International Coordinating Council of
Aerospace Industries Associations

Annual Report 2022

Table of Contents

International Coordinating Council of Aerospace Industries Associations

Strategy Committee

Annual Summary

Submitted by the Executive Secretaries

Committee Summary

The Strategy Committee reports to the Board of Directors and provides them with recommendations and guidance for discussion during Board meetings. It brings together senior representatives of the ICCAIA Associations, the Leadership of ICCAIA Committees and the Permanent Representatives/Executive Secretaries, to arrive at consensus-based decisions that:

- Set the strategic direction of ICCAIA
- Discuss and review all areas of policy
- Highlight new and emerging issues and risks
- Provide guidance to Committee Chairs and the Permanent Representatives in interaction with ICAO and other bodies where ICCAIA is represented or interacts

2022 Committee Highlights

Throughout the 10 meetings of the Strategy Committee held in 2022, the overriding theme has been the preparations for, and implementation of outcomes from, the 41st ICAO General Assembly. In total, 15 papers were submitted by ICCAIA. In parallel, an extensive review of papers submitted by other parties was conducted and issues highlighted for the Committee's attention. The method of preparation has seen successful results, with all of ICCAIA's papers being taken up or adopted in some form or another in the ICAO system.

The early part of the year saw the Committee review and revise the ICCAIA 5-Year Strategy, taking account of progress through the pandemic and of consequent changing priorities, for validation by the ICCAIA Board. Ultimately, this process has led to the agreement by both the Strategy Committee and the Board of Directors to create a new, permanent committee of ICCAIA to tackle health, facilitation and crisis response.

In a particularly challenging year, the Strategy Committee also oversaw the management of issues around Russian participation in ICCAIA, management of associated international sanctions and update of ICCAIA's By-laws and Code of Conduct to support integration of new members whilst being better equipped to manage membership crisis situations in the future.

The Committee has continued its role as the venue for the other standing Committees to bring their own issues for discussion, validation or resolution throughout the year. Such topics have included the delay to the implementation date for Autonomous Distress Tracking (ADT) and issues around 5G and Spectrum.

Once again, the Committee received praise from the Board of Directors for performing an excellent job of managing complex dossiers ahead of Board Meetings that allowed for streamlined discussions and ratification of recommendations already attained by consensus at the Strategy Committee.

Key Activities

5 Year Strategy

The first two meetings spent time working on updating the 5-Year Strategy document, including the initial work on describing and validating the need for the new Health, Facilitation and Crisis Response Committee to be formed on a permanent basis out of the existing ad-hoc group that had been formed to support the ICAO CART.

The Committee also made several minor revisions to the existing strategic objectives and added a new requirement to secure continuity of operations in light of lessons learned from the retirement of Mr. Fox. A sub-group of the Committee worked the revised text, which both the Committee and the Board of Directors went on to approve.

General Assembly

With the strategy updated, the early part of the year was spent discussing and validating the need for the Working Papers and Information Papers for the 41st ICAO General Assembly that would support the strategic objectives. Once the subject areas had been identified individuals began the drafting process, with the papers finally being reviewed and validated by the Committee before submission.

During the middle of the year, papers from other stakeholders appeared and issues of importance were flagged to the Strategy Committee in case action needed to be taken either in support of or in opposition to those topics. Following the Assembly, a detailed reporting-out was conducted on each of the ICCAIA papers – all of which had been taken up in one form or another by the Assembly Committees and Commissions. In total, nearly 600 papers were reviewed by a Small Group of the Strategy Committee, resulting in ICCAIA lending its support to other papers in areas such as innovation, ICNSS, cyber security and gender equality.

At the Assembly itself, ICCAIA put forward 12 working papers and 3 information papers. Broad and enthusiastic support was received from States and Industry partners on topics ranging from innovation, improvement of safety for regional aircraft operations and management of health crises through to technical papers on management of aviation spectrum and the need for a regulatory framework to support developments in sustainable aviation. Full details of ICCAIA's papers and the outcomes can be found at iccaia.org.

Legal Challenges and Sanctions

Following the Russian invasion of Ukraine, countries around the world rapidly imposed sanctions against Russian entities and individuals resulting in a significant impact on the continued operation of ICCAIA. This crisis was brought to the Strategy Committee with discussions on a number of fronts: How to provide sanctions relief to allow the continued function of the Association; legal implications on ICCAIA and its Members; the continued participation of ICCAIA Member UAI and, ultimately, the need to terminate membership; ongoing provision of technical support and data to ICAO, where Russia continues to be a State participant in numerous activities. As the issues arose, the Committee discussed them and prompted

swift action by the Board of Directors. A consequence of the issues faced was the need to undergo a major revision of the ICCAIA By-laws to be able to better handle situations like this in the future, and also to provide more robust governance with the increasing membership of ICCAIA. A sub-group of the Strategy Committee undertook that major revision, along with an associated update to the ICCAIA Code of Conduct, during the summer period to allow validation during the September meeting of the Board. Once again, the Board congratulated the Committee on performing the work rapidly and effectively such that a simple validation was needed, without major discussion required amongst the Board members.

Technical Discussions and Positions

One of the key roles of the Strategy Committee is to agree common policy and positions. One such challenge in 2022 was concerned with a new requirement for aircraft to carry equipment to automatically transmit their location when in distress. At the end of 2021, several aircraft manufacturers raised concerns that due to the COVID-19 pandemic's impact on the industry including supply chain and staffing issues and a large number of aircraft that were not able to be delivered during the pandemic, they would not be able to meet the applicability date of January 1st 2023. The Strategy Committee agreed with the formation of an ad-hoc group to tackle the issue, and supported the common position presented to the ICAO Air Navigation Commission. After lengthy deliberations at ICAO, a delay in the date of applicability for the standard was agreed.

The issue regarding the risk of newly activated 5G telecommunications services interfering with users of aviation spectrum (in particular Radio Altimeters) was also of major concern. The Strategy Committee asked the CNS/ATM Committee to look into actions that could be undertaken at ICAO, resulting in several pieces of work around guidance for mitigation measures and a discussion with ICAO's Air Navigation Commission. The safe co-existence of 5G and aviation operations will continue to be a major concern in 2023, and work will continue on long-term plans to ensure safety of operations with new uses of spectrum.

Following a drive from NAV Canada at ICAO towards a change in practice to use true north for air navigation rather than magnetic north, the Strategy Committee agreed the formation of a small group under the CNS/ATM Committee to consider an ICCAIA position. This work is just coming to fruition and is expected to draw some conclusions in early 2023.

Rebranding

The Strategy Committee played a key role in signing off on ICCAIA's new brand and website, as well as helping to gather images, content and ideas for our new newsletter for members. The Committee also supported our 50th Birthday celebration, held just before the start of the ICAO General Assembly. This has proved a valuable tool for keeping our members up to date, and ICCAIA's profile is stronger than ever at ICAO and beyond.

Future Work

The Strategy Committee will need to welcome and integrate membership from the Chinese Society of Aeronautics and Astronautics during 2023. It will also need to prepare and validate strategy for the ICAO CAAF/3 meeting in November of 2023 and discuss and validate any positions to be taken at the COP28 to be held in Dubai, also in November of 2023.

An Air Transport Conference and an Air Navigation Conference will be held in Q2 of 2024, requiring the preparation of working papers and/or policy presentations – these may be treated as a 'mini-Assembly' for ICCAIA purposes.

The Permanent Representatives do not recommend revising the 5-Year Strategy in 2023 but rather allow time for the results of actions at the General Assembly to pass through ICAO and settle into the system before discussing whether corrective or additional items need to be considered. Gender balance and equality of representation are issues that the Strategy Committee will be encouraged to give more thought to as discussions become more focused and have a higher prominence than before.

There will be an increased emphasis in the coming year at ICAO on innovation, in the environmental sustainability area and in topics such as advanced air mobility and integrated airspace. The Strategy Committee will need to consider how cross-cutting topics such as these can be dealt with across the ICCAIA Committee structure, drawing in expertise from CNS/ATM, Airworthiness, Cyber security and Environment. There is also a drive towards integrated risk management which will require a similar horizontal approach.

Aircraft Noise and Emissions Committee (ANEC)

Annual Summary

Chair: Eric Upton, Gulfstream Aerospace/AIA

Vice-Chair: Mark Huising, Bombardier/AIAC

Vice-Chair: Olivier Husse, Airbus/ASD

Committee Summary

The ICCAIA Aircraft Noise and Emissions Committee (ANEC) seeks to reduce the environmental footprint of aviation and ensure our future "license to grow" by fostering the introduction of emerging technologies in civil aviation and minimizing adverse regulatory impact on manufacturers to avoid market distortion and ensure sustainable growth.

The ANEC functions primarily within the ICAO Committee on Aviation Environmental Protection (CAEP) providing data and technical expertise related to aircraft noise, engine gaseous emissions (NOx, HC, and CO), non-volatile particulate matter, and greenhouse gases (CO_2) in order to help ICAO develop environmentally focused standards and recommended practices for use around the world. The ANEC provides information on how to measure the effects that are to be controlled, the technology available for such control, as well as the interdependencies among environmental parameters.

The ANEC also examines operational approaches to reducing noise and emissions as well as technological measures (e.g., improved air traffic management) and market-based options in an attempt to accelerate the adoption of proven environmentally-beneficial technologies. Finally, the ANEC also operates within the scope of the Stockholm and Basel conventions to address toxic waste products, and their transportation, associated with international aviation.

2022 Committee Highlights

The ANEC began 2022 in preparation for CAEP/12, ICAO's first virtual CAEP meeting in February. The end of the meeting marked the transition of the ANEC Chair from Arnaud Bonnet (Embraer, AIAB) to Eric Upton (Gulfstream, AIA) and the elevation of Mark Huising (Bombardier, AIAC) and Olivier Husse (Airbus, ASD) to Vice-Chairs. 2022 also marked the ANEC's expansion outside of ICAO for the first time.

The ANEC expanded into more general climate issues as ICCAIA joined the UNFCCC as an observer. Building on work at ICAO in support of the Long-Term Aspirational Goal for carbon reduction from international aviation (LTAG), ICCAIA made its first appearance at COP-27 in Egypt with a small delegation. Additionally, ANEC has formed a group focused on more specific concerns concerning organic pollutants, placing ICCAIA as a member of both the Stockholm and Basel Conventions on organic pollutants and the distribution of hazardous wastes.

