

ANNUAL REPORT

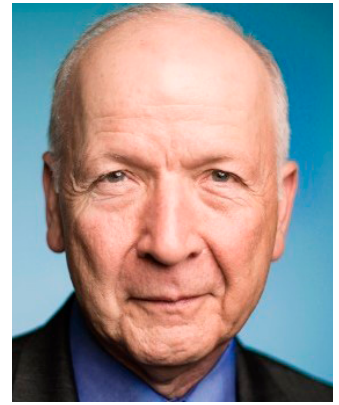
2022



RTCA

CHAIRMAN'S MESSAGE

Lorne Cass
Chairman



Dear Members and Stakeholders,

I am pleased to present the annual review and outlook for RTCA. As the Board Chair, I am honored to support this well-respected, globally recognized aviation-related Standards Development Organization. Under the leadership of Terry McVenes, RTCA has continued to prioritize the needs of its members within the evolving aviation ecosystem, always promoting *"Safer Skies Through Collaboration."*

Much has been accomplished over the past year:

- collaborated with industry experts and global regulatory bodies to develop requirements needed for the future 'surface-to-space' operating environment.
- began integration of our members onto our new document access platform designed to improve the member experience. The platform includes a company library, web viewing and annotation capability, and frictionless document access.
- expanded training and education opportunities to equip aviation professionals with the knowledge and skills required for a rapidly changing industry.
- engaged with aviation organizations and regulatory bodies across the globe to promote the harmonization of standards.
- expanded our Board to be more diverse in composition and thought.

RTCA is recognized as a trusted authority in the development of aviation standards. As we reflect on our achievements and look to the future, our intention is to continue to learn and facilitate the safe integration of traditional and emerging airspace users. I would like to express my gratitude to our dedicated board members and the RTCA organization for their unwavering commitment to our members. Together, we will continue to make a positive impact on the aviation industry and ensure the highest standards of safety and excellence.

Thank you for your continued support.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Cass', with a long horizontal flourish extending to the right.

Lorne

PRESIDENT'S MESSAGE

Terry McVenes
President and CEO



Through another year of extraordinary circumstances, RTCA entered 2022 well poised to continue to build on our strong reputation of serving aviation stakeholders through the development of integrated performance standards that enhance the safety of our national airspace system and serve the traveling public. While the pandemic impacted much of our activities in 2020-2021, it did not redefine RTCA's historic role in our industry nor did it change our focus on stakeholder success, enduring financial strength, and providing safety leadership. With a relentless focus on our vision, mission, and corporate values, we successfully positioned ourselves through those uncertain conditions which enabled us to thrive throughout 2022.

Our membership numbers continued to grow in 2022. With now over 500 members across 34 countries, we saw increases in each segment of our membership categories including industry, government, academia, and associations. We closed out 2022 with 24 active committees representing over 1,700 member participants. We published 22 new documents which was the result of 95 plenary meetings and an average of 175 virtual meetings each month. Our training center conducted 17 classes with over 300 participants receiving RTCA training. Document sales revenues were up significantly over 2021 numbers, again reflecting the value of our documents to the international aviation industry.

In 2022, the content of our on-line webinars continued to serve as a catalyst to bring timely visibility to significant issues impacting our aviation stakeholders. Those webinars attracted industry leaders as panel participants including the FAA Administrator and other leaders from FAA, EASA, ICAO, Honeywell, ALPA, NBAA, AAIA, American Airlines, Airbus, Boeing, Reliable Robotics, Garmin, and The MITRE Corporation. We also co-hosted an event on spectrum compatibility with EUROCAE. In all more than 4,000 people across the world viewed our webinars in 2022.

When I joined RTCA in late 2018, RTCA was at a crossroads that would determine its future. Since then, we successfully transitioned the organization from an FAA Federal Advisory Committee to the independent standards development organization we are today. That success was the result of hard work by our dedicated staff, strong engagement from our Board of Directors and Advisory Board, and the continued focus from our special committees.

As we continue to carry out the RTCA mission, we also need to recognize and adapt to an ever-changing global aviation environment. Early and purposeful engagement with our members and the regulator will be imperative as we serve to be an enabler for bringing new technologies to the marketplace. As in the past, we must expand our thinking beyond what defines aviation, as the landscape for our industry is constantly evolving.

