ICAO

UNMANNED AVIATION 2022

DRONE ENABLE 2022

SYMPOSIUM — 14 — 16 NOVEMBER 2022

ICAO HEADQUARTERS, MONTRÉAL, CANADA

EVENT DIRECTORY

Wing

Busy? We get it.

While drones are our full-time job, we know it's just one part of a new era in aviation. Regulating all of it manually is impossible. But for UTM, a few digital-first tools (including open source) can unlock automation-driven efficiency, cost savings, compliance with new regulations, and time back for other responsibilities.

These tools also facilitate the shift and flexibility needed to support a distributed set of airspace service providers.

At DRONE ENABLE 2022, join us for a panel discussion on real-world learnings and tools being used today to help enable safe, scalable, and compliant access to high quality airspace that supports all stakeholders. You can also reach us at **utm@wing.com** for a discussion.

wing.com/ecosystem | **interuss.org/open-source-test-suite**

Digital-first aviation: Lessons in managing a multiprovider drone-UTM ecosystem

TUESDAY, 15 NOVEMBER

InterUSS
Platform

RPAS PLATFORM

The RPAS Platform provides regulators with a number of valuable tools to ensure safe operations in an integrated airspace, such as U-space.

- Set up and oversee a multiprovider ecosystem with registration, interoperability management, and recording of automated testing.
- Enable automated airspace access for low risk or standard scenario operations.
- Further digitization with data sharing moving towards ED-269 format.

OPEN SOURCE TEST SUITE

Wing is a technical contributing member of the Linux Foundation's InterUSS Platform.

Aviation authorities and UTM services providers can use the open source test suite to test compliance to common industry standards and regulations such as U-space. Tests can run against a single provider or ecosystem-wide.

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ICAO TRAINING

Benefit from a 15% discount on ICAO's Unmanned Aviation online courses during RPAS and Drone Enable symposia!

Click **here** to access ICAO store and use discount code **"DRONE-ENABLE"**

Offer valid from 7 to 18 November 2022

01

PARTICIPANT GUIDE

REGISTRATION & ACCESS

01. **Registration is required** for the **Drone 2022** event.

