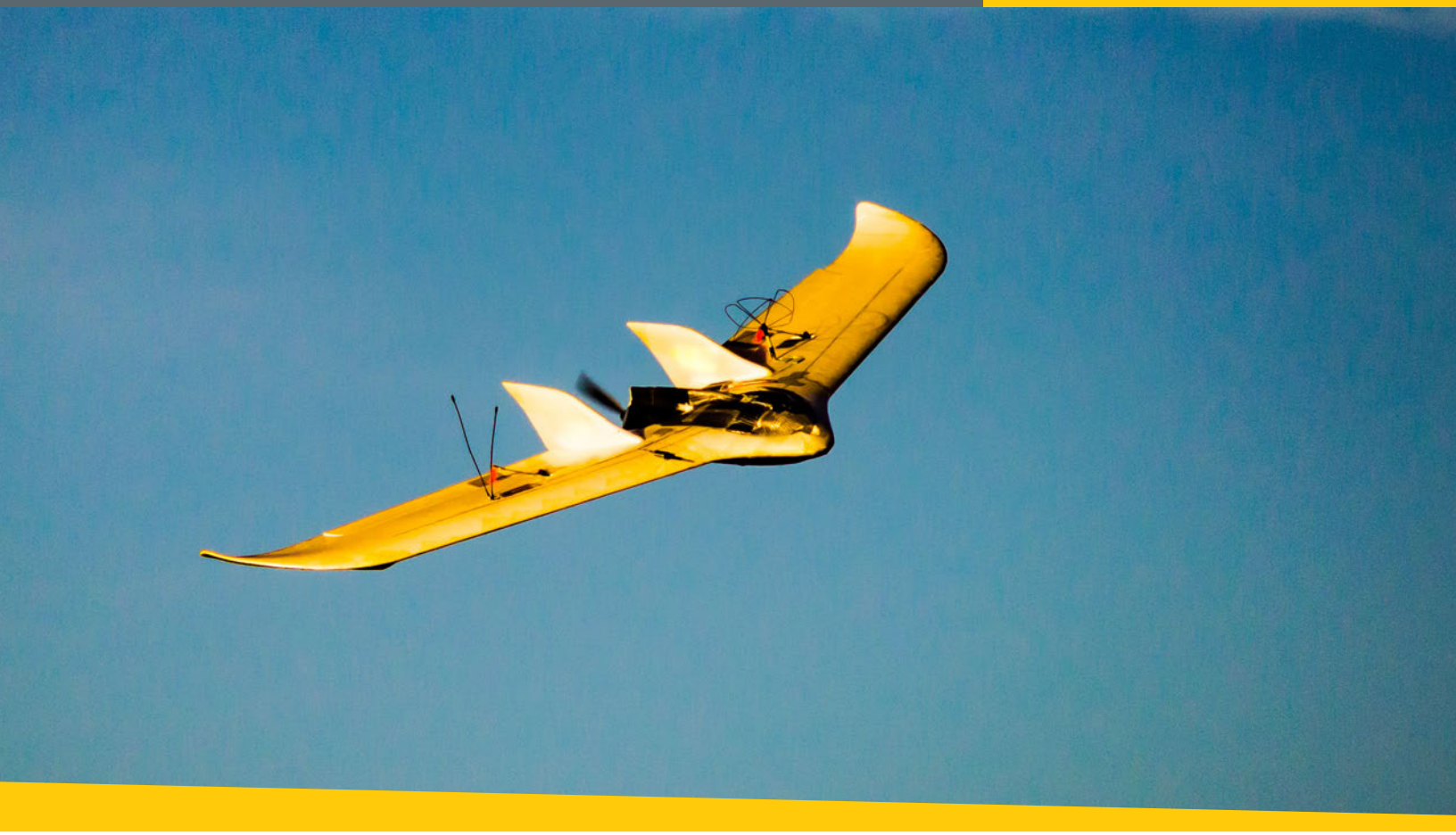


DRONE ENABLE

ICAO's Unmanned Aircraft Systems (UAS) Industry Symposium

ICAO Headquarters, Montréal, Canada, 22 - 23 September 2017

ICAO SAFETY

Event Guide & Directory

Table of contents

DAY 1 – Friday, 22 September 2017

Plenary Session – Assembly Hall

9:00 – 9:10 — **Welcome Remarks**

Dr. Fang Liu, *Secretary General, ICAO*

9:10 – 10:10 — **Keynote Speeches**

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

Mr. Gilberto Lopez Meyer, *Senior Vice President, Safety & Flight Operations, IATA*

