

THE CONTROLLER

FEBRUARY 2018

JOURNAL OF AIR TRAFFIC CONTROL



FOCUS ON KOSOVO

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IFATCA IN AFRICA

"AS SURE AS KILIMANJARO RISES LIKE OLYMPUS ABOVE THE SERENGETI"

(Toto/Africa)



BY PATRIK PETERS, IFATCA PCX & CEO



We're closing in on our annual conference. This year's edition will be generously hosted in Accra by our member association in Ghana. We're going to Africa again – and are very much looking forward to meeting there.

Last time we held a conference on the main African continent was in 2008, when we gathered in Arusha/Tanzania, at the foot of Mount Kilimanjaro. For 2017, when we were invited to Tunisia, but external factors forced us to choose an alternative host.

As global organization, we want to be open minded, apolitical and welcoming to all members and those who wish to become members of our great professional family. For as much as we like to live by this vision, politics, threats or other external factors are a reality that we cannot simply ignore or pretend that they are not an issue. I encourage you to read the articles about Kosovo, our latest new entrant into the Federation. Our deputy editor describes the complex political, economical and aviation aspects as from page six onwards. Those present in our administrative committee at the last conference in Toronto will remember the discussions that took place on their membership application.

In that respect, I would like quote the preamble of our Federations Constitution: *"The objects and problems of Air Traffic Control are generally the same all over the world. They can be mastered only by international co-operation, mutual understanding and an exchange of ideas and experience. It is fitting, therefore, that Air Traffic Controllers of all nations should unite in a worldwide professional federation, which is based on the principle of co-operation in all professional matters (Nicosia 1977)."*

Our main aim as a Federation is to cooperate for the betterment of all air traffic controllers in the world. We can't single out those, where political disagreements add another level of complexity. Let us stand above those and be welcoming to all. Spinning this fundamental proposition a little further, we have to admit that we are somewhat exclusive – when we look at the conditions for affiliation (paragraph 2.1.3), it states *"Only one association, organisation or guild of air traffic control personnel may accredited as a Member association for an area of representation at any one time."*

We have to ask ourselves whether this is really necessary? Do we have to be that strict and accept only one association per country or area of representa-

tion? Is such a rule, more than 50 years after the foundation of IFATCA, still valid, required, realistic and up-to-date? I believe that we – for as much as we regularly revisit our Technical and Professional Manual – need to challenge the constitution and ask ourselves whether those provisions are in line with what we do, where we are and where we want to be in the next 50 years.

Our Federation is being recognised as a major stakeholder in ATM on a global level. We want to grow and be increasingly influential and meaningful. We want - together with ICAO – strive for no country to be left behind – and no controller to be left behind! Similar to Tanzania's Mount Kilimanjaro rising above the Serengeti, we want to rise.

As sure as Mount Afadja rises like IFATCA above Ghana!

We're all in this together!

Professionally yours,


patrik.peters@ifatca.org



THE NOISE PARADOX

➤ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

You might not have heard of Nantes' new airport. Nantes is a large French city near the Atlantic coast, some 350Km west-southwest of Paris. Its current airport is right in the middle of the city and for the past 50 years, there are plans to build a new airport 30 km away in a place called Notre Dame des Landes. The project was given "final" approval in February 2008, with construction expected to start in 2014. It "should" have been operational somewhere in 2017.

For the past 10 years, the decision resulted in a massive protest movement. Thousands of protesters organised themselves, creating a powerful movement that challenged the airport's plans. A few hundred went as far to even occupying the site. Finally, late 2017, the French government gave up and officially killed the project. It's not a cheap cancellation either, since they owe huge financial compensation to the contractors, but there's also a political backlash to deal with...

They now plan on extending the existing airport, right in the middle of the city. Imagine how that will go down with the neighbours and with the noise lobby! Surely, it'll be years before any additional flights can operate.

It is not the first new airport in Europe that has encountered problems such as these: Berlin's new Brandenburg Airport should have opened in 2011. It was intended to replace the current two remaining airports to become the only commercial airport serving Berlin. In the meantime, it's foreseen to only replace Tegel airport, as Schönefeld is currently being expanded. After 15 years of planning, construction started in 2006, but the airport encountered a series of delays and cost overruns due to poor construction planning, execution, management and corruption. Every year since, the start of the operations has been delayed. Until recently, 2020 was the "firm" agreed date but a new report published last November suggests that the opening will probably be delayed further, until 2021!

Politicians and the whole airline industry/lobby constantly argue that the infrastructure needs to improve to enable the constantly rising demand in air travel, but those same politicians fail to get their projects through.

The problem is not only new airports: even building an extra runway to an existing airport is now a 20-year calvary: Amsterdam, London Heathrow, Frankfurt, Munich and many others have encountered similar problems and discussions.

Things are even more absurd in Brussels, where noise abatement rules change mid-way during the departure route, as the local government of Brussels imposes stricter noise restrictions than the rest of the country... If you don't climb fast enough (making lots of noise before you get to an imaginary line around Brussels), the regional government of Brussels will fine the airline thousands of euros...

But what is even more absurd is that people protesting against aircraft noise often don't have any hesitation to book a low-cost flight for a citytrip or a holiday in the sun. Not to mention the ones that knowingly bought cheaper property close to an airport.

Without new airports or runways near populated areas, airport congestion and delays can only increase. And guess who will be blamed? Not the ones that took the wrong, or even refused to take, decisions. It'll be on air traffic control who can't get the aircraft in and out efficiently...

Air traffic control is increasingly confronted with "environmental" issues, including noise. Departure and arrival routes are no longer designed for efficiency and expedition, but rather for noise reduction for communities near the airport. Similarly, runway use is no longer dictated by wind, direction of flight or taxi length, but to distribute the noise "evenly". And while more and more people want to travel by air, the same people do not want any of the side effects. No airport, no pollution and no aircraft noise in my backyard. And when it does bother them, they blame the operators and the air traffic controllers... ◀

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FOCUS ON KOSOVO

➤ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

NOTE and DISCLAIMER: the controllers' association of Kosovo is the latest member association (MA) to join the IFATCA family, having joined in Toronto in May 2017. This MA is a bit special as for the time being, not every country around the world recognises Kosovo as a state. IFATCA's EVP Europe visited Kosovo in September 2017 and talked to the local air traffic controllers, managers and the association on how IFATCA can help its members. I was invited in December 2017 to make a visit to Pristina for The Controller to report on the local situation from an ATC point of view. It should be clear that this article is not meant to be political, or to take any side in the diplomatic/political discussion. IFATCA is a professional organization and we are looking at the professional aspects and what affects ATC and aviation in general. I've attempted to report facts, as I saw them. If there are errors or inaccuracies in this article, they are mine alone.

A bit of late 20th century history to understand the present: Kosovo was part of Yugoslavia, a country that came into existence in 1918 after the first World War as a kingdom. During World War 2, the monarchy was abolished and in 1946, it was renamed the Socialist Federal People's Republic of Yugoslavia when a communist government was established. Its leader, Tito ruled and unified the country until his death in 1980.

Yugoslavia consisted of six socialist republics: Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia. In 1974, two so-called Socialist Autonomous Provinces within Serbia, Vojvodina and Kosovo, were given equal status to the other members of the federation. Following the death of Tito on 4 May 1980, the federation faced rising ethnic nationalism. In the aftermath of the collapse of communism in Eastern Europe, inter-republic talks on transformation of the federation failed. This led to a series of ethnically-based wars and insurgencies between 1991 to 1999.

With Kosovo wanting to retain their independent status, one of those conflicts was the Kosovo war in 1998-1999. It ended in June 1999 with the occupation of Kosovo by NATO troops under UN resolution 1244. This mandated the United Nations Interim Administration Mission in Kosovo (UNMIK) to ensure conditions for a peaceful and normal life for all inhabitants of Kosovo.

Kosovo unilaterally proclaimed independence in 2008 and adopted a new constitution. The European Union Rule of Law Mission in Kosovo (EULEX), which itself operates within the framework of Security Council Resolution 1244, assists and supports the Kosovo authorities in the rule of law area, specifically in the police, judiciary and customs areas. While the UNMIK still exists today, in September 2012, international supervision ended, and Kosovo became responsible for its own governance.

Present day situation

Despite largely self-governing, NATO still manages the entire Kosovo airspace and is likely to do so for the foreseeable future. The airspace was closed for overflights following the war, with only flights to/from Pristina allowed. Between 1999 and 2002, Pristina Airport air traffic control was done by military controllers (UK and Italy). In 2002, it was handed to members of the Icelandic Response Unit. In the meantime, 16 Kosovar ATCOs began training in different countries including Austria, Italy and Hungary. Those first Kosovar controllers took over from the Icelandic ones in 2004. Then ten more were recruited in 2005 and sent to Iceland for training. A 3rd generation was recruited in 2011 or 2012 and sent to Entry Point North in Sweden, for training. They were issued Icelandic civil licenses at the time, with the Icelandic mission ending in 2010.

Following the declaration of independence in 2008, a Civil Aviation Authority was established, which began issuing

➤ View of Pristina airport.
credit : © Alket Islami's





➤ The control tower at Pristina airport.
credit: PD



➤ Map of the different republics that made up Yugoslavia until 1992.
source: wikipedia

their own licenses. Today, 26 Kosovo civil controllers provide ATC (GND/TWR and APP) for Pristina airport and the adjacent lower airspace. The lower airspace is still restricted to in and outbounds to Pristina airport only. The rest of the lower airspace is still closed for overflights.

In 2014, NATO delegated control services for the Kosovo upper airspace (above FL205) to Hungary for a 5 years period. At the moment, these overflights are controlled from Budapest in Hungary. Aircraft landing and departing Pristina are not allowed to fly over Serbian territory resulting in by-pass routes (see map).

Since 2008, Kosovo has gained diplomatic recognition as a sovereign state from more than 110 UN member states though not from the United Nations itself, due to vetoes by Russia and China. Within the European Union, five countries remain opposed to recognizing Kosovo's independence. While Serbia continues to oppose Kosovo's independence, through the so-called Brussels Agreement in 2013, it accepts the legitimacy of Kosovo's institutions. This however does not extend to the control of its airspace, which is still formally part

of the Serbia/Belgrade FIR (LYBA). Kosovo uses the ICAO code BKPR for Pristina airport: B is for the North Atlantic region. It was chosen because all the 26 letters in the "L" region were already in use and there is also a symbolic link to NATO, which is the "North Atlantic Treaty Organisation".

