

# THE CONTROLLER

FEBRUARY 2020

JOURNAL OF AIR TRAFFIC CONTROL



## IN THIS ISSUE:

- News & Photos from IFATCA at 40th ICAO Assembly
- IFATCA Regional Meetings in Africa & Middle East and Europe
- News from Communicating For Safety 2019
- News from Oshkosh AirVenture & Le Bourget Air Show



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# THE CONTROLLER

FEBRUARY 2020  
VOLUME 59 ISSUE 1 — ISSN 0010-8073



**Cover photo:** This cover is a representation of the future air traffic controller connected with artificial intelligence as presented by Thales at the Paris Air Show in le Bourget. In this issue of The Controller, there is an article presenting news from the Paris Air Show. Credit Thales.

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### EXECUTIVE BOARD OF IFATCA



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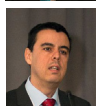
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# PREPARING FOR THE FUTURE

▶ BY DUNCAN AULD, IFATCA PRESIDENT & CEO

The Federation's theme for this year is preparing for the future. We are part of a technology industry in a fast-paced, growing environment. It is difficult to know what aviation will be like in 20 years, but it will definitely be significantly different from today.

The Federation is a global community representing over 120 nations, including some of the most advanced and the least fortunate countries. We must shape the front-end of technological advancement without neglecting our brothers and sisters who need our support to get the most basic forms of training, equipment, and automation.

Air traffic is predicted to double in the next 15 years; yet, we already face a critical shortage of aviation professionals. The most significant increases will be in Asia, Africa, the Middle East, and South America, thereby moving the air traffic centre of gravity from its traditional position in Europe and Northern America. Some areas of these regions struggle to cope with the existing traffic demand. They require much more attention. Investments in personnel, and infrastructure. Improvements in airspace design are urgently required.

We need to recruit a young and diverse future workforce to continue innovating and developing our industry, so it can cope with the challenges of the future. Society is changing fast. Let us embrace generational change and adapt to the modern world in ways we have never imagined.

The air traffic controller will remain an essential part of air traffic management for the foreseeable future contrary to articles and videos suggesting otherwise. Technology is essential to cope with the current levels of traffic, but technology alone is not a solution. The flexibility and creativity of human beings cannot

be replaced by a computer. Therefore, it is essential to participate jointly in a common effort with the industry to develop systems that ensure that they make the best use of human capabilities, while supporting human users with reliable technological solutions.

The Federation is building on its implementation strategies, where we assist with the development of the profession with workshops, guidance materials, and other initiatives. These efforts are being done in conjunction with activities that shape the future of aviation at ICAO, SESAR, and through other regional programmes. The Federation must shift into a mode where we shape, guide, and support, all at once.

Air Traffic Management is becoming increasingly complex as new technologies move rapidly from concept to reality. Technology now is developed faster than our rule makers can study and determine regulatory and safety requirements. In this environment, professionals are the key to ensuring that the technological solutions proposed fit into the operational environment without the need for workarounds and superficial risk mitigation.

IFATCA has succeeded in establishing itself as the worldwide voice of air traffic controllers in the international rulemaking field. However new challenges lay ahead. The circulation of knowledge and best practices among the members of the Federation and the participation in the development of ATM systems by industry are natural ways to advance the objectives of the Federation. The first steps have



▶ Photo: Duncan Auld , IFATCA President & CEO

been taken with the implementation of IFATCA's courses and an increase in partnerships with corporate members. We must continue heading in this direction in order to elevate the voice of air traffic controllers further than ever before.

As the Federation approaches the celebrations of 100 years of air traffic control in 2022, we will look back at our success and our failures seeking inspiration for the future. We will be creative and innovative. The rest of the world is changing fast. Let us maintain aviation as the technical wonder and achievement that it should be. ◀

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# IFATCA PARTICIPATION IN GLOBAL MEETING TO SHAPE THE FUTURE OF AVIATION

BY JEAN-FRANÇOIS LEPAGE, IFATCA'S IAISON OFFICER TO THE ICAO AIR NAVIGATION COMMISSION



The 40th ICAO Assembly took place last 24 September to 4 October 2019. It was attended by more than 2400 delegates from around the world, representing 184 of the 193 Member States of ICAO and 55 international organizations, such as ACI, CANSO, IAOPA, IATA, IBAC, ICCAIA, IFALPA, IFATCA, and many more. Interesting to note is the fact that this year, the Assembly coincided with the 75th anniversary of ICAO.

The Assembly is ICAO's sovereign body; it meets at least once every three years and is convened by the ICAO Council. It is divided into five different commissions: administrative, economic, executive, legal and technical and its primary objective is to determine the direction, budget and work programme of the organization for the next triennium. It is also during the Assembly that Member States are elected to the Council.

IFATCA was represented at the Assembly by a delegation consisting of Duncan Auld (President and CEO), Helena Sjöström (Deputy President), Ignacio Baca (EVP Technical), Peter Van Rooyen (EVP Professional), Jeffrey D. Richards (RPAS Panel Member for IFATCA), Thom Metzger (The Controller Magazine Editor) and Jean-François Lepage (IFATCA Liaison Officer to the ICAO Air Navigation Commission).

During its 40th iteration, the Assembly produced and reviewed more than 640 working papers and information papers. IFATCA co-signed five working papers with other industry organizations (ACI, CANSO, IATA, ICCAIA and IFALPA) on topics of mutual interest, such as commercial space operations integration, the need to address harmful interferences to GNSS signals, the need for standards and guidance to mitigate the risks related to unauthorized UAS operations, the future of frequency spectrum needs in aviation and UAS traffic management.

Among the 640 working papers, the main topics covered were: environment-related issues and the CORSIA initiative (62 papers), security and cybersecurity (55 papers), facilitation (40 papers), ATM-related matters (36 papers), economic issues (31 papers), the "No Country Left Behind" (NCLB) initiative (28 papers), safety management (25 papers), flight operations (24 papers), Remotely-Piloted Aircraft Systems (RPAS) and Unmanned Aerial Vehicles (UAVs) (23 papers) and the ICAO Universal Safety Oversight Audit Programme – Continuous Monitor-

ing Approach (USOAP CMA) (23 papers).

Immediately before the Assembly, the Executive Board gathered for a three-day meeting, also in Montréal. The presence of the entire executive in the city that is home to ICAO was not a coincidence; it was an excellent opportunity for some of the EB members to meet with other international organizations such as IFALPA and ITF, while for others it was the perfect moment to work on logistic and



Photo by Thom Metzger (NATCA/IFATCA)

▶ **Photo:** IFATCA Assembly representatives (left to right) were Ignacio Baca (EVP Technical), Duncan Auld (President and CEO), Helena Sjöström (Deputy President), Jean-François Lepage (IFATCA Liaison Officer to the ICAO Air Navigation Commission), and Peter Van Rooyen (EVP Professional).

# IFATCA PARTICIPATION IN GLOBAL MEETING TO SHAPE THE FUTURE OF AVIATION (CONT.)

financial issues at the IFATCA office, along with Tatiana, our Office Manager. Meanwhile, our Liaison Officer to the ICAO ANC, Jean-François, was putting the final touch to the interventions drafted by the group for the Assembly and took care of the necessary coordination and arrangements with some of the key industry partners and States present at the event.

During the two weeks of the Assembly, IFATCA made a number of interventions to support working papers that were presented or to highlight certain aspects not necessarily mentioned in the working papers, but of importance to the Federation:

## **GLOBAL AIR NAVIGATION PLAN (GANP): ENABLING TIMELY ATM MODERNISATION**

As stated in the 6th Edition of the GANP, it is paramount that the role of the human is taken into account when developing technology, equipment and procedures supporting the ATM modernisation. This is the only way we can ensure that the proposed developments yield the expected results, whether it be in terms of capacity, efficiency or safety. IFATCA stressed that the Federation is in favour of an approach where human and technology are complementary; when combined in a suitable manner, together they are able to perform on a much higher level, to which neither the human nor the technology alone is capable. IFATCA recommended that, in line with the GANP, the human is the starting point of any system design.

## **A NEW STRATEGY FOR THE NEXT GENERATION OF AVIATION PROFESSIONALS (NGAP)**

IFATCA has been a strong supporter of the NGAP Programme since its inception and welcomed working papers supporting the initiative. However, the Federation stressed that harmonization of qualifications and licences at the global level can only be achieved with a solid, mandatory licensing scheme for all ICAO States. This is essential to ensure that the same standard level of competence amongst

aviation professionals, especially air traffic controllers is achieved and maintained globally.

To this end, a thorough assessment of Annex 1 Chapter 4 provisions for air traffic controllers is long overdue, and IFATCA welcomed ICAO's recent Electronic Personnel License TF initiative. We reiterated our commitment to continue to support the work of ICAO regarding qualification and licensing issues.

## **BUILDING CAPACITY IN ATM**

IFATCA is in favour of increased collaboration between stakeholders in order to meet the challenges of the predicted traffic increase in the years to come. However, it was highlighted that while technological and infrastructure improvements are required, they are only a small part of the solution.

all stakeholders, the professional associations shall not be forgotten.

## **CONVERSION AND VALIDATION OF PERSONNEL LICENSE**

IFATCA believes that it is essential to ensure the same performance standards are achieved and maintained globally for all aviation professionals, including for air traffic controllers. To achieve this goal, one of the first steps to take is to ensure all States implement an appropriate licensing scheme for air traffic controllers, and to encourage States to implement the competency-based training and assessment provisions detailed in ICAO Doc 9868, Procedures for Air Navigation Services (PANS) Training, Part IV.

It is generally recognized that those States which have implemented licensing schemes for personnel enjoy higher compliance with ICAO Standards and Recommended Practices (SARPs) and therefore it can be seen as a direct safety benefit. In addition, a thorough assessment of Annex 1 Chapter 4 provisions for air traffic controllers is long overdue, and IFATCA welcomed ICAO's recent Electronic Personnel License Task Force initiative. IFATCA once again reaffirmed its commitment to continue to support the work of ICAO regarding qualification, licensing, and competency initiatives.

## **THE SAFE AND EFFICIENT INTEGRATION OF UAS INTO AIRSPACE**

IFATCA stressed that a strong set of SARPs and PANS provisions will be required in the domain of Unmanned Aerial Systems (UAS). Global harmonization from the onset is desirable because while cross border operations are barely considered at the current state, they will rapidly become a reality. Harmonization from the start is also desirable to avoid future interoperability issues. IFATCA stated its desire to contribute to this effort with its expertise in the domain of air traffic management and airspace. ◀



On top of the conclusions of the 13th Air Navigation Conference (AN-Conf/13), held last year in Montréal, Assembly Resolutions A38-12 and A39-29 recognize that there is a lack of qualified personnel to support the existing and future air transportation system; which must be addressed by attracting, training and retaining enough qualified personnel. This can only be achieved with adequate salary patterns, social benefits and other incentives. These fundamental elements form the basis of a healthy workforce and thus ensuring an effective development of the aviation sector.

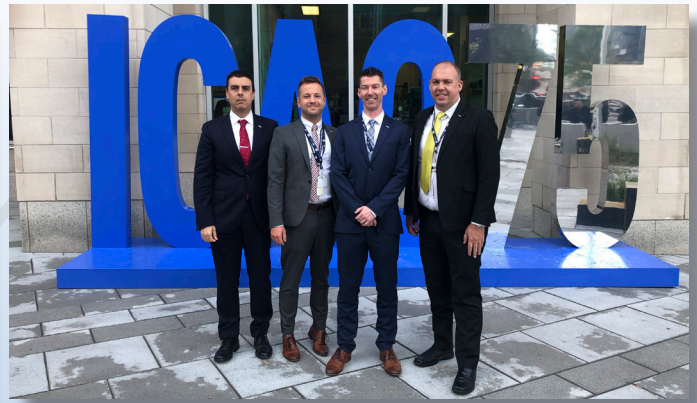
IFATCA agrees that the modernization of the aviation system can only be achieved by building on partnerships, collaboration and cooperation. In the common effort of

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Photos by Thom Metzger (NATCA/IFATCA) and from ICAO.



➤ **Photo:** In September 2019, the International Civil Aviation Organization (ICAO) welcomed delegates for the 40th Assembly at its headquarters in Montreal. The Assembly meets once every three years.