RTCA is in a unique position to provide industry leadership and value to our members, stakeholders, and the global aviation environment through early and purposeful engagement that prepares government and industry for future technology development and enables its seamless integration and implementation. Our role in ensuring the safety of the national airspace system cannot be over-stated. We must lead by example to inspire confidence, empower change, and uphold RTCA's identity as a trusted partner in the aviation ecosystem, particularly as technologies continue to advance at an unprecedented pace and the business models of new airspace users emerge.

On behalf of the entire staff of RTCA, I extend our sincere thank you to the many organizations and those volunteers who continue to commit their time to develop the RTCA standards that are so vital to the aviation industry throughout the world. You are truly making a difference in protecting and enhancing aviation's reputation as the safest mode of transportation that the world has ever known.

COMMITTEES

COMMITTEES

As a Standards Development Organization (SDO), RTCA brings together the Federal Aviation Administration (FAA), the European Air Safety Agency (EASA), other international regulators and industry members to develop comprehensive, industry-vetted and endorsed standards that can be used as means of compliance with FAA regulations. RTCA is fortunate that our committee meetings have always had a virtual component, but in 2022, our committees started to meet in person again. Our committees drive enhancements to the safety and sustainability of the entire aviation system. All RTCA plenary committee meetings allow members of the public to observe the development of our standards to provide transparency to all stakeholders.

49

COMMITTEE
AWARDS

22

DOCUMENTS
PUBLISHED

49

PLENARY
MEETINGS

175

AVERAGE
TELECON PER
MONTH

24

ACTIVE
COMMITTEES

1,700

COMMITTEE MEMBER
PARTICIPANTS

3,500+

AVERAGE MEETING
PARTICIPANTS PER
MONTH

27,000+

AVERAGE
MEETING MINUTES
PER MONTH





SC-216 December 2022

HIGHLIGHTS OF A FEW RTCA COMMITTEES:

SC-147

SC-147, Traffic Alert & Collision Avoidance System (TCAS), published Minimum Operational Performance Standards (MOPS) for the Airborne Collision Avoidance System sXu (ACAS sXu) equipment, designed for platforms with a wide range of surveillance technologies and performance characteristics typical of smaller Unmanned Aircraft Systems (sUAS) in December 2022. This publication is important because it goes beyond the scope of DO-365B and provides a DAA capability for smaller UAS (sUAS) operating beyond visual line of sight (BVLOS) by accepting surveillance sources available to sUAS and adapting to performance requirements unique to their operations.



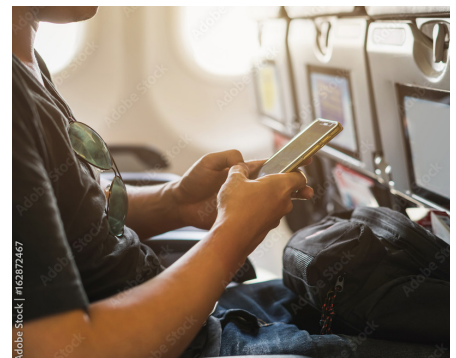
SC-216

SC-216 Aeronautical Information Systems Security has worked jointly with EUROCAE WG-72 since its formation in 2007 to address security related matters with respect to airworthiness. In 2022 they added two new documents to the library covering security event management and releasing their first ground system document on process standard for security certification and declaration of ATM ANS systems. Both documents (DO-392/ED-206) and DO-393/ED-205A) were published in June.



SC-234

SC-234 Portable Electronic Devices (PEDs) jointly published two documents in 2016 with EUROCAE WG-99 to address PEDs on board civil aircraft with emphasis on intentional transmitters. The groups were subsequently sunset. With the spectrum expansion of the 5G technology and introduction of PED transmitting above 5.9 GHz, the groups were reactivated and completed updates to address these concerns. Both documents (DO-307B/ED-329A and DO-363A/ED-130B) were published in June 2022.