Pristina is the only operational airport in Kosovo. The only other airport, Gjakova, which was used as a military airbase, is currently closed. There are plans to re-open this in the near future, primarily for general aviation but also as a diversion for Pristina.

As far as equipment is concerned, they have modern radar equipment with synthetic 2k x 2k displays for the approach. They currently only operate one sector, but room is foreseen for more. They have a brand new control tower near the terminal, with modern standard equipment. Airport facilities in general compare to other main European airports.

Present day issues

The main issue for Kosovo air traffic management today is that they are not a member of ICAO, nor of EUROCONTROL due to the lack of recognition by the UN and the EU. Neither the service provider nor the civil aviation administration receive any information at international level.

They cannot participate in meetings, technical forums etc. They also have no access to technical assistance, training, etc. unlike other members of ICAO or EUROCONTROL. Since ICAO membership is not directly linked to UN recognition, they have hired a team of international lawyers to prepare a membership application. In 2015, they requested observer status within EUROCONTROL. While this request was acknowledged by the Agency's Director General, no formal answer has been received since.

The service provider does not collect route charges. They have agreement with the Pristina airport that part of the airport charges of the 30,000 civil movements is transferred to the ANSP. But despite having to provide some fixed services (e.g. meteorology, flight planning (ARO) and Alerting service), they receive no money from the 87,000 overflights in the upper airspace.

The service provider was accepted as a full member of CANSO but representatives cannot attend all meetings. One example is the World ATM Congress, organized by CANSO in Madrid in past years: Spain, one of the EU countries that hasn't recognised Kosovo, does not grant them visas.

The future

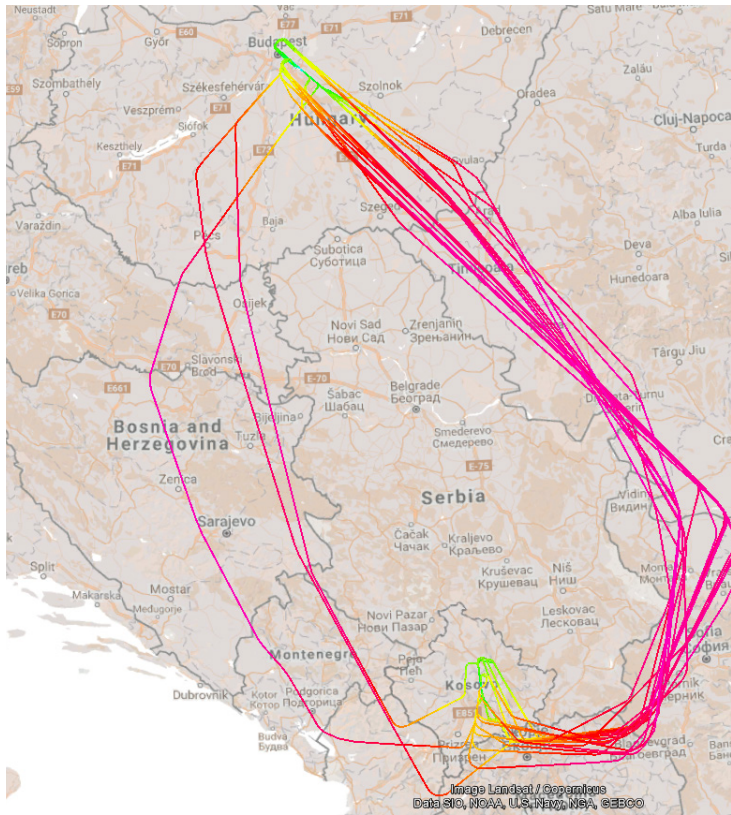
Article II, para 3c of the Military-Technical Arrangements (MTA) signed in June 1999 between Serbia and NATO stipulate that: "It is envisaged that control of

civil air traffic will be returned to civilian authorities as soon as practicable". It does not mention to whom this would be returned, but one could argue that since they declared independence, it should be Kosovo.

What I understood during my discussions is that what is most likely to happen is that NATO will renew the contract with Hungarocontrol for a further 5 years (until 2024). In the next 5 years the CAA and the local ANSP will be investing in new equipment (e.g. Mode S radar) and will be recruiting additional controllers. They say they hope for a transition plan to be able to take over fully their airspace at the latest in 2024 when the contract with Hungary expires.



➤ The author (R) meeting Mr. Dritan Gjonbalaj, Director General of the Kosovo CAA
credit: ASHNA

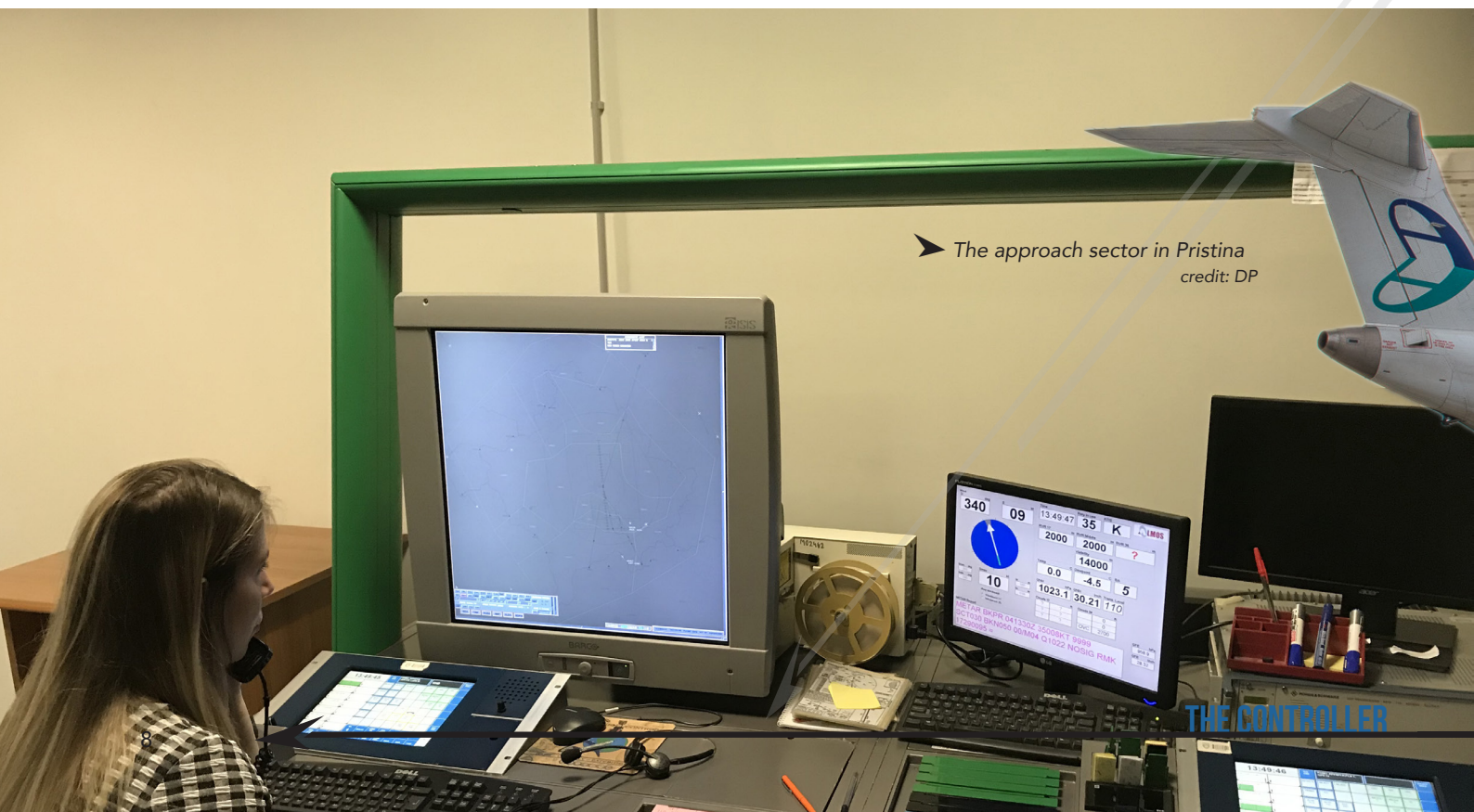


➤ Flights from Budapest to Pristina: the actual routing is 487 NM, whereas the great circle direct route would be 301 NM. That results in 24 minutes additional flying time, or 60% more time on this particular route
source: Wizzair

I was told that NATO has plans to open a few overfly corridors in the lower airspace in the very near future, which would enable the Kosovars to have overflights. Those will especially be helpful for the inbound to Skopje airport. This airport is in the neighbouring republic of Macedonia, very close to the border. It should also allow them to collect additional revenue. The opening of this lower airspace would hopefully also reduce the mileage for airlines: the current

routing increases flight time by 30 minutes for in and out bounds to Pristina. General aviation flights (both VFR and IFR) into Pristina which were banned since 1999 are now possible, but only with a special permit. There are currently no general aviation aircraft in Kosovo and the country has no national airline operators either.

Expectations are that NATO is unlikely to leave Kosovo any time soon, partly because Russia is currently increasing its presence in Serbia, especially in Nis, a city close to Kosovo's border in the north.



➤ The approach sector in Pristina
credit: DP

PRISTINA INTERNATIONAL AIRPORT ADEM JASHARI

Kosovo CAA has applied for EASA membership (not restricted to EU membership), which appears to be advancing. They've had two audit visits by EASA, which are prerequisite to a membership application. These identified some issues but corrective actions are planned and they expect progress in the very short term.