➤ **Photo:** During the 40th Assembly, ICAO delegates recognized the 75th anniversary of the organization's founding charter. Here is the IFATCA delegation in front of an ICAO 75 sign.



➤ **Photo:** 2600 delegates from ICAO's 193 member states and international organizations like IFATCA participated in the General Assembly. Member states are entitled to one vote on matters.



➤ **Photo:** The Assembly was opened by (left to right) Canadian Deputy Minister of Transport Michael Keenan, ICAO Secretary General Fang Liu, ICAO Council President Olumuyiwa Benard Aliu, Quebec Premier François Legault, and Montréal, Mayor Valérie Plante.



➤ **Photo:** During the opening plenary, 28 states representing all ICAO Regions received Council President Certificates in recognition of significant progress in resolving safety oversight and security deficiencies.



➤ **Photo:** At the opening plenary, IFATCA was represented by President and CEO Duncan Auld and Deputy President Helena Sjöström.



➤ **Photo:** IFATCA's EVP for Technical Ignacio Baca addressed an Assembly session about issues important for controllers...



➤ **Photo:** IFATCA representatives networked with other Assembly delegates at a reception hosted by Singapore.



**50<sup>TH</sup>**  
**IFATCA**  
ANNUAL CONFERENCE  
S I N G A P O R E

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30 March - 3 April 2020  
Marina Bay Sands  
Sands Expo & Convention Centre





# CONFERENCE UPDATE

## ➤ FROM THE IFATCA EXECUTIVE BOARD

It is obviously in the interest of the Federation that we have a majority of member associations represented in Singapore, but the health and wellbeing of our attendees continues to be our main concern.

IFATCA surveyed our member associations (MAs) and found that roughly half still intend to travel to Singapore to attend the 2020 Conference. Some eighteen member associations are still undecided on whether they will attend.

We continue to closely monitor the situation and the advice of the local authorities. There is still a high degree of uncertainty on how the spread of the COVID-19 virus will evolve.

At this time, we have not received any indication from the authorities in

Singapore that justifies abandoning the 2020 Conference. In the absence of advice from the authorities in Singapore not to proceed, we will go ahead with the 2020 Conference as planned. The Singapore Ministry of Health will help coordinate additional precautions during the conference, such as temperature screening, masks, etc.

Having said that, each member association and individual delegate needs to determine for themselves whether they can attend or not, taking advice from their local authorities and potential consequences into account. We do ask that you keep us (the Executive Board) informed of your decision, especially if you have registered and plan not to attend.

In the (currently unlikely) event that we do not have a quorum, there are guidelines on how to proceed in our

administrative manual, which the board will diligently apply.

For those still undecided whether they can/should attend our 2020 Conference: please be advised that the Marina Bay Sands Hotel will extend the cancellation deadline to March 4th. This extension will give MAs and delegates more time to evaluate the situation. The information in your reservation should be updated soon.

If you want to book a room past this date, please contact the organising committee directly.

We thank our member associations and other attendees for taking the time to complete our survey on their conference attendance.

We also praise Singapore for its thorough and effective handling of the epidemic. ◀



# REGULATORY FRAMEWORK FOR AIR NAVIGATION

▶ BY PHILIP MARIEN, IFATCA COMMUNICATIONS COORDINATOR

Looking ahead to 2022 when IFATCA will celebrate 100 Years of air traffic control, it's worth looking back to some significant milestones that led up to establishing ATC. One such milestone was the establishment of an international regulatory framework for air navigation.

## FIRST ATTEMPTS

Despite several attempts from 1903 onwards, states did not successfully agree on regulations for international aviation in the first decade of the 20th century. When Louis Blériot crossed the English Channel in July 1909, he carried no identity papers. Contrary to the freedom many Europeans currently enjoy – the Shengen zone generally enables them to travel between countries without identity checks – this was far from evident in the lead-up to World War I (WWI). The flight led France to convene an international conference to try to regulate air navigation in 1911. About 20 countries took part, but there were too many disagreements, particularly on the question of foreign aircraft overflying other states, probably again triggered by the mistrust between the different countries.

Another attempt was made by the Allied Nations during the second half of WWI. The primary mission of the Inter-Allied Aviation Committee, created in 1917, was to study solutions to standardize the types of aircraft, engines, and aeronautical equipment used by the Allies during the war. While it was dissolved in 1918, it inspired Albert Roper (See page 10 for more information.) to establish a similar structure dedicated to civil aviation.

French Prime Minister Georges Clemenceau, who chaired the Paris Peace Conference, agreed with Dr. Roper's views and proposed the attending states to revive the Inter-Allied Aviation Committee as the Aeronautical Commission. This commission would be tasked to draw up an international convention on air navigation.

The "Convention Relating to the Regulation of Aerial Navigation" was signed

on 13th October 1919 in the Clock Room of the Ministry of Foreign Affairs in Paris. It established the main principles for the development of civil aviation, and article 34 called for the creation of "... a permanent Commission under the direction of the League of Nations," the future ICAN.

## INTERNATIONAL COMMISSION FOR AIR NAVIGATION (ICAN)

The Commission was formally established on the 11th of July in 1922 after the 1919 convention was ratified by 14 states. ICAN met for the first time in Paris, which became its permanent home. They elected Albert Roper as Secretary General. At the time, no other international agency possessed such extensive powers. As well as monitoring the application of the Convention, ICAN



▶ **Photo (left):** Clock Room of the Ministry of Foreign Affairs in Paris, where the first Convention Relating to the Regulation of Aerial Navigation was signed in October 1919

centralized and disseminated information, published aeronautical charts, and maintained regular relations with other organizations in order to establish common rules for air navigation. A decision by the majority were binding for all member countries. For this reason, the United States chose to ratify a separate agreement: the Havana Convention.

In an effort to expand membership, ICAN adopted two protocols giving new members equal voting rights and the possibility of concluding special conventions. When these texts came into force in 1926, Denmark, Norway, the Netherlands, and Switzerland ratified the Convention. Negotiations with Germany took longer and were eventually accepted in 1929. These were to have taken effect in 1933, but eventually failed due to the rise of the Nazi Party and the establishment of the Third Reich.

By 1939, 33 states had committed to the Paris Convention. In the same year, ICAN adopted the Instructions on the International Telecommunications Service for Aerial Navigation (IITSAN) and created an International Radio Aeronautical Committee (IRAC). The latter organization, based in Brussels, attempted to harmonize technical procedures and operating methods used in civil aviation, but its work was suspended at the outbreak of war.

## THE CHICAGO CONVENTION

The Second World War meant a technological boost for aviation and rendered existing regulations obsolete. It triggered the USA to convene an international conference in Chicago from 1st November to 7th December 1944. The fifty-two attending nations agreed to a new convention and to a new permanent agency whose objective was "to develop the principles and techniques of international air navigation."

## CREATION OF PICAO

After twenty-six countries ratified the Chicago Convention, a Provisional International Civil Aviation Organization



Photo by ICAO



▶ **Photo (above):** Members of Interim Council of PICAO in Council Chamber in Sun Life Building, Montreal.

(PICAO) was established in Canada. Dr. Albert Roper became its Secretary General. PICAO was to coordinate technical standards for the Civil aviation sector and define international standards in liaison with ICAN. During the first Interim Assembly in 1946, Montreal was selected as the new seat for the organization.

In the meantime, ICAN was looking to update the Paris Convention, which was still in force, using the Annexes of the Chicago Convention as a guideline. The proposed amendments were discussed in London in August 1949.

## FIRST ICAO GENERAL ASSEMBLY

On 4th April 1947, the Chicago Convention entered into force and the Provisional International Civil Aviation Organization dropped the 'P' of provisional and became ICAO, which was composed of an Assembly, a Council, an Air Naviga-

tion Commission (ANC), an Air Transport Committee (ATC) and a Secretariat. The organization held its first General Assembly in May 1947 in Montréal. ICAN was in the meantime being dissolved, a decision formalized at its meeting in Dublin in October 1946. In December 1947, ICAN was dissolved, and part of its staff was transferred to ICAO's European-Mediterranean Office. From then on, ICAO would become the focal point for international regulations on air navigation.

Without a doubt, the various international agreements, conventions and organization played an essential role in establishing standards that allowed Air Traffic Service to develop and grow to what it is today. The formal ratification of the 1919 Paris Convention in 1922 is one of the reasons IFATCA identified this year as pivotal for the establishment of ATC. ◀

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# AVIATION PIONEER: ALBERT JEAN FRANÇOIS ROPER

▶ BY PHILIP MARIEN, IFATCA COMMUNICATIONS COORDINATOR

Albert Jean François Roper was born in Paris on 21 April 1891 and graduated from the Faculty of Law in Paris. He served in World War I, first in the infantry in 1914 but transferred to the Flying Corps in 1916. By the end of the war, he was a captain-pilot in command of a fighter squadron. He was awarded five citations and the Cross of the Chevalier of the Legion of Honour.

Following the 1919 Peace Conference, Dr. Roper became the first and only Secretary General of the International Commission for Air Navigation (ICAN). He was among the first to defend the principles of world cooperation in civil aviation. He held this position for twenty-five years until ICAN was disbanded in 1947. He was Secretary General of the Provisional International Civil Aviation Organization (PICAO) from 1944 to 1947 and became the Secretary General of ICAO on 28 May 1947. He held that position until his retirement on 31 December 1951.

Dr. Albert Roper died on 2 May 1969 at the age of 78. ◀

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Photo by ICAO

▶ Photo: Albert Jean François Roper



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# NEWS FROM AFM REGIONAL MEETING

➤ **BY FATEH BEKHTI, IFATCA EXECUTIVE VICE-PRESIDENT FOR THE AFRICA AND MIDDLE EAST (AFM) REGION**

The 30th IFATCA Africa and Middle East regional meeting (AFM RM) was held in the city of Hammamet, Tunisia. The meeting took place at the Russelior Hotel in Hammamet from Nov. 13-15. This was the fifth time that the meeting was hosted in Hammamet.

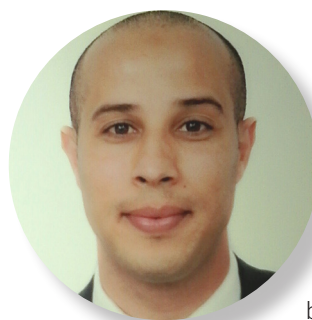
Attending the meeting, there were 144 participants, representing 25 IFATCA member associations (MAs). In addition, representatives from the Kingdom of Saudi Arabia attended the meeting as observers. Six international organisations attended and are as follows; ICAO, IATA, IFALPA, IFATSEA, ACAO, and ITF. Three national organisations attended as follows; Tunisian ANSP (OACA), Tunisian CAA (DGAC), Tunisian Medical Centre of Aeronautical Expertise (CEMEDA), and the South African ANSP, ATNS.

This year's IFATCA AFM RM focused on training as key enabler of air traffic controllers' professionalism. The Federation strongly believes that we have many com-

mon issues on which we can work together, learn from each other, and develop solutions for the benefit of our members and the industry.

The 2019 AFM RM agenda included panel discussions and presentations on the aforementioned theme. It also involved a joint ICAO/ACAO/IATA/IFATCA fatigue and risk management workshop, led by IFATCA President and CEO Duncan Auld, IFATCA's ICAO ANC Representative Jean-François Lepage participated, and me.

The three day meeting covered various areas and key issues centred on the meeting theme: the training and strategic program of the Tunisian CAA (DGAC), IFATCA's training initiative and TOC/PLC working program, IFATCA/ITF working together in conflict management and resolution, IFATCA's Equality, Diversity, and Ethics Task Force (EDEF), ICAO support and cooperation/



training, ACAO training support for member states, IFALPA training initiative and challenges in pilot training, ICAO fatigue risk management system implementation by November 2020, and the current training allowed by the IFATCA budget.

The first day of the AFM RM started with official opening remarks from Mr. Skander Khalfallah, Secretary General of the Tunisian Association – Association Tunisienne des Contrôleurs de la Circulation Aérienne (ATCCA), Mr. Lofti Mhichen, CEO of the Office de l'Aviation Civile et des Aéroports de Tunisie (OACA), Duncan Auld, me, and His Excellency Mr. René Trabelsi, Minister of Transport and Tourism, who officially opened the meeting.