ANEC members continued to support work at ICAO, returning to in-person meetings as ICAO meetings began transitioning away from pandemic-mandated virtual attendance and back to in-person or hybrid meeting arrangements.

At a strategic level, this meant ANEC participation at the ICAO 'High-Level Meeting on the LTAG' (HLM-LTAG) and at the 41st General Assembly, but it also included a return to work at the technical levels, with in-person support at nearly all of the CAEP working groups.

Primary issues included the LTAG and regulation of new technologies, work on an integrated noise/CO_2 stringency, new concerns within the Basel and Stockholm conventions, and the ICCAIA reaction to the war in Ukraine and associated sanctions.

The LTAG – "Net Zero Carbon by 2050" was formally adopted, with the approved CAEP report sent to Assembly in February by way of the high-level meeting in the spring and approval by Council during the autumn. Follow-on work has come since, with ICCAIA efforts to streamline regulatory development for new technologies coming at Assembly and a desire to track progress coming out of the CAEP Steering Group meeting in December. Broad industry support, coordinated with ATAG, was key in approval of the LTAG and we hope to push forward the regulatory improvements in the coming years.

An integrated noise and CO_2 stringency came out of the CAEP meeting as well, driving an unprecedented level of effort from WG1, WG3, FESG, and MDG experts, including those from the ANEC. Much of this effort is related to data provision and ensuring that the development of the two stringency updates accounts for the tight interdependencies between noise, fuel burn, and other engine emissions.

Work at the Basel and Stockholm Conventions was new to the ANEC, and efforts were compressed for time as meetings delayed for the pandemic were resumed. An early ban of Dechlorane Plus from China (2024 instead of the expected 2026) may cause some complications for ICCAIA manufacturers.

Finally, the Russian invasion of Ukraine caused numerous complications within ANEC, from the removal of Russian and Ukrainian experts from ICCAIA to data sharing restrictions created by new international sanctions. The complications are still in place and continue to hamper work within ICAO.

Key Activities

Completion of the Long-Term Aspirational Goal to reduce carbon from international aviation (LTAG) was the most obvious highlight of 2022. The year began with a report demonstrating the feasibility of a LTAG provided to CAEP, capping more than two years of concentrated effort and supported by over 70 industry experts from ICCAIA. The LTAG was developed through Council and a High-Level Meeting preceding the 41st Assembly, where it was finally approved – "Net Zero Carbon by 2050". Follow-on work related to funding and tracking progress toward the goal are ongoing, with the ANEC focused on the latter.

Development of the integrated stringency for CO_2 and Noise has dominated WG1, WG3, FESG, and MDG this year. While the process is closely related to historic stringency analyses, this one has added complexities in the interactions between noise and CO_2 explicitly in the responses, with interactions among noise, CO_2, NOx and nvPM being included in the analyses to prevent backsliding in emissions. A new cost model is also being developed for this analysis, and several other questionable modeling schemes have been proposed that will be problematic if employed. Data provision for the effort from ICCAIA manufacturers began in early 2023.

CORSIA was consolidated at the 41st Assembly, resulting in a change of the baseline for calculating CO_2 emissions offsets obligation by operators for 2024 and following. Instead of an average of 2019 and 2020 emissions, CORSIA obligations will be calculated based on 85% of the CO_2 emissions produced in 2019. Additionally, a change was made to the methodology to calculate the CO_2 offsets obligations. It will now be based on 100% sectoral growth until 2032, with airline individual growth factors playing a small role after that. Negotiated as a package deal with LTAG, the industry efforts to preserve CORSIA and its ambition proved essential to obtain a deal that all ICAO Member States could accept.

On the airports & operations side of things, ICAO and CAEP continue to deliver guidance and documentation to facilitate improved operations with regards to noise and emissions (e.g. airport eco toolkit collection). Of note, the CAEP will be working on guidance on operational opportunities to reduced contrails and aviation induced cirrus, marking another deliverable related to non-CO_2 emissions and their effect on climate change.

Expansion by the ANEC into the Stockholm and Basel Conventions on persistent organic pollutants and the movement of hazardous wastes places our work outside of ICAO for the first time. A compressed meeting schedule due to the pandemic has complicated the schedule, but efforts are ongoing to track several substances as critical points in their process toward being listed (and banned). Medium Chain Chlorinated Paraffins ended their EU comment period in early December. An expected 2026 ban of Dechlorane Plus was accelerated to 2024.

Relative to the development of updated standards to control CO_2 emissions and noise from international civil aviation, several mechanisms have been employed by ICAO and the ANEC in order to remain compliant with the current sanctions environment while still allowing data sharing within CAEP. These have met with little success, have fallen short of expectations, and have been considered as temporary measures. A "small" group designed to anonymize data to allow sharing within the working groups was formed in the middle of the year, but progress has been delayed in keeping the group compliant. ICCAIA member companies have developed their own NDA to allow sharing of data within the ANEC as the process is otherwise untenable. Discussions with the US Department of Commerce and FAA have not been able to create a solution, but great progress was made in Europe and the UK with allowing international standards development despite the existing sanctions.

Challenges

The most acute challenge facing the ANEC relates to the development of updated standards for CO_2 emissions and noise (dual stringency). One is the consequences of sanctions on Russian companies and individuals as a consequence of the invasion of Ukraine in early 2022. These sanctions are currently blocking almost all progress on regulatory development within CAEP working groups as ICCAIA member companies are not able to share data related to products containing US-sourced technologies. Attempts to manage data and delay some activities have been moderately successful, but those approaches are reaching the end of their effectiveness, and a permanent resolution is required to ensure ICAO does not pursue "Plan B" to use third-party data to evaluate ICCAIA products. There is also fear that these restrictions will become more relevant to other groups at ICAO as new work items begin requiring data exchange from ICCAIA member companies.

An ongoing challenge is the aggressive work schedule, particularly when it comes to the integrated stringency. Because of the tight coordination required over four working groups, many things are occurring across traditional boundaries while many ICCAIA experts have limited exposure across groups. Even for the experts tied into multiple groups, there are challenges with keeping track of actions from myriad sub-groups. There is a worry that many of the large decisions required to properly develop the standard are happening with insufficient oversight, particularly in the modeling area.

A secondary challenge facing ANEC is related to the exploration of certification approaches for so-called "Emerging Technology Aircraft" (ETA) for advanced air mobility and other segments, as current regulations may not be appropriate for these new designs. Numerous smaller manufacturers developing ETAs lack the resources to support CAEP with data and technical expertise needed to develop robust measurement guidelines.

Future Work

The future of aviation in an environmental sense is the focus of everything related to ANEC work in 2023. Parallel efforts are planned within CAEP that address the near term (CORSIA beginning to have an effect), the mid-term (new SARPs selected at CAEP/13 for implementation in the 2030 timeframe) as well as the farther future (consequences of the LTAG 2050 goal).

There will be a highly concentrated effort surrounding the integrated stringency (or dual stringency, CO_2 emissions and noise). Assuming challenges around sanctions can be resolved in a timely fashion, the effort will first peak in May 2023, with the selection of what stringency options will be analysed and considered, and then at the end of this year or in early 2024 in support of a finished set of stringencies ready for initial approval in summer 2024.

It is expected that non-CO_2 emissions and their impact will begin to become a priority for CAEP. Efforts are already underway within CAEP to better quantify these impacts, and industry efforts to support this have already begun. A mapping of existing initiatives in ICAO will be produced, and discussions in framing potential work for the 2025-2028 period are expected to start soon. There is a risk that, if this work is not performed thoroughly, pressure to produce standards related to non-CO_2 emissions may interfere with existing commitments to reduce CO_2 emissions that are associated with the LTAG. Work will be needed from ICCAIA experts in WG2, WG3, and ISG to ensure developments in this area are done properly.

At a higher level, we are only beginning the work launched at Assembly to update the SARP framework at ICAO to be more amenable to new technologies. This will take effort to develop and mature over the next several years.

International Coordinating Council of
Aerospace Industries Associations

Airworthiness Committee

Annual Summary

Chair: Scott PEPPER, Boeing/AIA

Vice-Chair: Dan BURNS, De Havilland/AIAC

Committee Summary

The Airworthiness Committee covers a wide range of topics related to airworthiness of aircraft, airport technologies, accident investigation, personnel licensing and training, safety management systems and other topics. The Committee oversees a number of Advisory Groups consisting of technical subject matter experts. The chair of these advisory groups is normally the official ICCAIA representative to various ICAO Panels, Working Groups, and other bodies. There are also some advisory groups which do not have a one-to-one correlation with a specific ICAO entity, such as the Cabin Safety Working Group and the Cargo Compartment Halon Replacement Advisory Group.

2022 Committee Highlights

The Airworthiness Committee met three times in 2022 (March, October, December), all held virtually. There were a number of personnel changes on the Committee, as well as the formalization of membership to the ICAO Personnel Licensing & Training Panel (PLTP), and the Global Aviation Safety Plan Study Group.

Olivier SECHERESSE (SAFRAN) replaced John BARTON (SAFRAN) on the Committee. Jean-Michelle Bigarré and Athan Katsandres were nominated and approved as Member and Advisor respectively to the ICAO Personnel Licensing & Training Panel (PLTP) and The Airworthiness Panel Advisory Group welcomed new member Brian Weber from Textron/AIA.

A key focus (and success) for the year, aside from the full Airworthiness Work Program at ICAO, was the ICAO 41st Assembly, with the Committee helping to develop papers related to innovation, direct submission, SARPS applicability, extended minimum crew operations, aviation safety for regional operations, approval for specialized firefighting aircraft, and halon replacement. Experts from the group also participated in a detailed review of nearly 600 ICAO papers.

Key Activities

The Ad Hoc Working Group on COVID-19 Response transitioned at the beginning of the year to the Health and Facilitation Ad Hoc Group. This Ad Hoc group was approved by the Strategy Committee to become a new ICCAIA Committee in 2023.

The Airworthiness Committee supported a revised applicability date for the equipage of autonomous distress tracking capability for aeroplanes involved in international commercial operations through a small group and developed guidance material to support the change.

The Committee also participated in a newly established True North Navigation Ad Hoc Group to address airworthiness aspects of a change from magnetic to true north for navigation (described in the CNS/ATM summary).

Work continued in the Airworthiness Panel on recognition of Approved Maintenance Organizations (MROs) to reduce duplication of surveillance and audit practices. This was supported by a small group of the Airworthiness Committee, led by FEMIA and AAIS.