The working conditions for the controllers are relatively good, although salaries are quite low compared to the rest of Europe. Their union has negotiated a new collective agreement that is awaiting their DG signature. When this is done, it should keep the social peace for the coming years. The ANSP struggles because of the lack of revenue. The Kosovo controllers are all quite young, motivated to stay and develop their infrastructure. But fears are that if the country's isolation doesn't change, they would do like many of the young Kosovars: look for employment elsewhere, especially to places with higher salaries. Two of them have already moved to the Gulf and more are looking at the possibilities. ◀

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➤ Left to right: Philippe Domogala, Artan Hasanai (President Kosovo ATC association and union), Alban Sylaj (Manager Director's office), Bahri Nuredini (Director General of the Kosova Air Navigation Services Agency) and Merita Makolli (training Department)

credit: ASHNA

➤ An Adria CRJ900 at Pristina airport

credit: Primoz Jovanovic



FLYING INTO PRISTINA

➤ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

With the help of an old, well-connected Slovenian ATC friend, I managed to arrange a cockpit seat on both legs of my flight to Pristina. The flights itself was operated by Adria Airways, using a Bombardier CRJ900 regional jet.

It was a unique opportunity to be able to witness the special route needed to fly in and out of Pristina and hear the pilots' views on the local air traffic control service.

The route

Due to the fact that Serbia does not recognize the independence of Kosovo, flights in and out of Pristina are not allowed to overfly Serbian territory. This requires a by-pass routing system which adds roughly 30 minutes to each leg, easily verifiable from the on board flight management system: about one hour from our destination via the planned route, I asked the captain to select a direct to destination, which showed it was 28 minutes flying time from our position. The planned routing to avoid Serbian airspace was via Montenegro and Albania to the south to then turn back north towards Kosovo.

The procedure is awkward but every controller, especially the Kosovar ones are very flexible and often a vector and a shortcut is possible to ease the pain of the extra routing.

The city of Pristina is quite hilly and is surrounded by mountains and high terrain. This makes the approach itself a more complex – see the screen shot of the Approach plate – but on our flight, we were given vectors direct to base.

The airport

The airport is very modern, with a brand-new control tower and terminal. Traffic is however limited, especially during winter. On this particular day in December, only 15 commercial aircraft were planned for the day. During summer months, it roughly triples. The airport is also used for military operations, but these are rather limited at present: on the military apron, only a Slovenian Let401 and a few Swiss helicopters were parked. The flight was relatively effortless and discussing with the pilots, they all praised the professionalism and the flexibility of the local Kosovar

controllers: "They're always ready to help and give us directs whenever they can", according to one of them.

It was my first time in the cockpit of a CRJ. While the cockpit is very small, I have to say I was impressed by the aircraft's power and design. It seems the cockpit design team liked colours, as instruments are much more colourful than Boeing's or Airbus': beside different hues of red and yellow, there's also plenty of pink text. It looks nice but "different". Starting an engine takes all of five seconds and take-off acceleration is like a Porsche – despite the fact that we were at maximum take-off weight: the airline chooses to carry fuel for both legs, as fuel is too expensive in Pristina. After take-off, the aircraft climbs with a steady 1500-2000 ft/min. It's also noticeably quiet, both from the inside and on the outside. The version I flew on was equipped with a Head Up Display (HUD) and was certified for Cat IIIb operations. All in all, it's a very nice, modern aircraft. No wonder it sells so well...

A big thanks to everyone in Adria that made this trip possible especially captains Sosic, Gasperin and Majcen, and of course my old friend Dalibor. ◀

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SLATINA AIRBASE

➤ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

The Slatina air base complex is located beside Pristina airport, under a large hill just under 2 km from the main airport. The base was completed in the 1960s and was a smaller version of a similar, older complex in Yugoslavia: Željava Airport near Bihać, which is in present-day Bosnia. Before the Yugoslav military withdrawal, Slatina was home of the 83rd Fighter Aviation Regiment and its 123rd and the 124th squadron. These squadrons were equipped with MiG-21 Bis and MiG-21 UM aircraft.

The complex has a 300 m long hangar/tunnel carved into the hill. This main tunnel is connected to the main runway of Pristina Airport via two long taxiways. In practice, these taxi ways were used as take-off runways. Branching off from the main tunnel, there were a number of side galleries for the base personnel and pilots. The whole installation was designed to be able to withstand a nuclear attack. A shaft leads from the tunnels to about halfway to the top of the hill to the "control tower", which is really more of a bunker overlooking the taxi ways.

During the NATO operations in former Yugoslavia in 98-99, the 83rd fighter squadron of the Yugoslav Air Force was based in Slatina with six MiG-21s. They did not perform any sorties and did not suffer any losses during the NATO bombings of 1999. The six aircraft remained intact inside the base tunnel. When the NATO ground troops advanced on Pristina, British

paratroopers found themselves stopped by a battalion of Russian paratroopers that had taken over the base the night before. The stand-off lasted a few hours before a compromise was found. The troops in the base were evacuated and the six MiGs were dismantled and secretly sent to Serbia, using Russian trucks.

Following the cease fire, the base was abandoned and the entrances were sealed off with controlled explosions. One side has been reopened in the meantime though it remains closed to the public.

The former Yugoslav underground airbases such as Slatina and Željava were inspired by a Swedish one near Gothenburg (F 9 Säve) and may have inspired Hergé's for the launch site in his famous 1950s comic strip "Destination moon", one of the Tintin classics. ◀

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➤ To the left is one of the tunnel entrances to the underground airbase. Above are images from the operations inside the complex

credit: DP & internet

PERFORMANCE BASED NAVIGATION

BY JEAN-FRANÇOIS LEPAGE, IFATCA LIAISON OFFICER TO THE ICAO AIR NAVIGATION COMMISSION

As demand for air transportation services increases, controllers are faced with finding solutions to safely increase capacity, efficiency, and access to terrain challenged or remote airports. These constraints are largely a result of reliance upon conventional ground-based navigation aids, which limit routes and procedures to the physical locations of ground based navigation aids. These ground-based systems have served the aviation community well since inception; however, they do not permit the flexibility of point-to-point operations available with Performance-based Navigation (PBN) to meet the challenges of today and the future.

PBN details the performance requirements for aircraft navigating on certain routes, flying certain procedures or in a specific airspace. ICAO has put a lot of efforts in recent years to develop a globally harmonized set of PBN applications.

AN (ALMOST) ENDLESS NUMBER OF BENEFITS

No one will dispute that PBN has a large number of benefits and is helping the global aviation community. Implementation of PBN helps reduce aviation congestion, conserve fuel, protect the environment, reduce the impact of aircraft noise and maintain reliable, all-weather operations, even at the most challenging airports. It provides operators with greater flexibility and better operating returns while increasing the safety of regional and national airspace systems.

ICAO'S STRATEGY FOR IMPLEMENTATION

Resolution 37/11, adopted at the 37th ICAO General Assembly, urges

all States to implement routes and airport procedures in accordance with the ICAO PBN criteria. Since 2007, a lot of progress has been made, but there is still a lot to be done. And ICAO is not only looking at increasing the number of airports and routes based on PBN; the organization is also working on raising awareness on what PBN exactly is, and how it is supposed to support the work of pilots and controllers.

To this end, ICAO elected to offer an e-learning suite for PBN namely targeted to pilots and controllers. The controller course was developed in collaboration with IFATCA and was made available in the ICAO Store last May.

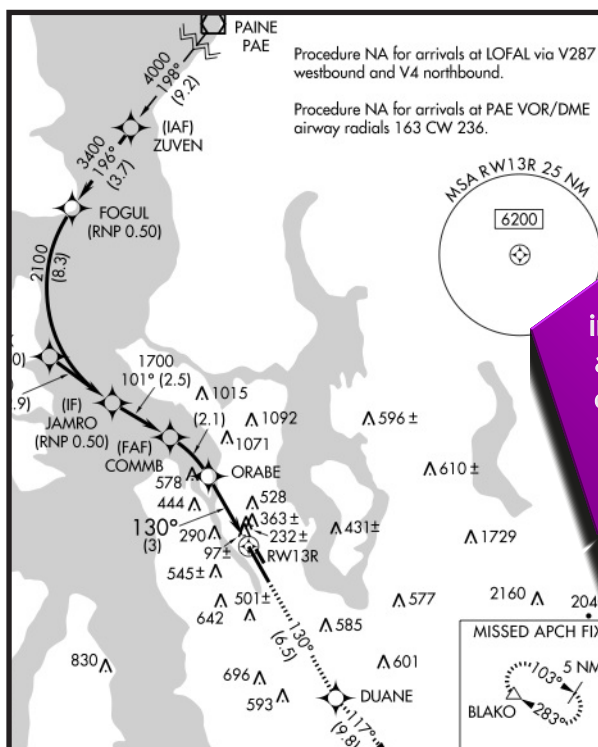
Captain Ian Knowles, Technical Officer, OPS & PBN, ICAO Air Navigation Bureau in Montréal, kindly agreed to answer a few questions regarding the development of this e-learning course for ATCOs.

JL: How did ICAO come up with the idea of offering e-learning courses for PBN?

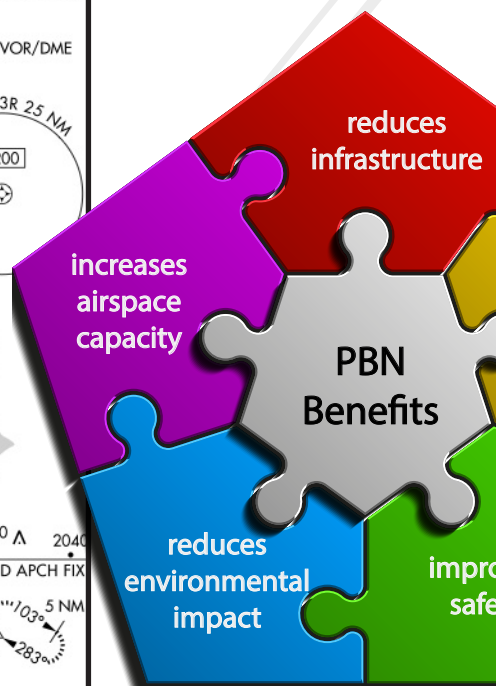
IK: ICAO established the PBN Programme office to assist States with implementation of PBN worldwide. Whilst there had been an ICAO expert group developing the concept (the PBN Study Group), implementation assistance was highlighted by the Regional Offices as an area that was in need of more work.