MEMBERSHIP

MEMBERS:

500+

COUNTRIES:

34

INDUSTRY:

400+

GOVERNMENT:

45

ACADEMIC:

27

ASSOCIATIONS:

12



RTCA creates the venue for collaboration, consensus, and government/industry partnerships on the performance standards development process. The members of RTCA are from organizations, entities, and governments from across the globe including aircraft manufacturing, service providers, R&D, academia, UAS and more. As a member organization of RTCA, not only do you have access to RTCA's library of standards, but you have the ability to join committees comprised of industry and government professionals who are building consensus today on the electronic and telecommunication issues of tomorrow's aviation. That consensus forms the recommendations for procedural and equipment standards.

In 2022, we welcomed 60 new members including key organizations from the new entrant community. This is an exciting time in the industry, and we encourage your organization to join RTCA to have access to the valuable library of standards our committees have developed and help shape the future of standards development.

In 2022, RTCA hosted webinars on the following topics:





- FAA Administrator's Priorities for 2022
- From GPS to GNSS
- ATC Innovation
- Commercial Space
- Spectrum
- Human Factors
- AAM Integration


RTCA co-hosted an event on Spectrum Compatibility with EUROCAE.

RTCA's events attract industry leaders as panel participants. RTCA was fortunate to welcome Steve Dickson, FAA Administrator as well as other leaders from FAA, EASA, ICAO, ITU, Honeywell, ALPA, NBAA, ASRI, MITRE, AIA, American Airlines, Airbus, Boeing, Reliable Robotics, Garmin, The MITRE Corporation, AIA and others to provide insights and perspectives on critical aviation issues.

More than 4,000 people viewed the 2022 sessions. All events are available for on demand viewing on RTCA's YouTube channel and on www.rtca.org.

SAFER SKIES THROUGH COLLABORATION



RTCA
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COMMUNITY
CHANNELS
ABOUT
🔍

Latest

Popular

From ConOps to Operational Deployment
 RTCA Webinar
1:01:34

From ConOps to Operational Deployment

Safety and Security in AAM
 RTCA Webinar
58:49

Safety and Security in AAM

The Evolution of AAM
 RTCA Webinar
59:01

The Evolution of AAM

A Conversation with Acting FAA Administrator Billy Nolen
 RTCA Webinar
1:01:34

FAA Acting Administrator Billy Nolen Shares 2023 Priorities

Global Aviation Spectrum Summit: The European Commission
 RTCA Webinar
11:37

Global Aviation Spectrum Summit: The European Commission

Working Together on Spectrum / What's Next?
 RTCA Webinar
47:31

Global Aviation Spectrum Summit Panel: Working Together on...

How Standards Can Evolve to Meet Future Needs
 RTCA Webinar
43:14

Global Aviation Spectrum Summit Panel: How Standards Can Evolve ...

Future Spectrum Needs and Applications
 RTCA Webinar
44:33

Global Aviation Spectrum Summit Panel: Future Spectrum Needs and...

STANDARDS TRAINING

RTCA offers training courses on our standards to facilitate the use of key documents by our stakeholders, and to enhance the understanding of developing and using global standards and guidance. In 2022, we continued delivering critical training to the aviation community in a vibrant and interactive hybrid environment while also developing new course offerings for 2023.

TRAINING DATA

300+

TRAINING
PARTICIPANTS

17

TRAINING
EVENTS

7

PARTICIPATING
COUNTRIES

73

TOTAL TRAINING
DAYS
COMPLETED

SOME OF OUR COURSES INCLUDE:

➤ HUMAN FACTORS

This course provides a practical application of human factors engineering for a broad scope of personnel involved in the management, engineering design, maintenance, and operations of aircraft.

The course, developed in conjunction with Georgia Tech Research Institute, examines the foundational elements of human factors, through an integrated approach in learning. The course demonstrates proactive human factors considerations and planning necessary to address the certification process throughout design and testing.

Based on the RTCA developed standard DO-372, "Addressing Human Factors/Pilot Interface Issues for Avionics," the course utilizes real world examples of good practices and lessons learned that inform the development and certification process. Through this practical look at human factors applications, participants will learn how to avoid common pitfalls that have been observed in past certification efforts.