Challenges

A key challenge early in 2022 centered around the Autonomous Distress Tracking issue, requiring extensive work to propose new timelines to the ICAO Air Navigation Commission and provide supporting information to facilitate the decision.

Although COVID recovery continued to be a key subject limited resources were available to support the work of the Airworthiness Committee.

Future Work

Full details of planned panel work are provided in the Annex. In addition, the Committee will continue to progress work on safety risk, integrated risk management and recognition of certification.

The Committee plans to review and collaboratively consult with the CNS/ATM Committee on ICAO's draft proposal for an amendment to Annex 6 on Operation of Aircraft, Part IV — International Operations — Remotely Piloted Aircraft Systems, as well as on True North Navigation.

Annex – Airworthiness Related Panel and Working Group Reports

Aerodromes Design and Operations Panel (ADOP)

ADOP/4 met in February 2022. The Obstacle Limitation Task Force (OLSTF) will deliver amendments to Annex 14, Volume 1 PANS-ADR.

The Remotely Piloted Aircraft Systems Panel (RPASP)/ADOP Joint Task Force developed a CONOPS for RPAS to operate in and out of aerodromes. The JTF is currently conducting a gap analysis of Annex 14 Volume I and II. The RPASP timeline is to complete all gap analysis and amendment proposals and receive ADOP final endorsement in Q1 2024 and an expected applicability date in 2026.

Challenges

The Ground Handling Task Force (GHTF) and Aircraft Recovery Group are proposing amendments to Annex 8 for OEMs to provide data and information from both Airplane Maintenance and Aircraft Recovery manuals. ICCAIA opposes this because it would require OEMs to provide information that is proprietary to OEMs and their customers if approved.

The Friction Taskforce (FTF) is looking at the replacement of CFME as a ground-based method for functional measurements of surface friction. It may be difficult for airports to accept using aeroplane data to publish runway friction conditions because currently they don't rely solely on pilot reports to determine surface condition.

Future Work

There are new job card proposals for the Evolution of Collaborative Decision Making (total airport management), Vertiports, and Global provisions for the design, certification, and operations of water aerodromes.

Accident Investigation Group Panel (AIGP)

AIGP/7 was held in a hybrid format in May 2022 in Paris, France and virtually. The Panel currently has a total of 13 open job cards, each with an associated working group.

The AIGP has been working on investigation protocol when there is a potential conflict of interest, such as aircraft downing by missile fire. This issue has political dimensions as the most vocal States are those related to the 2019 downing of the Ukrainian Airlines 737-800 by Iran. ICCAIA will work to ensure that the rights of the state of design and manufacture are not infringed and preserving the ability for companies to take safety actions when needed.

Activities also continue on protection of recordings (aside from FDR/CVR) such as cabin cameras, external cameras, personal cameras/phones, etc. ICCAIA will work to preserve the ability to use information from delivered recording systems without restrictions and also the ability to use all information for investigation purposes.

Challenges

The lack of travel budget may limit ICCAIA's members' ability to make positions known and provide meaningful input on these issues if meetings revert to in-person format.

Future Work

AIGP/8 has a Panel Meeting in Montreal on 23-25 May 2023 for the continuation of working groups.

Airworthiness Panel (AIRP)

AIRP/09 took place in Montreal from 7 to 11 November 2022. The meeting was a hybrid meeting with the participation of 19 States and 9 International Organizations. Reports were presented from the 3 active Working Groups: WG1 – Continuing Airworthiness, WG2 – Initial Airworthiness and WG4 – Products.

WG 1 has 1 active Job Card on Approval, Global Recognition and Reduction of Duplication of AMO Surveillance Activities. Changes to Annexes 1, 6 & 8 are anticipated with modifications to the associated guidance material. A draft should be circulated to the Panel members in Q2 of 2023 for comment and the final version should be submitted at AIRP/10 for approval.

3 active Job cards are currently within the remit of WG2: The Annex 8 general amendments (mainly focused on the task on the Probability Descriptors), the Reduction in Duplicative Certification Activity, and the Acceptability of "Commercially Available" off-the-shelf (CoTS) Parts for Installation on an Aircraft. With respect to the task on Probability Descriptors, the proposal was agreed during the AIRP/09 and consists in introducing changes to the Airworthiness Manual. Regarding the task on Reduction in duplicative certification activity, initial work is underway for a proposed SARP and supporting guidance in the Airworthiness Manual. The activity on Acceptability of Commercial / COTS Parts is at an early stage with an objective to develop proposals for the AIRP/10.

There are 2 active Job Cards in the perimeter of WG4: The Control of electromagnetic radiation risks posed by the carriage of battery-powered devices in baggage, cargo and mail that are active when inside the aircraft cargo compartment; and the Requirements for continuing airworthiness and safety improvements for large aeroplanes. For the first task, a set of actions has been defined in relation with identified open items. Regarding the Requirements for continuing airworthiness and safety improvements for large aeroplanes, the final proposals have been circulated and agreed by the AIRP/09. Additional guidance will be developed and presented during the AIRP/10.

The AIRP/09 was also an opportunity for the Baseline for Airworthiness Determination Subgroup to present their conclusions and recommendations. The 10 recommendations have been subject to a specific report that has been accepted by the Panel.

Future Work

WG4 has initiated draft Job Cards on Electric and Hybrid Propulsion (EHPS) and Harmonization of certification procedures and specifications. The work on increasing the maximum take-off mass from 5700 kg to 8618 kg for the new Annex 8, part VB is also on-going.

Meteorology Panel (MET-P)

Progress continues in evolving the volcanic ash advisories produced by the nine Volcanic Ash Advisory Centres (VAACs) to quantitative volcanic ash (QVA) data and the provision of data on volcanic sulphur concentrations. This activity supports efforts to reduce exposure to levels of volcanic sulfur that are unhealthy for occupants and degrade aircraft/engine durability.

Steady progress has been made by the VAACs in developing their use of satellite data and modelling ash cloud movements to support delivery of QVA data, and work groups are looking at producing training material and guidance for aviators on how to use the QVA data.

Future work

A meeting in New Zealand in February 2023 will further discuss the exact QVA delivery timescales over the coming few years.

Personnel Licensing and Training Panel (PLTP)

The PTLP has been progressing work on automation dependency with future work needed to clarify the root cause of the dependency.

Work also continues on the expansion of Competency-Based Training and Assessment (CBTA) implementation and new technologies in Pilot Licensing SARPs. The CBTA expansion and its efficiency seems to be recognized by the States but still some differences exist in the understanding and therefore way of implementation due to different culture and regulator reference. Despite the huge positive impact of the competency-based approach methodology, discussions continue on the implementation, difficulties, understanding, and costs with still some misunderstanding between competency-based training and task-based training.

Ongoing activities target more effective use of standards in training; ATCO Licensing SARPs; representation of women and minority and ethnic groups in aviation professions; and licensing standard on EVTOL and electric aircraft.

Challenges

The harmonized implementation of CBTA between States and across the industry is a concern. The risk relates to the recognition of personnel licenses that is necessary to operate an aircraft internationally. The similarity of the process to assess the personnel competence and the definition of an accepted internal standard of competence are fundamental elements needed to achieve CBTA harmonization across the States.

There are not enough ICCAIA advisors having deep knowledge in pilot training, so additional resources will be necessary.

Safety Management Panel (SMP)

Following SMP/5 in Nov/Dec 2021, several proposals for amendments to Annex 19 remained open, and the first quarter of 2022 was devoted to their completion through a series of working group sessions and a final review by the whole of the Panel on 30th March. ICCAIA contributed significantly to the improvement of the proposals, resulting in more pragmatic and practical proposals for Standards and Recommended Practices. Of particular relevance were several proposals to align service providers' safety objectives, targets, and indicators to those of the States, potentially limiting service providers' flexibility to create safety management systems to meet their own needs; and proposals for compulsory sharing of safety information between service providers, potentially conflicting with service providers' privacy and intellectual property rights. ICCAIA input resulted in more flexible proposals in both cases, though the separate ICCAIA proposal for a performance-based and flexible Standard for the 'safety manager' role did not achieve consensus. Further work will be needed to make any progress in this area.

The ANC held its Strategic Review on the final proposals for Annex 19 on 25th May, and the Preliminary Review of the proposals is currently expected in the first quarter of 2023.

The five working groups of the SMP spent the remainder of 2022 developing additional guidance material to support the Annex 19 proposals and developing further supporting material for existing provisions. Additional ICCAIA Advisors were brought in, so that we now have at least one representative in each of the five working groups. Work mainly focused on updating ICAO Doc 9859 (the Safety Management Manual) but there is a proposal for a new ICAO Document devoted to the State Safety Data Collection and Processing System (SDCPS), and ICCAIA input has ensured that this system is recognised as a requirement for States, rather than for service providers. An All-Working Groups meeting was held in Brazil in November to review the proposals for guidance material, and there is a schedule for further development of the proposals during the first quarter of 2023, so that they can be agreed by the SMP at its 6th Meeting, scheduled for 8-12 May 2023.

Future Work

The Sixth Meeting of the SMP will take place 8-12 May 2023 and is expected to agree changes to Doc 9859, to provide additional guidance and support the proposed changes to Annex 19.

A cross-Panel Secretariat study group on Integrated Risk Management is potentially to launch during 2023, and the ICCAIA SMP team have registered with the Secretariat an interest in supporting this group.

Cargo Compartment Halon Replacement Advisory Group (CCHRAG)

The CCHRAG issued a working paper for the 41st ICAO Assembly (A41-WP/96) with several key conclusions. Industry is actively pursuing alternatives to halon for commercial aeroplane cargo fire protection and meeting the ICAO 2024 deadline seems achievable if remaining technical risks are mitigated.

Challenges

Many candidate Halon replacement agents, as well as already-approved substitutes for halon in other aircraft fire protection applications, are at risk of being subject to the proposed ECHA (European Chemical

Agency) PFAS (Per- and PolyFluoroAlkyl Substances) regulation which, in the mid-term, will be extended on a global scale.   ICCAIA invited the General Assembly to request the ICAO Council to urge member States to consider classifying the application of aircraft fire protection as 'permanent essential use' or to grant permanent derogation/exemption to PFAS regulations in order to ensure the safe continuation of air transportation using the best available options.