JL: Recently, a PBN course for ATCOs was added to the suite of PBN e-learning tools. Why did ICAO decide to add ATCOs to the list?

IK: It was recognized that lack of knowledge of PBN was one of the main barriers to implementation. In particular key operational personnel, pilots and controllers, needed to understand PBN in order to make sure any implementation would be a success.



With this in mind, the PBN Programme determined



that training for Pilots and Controllers was needed. In order to make this available to as many people as possible, an e-learning course was planned as this could be taken by anyone at any time, and would not be dependent on the availability of training resources.

JL: What can an ATCO expect to learn with this course? How much time is required for the total duration of the course?

IK: The course is intended to give a good overview of the use of PBN for air traffic controllers, and covers areas such as airspace design, flight plan requirements, charting and mixed mode operations. The course is intended to take around 1.5 - 2 hours.

On completion the controller should have a good understanding on how PBN fits into their area of work, and be familiar with the practical aspects such as how the use of different waypoints affects the performance of the aircraft in turns, and what this means for separation.

JL: What are the benefits for an ATCO to register for this PBN e-learning course? What can it bring to the controller's community?

IK: Increasing the overall knowledge of the controller community leads to a better understanding of what PBN can provide, and an understanding of what problems may be encountered.

This in turn results in greater controller confidence in using the new procedures which makes the successful implementation of PBN much more likely. This in turn will help to bring the benefits of improved efficiency and flexible routings that PBN offers. ◀

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HOW WELL DO YOU KNOW PBN? DO YOU NEED MORE INFORMATION?

What is PBN, exactly?

To make it simple, PBN redefines the aircraft's required navigation capability from sensor (equipment) based to performance based. The foundation for PBN is area navigation (known as RNAV). RNAV is a method of navigation which allows the aircraft to fly any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of both.

With more and more uses of RNAV, there was a need to define and standardize the capability. This has resulted in a menu of PBN specifications. For each specification (for example RNP4, RNP1, etc.), there is a lateral containment value that the aircraft must be able to remain within, in order to be approved for that operation.

What are the main benefits that result from PBN implementation?

PBN offers significant advantages over the legacy, sensor-specific method (which uses ground based navigation aids), to develop airspace, ATS routes, instrument flight procedures, and obstacle clearance criteria. Generally, the main benefits of PBN can be simply explained as follows:

- ➔ Increased airspace capacity;
- ➔ Improved operational efficiency;
- ➔ Improved safety;
- ➔ Reduced number of infrastructures to maintain;
- ➔ Reduced environmental impact.

Where can I find information on PBN in ICAO documents?

The main ICAO documents related to PBN are Doc 9613 (PBN Manual), Doc 9992 (Manual on the use of PBN in airspace design) and Doc 9997 (PBN Operational Approval Manual).

What is the ICAO PBN iKit? Where can I find it?

The ICAO implementation kit (iKit) was created in 2012 and re-edited in 2014 and seeks to organize ICAO documents and associated implementation steps related to PBN to provide all stakeholders with essential explanatory information, practical documentation and guidance material on PBN. The iKit reflects recent documentation revisions related to operational approvals, instrument procedure design and charting and navigation specifications. It also includes references to new ICAO products and services that help to expedite PBN implementation.

The iKit is available free of charge at the following address:
<https://www.icao.int/safety/pbn/PBNIKitV3/story.html>

For more information on PBN, visit the ICAO website at
<https://www.icao.int/safety/pbn/Pages/default.aspx>
or contact the program directly at pbn@icao.int.

The PBN for Controllers Course is available in the ICAO Store at
<https://store.icao.int/pbn-products.html>

INSIDE A TOC/PLC MEETING

► BY IGNACIO BACA, IFATCA EVP TECHNICAL

All the participants in an IFATCA Conference know about the working papers presented by the Technical and Operations (TOC) and Professional and Legal (PLC) committees. The way such papers are prepared is not so well known. Coordination meetings are fundamental and the last of them took place last December in Aruba.

The end of a Conference is also the start of a new working term for TOC and PLC. With the working sessions over, most of the delegates begin to think about the final plenary and the farewell dinner but for the members of the just renewed committees there is still one last special session to distribute the working papers. This is solved through a very informal meeting where the working papers are assigned. But developing a paper is not an individual effort. The rest of the members are always ready to assist via email and meet for coordination purposes twice during the working term.

The coordination meetings are a fundamental part of the TOC and PLC work effort. They serve as milestones: first coordination meeting is the opportunity to present an advanced draft and discuss

if it is going in the right direction and what outcome can be expected in view of the initial research while the second meeting deals with almost finalized papers to work in the final details. While the meetings themselves are a three-day event, the preparation starts long before the actual start of the meeting. A good example is the December 2017 TOC/PLC combined meeting in Aruba.

Step 1: Before the meeting

The first decisions to take when preparing a coordination meeting are where and when to meet. The December meeting was scheduled taking in account that the next Conference will take place in March 2018. Papers must be submitted two months in advance, thus meaning December was an obvious choice to have one month after the meeting to finish the papers and send them to the Office. Of course Christmas is not an option so the choice was the first half of December. Since a combined meeting was planned, we was decided that TOC would meet the 11 and 12 December while PLC would meet 14 and 15 December. It also meant one day could be dedicated to a joint session of both committees.

To decide where to meet, invitations from several MAs were studied. There are some constraints: there are two annual meetings and usually they take place in different regions. In December, for example, Europe was no longer an option because the first meeting of the year had been held in Germany. Cost, availability of flights, easy access to visas (or even better: not needing a visa at all), possible sponsorship from the local MA, needs of the local MA that might require help from IFATCA... everything is taken in account to select the final location.

Aruba was the final choice for several reasons: there are many flights from the most important airports of the USA, Canada and Europe, the visa policy is less restrictive than other options and finally, one of the most important reasons was the local MA wanting to meet the technical and professional teams of IFATCA to have their feedback regarding some issues in their transition to a new surveillance system. Once the location is chosen a convenient venue for the meeting is needed which basically means that a suitable conference room with a projector has to be available. It is rather common that the same hotel

► TOC/PLC members discuss working papers for the 2018 conference
Photo: IB





where the committee members stay provides the meeting room and such was the solution in Aruba.

While the chairmen arrange all these details, the committee members develop the working papers and submit them in advance to allow the rest of the members to read and comment on them. All the comments are evaluated to modify the working papers and prepare a final version to be discussed at the meeting. A good chair also has to actively participate in the commentary and development process to have a good knowledge of every paper when the meeting starts.

Step 2: The meeting

No matter how hard the committee members have worked at home there is always something to discuss about every paper. In a meeting like the one in Aruba, where all the working papers have to be finished, papers including policy are the most complicated ones. The wording has to be precise to cover every detail leaving no ambiguity and in addition new policy will be carefully reviewed during conference before approval. A long discussion during the meeting to have a clear policy proposal can save lots of time and work when the papers are presented at Conference. This does not mean that information papers containing no policy are treated lightly. Discussions during the meeting help to build solid papers and work as

good training in order to know what the presenter can expect during the Conference when the floor opens for questions.

The combined sessions where both committees sit together can be especially complicated. Not only because doubling the number of participants increases the length of discussions but also because they are dedicated to combined papers which need a level of prior coordination not easy to reach when the developers of the paper are scattered all around the world. In consequence, combined papers require extra work and time.

The participation in the discussions is not necessarily limited to the committees' members. The members of the local MA are always welcome to join them and participate actively in the meeting. Equally, the committees are also always willing to discuss any issue at the request of their hosts. During the Aruba meeting, for example, the local controllers were specially interested in the opinion of their visitors regarding the starting of operations under surveillance. The reason is that Aruba is implementing an ADS-B / Multilateration system and controllers will soon work in a completely new environment.

During this session the questions and opinions followed each other in quick succession: Would it be a good idea to provide surveilled approach from a position next to the tower controller? Is it

➤ Aruban colleagues took the opportunity to discuss with the TOC/PLC members

Photo: IB

better then to provide approach from a separate room? How is the refresher training in other countries? Did you participate in the design of new procedures?...

There is not a unique answer to every question but the personal opinions of the participants, their experience in similar situations in their own countries, are always of use to help their hosts to find their own way to tackle their issues.

Step 3: After the meeting

The work does not stop just because the committees' members eventually leave the meeting and fly back home. The policies have been precisely worded and all the papers are almost finished but sometimes they still need some final minor modifications and for sure all of them have to be properly formatted. Two months before the Conference all the papers have to be finalized and sent to the office but this is still not the end of the work. The preparation of the presentations for the Conference is another issue that keeps the TOC and PLC busy until all the papers have been presented. ◀

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ARUBA TOWER VISIT

➤ BY IGNACIO BACA, IFATCA EVP TECHNICAL

The controllers of Aruba organized a visit to the control tower for the TOC and PLC members during their December 2017 meeting on the island. It was an excellent opportunity to learn more about the peculiarities our colleagues face on a daily basis.

At first sight, Aruba can seem a paradise for tower controllers and not only because of the beautiful view from the tower: weather conditions are usually fine with no snow, no fog, no heavy rain, a wind that usually comes from the same direction so they barely have to change the runway some 20 or 30 days per year...

But just as every paradise has a snake, every air traffic control facility has its own challenges. Aruba winds come usually from the same direction but they can be strong and windshear is rather common. VFR traffic is also common and can complicate operation, especially when several VFR flights arrive suddenly in the middle of a peak period of traffic. The Arubean controllers face also some of the most common issues for air traffic controllers around the globe: staff shortages and need for refresher training are good examples of

the issues that were mentioned during the visit.

A new challenge is the implementation of a surveillance system based in ADS-B and multi-lateration surveillance (MLAT). At present the controllers are trialling it and training while they continue normal procedural operations for the moment, they will soon have to make the transition to surveillance service. April 2018 is currently foreseen for the formal start of operations.

With only 18 controllers, Aruba is one of the smallest associations in IFATCA but it has also an interest to be an active member of the Federation and their request to host a meeting and interact with fellow controllers is good proof of it.

Aruba may be too small to send a big delegation to Conferences but if the MA can't easily go to IFATCA activities, IFATCA will do its best to visit the MA.