THIS COURSE IS VALUABLE FOR:

- Managers
- Project/Program Managers
- Technical Project Managers
- Flight test engineers
- Engineers involved in flight deck design
- Newly hired human factors specialists
- Flight operations test pilots
- Flight crew, dispatchers, cabin crew, air traffic controllers

➤ SAFETY MANAGEMENT SYSTEMS

Instructed by The MITRE Corporation, this is an abbreviated version of their 5-day SMS Principles course. It is ideal for line management and other individuals who will play key roles in safety management systems but do not need the level of detailed knowledge required by safety professionals. This is also valuable for personnel from new entrants to the aviation system that may be unfamiliar with its concepts, components, and the importance of creating a positive safety culture.

➤ AIRWORTHINESS SECURITY CERTIFICATION

This course describes what Airworthiness Security is and why it is important. It also explains which FAA Regulations, standards, etc. will require these documents and procedures as well as how to use these standards. The course covers what the standards are meant to prevent and how these standards and processes fit into the aviation system. The students will perform real-world exercises to apply the knowledge from the class.

NEW CYBER SECURITY TRAINING

NEW CYBER SECURITY TRAINING SERIES—2023

In 2023, we are building upon our airworthiness security courses by designing a full series tailored toward each audience that interacts with these challenges. Our new series also includes new modules that provide critical training on recently developed security documents.



DO-391 **Overall framework**

The cyber approach for the entire frame system: To be the most effective in protecting the airspace systems, and not place undue burden on any particular area, the efforts and responsibilities need to be distributed across the airspace stakeholders. This document/class discusses shared risks, shared responsibilities, and external agreements involved.



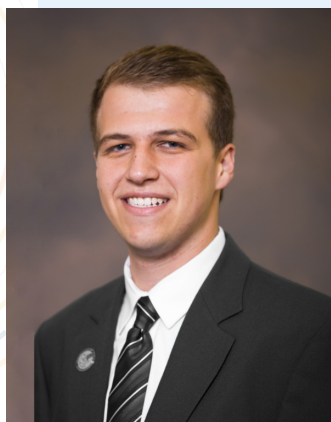
DO-392 **Security Event Management**

A malicious security breach/attack can occur anywhere in the lifecycle of an aircraft. Such an attack/event must be properly responded to in both immediate tactical terms, as well as communicated to the airspace stakeholders so that a system-wide response can be implemented. This document/course provides a standard/organized guide for responding to such events.



DO-393 **ATM/ANS Service Providers**

Aircraft and the airspace as a whole are becoming more and more dependent on digital tools and data. These digital items must be properly protected from malicious attempts to interfere with the safety of the aircraft. This document/class describes the objects and requirements for establishing the proper controls/mitigations for a digital service provider.



Andrew Videmsek

WILLIAM E. JACKSON AWARD

The William E. Jackson Award is presented to an outstanding graduate student in the field of aviation electronics and telecommunications. This award is a memorial to William E. Jackson, a pioneer in the development and implementation of the nation's air traffic control system and an enthusiastic supporter of student engineers. This year's William E. Jackson Award was presented to Andrew Videmsek, from Russ College of Engineering and Technology of Ohio University, for his thesis entitled "Aircraft Based GPS Augmentation Using an On-Board RADAR Altimeter for Precision Approach and Landing of Unmanned Aircraft Systems."

OUTSTANDING LEADER AWARD

The Outstanding Leader Award recognizes the added demands placed on the RTCA Special Committee Chairs and/or other Committee participants who serve in leadership roles.

Hal Adams

AviaGlobal Group

Michael Deer

Bell Helicopter Textron, Inc.

Nancy Ford

Security101

Julien Farjon

Sagem Avionics, Inc.

John Ferrara

John Ferrara Consulting

Clive Goodchild

BAE

Marvin Hammond

Technology Providers, Inc.

Michael Hopper

Iridium

Yasuo Ishihara

Honeywell International, Inc.

Varun Khanna

Federal Aviation Administration

Charles Leeper

The John Hopkins University

Trent Prange

Federal Aviation Administration

Luke Sienkiewicz

Iridium

Don Walker

Airbus

Dr. Ryan Wallace

Embry-Riddle Aeronautical University

Dr. Christer Wilkinson

AECOM System Solutions

Jorge Munir El Malek

Vazquez

Indra

SIGNIFICANT CONTRIBUTOR AWARD

The Significant Contributor Award recognizes individuals for very important and noteworthy contributions to Special Committees and their products.