Health and Facilitation Ad Hoc Group

The Ad Hoc Group presented COVID transmission mitigation models at the ICAO Innovation fair in Montreal (September 2022) and at the CAPSCA-AP 15th meeting in Manila (December 2022).

The group also presented a joint working paper by ICCAIA, ACI and IFALPA on Resilience (WP/082) at the ICAO 41st Assembly highlighting the need for ICAO to implement a global crisis response framework, with a strong leadership and cross-sectoral cooperation. The mission of this framework would be to monitor the health situation to regularly evaluate health risks and their evolution. It could also be expanded to any other potential crisis such as cyber, environmental (volcanic), and nuclear threats. The working paper also defended the use of health certificates, the need to have a global risk assessment notably using data driven models, and to implement a multilayer risk management in a harmonized manner. Emphasis was placed on the need to determine tools to assess when to phase in and phase out (escalate/de-escalate) the crisis response framework response levels.

During the Assembly, ICCAIA supported and highlighted enabling the safe and efficient recovery of aviation and preparing resilience; maintaining health and sustaining safe international air transport; and establishing a strategy on disaster risk reduction.

Challenges

Coordination among all stakeholders will be essential to have a commonly agreed approach bridging the aeronautical medical and institutional domains.

Future Work

A new ICCAIA Committee on Health, Facilitation & Crisis Response has been set up in early 2023, with the aim of voicing industry proposals, supporting the health portfolio and guide "crisis response" work at ICAO level. Areas of expertise include facilitation of passenger journey (Protocols, digital certificates…), aircraft disinfection, cabin air quality & materials, medical (virus transmission), and modeling of a risk-based approach.

International Coordinating Council of
Aerospace Industries Associations

CNS/ATM Committee

Annual Summary

Chair: Claude Pichavant, Airbus/ASD

Vice-Chair: Tim Murphy, Boeing/AIA

Committee Summary

The CNS/ATM Committee is Chaired by Claude Pichavant (Airbus), supported by Tim Murphy (Boeing), along with over one hundred ICAO panel Members and their advisors, and covers a wide range of topics in air traffic management, flight operations and communication, navigation and surveillance infrastructure, as well as in Frequency Spectrum.

2022 Committee Highlights

Activities of this group have continued in 2022 despite the on-going effects of COVID- and budgetary constraints. Working in a virtual meeting format was almost the rule for the first semester, but teams continue to work even if delays are identified on some deliverables.

To be noted, Ms. Sheila Conway, Technical Fellow, Systems Engineering, Aviation Operations at Boeing has been nominated to the Air Traffic Management Operations Panel (ATMOPS) as the ICCAIA member in replacement of Claude Lelaie (departing for retirement); Mrs. Conway will be supported by Mr. Michael McDowell Director, Strategy Development at Collins Aerospace as her advisor.

Overall, ICCAIA members were still very engaged, with monthly meetings of the CNS/ATM Committee held virtually and work ongoing in Panels, Ad-hoc, Working Groups and Task Forces.

One major accomplishment of the CNS/ATM Committee in 2022 was to instigate and secure a delay in the Annex 6 based mandate for Autonomous Distress Tracking (ADT) equipage. This delay became necessary because of the impact of Covid on the development programs and associated supply chains. ICCAIA actions alerted the ANC to the need for the delay, and provided information that the ANC needed to approve the delay.

Key Activities

Activities were focused around several key themes, such as digitization of aviation, demand for airspace access and rising demand for resources driven by new flying platforms such as UAVs and other new airspace users. Sustainability and decarbonization are the new key drivers for the aeronautical industry and the CNS/ATM is able to contribute by bringing some enhancements through Flight Optimization, Flight Management and efficiency (such as 4D and trajectory-based operations). Traffic is coming back, and there is a need to accommodate both the post-pandemic air traffic and the foreseen traffic growth according to the recent optimistic previsions (+3.7%).

The ICAO 41st Assembly was a critical 2022 event, bringing many CNS/ATM and Safety topics into the Aviation Safety and Air Navigation Policy, Aviation Safety and Air Navigation Standardization, and Innovation in Aviation items discussed during the Technical Commission and the Assembly.

The CNS/ATM Committee was able to prepare and present various WPs during the Assembly dealing with, amongst others, Wake Energy Retrieval, Next Era of Air Traffic and Airspace Management and Roadmap for Integrated CNS and Spectrum. Various Resolutions were adopted, and now the ICAO Council and ANC are processing the outcomes of the Assembly, so the activity of the Working groups, Task Forces and Panels will handle updates of their work plans and deliverables through new and updated Job Cards.

Many topics raised during the assembly will require, from ICAO standpoint, additional budget for the 2023-2025 period and availability of extra budgetary resources.

All ICAO panels and working groups are continuing full work programs; details are provided in the Annex to this report.

Among the broad landscape of CNS/ATM subjects, two key items can be underlined:

CNS resilience to Interference

The concern regarding interference on CNS is increasingly reported by Airworthiness Authorities, Air Navigation Service Providers, Operators and Airframers. Occurrences of interference against CNS systems and global navigation satellite system (GNSS), in particular, have significantly increased; more recently 5G C-Band deployment in the USA lead to the Radio Altimeter retrofit of tens of thousands of aircraft.

Another reported effect closely related to interference is the so-called spoofing (Counterfeit signals) of GNSS data. The ICAO Assembly also recognized the importance and urgency of globally addressing the cyber security and cyber resilience of civil aviation's critical systems.

Members of the CNS/ATM Committee briefed the Air Navigation Commission (ANC) about Frequency Spectrum aspects during an ANC Talk and a presentation was provided to the ICAO Commissioners.

This interference item is closely linked to the ICNSS activity for which a Resolution was adopted. Clearly the industry has a role to play to provide its expertise on this globally sensitive subject.

True North Navigation

ICAO has developed a survey to seek feedback from Member States and the aviation industry on the level of support for ICAO to commence work on changing from a magnetic to a True North reference system for heading and tracking in air operations.

If a "True North" reference is implemented among States, it would mean the discontinuation of the traditional practice of converting aeronautical data from its original format in TRUE reference into a magnetic reference. The ICCAIA response will address the need for a well-defined Concept of Operations (CONOPS), including how the transition period will be dealt with and how exceptions will be handled.

An ad-hoc group was created under the CNS/ATM Committee, supported by the Airworthiness Committee, to provide its views with associated impacts and possible timeline. A white paper is being developed to identify all repercussions of such implementation such as Cost, Impacts, Schedule, Flight Ops, Transition period planning and Stakeholders).

Challenges

Overall, committee and panels are still lagging due to COVID impact. Late deliveries and delays were identified in some areas including concerns with mandates (ADT, RA Retrofit due to roll-out of 5G mobile telecom service in the C-band in US). Economic conditions due to the various crises (Ukraine war, Inflation, Energy and component shortages) are affecting member companies and their resources, limiting in some cases their active contribution due to other priorities or budget reduction.

Regarding the ICAO cycle, we note more and more delays in activities. Due to the current Panel meetings cycle, and the process for implementation of an Annex amendment (ANC review, State Letter consultation, etc.), it may take up to 4 years between the approval by the Panel of a proposed amendment and the applicability date of this amendment. Taking into account the time required to complete the drafting of the proposed amendments, it means that at least 5 years would typically be expected between the launch of the rulemaking effort and its completion. It is hoped that the Direct Submission process, being formalized by ICAO early in 2023, may help to alleviate some bottlenecks.

Future Work

Alongside the ongoing work of the panels and working groups, work in 2023 will focus on the outcomes of ICAO 41st Assembly, with a focus on some items such as Wake Energy Retrieval, Extended Minimum Crew Operations, Next Era of Air Traffic and Airspace Management, and Frequency Spectrum.

All activities are more and more interrelated, so we will need to ensure the transverse consistency with all activities managed in ICAO (i.e. GANP, GASP, CNS/ATM, GASeP) and contribute in an aligned way to the relevant working groups in ICAO supporting policies and practices on CNS/ATM and other topics (e.g. eMCO).

Inter-panel coordination with other ICAO panels is key. If this is not fully ensured by ICAO, then it must at least be performed within ICCAIA.

Annex – CNS/ATM Related Panel and Working Group Reports

Air Traffic Management Required Performance Panel

Member: Steve Altus, Boeing

Scope:

ATMRPP is engaged in developing concepts, SARPS, and guidance material to implement elements supporting trajectory-based operations (TBO). These include:

- Flight/Flow Information for a Collaborative Environment (FF-ICE)
    - Concept validation
    - Provisions
    - Implementation guidance
    - Benefits analysis and associated outreach, including sharing experiences in regional validation/education efforts
    - Implementation strategy, including sunset strategy for FPL2012
    - Flight Information Exchange Protocol (FIXM) (Developed by FIXM CCB as directed by ATMRPP)
- Trajectory-Based Operations
    - Elaboration of concept and transition into FF-ICE (release 2 and beyond)
    - TBO *tree* and TBO *thread* in the Global Air Navigation Plan (GANP)
- Connected Aircraft (exchange of information between ground systems/actors and the aircraft)
- Continue the strategic evolution toward the Global ATM Operational Concept (GATMOC) via the Global Air Navigation Plan (GANP) and other means.

Key Activities / Accomplishments:

- FF-ICE/R1 State Letter released December 2022
- Continued validation and socialization to airspace users of FF-ICE/R1 concepts across much of the world, with first flight by Lufthansa in December 2022 and extended validation by FAA involving external stakeholders
- Joint session with ATMOPSP resulted in formation of joint task force to study interactions between FF-ICE and Air Traffic Flow Management (ATFM) / Airport Collaborative Decision Making (A-CDM)
- Continued evolution of Connected Aircraft concept incorporating cross-panel input
- Approval of new job cards for Update to the Global ATM Operational Concept (Doc 9854) (ATMRPP.013.01) and Guidance on Transitioning to a Globally Interoperable TBO Environment (ATMRPP.012.01)

Future activities:

- Update of GATMOC beginning in 2023
- Release of FF-ICE/R1 and development of provisions and guidance for FF-ICE/R2
- Approval and release of Connected Aircraft concept expected at ATMRPP/5 in June 2023
- Joint task force with ATMOPSP to define interaction between FF-ICE/R1 and ATFM/A-CDM

Implications to Industry:

- Release 1 enables suppliers to ANSPs to create products and services supporting trajectory exchanges, improving acceptance of user-optimized paths and revisions to leverage real-time data.
- Development of TBO concept and R2 enables further benefits in efficiency and capacity while minimizing implementation cost and effort.
- Connected Aircraft concept provides justification for more confident investment in both R&D and implementation, and encourages more global harmonization leading to more efficient equipage and procedures
- Update of the GATMOC explicitly includes specific topics outlined in ICCAIA's assembly paper A41-WP/87, including integration of new entrants in existing airspace and other topics of current interest to industry.