The event then continued with two presentations from the Tunisian CAA (Direction Générale de l'Aviation Civile [DGAC] de la Tunisie), an overview of the air navigation system in Tunisia provided by the national



air navigation service provider (ANSP), and a presentation of the situation in Tunisia offered by the local member association, ATCCA.

The Arab Civil Aviation Organization (ACAO) then presented their training support initiative for their member states. All presentations were focused on the need for more comprehensive training in the African Region and highlighted regional cooperation as a key enabler for achieving this goal.

During the afternoon, Jean-François Lepage led a discussion regarding the work of the Professional and Legal Committee (PLC) and Technical and Operational Committee (TOC) of IFATCA. Mr. Sverre Ivar Elsbak gave an overview of the IFATCA's EDETF.

IFATCA's Executive Vice-President of Professional Mr. Peter Van Rooyen gave an in-depth presentation on the many workshops offered by the Federation. His pre-

sentation was followed by a presentation from Mr. Mohamed Smaoui, the Regional Deputy Director of ICAO's office in Cairo, Egypt. Mr. Smaoui was joined by representatives from IFALPA and IFATSEA, who shared their experiences and initiatives with regards to training in the aviation industry. Mr. Hennie Marais, the Chief of Air Traffic Services for ATNS South Africa, gave an entertaining and thought-provoking presentation on the links between training and professionalism in aviation. The day concluded with presentations from our sponsors: United ATS and Indra.

The second day of the AFM RM started with a joint workshop on the provisions of the Fatigue Risk Management System (FRMS) that will become applicable on the Nov. 5, 2020. Mr. Smaoui gave a detailed overview of the Standards and Recommended Practices (SARPs) contained in Annex 11, paragraph 2.28, and Appendices 5 and 6. Mr. Duncan Auld stressed the need for FRMS to be supported by a robust safety oversight system. Mr. Jehad Feqir from IATA presented the FRMS strategy from the airline perspective. A panel of experts from different fields in aviation then interacted with the audience and discussed the implementation of FRMS in the region. The panel was moderated by Mr. Smaoui (ICAO-MID, Cairo, Egypt) and composed of Mr. Feqir, Mr. Mohamed Rejeb (ACAO), Dr. Hanéne Djmail (CEMEDA), Cptn. Souhail Dallel (IFALPA), Mr. Auld, me, and Mr. Lepage.

The third day of the AFM RM started with a closed session for member associations. The meeting adopted the agenda for the 30th AFM RM and accepted the report from the 29th meeting in Abuja, Nigeria.

Mr. Auld presented an update on the upcoming IFATCA annual conference that will

be held in Singapore in March 2020. He discussed the ongoing preparations, registration process, and visas. Mr. Auld continued with an update on the Federation's budget and the adjustments that were made by the Executive Board since the conference in Conchal, Costa Rica, in order to meet the requirements, set by the directors at conference.

Mr. Wickel Yannick Elidjé (Côte d'Ivoire) presented the conclusions of a survey conducted within the AFM Region to find out what were the main issues and challenges of the member associations.

Mr. Walter Litto Mashaba (South Africa) introduced the problems caused by the lack of a SSR codes allocation scheme in Africa and proposed certain solutions as a way forward.

Mrs. Nadia Bomowongo (Democratic Republic of the Congo) summarized the challenge of ICAO language proficiency in the region and walked the participants through a review of the current situation in Africa.

Mr. Ahmad Abba then provided the participants with an excellent presentation on the current status of the Safety and Just Culture in the AFM region.

Finally, the Kenyan Member Association presented an offer to host the 2020 AFM Regional Meeting in Mombasa, Kenya. The offer was accepted by the meeting.

The meeting was officially concluded by Mr. Habib Makki, Director of the Civil Aviation Authority of Tunisia, Mr. Khalfallah, and me. ◀

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➤ **Photos: (above/left)** Participants at the 30th IFATCA Africa and Middle East regional meeting (AFM RM) held in the city of Hammamet, Tunisia **(above/right) (right to left)** IFATCA President and CEO Duncan Auld, IFATCA's ICAO ANC Representative Jean-François Lepage, and IFATCA Executive Vice-President for the Africa and Middle East Region Fateh Bekhti



**EDITOR'S NOTE:** The last issue of The Controller included a 24-page special section – called "Women & Equality" – highlighting female controllers from 19 nations from every IFATCA region. This section included

biographical and autobiographical articles, interviews, and other news pieces that together present an unprecedented snapshot of what it is like to be a female air traffic controller today and how the ATC work

environment has changed. The following article was submitted after the last issue was completed. We decided to run it in this issue. If you missed the last issue, you can download it at <http://controller.ifatca.org>.

# GENDER AND DIVERSITY IN ATC

► BY ROSEMARY KYALO ATC KENYA

I grew up in an era when women in my country Kenya and throughout most of the African continent were beginning to make a big push for female inclusion in decision making, politics, careers, and in all spheres of governance. The picture that most of us have of what a woman should be able to achieve was very different from the reality that most women experienced in Kenya during my childhood.

finishing cooking and other chores before doing their homework. Despite these hardships, because I had a loving and educated mother, I was able to get an education.

Growing up with these challenges influenced my career decisions. My biggest dream was to be a flight attendant. I set this goal for myself, because it was a natural

role for women who wanted to work in the aviation industry. It was the only place I thought I could fit.

I kind of stumbled my way into the air traffic control profession, which at that time still was a predominantly male profession. I was among three women selected to become an air traffic controller out of a class of 15 people. Becoming an air traffic controller as a woman was a huge achievement in a country and a continent where females were battling issues such as female genital mutilation, economic suppression, and cultural and social expectations. I had made it.

At that time, because there were so few of us, we all knew the names of the women ATCOs in

the system. We would have been forgiven if we didn't know the names of our male ATC colleagues because they were many of them compared to us.

Women ATCOs in my country faced many obstacles such as being overlooked for promotions if we had children (a regulatory requirement). We were required to notify our CAA immediately if we suspected we might be pregnant. Our ATC licenses would be suspended until after giving birth and after being declared 'fit' by a certified aviation medical doctor. This gave our male colleagues an advantage, because they continued their training and got promotions, while pregnant female ATCOs could not. I am glad that these rules have changed and that this is no longer the situation.

After Kenya adopted a new constitution, it also became mandatory that all public entities must employ at least 30% of both genders. This requirement has had a positive effect on ATC in Kenya, as we are seeing the number of female ATCOs increase in the system. However, the gender issues are far from a closed chapter, as we now are fighting to have facilities where ATCOs who are breastfeeding can nurse, to have shifts which favour young mothers, have dedicated and fully equipped restrooms which ensure privacy for women. Female ATCOs face challenges in their relationships with their colleagues because some of them are seen as arrogant and too empowered in a society which expects a woman to be soft spoken and mild-mannered and dependent on men.

In IFATCA's Africa and Middle East Region, there still are other countries that have not attracted female ATCOs because of cultural and religious restrictions. Some religions do not allow for the close interaction of females and males in a closed environment such as our ATC control rooms. Some cultures do not allow women to be away from their homes and husbands at night, meaning they cannot work night shifts. This presents a challenge for CAAs recruiting female shift workers in such countries. Some cultures also haven't embraced the role of a woman in science-oriented fields like air traffic control. Therefore, you still find predominantly male control rooms. Is it perhaps time to consider building gender specific control rooms? And maybe have females and males sit in different rooms while providing the same service within the same airspace? (A fun food for thought).

Embracing women in ATC is embracing diverse and robust ideas. Embracing diversity improves systems. Furthermore, research has shown it can significantly, positively affect performance (Ozcan and Riza, 2016). It also can lead to more robust decision making and more informed risk management (Tan, 2014). Finally, increasing the number of women working in ATC, can lead to stronger corporate governance (Pathan and Faff, 2013). ◀



► **Photo:** Kenyan ATC Rosemary Kyalo

When I grew up, in a typical Kenyan home, boys in a household would be busy concentrating on their studies, while the females did all the chores. And if a family couldn't afford all of the school fees, it generally would be the girls who would have to sacrifice their educations, so the boys in the family could go to school. Even the most ambitious girls were expected to grow up and get married.

When girls were able to attend school, they faced additional challenges in completing their educations. In the morning before they went to school, girls were expected to wake up early to complete household chores including fetching firewood, working on a family farm, and searching for water. The post-school routine for girls involved





# IFATCA PLC AND TOC COMMITTEES MET IN WASHINGTON, D.C.

▶ **BY BRANDI TEEL, PUBLIC AFFAIRS SPECIALIST FOR NATCA**

The IFATCA Professional/Legal (PLC) and Technical/Operations (TOC) Committees met recently at national office of the National Air Traffic Controllers Association (NATCA) in Washington, D.C.

This was the committees' last meeting before the IFATCA annual conference in Singapore, March 30 - April 3, 2020. The attendees discussed the papers they'll be presenting in Singapore, covering topics including drones, automation, and best practices.

During the meeting, NATCA President Paul Rinaldi and Executive Vice President Trish Gilbert spoke to the members and joined them in thanking Deidre Hatchard (Denver TRACON, D01) for her work representing NATCA on the PLC.

"Thanks once again to NATCA for the unwavering support of IFATCA's activities,"



NATCA Rep to TOC Jaymi Steinberg said. "In particular, thanks to Trish, NATCA's Alaska Regional Vice President Clint Lancaster, and Executive Administrative Assistant Cheryl Lewis for helping us to set up such a successful IFATCA meeting. It was an honor to host at home." ◀



▶ **Photos: (top of the page)** Members of IFATCA's TOC and PLC committees at the NATCA national offices in Washington, D.C. **(above/left)** NATCA President Paul Rinaldi, Executive Vice President Trish Gilbert, and Alaska Regional Vice President Clint Lancaster thanked Deidre Hatchard (Denver TRACON, D01) for her work representing NATCA on the PLC **(above/right)** PLC Committee members meeting.



# FOCUS ON SAFETY



▶ BY BRANDI TEEL, PUBLIC AFFAIRS SPECIALIST FOR NATCA

Communicating For Safety (CFS) is one of the premier aviation safety conferences in the world. This three-day conference is hosted annually in the United States by the National Air Traffic Controllers Association (NATCA). CFS brings together industry and government leaders from nearly every discipline in aviation. It is the only conference to focus specifically on the air traffic needs of the aviation community and the airspace system. CFS began in 1999 with just 40 attendees. It has grown to become an internationally attended conference, attracting more than 1,500 aviation industry representatives to discuss and improve safety. The program now includes three days of speakers, panel discussions, breakout sessions, and other activities. There is an exhibit hall where more than 70 exhibitors shared information with attendees.

NATCA welcomed more than 1,500 attendees to the 2019 CFS conference. The theme of CFS 2019 was “Every Day Is a Training Day.”

The conference featured impressive keynote speakers, including NATCA President Paul Rinaldi, NATCA Executive Vice President Trish Gilbert, Air Line Pilots Association International (ALPA) President Captain Joe DePete, U.S. Federal Aviation Administration Administrator Steve Dickson, and Airlines for America (A4A) President and CEO Nick Calio.

Panels covered topics including the Impact of Weather on the Operation, Pilot/Controller Communications, Surface Safety, Unmanned Aircraft Systems, Commercial Space, and International Collaboration.

**Every Day Is a Training Day**  
NATCA President Paul Rinaldi welcomed attendees and talked about CFS being the place where NATCA takes a stand for safety, because aviation safety is the cornerstone for everything our members do as aviation safety professionals. “The commitment we have to aviation safety is second to none,” said Rinaldi. “We are not trained just to get it right; we are trained to never get it wrong,” he said.

Rinaldi said that in the past, “[air traffic controllers] looked at training as a negative.” Years back, when controllers in the U.S.A. had an error, they were pulled off the boards and given remedial training. It was a way to shame someone in front of their colleagues, he said. In the past, training was used as a weapon. But all that changed in 2009, when

NATCA and the U.S. FAA worked together to shift the ATC work environment to a safety culture, starting with the Air Traffic Safety Action Program (ATSAP). ATSAP helps resolve safety issues, while simultaneously protecting employees from punitive or disciplinary actions, as a result of reporting errors that could impact safety, provided those errors are not the result of gross negligence or illegal activity.

