

THE CONTROLLER

May/June 2016

Journal of Air Traffic Control



IFATCA 2016 ANNUAL CONFERENCE

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IFATCA RECHARGED

Successful conference shows that our work is never done!

✈ by Patrik Peters, IFATCA President & CEO



It is only a few weeks ago that we gathered in the glamorously illuminated city of Las Vegas, enjoying a very productive and fantastically hosted annual conference. For several delegates, this visit was their first time they came to the United States of America, for many it was their first time to an IFATCA conference and for all of us it was a unique experience. Besides being wonderfully distracted by the unbelievable variety of available amusement, I sincerely hope you found the 'show' we offered in the committee sessions just as entertaining and possibly even educating.

It is your duty as member association to keep us informed about any such disputes.

Whilst running up to conference is an exciting but also stressful time for all involved in the active steering of the Federation, be it the many members of the standing committees, all representatives and Executive Board members finalizing their working papers, presentations and speeches, or the Organizing Committee laying hand on the last preparations, we all are by the end of the week certainly fatigued but even more so, satisfied and happy and somewhat recharged for the coming year.

Together we discussed for five days to achieve the best possible outcome for our profession. We shared our knowledge with other colleagues and built new relationships helping us to tackle the workload for the coming year. This is our strength as a Federation – the sharing of information and a common approach to work with professional challenges. Air traffic controllers around the world are masters in adaptation to a changing environment. Whilst we often are critical towards changes, we always 'give it a try' and most of the time 'make it work'. With a good intent and the

solid integrity of aviation professionals we make best use of our capabilities and – hopefully – achieve the results, we strive for.

At times though, mismanagement and wrong decision-taking or worse – no decision taking – leads our colleagues into situations where the good intent and our integrity are being abused to

the extent of a loss of trust. Respect, transparency, loyalty, learning from mistakes, being realistic, clarifying expectations, accountability and listening to the concerns of the workforce are basic requirements to build and maintain a healthy work relationship. Latest victims of a breakdown of such a relationship are our Belgian colleagues. Their good intent and will to cooperate was driven well beyond the limits by an irrational and near-abusive attitude from their management.

While the situation in Belgium is primarily a social conflict, our profession is one where social and professional issues cannot be looked at individually. IFATCA's primary concern is and always will be safety! Safety has undoubtedly been affected here by rash and uninformed management action. We therefore have no other choice but to voice our concerns in a strong way.

There are currently too many such issues in all parts of the world. The IFATCA Executive Board closely monitors the developments and assists wherever it can – but it is a member association's duty to keep us informed about any such disputes in a timely fashion. We will always support you if so desired and only in agreement with the respective member association. Make use of our strong ties and the trust we have in you – **as safety professionals! Coz' We're all in this together!**

... and THANK YOU for your trust in me – to lead this great Federation for another two years! ☺

patrik.peters@ifatca.org

Patrik Peters



PATRICK R. SCHELLING

Former Chairman of *The Controller Management Group*
 ° 29 September 1947 - † 07 March 2016

Just before the start of the 2016 IFATCA Conference, the IFATCA family was saddened to learn of the passing of Patrick Schelling.

Fascinated by aviation from a very young age, Patrick became a professional pilot when he was only 20. A couple of years later, he trained as an air traffic controller at Radio Suisse SA (later Swisscontrol and Skyguide), to become a controller at the Geneva Area Control Centre. Besides working as a controller, he quickly became involved in optimizing the airspace and systems, including being a pioneer in using fast-time simulations to model new ideas.

In the late 1990s, he was also part of the Breitling Orbiter 3 team, which was the first to circumnavigate the globe in a hot-air balloon. Patrick was part of a small team of air traffic controllers working to coordinate the flight with ATC centres around the world.

With a similar passion, he was also very active within the Swiss association of air traffic controllers and in IFATCA. During the late 1980s and early 1990s, he and his wife Lin were very involved in the production of this magazine and in the committee that managed it. As contributing editor, he wrote numerous articles, all of which radiated his passion for flying. He was one of the driving forces in the organising committee of the 2001 IFATCA Conference in Geneva.

After his retirement from ATC, Patrick remained closely involved in aviation. He assisted in the Swiss accident investigation bureau (BEA), while also taking more time for his other passion: flying. As a long time amateur aviator, Patrick had his own aeroplane and was also the President of the Aeroclub de la Côte (Prangins, Switzerland) and also the representative of Switzerland Romandie in the central committee of the Swiss Aero Club.

Patrick passed away on March 7th 2016, after a courageous battle he wasn't able to win. On behalf of the IFATCA Executive Board, the editorial team and the entire IFATCA family, we offer our sincere condolences to his wife Lin, his sons Jonathan and Julien and all those that were dear to Patrick. He will be missed. ☹



Photo: Jean Bourdieu



➔ Patrick in his aeroplane.

EDITORIAL

Controllers cannot compromise on safety!



by Philip Marien, Editor

Welcome to another edition of The Controller. You'll find extensive coverage of the most important event of the year for IFATCA affectionados: our annual conference, which drew professionals from all corners of the world to Las Vegas, USA.

Pressure

During the conference, it was once again clear that our profession is continuously challenged. It would seem that if they could, most CEOs - usually unhindered by any operational experience - would rather get rid of those pesky, know-it-all controllers that they do nothing else but drag the balance sheet down.

All across the world, controllers face these prejudices. Even if they get a decent reward for their work, it is often used as a management prerogative to dismiss any form of social or even professional interaction. If controllers try to get a professional point of view across, too often it is sold to the media and the general public as a money issue.

Pilots

Our pilot-colleagues have preceded us and some clearly have every intention of making controllers next in line. The travelling public expects a 5-star service for the price of a youth hostel. Our society is unable to compromise on the luxury of being able to fly anywhere for the price of a train ticket and is unwilling to accept that this could have consequences for safety or service. No one wants to recognise that their expectations of absolute security, service and safety have a cost - and that this involves continuously investing in

staff, training and equipment. Annoyingly for the economy graduates in charge, the benefits of these cannot easily be quantified in their balance sheet.

Mismanagement

The latest example is Belgium, where a highly politicised management and undue external pressures have accumulated over the last decades to the point that the controllers are at their wits' end. They are paying the price for what is essentially institutionalised mismanagement. As if frequent system failures, endless streams of procedure changes and staff shortages, their management saw fit to force major changes to their working conditions and pension options. It was the straw that broke the camel's back for many Belgian colleagues. Distracted, and arguably distressed, individuals needed time to process what this meant for them individually. To work in such a state of mind would have been nothing short of irresponsible. But to add insult to injury, management saw fit to advertise their inability to work as a collective industrial action to the press and the general public.

As professionals, safety and our ability to provide it, is an absolute and we cannot compromise on this. One cannot disconnect this from working conditions, as it all comes together in an individual: the controller. Distraction or distress is detrimental to the ability to provide 'our' absolute. It is to professional associations, including IFATCA, to point this out - time and time again.

Many CEOs and HR managers have lost track of what the core business of an air navigation service provider is: to provide a safe and efficient flow of traffic. Most of them have a very narrow view of what 'safe' means. And they translate 'efficient' with 'as cheap as possible', whereas I would argue that it is meant to mean 'well organised' in this context...

Benefits

At the same time, there is a shimmer of hope: while it seems to be hard in many cases to convince local management/politics, some service providers and international organisations have come to realise that controllers have an important role to play. There are no magic bullets and the predicted growth will largely need to be accommodated within the current system, which includes controllers. At those levels, they've experienced that things work better if controllers are on-board and involved from the very beginning. It is up to organisations such as IFATCA to convince those that are still in the 'dark ages' that investing in staff and their good-will will pay off sooner rather than later! ☺

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Many CEOs and HR managers have lost track of what the core business of an air navigation service provider is..

All photos: George Petrovich/NATCA, unless otherwise mentioned

IFATCA 2016 ANNUAL CONFERENCE

What happens in Vegas, doesn't have to stay in Vegas!



by Philippe Domogala & Philip Marien



From March 14th until March 18th 2016, IFATCA held its 55th Annual Conference. The venue for this year's event was Las Vegas, USA. The conference was hosted by NATCA - the National Air Traffic Controllers' Association of the USA. Over 400 delegates from some 70 Member Associations travelled from across the globe to discuss professional, technical and operational aspects of air traffic control.

Opening Ceremony

The opening ceremony started off in true Las Vegas style with a performance by look-alikes of the legendary 'rat pack': Frank Sinatra, Sammy Davies jr and Dean Martin. NATCA's own Richard Kennington acted as master of ceremonies. In their opening addresses, both NATCA President Paul Rinaldi and IFATCA President & CEO, Patrik Peters, stressed the importance of international cooperation and how we can and should learn from each others' experiences.

Mr. Peters remarked during the Opening Ceremony: "It's a responsibility of all of us, especially in these days, when we have the unique opportunity

to spend five days together, to share and ask for information. I invite you to do this, amongst each other and from our offices, representatives, and specialists, and, of course, the Executive Board members. As facilitators of this Federation, we do our best to move this further."

Paul Rinaldi said in his address to the delegates that even though the large size of the United States aviation system makes it unique, "we face the same problems you face around the world. We push for modern equipment and procedures, we strive for the highest standard of professionalism, and we promote and safeguard the National Airspace System while protecting the national air traffic control profession. Modernization and innovation is rapidly making our individual countries' aviation systems into one gigantic, dynamic, global aviation system."



Opening Plenary

Following the opening ceremony, the opening plenary awarded the 2016 IFATCA Technical Award to Frequentis. In his introductory speech, Ben Gorrie, chairman of IFATCA's Technical & Operational

Committee, praised the electronic strip display system of the Austrian manufacturer: operational feedback from controllers in various parts of the world indicated that the Frequentis systems provide a highly reliable and user-friendly experience, thereby enhancing safety and efficiency. Mr. Gorrie and Alfred Vlasek, Chairman of our Professional and Legal Committee, presented the award to Thomas Fraenzl of Frequentis.

The controllers' association of Nepal was presented with an award for their efforts following the devastating earthquake in 2015. Through their relentless effort, the Kathmandu airport was kept open to allow essential aid to be flown into the country.





Over the next three days, delegates spread across three committees to discuss administrative, technical and professional issues affecting the Federation and the controller profession.



→ Committee A head table

Administrative Issues (Committee A)

Delegates in this administrative committee reviewed a hefty number of working papers and reports. These were aimed at keeping the Federation running smoothly and optimise its organisation and operation wherever possible.

The committee's sessions were chaired by Jules Ogilvie (UK), who was assisted by Alasdair Shaw (New Zealand). Two members of the Organising Committee, Rob Utley and Chris Stephenson, acted as liaison officers and were instrumental in efficiently handling the ballot process.

One membership application was considered: Botswana (re-)joined the IFATCA family. Thanks to the enormous generosity of the Member Associations from Australia, Canada, USA and Germany, only two associations needed to be considered for termination.

Committee A heard all IFATCA Officers' and Executive Board member reports to conference and took note of the considerable amount of work carried out on our behalf by the team. The Federation continues to be an important and valued stakeholder in the international aviation community. Our involvement in SESAR, EASA, NextGEN and within ICAO panels continues to confirm IFATCA as a global player in defining the future of international air navigation.

The committee is also tasked to review the Federation's financial situation and to review and adopt the budget for the next fiscal year. The Financial and Institutional

Committee (FIC) presented a number of studies, including changes to allow representatives from underprivileged Member Associations to attend Standing Committee meetings.

As part of the work program for the coming year, the standing committee will investigate how financial loss due to currency fluctuations between the euro and US dollar can be mitigated.

The Constitution and Administration Committee looked at creating a Communications Steering Committee, the future of the role of Conference Executive and the digitising of the IFATCA manuals. An important investigation into the liability of IFATCA for travel by staff and representatives to areas with an adverse travel advisory was researched. This had a significant influence on the discussion relating to the 2017 Annual Conference location. This year the CAC will consider developing guidance regarding this liability. It will also investigate the creation of a mechanism for compensating MAs organising a conference or regional meeting when the event cannot be held due to an external event beyond their control.

Joy Bhattacharya was re-appointed as Technical and Professional Secretary, while Philip Marien was re-appointed as Editor of the Controller and Web Manager. Paul Neering was re-appointed as Liaison Officer to the European Union. Christoph Gilgen was re-appointed as Liaison Officer to the International Organisations – Geneva.