Communications Panel – Data Communications Infrastructure Working Group

Member: Stephane Tamalet, Airbus

Scope:

DCIWG oversees updates to radios and associated systems used for voice and data communications. Focus is on improving the capacity of systems to handle anticipated demand (both data and voice). These include:

- Maintenance of provisions on Legacy systems (VHF/HF/SATCOM/, ATN/OSI)
- Aeronautical Telecommunication Network - Internet Protocol Suite (ATN/IPS)
- Aeronautical Mobile Airport Communication System (AeroMACS)
- L-Band Digital Aeronautical Communication System (LDACS)
- Solutions for security of the aeronautical communications

DCIWG works alongside OPDLWG under the Communications Panel to support on-going communications needs.

On-going / Future Work:

Air-Ground ATN/IPS provisions (2024) enable transition of aging and disparate ACARS and ATN/OSI internet infrastructure toward a modern, off-the-shelf, efficient, and secure network infrastructure common to both air traffic services (ATS) and aeronautical operational communications (AOC).

LDACS provisions (2024 initially targeted – but will likely be postponed) enable wideband terrestrial communication system with line-of-sight coverage intended to work along VDL2 for new and more demanding services. LDACS could also be an Alternative Positioning, Navigation, and Timing (APNT) solution, as a GNSS backup.

Concerns have been raised by the Surveillance Panel on the lack of validation of the compatibility of LDACS with Surveillance Systems. The creation of a joint Working Group has been proposed to develop the measurement plan for a compatibility testing campaign.

Updated SATCOM provisions (2024) to integrate requirements applicable to Inmarsat SB-S and Iridium Certus and requirements to enable one-stage dialing Direct Controller-Pilot Communication (including also with Inmarsat/Iridium Classic services).

Security provisions (2024) comprise the assessment of security risks for Aeronautical Communications, the specification of appropriate security protections and services, and the definition of an ICAO policy for Public Key Infrastructures.

Space-based VHF technical feasibility is being studied and there is coordination with ICAO FSMP on matters relating to World Radio Conference (WRC) 2023.

Maintenance of former documents is being activated on ATN/OSI (for alignment with EUROCAE/RTCA standards), and AeroMACS (for extension to additional cellular-based technologies, notably 5G) provisions.

Implications to Industry:

Improved communications systems are increasingly important to accommodate anticipated growth in air traffic and the demand for data and voice communications associated with air space modernization activities.

DCIWG provisions, along with the work of the CP-OPDLWG, enable suppliers to ANSPs/Operators to create products supporting these ongoing communication needs.

Communications Panel – Operational Data Link Working Group

Member: Mike Matyas, Boeing

Scope:

CP-OPDLWG seeks to advance the use and performance of data link and satellite voice (SATVOICE) communications while addressing the operational aspects of air traffic services that use those technologies. Several project teams exist within the working group: the Air-Ground Data Link Project Team, the Ground-Ground Data Link Project Team, the Performance-Based Communications and Surveillance Project Team, and the SATVOICE Project Team. The working group also coordinates with other working groups and panels, including CP-DCIWG, ATMOPSP, ATMRPP, FLTOPSP, RPASP, and SASP.

Key Activities / Accomplishments:

- Job Card 001: ICAO Doc 10037, Global Operational Data Link (GOLD) Manual, Second Edition – final preparations being made for publication

On-going / Future Work:

- Job Card 001: Propose amendments to Annexes and PANS-ATM arising from development of ICAO Doc 10037, Global Operational Data Link (GOLD) Manual, Second Edition

- Job Card 002: ICAO Doc 9869, Performance-Based Communications and Surveillance (PBCS) Manual, Third Edition (no amendments to Annexes and PANS-ATM expected)

- Job Card 003: Develop guidance material for ground-ground data link, which could potentially become an ICAO document

- Job Card 005: Develop long-range voice communications improvement strategy, including a Required Communications Performance (RCP) specification for SATVOICE, an implementation strategy for using SATVOICE as a sole LRCS means, and revision of unpublished ICAO Doc 10038, Satellite Voice Operations Manual, First Edition

Implications to Industry:

CP-OPDLWG intends the in-work edition of the PBCS Manual to validate RCP130 for data link in domestic airspace and potentially define an RCP specification for SATVOICE, both of which represent positive developments for ICCAIA members and our aircraft operator customers.
RCP130 will allow application of PBCS in US and European domestic airspace with airplane allocations that are no more stringent than for RCP240 today and SATVOICE RCP would further support airplane configurations with SATCOM systems.

CP-OPDLWG has also been coordinating with EUROCAE WG-78 and RTCA SC-214 to ensure that their products expected to be published in 2023 are harmonized with ICAO Doc 10037, Global Operational Data Link (GOLD) Manual, Second Edition and ICAO Doc 9869, Performance-Based Communications and Surveillance (PBCS) Manual, Third Edition. Items of particular note include the RCP130 and RSP160 specifications, the safety requirements for CPDLC and ADS-C, and the CPDLC message set.

Instrument Flight Procedures Panel

Member: Dave Zeitouni, Boeing

Scope:

The IFPP is responsible for developing and updating design criteria SARPs, associated operations guidance, and addressing a variety of implementation and integration issues for instrument and visual flight procedures. The group's primary deliverable is amendment material to Annexes 4, 10 and 11, PANS OPS (ICAO Doc 8168), updates to the RNP AR Procedure Design Manual (ICAO Doc 9905) and the Quality Assurance Manual for Flight Procedure Design (Doc 9906). These documents contain the detailed design processes and criteria for creating all instrument and visual enroute, terminal and approach flight procedures.

2022 Highlights & Accomplishments:

The Panel met twice this year, once virtually and for the first time in three years, face-to-face. The Oct/Nov 2022 face-to-face meeting (Montreal) kicked off Cycle 16, which will culminate in a full panel meeting in Oct 2023.
The Panel elected Dave Zeitouni, ICCAIA Member as the Panel Vice Chairman in 2022.
The ICAO Secretariat in the process of deciding how to manage ICAO Doc 9613, PBN Manual, going forward. The 5th Edition, which is in ICAO editing for publication, was owned by the PBNSG. Study Groups

are not intended to be permanent bodies and ICAO is in the process of transferring that area of responsibility to the IFPP. Ensuring the IFPP has the right subject matter experts to take on the content of the PBN Manual will be a challenge.

Key Activities:

- ICAO Doc 9905, *RNP AR Design Manual*, 4rd Edition to integrate RNP AR Departure Procedures.
- Regular ongoing updates to ICAO Doc 8168, PANS OPS, and related Annexes.
    - Charting Nav Specs and Accuracies, changes to route designators and assorted criteria updates.
- ICAO investigation of converting aviation to True North
    - Canada successfully pushed ICAO (at 41st Assembly) to consider changing global aviation from Magnetic to True reference.
- Transitions
    - ICAO currently doesn't have a definition or SARPs for procedure transitions. The IFPP is working on creating those SARPs and related material.

Performance-Based Navigation Study Group (PBNSG)

Member: Dave Zeitouni, Boeing

Scope:

The PBNSG is responsible for developing and updating standards and recommended practices (SARPs) for Performance-Based Navigation (PBN). The group's primary deliverable is the fifth (5th) edition of the ICAO PBN Manual, Doc 9613. The PBN Manual contains SARPs for PBN operations including aircraft qualification criteria, operational applicability and pilot training information. PBN operations are categorized into Navigation Specifications (Nav Specs) covering enroute, terminal and approach PBN operations.

With its study group status and a large number of subject matter experts, the PBNSG acts as the ICAO secretariat's clearing house or sounding board for all PBN matters with the aim of ensuring global interoperability and harmonization.

2022 Highlights:

The Study Group had no activities in 2022. ICAO is in the process of publishing ICAO Doc 9613, PBN Manual, 5th Edition, which was the product of the Study Group. A key component of the 5th Edition is the addition of RNP AR Departures which the industry has been waiting for. RNP (Required Navigation Performance) AR (Authorization Required) Departures will improve departure efficiency and availability.

Key Activities:

No further activities for the PBNSG are currently planned. ICAO is in the process of deciding the long-term plan for the PBNSG.

Navigation Systems Panel

Member: Tim Murphy, Boeing

Scope:

NSP is responsible for development and maintenance of SARPs for navigation systems. The panel deals with conventional navigation systems, Global Navigation Satellite Systems and spectrum issues associated with navigation systems.

Key Activities / Accomplishments:

NSP has been focused on developing Annex 10 changes to introduce Advanced Receiver Autonomous Integrity Monitoring (ARAIM) in support of Dual Frequency Multi-Constellation (DFMC) GNSS into the SARPs.

DFMC SARPs for new core constellations (Galileo and Beidou) as well as GPS L5 and for DFMC Satellite Based Augmentation Systems. (SBAS) were recently completed, validated, and approved by the panel. In addition, SARPs were developed on an accelerated timeline for DFMC SBAS (Satellite Based Augmentation System). Although this package is complete and technically validated, it will still be some time before DFMC avionics will be developed because RTCA and EUROCAE are still working on Minimum Operational Performance Specifications (MOPS) for airborne equipment.

In addition, the SARPS package did not include any standards for A-RAIM- which is required to use the multi-constellation data when outside the coverage of a DFMC capable SBAS system. (No DFMC SBAS system currently exists and the first such system is projected to be available in 2026). A SARPs change package for A-RAIM is nearing completion.

Significant efforts have been made to develop and validate SARPS for SBAS authentication services. In addition, NSP has been working on an update for DFMC Ground Based Augmentation Systems (GBAS) as well as several important maintenance tasks such as an update to the GNSS Manual and an update to Doc 8071 which gives guidance on flight inspection of Navigation Aids.

On-going / Future Work

A list of the current job cards is given below. The activities receiving the most attention from ICCAIA are related to updates supporting dual frequency, multi-constellation GBAS (shown in bold face font). SARPs development for A-RAIM and DFMC SBAS standards needed to support operational implementation will continue. In addition, the spectrum working group will continue to be very active in working on GNSS interference issues as well as evaluating interference between LDACS and DME.