But Rinaldi added, now everyone is held accountable to a higher level of standards, and the culture and perception of training still needs to shift. He concluded by challenging the audience to change the aviation culture and embrace training, develop training, and take ownership of training. “I have high hopes that every one of us that plugs in, starts the future today to train like a professional.”

➤ **Photos: (previous page)** NATCA Reloaded Committee Chair Dawn Johnson and NATCA Recurrent Training Representative Richard Kennington moderated the NATCA CFS 2019 Pilot/Controller Communications panel. **(this page)** The CFS exhibit hall features safety and modernization programs.

### Supportive Work Environment

NATCA Executive Vice President Trish Gilbert closed Day one of CFS with an impassioned speech supporting all members who are in need of assistance and outlining an array of NATCA-provided resources for members including medical advice and suicide prevention awareness.

Gilbert noted that medical restrictions for safety critical positions are stringent, and the obligation to report is serious. "This is a worldwide issue for air traffic controllers and many other safety critical professions."

She then provided an overview of one program offered by the U.S. FAA for its employees. Workplace conflict can create a risk, not only to us as individuals, but to the system as a whole if there is no means to work through that conflict. That's why the RESPECT initiative was created. It's designed to establish and support a workplace that creates an environment of mutual dignity, support, and respect among all individuals who work together to protect the National Airspace System.

"Often we spend more time at work with each other than we are able to spend at home with our families," Gilbert said. "No one should be surprised that we all have to continue to double down on being there for each other on education, awareness, mutual support, and dialogue about mental well-being."

Gilbert stated that NATCA is committed to continuing to do everything it can to raise awareness and lift the veil on mental health. "We must continue to establish a work environment that is safe, inclusive, and supportive in giving each of us the opportunity to share our struggles and challenges. All of us – working together – can make things better for each other. Be there for each other and be kind to each other."

### Tech Talks

For the first time, NATCA introduced Tech Talks prior to the start of CFS. NATCA and FAA subject matter experts gave detailed updates.

TBFM Reps Matt Gammon (NATCA) and Perry Casselle (FAA) explained the role of the TBFM Ops Team, which is to provide expertise and sustainment support, including adaptation, training, and implementation for facilities. They reviewed the TBFM tools



that air traffic controllers are using daily in their facilities and explained that with the use of integrated departure/arrival capability (IDAC), one of the newer systems of TBFM, release requests are now automated. That gives the tower a glimpse into what they are seeing in terms of future delays.

NATCA Commercial Space Rep Paul Behan told the attendees that if their facility has not yet been impacted by commercial space launches and reentry, it soon will be. Integration is a key word in space operations, but currently, the National Airspace System (NAS) is not integrated with commercial space operations. It's segregated from it. As these operations are becoming more prevalent in the NAS, aviation safety professionals will have to work on ways to integrate commercial space with helicopters and airplanes. Currently, there are concepts under development to assist with collaborating and communicating efficiently for commercial space operations.

Remote Tower Reps Adam Rhodes (NATCA) and Matt Richardson (FAA) spoke to the audience about the current remote towers in the United States and future plans to build more. A remote tower is defined as a remotely operated air navigation facility whereby air traffic control services are provided, possibly at the airport or remote. It could be an array of cameras or a single

view that gives you a 360-degree live view of an airport. There are currently two single runway remote towers in the United States: one in Leesburg, Va., and one in Fort Collins, Colo. The tower at Fort Collins has a converging runway that is rarely ever used, so it operates like a single runway airport. A third tower will be created, but a site has not yet been determined. The FAA is looking to remote towers to see if this is a better cost, savings-wise, than brick and mortar towers, to save money on replacing tower facility structures. The FAA is predicting that remote towers will cut down on costs by 60%.

NATCA Enroute DataComm Rep Ray Berndt shared updates with attendees on the digital link DataComm creates between ground automation and flight deck avionics. DataComm is a virtual digital connection between the controller, facility, and the pilot. It gives the ability to send a message to the pilot without error, eliminating the hearback/readback errors. This benefits the National Aviation System and the workload of the controller.

### CFS 2020

NATCA is planning for CFS 2020 from Sept. 21-23, 2020, at Bally's in Las Vegas, Nevada. Registration for attendees and exhibitors for CFS 2020 will begin in late March. Look for more information at <https://www.natca.org/events/cfs/>.





# HONORING SAFETY

Photo by NATCA

➤ **BY DOUG CHURCH, NATCA DEPUTY DIRECTOR OF PUBLIC AFFAIRS**

The 2019 Communicating for Safety Conference concluded – as it does each year – with the 15th annual Archie League Medal of Safety Awards. This is a gala event where CFS attendees come together to honor U.S. air traffic controllers who saved lives aboard aircraft needing NATCA members’ assistance.

About these awards, NATCA President Paul Rinaldi said, “We are so proud each year to honor these aviation safety professionals. This

awards program is one of the most important and rewarding things we do. These award recipients remind us that our members’ work ensuring that our National Airspace System is safe and efficient is nothing short of heroic. Each of our award winners faced a unique situation in which their ability to think quickly and remain calm under pressure was tested. They represent the powerful confluence of calm professionalism, skill, and training that is a hallmark of all air traffic controllers and oth-

er aviation safety professionals who work every day to ensure safe outcomes.”

The following were the 2019 winners of the 15th Annual Archie League Medal of Safety Award:



## INTERVIEW

**Tom Adcock is NATCA's New Director of Safety and Technology. He previously worked as a Certified Professional Controller for 30 years.**

**The Controller: The Theme of CFS 2019 was Every Day Is a Training Day. What is the purpose behind this theme?**

**Adcock:** The purpose is to raise the membership’s awareness of the importance of training in our profession. We should be looking at it as the need for continual improvement in our profession. It is a process that should not stop throughout our entire careers. From the time we start training in our first facility to the time we hang up our headsets, we should look at training as a way to ensure we are at the top of our game whenever we work traffic.

**The Controller: This initiative seems to resemble the goals of the NATCA Professional Standards effort in that it promotes the importance of continually looking for ways to improve our performance as a workforce. Is that accurate?**

**Adcock:** Absolutely, part of being a professional is understanding the importance that

training plays in improving our performance on a continuous basis. Training needs to be a part of our everyday routine.

**The Controller: With the United States pilots (Air Line Pilots Association, Int’l) undertaking their own training initiative, called “Train For Life,” what similarities do you see between the two efforts and how important is it that controllers and pilots are sharing this mindset at the same time?**

**Adcock:** Because we are on the frontlines of the aviation industry, we understand the importance of being on the same page as we deploy new technologies and procedures. Both professions require certification, but we understand that learning does not stop at the point of certification. It is a process that must continue throughout our entire careers.

**The Controller: What is most important for NATCA members to know as we move for-**



Photo by NATCA

**ward and raise the awareness and implementation of Every Day is a Training Day?**

**Adcock:** We want to see the members that attend CFS 2019 take what they learn at the conference and go back to their facilities and act as leaders in fostering the culture change that ensures that we destigmatize how we view training and its importance in the continued development of Certified Professional Controllers. ◀



**NATCA President's Award**

Normally, the NATCA President's Award for top controller flight assist of the year is chosen from the regional Archie League Award winners honored during the banquet. But this year, NATCA President Paul Rinaldi chose an event that was not one of the other honored saves of the evening. The award went to Ryan Schile and Andrew Rice, air traffic controllers from Chicago-O'Hare Air Traffic Control Tower (ORD), and it was one of the most dramatic events NATCA has ever recognized.

On March 1, 2019, after noon local time, Schile was working third local control and was departing aircraft off of Runway 10-Left at intersection DD. Schile was also working the arrivals that were landing on 10-Right and 10-Center. He worked them back across the runway he was departing to the terminal area.

Schile issued a departure clearance to an Envoy Air twin-jet ERJ-145, with an initial heading of 100 and a takeoff clearance. This heading paralleled the departure runways and the arrival runways so there would be no conflict. The pilot of the ERJ-145 read back the correct heading and began takeoff roll.

Once airborne, for an unknown reason, the ERJ-145 began a hard-left turn, placing that aircraft in a collision course with an American Airlines Boeing 737-800, which was departing Runway 9-Right. Schile quickly recognized the potential for a collision and instructed the ERJ-145 to stop his climb immediately.

Subsequently, Schile issued an immediate turn to the right to a heading of 140.

Working on the other side of the airport was fellow ORD CPC Andrew Rice, who was working the American 737. He also observed the impending collision and issued the aircraft an immediate left-hand turn and a 070 heading. Seeing that was not enough, he instructed the aircraft to continue its left-hand turn on a 360 heading to pull these aircraft apart.

The United States Federal Aviation Administration measured the closest proximity of the two aircraft at .23 nautical miles and 100 feet.

"And that is only because these two controllers acted so quickly to pull these airplanes apart," Rinaldi said. "Their actions on that day saved hundreds of lives."

[Video of the radar replay of the event, with audio](#) | [Video of Schile and Rice receiving their award](#)

Also honored with Archie League Medal of Safety Awards were the controllers who performed these 11 saves:



**Alaskan Region**  
**Gabriel Zeifman, Juneau Air Traffic Control Tower (JNU)**

The pilot of a 1979 Mooney M20J was on one of the last legs of a cross-country trip from his home in Hartford, Conn. He departed from Fairbanks, Alaska, and was near completion of the four-hour, eight-minute flight through unfamiliar terrain. With no moon to illuminate the terrain and clouds obscuring the landscape, Zeifman feared that the pilot, who appeared confused and disoriented, did not have the airport in sight and would be unable to orient himself to complete the visual approach. Zeifman, a pilot, worked to ensure the aircraft was reoriented and joined the final for the runway.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Central Region**  
**Andrew Crabtree, Kansas City Air Route Traffic Control Center (ZKC)**

A Cessna 340 was traveling at flight level 230, deviating around thunderstorms, trying to get to Indy South Greenwood Airport (HFY), located 13 miles from Indianapolis. Crabtree came to the assistance of another controller who tried to vector the pilot around the thunderstorms. The pilot later continued to his destination and landed without incident. He called the facility to express his gratitude and said without the help of the controllers looking out for him, the outcome may have been much different. Crabtree used his experience as an aviator to spearhead a team effort to save this pilot's life.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Eastern Region, Brian Rabinowitz, New York Terminal Radar Approach Control (N90)**

On a cold and cloudy winter day, a Mooney departed White Plains Airport to conduct practice IFR approaches when the pilot experienced flight control problems. Rabinowitz noticed the pilot was not adhering to control instructions. He used his experience and his training to assess the situation and work to get the pilot down safely. Rabinowitz later found out the pilot had a total electrical failure and was just using a compass for the headings Rabinowitz was issuing him. "You don't really feel like you do anything out of the ordinary when something like this happens," he said.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)





**Great Lakes Region  
Nicholas Ferro and Charles  
Terry, Indianapolis Air Route  
Traffic Control Center (ZID)**

Ferro and Terry assisted a pilot flying dangerously low in high terrain with many obstacles. He was missing intended approaches due to weather, was disoriented, and was having trouble flying the aircraft due to oil sputtering all over the windshield. Ferro assisted the pilot in identifying an alternative airport for landing. He called for Terry, who is also a pilot, and asked him to plug in on the D-side. They soon traded places at Terry's request. Ferro worked hard on the D-side, managing resources and helping Terry prioritize and manage the other aircraft in the sector. They helped get the pilot out of the clouds and avoid obstructions.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Great Lakes Region  
Shane Boulds and Justin  
Dokken, Minneapolis Air Route  
Traffic Control Center (ZMP)**

Boulds and Dokken helped the student pilot of a Cessna 172 Skyhawk who indicated that she had hit her head in bumpy conditions, was having trouble navigating, and wanted to land at a nearby airport. Boulds described available airports. The pilot was flying solo and was not fully comfortable with her situation. The pilot decided to land at Big Rapids, Mich. (RQB) which had a strong crosswind component. Boulds used his own flight experiences to help keep the pilot focused and calm. He used

several techniques to limit the amount of stress for her and helped her to stay engaged in her training and rely on the lessons she had learned.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**New England Region  
Christopher Corcoran,  
Providence Air Traffic  
Control Tower (PVD)**