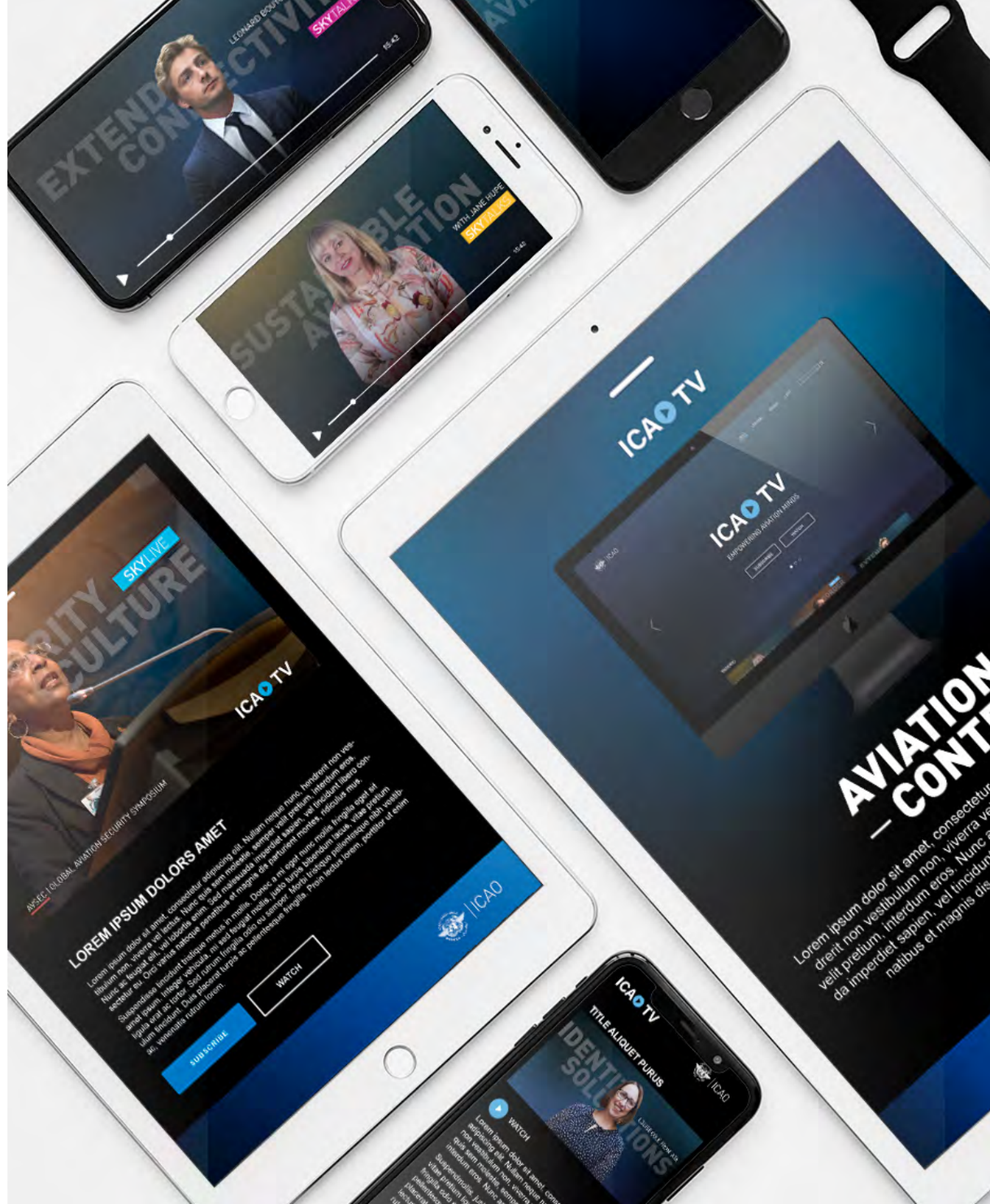
02. Click here to register online. Should you have any issue registering, please contact registration@icao.int.

03. This event can host a limited number of participants; therefore, registration is on a **first-come, first-served basis.**

ICAO TV

After the event, you can rewatch your favorite sessions and panels from anywhere and on any device from ICAO TV.

CLICK HERE



02

SPEAKERS PROFILES

Click here to view the full speakers list and bios

CLICK HERE

03

AGENDA

DAY 1

MONDAY, NOVEMBER 14

09:30 – 09:40 **WELCOME REMARKS**

Mr. Salvatore Sciacchitano, Council President, ICAO

09:40 – 10:00 **KEYNOTE**

Honorable Kwaku Ofori Asiamah, Minister of Transport, Ghana

10:00 – 10:30 **WHAT'S NEW AT ICAO REGARDING UTM/UAS?**

This update will summarize the work of ICAO, including the most recent updates to the UTM Framework (Edition 4) based on the information derived from DRONE ENABLE 2021, updates to the ICAO UAS Toolkit and the results of the DRONE ENABLE 2022 RFI Process.

Mr. Mark Wuennenberg, Technical Officer, Remotely Piloted Aircraft Systems Section, ICAO

10:30– 11:00 **COFFEE BREAK**

11:00 – 12:15 **SUPPORTING ATM/UTM INTEGRATION**

This session will look into the coordination between, and coexistence of, ATM and UTM services. Topics to be discussed, and considering the operational realities, include: what are ANSPs facing/experiencing

with their interactions with UTM service providers (USPs); what efforts are underway to integrate the UTM ecosystem with ATM; what is working or, conversely, not working; which key enablers are missing that would help accelerate ATM/UTM integration, such as new flight rules.

Moderator:

Mr. Michael Gadd, Head of Office of Airworthiness, Blue Bear Systems Research Ltd.