On behalf of all the members of TOC and PLC, I'd like to extend our gratitude to Maryandra Schwengle, president of the local association of air traffic controllers, and all the Arubean controllers for their hospitality and assistance during the meeting and the visit to the control tower. ◀

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➤ The tower at Aruba's Queen Beatrix International Airport

Photo: © sunnya343, via wikipedia



➤ Controller working position in the tower.

Photo: IB



WEB-BASED AIRSPACE MANAGEMENT

BY CROATIA CONTROL, CROATIA

A need for a new means of communication between airspace users and the Airspace Management (ASM) organization arose with the implementation of the Flexible Use of Airspace (FUA). The Airspace Use Plan / Updated Airspace Use Plan (AUP/UUP) messages are mandatory information for all airspace users just as much as NOTAMs are. But in practice, many airspace users remain unaware of where and how to read/interpret them and what the implications are for their operations and activities in the airspace.

Having identified this urgent need for clear and unambiguous information, to enable the dynamics of ASM data (AUP/UUP, NOTAM) corresponding to the users' needs and to be able to implement the Advanced Flexible Use of Airspace (AFUA), airspace users need to be able to inform themselves about the airspace restrictions in real time. This also needs to target new and unconventional airspace users: generally speaking, they are also not very familiar with the rules of airspace usage and air traffic operations.

These issues are even more relevant in lower and uncontrolled airspace, as this tends to be more complex from the perspective of arrival and departure procedures for aerodromes. It obviously also has the greatest number of RPAS/UAS

operators and small airspace users are (general aviation, VFR flights, sporting and other activities, police, military, medical and firefighting flights), which contributes to the complexity of keeping all users safe.

What is the AMC Portal?

The AMC Portal is a web-based airspace management tool, developed by Croatia Control's ASM and IT experts. It provides relevant information to all airspace users in real time and enables direct communication between all airspace users and the ASM organization. By providing targeted information, it gives users the opportunity of making reservations of airspace by directly submitting a request and communicating with the ASM organization.

The tool is adapted for use on a wide variety of computers and mobile devices, with a special emphasis on smartphones and tablets (Android & iOS).

AMC Portal functionalities

All airspace users can use the tool to review the current status of the airspace and the planned airspace activities/restrictions. While it also provides easy access to the relevant textual NOTAM and AUP/UUP messages, it presents the practical implications for the airspace on different charts (satellite, VFR, IFR etc.) in 2D and 3D. This allows the users to quickly and effectively prepare themselves before conducting their own airspace activities.

Using a built-in messaging system, all users can quickly respond to the ASM organiza-

tion's tactical requests. Especially in case of contingency and a need for an urgent termination of activities, this is particularly useful for RPAS/UAS operators, and another way of putting safety first, while taking into account user needs and requests.

Along with the aforementioned functionalities, the AMC Portal is designed as a forum for the aviation community in the broadest sense, including new airspace users such as RPAS/UAS operators. It allows them to obtain general information, announcements of important events, an overview of the relevant aviation legislation, educational material and other useful material.

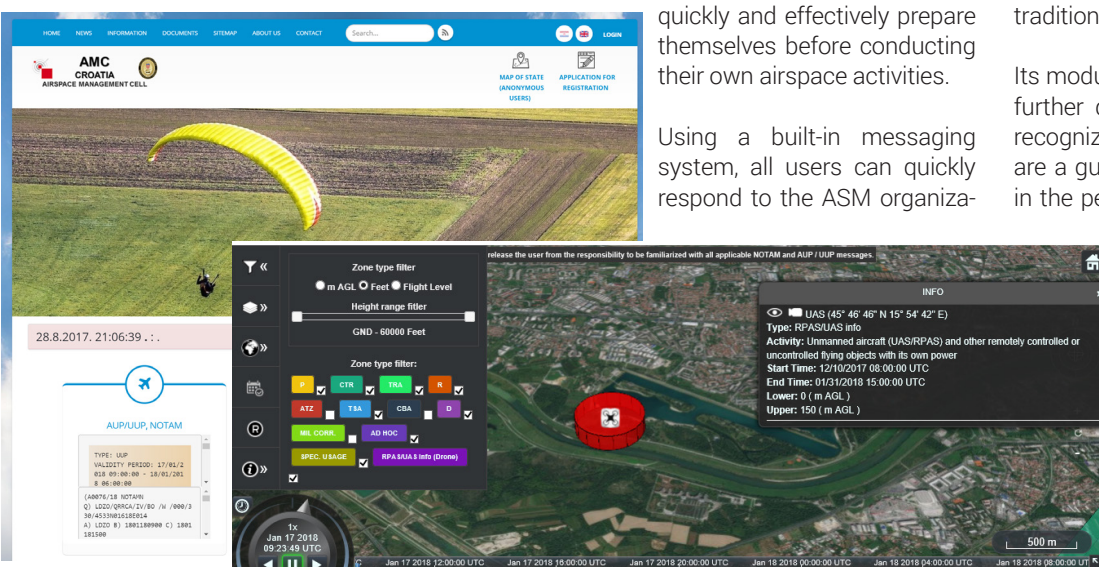
All relevant services required to issue an approval are centralized by the tool. At planning level, it allows an efficient analysis of the user's requests and provides for an unambiguous way to issue the required approvals to conduct the planned activities in a safe manner. Gathering all relevant services in a single place also allows to better monitor of user activities, particularly of any RPAS/UAS activities.

Conclusion

The AMC Portal, as a powerful airspace management tool, introduces an advanced level of flexible use of airspace. It goes a step further by including the RPAS/UAS airspace activities, which enables an increased awareness, and therefore increased safety level for all other, traditional airspace users.

Its modular design and the philosophy of further development, which focuses on recognizing and fulfilling the users' needs, are a guarantee of its indispensable role in the performance of airspace activities and the fulfillment of requests put in front of the airspace management organizations in the 21st century. ◀

More information via
<https://amc.crocontrol.hr/en-gb/>



ICAO STANDARD PHRASEOLOGY



BY JEAN-FRANÇOIS LEPAGE,
LIAISON OFFICER TO THE ICAO AIR NAVIGATION COMMISSION

No one will argue that communication between pilots and ATCOs is a process that is vital to the safe and efficient control of air traffic. Pilots must report their situation, intentions and requests to the controller in a clear and unambiguous way. Controllers must respond by issuing instructions that are equally clear and unambiguous. Although data link communication (such as CPDLC) has reached an advanced stage of development, verbal communication is likely to remain the prime means of air-ground communication for many years...

It is therefore important that ATCOs observe an irreproachable use of ICAO standard phraseology. A good radio discipline is essential in achieving efficient and safe communication. Standardised phraseology reduces the risk that a message will be misunderstood and aids the read-back/hear-back process so that any error is quickly detected. Ambiguous or non-standard phraseology is a frequent causal or contributory factor in aircraft accidents and incidents. Other factors such as the format and content of the message, language and the speed and timeliness of transmissions also make important contributions to the communications process. Finally, the read-back/hear-back process ensures that the transmitted message has been received and correctly understood.

The importance of R/T discipline

Standard phraseology is intended to be universally understood and followed. When RT discipline is relaxed by the use of non-standard procedures or phraseology, misunderstandings can arise. These misunderstandings have directly contributed to many fatal accidents or incidents. Conversely, the use of standard phraseology helps lessen ambiguities of spoken language and thus facilitates a common understanding among speak-

ers of different native languages or of the same native language, but who use, pronounce or understand words differently.

Non-standard phraseology has always been a major obstacle to effective communications. For example, the omission of key words may completely change the meaning of the intended message, resulting in potential traffic conflicts. Any message containing a number should indicate what the number refers to (e.g. a flight level, a heading or an airspeed). Inclusion of key words prevents erroneous interpretation and allows for effective read-back/hear-back. Particular care is necessary when certain levels are referred to because of the high incidence of confusion between, for example, FL100 and FL110.

By adhering to standard phraseology and technique, pilots and ATC can play a very important part in preventing accidents and incidents.

Standard phraseology can assist pilots in building up situational awareness of the other airspace users in their vicinity. By making standard reports and correctly carrying out read backs, the need for further confirmation by ATC from pilots is reduced, leading to workload reductions and a decrease in frequency congestion. Finally, potential errors by either ATC or aircrew can be detected and corrected.

The use of non-standard phraseology, inappropriate rate of speech, use of general aviation English in lieu of standard phraseology, slang, ambiguity in general aviation language and lack of harmonization are all contributing factors which increase the likelihood of communication errors. Accents, including native English accents and strong English dialects, difficulty for some non-native speakers in pronouncing English vowel-based words including the phonetic alphabet and non-

"In all communications, the highest standard of discipline shall be observed at all times."

ICAO Annex 10 Volume II, para 5.1.1

"ICAO standardized phraseology shall be used in all situations for which it has been specified. Only when standardized phraseology cannot serve an intended transmission, plain language shall be used."

ICAO Annex 10 Volume II, para 5.1.1.1

English speaker to non-English speaker communication can also play a role. Some factors are more difficult to address than others, but may be remedied in part through training.

Ways to improve radiotelephony and the use of standard phraseology

Always aim for accurate, brief, and clear transmissions. Listen carefully to transmissions and don't just 'hear' what you expect to hear. Also, before transmitting, listen out first. Ensure that you don't interrupt a dialogue or block another transmission. All instructions and clearances should be passed in a clear and unambiguous manner using standard phraseology. This is especially important for heading and level instructions which should contain the correct term (Height, Altitude, Flight Level or Heading). Additionally, limit the number of instructions passed in any one transmission to a maximum of three - ideally only two if practicable. Where there are large amounts of numbers to be passed, speak clearly and slowly. Finally, ensure that required read backs are obtained; when in doubt, CHECK.

It is OUR responsibility, as aviation professionals, to strictly adhere to the use of standard ICAO phraseology. The use of standard ICAO phraseology will improve communication and clearance understanding and thereby significantly reduce radiotelephony confusion. ◀

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CONTROLLER PROFESSIONAL STANDARDS IN NEW ZEALAND

➤ BY CHRIS MILLER, ATC PROFESSIONAL STANDARDS COORDINATOR, NZALPA

Air Traffic Controllers in New Zealand, like everywhere around the world, are proud of their profession. We want to ensure that the excellent reputation that we have in the aviation industry and society as a whole is maintained and enhanced. In order to achieve this aim our Association, NZALPA, has recently set up a Professional Standards Programme for Air Traffic Controllers.