The Directors in Committee A had the difficult task of reviewing whether Tunisia's gracious offer to host the 2017 Annual Conference could be confirmed. Owing to circumstances beyond the control of the Member Association and in no way reflecting on their dedication and commitment, the committee was not in a position to confirm their bid. After 24 hours, Canada and Jordan presented Late Working Papers, which were accepted for discussion. After a

secret ballot was requested, the result was that Toronto, Canada, will be the host of IFATCA 2017.

For 2018, Ghana was recommended as host for the 2018 Annual Conference in Accra, subject to fulfilling the requirements as set down in the IFATCA Administration Manual. Serbia expressed a provisional interest in hosting the annual conference in Belgrade in 2019.

Technical & Operational issues (Committee B)

The committee's sessions were chaired by Matthijs Jongeneel (NL), who was assisted by James Robinson (UK), who bravely accepted the job as Secretary of Committee B during his very first IFATCA Conference.

Several observers attended the committee sessions. Amongst those were Chris Dalton and Crystal Kim from ICAO, Rip Torn, Chairman of the IFALPA ATS Committee and Rob Eagles from IATA. The attendance of these organizations clearly shows that the outside world appreciates IFATCA's work.

As always, IFATCA representatives at the different ICAO panels presented their reports on their work at ICAO level over the past year. The presentations of Christoph Gilgen, representative at the ICAO Surveillance Panel and Raimund Weidemann, representative at the ICAO Flight Operations Panel were of special interest. Having been the IFATCA representative at their respective panels since 2002, they will be handing over their tasks during the coming year. As such, the chairman of Committee B and the attending delegates thanked them for



→ Committee B head table, with Christoph Gilgen (CH) presenting his Surveillance Panel paper. Photo: Ed



their commitment over the years.

The Technical and Operations Committee (TOC) produced a total of 11 work studies this year, of which 9 were presented in Committee B. Through their excellent presentations, they made complex subjects easily digestible for all those attending the committee sessions.

One such presentation was on Dynamic and Flexible ATS Route Systems. IFATCA policy was updated, indicating that these new developments require a certain level of automation to assist the controller in monitoring separation and maintaining safety.

The presentations on airport collaborative decision making and on digital flight strips updated the committee on the latest developments in the aerodrome domain. The ability to share information across the network can deliver significant benefits and the IFATCA Executive Board was tasked to publish principles and best practices.

A work-study on airspace design once again, stressed the importance of controller involvement in the development of new airspace. IFATCA policy was accepted to in order to ensure solutions are appropriate and implemented correctly.

TOC presented their review of IFATCA policy on advanced approaches. No less than 17 draft recommendations were presented and discussed, all proposing to amend or delete outdated IFATCA policy. This work helps to keep our IFATCA Technical and Professional Manual up to date.

The committee got updated on the upcoming changes to SID/STAR

phraseology in order to resolve long-standing problems. Committee B has discussed these problems extensively during the last year and was pleased to hear that the new proposals are in line with IFATCA Policy. However, as recognized in the meeting, this is only the beginning and the real solution will depend on successful implementation.

The IFATCA Executive Board was tasked with no less than 4 action items. These items indicate some areas, which according to committee B, need special attention during the coming year.

The meeting thanked TOC Chairman Ben Gorrie for his significant contribution over the past two years. His leadership not only continued the high standards everyone's come to expect from TOC but he has also managed to increase the involvement of more member associations via electronic means, resulting in an even more global representation.

Renee Paupit from the Netherlands was elected as the new TOC Chairman. Undoubtedly, she will be able to take the work of the committee to the next level. The TOC work programme for the coming year clearly shows her ambitions and I look forward to see the results of her work next year at Conference.

Following amendments to the IFATCA Administrative Manual last year, TOC now comprises a minimum of six and a maximum of 10 elected member associations.

For this year's elections, it was decided to elect 7 Member Associations, one more than the previous provisions. Algeria, Australia, Italy, Nigeria, the Netherlands, the United Kingdom and the United States of America were elected members of the Committee.

Professional & Legal issues (Committee C)

As has become the norm, Committee C was well attended. The committee's sessions were chaired by Peter Van Rooyen (South Africa), assisted by Ms. Maria Serrano-Mulet (Spain).

Amongst the information papers discussed, one highlighted how the cognitive function can be affected by aging with a subsequent impact on job performance. Mental Fitness is a new challenge facing the Air Traffic Controller environment after the Germanwings accident and was debated in a way that shows that this subject should be closely monitored in the future. Educational Issues on Distractions was an interesting subject and it highlighted the importance of professionalism in the operations room.

ICAO Workshop

The third day of the conference ended with an ICAO Workshop, looking at what can be done to further evolve the partnership between IFATCA and ICAO. Chris Dalton, ICAO Section-Chief Airspace Management and Optimization (AMO) and Technical Officer of the AMO Section Ms. Crystal Kim, looked at change and how IFATCA can act as a change agent: a catalyst for ensuring change is done in the interest of the controller and the air traffic control environment. Using examples like Collaborative Decision Making, they showed how IFATCA helped to facilitate implementations. They illustrated this using the implementation of datalink and how that would evolve, and the approach to fatigue management.



→ ICAO's Crystal Kim and Chris Dalton.



→ Committee C in session



The IFATCA automation policy was reviewed. This resulted in a policy change that takes the latest research and techniques related to the management of automated systems into account, in order to better serve the needs of IFATCA Member Associations. Other information papers of interest informed about the Eurocontrol/IFATCA Prosecutor Expert Training Course.

New policy was introduced for several subjects: the importance of knowing the capabilities and limitations of cognitive processes when addressing human performance and human factors. Additional ; the roles and responsibilities of the controller in charge; separation between units without procedural agreement; training for on-the-job training Instructors; the use of ATS surveillance data in the provision of non-surveillance services; and Just Culture. The policies on ATM safety monitoring tools and separation in Class E airspace were updated.

The professional and legal committee (PLC) will again be led by Alfred Vlassek (Austria).

Joined Technical & Professional Session

The combined Committee B and C meeting was held on Tuesday. Taking a look at issues that overlap the technical, operational, professional and/or legal side of air traffic control, the meeting was very well attended. It was co-chaired by Committee B & C chairmen, Matthijs Jongeneel, and Peter Van Rooyen. The agenda contained reports from global representatives and from the regional vice-presidents, and 3 work studies.

The IFATCA ANC Representative, Mr. Jean-François Lepage, demonstrated once again the value of the Federation being represented at the ANC. Most of the numerous subjects he's involved with on an almost daily basis, came up for discussion in committees B and/or C during the conferences. He stressed the need for IFATCA to adopt a constructive approach at ICAO level. He also highlighted the great teamwork with the IFATCA Panel Representatives and the Executive Board.

The report of our representative at the IFALPA ATS Committee demonstrated the excellent relationship between our Federation and IFALPA. Mr. Rip Torn, Chairman of the IFALPA ATS Committee,

PANEL DISCUSSIONS

Thursday was dedicated to three panel sessions.

GLOBAL PARTNERSHIPS

IFATCA used the opportunity of being in the USA to pick "Global Partnerships" as the topic for this year's IFATCA panel. It was a unique opportunity to learn the FAA's point of view first hand. Moderator Philippe Domogala introduced the theme and the challenges. He said today in 2016 the world air traffic is roughly divided into 4 equal parts: North America, Europe, Asia and rest of the world. Each of these regions shifts around a quarter of the world's air traffic. But forecasts, including those of Boeing and Airbus, predict a massive shift over the next 20 years towards Asia. By 2035, Asia's share will equal Europe's and North America's combined. The number of civil aircraft flying will double and some 70% of them will be in the A320-B737 category. A survey by Airbus indicated that up to 70% of the additional traffic will have to be accommodated within the existing infrastructure, i.e. airports and airspace. In order to do this, cooperation on a global scale is necessary.

Five speakers had agreed to participate in the panel discussion: Jeff Poole, DG of CANSO, Frank Brenner, DG of Eurocontrol, Teri Bristol, COO of the FAA, Rip Torn, Chairman of the IFALPA ATS Committee and Patrik Peters, President and CEO of IFATCA.

Jeff for CANSO confirmed that the aim is indeed to act globally and CANSO has a "Vision 2020" plan, which is based on partnerships. This plan incorporates some 140 projects aimed at coping with the predicted growth. IFATCA is involved in some of them, like the Just Culture initiative, an important cornerstone if we want to maintain safety. He said it is easier to cooperate with new projects, where everyone has to start from scratch, than with existing projects where everyone has already made commitments.

Rip for IFALPA said that to accommodate these predicted traffic increases, major changes will be needed. At first, such changes are always resisted because they are seen as disruptive, but they do improve things: taking the introduction of electronic documentation in cockpits to replace paper as an example, it was met with resistance at first, but it has become commonplace.

Teri for the FAA emphasized the need to involve controllers in the process. She explained the collaborative approach FAA and NATCA were taking. She said that the buy-in of the workforce is necessary, especially as working together really helps building a strong safety culture. Buying equipment is easy, she said, but convincing the workforce to use it is more difficult.

Frank for EUROCONTROL said that in Europe, the forecast traffic increase will "only" be around 40%. He added that doing this in an already complex and dense airspace will pose problems, especially since there are a number of unknown parameters, such as how many UAVs we will have to accommodate in addition to those traditionally "manned" aircraft. On Global partnerships, he used the example of how EUROCONTROL is pioneering operational data exchange between EUR and North America to enable greater predictability and safety. He highlighted another way to cooperate: so-called virtual centres would allow controllers to remain in their existing locations but systems and data would be supplied by adjacent units or even central units. He praised IFATCA for having constructive policies (e.g. towards remote towers). Rather than opposing such developments, these define clear limits on how they can be used. This is he called extremely valuable and constructive.

Patrik for IFATCA insisted on the need



→ Discussion panel on Global Partnerships: left to right, Patrik Peters (IFATCA), Frank Brenner (EUROCONTROL), Teri Bristol (FAA), Rip Torn (IFALPA), Jeff Poole (CANSO) and Philippe Domogala (Moderator)

to trust one another. We need all to collaborate to meet this challenge and for this we need to trust each other.

During the question and answer session that followed, one question raised the importance of regional cultures and that these might prevent a truly Global ATM. The panel replied that ICAO is there to ensure a global implementation of standards and that this works. A good example is the progress made after the Malaysian MH370 case. Some questions were on fatigue, schedules and workload and Just Culture. The reply was that Just Culture is not something to be taken for granted once established, it needs to be worked at constantly. The panel reiterated that there are no "magic bullets" that will instantly increase capacity. In many places, you cannot build new airports, or even new runways and the airspace is also finite. Technical innovation will only be part of the solution.

Another question was on the need to convince the uninterested and pessimists out there in the deciding spheres. It was suggested that IFATCA could help to identify the needs and flag them to those in power. Mr. Brenner said that EUROCONTROL can help: "We have found some interesting solutions in Europe and we are ready to share them". Jeff Poole said on behalf of CANSO that "Money rules the world. ATM is an invisible part of aviation and it is difficult to convince people to invest in ATM. We found it is easier to identify those that could lose money if what you want is not implemented, and convince them!"

Another question from the floor raised the issue that many ANSPs want to reduce workforce to save money and argued that the current drive for better efficiency is mainly a money saving exercise. Teri Bristol of the FAA answered that in their case, they see far more savings on infrastructure than on people.

Finally, responding to a question regarding the real will of FAA and Europe to cooperate on the Nextgen and SESAR programs. Florian Guillermet, DG of SESAR, who was in the room answered that there was great progress being made and that cooperation had improved significantly with some tangible results expected in the not too distant future. This was confirmed by Teri from the main podium.

The panel attracted more than 300 people, easily a record, and concluded after 2,5 hours of interesting and lively debate.

PROFESSIONAL STANDARDS

In the afternoon, NATCA hosted two panel discussions. The first focused on the foundations of professionalism and briefed conference attendees on the history and development of NATCA's collaborative work with the FAA on Professional Standards, the "Turn Off Tune In" and "Fully Charged" campaigns and the Air Traffic Safety Action Program. "It doesn't matter what country you come from or what language you speak, the standards are the same," said Garth Koleszar, who along with fellow NATCA

Professional Standards Program Co-Lead Jeff Richards, conducted the presentation.

"To be known as a professional takes hard work. It is a choice," Koleszar said. "The only thing in our profession that enhances the professionalism of our occupation are the choices made by the person sitting in your seat right now. Technology and equipment are just tools applied by the professional that utilized them. The only way we move forward is to recognize that our choices are critical."