Presentations:

- **Mr. Adrian Solomon,** ATC and Digital Solutions, Americas, Thales
- **Mr. Andreas Udovic,** Project Manager, Deutsche Flugsicherung (DFS), Germany
- **Mr. Jan-Eric Putze,** Chief Executive Officer, Droniq, Germany
- **Mr. Alan Chapman,** Director, RPAS Traffic Management, NAV CANADA
- **Mr. Will Whitelaw,** Senior RPAS Specialist, Civil Aviation Safety Authority, Australia

12:15 – 14:00 **LUNCH BREAK**

14:00 – 15:15 **FACILITATION OF UAS OPERATIONS**

International cargo and mail delivery using UAS are soon expected to become routine operations. Many global air cargo carriers are currently testing the use of unmanned aircraft for the delivery of packages. UA being aircraft, the provisions pertaining to the release and clearance of cargo and mail for international air transport are applicable. Additionally, requirements such as customs clearances, security inspections, quarantining requirements, etc., will need to be addressed. This session will discuss whether the existing provisions of Annex 9 — Facilitation and Annex 17 — Security can, and should, apply to UAS operations, and what lies ahead from a facilitation and aviation security perspective.

Moderator:

Ms. Leslie Cary, Chief, Remotely Piloted Aircraft Systems Section, ICAO

Presentations:

- **Mr. Sylvain Lefoyer,** Deputy Director, Aviation Security and Facilitation, ICAO
- **Mr. Vincent Desiderio,** Safety and Operations Expert, Universal Postal Union
- **Dr. Johanna Jordaan,** Chief, Aviation Medicine Section, ICAO
- **Mr. Glen Lynch,** Chief Executive Officer, Volatus Aerospace, Canada

15:15 – 15:45 **COFFEE BREAK**

15:45 – 17:00

ENVIRONMENTAL IMPACTS – NOISE AND LIFE CYCLE EMISSIONS

At a time when environment considerations are more important than ever, the environmental impact of UAS and AAM should be closely examined. Such a discussion should not only focus on the operations of the aircraft, but also the environmental impacts of the entire ecosystem. This session will address several topics including noise, emissions related to the entire life cycle of the aircraft and its components, and how these systems may reduce environmental impacts of traditional aircraft/vehicles. The session will also cover the work currently being undertaken by ICAO's Committee on Aviation Environmental Protection in these areas.

Moderator:

Mr. Neil Dickson, Chief, Environmental Standards Section, ICAO

Presentations:

- **Mr. Max Fenkell,** Policy and Government Affairs Lead, Joby Aviation, United States
- **Ms. Monica Alcabin,** Technical Fellow, Global Regulatory Strategies, Boeing
- **Ms. Ruby Sayyed,** Head, ATM Strategy, International Air Transport Association (IATA)
- **Dr. Hua (Bill) He,** Office of Environment and Energy, AEE-100 Noise Division, Federal Aviation Administration, United States

DAY 2

TUESDAY, NOVEMBER 15

09:00 – 09:05 **WELCOME REMARKS**

09:05 – 09:25 **KEYNOTE**

Mr. Andreas Boschen, Executive Director, SESAR 3 Joint Undertaking

09:25 – 10:25 **RFI TOPIC 1 – PANEL 1**
EXPERIENCES AND BEST PRACTICES FROM THE DEPLOYMENT/IMPLEMENTATION OF UTM SYSTEMS OR SERVICES

As UTM systems and services continue to mature and act as enablers for unmanned aircraft operations, including beyond visual line-of-sight (BVLOS) activities, it is important to direct attention towards successful UTM deployments and implementations in order to determine what worked and what could have been improved. This session will include the experiences gained, lessons learned and best practices developed by those that have led the way in UTM deployments.