The underlying philosophy of the programme is to set and maintain professional standards that go beyond the requirements of the Regulator and Company management. The programme aims to promote the highest level of professional conduct, as well as helping members resolve conflicts of a professional standards nature. This is done primarily through the provision of Professional Standards Volunteers, who help members address issues that have been historically left unresolved, which could lead to an undesirable pattern of behaviour developing.

We believe that this programme will be effective in changing unprofessional behaviour because a controller's peer is dealing directly with them to recognise and accept the unprofessional behaviour, and then, help them come up with a commitment and plan to change the behaviour.

There are some key points to our programme to ensure its effectiveness:

- It is confidential, assigns no blame or punishment and is a voluntary process
- Anonymous reporting is not allowed
- No records are kept

If a controller is concerned about a colleague's behaviour in the workplace they can access the programme by contacting the Professional Standards coordinator. They may be concerned because of a threat to our profession's reputation, or that a behaviour is causing some distraction within the unit. If left unresolved this

behaviour has the potential to escalate, maybe because the distraction turns to conflict, or outside agencies become aware of undesirable behaviour by an Air Traffic Controller. Whatever the reason, the Professional Standards programme is ready to step in before the issue grows into something big that has the potential to affect safety, reputations, relationships or careers.

A volunteer is assigned to contact the submitter and uses a checklist to gather information. This checklist covers any other attempts to deal with the situation. The volunteer gets an assurance of confidentiality, and explains that the case cannot be submitted anonymously. Our volunteers are trained in how to overcome any concerns about names being mentioned, but the lack of anonymity is still proving to be a barrier to people submitting issues.

The volunteer then contact's the controller who has been referred into the programme. The volunteers have been trained to handle this potentially uncomfortable situation in a sensitive manner.

The motivation of the person raising the issue is important. If a controller wants to get another controller 'into trouble', then the Professional Standards programme is the wrong place to go. The person submitting the issue wants a change in behaviour, either to ensure our profession's reputation is maintained, or to remove distractions and conflict from the workplace. While participation in the programme is voluntary, the person being referred will be reminded that their colleague is using the programme because they care about them, and they would prefer not to use traditional methods of dealing with these type of issues.

The volunteer works with the controller to hopefully recognise that their behaviour has had an impact on their colleague. If this is achieved then it should lead to the

controller coming up with a commitment and a plan to change the behaviour. This last part is crucial. It is up to the controller to come up with this themselves. If the volunteer does

not believe the controller is genuine in their desire to change the behaviour, then they must say so. The referred controller will be told that the case will be reported back as unresolved to the submitter, who can then decide how they would like to proceed with the issue. If the volunteer accepts that the desire to change is genuine, they will report to the submitter that the issue is resolved. When the volunteer reports back to the submitter all they advise is that the case is 'resolved' or 'unresolved'.

This is a simplified version on how a case may proceed, every case will be different and may require more than one conversation with each controller.

Our programme is off to a successful start, it has led to many conversations with my colleagues about professionalism. Ongoing promotion is required to ensure that our members understand the programme, and why using the programme can be an effective way of changing behaviours in a non-threatening and supportive way.

Please contact me if you would like to know more about our programme. We are indebted to our fellow controllers in NATCA, especially Garth Koleszar, for their support of our programme. As Garth says, we are the stewards of our profession, it's up to us, and only us, to protect it. ◀



➤ Chris Miller presenting at the Asia/Pacific Regional Meeting
Photo: NZALPA

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2017 CONTROLLERS' BASKETBALL CUP

▶ BY ALEKSANDAR MIŠKOVIĆ, ORGANISING COMMITTEE OF THE CBC TOURNAMENT

This year's CBC Touch and Go basketball tournament for Air Traffic Controllers was held from 22nd to 26th November 2017. Venue for the event was the charming and picturesque city of Sarajevo, the capital of Bosnia and Herzegovina. This year's edition lasted one day longer than the previous editions. This was inevitable due to the increasing number of participating teams. In total, there were 16 teams from 13 countries.

The teams got a warm welcome from the local controllers' association BHANSA. Competitors stayed at hotel Holiday, which also hosted athletes during the 1984 Winter Olympics. Fortunately, some time was also foreseen for leisure, sightseeing and a welcome party. In accordance with the tournament rules, the draw was held during the captain's meeting at the welcome party. The 'innocent' hands of the charming lady captains from the German and Czech teams drew the 16 teams into 4 groups.

The group phase kicked off on 24 November, in the Novo Sarajevo sports hall, a brand-new sports center in Grbavica. The teams started a little hesitant, trying to judge strength and tactics of their opponent. For these initial matches, the fans were also still a bit quiet and subdued, possibly also due to the local laws prohibiting alcohol at sporting events.

As the day went by, the games became more intense and the spectators cheering became louder and more involved with each slam dunk and airball. The first day ended in a great atmosphere, with an organized dinner, during which the captains planned their strategies for the following, and final, day of competition. The teams that ended last in their group would compete for the Anchor trophy; those that ended in 3rd place played for the Vase trophy. The top 2 from each group would play the quarter-finals of the main competition.

The second day had an early start, with the Anchor semifinals, followed by the quarterfinals of the main competition and the Vase semifinals. Then came the Plate semifinals for places 5 to 8, with the teams that had lost their quarterfinal game in the main competition. The first final to be played was the one of the Anchor cup, won by Ljubljana 1 against the team from Macedonia.

The match for 11th place between Athina Makedonia ATC and Milano Radar was won by Athina. The Vase final was played between Italy and Hungaro control, with Italy winning to take 9th place overall. The home team from Bosnia & Herzegovina ATC beat Germany's Airballs for the Plate Cup

The grand final for 1st place was the last game of the evening. In line with previous editions, the finalists were the team from Romania ATC and Belgrade 2. At the start of the game, both teams were well matched, but when one of the top players from Romania ATC, Angel

Large photo: © Mia Vinković
Inset photos: © Sladana Slubasic





Santana, took charge of his team, they quickly took the upper hand to add another victory for Romania ATC. It was their 5th in a row. Congratulations to Romania ATC for winning the tournament, but also to all participants who gave their best on the court and/or as a supporter. Friendship is of course the primary goal of all CBC Touch and Go tournaments and this edition was no exception!

A farewell party was held right after the finals in an old and famous beerhouse, Pivnica HS. The trophies were handed out while a live band was playing old and new hits until the early morning hours. It was testimony to our hosts' fantastic organization and hospitality, making everyone feel at home and wishing to visit Sarajevo again sometime in the future. We would like to thank the Czech Air Navigation Institute (CANI) for being our main sponsor this year, and making it possible to organize this tournament in Sarajevo. Our thanks goes as well to BHANSA for their contribution.

Hope to see old and to meet new friends next year, to spread story of friendship and fair play ,to share experiences from job and life, to make our chosen community grow. Several teams expressed their interest in hosting the tournament in 2018. A decision will follow soon – check out our **Facebook** page.

For 2019, Slovenia ATC has indicated they are willing to host the event. ◀

Teams interested to participate in future editions of the tournament, feel free to inquire via touchandgocbc@gmail.com or via the Facebook page

FINAL STANDINGS		
	RANK	TEAM
CBC TROPHY	1	ROMANIA ATC
	2	ATC BEOGRAD 2
	3	BULATSA
	4	CROATIA CONTROL
PLATE TROPHY	5	BIH ATC
	6	GERMANY AIRBALLS
	7	ATCAM HAWKS
	8	TEAM PRAGUE
VASE TROPHY	9	ITALY
	10	HUNGARO CONTROL
	11	ATHINA MAKEDONIA ATC
	12	MILANO RADAR
ANCHOR TROPHY	13	LJUBLJANA 1
	14	MACEDONIA
	15	ATC BEOGRAD 1
	16	LJUBLJANA 2



▶ Below is the winning team from Romania ATC

Photos: © Mia Vinković



THE CONTROLLER

2017 ASIA/PACIFIC REGIONAL MEETING

▶ BY MIKE O'NEILL, IFATCA EVP ASIA/PACIFIC

The meeting took place in downtown Wellington, the capital of New Zealand. About 100 people attended from across the region. Mike O'Neill, IFATCA EVP of the Asia/Pacific region chaired the meeting. Patrik Peters (IFATCA PCX & CEO) and Scott Shallies (IFATCA EVP Finance) also attended for the Executive Board. The theme of the meeting was "Automation and the Workforce".

NZALPA President and Chairman of IATA Ops Committee, Capt. Tim Robinson opened the meeting. The healthy union of aircrew and controllers that constitutes the membership of NZALPA demonstrates a very healthy synergy between these two professions and the effectiveness was evident in the organisation of the APRM and in technical discussions. Captain David Morgan gave a very enlightening account of industry expectations on ATC and aircrew given current and projected fleet growth when coupled with the rapid deployment of new technologies in aviation.

What is IFATCA?

On IFATCA's EB agenda was the topic of communication. PCX Patrik Peters outlined the structure of our Federation in an "IFATCA 101" presentation. From visiting MAs over the course of the last two years, it is apparent that there is a lack of understanding as to what IFATCA is, what it can do and most importantly that it is not a professional service delivered to the client. It requires participation and effort from the member associations if they want to realise the full benefit of membership.

Asia Pacific communications

Following Patrik's address, a session was spent on identifying the most effective forms of communication. In the short term, Asia Pacific WhatsApp and Facebook groups will be created to allow better access for members via smart devices online.

Philippe Domogala as always provided excellent presentations on the impact of automation in the development of ATC. He continued on day two with 'Emergency Communication' in particular where fuel is concerned. Paul Winstanley, representing the International Transport Workers'

Federation (ITF), supplemented Philippe's initial effort delivering on 'The impact of automation at the coalface' and how that is expected to impact ATC manning in the near term. He also gave an excellent presentation on UK ATM and how technology and ANSP commercial models have impacted the ATCO environment. Finally, IFATCA PCX & CEO Peters also presented on how to recognise and manage fatigue in an operational environment.