→ Garth Koleszar and Jeff Richards of the NATCA Professional Standards Program.

NATCA'S ROLE IN OPTIMIZING THE USA AIRSPACE

In the second NATCA panel discussion, Jeff Woods and Bennie Hutto explained how their association assists in enhancing USA's airspace system through the introduction of new procedures, which are based on precision navigation. ⊕



→ NATCA's Jeff Woods and Bennie Hutto on improving the USA's national airspace system.



→ IFATCA representative on the ICAO ANC, Jean-François Lepage addressing the joined Committee B & C

also acknowledged this and the importance of the close cooperation between IFATCA and IFALPA cannot be overstated.

The Technical and Operations Committee and the Professional and Legal Committee produced one combined work study this year on reducing "Initial Call" frequency congestion. As such, it was a good example where the expertise of both committees combined generates the required result.

The PLC Work Study on Remote/Virtual TWRs has been at the forefront of IFATCA's professional and legal debates for years and a study from the professional, procedural and human factors view was of high value to the committee.

The TOC work study on a review of the Technical and Professional manual was done and we looking forward to the work that is ongoing in this domain to make Member associations life easier in the future.

Other papers of interest gave the delegated background information on IFATCA Educational Material, Automation Principles and Guidelines and the recently held IFATCA Training Workshop in the Africa Middle East Region.

Technical Exhibition

On Wednesday, an exhibition of sponsors and corporate members opened to delegates, allowing them to interact with equipment and service suppliers.

The unity of One Sky, One Voice

By Zephania Sholobela, (ATCO Zambia)

The 55th IFATCA conference in Las Vegas 2016 was my first time ever to attend the world conference. The fact that I was able to mingle, dine and deliberate issues with controllers from all over the world is something that filled my soul with joy. For the first time I felt part of the bigger family, a family that I was able to share my aspirations and concerns with, a family that provided solutions to many unanswered questions and above all a family that defined a true meaning of "One Sky, One Voice".

The phrases "We Are in This Together" and "One Sky, One Voice" sounded somewhat hollow and never made much sense to me, until I attended this annual conference. For me there is no other place other than the IFATCA conference that the voice of the controller can be made one.

It inspired me to write this short article on unity among Air Traffic Controllers. I hope it encourages controllers across the world to try and attend these conferences, not only to learn, but indeed to promote unity amongst controllers and to realise what it means to be in this together. Air Traffic Control should ensure a safe and expeditious flow for all flights. This is simply not possible without a common understanding amongst controllers.

Human beings can achieve so much more through collaboration. Air Traffic Controllers are not an exception and as such, they can achieve so much more as a united force rather than as individuals.

As safety professionals, we have a responsibility to minimise the risk of collisions, while allowing the maximum number of aircraft to fly safely in the skies. We have the mandate, from the smallest airport in the world to the highest regulatory body to manage aircraft through all phases of flight, from ground to the terminal gate, not as individuals but through combined efforts of close liaison, unity and co-ordination with each other.

This unity is a strength that no single Air Traffic Controller should underestimate. The safe passage of aircraft from one sector to another, and from one unit to another and from one region to another is only possible through effective coordination, coordination between all involved controllers, independent of their nationality, belief or language.

IFATCA encourages close liaison and co-ordination, open minded discussions without prejudice, malice, gossip, perception and undermining of each other. We are controllers not because of our licences, but because we are professionals whose priority is a safe sky.

Our one voice is the guarantee that the public are taken care of by the professionals, who through their knowledge, their skills and indeed their attitude are able to uphold their professionalism. ONE SKY ONE VOICE embodies the need for air traffic controllers to maintain a close liaison, unity and co-ordination with each other in order to provide the best possible service.

The travelling public demands nothing less than the best. The best not from an individual controller but from the consented efforts of every controller irrespective of race, tribe or inclination. The air traffic profession through IFATCA is greater than the sum of our individual ambitions or feelings. ☺

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Highlights in the exhibition included an impressive stand from NATS, Imtradex with their range of headsets and NATCA with their extensive 'professionalism' program.

Final Day

Friday morning was reserved for informal regional meetings, in which member associations could discuss issues affecting them at regional level. In addition, the hosts of the 2016 regional meetings towards the end of the year had the opportunity to give more details on the venues and practical details for those planning to attend the meeting.

In the afternoon, the Final Plenary session formalised a number of decisions taken in Committee A. This included welcoming two new corporate members, Washington Consultant Group and Aerion. The Member Association from Botswana received their membership scroll.

After elections held in Committee A, Patrik Peters (EGATS) was confirmed to serve another term as President. Jeremy 'Bob' Thompson (New Zealand) was found willing to serve another term as EVP Finance. John Carr (USA) and Eric Risdon (Switzerland) will continue for another term as EVP Americas and EVP Professional respectively. And after 6 years at the helm of the European region, Željko Oreški (Croatia) handed over to Tom Laursen (Denmark) as EVP Europe.

A number of awards were presented: Philippe Domogala, outgoing IFATCA Conference Executive was given the Federation's highest award – the Scroll of Honour – for his incessant commitment to the Federation over the past 40(!) years. Željko Oreški, outgoing EVP Europe was presented with the IFATCA Award of Merit. IFATCA Office Manager Tatiana lavorskaia, on the occasion of her 15th year as IFATCA's only employee, was presented with a certificate of appreciation for her hard work over those years. Ben Gorrie (Australia), outgoing chairman of TOC and Robert Marshall, outgoing CAC chairman, were given an Executive Board awards for their services to the Federation.

Last but not least, the IFATCA flag was handed from the 2016 organising committee to the President of the Canadian association, which will host the 2017 Annual Conference.

As the final event of a successful and perfectly organised conference, the farewell dinner was held in a stunning location – on the pool deck of the Paris Hotel, at the foot of the Eiffel Tower. Though slightly surreal, it presented the perfect opportunity to say goodbye to old and new friends and colleagues. ☺

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→ NATCA President Paul Rinaldi (L) handing over the IFATCA flag to CATCA President Peter Duffey (R).



→ NATCA staff and members of the IFATCA 2016 organising committee



ANTI-COLLISION SYSTEMS THE NEXT GENERATION

A closer look at ACAS X development



by Christoph Gilgen, outgoing IFATCA representative on the ICAO Separation Panel

- ACAS X is a collective term used for a host of next-generation airborne anti-collision systems. These are intended to succeed the current generation of ACAS/TCAS systems. ACAS X will take advantage of a more powerful generation of computer hard- and software, which will allow it to make critical decisions in uncertain and dynamic environments, while maintaining the same level of safety. It is a huge step-up from the current generation of airborne safety net, commonly known under its brand name, TCAS II.

Old

As systems go, TCAS II can be considered old, as it was developed during the 1980s. The Collision Avoidance System logic depends on active surveillance data, from which it extrapolates intruder positions. These are then put through numerous stored rules of predictable encounter geometries. If it looks as if an intruder (or several intruders) will come too close, the logic chooses the optimum evasive action and issues a Resolution Advisory (RA) to the pilot, who is expected to fly this.

Probabilistic

ACAS X on the other hand is based on a probabilistic model providing a statistical representation of the aircraft position in the future. These are stored in a lookup table, which also takes account of particular procedures or airspace configurations. The lookup table provides the system with the best course of action to follow for a particular situation, using a "reward vs. cost" system: it determines which action would generate the

greatest benefits using the least disruptive avoidance manoeuvre. This should help to greatly reduce the frequency of alerts that result in reversals/intentional intruder altitude crossings or disruptive advisories in non-critical encounters.

Surveillance Data

Instead of solely relying on transponder-based surveillance, ACAS X is intended to be compatible with any surveillance source (or a combination of surveillance sources) that meet specified performance criteria. This concept is referred to as plug-and-play surveillance. It will enable ACAS X to obtain surveillance data from a variety of sources including satellite, radar, infrared and electro-optical surveillance systems. As such, it should make it also suitable to sense and avoid non-transponder equipped aircraft.

In time, ACAS X is expected to be many times superior to TCAS II - superior in performance and capabilities, and so ultimately it will provide a net gain in safety. Another clear advantage of ACAS X will also be the straightforward way to

upgrade it, compared to the very tedious manner in which this needed to be done for TCAS II. Instead of having to tweak a set of hardcoded rules, updating the lookup table can be done by revalidating the existing set of scenario's.

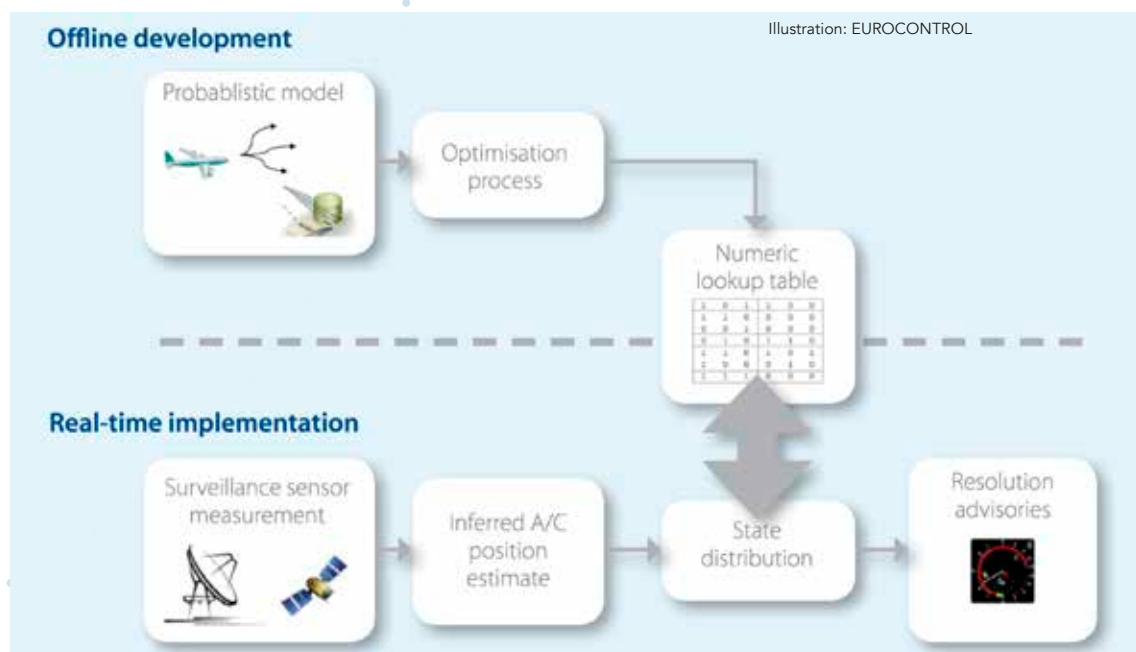
Transition

The transition period from TCAS II to ACAS X will be a very long process, as this will only occur very gradually – possibly over a time period of 10 to 15 years. As both systems must be able to function along-side flawlessly, in order to permit a safe transition, the issues of interaction between TCAS II and ACAS X are also part of the current ACAS X development.

Variants

ACAS X has 4 "variants" in order to accommodate all expected (and needed) operational uses:

ACAS Xa will be a one-to-one replacement of the current TCAS II. So for large aircraft using active and passive surveillance. The advisories (e.g. TA and RA) will be exactly the same as for TCAS II;





ACAS Xo is planned for Special Operations, such as for instance for closely spaced approaches or for formation flights. And the alerts for this ACAS X variant are expected to be not only general, but also procedure specific (with reduced warning times);

ACAS Xp is for General Aviation (GA) use, including VFR-flight, employing passive squitters (e.g. ADS-B out). This variant is planned to have only a very reduced alarm-set;

ACAS Xu is planned for Unmanned Aircraft (UA) employing a multitude of technologies, including radar, electro-optical or infra-red detection methods. Of particular interest will be interactions between several UAS (RPAS), as evasive manoeuvres are planned to occur not only vertically, but also horizontally;

So far, the main focus of developers has been on ACAS Xa, but also to a certain extent regarding ACAS Xo (Special Operations). Some, rather small (and initial) developments have also occurred in regards to ACAS Xu. The European counterpart, the Single European Sky ATM Research (SESAR) program performs independent peer reviews of the project to ensure the encounter models also take the specificities of the European airspace into account. This will also help to achieve the required certifications at the end of the development. ACAS X is expected to become fully integrated into the ICAO SARPS (as TCAS II currently is), and this can only happen, if independent (and multiple) verifications and a solid certification process is passed beforehand.