Mr. Brian Wynne, *President and CEO, AUVSI*

Mr. Timothy Reuter, *Head of Civil Drones Project, World Economic Forum*

Discussion

10:10 – 10:30 — **ICAO's strategy for addressing unmanned aviation – RPAS and UAS Two approaches / two streams of work**

This session will provide an overview of the work underway at ICAO on a full regulatory framework for RPAS and the new approach to support global harmonization of UAS provisions in a domestic environment.

Ms. Leslie Cary, *RPAS Programme Manager, ICAO Air Navigation Bureau*

10:30 – 11:00 — Coffee Break

11:00 – 12:45 — **UTM – A common framework with core boundaries for global harmonization**

This session will provide an opportunity to showcase several submissions from experts that describe a common framework for UTM that could be implemented by all States. The objective is to create a structure that will focus research and development activities going forward.

Moderators:

Mr. Aaron McCrorie, *Director General, Aviation Safety Regulatory Framework, Transport Canada*

Mr. Parimal Kopardekar, *NASA Senior Technologist for Air Transportation, Autonomy Expert, NASA Ames Research Center*

Presentations:

Mr. Ben Tally, *Co-founder and CIO, GeoNetwork*

Dr. Kin Huat Low, *Principal Investigator of TM-UAS Programme, Air Traffic Management Research Institute (ATMRI); Professor, Nanyang Technological University, Singapore*

Mr. Alessandro Cardi, *Deputy Director, Ente Nazionale per l'Aviazione Civile (ENAC)* and **Mr. Cristiano Baldoni,** *Head of the CNS section, Italian Air Navigation Service Provider (ENAV)*

Mr. Gur Kimchi, *Vice President, Amazon Prime Air*

Discussion

DAY 1 – Friday, 22 September 2017

12:45 - 14:30 Presentation and Lunch
Sponsored by Thales

THALES

Plenary Session – Assembly Hall

14:30 – 16:30 **UTM – A common framework with core boundaries for global harmonization – Continued**

This session will provide an opportunity to showcase several submissions from experts that describe a common framework for UTM that could be implemented by all States. The objective is to create a structure that will focus research and development activities going forward.

Moderators:

Mr. Aaron McCrorie, *Director General, Aviation Safety Regulatory Framework, Transport Canada*

Mr. Parimal Kopardekar, *NASA Senior Technologist for Air Transportation, Autonomy Expert, NASA Ames Research Center*

Presentations:

Mr. Lawrence Ley, *Portfolio Manager, The Boeing Company*

Mr. Christian Ramsey, *Vice President of Business Development , uAvionix*

Mr. Marcello Davide Mannino, *Corporate Sales and Marketing Deputy Director, Ingegneria Dei Sistemi (IDS)* and **Mr. Valerio Paciucci,** *ATM & Airport team leader, Ingegneria Dei Sistemi (IDS)*

Discussion

16:30 – 17:00 Coffee Break

17:00 – 17:45 **Background**

Presentations:

Mr. Parimal Kopardekar, *NASA Senior Technologist for Air Transportation, Autonomy Expert, NASA Ames Research Center*

Mr. Nikolai Vassiliev, *Chief, Terrestrial Services Department, International Telecommunication Union (ITU)*