- NSP001 – Nav Roadmap; (Little activity)
- NSP002 – GNSS Multi-Constellation; (Dual Frequency Multi Constellation (DFMC) GNSS)
- NSP003 - SBAS Evolution; (DFMC SBAS)
- NSP004 – ARAIM; (Advanced Receiver Autonomous Integrity Monitoring - enables DFMC without SBAS or GBAS)
- **NSP005 GBAS Evolution; (DFMC GBAS)**
- **NSP006.02 GNSS RF Interference;**
- NSP007 Space Weather; (Little Activity – some coordination with Met Panel)

- NSP 008.02 Rationalization; (Rationalization of conventional navigation aids)
- NSP009.03 APNT; (Alternative Position Navigation and Timing) (Little Activity)
- NSP010.01 GANP Update 2016; (Support Global Air Navigation Plan)

Implications to Industry:

DFMC GNSS will eventually improve robustness and availability of GNSS services for all operations and potentially enable new operations. However, there are difficult issues around the Concept of Operations that are yet to be solved. SARPs for the new core constellations are complete, and MOPS development is underway. Several more years of work will be required before the MOPS can be completed and equipment can be designed, certified and fielded. With the completion of the SARPs for DFMC core constellations and SBAS, the next major area of interest to ICCAIA is development is DFMC GBAS.

In the last year the following events relative to DFMC GBAS occurred:

- ICCAIA continues to lead a coordination effort between ICAO and RTCA/EUROCAE to determine a realistic schedule for the development of DFMC GBAS SARPs and MOPS.
- ICCAIA made significant progress in validating an alternative architecture proposal for DFMC GBAS. The alternative proposal would achieve much better performance and support single frequency fall back modes capable of CAT III.
    - o ICCAIA instigated the formation of an ad-hoc group tasked with developing an architecture trade study that should be the first step towards development of SARPs.
    - o A standing ad-hoc was formed for this purpose and met virtually many times throughout the year.
    - o Support for the ICCAIA proposal has been growing and it appears that a compromise on the architecture (combining the strongest elements of both competing paradigms) will be reached this year.
- European Commission, being unsatisfied with the schedule harmonized between ICAO and RTCA/EUROCAE proposed an alternative approach to develop Multi-constellation – Single Frequency (MCSF) GBAS as a first step.
    - o ICCAIA argued against this as it will likely provide very little operational benefit over existing equipment.
    - o Adding this development will ultimately delay the development of DFMC GBAS even further.
- NSP GWG agreed to repeat the process of coordinating a schedule of development for MCSF GBAS with RTCA/EUROCAE. This coordination was completed with the same outcome (i.e. RTCA and industry are uninterested in developing MCSF GBAS).

Various navigation system related spectrum issues such as GNSS interference, DME interference from LDACS and 5G interference into Radio Altimeter also have the potential to significantly impact industry.

Flight Operations Panel

Member: Eric Fortunato, Airbus

Scope:

FLTOPSP is responsible for new/updated Annex 6 SARPs with a focus on Flight Operations. Emphasis is on Safety and Efficiency, and disciplines/topics covered include All weather operations (AWO), Low visibility operations (LVO), Extended Diversion Time operations (EDTO), Electronic Flight Bag (EFB), Performance-based Nav (PBN), Security (incl. CBR Threats), Runway Safety (RSOTI) and Safe Carriage of Goods (incl. Dangerous Goods).

Key Activities / Accomplishments in 2022:

- Finalized proposed amendment to Annex 6 Part I § 6.17 EMERGENCY LOCATOR TRANSMITTER (ELT), to address the end of flight location requirements (JC FLTOPSP.049).
- Phase 1 update of the All-weather operations manual (Doc 9365) in Secretariat editorial review, publication now planned for Q1/2023. Phase 2 update in work: first set of contributions in preparation, and parallel update by HSG started.
- Finalized proposed amendments to Annex 6, Part I, Annex 6, Part II and PANS OPS Vol III related to Runway Overrun Awareness and Alerting Systems (ROAAS). Remaining item on job card OPSP.009 related to take-off performance monitoring is postponed pending a review by EASA on the issue and the development of industry standards for the implementation of suitable technology.
- Finalized proposed amendment relating to CTC (Cold Temperature Correction) aiming at clarifying the provisions in PANS-ATM and PANS-OPS relating to corrections due to cold temperature. This work, coordinated with the ATMOPSP, primarily aimed at establishing the basic responsibilities for pilots and controllers and ensuring that these are clearly explained in the PANS provisions.

On-going / Future Work:

As of Jan 2023, the FLTOPS/P has 14 active Job Cards. The main activities currently identified as requiring ICCAIA support or follow-up are the following:

- **OPSP.009.06** (runway safety): completed work on proposed standards to Annex 6 Part II, and revised procedures in PANS OPS Vol III related to Runway Overrun Awareness and Alerting Systems (ROAAS). New task postponed on means to address incorrect performance calculations to prevent take-off acceleration performance issues.
- **OPSP.018.08** (Use of terms such as authorization approval and acceptance): Following discussion at FLTOPSP/8 and FLTOPSP/WG/9, additional guidance relating to polar area operations has been proposed, and a draft job card should be prepared for review at FLTOPSP/WG/10 (mid 2023). The other remaining item on job card OPSP.018 related to the review of guidance material to ensure consistency with the proposed amendments of Annex 6 presented at FLTOPSP/8. This guidance is planned for the next update to Doc 8335 planned for Q2 2024.
- **FLTOPSP.024.05**: Flight Operations in the presence of Volcanic Contamination. There had been little progress on this task, and resource was identified as an issue in further progressing the work. Job card will be reviewed to ensure that the needed work is detailed. The Panel agreed to address the resource issue and identify a rapporteur of the VA SG for manage the restart of this activity.

- **FLTOPSP.029.05** (AWO manual for Heli ops): draft of AWO guidance
- **FLTOPSP.038.05** (PBN approaches): need for further updates to the PBN Operational Approval Manual (Doc 9997) to align it with Annex 6 and the recently delivered 5th Edition of the PBN Manual (Doc 9613).
- **FLTOPSP.044.02** (Performance-based Aerodrome Operating Minima): work on Phase 2 update of AWO Manual (Doc 9365).
- **FLTOPSP.045.01** (Security Doc 9811): update of Doc 9811. There was no progress reported on this item, but it is planned to resume work before the next Panel meeting. An extension of the timelines to Q4 2023 was agreed.
- **FLTOPSP.046.01** (Ramp Inspections): late start of this work, caused by resourcing issues related to the COVID pandemic. The job card specified guidance was intended to be included in Manual of Procedures for Ops Inspectors, Certification and Continuous Surveillance (Doc 8335) as well as other manuals, and the timelines for the guidance was therefore aligned with other work planned to update this manual, with delivery in Q2 2024.
- **FLTOPSP.047.01** (Use of electronic certificates)**:** the task is to propose means aiming at standardization and acceptance of electronic documentation. This work had been intentionally delayed to allow for the work of the electronic pilots license task force (EPL TF) to reach a reasonable level of maturity. The EPL TF had agreed on both an interim solution and a longer-term proposal involving the use of ISO/IEC 18013-5 standard (initially developed for driving licenses) and as such it was considered reasonable to now start looking at how this could be applied to other documents carried on board the aircraft. The Panel agreed to request an extension on the WPEs related to the Annex 6 amendment on FLTOPSP.047 as the delay in starting work had resulted in these delivery dates being missed.
- **FLTOPSP.048.01** (PANS OPS Vol III): review and update/restructure. No progress was reported in respect of job card FLTOPSP.048, however work is planned to commence in early 2023 with the formation of a subgroup to consider how to address the review of existing material.
- **FLTOPSP.049.01** (GADSS - End of flight): task on Annex 6 amendments on accurate determination of the end of flight location (see Accomplishments in 2022). Next step is to review the definitions for the ELT and automatic ELT and finalize the guidance material.
- **FLTOPSP.050.01**: Review and revision of the Manual of All-Weather Operations (MAWO) to advance helicopter specific guidance.
- **FLTOPSP.051.01**: Development of Annex 6 Part III Provisions for Additional / Technical Crew Member
- **FLTOPSP.052.01**: Development of helicopter specific safety risk management
- **SCG-SWG** (Safe Carriage of Goods Specific Working Group): work is on-going on JC SCGSWG.002.01 (Dangerous goods risks introduced by entities in the cargo supply chain) and SCGSWG.003.01 (Procedures for preventing and responding to incidents involving lithium batteries carried by crew or passengers onboard the aircraft).

Implications to Industry:

FLTOPS/P work may impact the OEMs and in particular the aircraft configuration and system design needed to support the operations in compliance with Annex 6. The rulemaking work of FLTOPS/P may also be key in supporting the implementation of new technologies (e.g. MCO).

Challenges

Due to the current Panel meeting cycle, and the process for implementation of an Annex amendment (ANC review, State Letter consultation, etc.), it may take up to 4 years between the approval by the Panel of a proposed amendment and the applicability date of this amendment. Taking into account the time required to complete the drafting of the proposed amendments, it means that at least 5 years would typically be expected between the launch of the rulemaking effort and its completion.

ATM Operations Panel & Wake Turbulence

Member: Claude Lelaie, Airbus

Scope:

The panel covers various ATM operational issues.

ATFM:
- Long discussions on the way to declare the capacity of airports.
- Two solutions proposed: Most favourable or Most likely

Cold temperature corrections
- Good progress
- General guidance principles were developed by the WG
- There will be no mandate to States and/or ATC authorities to apply corrections. Nonetheless, there may be locations where it is desirable for the regularity of operations for such corrections to be made.
- Some lack of clarity in wording were removed.
- A simultaneous and independent process has been established with responsibilities assigned to States, ATC, Operators. The potential for "double correction" is addressed.
- Changed to PANS-ATM Chapter 8 proposed. Amendment to Annex 4 *Aeronautical Charts* also considered.

Radio Communication failure
- Job card accepted
- Modification of the documentation proposed by a working group
- However, the proposed regulations were found too complex to be easily implemented.
- A review is necessary

DATS (Digital Air Traffic Services)
- Modification of the name from DAATS to DATS
- The WG mainly focused on guidance for DATS implementation
- Several DATS already implemented and have performed their own safety analysis. Therefore, there is a doubt about the possible level of standardization.
- Inter-panel coordination needed

AFIS
- AFIS manual under preparation

Inter-panel coordination with ATMRPP
- Discussion on FPLN and eFLPN
- Update on connected aircraft

GADSS:
- Discussion about Personnel Training and Licencing

RPAS-ATMOPS Joint Task Force (RA-JTF)
- The current focus is to develop guidance material for ATS authorities, RPAS operators, and remote pilot in the design, implementation, and operational use of the C2 Link provisions.