The pilot of a single-engine Cessna 182 Skylane, flying with two passengers to New Bedford Regional Airport (EWB, located between Providence, R.I., and Cape Cod), found himself stuck above heavy cloud cover. Making matters much more serious, he was having instrument problems and was unable to navigate. He was also unable to maintain either altitude or speed. He made three unsuccessful attempts to land at EWB. Corcoran declared an emergency for the pilot and vectored him toward Providence. "I put him on a heading and almost right on final started slowly stepping him down," Corcoran said.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**New England Region, Jeff  
Aulbach, Neil Cospito, & Michael  
Jacobson, Boston Air Route  
Traffic Control Center (ZBW)**

The three controllers were tracking an F-16 from the Vermont Air National Guard, piloted by Lt. Col. Nate Smith. Poor weather had prevented Smith from landing at his home base in



Burlington, Vt. With only 15 minutes of fuel left, Aulbach, Cospito, and Jacobson quickly came up with a plan and were able to divert a flight of KC-135 refueling tankers for a mid-air refueling. After the F-16 refueled, they safely guided the plane to an alternative landing location in Syracuse, N.Y., preventing a disastrous outcome.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Northwest Mountain Region  
Joseph Asmundson, Matthew  
Colby Rhea, Nicole Breann  
Coffey, and Devin Carlisto**

Near the border of Washington and Idaho, Shane Daily was piloting his two-seat, single-engine Lancair 320 when he encountered IMC conditions while flying VFR. Daily was not IFR certified. Asmundson was working a low altitude sector and declared an emergency for the aircraft. He then assisted Daily in trying to re-establish VMC conditions but Daily was stuck on top of the clouds at altitudes of up to 20,000 feet. The pilot was shaken and anxious from being caught in the clouds with a VFR rating, but landed after the team of controllers worked for over an hour to help him find his way down.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)

All photos by NATCA



**Southern Region**  
**(Paul) Ray Keeling, Memphis**  
**Air Route Traffic Control**  
**Center (ZME)**

A single-engine Socata TBM 930 departed Paducah, Ky., en route to Houston. But about 50 miles south of Paducah, the pilot experienced problems in controlling the aircraft and was not responding to controllers. Through Keeling's dedicated work, the pilot landed safely. Keeling's composure in this situation helped save the pilot's life. He immediately understood the effects that the pilot was encountering. With a loss of pressurization, disorientation, and an aircraft that was difficult to control, Keeling was able to step in and advise the pilot when he descended to a dangerously low altitude in close proximity to obstructions.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Southwest Region**  
**Michael Schawinsky, Houston**  
**Terminal Radar Approach**  
**Control (TRACON)**

Schawinsky already had his hands full, working a Cessna 172 that was having trouble flying headings and maintaining altitude and whose airspeed seemed especially low. Then, after declaring an emergency for the pilot and working to get him on his way to Galveston (GLS), a second Cessna 172 in Schawinsky's airspace also declared an emergency. This pilot was doing practice approaches when he experienced a brief fire in the cabin and appeared to be losing altitude. Schawinsky's expertise, calm demeanor, attention to detail, and professionalism throughout the events may have saved several lives that day.

[Read more](#) | [Watch award presentation](#) | [Watch event](#)



**Western Pacific Region**  
**Michael Tamez, Southern**  
**California Terminal Radar**  
**Approach Control (SCT)**

In the middle of winter with icing everywhere (a rarity in the Los Angeles Basin), Tamez assisted the pilot of a Cessna Skyhawk 172 with a malfunctioning pitot tube heater. He landed safely despite significant weather and challenging conditions over high terrain. Tamez is also a pilot. He used that experience in this episode. He questioned the pilot of the possibility of experiencing icing. Tamez immediately descended the aircraft to 6,000 feet in an attempt to prevent further icing. He asked the pilot's intentions and provided several alternate destinations. Through no gyro turns, Tamez was able to direct the aircraft towards lower terrain.

[Read more](#) | [Watch award presentation](#) | [Watch event](#) ◀



Photo by NATCA

▶ **Photo:** NATCA President Paul Rinaldi interviewed FAA Administrator Steve Dickson on stage during CFS 2019. Dickson was sworn in as the 18th administrator of the U.S. Federal Aviation Administration (FAA) in 2019. Dickson has said that safety is "a journey that we must embark upon with renewed vigor each and every day."



➤ Photo: (below) We made it ! Philippe and Eric after touch down.

Photo: Philippe Domogala



# ATC THE OSHKOSH AIRVENTURE WAY

➤ BY PHILIPPE DOMOGALA, SENIOR CORRESPONDENT, IFATCA

**AirVenture is an annual gathering of aviation enthusiasts held each year in Oshkosh, Wisconsin, in the United States. The air show is arranged by the Experimental Aircraft Association (EAA), an international organization based in Oshkosh, and is the largest of its kind in the world. AirVenture lasts a week each year, and during the gathering, the airport's control tower is the busiest in the world.**

Eric and I decided to fly again to AirVenture Oshkosh, this year for the whole week. We departed from Quebec in his Cutlass II (an upgraded Cessna 172 with retractable gear and a variable pitch prop). We planned to arrive on the Saturday to avoid the bigger Sunday crowds.

Our plans were first upset by an unfortunate, new U.S. immigration policy. Since our last visit 2 years ago, it is no longer possible to have immigration done at the first airfield of arrival in the USA. You must now physically land at a border crossing point to have your passport checked, an entry card filled up, stamped and stapled in your passport.

We had to land on the Canadian side of the border at the Sault Ste. Marie Airport (CYAM), rent a car, drive to the bridge, get the immigration processed. The friendly border guard shook his head in disbelief regarding the procedure. But hey, we all have to follow the new rules. Right? We had to

pay US\$6 for the stamp and drive back to the airfield.

When we returned, thunderstorms were starting to come up. Looking at the weather en route, it was now very doubtful that we could make it that day. We decided to spend the night in Sault Ste. Marie and take off very early the next morning. We decided to depart, so we would arrive at the earliest time possible in the U.S. airfield for the real customs and immigration. We got up at 3:00 a.m. for a 05:00 a.m. departure. We landed at Sanderson Field (KANJ) just across the border at 5:15 a.m. to refuel. We took off at 6:00 a.m. and planned for an arrival in Oshkosh at 7:00 a.m. just as OSH opens to avoid the Sunday rush. It is a two-hour flight, but there is one-hour time difference between Michigan and Wisconsin.

All went according to plan until 10 nautical miles before reaching Ripon, the mandatory entry point for VFR to OSH. We were

in contact with Green Bay approach, who asked us if we have a permit for Tarmac parking or planned to park on the grass. We had planned for grass parking and camping. We then were told the airfield is closed for grass parking, as it had rained too much the night before, so everything was soaked. The first two aircraft that landed there some minutes before got stuck in the mud!

We quickly diverted. Appleton International Airport (KATW) is the closest option. We got a clearance for it, and 10 minutes later, we landed on this large airport, along with hundreds of other diverted aircraft.

We were then told the Oshkosh Airfield is closed because of the rain. We contacted the NATCA controllers at OSH who said they will send us an SMS when the field would reopen, so we could perhaps get a small time advantage ahead of the later rush.





Later in the afternoon, we received word that the field would reopen at 4:30 p.m., but only remain open until 8:00 p.m. We rushed to our aircraft and were the third aircraft to taxi out. Things were looking good! A few hundred aircraft had been parked all over the airfield because of the diversions. Soon, dozens of other aircraft, which also had heard the news, started to taxi from everywhere. The ground controller became overwhelmed. It was a mess, and nothing moved. The tower controller took over and called aircraft by type and colour instead of call signs and managed to create order and let us depart. With this delay, we lost 45 precious minutes stuck on a taxiway!

When we finally took off, the sky was filled with aircraft heading toward Oshkosh, not only from Appleton. And everyone was converging on Ripon! The NOTAM was clear, everyone had to start from there, separate from others by about one nautical mile at 1,800 feet at 90 knots with gear down and all landing lights on (or 2,300 feet at 135 knots, if unable to maintain 90 knots). This is all fine on paper, but a bit more difficult when you are flying. You first get to a lake, called Green Lake (although, it is dark blue) at 3,000 feet. You hold around it to find a spot between two others doing the same, descend to their altitude, reduce speed, and maintain that distance.

The problem was locating the other aircrafts flying beside and in front of you. Measuring one nautical mile in the air is also not so easy. Eric spotted two aircraft. We followed them, and it looked like there is a spot in between them. But no, there already is another one just besides us, so we started again. We found the right spot this time and followed a guy in front that now is constantly reducing speed. To avoid overtaking this plane, we had to reduce our speed to 80 knots, and then to 70 knots, which is very close to our landing speed. We could not drop our speed below 60 knots, but hopefully neither could the guy we are following. That proved to be correct, so then we only had only about one half of a nautical mile between us.

At the same time, a bunch of Vans RVs overtook us 500 feet above at 135 knots, and there was even some guy who tried to cheat and come between the queue. All eyes were out! Having two pilots in that situation was really helpful. One pilot flies and keeps distance with preceding aircraft, and the other pilot constantly looks outside for other traffic. For the final bit, we arranged a system where Eric would scan and look left and I would scan and look right side.



Photo: EAA



Photo: Philippe Domogala



Photo: Philippe Domogala

➤ **Photos:** (above/top) Oshkosh airport, with runway 27 on top and runways 36 on the right (above/middle) Landing on taxi-way-Runway 36R (above/bottom) Marshalls stop and monitor TWR frequency to cross runway 27

# ATC THE OSHKOSH WAY (CONT.)

The next step after leaving Ripon is flying toward Fisk, where some controllers were on a trailer with binoculars creating order with the arriving aircraft. We monitored the frequency. The Fisk controller was calm and courteous. He said, "Red Archer, rock your wings. Nice Rock! Welcome to Oshkosh. Continue straight ahead. Follow the railroad tracks. It will be Runway 27 for you. White/blue Bonanza at 2,300, rock your wings. Nice rock. Descend to 1,500 feet, turn right, follow the avenue, it will be Runway 36 for you. Welcome to Oshkosh! White Cessna 172, rock your wings. OK. You are too close to preceding turn left immediately and go back to Ripon. See you later."

He then addressed us, "Red/white Cessna 172, rock your wings. Nice rock! Turn right on the avenue. It will be runway 36 for you. Welcome to Oshkosh!" We then have to monitor the Runways 36 frequency (There are two of them: 36 Left, which is the main runway, and its parallel taxiway, which has been now been renamed 36 Right. Again, we monitored the R/T. The coloured dots (on the main runway) and squares (on the taxiway-runway) determine where you should touch down. Each spot is 1,000 meters (3,000 feet) apart to allow multiple aircraft landing at the same time on each runway (up to three per runway, but on different angles of course) It all works quite well!

After a while, we heard the controller say, "Red White Cessna 172, clear to land Runway 36 Right, red square." The red square is halfway down the runway-taxiway. Easy. But looking out the window on our left there were two Bonanzas, landing at the same time on the "real" Runway 36 Left. It is quite close. Not at all dangerous, just very unusual!

After landing, we had to keep speed up to go to the end of the taxi-runway and get into the queue as a dozen aircraft were parked and waiting for the clearance to cross Runway 27, where the same landing system also was in place. We were joined there by all the colleagues that have landed on 36 Left. When there were 10-12 of us waiting to cross, the tower controller paused the landings, and directed the whole bunch to cross the runway. We had

ter, we were sent towards a parking spot on the grass on the north side. The ground was soaked with water and very soft. We were very careful, and it was manageable.

We stopped the engine and realised that we had not talked once on the R/T since we left Appleton. We later heard that they apparently had landed over 1,000 aircraft in 4 hours, and there were a few IFR big ones in that group as well!

This sounds crazy to us and may violate different air rules, but they have an FAA waiver to do all this in Oshkosh. In fact, this system works extremely well! There have been ZERO collisions around the Oshkosh Airfield since this procedure has been in effect since the 1980s. The last collision was during the air show where various vintage aircraft were allowed to circle the field all at the same time. That particular event has since then been taken out of the program.