Unmanned Aircraft

One of the main drivers for the development of ACAS X is the need to accommodate unmanned (UAS) or remotely piloted (RPAS) aircraft. One of the sub-systems under development, ACAS Xu will cater for these airframes.

One curiosity of ACAS Xu is that horizontal evasive manoeuvres are also foreseen. The system will have traditional TCAS II active interrogations available, but these will be supplemented with (validated) ADS-B position data. New features of ACAS Xu include passive collision avoidance manoeuvre coordination techniques, permitting it to operate without active Mode-S surveillance (e.g. working on ADS-B-out only). The idea behind this all is to coordinate required vertical or horizontal manoeuvres between various UAS/RPAS to help avoid a conflict, and so ultimately a collision. The interesting part is that the evasive manoeuvres will not only be classic Resolution Advisories, but can also be very subtle horizontal manoeuvres. By initiating these well before any TA or RA are triggered, it will be much more transparent than "avoiding action" advisories. Needless to say, this is all very challenging, requiring a lot of design- and testing activities.

While the evaluation of the ACAS Xa logic is expected to be finished by 2017, it is still very much 'work in progress' and as such, still very much subject to change. The Minimum Operational Performance Standards (MOPS) and their approval by RTCA and EUROCAE are expected to be completed at latest by 2018.

Even if the current concept ACAS X appears to be a significant improvement compared to the current airborne anti-collision systems, it remains to be seen whether it can fulfil these expectations in operations, and in particular in diverse traffic environments. One clear concern is that in the current ACAS X design the Resolution Advisories would leave less time to the pilot to react. So, evasive manoeuvres (RA) would become even

more time critical than with the current setup. It is acknowledged that the delaying will help to eliminate many of the so called nuisance advisories, but it remains to be seen what effects this all has on the human interaction with the system, and what effective vertical spacing can be achieved in the end?

Having said that, other advances such as Airbus' Auto-Pilot/Flight-Director (AP/FD) TCAS mode (which lets the autopilot fly the TCAS manoeuvre), could help to overcome the drawbacks of these tighter timings while at the same time minimizing the impact on ATC (as the advisory will be flown with utmost precision). ☺

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FLYOPERATIVT FORUM

Flight Operational Forum - Oslo, Norway, April 2016



by Philippe Domogala, Deputy Editor

For the past thirty years, a group of Norwegian enthusiasts organise a conference on safety. It aims at bringing all groups from the Norwegian Aviation arena – Air Traffic Control, airlines, helicopter operators, the Norwegian Air Force and other aviation groups – together to discuss safety aspects. This was traditionally done in Norwegian, but over the last few years, they've invited guests from abroad. Consequently, the discussion language of the main presentations and debates has shifted towards English.

Anniversary

This year, for their 30th anniversary, the quality of speakers and presentations were even higher than everyone has come to expect. Key speakers included the Norwegian State Secretary for Transport, the Head of the UK Flight Safety Committee, the editor of Flight Global magazine, the Canadian safety bureau and various airlines (such as the regional operator Wideroe). Discussions focussed on everything that obstructs safety in the current operating environment.

Notable speakers

The conference was opened by Tom Cato Karlsen, the Norwegian State Secretary for Transport. He made it a priority to clear his agenda for the 2-day conference in order to attend all presentations! His focus was on cost reduction affecting safety. He said that we cannot think of the Norwegian generous labour legislation and social model as the "world standard". Having said that, any new "world standard"

should also be fair. He said he wanted an "open" Just Culture in Norway to enable to discuss all issues.

Dai Whittingham, the Chief Executive of the UK Flight Safety Committee said we were living in a blame society. This makes it difficult to have a real Just Culture, but efforts should continue. He also made a point to for a strong regulator to oversee the industry. At the moment, the largest maintenance are due to damage caused by airport ground handlers, yet those are not licensed nor regulated. He argued that self regulation does not work: if it did, we would not have alcoholism, obesity or crime! Unmanned or remote pilot operations are prime examples of where a strong regulator is needed.

David Learmount, from Flight Global, spoke about the new wave of terrorism. This has in fact killed more airline passengers than any other cause in the past two years. ISIS/Daesh is changing tactics compared to those of al-Qaeda and we need to adapt our security to those new threats.

We also learnt about the impact of commercial pressures and learned that fatigue is generally not recognised as a safety issue. Vivianne Fonne of the Norwegian Air Force discussed how monitoring of pilots' mental health is lacking, linking it to the Germanwings crash. Gulf Air captain Walter Schwyzer elaborated on the absolute need to make training for good airmanship a priority above anything else.



→ Tom Cato Karlsen, the Norwegian State Secretary of Transport (L) and Dai Whittingham, the Chief Executive of the UK Flight Safety Committee

Photo: Flyoperativt

A330 Gilder

As a kind of guest of honour and story teller, they invited captain Robert Piche. He was the captain of the Air Transat Airbus 330 that ran out of fuel overhead the Atlantic. Without engine power, they glided into the Azores in 2001. He gave a complete human factor debrief of his experience, which was absolutely



fascinating! There are definitely lessons to be learned – see box. A common denominator in all these presentations were the huge amount of changes the industry constantly faces. With less and less staff, or even staff shortages, training for those changes is constantly being reduced – a potentially lethal combination...

Helge Anonsen of Widerøe said that an endless stream of new rules, regulations and changes leave little or no time to understand the impact let alone train for them before the next one are published. He used RNP-AR approaches as an example.

EASA was reported to be "very productive", leading to a saturation or "Crew Change Fatigue" for many of the pilots and airlines as a result. Many new rules are never checked or evaluated for effect after implementation, giving the impression it is just "desktop safety". I think the same applies for many rules made for ATC.

IFATCA

On behalf of IFATCA, I gave two presentations: one on TCAS non-compliance. Fifteen years after Ueberlingen, we still see pilots manoeuvring in opposite direction to the RA they receive and controllers still issuing instructions against RAs! The other one on recovering from automation failures, both on the ground (ATC centres) and in the air. Using recent accidents to illustrate, the argument was for "better" training as opposed to more training.

Overall, the event was a very worthwhile forum and discussion with over 100 participants. ☺

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Air Transat A330 glider

Controller unknowingly helped to save the day!

On 24 August 2001, a Canadian Airbus 330 from Air Transat was en-route from Toronto to Lisbon with 13 crew and 293 passengers on board. The aircraft had a maintenance issue, which resulted in a massive fuel leak in one engine/wing. While crossing the Atlantic, a "fuel imbalance" warning made the crew go over the check-list, which asked for a transfer cross feed. As a result, they transferred fuel from the good tank to the leaky one. Soon one engine stopped due fuel starvation. Thirteen minutes later, the second also quit. At that point, they were 65 NM from the Azores.

If they had been on their planned route, they would have been 120 NM further north and could never have made it to Lajes airport on the Azores. But they made it and everyone on-board lived to tell the story.

Capt Piche described his various pieces of luck they had during the event: dispatch had planned four tons extra, as fog was predicted in Lisbon, and they might have had to hold. The oceanic controller in Gander was very busy that night and had asked the pilot to take a more southerly route. It wasn't the most optimal route as they had requested but checking the FMS, it was only a few minutes longer, and given that they had the extra fuel, Capt Piche had agreed. The weather was also on their side: three days before and after, Lajes was covered in fog – but on this very day, the weather was calm with good visibility.

Thanks mainly to good airmanship, and sidestepping some rules and procedures, they made it to the runway.

Since they had no flaps, the landing speed was more than 100Kts above normal. Captain

Piche decided to use the emergency brakes on touch down to keep the aircraft firmly on the runway. It worked but the landing gear did not like it

The full report of the case can be found on Internet. The event is also subject of a documentary that can be found on Youtube: <https://goo.gl/oTmZ6Q>.



→ The author and captain Piche



→ The A330 after landing in Lajes

Photo: Accident report



→ Damage from an overspeed landing and emergency brake use.

Photo: Accident report

GARDERMOEN AVIATION MUSEUM



by Philippe Domogala, Deputy Editor



Just beside the hotel where the Flight Operations Conference was held, lies the 2nd largest aviation museum in Norway (the biggest is in Bodø, in the north of the country).

Unfortunately, there is an ongoing dispute as to who actually owns the museum. As a result, it is closed for the public until this is settled. However, the caretaker and the director agreed to open it for a very limited audience of those that attended the conference.

What is striking about this museum is that everything is spotlessly clean and shiny, like a "German kitchen". And even more unusual is that, unlike most museums around the world, you can approach and touch everything. Even climbing into some of the cockpits is allowed!



➔ View of the jet collection

The entire museum is a marvel for enthusiasts. Its collection ranges from the first aircraft to fly in Norway back in 1910 (it was bought in a rush to beat the Swedes from being the first to operate an aeroplane in Norway) to the latest jet aircraft. Along the



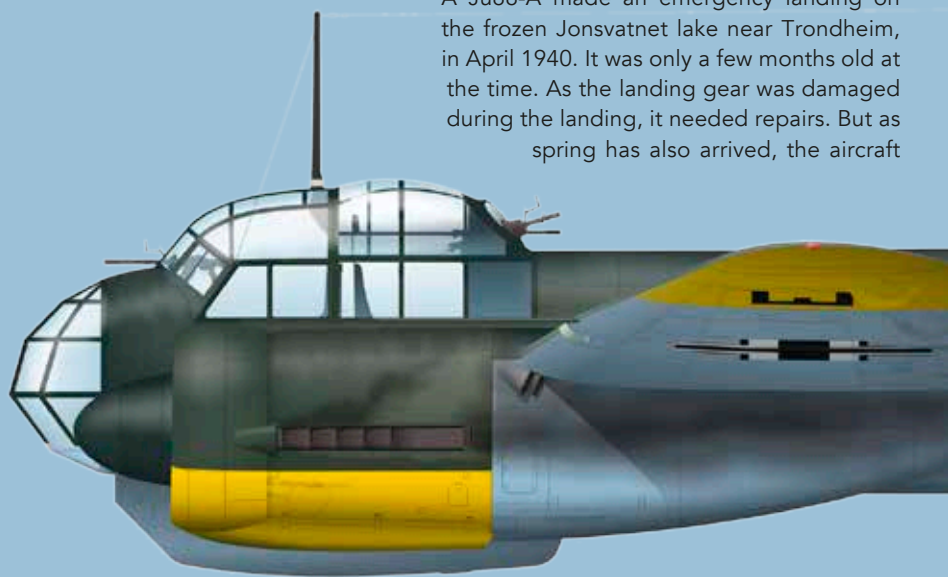
➔ A Heinkel 111



Ju-88 Restoration

German bomber disappeared into a Norwegian lake in 1940

A Ju88-A made an emergency landing on the frozen Jonsvatnet lake near Trondheim, in April 1940. It was only a few months old at the time. As the landing gear was damaged during the landing, it needed repairs. But as spring has also arrived, the aircraft





→ An armed Ju-52

way, you'll pass a near pristine collection of rare German World War II aircraft.

These were stationed in Norway during the war. Amongst them is a unique armed Junkers 52 and a Heinkel 111 (the P-2 version manufactured by Heinkel rather than the Spanish licensed version which is more commonly found). Both look like they came straight from the factory! The museum also has the last Spitfire used by a Norwegian pilot on

display and the only Northrop N3-PB still in existence. This famous large single engine torpedo launcher aircraft was used by the Norwegian navy during the second world war.

As you can imagine, many of the aircraft on display have an interesting story to tell, which makes a visit all the more interesting.

