: CANSO</p> <p>Exhibitions and Flight Demonstrations</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 Aysha Alhameli, Representative of the United Arab Emirates on the Council of ICAO</p> <p>Presentations</p> <ul style="list-style-type: none"> • Miguel Ramos, Technical Officer Safety, ANB ICAO (confirmed) • Mike Gadd, Manager Aircraft Certification, Civil Aviation Authority, United Kingdom (confirmed) • Éric Perrin, Head of Safety and Human Performance, SESAR and Research Directorate, EUROCONTROL (confirmed) • Robert Dodd, Senior Director, Risk Management, The Aloft Group (confirmed)
12:30 – 14:00	<p>Lunch – Offered by: ICAO</p> <p>Exhibitions and Flight Demonstrations</p>



DAY 2 – TUESDAY, 24 MARCH 2015

Thread 4 (continued)

WORKSHOP 9 Security

<p>14:00 – 15:30</p>	<p>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.</p> <p>Moderator Mark Rodmell, <i>Representative of the United Kingdom on the Council of ICAO</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Steven Berti, <i>Chief, Aviation Security Policy, Air Transport Bureau ICAO (confirmed)</i> • Alistair Munro, <i>ICAO RPAS Panel C2 Rapporteur (confirmed)</i> • Juan Domingo-Lobato, <i>INFOSEC Expert, Airbus Defence & Space (confirmed)</i> • Erwan Le Ho, <i>Project Manager Aeronautical Communications, Thales Alenia Space (confirmed)</i>
<p>15:30 – 16:00</p>	<p>Coffee Break – Sponsored by: General Atomics</p> <p><i>Exhibitions and Flight Demonstrations</i></p>

WORKSHOP 10 Legal

<p>16:00 – 17:30</p>	<p>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.</p> <p>Moderator Mark Allen, <i>Representative of Canada on the Council of ICAO</i></p> <p>Presentations</p> <ul style="list-style-type: none"> • Christopher Petras, <i>Legal Officer, Legal and External Relations Bureau ICAO (confirmed)</i> • Anna Masutti, <i>Professor, University of Bologna, Italy (confirmed)</i> • Mark W. Bury, <i>Assistant Chief Counsel, FAA (confirmed)</i> • Chris Proudlove, <i>Senior Vice President, Team Leader of Complex Risks, Global Aerospace (confirmed)</i> • Laurent Archambault, <i>Associate, Selene Avocats (confirmed)</i>
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End of Day 2 Thread 4



DAY 3 – WEDNESDAY, 25 MARCH 2015

SESSION 3 INTEGRATION

Coffee Break – Sponsored by: Thales Alenia Space

09:15 – 10:00

Exhibitions and Flight Demonstrations

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.

10:00 – 12:00

Moderators

Nancy Graham, *Director ANB, ICAO*

Stephen Creamer, *Appointed Director ANB, ICAO*

Panelists:

- Moderators from day 1 and day 2

12:00 – 14:00

Lunch – Offered by: ICAO

Exhibitions and Flight Demonstrations

DAY 3 – WEDNESDAY, 25 MARCH 2015

SESSION 4 NEXT STEPS AND CONCLUSIONS

NEXT STEPS AND CONCLUSIONS

Based on the comprehensive picture, this session will discuss how to proceed at the industry, national, regional and global levels.

14:00 – 15:30

Speaker

Stephen Creamer, *Appointed Director ANB, ICAO*

End of Day 3