Professional Standards

ATCO Chris Miller introduced Asia Pacific to the recently introduced PROSTAN program now in place in New Zealand. It is a staff initiative adopted from the NATCA and other professional bodies to self-administer and monitor the professional behaviour and conduct of controllers and personnel in the workplace. It is a purely voluntary program, but it has received widespread acceptance for the results it delivers. In a nutshell, it provides the potential to overcome breakdowns in interpersonal relationships and provides an additional level of protection to individuals as well as maintaining harmony in the workplace.





➤ NZALPA President,
Capt. Tim Robinson



➤ IFATCA EVP Asia/Pacific,
Mike O'Neill



➤ Philippe Domogala



➤ IFATCA PCX & CEO,
Patrik Peters

Future Regional Meetings

Nepal had won the nomination to host the 2018 APRM in Kathmandu. Joe D'Cruz from our Malaysian MA made a very welcome return to IFATCA this year. He had indicated that 2018 was the 20th anniversary of their association MATCA. The delegation from Nepal graciously accepted to forego organising the 2018 meeting in favour of Malaysia. A motion that Nepal be returned the right to host in 2019 following this gracious side step was unanimously supported. The EVP Asia/Pacific called on all MAs to honour Nepal's gesture by requesting they run uncontested to host in 2019.

Thanks to the NZALPA executive board, Jim Dunn, Greg Okeroa, Jeremy Thompson, Eliza and their entire team for the enormous effort and generosity in hosting such a special APRM. ◀

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All photos NZALPA



AIR TRAFFIC CONTROL IN NEW ZEALAND

▶ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

New Zealand is the 6th largest FIR in the world: it stretches from the South Pole to almost the equator, ending just 5 degrees South of it. The FIR is 30 million square km! There are 350 controllers in New Zealand that control around 1 million flights a year. They are organized in an association-union, NZALPA, together with the country's airline pilots. This unique cooperation has lots of benefits and was motivated by a change in labour laws of NZ. You needed a certain minimum number of members to be officially recognized as a union. Both NZATCA and NZALPA did not have enough members collectively so they merged to be able to form a registered union.

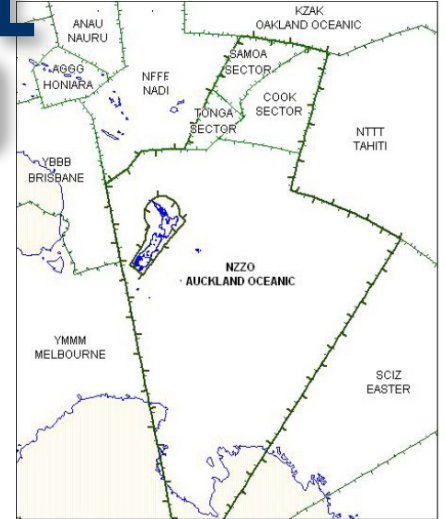
New Zealand had four control centres in the past: Auckland, Ohakea (military) and Wellington on the North island, and one in Christchurch on the South island. In the mid-1990s, a decision was made to rationalise the control centres: Wellington Centre closed and the controllers relocated to Christchurch. In 2000, the Auckland ACC closed its doors with the radar controllers moving to Christchurch. Shortly afterward the Ohakea Centre followed. While Auckland still hosts the Oceanic Sector, all domestic radar operations are now done from Christchurch.

Following a major earthquake hitting Christchurch in 2011 (185 people were killed), discussions about resilience started. Recently, these resulted in a decision

to re-open Auckland ACC and re-instate some sectors there while also acting a back-up/contingency centre. There are unfortunately not many volunteers among the controllers now to move again back to Auckland. Negotiations to resolve this are ongoing. The association is also concerned about the human factor implications of having sectors within the same airspace controlled from two different locations.

While on the flight deck on the inbound flight (see separate article), I noticed the use of pseudo-datalink (FMC reporting via ACARS). The pilots liked it a lot, but I wanted to know what the oceanic controllers had to say about it. It seems that they also like it as it reduces HF communications and congestion. It is integrated into their Oceanic system 95% of the time. It is also prone to fewer errors than reporting by voice on HF. The delay ACARS induces is not really relevant for position reporting because of the distances involved. The tolerance allowed for this (around a minute) poses no problems at all to the controllers for these types of transmission.

A new ATS system from Lockheed Martin is due to be introduced in 2020 to replace the current one.



The association is very active on the professional side. They decided to implement a Professional Standards (PROSTAN) program similar to what the pilots and NATCA in the USA have. This is proving to be very successful and very much supported by the controllers, though not by the employer, Airways NZ – see the separate article from their Project manager, Chris Miller, on this issue. The controllers in NZ enjoy relatively good working conditions and salaries compared to the general population and are considered as true professionals by the general public. An initiative such as ProStan will only reinforce this. I believe we should all embark in such programs in the future. ◀

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* One does not simply write about New Zealand without a 'Lord of the Rings' reference!

WELLINGTON: THE TWO TOWERS*

BY PHILIPPE DOMOGALA, DEPUTY EDITOR

Wellington airport serves the southern part of the North Island of New Zealand. The city is also the country's capital. It currently has two towers: the "old" one, which is currently still in use and a "new" one still under construction. The latter is nearing completion and should be up and running in early 2018. Both Towers are unusual, in the sense that their location is quite unique.

The "old" one was built in the 1950's in a residential area, surrounded by regular houses and villas, on a small hill close to the runway. To reach it you take a normal city road and climb up the hill, just like you would go and visit someone living in the area.

The "new" tower is being constructed right in the middle of a large shopping centre's parking lot. It's full of people unloading their shopping carts into their cars.

Both locations have their reasons of course. The main one being that the city has grown right up to the edge of the airport/runway and there are not many good locations available. Also, the tower cab needs to see both runway and manoeuvring area, so a certain height is needed, but not too high and too close in order not to infringe the height safety protection zone for go around in low visibility, and this limits further the possibilities.

Old tower

The building is old and it shows: the rooms are very small and moving around inside is not that easy. But the equipment is very modern: they work without paper strips and their touch screen system was upgraded by Frequentis in 2010). The system is linked to the one in the Christchurch ACC, on the South Island. It works very well and the controllers are quite happy with it. They also have a radar, but due to the terrain, it is not reliable below 500ft.

They have 22 controllers working there, for some 100.000 movements per year, i.e. between 200 and 300 a day. Most commonly, they have Boeing 737- Airbus A320 types serving both domestic and international routes. There's lots of traffic to/from Australia of course. The smaller communities are linked using ATR72 and Dash 8, the even smaller ones with PC12 and Caravans. Recently, Singapore Airlines has started operations using a Boeing 777, the largest type currently coming to the airport. There is also a local aero club, using small, single engines types. That means there's an interesting mix of traf-

fic. The runway is situated between two 1800 ft. hills, with the sea at both ends. There's lots of high terrain surrounding the bay and plenty of wind.

The approaches here are all visual or using ILS. More automated approaches, including auto lands are not possible here because the runway is constructed 20 feet above sea level, with a near vertical wall at the end. During the final approach, the aircraft radar altimeter, taking height from the sea, cannot cope with passing over that wall: it gives up and disconnects the auto pilot.



All photos: DP

Wind

"The main challenge here is the high wind", says Jeremy Thompson, who is a controller there. Wellington is known all over New Zealand for its windy conditions because of its proximity to the Cook Strait, the body of water separating the high mountain ranges of the North and South Island. Winds in excess of 50 knots are common and, on some days, it would gust at 70-80 knots at 1000 feet. "When this happens, you can have a Cessna Caravan taking off with a ground speed of 50 knots, and an Airbus on final doing 120 knots ground speed. In case of a go-around, this increases to 150 knots. So you can see the closing speed will cause a problem. In addition, the Caravan has to get above 2000ft before it can turn off the runway centreline due to the terrain around", says Jeremy.

New tower

This has an interesting shape too, leaning on the side like the Pisa Tower. But there is a reason for that; the architect said it is more resistant to the wind and most importantly provides natural protection from the sun and avoid reflections in the offices located in the floors below. All the walls are in glass. The control cab above is straight of course!

The construction is also unique. Wellington lays exactly on the main tectonic fault lines that run North-South through NZ. Chances of earthquakes is great there, so are associated Tsunamis. Because, interestingly enough, the bay where the airport is located was hit and partially destroyed by a Tsunami in 1855.

The new tower is built to resist both a major earthquake and a tsunami. The structure is mounted on a huge concrete block base, itself mounted on rubber isolators. In case of earthquake, the tower will move but not collapse. The tower cab is mounted on top of an iron mast, like an umbrella. The mast is strongly fixed to that concrete base. Tsunamis should pass below without affecting it.

The new tower is expected to receive the latest in tower technology. It is far bigger inside than the old one, more comfortable and will offer far better rest facilities than currently. The controllers are all anxious to transfer there in 2018. ◀

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Thanks to Tim Robinson, President of NZALPA, I was able to fly two legs on an Air New Zealand (ANZ) Airbus A320 flight deck. This gave me a chance to witness and discuss first hand their vision of ATC in that part of the world. The first leg was Sydney-Wellington, a 3 hour 20 min flight across the Tasman Sea.

We got our pre-departure clearance via ACARS. It had to be confirmed via radio but it's still a significant time-saver. We were assigned runway 34 right for take-off from Sydney, which meant it was a very long taxi from the terminal.

Brakes

One critical thing to watch out for on the A320 is the brake temperature: because of the relatively high residual thrust on those aircraft – even while idling on the ground – the brakes need to be frequently used to avoid taxiing too fast. This can result in the brakes getting too warm for take-off. When they reaching 300°C, the landing gear will refuse to retract due to the possible risk of fire in case of hydraulic fluid leaks onto the brakes. The only remedy is to postpone take-off until the brakes cool down again. It can of course also mess up a controller's departure sequence. Brake cooling fans are an option for the A320, but Air New Zealand does not have them installed due to the cost and increased weight penalty.