Moderator:

Mr. Benoit Curdy, Head of Strategy and Innovation, Swiss Federal Office of Civil Aviation (FOCA)

Presentations:

- **Mr. Libby M. Bahat,** Head, Aerial Infrastructure Department, Civil Aviation Authority, Israel
- **Ms. Marina Estal Muñoz,** Head of Airspace Policy Area, Directorate General of Civil Aviation, Spain

and **Mr. Daniel García-Monteavaro Vizcaíno,** Head of Drone Business Development Department, ENAIRE, Spain

- **Mr. Santiago Llucià,** UAS and New Technologies Expert, Federal Office of Civil Aviation (FOCA), Switzerland
- **Dr. Hrishikesh Ballal,** Co-founder and Lead Developer, Openskies

10:25– 10:55 **COFFEE BREAK SPONSORED BY**

10:55 – 11:55

RFI TOPIC 1 – PANEL 2
EXPERIENCES AND BEST PRACTICES FROM THE DEPLOYMENT/IMPLEMENTATION OF UTM SYSTEMS OR SERVICES

As UTM systems and services continue to mature and act as enablers for unmanned aircraft operations, including beyond visual line-of-sight (BVLOS) activities, it is important to direct attention towards successful UTM deployments and implementations in order to determine what worked and what could have been improved. This session will include the experiences gained, lessons learned and best practices developed by those that have led the way in UTM deployments.

Moderator:

Mr. Benoit Curdy, Head of Strategy and Innovation, Swiss Federal Office of Civil Aviation (FOCA)

Presentations:

- **Mr. Eyal Zor,** Co-Founder and Chief Executive Officer, Airwayz
- **Mr. Laurent Huenaerts,** Vice President and General Manager, Americas, Unifly
- **Mr. Chris Kucera,** Head of Strategic Partnerships, OneSky
- **Ms. Cecilia Claramunt Puchol,** Senior Research Technician, Polytechnic University of Valencia (UPV), Spain

11:55 – 12:25 **RFI TOPIC 1 – QUESTION AND ANSWER SESSION**

12:25 – 12:40 **SPONSOR PRESENTATION BY WING**

12:40 – 14:00 **LUNCH SPONSORED BY WING**

14:00 – 15:15 **ICAO DEVELOPED MATERIALS TO SUPPORT SAFE UAS OPERATIONS**

This session will provide an overview of the UAS Model Regulations and the UAS for Humanitarian Aid and Emergency Response (U-AID) materials developed by ICAO. The model regulations allow States to regulate UAS operations that remain outside of the IFR international arena. The complementary U-AID provides additional guidance specifically developed for humanitarian aid emergency response operations. ICAO has also developed several courses to assist States with the implementation of these provisions.

Moderator:

Mr. Frédéric Malaud, Technical Officer, Remotely Piloted Aircraft Systems Section, ICAO

Presentations:

- **Ms. JC Shine,** Aviation Safety Inspector (Operations), Federal Aviation Administration, United States
- **Ms. Tracy Lamb,** Chief Executive Officer, Quantum AI, United States
- **Ms. Anne Grimal,** Technical Officer, Remotely Piloted Aircraft Systems Section, ICAO

15:15 – 15:45 **COFFEE BREAK SPONSORED BY AIRWAYZ**

15:45 – 17:00

UAS FOR HUMANITARIAN OPERATIONS – JOINT ICAO, UNICEF AND WFP PANEL

UAS have proven to be effective tools due to their diverse capabilities: ease of operations, quick deployment in dangerous situations, adapted functions such as imaging sensors, and relatively low cost. While the relevance of UAS no longer needs to be proven, the implementation of such operations remains challenging. These challenges may include whether local regulations and/or local capacity exist to conduct such operations. This joint session with United Nations Children's Fund (UNICEF) - Office of Innovation and the World Food Programme (WFP) will showcase the use of UAS to support a variety of humanitarian activities, and how ICAO supports government and industry stakeholders to be best prepared for these operations.

Moderator:

Mr. Cliff Sweatte, Senior Policy Advisor, Crown Consulting Inc.

Presentations:

- **Mr. Michael Scheibenreif,** Innovation Specialist, Eastern and Southern African Regional Office, UNICEF
- **Ms. Anne Grimal,** Technical Officer, Remotely Piloted Aircraft Systems Section, ICAO
- **Mr. Oleg Aleksandrov,** Head RPAS - Airship Unit, Aviation Service, World Food Programme, United Nations
- **Ms. Elizabeth Bourke,** Project Manager UAS Team – IT Division, World Food Programme, United Nations

DAY 3

WEDNESDAY, NOVEMBER 16

09:00 – 09:05 **WELCOME REMARKS**

09:05 – 10:05 **RFI TOPIC 2 – PANEL 1**
UTM DATA REQUIREMENTS

In order for UTM to support multiple safe UAS operations within and beyond visual line-of-sight, data related to weather, 3D structures, other aircraft, etc., must be available. The session will address the type of data needed to support safe operations, how that data is collected, maintained current, shared with operators, and whether standards for certain types of data are needed in terms of data quality (accuracy, resolution, integrity, traceability, timeliness, completeness and format), adequacy, availability, reliability, continuity, security and resilience.