It is a beautiful museum and I hope that it will reopen to the public soon. The latest news is that it will definitively reopen by summer 2016. It can easily be reached from the airport by using the hotel shuttle bus S33 (every 20 min, takes 10 min). For more information, visit the museum's website www.flysam.no ☺

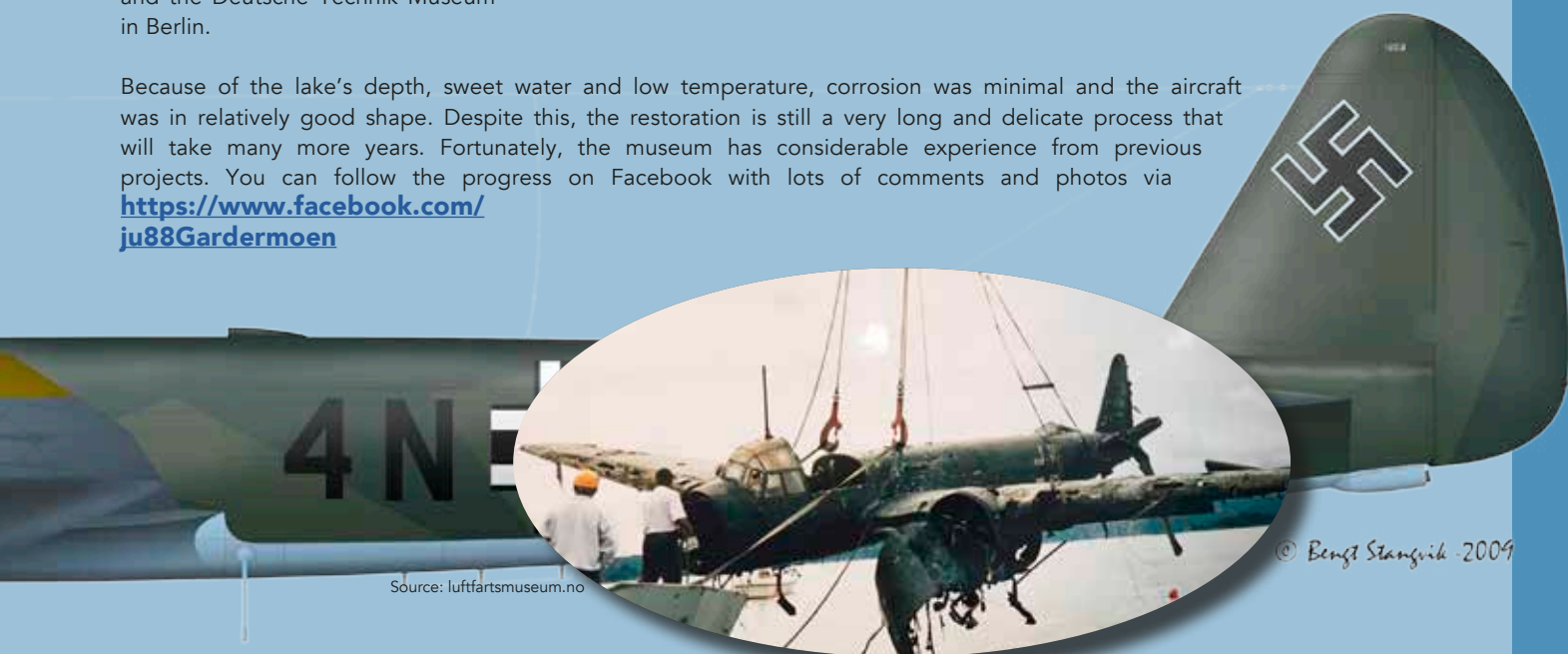
dp@the-controller.net

broke through the thawing ice on the lake and sank to 80 metres below the surface.

Nearly 60 years later, in 1998, it was rediscovered and plans were drawn up to recover the unfortunate aircraft. After years of planning, it was finally brought to the surface in 2004.

It was then sent to the museum at Gardermoen for preservation and restoration. Museum experts were joined by technicians from Junkers and the Deutsche Technik Museum in Berlin.

Because of the lake's depth, sweet water and low temperature, corrosion was minimal and the aircraft was in relatively good shape. Despite this, the restoration is still a very long and delicate process that will take many more years. Fortunately, the museum has considerable experience from previous projects. You can follow the progress on Facebook with lots of comments and photos via <https://www.facebook.com/ju88Gardermoen>



Source: luftfartsmuseum.no

© Bengt Stangvik - 2009

CRIMINAL NEGLIGENCE?

Charges against controllers following crash of TransAsia 222 in 2014



by Sylvia Wrigley, pilot and aviation writer

TransAsia flight 222 crashed near Magong Airport on the Penghu archipelago on the 23rd of July in 2014. The Aviation Safety Council (ASC) released their final accident report on the investigation of the flight at the end of January of this year.

It was a scheduled domestic flight which from Kaohsiung International Airport to Magong Airport. The aircraft was an ATR-GIE Avions de Transport Régional ATR72-212A, also known as an ATR72. There were 54 passengers on board, along with two flight crew and two cabin crew. Typhoon "Matmo" was a tropical cyclone which brought typhoon force winds and torrential rainfall to the area. The storm reached its peak intensity the day before, with maximum sustained winds of 155 km/hr (84 knots, 100 mph) with gusts of 212 km/h (115 knots, 132mph). It was on a northwesterly track, emerging over the Taiwan Strait early on the morning of the 23rd.

Typhoon

That afternoon, Typhoon "Matmo" was about 142 nautical miles (263 km, 164 miles) from Magong Airport, delaying the departure of the flight. The typhoon warning for Magong Airport was terminated at 17:40 (local time). Kaohsiung Ground Control warned the flight crew

that although the typhoon warning had ended, the weather conditions at Magong Airport were below landing minima. The flight crew decided to continue the flight and hold until the weather improved.

TransAsia flight 222 departed Kaohsiung International Airport at 17:45.

The Magong airport meteorological report (METAR) released at 18:00 showed winds at 17 knots gusting to 27 knots with visibility 800 metres in heavy thunderstorms with rain. The clouds were scattered at 200 feet, broken at 600 feet with cumulonimbus (thunder clouds) at 1,200 feet and overcast at 1,600 feet.

Magong Airport has a single runway, runway 02/20. Runway 02 has an instrument landing system (ILS) and the landing visibility limitation is 800 metres. The runway in use that evening was runway 20 which included a VOR non-precision approach system and required a landing visibility of 1,600 metres.

Holding

The aircraft entered a holding pattern at 18:11. During the flight, the captain commented that he was very tired and yawning can be heard on the cockpit voice recording.

At 18:27, the Magong Tower Controller informed the flight crew that the visibility was 800 metres. The wind was 200° at 12 knots gusting 16 knots: straight down the runway.

The flight crew discussed the possibility of landing on runway 02 with a tailwind. At 18:29, they requested radar vectors for the runway 02 instrument approach.

Civil/Military Airport

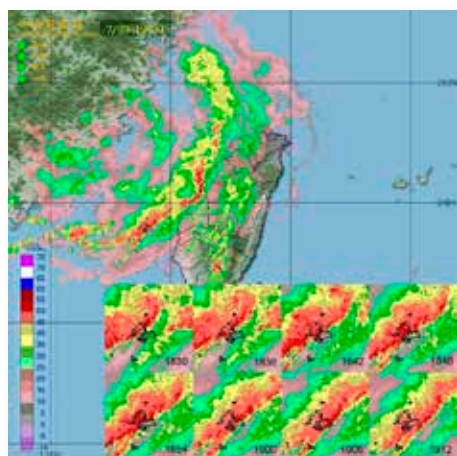
Magong Airport is a civil/military joint-use airport. A change in the active runway can only be authorised by the Magong Air Force Base duty officer. Three

Sylvia Spruck Wrigley is an American/German writer, who grew up in Los Angeles and Germany.

Besides writing science fiction and fantasy, she is also a pilot and an aviation author who has been obsessing about aviation safety for over a decade. Her books on aviation include a series called "Why Planes Crash: Case Files", in which she takes a critical look at 21st century aviation accidents and incidents around the world. The third book in the series is due out in June. Find out more at <http://planecra.sh>



She also maintains a blog about aviation safety at <http://fearoflanding.com>



→ Typhoon Matmo moving across the Taiwan strait and Penghu County
Source: ASC Report

inbound aircraft requested runway 02 as the ILS approach as runway 20 was no longer suitable in the low visibility. The application was still under consideration when the 18:40 weather report showed that the visibility had improved to 1,600 metres.

At 18:42, while the flight crew were still waiting for clearance for the instrument approach on runway 02, Kaohsiung broadcast that the visibility for runway 20 had improved to 1,600 metres. Upon hearing this news, the flight crew requested the runway 20 VOR approach instead (as did the other two flight crew who had requested 02).

ATC

The air traffic controller issued headings

(radar vectors) and a lower altitude. The Automated Weather Observation System (AWOS) runway visual range (RVR) had dropped to 800 metres again but this was not broadcast to the flight crew. The tower controller was concerned that the Automated Weather Observation System visibility was different from the visibility as reported by the weather observer. The controller discussed this with the tower chief and agreed to use the visibility information as reported by the weather observer, which was 1,600 metres.

Later, the weather watch office supervisor clarified that when the Automated Weather Observation System runway visual range values were less than the observed visibility, the weather observer should use the Automated Weather Observation System visibility for the report.

But at the time, 1,600 metres visibility was left to stand. At 18:55, the aircraft was flying at 3,000 feet about 25 nautical miles northeast of the airport and the flight crew were cleared for the VOR approach for runway 20.

Descent

The captain was the Pilot Flying and the first officer was the Pilot Monitoring. They descended to 2,000 feet and continued; the minimum altitude for overflying the final approach fix was 2,000 feet. Shortly before they overflew the final approach fix, the flight crew selected the altitude of 400 feet and started their descent. They didn't conduct an approach briefing nor did they go through the descent/approach check lists.

The cockpit voice recorder picked up the sound of the windshield wipers increasing in speed as the aircraft penetrated the heavy thunderstorm rain in the area.

The minimum descent altitude (MDA) for Magong runway 20 VOR approach is 330 feet. The flight crew must not descend below this altitude unless they are able to see the runway. If the visibility is so bad that the runway is not in sight by the minimum descent altitude, the flight crew can continue the approach but must not descend any further.

Below MDA

The 500 feet auto call-out sounded in the cockpit and the captain said, "Um, three hundred" as the aircraft passed through 450 feet. The selected altitude was set to 300 feet.

There was no discussion in the cockpit of the minimum descent altitude or whether to continue the approach.

The captain said "Two hundred," as the aircraft descended through 344 feet. The selected altitude was set to 200 feet. The aircraft kept descending.

As it descended through 249 feet, the first officer said, "We will get to zero point two miles," referring to the missed approach point.

Runway in sight?

At 219 feet, the captain disengaged the autopilot and said, "Maintain two hundred." The aircraft maintained an altitude between 168 and 192 feet for the next ten seconds as they searched, ignoring the minimum descent altitude.

The flight crew who had landed previously said that there was a sudden heavy rainfall. The airport was in the middle of a heavy thunderstorm with the rain falling at 1.8 mm per minute. Visibility was down to 500 metres.

This is the point when the captain asked the first officer, "Have you seen the runway?" They had just passed the missed approach point. The yaw damper was disengaged without any comment, although this is a configuration change that should always be announced.

Captain: Have you seen the runway?
First Officer: Runway...
Captain: (sighs) Wow, hahaha.
First Officer: No.
Captain: No.
First Officer: No, sir.
Captain: Okay, okay, okay.

As they looked for the runway, the altitude, course and attitude of the aircraft began to deviate from the settings. The aircraft heading drifted from 207° to 188° as the aircraft went into a gentle left turn away from the approach course. The pitch angle went from 0.4° nose up to 9° nose down, then returned to 5.4° nose down. The aircraft descended.

Go-around

Neither of the flight crew commented on any of this until they both shouted "Go around" at the same moment. The aircraft was at 72 feet.

The engine power was advanced to full but it was too late. The aircraft struck foliage (trees) 850 metres northeast of the runway 20 threshold and then crashed into a residential area.

The aircraft was destroyed. All of the crew and 44 passengers lost their lives. Ten passengers and five residents on the ground were injured but not fatally so.

Investigation

Investigators found that non-compliance with standard operating procedures was tolerated at the airline and that routine violations were normal. Flight crew were known to skip briefings and descend below minima while still looking for the required visual references. Even when the airline was under official observation as the result of this accident, crews tested on the simulator showed "significant non-compliance" with standard operating procedures.



→ The scene of the accident
 Source: ASC Report



Coordination

The coordination at the airport was also an issue. I'll quote directly from the report for this, as it relates to today's news.