End of Day 1

DAY 2 – Saturday, 23 September 2017

	Stream A (Assembly Hall, 1)	Stream B (Assembly Hall, 2)	Stream C (Conference room 3, 1st floor)
09:00 – 10:30	**UTM – Registration, identification and tracking** UTM relies on data about the aircraft operating within its system. The data is obtained through a registration system and permits real-time identification and tracking of aircraft. **Moderator:** **Dr. Hiroko Nakamura,** *Deputy Director General at JAPAN Unmanned System Traffic & Radio Management Consortium (JUTM)* **Presentations:** **Mr. Walter Stockwell,** *Director of Technical Standards, DJI* **Mr. Jared Ablon,** *Chief Information Security Officer, AirMap* **Mr. Ken Stewart,** *Principal Product Manager, AIROS* **Mr. George Elmasry,** *Principal Engineer, Rockwell Collins* Discussion	**UTM – Communications systems** UTM requires communications systems for the exchange of data, including for control purposes and broadcasting of position. This session will showcase potential solutions for communications system(s) that may have global applicability. **Moderator:** **Captain Denis Guindon,** *Director General, Aviation Oversight and Transformation, Transport Canada* **Presentations:** **Ms. Laura Ponto,** *Head of Public Policy and Regulatory Affairs, Project Wing, Google X* **Mr. David Benavente,** *Founder/CEO, Embention* **Mr. Craig Marcinkowski,** *Director, Strategy & Business Development , Gryphon Sensors* **Mr. Terrence Martin,** *Associate Professor, Queensland University of Technology* Discussion	**UTM – Geofencing-like systems** Geofencing is one potential solution for keeping UA from entering danger, restricted or sensitive airspace. This session will showcase potential geofencing-like systems that may have global applicability. **Moderator:** **Ms. Tracy Lamb,** *Vice President Regulatory and Safety Affairs – Chief Pilot, AUVSI* **Presentations:** **Mr. Aaron Pierce,** *CEO, Pierce Aerospace* **Mr. Jean-Guy Blete,** *Products Policy and Technical Strategy Director, Thales Avionics* **Ms. Kelly Hayhurst,** *Senior Research Scientist, NASA Langley Research Center* **Mr. Olivier Rea,** *Head of UTM Solutions (Thales) representing French Civil Drones Council* Discussion
10:30 – 11:00	Coffee Break Sponsored by Skyward		

DAY 2 – Saturday, 23 September 2017

	Stream A (Assembly Hall, 1)	Stream B (Assembly Hall, 2)	Stream C (Conference room 3, 1st floor)
11:00 – 12:30	**UTM – Registration, identification and tracking** UTM relies on data about the aircraft operating within its system. The data is obtained through a registration system and permits real-time identification and tracking of aircraft. **Moderator:** **Dr. Hiroko Nakamura,** *Deputy Director General at JAPAN Unmanned System Traffic & Radio Management Consortium (JUTM)* **Presentations:** **Mr. Amit Ganjoo,** *CEO, ANRA Technologies* **Mr. Jonathon Evans,** *President Global UTM Association (GUTMA)* **Mr. Christopher T. Kucera,** *Director, Air Operations, Analytical Graphics, Inc. (AGI)* **Mr. Olivier Rea,** *Head of UTM Solutions (Thales) representing French Civil Drones Council* Discussion	**UTM – Communications systems** UTM requires communications systems for the exchange of data, including for control purposes and broadcasting of position. This session will showcase potential solutions for communications system(s) that may have global applicability. **Moderator:** **Captain Denis Guindon,** *Director General, Aviation Oversight and Transformation, Transport Canada* **Presentations:** **Mr. Walter Stockwell,** *Director of Technical Standards, DJI* **Mr. Evan Dill,** *NASA Langley Research Center* **Ms. Allison Ferguson,** *Director, Airspace Research, Precision Hawk* **Mr. Markus Klopf,** *Strategic Marketing Manager, FREQUENTIS AG* Discussion	**UTM – Geofencing-like systems** Geofencing is one potential solution for keeping UA from entering danger, restricted or sensitive airspace. This session will showcase potential geofencing-like systems that may have global applicability. **Moderator:** **Ms. Tracy Lamb,** *Vice President Regulatory and Safety Affairs – Chief Pilot, AUVSI* **Presentations:** **Mr. Sebastian Babiarz,** *Head of Strategic Business Development, AirMap* **Dr. Aaron McFadyen,** *Accelerate Research Fellow, Queensland University of Technology* **Mr. David Benavente,** *Founder/CEO, Embention* **Mr. George Elmasry,** *Principal Engineer, Rockwell Collins* Discussion
12:30 – 14:00	Lunch		

DAY 2 – Saturday, 23 September 2017

Plenary Session – Assembly Hall

14:00 – 14:30 **ICAO Registration System**

The ICAO registration system which is under development will be explained including its purpose, intended functionality and interaction with national registration systems.