Darrell Andregg

Collins Aerospace

Rose Merchant Bennett

M-B Consulting

Dr. Jonathan Branker

Federal Aviation Administration

Bill Carson

The MITRE Corporation

Kristina Does

TranSecure International, Inc.

Michael Dubois

Raytheon

Robert Endrizzi

Sikorsky Aircraft Corporation (Lockheed Martin)

Tim Grebe

General Atomics Aeronautical Systems, Inc.

Jeremy Holman

Garmin

Amanda Hoprich

AvMet

Dr. Sai Kalyanaraman

Collins Aerospace

Mark Kelley

Avista

Carsten Kohlmeier-Beckmann

Airbus

Candace Kolander

Air Line Pilots Association

Christopher Misiak

EASA

Bryan Moran

The Boeing Company

Michael Neale

ACES INC

Mark Prior

M Prior Consulting

Sam Smearcheck

The John Hopkins University

Mitch Trope

Garmin

Andrew Videmsek

General Atomics Aeronautical Systems, Inc.

Stephen Yates

Honeywell International, Inc.

STATEMENT OF ACTIVITIES

For the year ended December 31, 2022

Assets

Current assets

Cash and cash equivalents	\$ 896,143
Accounts receivable	150,403
Prepaid expenses	143,678
Total current assets	1,190,224

Investments	4,998,247
Property & equipment, net	828,352
Right of use assets – Operating, net	8,489,072
Security deposits	80,612
Total assets	\$ 15,586,507

Liabilities and net assets

Current liabilities

Accounts payable	\$84,553
Accrued salaries and benefits	98,656
Lease liability, current portion	967,132
Deferred revenues	1,446,093
Total current liabilities	2,596,434

Long-term liabilities

Lease liabilities – Operating, net of current portion	8,487,762
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Total liabilities	11,084,196
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Net assets

Without donor restrictions	3,120,441
With donor restrictions	1,381,870
Total net assets	4,502,311

Total liabilities and net assets	\$ 15,586,507
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STATEMENT OF ACTIVITIES

For the year ended December 31, 2022

Operating revenue

Member dues	\$ 2,385,685
Publication sales	783,738
Sponsorship	29,000
Training seminars	530,373
Interest and dividend income	30
Other	64,186
Total operating revenue	<u>3,793,012</u>

Operating expenses

Program services	
Committees and task forces	1,309,351
Events	129,230
Publications	110,982
Membership services	317,868
Training seminars	532,824
Supporting services	
Management and general	<u>1,989,722</u>
Total operating expenses	<u>4,389,977</u>

Other income

Net loss on investments	<u>(301,949)</u>
Total other income	<u>(301,949)</u>

Change in net assets

\$ (898,914)

BOARD OF DIRECTORS

2022 RTCA BOARD OF DIRECTORS



LORNE CASS
CHAIRMAN

Aero NowGen Solutions LLC



TERRY MCVENES
PRESIDENT & CEO

RTCA, Inc.



BRETT EASTHAM
CORPORATE SECRETARY

RTCA, Inc.



NATE BOELKINS

Collins Aerospace



DR. KERRY BUCKLEY

The Mitre Corporation



JIM COON

Aircraft Owners And
Pilots Association



VIPUL GUPTA

Honeywell International, Inc



CAROL HUEGEL

L3harris Technologies, Inc



TRACY LAMB

Quantum AI, LLC



DAN MURRAY

The Boeing Corporation



CHRIS ROCHELEAU

NBAA

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CANSO

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Cpt. Houston Mills
United Parcel Service

Eddie Mayenschein
Transportation Security Administration

James Viola
Helicopter Association International

Jens Hennig
General Aviation Manufacturers Association

Randy Kenagy
Air Line Pilots Association, International

Richard Stansbury
Embry-Riddle

Robert Pearce, Ex Officio
National Aeronautics and Space Administration

Robert Rose
Reliable Robotics

Sean Cassidy
Amazon Prime

Sean Sullivan
Aviation Information Sharing and Analysis Center

Stacy Cordell
University of Kansas

Steven Ruehl
Department of Defense

Tom Ferrell
Joby Aviation





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