Moderator:

Mr. Jean-François Grout, Assistant Director ICAO Relations, International Air Transport Association (IATA)

Presentation:

- **Mr. Lucas Florêncio Queiróz de Oliveira,** Co-Founder, AL Drones
- **Mr. Libby M. Bahat,** Head, Aerial Infrastructure Department, Civil Aviation Authority, Israel
- **Ms. Mary Ellen Miller,** Principal Analyst, Mosiac UTM
- **Dr. Kin Huat Low,** Principal Investigator of UTM-UAS Programme, Air Traffic Management Research Institute (ATMRI); Nanyang Technological University, Singapore

10:05 – 10:35 **COFFEE BREAK**

10:35 – 11:35

RFI TOPIC 2 – PANEL 2
UTM DATA REQUIREMENTS

In order for UTM to support multiple safe UAS operations within and beyond visual line-of-sight, data related to weather, 3D structures, other aircraft, etc., must be available. The session will address the type of data needed to support safe operations, how that data is collected, maintained current, shared with operators, and whether standards for certain types of data are needed in terms of data quality (accuracy, resolution, integrity, traceability, timeliness, completeness and format), adequacy, availability, reliability, continuity, security and resilience.

Moderator:

Mr. Jean-François Grout, Assistant Director ICAO Relations, International Air Transport Association (IATA)

Presentations:

- **Mr. Michael Hoodspith,** Vice President, International Business Development, OneSky
- **Mr. Don Berchoff,** Chief Executive Officer, Tru Weather Solutions
- **Dr. Daisuke Kubo,** Associate Senior Researcher, Japan Aerospace Exploration Agency
- **Dr. Joseph Rios,** Chief Technologist, Aviation Systems Division, NASA Ames Research Center

11:35 – 12:05

RFI TOPIC 2 – QUESTION AND ANSWER SESSION

12:05 – 13:30 **LUNCH**

13:30 – 14:45 **THE DIGITAL ROAD TO UTM IMPLEMENTATION**

This session will provide an overview of the RPAS-related technical standards, whether under development or already published, by other standards developing organizations (SDOs). How will these standards apply to certification efforts, and how can they be utilized by CAAs/States and industry? SDOs will share their completed and ongoing efforts as well as their insights and methodologies in developing RPAS-related material.

Moderator:

Mr. John Scull Walker, Senior Partner, The Padina Group

Presentations:

- **Mr. Koen De Vos,** Secretary General, Global UTM Association
- **Mr. Amit Ganjoo,** Chief Executive Officer, ANRA Technologies
- **Mr. Stephane Dubet,** International Coordination and Programs, Direction Services De Navigation Aérienne (DSNA), France
- **Mr. Andrew Lacher,** Chief Technologist for Future Airspace Operations, NASA Langley Research Center

14:45 – 15:15 **BREAK**

15:15 – 16:45 **ADVANCED AIR MOBILITY – INITIAL CONCEPT OF OPERATIONS**

As the development and deployment of advanced air mobility (AAM) aircraft continue to mature, it is important to clearly understand the intended CONOPS for these operations. This will assist in ensuring all the required enabling activities have been completed to support the safe implementation of these capabilities. Clearly understanding this CONOPS will assist States and industry when considering how to address the many facets of the AAM ecosystem, to include, for example: operational requirements, crew training and licensing, infrastructure needs, etc. Experts in the AAM field will provide their views on the outlook for the near- and medium-term AAM CONOPS.