At the time of the occurrence, the mechanisms in place for weather information and runway availability coordination between civil and military personnel at Magong's joint-use airport were less effective than what they could have been. In particular, the inconsistent information or discrepancies regarding airport visibility during the aircraft's approach were unresolved. In addition, the rapidly changing automated RVR data was not communicated by the tower controller to the involved flight crew. Those inconsistencies meant that there was no collaborative decision-making relationship between the civil air traffic controllers, military weather observer, and flight crew. That resulted in the flight crew not being fully aware of the rapidly deteriorating RVR while on approach and the high likelihood that the RVR would not be sufficient for landing. Had the local controller provided the flight crew with RVR updates during the approach, it may have placed the crew in a better position to determine the advisability of continuing the approach.

→ The reconstructed flight path.
The runway threshold is on the bottom left
Source: ASC Report

Other pilots at the airline said that the captain had good flying skills and was very confident. Some mentioned that the captain had landed safely in bad weather where other pilots might have initiated a missed approach.

The first officer, as Pilot Monitoring, was responsible for the flight's safe

operation and should have alerted the captain about every deviation from the standard operating procedures, instead of supporting the actions. He was not monitoring the aircraft's altitude and did not highlight that they had descended to the minimum descent altitude, let alone challenge the decision to continue to descend.

Just Culture continues its uphill struggle

Opinion by Philippe Domogala & Philip Marien

This story again illustrates that our society is conditioned to look for a culprit to be blamed after an accident. It again highlights the formidable struggle to get Just Culture accepted into our judicial systems, and indeed to our collective society.

It would seem that prosecutors do not fully understand how air traffic control operates and continue to show a lack of understanding between the authority of a pilot in command and that of a controller. Too often, the controller is regarded as a policeman with absolute authority over all things flying, which is definitely not the case.

An additional problem is that, in addition to the media conducting their own investigation and trial in the hours after an accident, two or more investigations are conducted – often leading to vastly differing conclusions. Unfortunately, the high-profile court case that follows often pushes the important 'lessons learnt' to the background. Our society's reflex that in every accident, a guilty party - preferably still alive - must be found at all costs. This is clearly hurting a healthy safety culture and reporting system. Without minimizing the role of an Air Traffic Controller in the safety chain, criminal punishment has shown to contribute little or nothing to improving the safety of the overall system.

Everybody claims to be applying, or intends to apply the internationally agreed principles of Just Culture. But more often than not, these appear to be just words. The justice system needs to obey the law as it's written. As long as the notion of Just Culture is not embedded in a justice system and in the laws it has to apply, there's little or no chance of reaping the benefits of such a culture.

This is not about Taiwan, as we saw comparable cases in Russia (Vnukovo accident in October 2014, where in addition to the ATC Supervisor, even a trainee controller is being prosecuted), but also in Kazakhstan, Korea, Japan, Italy and other countries.

As long as systemic issues are being ignored, and focus remains on individuals supposedly being negligent, accidents such as these will continue to happen. If our society would be completely honest with itself, it would see that fatigue, undue pressures to perform and continuous cutting corners in training, staffing and resources are a big contributor in all of these events... ☹

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One thing to think about: The missed approach point for the runway 20 VOR approach was 2,000 metres from the threshold and so if the visibility was 1,600 metres, the flight crew would not have been able to see the runway from the missed approach point. As far as I can see, they could never have flown that approach with anything less than 2,000 metres visibility.

The investigation concluded that the deliberate flight below the minimum descent altitude was the primary cause of the accident. You can read the findings and the recommendations on the ASC website here: [Aviation Safety Council Releases Final Report on TransAsia Airways Flight GE 222](#)

CFIT

The occurrence was the result of controlled flight into terrain (CFIT, that is, an airworthy aircraft under the control of the flight crew was flown unintentionally into terrain with limited awareness by the crew of the aircraft's proximity to terrain. The crew continued the approach

below the minimum descent altitude (MDA) when they were not visual with the runway environment contrary to standard operating procedures. The investigation report identified a range of contributing and other safety factors relating to the flight crew of the aircraft, TransAsia's flight operations and safety management processes, the communication of weather information to the flight crew, coordination issues at civil/military joint-use airport, and the regulatory oversight of TransAsia by the Civil Aeronautics Administration (CAA).

Prosecuted

"Four people are found to have been negligent in their duties over this crash," the Penghu prosecutors said in a statement on Thursday, referring to the two air traffic control officers and the pair of pilots. The pilots can no longer be prosecuted, but ground staff in charge of air traffic that day are being sued for criminal negligence, which carries a jail term of up to five years.

Prosecutors said that a senior duty officer at Magong, along with another member of staff, contributed to the crash by

not allowing the plane to land. This is disturbing because although there were clearly communication issues, the air traffic controllers were not in a position of "allowing" the aircraft to land and they certainly didn't advise the flight crew to descend too low and continue to search for the runway in the rain. In fact, if anything, the controllers could have been more negative about the situation, by reporting the lower visibility figures. The aircraft was not low on fuel nor had the flight crew declared an emergency. Perhaps more elements will be revealed during the court case warranting these charges, but for the moment, based on the CAA's investigation, it is hard to see any sense in this court case at all. ➔

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AUTOMATION AND SAFETY

New challenges discussed at ANACNA annual conference



by **Giusy Sciacca, ANACNA Secretary General and**
Oliviero Barsanti, ANACNA President

On April 5th 2016, the Italian Air Traffic Controllers' Association, hosted its annual Conference in Milan. The event had a great turnout and was well appreciated amongst our members.

The board had chosen "Automation and Safety: New Challenges" as the main theme for the conference. This included all possible implications on safety from the conceptual perspective to the operational daily reality for every controller.

Automation has undoubtedly become an important subject in international discussions and aviation magazines. Italian controllers are confronted with automation and with the consequences

of using new tools and technologies on a daily basis. ANACNA could therefore not find a more appropriate topic to discuss amongst its members and show them what national and international developments are and what might be in store for the future.

Among the panelists we had one of the most eminent names in the academic world, prof. Erik Hollnagel. He was joined by professional experts including Job Brüggem (LVNL) and our IFATCA friend and President of the Swedish Controllers' Association Helena Sjöström. Claudio Canella, who is Vice President of the Italian Drones Association and Antonio Nuzzo, ENAV Operational Directorate



Manager in charge for the RACoon project also contributed to the event with their presentations.

Some members of the executive board also presented the considerable results of their work on behalf of the association's membership. Comparing these different perspectives, including that of the Italian national ATS provider, presented a worthwhile opportunity to understand each others' points of view.



→ Prof. Eric Hollnagel
Photo: ANACNA

Professor Hollnagel gave an insightful introduction, highlighting the importance of the "Safety II" approach. Attendants then split into two main sections: the first covered the main concepts of safety and automation. This was chaired by Giusy Sciacca, currently ANACNA's Secretary General. She spoke about the false myths regarding automation, the need for paradigm shifts and the need to advance system integration.

airspace.

The association's RPAS rep, Patrizia Panfili, suggested some ways to permit the best integration of such machines into the "normal aeroplanes" domain (e.g. tracking devices). It became clear that problems with small drones are a result of users' ignorance of basic airspace rules, rather than from the machines themselves.



→ ANACNA General Secretary Giusy Sciacca debunking automation myths.
Photo: ANACNA

The other half concentrated entirely on drones and remote towers. This was chaired by Oliviero Barsanti, ANACNA President, who also presented the Association view on this topic. The association closely monitors the flow of innovation affecting air traffic control globally and focusses on the technological innovation process that is presently ongoing in Italy. Some examples used are the experiments with a remote tower in Milano Linate and the deployment of Airport Collaborative Decision Making (ACDM) in several airports. The latter also foresees the introduction electronic strips in the coming years.

in current development for RVTs and the RVT concept itself is important. Are Infrared Cameras or tracking devices to be developed in "remote" operational environment only? Could we maybe just use such improving technology in our actual towers? Is it an unbreakable link?

Automation is definitely changing the fundamental way of working as controllers. As professionals, it is our duty to monitor how these changes transit from engineering to customization, from testing to deployment and from training to everyday use. This must ensure professionalism and adaptation

of the human component of this complex system. Professional associations, like ANACNA and IFATCA, must assist its members to help them understand how to interact with new technologies and to prepare them for future innovation challenges.

This is the reason why "automation" was the first motion that our conference voted on. The Executive Board of the Italian Association is very determined to work on all aspects of this topic and to establish and maintain a positive dialogue between all the actors involved starting from engineers to controllers as final users.



→ ANACNA President Barsanti and Claudio Canella, Vice President of the Italian Drones Association.
Photo: ANACNA

Do design and safety always proportionally increase? Does the engineering world have the necessary profound knowledge of the organizational culture, of the professional context and needs of their users? And the ethical dilemma: will ever automation replace human beings?

All these questions were raised and need to be answered. The answers and solutions are certainly not very obvious, but the conference's main goal of listing doubts, ideas, experiences and creating a constructive discussion was completely achieved. ☺

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CANSO WORLD ATM CONFERENCE

Madrid, Spain / 08-10 March 2016



by Patrik Peters, IFATCA President & CEO



The fourth CANSO ATM World Congress took place early March in Madrid/Spain preceding our annual conference in Las Vegas. Due to time constraints, only IFATCA President Patrik Peters was able to attend the event, which welcomed 7,175 registrants and 225 exhibitors. For the second year, IFATCA cooperated with NATCA/USA to share a booth promoting our Federation. Our Spanish member association USCA kindly supported us with additional staff, allowing for better interaction with exhibitors, visitors and other stakeholders.

Ana María Pastor Julián, Spain's Minister of Public Works and Transport, opened the congress. The conference part included four sessions that examined remote towers

and the implications of new entrants into the system, and forecasted the short- and long-term future of aviation. The exhibition showcased innovative aviation products, like flight and remote tower simulators, sensors, and radomes. Traditionally, it also hosted several high-profile industry deal signings, such as mergers and partnerships.

Of particular interest were the European Commission's Single European Sky (SES) Awards, which drew a particularly large crowd. These awards recognise the concerted efforts of many organisations towards a common European goal. The completion of the SES is one of the priorities highlighted by the new aviation strategy for Europe, and will contribute to several of the Commission's priorities:

jobs and growth, internal market, energy union, and global competitiveness. The five winners were the 'COOPANS Alliance', 'Time based separation at Heathrow', the 'BOREALIS alliance – delivering Free Route Airspace across Northern Europe by 2021', 'Remote Tower Service by LFV/Sweden' and 'Improvement of the Spanish Air Traffic Management Network'.

It was a very busy but a highly productive congress from a networking point of view. Having seen this year's interaction and our popularity – the investment was well paced and we should envisage participating again next year. Without being exhaustive, we were able to meet Professor Scheuerle (CEO DFS), Jeff Poole (DG CANSO), Peter Dumont (President & CEO ATCA), Kurt Salomon (JATCA), Greg Hood (Airservices Australia), Guntermann & Druck, Jochen Bauer (advertiser in our magazine), Marc Baumgartner, Graham Lake & Paula Milburn (UBM/ATC Global), representatives from IFATSEA, APROCTA, Morten Dambaek & Pernille Ladefoged (NAVIAIR), Philippe Merlot & Hermann Barret (Eurocontrol), Peter Carbooter (Airbus Prosky), Thomas Fränzl (Frequentis), Alex Bristol (CEO Skyguide) and others. Several IFATCA members from Finland, Norway, Jamaica, Algeria, Morocco, Portugal and Spain also passed by our booth to have a chat and connect.

Thanks go to Kelly Richardson, Jeff Woods, Steve Weidner and Jim Ullmann from NATCA for co-hosting and equipping our booth and to Merche Canalejo and Marta Alvarez from USCA for providing the extra manpower, which was kindly coordinated by Alfonso Guerrero.

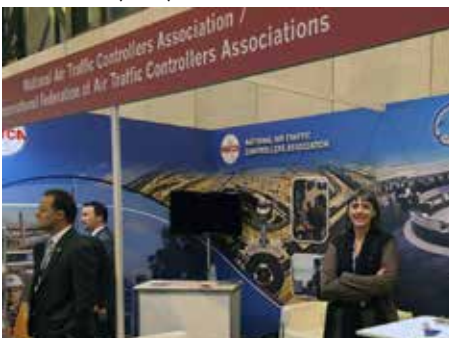
World ATM Congress will reconvene 7-9 March 2017, again in Madrid, Spain. ➔

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➔ The Intradex (left) and Frequentis (top) stands.

➔ The stand that IFATCA shared with NATCA (USA)



8.33 KHz BELOW FL195

Europe expands mandatory 8.33 kHz frequency spacing



by Bogdan Petricel, EUROCONTROL

The date for mandatory 8.33 kHz voice channel spacing communications below FL195 is approaching.