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

14:30 – 15:30 **Wrap up and Next steps**

Looking back at the many presentations and related discussions, what are the key points that garnered support? Can we begin to define the general framework for UTM? How do we take the information we have received and translate it into the first steps of a global implementation plan?

Moderator:

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

Panel discussion:

Dr. Hiroko Nakamura, *Deputy Director General at JAPAN Unmanned System Traffic & Radio Management Consortium (JUTM)*

Captain Denis Guindon, *Director General, Aviation Oversight and Transformation, Transport Canada*

Ms. Tracy Lamb, *Vice President Regulatory and Safety Affairs – Chief Pilot, AUVSI*

Mr. Yves Morier, *Chairman, Joint Authorities on Rule-making for Unmanned Systems (JARUS)*

Mr. Doug Davis, *Chairman of Unmanned Aircraft Systems Advisory Group (UAS-AG)*

End of Symposium

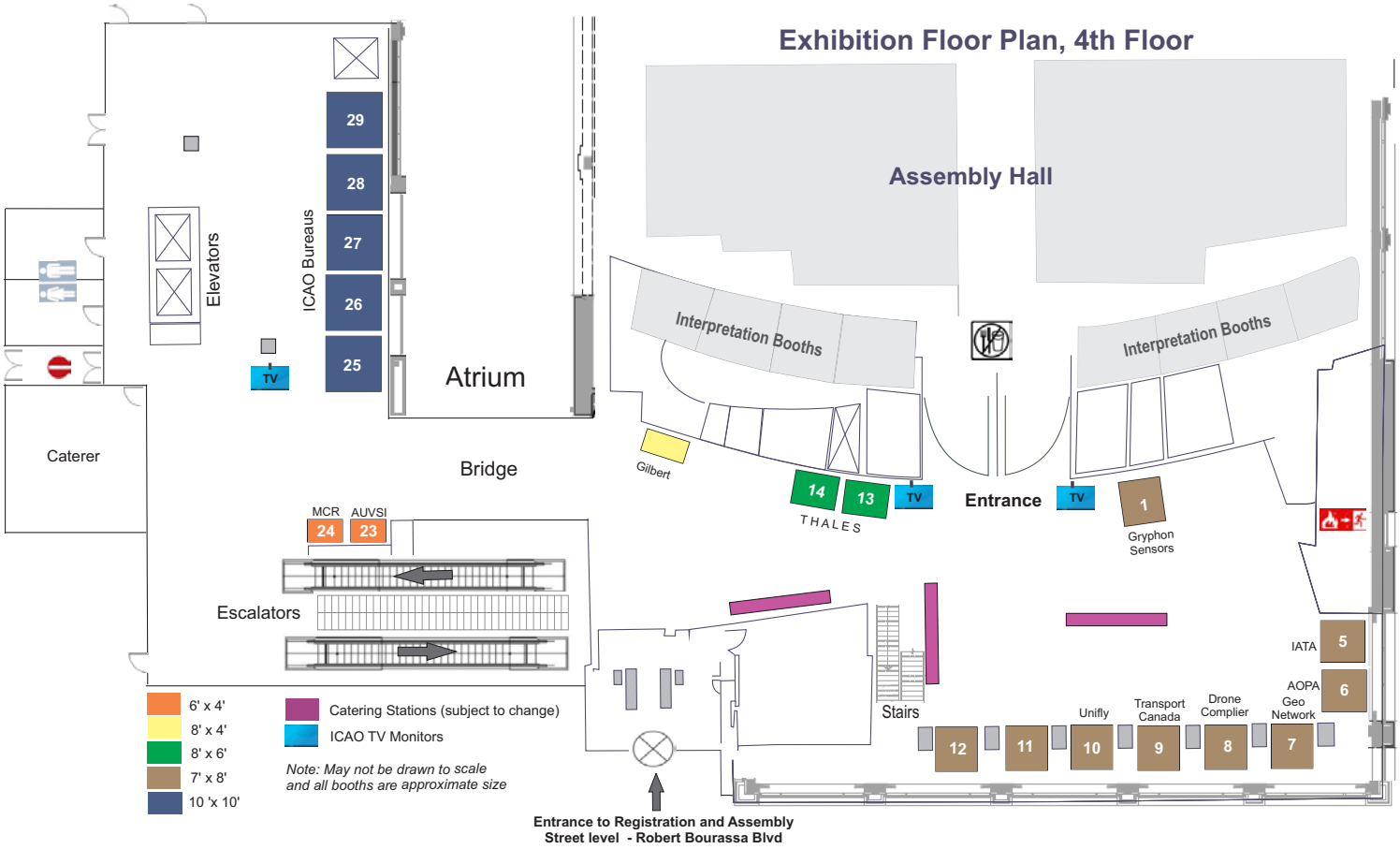
UAS2017

Exhibitor Index

Exhibitor	Booth
Aircraft Owners and Pilots Association of China (AOPA)	6
Drone Complier	8
GeoNetwork	7
Gryphon Sensors	1
International Air Transport Association - IATA	5
Thales	13 & 14
Transport Canada Civil Aviation	9
Unifly NV	10
ICAO Global Aviation Training	
ICAO Technical Cooperation Bureau	
ICAO Drone Registry	

Exhibitor Floor Plans

4th Floor



THALES

Lunch Friday

GOLD SPONSOR

Thales combines 80+ years in development and deployment, an unrivalled worldwide installed base, advanced technology and ground-breaking innovations to deliver solutions that are continually adapted to the ever-changing aviation system's needs. Thales is trusted by key ATM decision makers across more than 170 nations, and helps key decision makers master complexity and make timely decisions for better outcomes. With engagement in all major ATM modernisation initiatives, ICAO ASBUs, SESAR and NextGen, Thales focuses on international harmonisation. Our strong involvement in these initiatives, and the alignment of our product roadmaps, ensures that our solutions have been extensively tested, certified and validated.

www.thalesgroup.com

Mr. Frank Matus
Thales
Frank.matus@us.thalesgroup.com

GENERAL ATOMICS AERONAUTICAL

LANYARD SPONSOR