Looking in from the outside these approaches and landing procedures might look like a mess, but in reality, it works extremely well because it forces pilots to look outside and follow instructions which are based on real flying experience, not regulations and rules. One word of

caution, as I said before, do not attempt to do this alone. You need two pairs of eyes and ears. One flying, the other following the NOTAM procedures and watching outside for traffic. You also need two listening to what is happening on the frequencies and building a good situational awareness of the surroundings.

Do incidents occur? Yes, they do, but the way they are managed tells a lot about how controllers and pilots react there.



to monitor the ground frequency to get the crossing clearance. Again, it was, "Listen and execute, do not read back." "Red White Cessna 172, follow the yellow RV and clear to cross now."

When on the real taxiway, we just followed the volunteer marshalls in orange vests who direct everyone to their parking spot based on the sign that we had to put on our windscreen. Our sign said, "GAC" (for general aviation and camping). Shortly af-



Two anecdotes from Oshkosh this year demonstrate the great work of controllers working there during AirVenture:

A flying club from Wyoming (a state in USA that is quite far from Oshkosh) was coming in with three aircraft. The leader is very experienced and been there before. The other two were not experienced, and one of them only had a few hundred flying hours. But he was told to closely follow the leader. That worked well until Fisk where the leader was instructed to go for Runway 27 and the other two were directed to go for 36 Right. The least experienced pilot lined up early with 36 Left instead. A controller spotted it immediately and told him, "Go around, then turn left, make a lap, and come back to land." The controller expected him to make a tight left turn down wind and land again on 36 Left, but when he was going around straight ahead, he turned left at the end of the runway and landed on 09, opposite to the 27 arrivals. When the controller spotted that, he kept cool and warned his colleague controlling 27 to instruct everyone on finals to go around and immediately turn left. Then, he told the guy he had to drop to 300 feet and land on 09 as short as possible. The new pilot did and then the controller told him, "Nice landing! Please vacate the runway in the grass as soon as you can. And welcome to Oshkosh!"

I also heard a story about someone who was completely lost above the airfield. A controller said, "OK, guys. Everyone, hold short of all runways. Nobody lands! Ma'am, you are cleared to land on any runway. Just do it now." When she landed, the controller just said "Welcome to Oshkosh, Ma'am." This incident created a little situation in the air to put it mildly, but you know what? Not a single other pilot complained! In fact, this cool ATC phraseology is the safest way of dealing with such problems. It de-stresses the person responsible for the mess and ensures a safe landing.

NATCA controllers volunteer to do these jobs during AirVenture Oshkosh. Having been to many air shows in Europe with my own aircraft, I can say without ambiguity: You controllers at Oshkosh really are the best! ◀

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Photo: EAA



Photo: EAA



Photo: Philippe Domogala

➤ Photos: (above/top) Taxiing to cross runway 27 (above/middle) Marshalls parking aircraft (above/bottom) OSH tower

Photos: Philippe Domogala



# NEWS FROM EUROPEAN REGIONAL MEETING

▶ **BY TOM LAURSEN, IFATCA EXECUTIVE VICE-PRESIDENT FOR EUROPEAN REGION**

The 36th IFATCA Regional meeting was held from the 8th to the 10th of October in Aqaba, Jordan. It was extremely well organised by our Jordanian member association. While the location probably raises some eyebrow, yes, Jordan is a member of the EUR region, having switched from the Africa/Middle East region a few years ago. The vast majority of their traffic is to/from the European region, and almost all of it transits via neighbouring Israel, which also is in the EUR region. The European member associations headed to the most southern part of Jordan where the borders between Saudi Arabia, Egypt, Israel, and Jordan meet. Aqaba itself and the venue where the meeting was held are located on the Red Sea, but the desert is only a few kilometres away and makes for a very spectacular landscape.

Eighty-five controllers representing 32 countries attended the meeting. The first day consisted of a workshop organised by Marc Baumgartner, IFATCA's SESAR coordinator. The subject this year was on the effects of the new EU regulation 373

that affect controllers in Europe, which addresses aspects such as stress, fatigue, use of psychoactive substances, alcohol, sleeping disorders, etc.

On the second day, the meeting was opened by the CEO of the Jordanian CAA who laid down the challenges for the industry in the coming years: mainly the rise in traffic, the introduction of drones and their impact on ATM, cybersecurity, and the need to keep safety as a priority despite financial pressures to keep costs down.

A known story, but well worth repeating over and over to make sure politicians are listening. In the same spirit, Oliver Wesollek of IFAIMA explained how states are looking at automating flight information in order to lower costs. But automation is known to lower the skills of the human operators and will eventually lead to people completely losing their competence. The president of IFISA, Mikkel Drescher report-



ed on how the organisation is in the process of establishing the international recognition of FIS personnel as an important part of the ATM system.

Helena Sjöström, IFATCA Deputy President, presented the goals of IFATCA's new Equality, Diversity and Ethics Task Force. On that note, it was encouraging to see many female colleagues attending this regional meeting.

Other subjects debated were the European Union's Reporting Period 3 – with moderate cost reductions, EASA-SESAR new developments, etc.

Benjamin Fichtner, President of Swiss ATCA explained the disastrous effects of the criminalisation of individual controllers after incidents in Switzerland. A very serious situation that continues to be addressed by IFATCA and even pushed at ICAO levels as it is in full contradiction with the spirit of Just Culture and ICAO Annex19. (Editor's note: a working paper



on that very subject was presented in ICAO Paris in December 2019 jointly by IFATCA and IFALPA and will lead to some actions. The Controller will cover this more in our next issue.)

On the subject of training new controllers, there was a very interesting presentation by Drich Jans, CEO of Global ATS Denmark. There is a tendency to reduce training time for cost reasons, but Drich argued that we need to adapt to the new generation of young people coming into the profession, and that classroom teachings using books and blackboards is not the solution. Young people, often referred to as "Generation

Z," used iPads or laptops since they were in kindergarten. Those are the people we need to attract to replace the current workforce and cope with the planned increase of traffic. However, ATC is not attractive to them as it is seen as a stressful job. Other negative aspects are also a deterrent, like the impact that flying has on the environment. We need to create a new work environment for them, a different style of training, away from what we do today, in order to attract them. According to Drich, a solution lies in using adaptive learning (where learning is adapted for every individual student), learning/teaching on demand (a training environment that is open 24/7), combined customized training (adapting to the demands of young people), and perhaps introducing new tools like Virtual Reality (VR).

Another presentation was from Iacopo Prissinotti, the Eurocontrol Director of the Network Manager, who reported on the performance during Summer 2019. It was a little bit better than 2018 (2.8 minutes delay on average, compared to 3.3 in 2018), but still very far from the target. This slight improvement was attributed to less industrial actions, better weather conditions,

re-routing of traffic around bottlenecks, and above all a very low traffic increase (only 1.3%).

We need to do even better in the coming years. To achieve this, he advocated that we have more discipline in the network, meaning a strict flight plan adherence. No more direct routings and strict flying the requested flight level mentioned in the flight plan rather than to the one requested by the pilots. The problem is that both pilots and controllers are used to requesting/granting different levels and direct routes. In many cases, they are also used tactically to actually separate aircraft. To implement this strictly will be a difficult challenge for many.

The social evenings were all very well organised in a very friendly atmosphere by our Jordanian colleagues. We all thank them for their enthusiasm in making this a very successful regional meeting.

The next regional meeting will be held 7-9 October 2020 in Maastricht (the Netherlands) organised by EGATS, the Eurocontrol Maastricht UAC Guild. ◀

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All photos: Philippe Domogala

▶ Photos: (above/left, left to right) President Jordanian Association, CEO Jordanian CAA and IFATCA EVP EUR (above/right) Participants at IFATCA's 36th European Regional meeting



▶ Photos: (above/left) IFATCA members in the desert around Aqaba (above/right) Camels in the desert around Aqaba



▶ **Photo:** Air lab in the Concorde Hall at the Le Bourget Paris Air Show

All photos: Philippe Domogala



# LE BOURGET PARIS AIR SHOW 2019

BY PHILIPPE DOMOGALA, SENIOR CORRESPONDENT, IFATCA

Last June, the traditional biannual Paris Air Show took place in Le Bourget.

The air show is located near the Le Bourget Air and Space Museum. In front of it, there is a large hangar that contains two Concorde: the first prototype that flew in March 1969 and the last Air France one that flew on the 14th of June 2003, after the last commercial flight, from CDG airport to LFPB airport (2 nautical miles apart). This last flight was the shortest flight ever done by a Concorde, and probably the slowest.

Under its wings, was held a very innovative kiosk created for young people looking to choose a job in aviation. On the day I visited, the challenge was urban air mobility and working with autonomous aircraft. The animation was done by Airbus's head of Urban mobility, Eduardo Puerta, who is in charge of the Vahana project within Airbus. Puerta described the Vahana is an all-electric, single-seat, tilt-wing vehicle demonstrator that focuses on advancing self-piloted, electric vertical

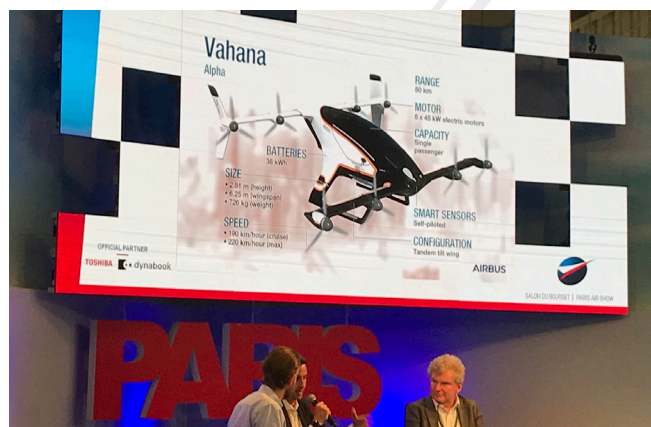
take-off and landing (eVTOL) flight. The Vahana vehicle is self-piloted, or autonomous, and it has onboard detect-and-avoid system that can identify both air and ground hazards. I was interested in that part, but, unfortunately, this vehicle is still a prototype, under development, and not yet fully operational.

What was interesting in his presentation was his vision for the future, where demographics show that by 2040, 60% of the Earth's population will live in cities, and our current cities are not designed and prepared for the kind of mass trans-



portation that will be necessary.

Many cities by 2040 will exceed tens of millions of people. He said that petrol driven personal cars will disappear soon as the streets will no longer be able to hold the traffic. It will be constant traffic jams. The solutions he presented are either underground or by



▶ **Photo:** Airbus Vahana Air Lab at Le Bourget Paris Air Show



air. Airbus believes it will be by air. He said studies show that the only suitable, eco-friendly way to move people in cities that will be getting larger and larger is electric aerial transportation. That is why everyone is now looking for that solution. This prospect will definitely impact our profession as those vehicles will share our airspace.

I also went to visit Thales exhibit to see their latest innovations. They had an exhibit regarding ATM. Thales main business is now in Defence, and it showed as the place was full of military people. They have a few visions for the future including the use of artificial intelligence in ATC which is worth looking at.

2019 also was the 50th anniversary of the first moon landing and to celebrate the event, the show invited three astronauts from that era to give a presentation: Walter Cunningham from Apollo 7, Char-

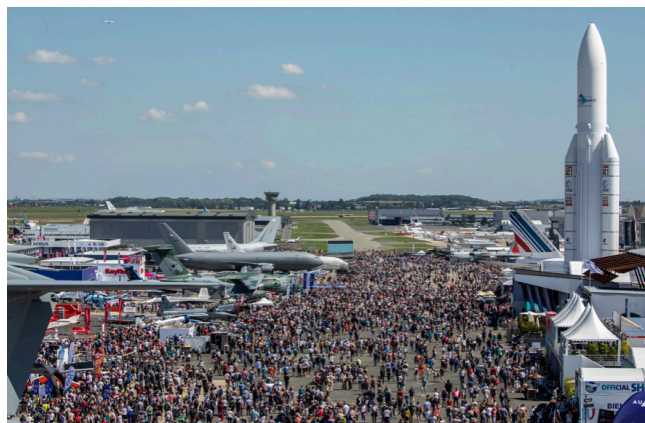
lie Duke from Apollo 16, and Walter Worden from Apollo 15. It was very interesting to see them all, well into their 80s, still in great shape and full of humour. They are a real breed apart! They flew to the moon 50 years ago but were all talking about going to Mars. They said NASA should send them to Mars as they are already trained, so it would save NASA a lot on training. They eat very little, so they could save on weight, and foremost at their age, they do not need to come back. They said, "NASA could send us for half the price, and we are all volunteers."