Fortunately, our brakes only got to around 260°C before we were cleared for take off. Our initial climb was to 5000 ft. "Always the same!", according to Captain Eric Fontein. "Inbound, everyone descends to 6000 ft. Departures climb to 5000 and we nearly always have to level off". Transferred to approach, we were re-cleared to FL250 and later to FL340, the requested cruising level. "We





are in RNP4 airspace, but we use RNP10", says Capt Fontein. "It is RVSM of course but if a single aircraft in the area reports severe turbulence, this gets cancelled and we all have to revert to 2000 ft separation". Some 200NM off the coast, we left radar coverage and we were transferred to Brisbane Centre (controlling the upper airspace) on good old HF!

Datalink?

The airframe was a 10-year old A320, which was not datalink equipped. But we have a satellite ACARS with Air New Zealand Operations. It's used as a so-called "pseudo datalink" or "poor man's datalink". The airline's operations department basically passes position reports via ACARS to the oceanic centres in either Brisbane or Auckland. It takes up to two minutes but it is fine for this purpose. Anything other than position reports is done via HF and SELCAL.

I asked why the aircraft were not CPDLC equipped. Not surprisingly, it's about costs. Using CPDLC is easier to get the optimum cruising level. But the routes are usually as direct as possible, so there's not much to be gained in asking directs. I am told the engines on the A320 are so efficient that the difference between optimum level and say FL290 is around 1% of

fuel. With flights to/from Australia around 3 hours long, they typically use 9 tons of fuel. At current prices, 1% is around 100 Kg and less than 100 USD. But 3 hours of satellite communications for CPLC can cost up to 500 USD, so it's not worth it. For long range aircraft such as the Boeing 777, it is different because it is 12 hours flights and they can save around 1 ton of fuel, which can be used to carry extra freight. That is much more interesting for the airline, so they generally equip for the long range fleet.

ADS-B

It is worth to note that the northern part of the Tasman Sea is covered by ADS-B, but the southern part isn't. A small island in the north provides a location for the antennas, but there's no suitable location for the southern part.

After 2,5 hours, we could clearly see the New Zealand alps with their snow covered peaks on the horizon. There's no RNP arrival in Wellington due to the mountains around and fact that the runway's specific position in relation to sea level, as mentioned in another article. For the moment, only Auckland, Christchurch and Queenstown have RNP approaches.

Wind

Starting our descent into Wellington, I noticed that the wind was quite strong: at 5000 ft, we still had 85 Kts! "These winds come from the strait between the 2 islands. It is normal here", says the Captain. We were cleared for an ILS APP to runway 34, so facing north. The reported surface wind was 280 with 25 Gusting 35 Kts, in other words a bit of cross wind and possibly even some wind shear to anticipate as the airport lies between hills, up to 1800 ft on each side and is open to the sea on both ends. Its runway is 2000m long, more than enough for our A320. Capt Fontein made a perfect cross wind landing. Waiting to disembark the aircraft, I asked him what he thought of ATC in the region in general: "In New Zealand, we are at home and ATC is excellent. Australia is also very good. It's when we go up north to smaller, independent islands that things get complicated sometimes. These small islands-states all have their own FIR and that can make things complicated for us. But overall, we cannot complain!" ◀

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FLYING VFR IN NEW ZEALAND



▶ BY PHILIPPE DOMOGALA, DEPUTY EDITOR

New Zealand is pure VFR country. I was only there for a relatively short time, so I only had limited time before and after the regional meeting to explore it from the air. Rather than trying to convert my license, I decided to fly with a local instructor. Thanks to Jeremy Thompson, former IFATCA Board member and local controller, I had arranged a flight with the local Wellington Aero Club.

The first nice surprise was to discover that they had a Chinese aircraft, a Nan-

chang CJ-6A. Even better, it was possible to fly it. It was an opportunity I couldn't miss and Andrew, the club's chief pilot, introduced me to the aircraft's particular features. All instrumentation is original and, naturally, in Chinese. That includes the attitude indicator, which is modelled on Russian logic: Blue on bottom, brown on top and with a fixed horizon: it is the aircraft symbol that moves. It's unusual at first if you are used to the western artificial horizon designs, but it's easy enough to get used to.

We took off at 150 Km/h (aircraft is metric) and with a good rate of 7 meters/sec (1400 ft/min). We cleared the first hills within a minute and Andrew handed me the controls. The aircraft was extremely smooth on the controls and very responsive. With 285HP it has enough power to perform all standard aerobatic manoeuvres easily. There's no vibrations and it is a very stable and very nice aircraft to fly. We headed for a nearby valley, where we did some rolls and low level flying over the rivers. Later, we entered a steep valley that

THE NANCHANG CJ-6A

The CJ-6 (Chuji Jiaolianji = Primary Trainer in English) is an all-original Chinese design that is commonly mistaken for a Yak 18A. Its predecessor, the Nanchang CJ-5, was a licence-built version of the Yak-18. However, advancements in pilot training brought a need for an updated basic training aircraft with improved performance and a tricycle landing gear.

Work on the design began in late 1957 and in May 1958 the program was transferred to the Nanchang Aircraft Manufacturing factory



where the CJ-6 would be produced. The first flight of the CJ-6 was completed on August 27, 1958.

Power for the prototype was provided by a Czech-built horizontally-opposed piston engine, but flight testing revealed the need for more power, so a locally manufactured version of the Soviet AI-14P 260 hp radial, the Housai HS-6, was substituted along with a matching propeller. With that change, the CJ-6 went into mass production. In 1965 the HS-6 engine was upgraded to 285 hp and redesignated the HS-6A, and the aircraft equipped with the new powerplant were designated the CJ-6A.



A total production run estimated at more than 3,000 aircraft supplied CJ-6 aircraft for China's People Liberation Army Air Force, as well as for export (as the PT-6) to countries including Albania, Bangladesh, Cambodia, North Korea, Tanzania, and Sri Lanka. ◀





After the visit, we took-off towards the famous Marlborough Sounds nearby to enjoy the beautiful landscape of these small islands and fjords, typical for this area. Leaving South Island and its snowy capped mountains behind, we crossed the Strait again, helped by a 30 Kts tailwind. The Wellington tower controller gave us a shortcut. We kept at 2000ft and were cleared directly onto a left base leg for runway 34. We had to slow down to let an Air New Zealand A320 take off before us and despite a bit of crosswind and light turbulence, we managed to land the good old PA28 smoothly on the centreline.

descended towards Wellington. The approach and landing were smooth and easy, despite having to stay a bit high to let an ANZ A320 land before us and a fresh wind (25 Kts). It's was a very nice experience all together!

The other flight was more conventional, using a good old Piper Archer PA28. Andrew acted as my instructor again and Jeremy came along. We had initially planned to go to a small island and mountain range towards the south but the gusting wind (25-35 Kts) forced us to revise our plans. Jeremy proposed we visit an aviation museum on a small airfield, Omaka (NZOM) on the South Island. This meant crossing the Cook Strait at 3000 ft, entering a valley, clearing some hills at low level to stay outside a nearby military airport control zone and landing on a grass strip. All this was uncontrolled, using only Flight Information Service. We covered the distance in less than one hour flying time. The museum itself is built around the private collection of WW1 aircraft

of Sir Peter Jackson, the famous New Zealand director of The Lord of the Rings films. In fact, the studios that made the decors for his movies designed the sets of this museum.

Landing in Omaka was relatively easy as they have 2 crossing runways, so a 25 Kts wind from 270 was no real factor when landing on runway 30. We parked beside an old Bristol Freighter and a DC3. The museum itself is a beauty to visit, the sets are truly impressive to see. The WW1 hall contains many original aircraft, some even in flying condition. A separate building covers WW2. Similar impressive visual set ups are used using Spitfires and Messerschmitt's and many other types, including a rare Stuka.



If you want to do the same, the Wellington Aero Club is the place. They are very friendly and their rates are comparable to what you see in Europe or the USA. They can be reached via www.flywellington.co.nz

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CHARLIE'S COLUMN

BY CHARLIE@THE-CONTROLLER.NET

Of eagles and planes

Eagle catches drone

Remember how the French Air Force and the Dutch police were training eagles to take out drones? Well, one year later the initial optimism about the project seems to have disappeared. Many birds lost more than a few feathers in duelling with the drones' propellers. As some of these turn in excess of 10.000 rpm, the poor birds were getting plucked.



Even on one of the initial brochures, they used one photo that could have given them a clue that props and birds do not mix too well, given the number of feathers flying around! The Dutch Police, who was using sea eagles, said the eagles were also becoming frustrated and even aggressive when things did not go their way – in other words, when they didn't catch the drone. That

seems to be a common trait for anything flying, as I know some human pilots doing the same when they don't get what they want!

Airbus catches eagle

Perhaps this eagle got frustrated when it missed a drone. Or perhaps it was a bit too ambitious... In any case, when this eagle decided to go for an Airbus 319, it can't have been thinking straight... As the saying goes: live by the sword, die by the sword.



And on the subject of birds, PPRUNE had this exchange:

Air France: Ah, control sir, we eat ze bird!
TWR: What did you eat?
AF: We eat ze bird.
TWR: Sorry, but what did you eat?
AF, slowly: I spell it W.E. H.I.T. T.H.E. B.I.R.D.
TWR: aaah, you hit a bird!
AF: Affirm, we eat ze bird!

Photoshop strikes again

A newspaper in Dubai reported that during the Dubai air show last November, the local airline EMIRATES ordered 40 new Boeing 787-10. The PR department, obviously in a bit of a hurry, tweeted this photo to announce the deal. We just hope that the US\$15.1 billion dollars includes two wings...



Reasons to ban smartphones on airplanes, part XXXI

On a long stretch from Doha to Bali on a Qatari Airbus 350, an Iranian lady patiently waited for her husband to fall asleep. She then used one of his fingers to unlock his iPhone via the fingerprint scanner on the device. Going through his mails or messages, she discovered that the husband was having an affair. Her reaction was to start beating the living daylight out of him.

The cabin crew tried to intervene but could not calm her down. Finally the captain had no other option but to make an emergency diversion to Chennai (India). After landing, the irate wife, the beaten up husband and their child were taken off the aircraft before continuing the flight to Bali. No charges were filed against the woman, but we understand the exchanges about re-booking the remainder of the trip were 'interesting'. ◀

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