Risks to civil aviation arising from conflict zone
- Job card under preparation

Wake Turbulence Specific Working Group

Members: Claude Lelaie (Airbus), Jeffrey Crouch (Boeing)

Scope:

The panel covers wake turbulence specific aspects

Key Activities / Accomplishments:

Separations at take-off and landing for various runways dispositions:
- Planning for the preparation of several job cards to cover all the situations created with the new Groups.
- First discussions on these subjects

Reduction of the risk of encounter in cruise
- Presentation by Eurocontrol of a tool which may be used by the ATC controllers to inform the pilots of a risk of wake encounter.

Wake energy retrieval
- Presentation for information by Airbus of the tests performed in this area.

Surveillance Panel

Member: Vincent Capezzuto, Aireon

Scope:

The Surveillance panel consists of two work groups: Airborne Surveillance Work Group (AIRBWG) & Aeronautical Surveillance Work Group (ASWG) focused on interoperability of secondary surveillance radars, multilateration and ADS-B systems / services with aircraft / remotely piloted aircraft systems avionics.

Key Activities / Accomplishments:

ASWG

Key activities:

- Inter-panel coordination: 1030/1090 MHz, GNSS, and L-band Digital Aeronautical Communications System (LDACS)

- Doc 9924 – Aeronautical Surveillance Manual: Updates on lockout behavior to improve RF pollution

Spectrum Interoperability:

- The Communications Panel (CP) is developing L-band Digital Aeronautical Communications System (LDACS) SARPS and is seeking approval from the various Panels in ICAO as part of the inter-panel coordination in introducing new SARPs. The SP is focused on verifying LDACS prototype interoperability and airborne/ground interfaces. The objective of testing is to determine the impact of LDACS signals on victim surveillance system receivers (Mode A/C, Mode S, Multilateration, DME, TACAN, ACAS, TCAS, Mode 5). The LDACS group has requested that the ASWG endorse their request to the ANC and approve their testing as sufficient. Discussions are ongoing regarding test methods.

Surveillance Frequency Concerns:

- The utilization of the 1030/1090 MHz frequencies has greatly increased in certain areas of the world and if no action is taken, the situation will reach an unacceptable level that will result in the corruption or loss of information from aircraft surveillance and collision avoidance systems. The total or partial loss of this data will affect the ATM systems and aircraft-to-aircraft systems resulting in an increase to the probability of mid-air collisions or disruption to Air Traffic Services. The EUROCONTROL Network Manager is leading a test campaign in terms of 1030/1090 MHz transponder MOPS capability. It was reported that most of the traffic within Europe experiences over-interrogation. EUROCONTROL is actively measuring the environment via ground receivers and periodic monitoring flights.

AIRBWG

Key activities:

- Doc 9994 Manual on Airborne Surveillance Applications: Interval Management (IM) continues to mature through proposed trials based on American Airlines large scale IM equipage. Manual on Airborne Surveillance Applications (Doc 9994) change proposal for adding sample operator guidance for interval management (IM). The sample operator guidance includes a description of IM and the five IM clearance types, IM terminology, and documentation to be submitted to the operator's State regulator when seeking operational approval. It is intended to provide a harmonized collection of information that mirrors the requirements by which each State regulator would evaluate an operator's qualification to conduct IM.
- New equipment functions are proposed for next generation avionics, to improve both the operational and technical capabilities of mitigating the impact of GNSS radio frequency interference (RFI), enabling on-board detection of GNSS RFI and status downlink to ANSPs (Job card NSP006.04).
- Provisions for remotely piloted aircraft DETECT AND AVOID (DAA) capabilities consider the issues relating to Detect and Avoid, Command and Control, Lost Link, and Navigation.
- Detect and Avoid: recently published RTCA DO-398 Phase III Operational Services and Environmental Definition (OSED) that covers UAS use cases such as Cargo, High-Altitude Platforms, and Survey operations. A revision to DO-398 is currently underway: this revision, slated for publication in February 2024, will ensure DO-398 accommodates DAA solutions for rotorcraft and early UAM/AAM use cases, such as ACAS Xr.

General Observation:

- The multi-year remote panel meetings undermined the efficiency of developing working papers towards progressing the work defined in the job cards.

Frequency Spectrum Management Panel

Member: Joe Cramer, Boeing

Scope:

The FSMP manages ICAO's involvement in aeronautical radio frequency spectrum issues, focusing on ensuring sufficient access to, and protection of this critical resource for communication, navigation and surveillance services (CNS).

Key Activities / Future Work:

In 2022, with the support of ICCAIA, the FSMP:
- Finalized the ICAO position for the 2023 World Radiocommunication Conference.
- Developed materials to support updates to the ITU Radio Regulations (RR), Recommendations, and Reports used to support the use of radio frequency spectrum on a worldwide basis.
- Advised the ANC on issues that impact aviation's usage of radio frequency spectrum.
- Developed and maintain the ICAO Spectrum Strategy and the ICAO Policy on Radio Frequency Spectrum.
- Submitted proposed changes to Annex 10, Volume V incorporating SARPs for Wireless Avionics Intra-Communications (WAIC) systems.
- Continued to develop radio frequency and interference rejection characteristics for radio altimeters.
- Address radio frequency interference issues impacting aviation safety systems.

Implications to Industry:

- The FSMP and its regulatory activities are critical in supporting the implementation of new CNS technologies, ensure coexistence of new aviation and non-aviation systems with existing operations, and develop interference rejection requirements from non-aviation transmission sources.
- The FSMP and its ICCAIA members work with states to develop and address international spectrum issues, particularly those considered by the International Telecommunications Union, most recently at the 2023 World Radiocommunications Conference. Specifically:
  o Enabling greater bandwidth HF data communications
  o VHF voice communications via satellite
  o Protect aviation use of the 4800-4940 MHz radio frequency band
  o Consider radio frequency spectrum for sub-orbital vehicles, and
  o To consider non-aviation safety communications for aviation which is helpful to the aviation industry but not directly related to aviation safety systems.

Challenges:

- Close coordination with RPAS Panel to finalize SARPS in order to finish international radio regulatory effort at the ITU. FSMP coordinates communications and information sharing with the

ITU). If the RPAS Panel cannot finish SARPS in 2022/23, then it is possible the ITU will not update its regulations to enable some types of GSO satellite systems to provide safety-related data to UAVs for beyond visual line of sight C2 for UAVs.

- Continue to work with ICAO on communications regarding protecting aviation safety systems from new cellular systems, such as 5G. ICCAIA and Member Companies supported several educational meetings with regulators during 2022, but more is needed.

Information Management Panel

Member: David Almeida, LS Technologies

Scope:

The Information Management Panel (IMP) works on the development of a global and harmonized interoperable approach for the effective management of information, on a system-wide basis, within the air navigation system. The IMP is investigating and developing solutions supporting the planning framework on information management contained in the global air navigation plan (GANP, Doc 9750), including further development of system-wide information management (SWIM). The 2022 work efforts of the IMP support the development of Procedures for Air Navigation Services for Information Management (PANS-IM), along with guidance and implementation documentation. The IMP has expanded to include efforts previously managed by the Aeronautical Work Group.

The current working group (WG) structure is as follows:

- WG-G: Governance,
- WG-I/S: WG/I Information Architecture, WG-S Services (now combined),
- WG-A: Aeronautical Information Management (AIM),
- WG-Vocab: Work group added this year to address information management from the vocabulary job card

Key Activities / Accomplishments:

IMP (with WG-G, WG-I, WG-S)

The SWIM Manuals are complete and ready for circulation. SWIM Doc 10039 was originally split into Volume I and II:

1. Manual on SWIM – Concept (doc 10039)
2. Manual on SWIM Implementation.

The IMP further developed a series of Information Management Procedures for Air Navigation Services (PANS-IM) which were finalized in 2022. There have been significant efforts associated with the PANS-IM, including cross panel concerns addressed by Secretariat, and the PANS-IM eventually approved through the ANC in 2022. The PANS-IM is being circulated to states for comments with the plan to release the PANS-IM and the SWIM Documents above in 2023.

A separate ICAO secretariat effort, Trust Framework Study Group (TFSG), has developed an Information Security Framework. There has been close collaboration in the initial development of this document, including authoring one of the initial chapters. This study group has evolved into a full panel, now the Trust Framework Panel (TFP). Additional coordination will be required in 2023.

The WG/G Governance group made progress on governance enhancements and did not deliver any significant milestones 2022.

WG I/S job cards were focused in the following areas.

- o   Service Registry Interoperability,
- o   A/G SWIM (Connected Aircraft) Information Services: Good progress on A/G SWIM work
- o   Information Security Framework: document development collaboration with TFSG continued through the formation of Trust Framework Panel.

WG-A is made very meaningful progress in 2022. The ICAO ANB has made available a separate secretary to WG-A. The WG-A deliverables in 2022 include the following:

- Annex 4 Data Catalogue usage for Charts
- Annex 15 New NOTAM System called OPREP
- Updates to PANS-AIM (Doc 10066)
- Updates to PANS-ABC (Doc 8400)
- Annex 4 & 15 terminology harmonized
- NOTAM Replacement Operational Concept (OPREP OpsCon) being reviewed
- Data Set Focus Group has started work on product specification
- Review AIS BBBs for GANP v7 (new BBB's published to GANP Portal)
- Develop AIM TRG Manual (Doc 9991) Completed
- Develop AIM QA Manual (Doc 9839) Completed and published
- Develop AIM GM Manual (Doc 8126) Completed and published

Overall, there has been a noticeable drop off engagement from the rapporteurs. Taking additional actions to ensure the panel continues to address priorities beyond the efforts in WG/A. In particular, cross panel coordination is required. These efforts have required collaboration with ATMRPP and as such, ICCAIA secured support IMP as a technical advisor on those areas, in particular. As a member of the ATMRPP, Mr. Bob Lee represents a valuable resource on some of the specific topics currently being executed in IMP, namely the Connected Aircraft, also known as, Air/Ground SWIM.