The last interesting point is for our tower controller colleagues. The new camouflage paint of some defence aircraft is interesting. This new white-blue computer design makes aircraft very difficult to see when in the air. While this is good for evading enemies, it's not good for your friendly tower controller, who will have a problem seeing it. ◀

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➤ Photos: (top) Poster from the 2019 Le Bourget Paris Air Show (middle/left) Discussion at Air Lab at Le Bourget Paris Air Show (middle/right) NASA astronauts at Le Bourget Paris Air Show



➤ Photos: (bottom/left) Camouflage paint of some defence aircraft (bottom/right) Crowds at the Paris Air Show



► Photo: One of the LEGO sets featuring a (fully equipped) futuristic tower design



# ATC TOYS & GAMES

► **BY PHILIP MARIEN, IFATCA COMMUNICATIONS COORDINATOR**

Despite the fact that air traffic control remains quite obscure for the general public, several companies have brought out ATC-themed games and toys over the years. In this article, we'll look at some of these.

## Tin Wind-Up Toys

West German company Schopper produced a wind-up toy in the late 1960s and early 1970s featuring an airport tower.

The wind-up mechanism rotated three propeller aircraft around the tower. Far more impressive was a Soviet made airport that featured hangars and a terminal/tower building. Again, using a wind-up mechanism, a single aircraft would fly circles around



the airport – not around the tower like its loopy German counterpart. The airplane could be made to go up and down (take-off and land), but it could also do some loops in the circuit. The tower itself featured a flashing light on top, making for an impressive (and no doubt quite exclusive) toy in the U.S.S.R.



► Photos: (above/left) German-made wind up tower (above/right) Soviet-era airport with control tower. Notice the light beacon on top





**LEGO & Playmobil**

Both LEGO and Playmobil have had control towers incorporated in various airport-themed sets. These sets have varying degrees of detail and design, but generally only Playmobil has had a dedicated tower controller 'action figure' including a headset. As far as I've been able to determine, LEGO has no specific mini figure with a headset that could pass for a controller, even some

LEGO sets included a marshaller that was labeled as an air traffic controller. Interesting perhaps for those that will attend the Singapore IFATCA Conference: Singapore's Terminal 3 has a LEGO shop, and last year, they offered an exclusive model of the airport's tower with purchases of regular sets. It's not clear whether the offer still stands, but it is certainly worth a look if you're into LEGO and ATC!

**"Voice Controlled"**

By far the coolest game we've been able to find was produced by a USA company called REMCO. In 1968, they brought out an airport set called "Voice Control Kennedy Airport". It consisted of a cardboard play area with runways and taxiways, a number of plastic aircraft, hangars and a tower. The unique feature of this set was that the tower contained a small record player. By open-



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▶ Photos: (left/top) Playmobil's version of an airport ATC tower (left/bottom) REMCO's Kennedy Airport, featuring real voice communications using a record player hidden in the tower (right) Exclusive LEGO version of Singapore's Changi airport tower

ing the tower, a small disc could be inserted. Switching on the battery-powered record player would play ATC instructions on the disc via a mock-headset. Two discs were included with 16 instructions that were quite realistic.

**Board Games**

In 1974, USA company Schaper (then a subsidiary of KUSAN, which was later bought by Mattel) brought out a board game called "U-FLY IT AIR TRAFFIC CONTROLLER." In this turn-based game, each player has to land four aircraft. There are two circular paths around the airstrip: the holding pattern and the land-

ing pattern. Players take turns rolling a die to move their planes on the board. The planes must first enter the holding pattern, then the landing pattern, before they can land. Players slide the planes down on their stands as they do so, representing different altitudes in the approach. Each space on the board contains instructions that must be followed. Emergency and special clearance cards are drawn when planes land on their space, and their beneficial and detrimental effects must be executed. Planes can only enter the landing pattern through the effects of certain special clearance cards. To land on the airstrip, planes

itself is somewhat different. Rather than one airport, this version has two airports and an oceanic part. The playing area is massive, over one meter long. One player plays as a controller, the others play as pilots. By throwing different dice, pilots can state requests, and controllers formulate a reply/clearance. The aim of the game is to get a set of two aircraft to the other side of the ocean. In doing so, it also encourages the player to use correct phraseology. The instruction leaflet gives some general background information on ATC and modern (in 1975) air travel.

must land exactly on the final approach spaces on the landing pattern. Players then need to roll on their next turn to determine if their planes can taxi to and park at their designated gates. The first player to park all his or her planes is the winner.

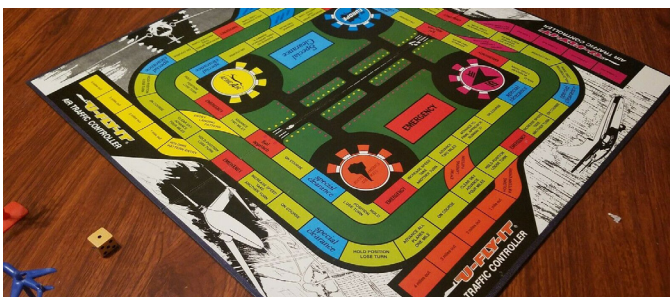
**Electronic Age**

The last one that we'll mention in this article is Bandai's 1981 game Air Traffic Control. It's an early electronic tabletop game, in which you try and land and take-off aircraft without crashing them. There are four sectors from which inbound aircraft come and towards which outbound traffic exits. Slightly odd is that you, as the "air traffic controller," need to watch the speeds of the aircraft. If they go too fast or too slow, the aircraft can crash on approach or on take-off. While this is slightly unrealistic, the game does feature go-arounds (called "fly-bys") and ground proximity warnings. It also has a rather "Just Culture" high tolerance. It takes no fewer than nine crashes(!) to get dismissed for incompetence (also known as game over).

In 1975, the U.K. company Airfix – better known for its extensive range of plastic model kits – brought out a board game as well. Interestingly, the artwork of the box is identical to the USA game that had been released a year earlier, but the game

There are more examples. If you have any information about them, we'd love to hear about it. From the late 1970s and the introduction of home computers, air traffic control games became computerized. We can cover the these developments in a follow-up article. ◀

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▶ Photos: (left/top, left/middle, and left bottom) Schaper board game from 1974. Note the similar artwork as the Airfix game from 1975, but the significantly different board layout (right) Bandai's Air Traffic Control table-top game from 1981

# JUST CULTURE: LEARNING OR PUNISHING?

▶ BY JOB BRÜGGEN, SAFETY OFFICER OF LVNL (AIR TRAFFIC CONTROL OF THE NETHERLANDS).



*Our editorials on Just Culture, triggered by the conviction of an Air Traffic Controller in Switzerland, aim to trigger thoughts and ideas for how to proceed. This article is written as a personal opinion of the author and does not necessarily reflect the opinion of LVNL or that of IFATCA.*

The Federal Court has given its verdict and this time it is final. The conviction of a Swiss controller strongly stirred the aviation community. For missing a “readback/hearback”, two aircraft came closer than our standards prescribe, and two electronic safety nets, STCA for the controller on the ground and TCAS for the pilots in the air saved the day, as they were designed to do. The controller on the ground was found guilty, by ‘unconscious negligence’, of disturbance of public transport and fined 60 days.

End of story? Let us ask ourselves what the effect of this verdict will be to all professionals in jobs that are meaningful to the general public and also carries certain risks to the same general public. Policemen, doctors, nurses, train drivers, pilots, controllers are professionals, but also humans. And humans make mistakes. If we want these people to perform these jobs for us, we must find a way how to deal with these inevitable errors.

I reckon there are five objectives of penal law:

- 1.) Specific prevention – teach a lesson and prevent the wrongdoer acting again;
- 2.) General prevention – to deter other people not to do the same thing. That is why punishments or executions used to be very public;
- 3.) To add misery to the perpetrator – compensating for the wrong act in the view of (and on behalf of) the general public and underlining the privilege of the state to enforce the law,

- lest vendetta’s or family gangs would have their way again;
- 4.) To compensate for the bad things that have become upon those that were suffering from the bad act. That is, if compensation is at all reasonably possible;
- 5.) To show to the general public that the law itself is being upheld – and thus upkeeping faith that the justice system actually works.

I am sure there are more goals that the justice system serves, but these five are generally accepted to be laudable and indeed useful for a society to maintain order in a country or state.

Specific prevention and general prevention (objectives one and two) are unlikely to be served well here. Missing a readback/hearback is quite common in aviation and happens hundreds of times every day. Communication through half-duplex VHF channels is arguably one of the most critically weakest links in our system. It still amazes me we are using it. The aviation community is at best reminded that pilots and controllers have indeed serious accountabilities for ensuring safety. But they are humans and not infallible – the very reason why STCA and TCAS were invented anyway.

Objectives three and four (adding misery and compensating) completely miss the point here. There were no casualties hence what was there to compensate for? The Federal Court states that danger was created and I think nobody will dispute that. Flying inherently carries risk and risk already starts when the pilot gets out of bed at four in the morning to get to the airport and prepare for the flight.

That leaves us with objective number five: to show to uphold the law. How many people will

feel more comfortable with the idea that Swiss controllers may report fewer incidents for fear of prosecution? It is legitimate to assume that Swiss controllers already report less or with less details than their colleagues in other countries, thus hampering the self-learning abilities that made aviation – inherently risky – so incredibly safe.

Note that nowhere I judge upon the acts of the controller or pilot whether they were good, normal, weak, reckless or exceptionally stupid. The Swiss judicial system, ticking like a Swiss watch, concluded that the behavior of the controller was negligent and not in accordance to professional standards, brutally brushing aside fundamental systemic questions: was the behavior of the controller seen as ‘normal’ in the community of controllers? Are other controllers experiencing the same events? Does the system elude controllers to fall into a spring loaded trap waiting to snap shut? What is the likelihood of this happening again? With this verdict, the answer to how we can prevent this systemic safety flaw from appearing again will be seriously hampered – not a pleasant thought for such a civilized country as Switzerland. My favorite phrase ‘learning is safer than punishing’ surely does apply.

“Never let a crisis go to waste”. It takes insight and courage to question as to why things are done the way they are. With the final verdict there now is a great opportunity for the Swiss people to reflect and ask themselves what they prefer: learning or punishing? ◀

# BRIDGING THE GAP: ARE WE FIGHTING WINDMILLS?

BY MARC BAUMGARTNER, IFATCA SESAR COORDINATOR

Following the aftermath of the tragic accidents in Milano Linate (2001) and Ueberlingen (2002), Eurocontrol created an Action Group of Aviation Safety (AGAS). One of these subgroups was the Just Culture Task Force. The Just Culture Task Force brought together a large variety of key actors in aviation inside and outside Europe. One of the deliverables was to create a combined training for ATCOs, Pilots and members of the Judiciary.

Since 2012 Eurocontrol, the European Cockpit Association and IFATCA co-organise three-day education courses. Every year two courses of three days are organised to bring together professionals (Air traffic controllers and pilots) and member of the judiciary (judges, prosecuting judges and prosecutors). Over 200 persons have participated so far. Despite these efforts to bridge the gap between aviation safety (ultimately the passengers' safety) and the judiciary the Just Culture concept is challenged as the recent Swiss Federal Court decision shows.

Following the Swiss Federal Court verdict of an air traffic controller for an incident where nobody was hurt and no material damage was done, a conflict materialized between the duty of the judiciary and the needs of a safety-relevant reporting system in complex systems. Through this,

aviation is subjected to a stress test. In view of the EU regulations on safety-related reporting and the prevention of aircraft accidents, the judicial and aviation authorities are called upon to push ahead with regulations for increased coordination. A contribution to this implementation could be provided by the joint training for aviation experts and judicial authorities provided by Eurocontrol and the international umbrella organization of air traffic controllers IFATCA.