Moderator:

Parimal Kopardekar, PhD, NASA Senior Technologist for Air Transportation System, NASA Ames Research Center

Presentations:

- **Mr. Rob Eagles,** System Development and Deployment Strategy Airbus UTM, Airbus-SV
- **Mr. Makoto Eguchi,** Director of AAM Planning Office, Ministry of Land, Infrastructure, Transport and Tourism, Japan

- **Mr. Antoine Martin,** Advanced ATM Officer, Civil Aviation Safety Directorate, France
- **Mr. Matthew Satterley,** Policy and Government Relations, Wing
- **Dr. Eduardo García González,** Manager European ATM Coordination and Safety, CANSO
- **Mr. Ken Goodrich,** Deputy Project Manager for Technology, Advanced Air Mobility Project, NASA
- **Mr. Steve Bradford,** Chief Scientist, Federal Aviation Administration, United States

16:45 – 17:00 **SYMPOSIUM CLOSE-OUT**

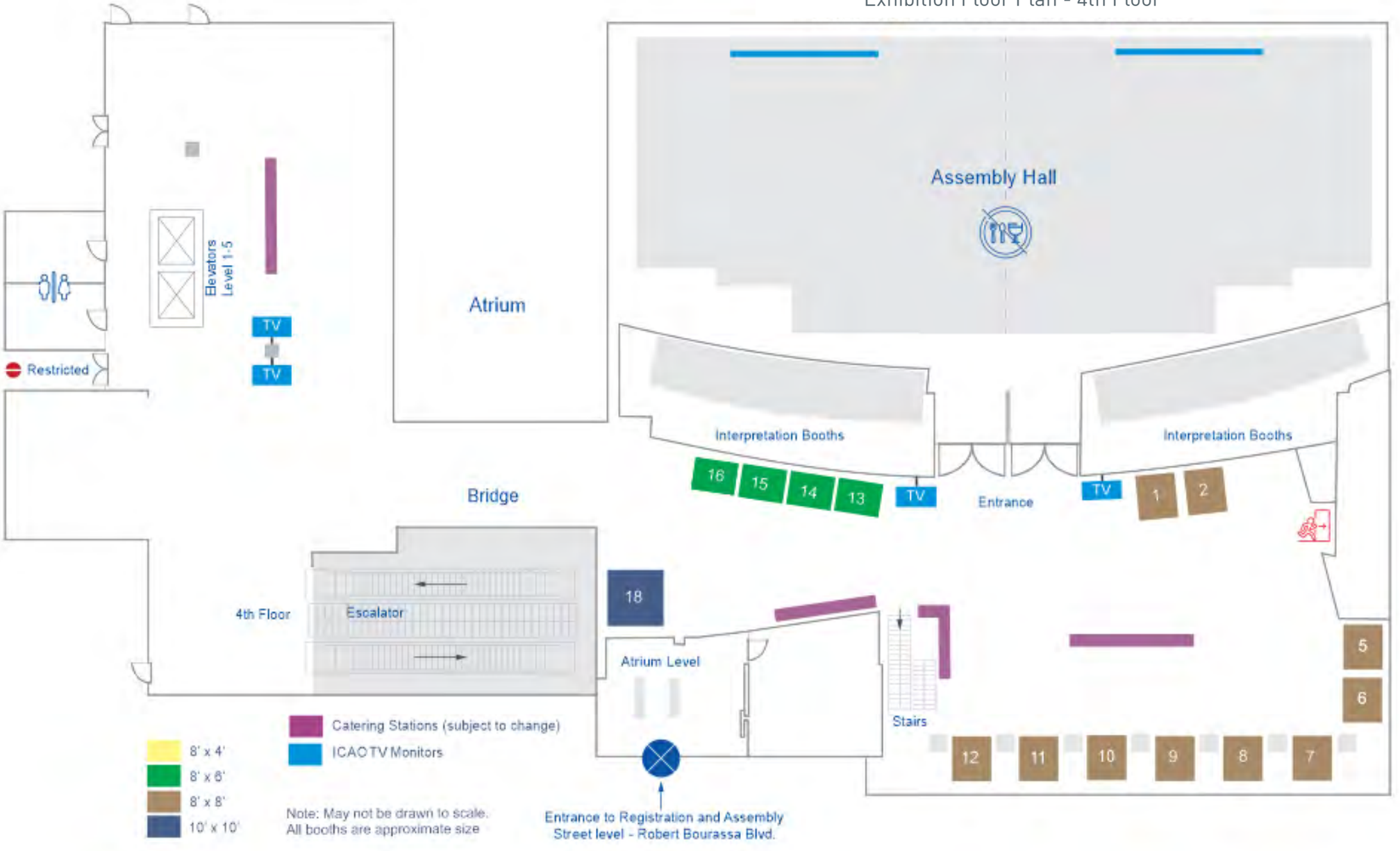
Mr. Stephen P. Creamer, Director, Air Navigation Bureau, ICAO