Cros panel coordination efforts included a collaboration on the Connected Aircraft Concept of Operations, which included the following panels:

- Air Traffic Management Operations Panel
- Air Traffic Management Required Performance Panel
- Airworthiness Panel
- Communications Panel: Data Communication & Infrastructure Working Group
- Communications Panel: Operational Datalink Working Group
- Separation and Airspace Panel
- Flight Operations Panel

Those cross-coordination panel efforts will continue through March 2023. Approval for the initial release of this document is targeted for ATMRPP/5 in June 2023.

Implications to Industry:

The PANS-IM and SWIM documents are long awaited documents to help CAAs/ANSP's and aviation information management stakeholders (including data vendors, manufacturers, etc.) on standards, governance and technical capabilities for information exchange.

Doc 10039 also introduces Connected Aircraft (air/ground SWIM) and the exchange of information between entities connecting to the aircraft. This may have particular interests to the industrial base. 2023 appears to be poised to be a significant year for document delivery.

The activities around AIM and the NOTAM Replacement Concept (OPREPS) will be more significant, and have broader industry implications to software developers, CAAs ANSP's (system lifecycle planning), etc., but as well as to improve the quality of the internal aeronautical data process.

On-going / Future Work:

There has been a significant addition to the Technical Advisory support on IMP in the last week of the year. The following are Technical Advisors, with their respective assignments.

- **Bob Lee** – Tech Advisor to IMP/inter-panel coordination support
- **Marko Zoricic** – Tech Advisor IMP support
- **Peter Rudolph** – (WG/A) Peter leads Aeronautical Charting Focus Group
- **Michael Velasquez** – Working Group A support
- **Sherry Yang** – Working Group I/S for Connected Aircraft & Reg/Repository
- **Aaron Jacobson** – Connected Aircraft focus and WG/A
- **Christian Pschierer** – Governance Working Group support (WG/G)

The following are additional efforts, organized by working group:

WG/G: Governance

- WG-G: SWIM Governance Enhancements

WG/I-S: Information Architecture & Services

- Service Registry Interoperability
- Connected Aircraft (Air/Ground SWIM) Information Services

WG/A: Aeronautical Working Group

- AIM Implementation support (open)
- NOTAM Replacement System (Annex 15, PANS-AIM (Doc 10066)), using SWIM
- Introducing data-centricity and digital charting into aeronautical charting (Annex 4)
- Digital Datasets for ICAO Aeronautical Data Catalogue: PANS-AIM, Appendix 1
- Review all 18 charts in Annex 4, relate to data catalogue & data sets
- Digital Data-Sets Product Specification goes on, interface to digital charting
- Finalize NOTAM Replacement Concept (OPREP) and PfA development

WG/V: Vocabulary

- New WG-Vocab addressing the information management vocabulary job card

The plan is to held IMP/2 as a full panel meeting in June 2023.

Separation and Airspace Safety Panel (SASP)

Member: Sheila Conway, Boeing

The SASP develops technical and operational ICAO provisions for improving safety and, at the same time, improved efficiency of Air Traffic Management.   The panel develops separation minima and the required level and performance of communications, navigation and surveillance technologies needed to support such minima, considering safety as well as the airspace capacity's ability to meet future demand.

Key Activities / Accomplishments:

SASP advances are expressed primarily in revisions to the PANS ATM and supporting circulars and Documents.

Recent accomplishments of SASP include:

- Reduced Vertical separation in oceanic and Remote airspace
- Established on RNP: separation practices for use during simultaneous approaches
- Standards for reduced separation using space-based ADS-B surveillance
- Reduced separation requirements for diverging departure tracks

Activities include:

- On-going work on definition of appropriate track spacing given various levels of navigation performance specific to various communication and surveillance availability. Flight trials to ensure/understand performance
- Revisiting stabilized procedure criteria as applied during simultaneous operations
- Vertical separation assurance without level segments using RNP tracks.
- Formation flight for fuel savings
- Development of new Safety assessment techniques consistent with performance-based technologies

Challenges

SASP continues to use both observed (trial) data as well as minimally-required performance (certified performance levels) to ensure safe separation standards are defined. New criteria for performance, such as A-RNP (advanced RNP) will require careful consideration: both their expected performance and variations from their nominal performance must be appropriately expressed.

Additionally, actual performance of new entrants and mechanisms of unexpected behaviors for unpiloted or remotely piloted vehicles are not fully understood. The SASP must clearly understand both the nominal and atypical performance of these vehicles to provide safe guidelines of their integration into the airspace.

Security Committee

Annual Summary

Chair: Xavier Depin, Airbus/ASD

Vice-Chair: Sean Sullivan, Boeing/AIA

Committee Summary

Aviation security is an essential component of the civil aviation system. ICCAIA's security committee deals with both physical security and cyber security. With members representing manufacturers of leading providers of security equipment as well as cyber security and aviation security experts from all aspects of aerospace, the committee works to develop and express a coordinated industry position on all matters relating to security. Committee members participate in ICAO AViation SECurity (AVSEC) and cyber security related activities, panels and groups.

2022 Committee Highlights

The work in 2022 was affected by the difficulty of restarting operations following the health crisis. The delay in the ICAO bodies and the difficulty in mobilising industry experts unfortunately did not allow progress to be made as hoped. Work has nevertheless resumed and it is hoped that the momentum regained at the end of 2022 will be maintained and even increased.

During this year, two sessions of this committee took place, during which members shared information on ongoing activities and exchanged views on key issues requiring the support of committee members.

At the 41st General Assembly, ICAO Member States reaffirmed the importance and urgency of addressing aviation security (including cyber security) and the adoption of the resolutions A41-18[1] and A41-19[2].

2022 also saw the restructuring of ICAO's cyber security activities. This restructuring included the transformation of the Secretariat Study Group on Cyber Security (SSGC) into a Cyber Security Panel (CYSECP), which held its launch meeting in May and has since held one working session of its two sub-groups. The Trust Framework Study Group was also transformed into a panel, whose kick-off meeting will take place from 27 to 31 March this year.

The work undertaken jointly with IATA in the frame of the information exchange restricted Forum has been carried out in relation to the management of cyber security risks in connection with aircraft operations and will continue this year.

In relation to physical security (AVSEC), a member of the security committee made a presentation at the ICAO Innovation Fair 2022 on the theme of 'the promise of Open architecture'. ICCAIA also responded to a State Letter, to provide input for the review of document 10084 (Aviation security-related guidance material on civil aircraft operations over or near conflict zones).

With regard to the structure of the security committee's support to the work of ICAO, an observer has been appointed for the AVSEC Panel (Karim Labib, Smiths Detection) and CYSEC Panel (Xavier Depin, Airbus), and a member nominated for the Trust Framework Panel (Stefan Schwindt, GE).

---

[1] Consolidated statement on continuing ICAO policies related to aviation security
[2] Addressing Cyber Security in Civil Aviation

Key Activities

General Assembly: The Committee performed a review of the 42 security-related papers submitted to the ICAO General Assembly, supporting some of them in the interest of the industry.

In Cyber security, the two CYSECP working groups, the Working Group on Cyber Guidance Material (WGCGM) and the Working Group on Cyber Threats and Risks (WGCTR), worked during their first session at the end of the year on the finalisation of their terms of reference, the establishment of a roadmap in continuity with the work undertaken by the SSGC as well as the assignment of tasks to the different members represented.

The Trust Framework Study Group (TFSG) in ICAO was not very active in 2022, as the work of transition to the Trust Framework Panel (TFP) took over. The members of the Security Committee have mainly supported the three TFSG working groups in developing job descriptions of the work needed in the TFP as a continuation of the work done by the TFSG. The 3 job cards were approved by the Air Navigation Commission on 30 November 2022 and should be used as a basis for the TFP Kick off meeting at the end of March.

The rForum activities, jointly managed between IATA and ICCAIA focused on information sharing in the context of the implementation of shared cyber security risk management in relation to aircraft operations. The work has resulted in the development of a Security Risk Assessment Template as well as a first draft of a functional decomposition of civil aviation operations in relation to airplanes.

Challenges

The challenges the security committee will face in 2023 are many. Among the most important are:

- Obtaining a significant mobilization of Association members to support ever-increasing AVSEC and cyber security related work,
- Successfully engage multi-disciplinary work, both internal and external to the ICCAIA, with a primary focus on addressing:
    - the interaction between security and airworthiness/safety activities, starting with the interaction between the safety management system and the civil aviation information security management system (Integrated Risk Management/ IRM),
    - the consideration of security risks in innovation activities (security for and through innovation),
    - The consideration of cyber security risks in all ANC activities in relation to Communication, Navigation and Surveillance.

A further challenge in the ICAO context was the delay in establishing the Council ad-hoc Cyber security Committee (CCC) in charge of governing the ICAO cyber security effort. This will become more critical when the work of the Trust Framework Panel commences, to ensure proper coordination.

Future Work

Cyber security

Cyber security activities in 2023 will primarily continue from those undertaken in 2022 and in line with the latest security resolutions approved by the last General Assembly. Key topics that will be addressed include implementing elements of the Cyber Security Action Plan, maturing the International Aviation Trust Framework and its related elements and the identification and assessment of cyber security risks to air transport, an activity hitherto neglected by the ICAO Working Group on Threats and Risks (WGTR) and now taken over by the WGCTR.

In order to comprehensively address the cyber security issues dealt with by the various ICAO working groups, the above activities initiated in 2022 should ideally be complemented by the involvement of the ICCAIA Security Committee in the cyber security work undertaken by the Communication, Navigation and Surveillance Panels in full coordination with the Communication, Navigation and Surveillance/Air Traffic Management Committee (For example, ATN/IPS, SBAS authentication, ICNSS TF).

The Security committee will also continue to work with airlines, through the joint rForum initiative with IATA, a common understanding of the issues, risks and discuss solutions to be put in place. The year's activities will begin with the development of a risk–sharing management pilot case.

Physical Security (Aviation Security)

Nothing is completely defined for the year 2023 regarding the AVSEC Panel activities but it is likely that the activities will revolve around innovation, Integrated Risk Management and the management of risk in a health and environmental context full of challenges.

It is also expected that the security activities carried out by the Flight Operations Panel will be resumed and that support will be provided for the updating of the Manual on the implementation of the security provisions of annex 6 (Doc 9811) to take into account emerging issues resulting from Chemical, Biological and Radiological threats and for other changes to security provisions (including cyber security).