General Atomics Aeronautical Systems, Inc. (GA-ASI), an affiliate of General Atomics, is a leading designer and manufacturer of proven, reliable Remotely Piloted Aircraft (RPA) systems, radars, and electro-optic and related mission systems, including the Predator® RPA series and the Lynx® Multi-mode Radar. Celebrating over 25 years of aviation innovation, GA-ASI provides long-endurance, mission-capable aircraft with integrated sensor and data link systems required to deliver persistent flight that enables situational awareness and rapid strike. The company also produces a variety of ground control stations and sensor control/image analysis software, offers pilot training and support services, and develops meta-material antennas. For more information, visit www.ga-asi.com.

www.ga-asi.com

Ms. Kimberly Kasitz
General Atomics Aeronautical Systems, Inc.
Kimberly.kastiz@ga-asi.com

Skyward

A Verizon company

Coffee Break
Saturday AM

BRONZE
SPONSOR

Skyward - The One Management Solution Drone Operators Need

Easily manage drone flights, equipment, and flight teams with Skyward's UAS operations management platform. Skyward, a Verizon company, helps companies of all sizes simplify every aspect of managing commercial drone fleets. With collaborative flight planning, global airspace information, maintenance tracking, and a single digital system of record, Skyward connects all your people, projects, and equipment into one efficient workflow.

Ms. Erin Olsen
Skyward
contact@skyward.io

www.skyward.io

Thank you to our supporting organizations and event media partners

AIRPORT SUPPLIERS

ATAC
Air Transport Association of Canada
Association du transport aérien du Canada

ATN
AIR TRANSPORT NEWS

MOMBERGER
AIRPORT INFORMATION

Aircraft Owners and Pilots Association of China (AOPA-China) is approved by the State Council of China and registered by the Ministry of Civil Affairs in 2004, under the supervision of Civil Aviation Administration of China (CAAC). AOPA-China is a not-for-profit national general aviation organization, and is a member country of International Council of Aircraft Owner and Pilot Associations (IAOPA). AOPA-China represents the interests and rights of the aircraft owners and pilots in China, and accepts the guidance from IAOPA. AOPA-China has been a management body of UAS pilot certification since 2014.

www.aopa.org.cn

Booth #6

Ms. Qilin Shangguan
Aircraft Owners and Pilots Association of China (AOPA)
shangguanqilin@aopa.org.cn