These courses aim to present tools such as the Just Culture concept, education and exchange of views between the aviation sector and the members of the judiciary. In organization with high level of safety or high-risk industries, decades of upholding safety has become the *raison d'être*. Nowadays aviation has achieved a very high level of safety and accidents are very rare. In fact, so rare that the aviation sector cannot improve other than learning from incidents or events, where the outcome is not as was expected. In order to continue to learn and improve the aviation sector, which by the way is not free of risk, aviation has chosen to regulate the access to safety data and safety information. This has produced various



instruments such as reporter protection, safety data and safety information protection in the international regulations and recommendations.

In modern safety management, a systems approach has been nurtured in recent years in incident investigations. The focus is no longer on the "failure of the individual", but on understanding the complex system interactions and suggests improvements. As a result, safety management is dependent on knowledge of the situation and constant dialogue with the operators in the system, in this case the controllers. This approach is called the systems view. It sees the error or problems that we perceive superficially as a symptom and not as a cause. As symptoms, they point to deeper and complex deficiencies in the system. These can have to do with priorities, communication, resources, development, politics and much more. For people who are part of this system, such conditions are rarely as obvious as they appear to external observers after an accident or a more serious incident; they are simply part of the daily work from the point of view of perception. Linking the symptoms to a potential accident seems almost impossible before the accident.

It is therefore of the utmost importance in a complex system that is not completely transparent for the individual to know as many such symptoms as possible. However, this information only becomes freely accessible if, in return, nobody is punished for reporting it, especially if the observation is related to a work error of one's own.

On the other hand, there is the judiciary, which must legally evaluate the event in a serious case. That is our claim in a constitutional state. In general, lawyers can only orient themselves on written guidelines, but do not necessarily know the working methods, the decision-making processes or the so-called "best practice".

In theory, this could lead to the punishment of a "good decision" in the interest of safety, but which was not compliant with the rules, or to pilots and controllers failing to report work errors for fear of legal consequences. Punishing people for "honest mistakes" in a disciplinary or judicial way does not increase the security of the system. Sanctions do not preclude similar incidents from happening again. On the contrary, they tend to lead to an

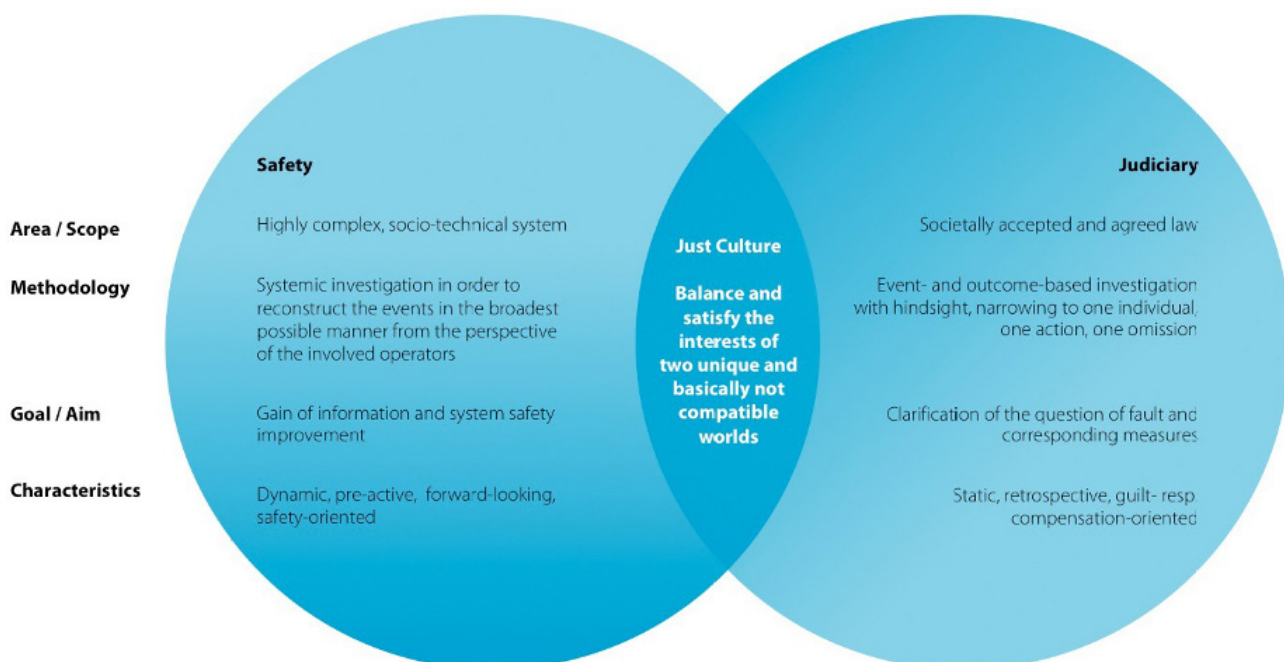
increased risk: we are thus cementing the false belief that the system itself is safe and that after an incident with the "sorting out of the rotten apples" this state is also reached again. As soon as we punish some individuals within the system, well-documented adverse effects occur. The most problematic factor is fear. Participants stop reporting any safety-related problems they encounter because they fear that the rapporteur will be resorted to, that he will be punished. Systems in which there is no open communication on safety aspects are vulnerable and risky systems. They are not adaptive and cannot improve.

The tension between the need to learn from safety-related observations and the government's obligation to punish negligent behaviour has been recognised by the international authorities and implementation provisions have been enshrined in various air transport laws. The implementation of this EU regulation is a difficult undertaking for the countries concerned, as the actors concerned do not usually operate in the same environment. The aviation industry is international, dynamic and very security-conscious, the

judiciary is national, designed for stability and very legally conscious. These two worlds rarely meet. And when they meet, this leads to a correspondingly committed exchange. In 2008, Eurocontrol established a "Just Culture" Task Force to promote dialogue between these different worlds. This has made it possible to establish contacts and bring the various actors together at one table. One of the initiatives from this Task Force is a training course jointly organised by Eurocontrol and IFATCA (International Federation of Air Traffic Controller Associations) and the European cockpit association (ECA), which trains representatives of national criminal investigation authorities and aviation experts (active air traffic controllers and pilots) over three days. The aim of this joint training is to promote understanding of the various interests involved and to form a network of European criminal investigation experts who can provide operational expertise to the criminal investigation authorities at their request. In addition, opportunities have also arisen for the various nation states to implement the EU requirements in a pragmatic manner. The limits and possibilities of criminal investigations become apparent

# TWO WORLDS MEET IN THE PROSECUTOR EXPERT COURSES

▶ BY SWISS ATCA



and court rulings reveal how accidents or serious incidents are viewed from a legal point of view. Initial experience has shown that national legal systems react very differently to a security incident. In the Netherlands, for example, an aviation prosecutor with national competence was appointed in 2007 and, together with an aviation police corps, declared the sole point of contact for all aviation incidents. This public prosecutor can decide when, where and how to initiate prosecution. In other countries, e.g. Italy, the investigating authorities must act in the case of known possible violations of the law and can restrict the activities of the accident investigation authorities. For the Italian criminal investigation authorities, this course has been included in the voluntary training offer for investigating magistrates and prosecutors.

The need to bridge the gap between the judiciary and the aviation world has become apparent during these courses. Most of the participating members of the judiciary have never heard of the concept of just culture and on the other hand most of the participating experts of aviation world have never been faced with the legal proceedings and analytical

process determining if an act in a working environment leading to an unwanted outcome is negligent or gross negligent. To bring these two worlds together in order to bridge the gap and foster understanding of the different needs is a sensible way to contribute to the safety of the travelling public. Understanding the various national legal frameworks helps as well to show the limitations to the current just culture notion from an aviation perspective and gives avenues to propose to the legislators to change the legal framework where necessary. This is not an easy task like the cases in front of court in Switzerland demonstrate. Penal code, aviation law and various ordonnances need to be adapted to become compliant with the aviation requirements as outlined in the international legal law.

Over 200 persons, of which 90 from the judiciary have participated to this course and have debated, exchanged views and learned around the difficult topic of justice and aviation safety. As these two worlds can sometimes be seen as antagonistic, the fact to bring together representatives of both worlds is assisting in fostering understanding of the respective needs, rights and duties. To bridge the

gap is a valuable contribution to aviation safety while respecting the needs of justice. The existence of these initiative has permitted to highlight as well some of the weaknesses of the current transposition of the international aviation standards and regulations into the various national laws and permits the dialogue between the world of justice and the one of aviation. This allowing for changes at the national level.

The current court cases in Switzerland have allowed Just Culture to be debated in public, with an understanding of the just culture concept and the acceptance that the Swiss legal framework has to change in order to be compliant with the ICAO and EU regulations on the one hand and to continue the improvement of aviation safety. A few years ago, such a debate would not have been possible as the notion and the importance of the just culture would have been unknown to most of the public and the administration of justice. This as such is an achievement and bridging the gap has to continue restlessly. ◀

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# CHARLIE'S COLUMN

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## Nonsense to Airmen?

Most readers will have come across NOTAMs (Notice to Airmen) that are true head scratchers. Deciphering them is probably a full-time job, sometimes just because of the sheer number of notices published each day. Sometimes, you have to side with the critics of the NOTAM system. Charlie received the following gem recently:

A1554/19 NOTAMN  
 Q) VTBB/QFAHX/IV/NBO/A/000/999/1355N10036E005  
 A) VTBD B) 1906301700 C) 1909301659  
 E) BIRD CONCENTRATION IN VICINITY OF AD  
 TYPE OF BIRDS: PAINTED STORK, GREY HERON, BLACK-HEADED IBIS, PURPLE HERON, OPEN-BILL STORK, BRAHMINY KITE, BLACK-SHOULDERED KITE, CRESTED SERPENT-EAGLE, LESSER WHISTLING DUCK, GREAT EGRET, INTERMEDIATE EGRET, CATTLE EGRET, LITTLE EGRET, BLACK-CROWNED NIGHT HERON, BARN OWL, LITTLE CORMORANT BIRD WEIGHT: FM 300 UP TO 3000 GRAMS MAX FLOCK LARGE SIZE: 26 BIRDS.

This one raises so many questions. How do they know the birds will stick to a maximum flock of 26? Who named these birds – in particular the “intermediate egret” and the “lesser whistling duck”? And does it matter much which exact species end up in your engine or on the windshield?

But possibly even more mind-numbing is the following one:

F2298/19 NOTAMN  
 Q) ZSHA/OXXXX/VINBOIA/N00/999/30T4N12020E005  
 A) ZSHC B) 1905050852 C) PERM  
 E) REF AIP CHINA SUP 15/16(20 18-5-15) ZSHC AD2.24 -2ZOG, MORSE CODE OF IXX CHANGE FM ‘DOT,DOT’, ‘DASH,DOT,DOT,-DASH’, ‘DOT,DOT,DOT’ TO ‘DOT,DOT’, ‘DASH,DOT,DOT,DASH’, ‘DASH,DOT,DOT,DASH’, OTHERS REMAIN.

Charlie can only say: ‘DOT DASH’ DASH, ‘DASH’, ‘DOT DOT DASH DOT’

## Notice to Passengers?

The Airport Authority of India found it necessary to issue an order to passengers using their facilities. Here at Charlie, we didn't realise that carpet eating was an issue in Indian airports. It's not clear whether the order applies to passengers who bring their own carpet or whether it only concerns the terminal's floor decorations. In any case, if you're traveling to India, avoid bringing carpet as a snack!

## Plastic Terror

These days, there are a lot of things that could get you in trouble with the security staff at an airport: toothpaste, nail files, snow globes, Star Wars themed Coke bottles and what have you. But how does something like a grenade-shaped travel set make it through a board meeting? What marketing research concluded that anyone would buy this? Does it come with a manual on how to argue with security staff that yes, they are shaped like a grenade, but they're only 100 ml? Again, so many questions and so little answers.

## Eco Terror

Climate change activists are very critical of the role aviation plays in messing with our planet's climate. But one action took things a step further: during an action of Extinction Rebellion at London City's airport, one activist – a visually impaired Paralympic athlete – climbed on top of an aircraft instead of taking his seat inside. Live streaming his action to Facebook, he said it was “scary” because he hated heights, felt cold and hoped they would get him down soon – well duh... The action was probably planned by the same marketing team that thought plastic hand grenade-shaped bottles were an excellent idea. ◀