Europe still has a shortage of voice communication frequencies, and the situation is expected to worsen in the coming years. The consequences of this shortage are significant: air traffic delays, difficulties to implement safety improvements, loss of flexibility in introducing operational enhancements etc. These have the potential to constrain the European economic development.

Extending the use of 8.33kHz voice channel spacing below flight level 195 is the only way to meet Europe's aeronautical mobile communication frequency needs in the medium- to long-term.

The European Commission's Implementing Regulation (EU) No 1079/2012 (VCS Regulation) lays down the requirements for the coordinated introduction of air-ground voice communications, based on 8.33 kHz channel spacing.

It applies to:

- All voice communication radios operating in the aeronautical VHF band;
- Flight data processing systems serving general air traffic;
- All flights operating as general air traffic.

The regulation covers interoperability, performance and deployment obligations; it sets application dates for air navigation service providers, operators and other aeronautical radio users, Member States and the Network Manager.

Who?

Ground radio stations (including radios used for Operational Communications (OPC) and mobile/hand held stations) operating in the aeronautical mobile communications service band have to be 8.33kHz capable.

All airborne radios on board aircraft operating under VFR and/or IFR, as General Air Traffic (GAT) within the ICAO EUR airspace where EU Member States are responsible for the provision of air traffic services have to be 8.33kHz capable.

State aircraft (transport and non-transport) planned to operate beyond 31 December 2025 shall be equipped with radios having 8.33kHz channel spacing capability. Specific exemptions and temporary derogations may apply.

Where?

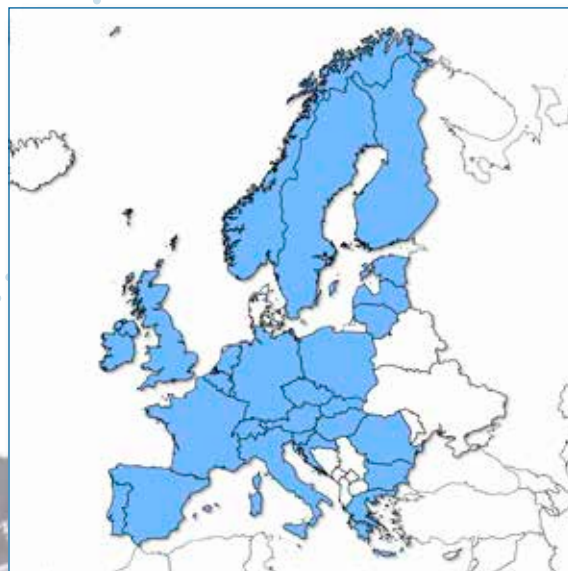
The regulation will be applied in the ICAO EUR Region where Norway, Switzerland and the EU Member States are responsible for the provision of air traffic services.

Several other states, within the ICAO EUR region may decide to implement 8.33kHz channel spacing requirements below FL195 in the near future.

When?

From 1 January 2018, aircraft may not be operated in the airspace where radio carriage is required unless the aircraft radio equipment has 8.33kHz channel spacing capability.

By 31 December 2018, Member States shall ensure that all aeronautical mobile



communications service band frequencies are converted to 8.33kHz channel spacing (some special exemptions apply).

Since 2012, all newly installed radios should have 8.33 kHz capability.

Since 2014, the carriage of 8.33kHz capable radios on board aircraft has already been required in a number of ATC sectors, for flights below FL195 in the central European region, in airspace classes A, B, C, D and E. Flight operators (including for flights operated under VFR) are advised to check the relevant AIP/AIC materials regularly before planning a flight.

The role of the Network Manager

The Network Manager is taking an active role in the coordination of the 8.33 kHz Voice Channel Spacing (VCS) capability deployment below FL 195, by monitoring and steering the implementation of 8.33 kHz channels on both ground and air; providing a central coordination and information function; and building awareness.

An 8.33 VCS National Coordinator has been appointed in each of the European States with the role of coordinating the 8.33 kHz deployment activities of all stakeholders (e.g. service providers, airspace users, general aviation, etc.). They also collect consolidated implementation plans and provide them to the Network Manager. Lastly, they ensure timely approval of temporary derogations and/or exemptions in accordance with Art.14 of the VCS regulation and that all local stakeholders are informed of the requirements emanating from the VCS regulation.✈

For more information on 8.33kHz VCS implementation below FL195, please contact:

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PROMOTING GLOBAL AVIATION SAFETY

ICAO's Universal Safety Oversight Audit Programme



by Jean-François Lepage, Liaison Officer to the ICAO Air Navigation Commission

"The ICAO's Universal Safety Oversight Audit Programme (USOAP) was initially launched in January 1999, in response to widespread concerns about the adequacy of aviation safety oversight around the world. The ultimate goal of USOAP is promoting global aviation safety through regular audits of safety oversight systems in all ICAO Member States."

Mr. Nicolas Rallo, Chief Safety and Air Navigation Audit Section in ICAO HQ in Montréal, graciously agreed to answer my questions in regards to the programme for The Controller.

Jean-François Lepage (JL): *Following the undisputed results of the USOAP, Continuous Monitoring Approach (CMA) has been implemented to make a more effective and efficient use of ICAO resources and reduce the burden on States caused by repetitive audits. How exactly does the approach work? Is it voluntary? What kind of information is requested from States? Does it mean that States will not be audited anymore?*

Nicolas Rallo (NR): The Universal Safety Oversight Audit Programme (USOAP) is one of ICAO's priority programmes and

certainly one of the most visible that ICAO has launched in the last two decades. The "Eight Critical Elements (CEs)" are now a common language in the aviation community and their "Effective Implementation (EI)" a common metric used when referring to States' safety oversight systems.

The 37th session of the Assembly (2010) adopted Resolution A37-5 regarding the evolution of USOAP to the CMA as a mechanism for ICAO to monitor the safety oversight capabilities of Member States on a continuous basis. In January 2013, after 15 years of auditing States, the USOAP officially transitioned to the CMA, evolving towards an information-driven, risk-based and result-oriented programme. The ambitious objectives of the CMA include: monitoring States' safety oversight systems using a web-based platform — the "Online Framework" (OLF); validating States' progress through various on-site and off-site activities; and continuing to assess the effectiveness and sustainability of States' safety oversight systems through audits.

Under the CMA, States may still be audited, but there is no requirement or periodicity imposed regarding such audits. The scheduling of activities, including audits, "ICAO Coordinated Validation Missions" (ICVMs) and other type of activities is done taking into consideration a number of parameters, including established risk factors and



indicators. The CMA process permits a more accurate reflection of real-time changes as they occur around the globe. The programme also enjoys new flexibility to address changing circumstances (with introduction of activities of limited scope). The resulting prioritization and focus have yielded improved cost-effectiveness as well.

The operation of the USOAP CMA requires the active cooperation of States, from which most of the CMA information comes from. States are required, under an MOU signed between ICAO and each State, to provide and maintain up-to-date information regarding their organization and activity level (by completing the "State Aviation Activity Questionnaire"), their level of compliance with ICAO SARPs (by filling in the "Compliance Checklists" / Electronic Filing of Differences), their corrective action plans (CAPs) and CAP progress and their self-assessment of the audit questions. States are also requested to readily provide answers (and related evidence) if they receive a "Mandatory Information Request" (MIR) from ICAO (e.g. when there are indications of concerns or significant



Photo: (cc) Caribb via Flickr

changes affecting the State's safety oversight system of its service providers)

JL: *How does the programme conducts an audit? What does the team look at and who are the stakeholders involved? Finally, how many officers from ICAO are required to perform such operation and how many Protocol Questions (PQs) are answered?*

NR: Audits are only one of the types of activities conducted within the USOAP CMA. They may cover all audit areas ("full scope audits") or only some of them ("limited scope audits"). The eight audit areas are: primary aviation legislation and civil aviation regulations (LEG); civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA). In all cases, the audit addresses the State's level and not the industry level. The audit aims at assessing the level of implementation of the 8 critical elements (CEs) of a State's safety oversight system, namely CE 1- Primary aviation legislation; CE 2- Specific operating regulations; CE 3- State system and functions ; CE 4- Qualified technical personnel; CE 5- Technical guidance, tools and provision of safety-critical information; CE 6- Licensing, certification, authorization and/or approval obligations; CE 7- Surveillance obligations and CE 8- Resolution of safety issues.

In practice, during the audit, the counterparts of the ICAO audit team are the CAA and the State's accident investigation authority (when such an authority has been put in place). The audit team varies in size and composition depending on the audit areas to be covered, the level of activity in the State and the State's safety oversight system complexity. On average, the team for a full scope audit will be made of 5 experts, all selected, trained and qualified by ICAO. This figure may go up to 11 experts for example, for complex and/or large systems. The audit process has three phases: a preparation phase, an on-site phase and a post-on-site phase. The duration of the "on-site" audit is of 8 to 9 working days on average but can also be adjusted. During the on-site audit, the ICAO auditors address a number of PQs and samples cases (e.g. certification or inspection files) to check effective implementation. They also

conduct visits of service providers, including ANSPs, in order to verify the actual implementation of the CAA's safety oversight functions. In the "technical" areas (PEL, OPS, AIR, AIG, ANS and AGA), the number of PQs contained in each questionnaire varies from about 110 to 250.

JL: *What happens with the data collected? Who does the analysis and what information is shared? With whom?*

NR: The data collected and validated through USOAP CMA activities are stored on a web based platform named "Online Framework" (OLF). The OLF is the main tool for the collection, continuous monitoring and reporting of USOAP CMA data. The OLF is only accessible to a restricted number of users, namely the State's main focal point for USOAP CMA matters (the State's "National Continuous Monitoring Coordinator"- NCMC) as well as other authorized individuals from the States' authorities.

However, the OLF is also closely integrated with ICAO's iSTARS/SPACE (<http://portal.icao.int> – group name SPACE), which is accessible to all staff from Member States. The iSTARS/SPACE applications use live data from the OLF, allowing States to conduct more accurate and timely analyses.

JL: *Thank you kindly Mr. Rallo for taking the time to share this information with us on USOAP CMA. To conclude, how do you envisage the future of USOAP?*

NR: In the course of finding the most effective ways to achieve its objectives, taking into account the human and financial resources available, the USOAP CMA has

matured and improved. The evolution of the USOAP CMA will continue in the next few years, in order to support State's efforts in implementing a State Safety Programme (SSP). As of 2018, for the more mature States, the effective implementation of SSP will be assessed through the USOAP audit of the new PQs related to the provisions of Annex 19 — Safety Management (and related guidance material).

Another evolution of the USOAP CMA, which has just been rolled out, is the identification of "best practices", i.e. those practices (e.g. regulations, procedures or training policies and programme) developed by a State and which may benefit other States. When identified, and if the originating State authorizes it, these best practices will be shared through a "Solution Centre" on iSTARS/SPACE. This application will allow users to view USOAP findings for any State on a graphically-rich dashboard and to drill down to findings and a variety of possible solutions to address each finding. These solutions may include links to official ICAO guidance documents, training courses, partnership programmes and, precisely, best practices. ➔

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For more information on USOAP CMA, visit the CMA forum at:
<http://www.icao.int/safety/CMAForum/Pages/default.aspx>

NATCA's COMMUNICATING FOR SAFETY



by NATCA Staff

In March, during the week following IFATCA's Annual Conference, the National Air Traffic Controllers Association (NATCA) hosted its annual Communicating For Safety (CFS) conference in Las Vegas. It is the United States aviation industry's leading conference focusing on safety, technology, and building relationships with other aviation professionals.

Unique

This three-day conference is unique in that it's the only conference of its kind to focus specifically on the air traffic needs of all members of the aviation community who are affected by the U.S. National Airspace System (NAS). CFS started as an event with just 40 attendees in 1999 and has now become an internationally attended conference, with nearly 1,500 aviation industry leaders and representatives coming together to improve safety.

Included throughout the conference this year were presentations and forums given by top aviation professionals that concentrate on how to further improve communication and relationships among pilots, controllers and other professionals with a vested interest in aviation safety. Attendees once again learned about topics including the effects weather and other environmental factors have on aviation safety, new technology and programs, professional standards, information sharing and safety reporting systems, pilot-controller communications, human factors and modernization efforts. Moderated panels with aviation stakeholders provided opportunities for CFS attendees to openly ask questions and discuss their concerns.