Founded in 2013 and headquartered in Oregon, Drone Complier is a leader in drone operations, consulting, and operations management software for commercial and government users. Its software solutions help operators plan their missions, manage their platforms, comply with government regulations, and extract meaningful insights from their operations. Built from the ground up by professional pilots, Drone Complier enables customers to easily scale operations without scaling support or administrative infrastructure.

www.dronecomplier.com

Booth #8

Mr. Andrew Saxton
Drone Complier
asaxton@dronecomplier.com

GeoNetwork

EXHIBITOR

Booth #7

GeoNetwork provides vital solutions to a world where drones, robots and autonomous devices are increasingly immersed in the fabric of everyday life. We enable all society (governments, businesses, individuals) to express rules of behavior expected from these smart devices as they transit our spaces—and a means for these devices to comply.

Using GeoNetwork's unique SmartFence™ solution, geofences are created for any 3D geometry—air, sea, and land—along with associated rules, and published to edge caches around the world ready for smart device consumption. Our ID & Monitoring solution is suitable for even small autonomous air and ground vehicles.

Mr. Mike Bridge
GeoNetwork
Mike.bridge@geo.network

www.geo.network

GRYPHON SENSORS™

an SRC company

EXHIBITOR

Booth #1

Gryphon Sensors is a world-leading provider of commercial sensors and systems that detect, track and identify small unmanned aircraft systems (UAS). Leveraging six decades of proven expertise in radar and electronic surveillance sensor research and development from our parent company, SRC, Inc., Gryphon Sensors provides innovative multi-spectrum solutions in the drone security and UAS integration markets. Gryphon Sensors provides affordable, best-in-class products and services to the drone security and UAS integration markets.

The company is involved in the Federal Aviation Administration's (FAA) BSNF Pathfinder, FAA Drone Detection Pathfinder, and Project UAS Secure Autonomous Flight Environment (U-SAFE) and NASA's UAS Traffic Management (UTM) program. For more information, visit www.gryphonsensors.com.

Mr. Craig Marcinkowski
Gryphon Sensors
cmarcinkowski@gryphonsensors.com

www.gryphonsensors.com

Transport Canada | Transports Canada

Transport Canada Civil Aviation has established the Unmanned Aircraft Systems (UAS) Task Force to create a safe regulatory environment for innovation that fosters economic success for Canada's UAS industry. The Task Force will deliver regulations, certifications, and standards to lay the foundation for the future of UAS in Canada, proactively address UAS as a transformative and disruptive technology, strengthen engagement with various levels of government and international partners, support innovative pilot projects and test sites, and work with industry to integrate UAS into Canada's transportation system of tomorrow.

www.tc.gc.ca

EXHIBITOR

Booth #9

Mr. Jared Hunt
Transport Canada Civil Aviation – UAS Task Force
jared.hunt@tc.gc.ca

UNIFLY®

Unifly's Unmanned Traffic Management (UTM) platform connects official entities with operators to integrate drones into the air space safely and securely.

Authorities can visualize and manage drone flights and declare no-fly zones. Drone operators can plan, track and validate their drones and their flights in line with international and local regulation.

Unifly supports SWIM standards, the standard protocol that all stakeholders in aviation use, to communicate with operators and drones through real-time messaging, using reliable data from worldwide sources for global data coverage including meteo, NOTAM, obstacles and no-fly zones. Hyper local accurate aeronautical navigation data provides reliable and trustworthy data for your location.

www.unifly.aero

EXHIBITOR

Booth #10

Mr. JP De Muyt
Unifly NV
jp.demuyt@unifly.aero

thalesgroup.com

TopSky – ATM solutions

Wherever safety and security matter, we deliver

Millions of critical decisions are made every day in aerospace. Thales is at the heart of this. Our TopSky-ATM solutions are trusted by key ATM professionals across 180 nations and our components, systems and services are integral to the SESAR and NextGen programmes. With an impressive two out of every three planes around the world landing and taking off with the help of Thales, we give decision-makers the information and control they need to make more effective responses in critical environments. Every moment of every day, wherever safety and security are critical, Thales delivers.

THALES

Together • Safer • Everywhere

ICAO