04

SPONSORS & EXHIBITORS

Drone 2022 Floor Plan

Exhibition Floor Plan - 4th Floor



Gold Sponsor

WING

www.wing.com

Contact: Nicole (Schiffer) Schone, Global Marketing Lead
Email: nschiffer@wing.com

Wing offers drone delivery. Our fleet of lightweight, autonomous delivery drones can transport small packages directly from businesses to homes in minutes. Currently operating on three continents, Wing delivery is safe, sustainable, and easy to integrate into existing delivery and logistics networks. Wing is part of Google's parent company, Alphabet.

Bronze Sponsor

AIRWAYZ

www.airwayz.co

Contact: Eyal Zor, Co-Founder and Chief Executive Officer
Email: eyal@airwayz.co

Airwayz is a global leader developing Unmanned Traffic Management (UTM) solutions. Our vision is to bring the future of autonomous drones operations into our urban environment. With the aim of creating a real solution for UTM, we are developing a system based on AI, advanced algorithms, integrating multiple data sources as well as full compliance to new aviation & regulations rules, all in order to enable the eco-system to perform scalable drone operations, safely & efficiently. We enable the new airspace managers, such as cities, ports, industrial sites and more, to take full control of their airspace, and to scale commercial activity of multi-drone & Urban Air Mobility operations.

Booth 11

Exhibitor

JAPAN: MLIT/METI/NEDO/JAXA

https://www.nedo.go.jp/english/index.html

Contact: Masato Mori, Project Coordinator
Email: morimst@nedo.go.jp

New Energy and Industrial Technology Development Organization (NEDO), plays an important role in Japans economic and industrial policies as one of the largest public research and development management organizations. It has the two basic missions of addressing energy and global environmental problems and enhancing industrial technology. NEDO aims to encourage the development of drones and robots that can be used in sectors and fields such as logistics, infrastructure inspection, and disaster coping, while also running test flights and establishing systems in preparation for utilization of them in the society.

Booth 12

Exhibitor

ONESKY

www.onesky.xyz

Contact: Mike Hoodspith, Vice President International Business Development
Email: contactus@oneskysystems.com

OneSky is a global UTM company developing airspace assessment, operations and traffic management solutions for the aviation industry. Our goal is to harmonize our sky - ensuring safe, efficient, and scalable access to all airspace users. We take a robust and long-term approach to UTM, envisioning the challenges ahead as traffic management is unified for all operators. By working with all stakeholders - drone operators, drone manufacturers, and airspace authorities - we understand the unique challenges of this ecosystem and serve the critical needs of the community.

UPCOMING EVENT

5 - 9 DECEMBER 2022

ICAO Air Services Negotiation Event (ICAN2022)

The fourteenth ICAO Air Services Negotiation (ICAN2022) Event will be hosted by the Nigerian Civil Aviation Authority from 5 to 9 December 2022. The event will be held in Abuja, Nigeria in a hybrid setting (in-person and virtually). ICAN2022 will provide States, either on-site or participating remotely, with a central meeting place to conduct bilateral, regional or plurilateral air services negotiations and consultations, as well as networking opportunities for policy makers, regulators, air operators, service providers and other stakeholders.

Click to connect with us on social media and find out more about ICAO events. #UnmannedAviation