Opening address

NATCA President Paul Rinaldi opened CFS 2016 with strong remarks on the need to fight complacency, and improve the current state of the NAS. Following a week

of discussions at the IFATCA Annual Conference, Rinaldi said it could not be more clear that airspace systems are "rapidly becoming one gigantic, dynamic, global aviation system," and that we will have to modernize as a global airspace one way or another.

Rinaldi commended the workforce for one of the safest years for air travel on record in the United States, but cautioned that while we have done a good job, now is not the time for complacency. As he has often stated, "good enough is the enemy of great." He added that we must look to the future to ensure that we are keeping up with growing capacity and modernizing with the rest of the world.

Funding growth

With everything running smoothly for now, some may question why the status quo has become unacceptable. In 2014, U.S. air traffic controllers guided 750 million passengers through the NAS. By 2034, that number will be 1.2 billion. The capacity of the airspace is growing faster than we can imagine, and Rinaldi stressed the need for a stable, predictable funding stream to ensure that the transition into the future is on solid ground with the best technology available.

Around the world, air traffic control is taking advantage of advanced technology. "The rest of the modern world has moved to electronic flight strips, yet in our towers and TRACONs we're still using paper strips. Not because the technology doesn't exist, but because we don't have the funding," said Rinaldi. He advocated for a new funding stream in order to



→ NATCA President Paul Rinaldi delivering his opening address.

prepare for a future with saturated sectors and increased complexity.

Interoperability

One panel focused on the airspace systems in the United States, Europe, and around the world and how interoperability must be attained to ensure that what functions in the United States also functions globally. Technology like NextGen and the European modernization project SESAR are the driving forces in design systems for the next generation of air travel.

Donald Ward, NextGen International for the U.S. Federal Aviation Administration (FAA), focused on ICAO and its function as a global initiative. The FAA has sent controllers to work with ICAO and drive industry forward for years. Controller viewpoints in all aspects of ICAO are exceedingly important to the collaborative nature of NextGen and SESAR to ensure this next round of technology is built correctly.

Europe

Eric Risdon, IFATCA EVP Professional, shared information on Single European Sky ATM research. Performance, safety, technology, human performance, and

human factors are all elements that can be enhanced through this research collection. He explained that designing technology through this research should make things easier, faster, and safer, but must never replace the human element.

Remote Towers

Meanwhile, a discussion on Remote Tower Systems gave CFS attendees a balanced look at one of the ATC world's newest technologies. But the wisest bit of advice for how to proceed may have come from Daryl Hickey, President of Civil Air, Australia.

"We don't like change for change sake," said Hickey, whose statement was met by loud applause from fellow controllers in the audience. "First, prove it is better and at least as safe as we currently have. That is why it is so good to have NATCA involved."

IFATCA President and CEO Patrik Peters sounded a tone of both optimism and caution. "Ten years ago, we were laughing at this but what we see today is superb. The movement to infrared cameras is what I found highly interesting," he said. However, he added, "Economic must not be the driver on this. It must be safe."

Unmanned Aircraft

One of the most exciting and challenging areas in aviation today is the world of Unmanned Aircraft Systems (UAS). NATCA UAS Representative Steve Weidner moderated a panel showcasing the spectrum of these systems. Keziah Ogutu, IFATCA EVP Africa & Middle East participated on the panel.

When the UK's Remotely Piloted Air



→ IFATCA EVP Professional Eric Risdon elaborates on the Europe's Single Sky Project

System began conducting operations in Kenya where Ogutu works, they created some confusion for the controllers. Controllers wanted to know how to handle these large UAS. Some of the questions that came up are the essential issues we face with UAS, such as, "What rules govern these operations?" "What training do pilots and controllers need to manage them?" "What are the liabilities involved?" IFATCA took up the issue in 2005, and established its position that unmanned aircraft should be in compliance with the same ICAO standards as manned aircraft.

Pilot-controller communication

An interesting and engaging panel each year at CFS explores pilot/controller communications, and this year was no different. A controller in the audience raised a serious issue: dropped call signs. While addressing the panel, the controller said "I don't want to be that guy," that continually has to remind pilots to use their call signs during transmissions.

But panelist John Drexler, Director for ATC Procedures at the U.S. Air Line Pilots Association, Int'l, was adamant in his

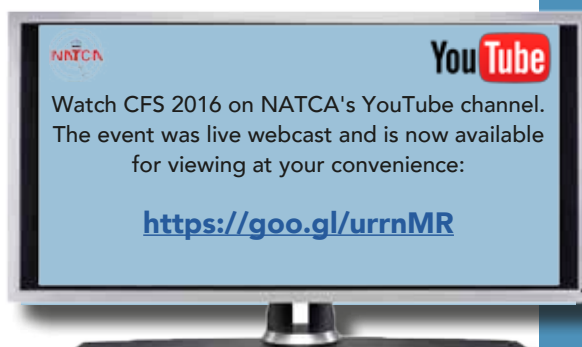
response. "I want all of you to be that guy," he said. "Enforce appropriate phraseology. Make them do it. We need it."

Panel moderator and NATCA Professional Standards Co-Lead and Procedures Representative Andy Marosvari reinforced the message, saying, "Controllers need to hear that call sign with each and every clearance."

A common theme of the panel was concise, effective, and clear communications during critical phase of flight. "The bottom line is it really has to do with economy of speech in terms of getting what you want from us," Drexler said. "We are busy ensuring the aircraft is properly configured, and we have multi-channel operations going on at that point (in critical phase of flight). If we get a long clearance, most pilots know what to expect. They will focus on the numbers. But again, especially in the terminal environment, it's busy for you, and it's busy for us. We need to keep it simple, quick and concise."

The 2017 CFS conference will again be held in Las Vegas at Bally's on March 20-22, 2017. NATCA hopes you'll consider attending CFS 2017. For more information, please go to cfs.natca.org.

dchurch@natcadc.org



→ A panel that included Keziah Ogutu, IFATCA's EVP Africa & Middle-East, debated the challenges of unmanned aircraft.

THE ARCHIE LEAGUE SAFETY AWARDS 2016



by Sarah Zilonis, NATCA Communications Specialist

The Archie League medal of Safety Award is an award given by NATCA to controllers (or a team of controllers) for exceptional work during the past year. It is named after the first US air traffic controller.

The award ceremony is held during a formal event at the 'Communicating for Safety' conference. This year's edition was the 13th time the awards were held and it featured nine flight assists which embody NATCA members' relentless commitment to professionalism and safety.

Alaskan Region

Ron Sparks & Mike Thomas, Anchorage Center

An aircraft flew into a low cloud ceiling with limited visibility. After his second failed attempt to land, the pilot requested information on other airports but eventually headed back. The aircraft was running low on fuel and faced dangerous weather conditions. The pilot landed successfully with just six minutes of fuel remaining.



Central Region

Brett Rolofson & William Keeney, Kansas City Center

An aircraft experienced an oil pressure issue. Rolofson, who was training Keeney at the time, suggested the pilot head back towards a different airport that had better weather. Rolofson lost contact with the pilot and relayed clearances and information to-and-from the aircraft through the pilot of an American Eagle flight.



Eastern Region

Jeff Schuler, New York TRACON

A disoriented pilot descended below the minimum safe altitude area on its approach into Islip, N.Y. Two radio towers loomed ahead as the pilot struggled to maintain altitude. Schuler was able to keep the pilot calm, despite one empty fuel tank. Schuler did not believe the pilot's GPS equipment was reliable, so he gave vectors and corrective



headings throughout the successful and safe approach.

Great Lakes Region

David Kilgus, Columbus (CMH)

The pilot, who had trouble understanding English, made a hard right turn towards final approach without instruction, directly into oncoming traffic. Kilgus immediately caught the pilot's error and issued him a hard right turn to get the pilot back on track. The pilot lost fuel in one tank but landed safely with Kilgus's help.



New England Region

Joseph White, Providence (PVD)

The pilot experienced a gear malfunction and was having trouble staying calm. White took control. The airport surveillance radar antenna at PVD was out of service, which was causing loss of radar contact with aircraft below 2,000 feet. The pilot's GPS and autopilot were inoperative. Despite all this, the aircraft landed safely.



Northwest Mountain Region

Joshua Pate, Seattle TRACON (S46)

A VFR pilot told Pate, "I am lost in the clouds, in the mountains...help me." He



was less than five miles north of a 6,400-foot elevation profile and seven miles west of another rise in terrain. The average life expectancy of a VFR pilot lost in the clouds is 178 seconds. But Pate helped the pilot establish straight and level flight.

Southern Region and President's Award Winner

Donald Blatnik III & Kenneth Scheele, Central Florida TRACON

An aircraft reported low engine and oil pressure and requested to land. Blatnik relayed important information while Scheele coordinated a descent path with the controller in charge of the lower airspace and worked with the tower to ensure there would be no other traffic. The aircraft landed safely, but caught fire on the runway.



Southwest Region

Wade H. Martin IV & Nick Valadez, Dallas/Love Field ATCT

Shortly after takeoff, an aircraft suffered complete electrical failure. The pilot called 911 from his personal cell phone and the dispatcher helped patch him through to the tower. Martin arranged for a low approach with runway lights turned all the way up. Valadez took over all frequencies and aircraft so Martin could focus on assisting the pilot.



Western Pacific Region

Ryan Nines, William L. Hoppe Jr. & Luis Ramirez, Northern California TRACON

After a departing aircraft hit 4,500 feet, the pilot requested to return to the airport. Suddenly, his altitude dropped to 1,800 feet in a dangerous spiraling turn. The controllers worked well together to assist the nervous pilot. During this time, the aircraft experienced two more upsets and loss of altitude. But he landed safely.



To read the full stories about each of these flight assists, please visit the NATCA web pages via:

<http://goo.gl/zdLjLL>

To view audio and video recordings from these events, and watch the awards presentation at NATCA's Communicat-ing For Safety conference March 23, please click here:

<https://goo.gl/obvSfR>



CHARLIE'S COLUMN

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Forget remote towers!

We all know the big plans everyone has with remote towers. Norway is no different, looking at providing services at some of their more remote airports. But it seems that back in the 1960s, mobile towers were the rage... In their aviation museum near Oslo airport, they have this yellow contraption.



It looks like the more compact version of a German adaptation of the VW Camper that their armed forces were using around the same era.



And speaking of mobile towers: Boulder City airport in Colorado, USA has their eyes on the old tower at McCarran airport in Las Vegas. They claim it will be cheaper to deconstruct the tower in Las Vegas, transport it to Boulder City, and reconstruct it at their airport... Perhaps we'll soon see second-hand ATC towers pop up on ebay!

Captain Spot welcomes you on board!

You all know the old joke about automation eventually leading to single-pilot cockpits: it would need a dog sitting beside the pilot to make sure he doesn't touch anything!

Someone has taken that old joke a step further and seems to be planning to get rid of the pilot all together. A television production company in the UK (where else?) came up with the concept of trying to teach dogs to fly an aeroplane. Plan is to televise the pilot career of 3 dogs as they learn to fly a Cessna 172. Of course, this includes simulator sessions. The first results look promising, as you can see on Youtube: Sky 1 "Dogs may fly". Rumours that a low cost airline sponsored the entire effort could not be confirmed...



Turkey?

Regular readers of Charlie will have heard of airlines in the USA allowing passengers to bring "Emotional Support Animals" on board to help them overcome their anxieties. Airlines face fines as high as \$150,000 and lawsuits for refusing requests for legitimate support animals.



Most carriers prohibit "unusual" service animals, such as snakes and other reptiles,

ferrets, rodents, and spiders but they will allow domestic birds, which seems to include turkeys.

The 1986 Air Carrier Access Act ensures that objections from fellow-passengers are no grounds to refuse these animals. The law however does not stop you from ordering a turkey sandwich from the in-flight service...

Look Mom! On one wheel!

Most people seem to appreciate a good circus act and one of low cost airlines, Orient Thai, tried to impress their



passengers by making a nice stunt landing on only one nose wheel.



According to local news sources, the Orient Thai Airlines Boeing 737-300, registration HS-BRI was on a flight from Phuket to Nanning (China) last April.

Landing without any apparent problems, the pilot noticed during his post-flight walk-around that the left nose wheel was missing. At the time of writing, the missing wheel has not yet been recovered. So if you find a 737 wheel somewhere in your garden, please give the airline a call. I am not sure if there is a reward. ☹

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All photos: DP & the internet

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