Interplacement

The Safety and Technical Journal of IFALPA

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Charting a Course Together - Each Day Matters

In Madrid this year for the Federation's 70th Conference. Focus: Expanding the Global Voice



Laser Attacks on Aircraft

Capt. Craig Hall, IFALPA's Security (SEC) Committee Chairman, explains the danger of laser attacks on aircraft

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The International Federation of Air Line Pilots' Associations

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4 PRESIDENT'S MESSAGE

Capt. Don Wykoff's last message as President of IFALPA.

7 "ATYPICAL" EMPLOYMENT OF PILOTS ON THE RISE IN EUROPE - IFALPA'S ANALYSIS

The ECA organized a conference in Paris on the "atypical" form of employment in aviation. IFALPA attended the conference and provides an analysis.

11 COMMERCIAL AVIATION'S 2ND CENTURY: A VIEW FROM THE FLIGHT DECK

Capt. Don Wykoff delivered successfully the 11th Assad Kotaite Lecture at ICAO Headquarters.



Photo credit © Matej Kastellic (Shutterstock)

16 THE DIFFERENT FACETS OF MADRID

The IFALPA 70th Conference takes place this year in Madrid, Spain.



18 CHARTING A COURSE TOGETHER - EACH DAY MATTERS

The Federation kicks off this year's Conference with the 5th edition of GPS.

19 WHEN LASER "ATTACKS", COOPERATION IS NEEDED

Interview with Capt. Craig Hall, IFALPA's Security (SEC) Committee Chairman, about laser attacks on aircraft.



Photo courtesy of Felix Gottwald

The mission of IFALPA is to be the global voice of professional pilots by providing representation, services, and support in order to promote the highest level of aviation safety world-wide.

The purpose of this journal is to share technical and safety information to professional pilots all across the world.



Capt Don Wykoff President, IFALPA

We are all IFALPA: A Call For Unity

Soon we will meet for Conference 2015 to be held with our friends at SEPLA in Madrid, Spain. I hope you can join us in Madrid. There is plenty to discuss, starting with our fifth edition of the Global Pilots' Symposium (GPS) and continuing through plenary, committee and regional meetings. Your active participation is not only desired and important, but is essential to the success of IFALPA.

Over the past four years, I have often been asked what IFALPA is and what we do. But rarely am I asked "who is IFALPA"? So, who is IFALPA? The staff and officers? I think as we work through our agenda and topics this year in Madrid, we will simply see that IFALPA is all of us. I firmly believe that if there is one thing we have learned over the past decade, it would be the simple fact that when we work together in a well-coordinated, simply communicated manner, we find measurable success. When you ask yourself, "who is IFALPA?", please realize it is all of us, not just the elected committee chairs, regional representatives, executive board or staff, but each and every one of us. When we fully embrace that we are all IFALPA, only then can we achieve the unity and develop the synergy we must have to meet the challenges we face.

One of those challenges is the recent loss of Germanwings Flight 9525. When a loss like this occurs, it affects us all and what makes it particularly difficult is when the investigative process fails to follow internationally accepted standards. It is a disappointment to us all when CVR data is leaked or other evidence is prematurely made public, causing speculation with the potential to undermine a proper accident investigation. This is one of those times where we need to stand together with a single purpose and message to ensure that accepted standards of accident investigation are followed.

Speaking of unity and creating synergy, I think you will find the articles in this edition of *InterPilot* to be very helpful as we prepare to meet these challenges, starting with our work at this year's Conference in Madrid. Please review them as you prepare for Conference 2015 and beyond.

This is my last article as President of IFALPA. I want to take the opportunity to thank each of you for your support over the past four years. We have accomplished a lot together, but there remains much to do. As you select a new team and president, please give them the same support and friendship you blessed me with.

It has truly been an honor and a pleasure.

Capt Don Wykoff President, IFALPA

FEEDBACK

If you have any comments or suggestions regarding *InterPilot* and its content, please contact our Communications & Marketing Coordinator at *annalou@ifalpa.org*.

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NEWS

The North Atlantic (NAT) Region Updates



Captain Mike Hynes Regional Vice President North Atlantic (RVP NAT)

The North Atlantic (NAT) region continues to be one of the most active regional oceanic airspace sectors with over 400,000 operations recorded on the NAT tracks during 2014. The International Civil Aviation Organization (ICAO) office in Paris coordinates over 15 meetings yearly to support this level of activity. In addition, IFALPA representatives devoted over 60 volunteer days in 2014 to attend 11 different NAT communications, operations and safety meetings.

IFALPA's focus is primarily twofold: (1) monitor reported NAT deviations and errors to verify protocol compliance while maintaining the highest level of safety, and (2) ensure future plans to increase traffic levels with reduced separation minima.

Firstly, on the safety front, human errors of all types continue to be the primary causal factor observed in NAT Oceanic deviations. These deviations include: incorrect air traffic control handoffs, flight crews continuing on original flight plan routings instead of ATC issued track changes, misunderstandings during communications amongst radio operators, air traffic controllers and flight crews, and failure to properly follow company Oceanic procedures.

IFALPA has long supported the increased use of Automatic Dependent Surveillance (ADS) and Controller-Pilot Data Link Communications (CPDLC) to improve the level of safety throughout the Oceanic airspace. The increase use of these systems by operators and Air Navigation Service Providers (ANSPs) has resulted in a number of ATC interventions which precluded potential deviations and actual loss of traffic separation.

As of February 2015, the NAT Data Link Mandate (NAT DLM) within the NAT region became effective. This mandate requires all aircraft operating on the North Atlantic track system to be ADS and CPDLC equipped between the altitudes of FL350-390. Future expansion, in December 2017 and January 2020, will require ADS and CPDLC in all NAT airspace and altitudes.

Secondly, improved communications and position reporting between ANSP and aircraft will allow initiation of a Reduced Lateral Separation Minima (RLatSM) trial. Scheduled to begin in November 2015, evaluations will be conducted on reducing lateral spacing to 30 NM between Oceanic tracks. IFALPA has worked diligently to ensure proper ATC, and pilot procedures are developed communicated to stakeholders. A key provision, supported by IFALPA, is the increased use of "route" uplinks directly to the aircraft Flight Management Computers (FMC). However, a remaining concern is the inability of many FMCs to display the full thirteen-digit latitude and longitude coordinates utilized in Oceanic airspace. FMC software configurations result in various levels of truncation or rounding of entered coordinates for display to the flight crew. Potential errors can only be avoided by strict verification of coordinates by the flight crew. Alternative solutions continue to be evaluated by ANSPs, operators and regulators.

While the number of observed errors continues to remain low (99.99% level of safety), the potential of catastrophic consequences of an undetected error requires all users to maintain a high level of vigilance when operating in Oceanic airspace.



The European Cockpit Association (ECA) recently organized a conference in Paris where issues regarding the Atypical Employment in Aviation were raised and discussed. IFALPA attended the conference and provides *InterPilot* with an analysis.

An alarming number of pilots in Europe are working with no direct link to the airline they actually fly for, with airlines, especially in the low fares sector, drawing significantly upon a "casualised" workforce. This is one of the main findings of new research carried out by the University of Ghent (Belgium) and funded by the European Commission. The results come as no surprise to industry insiders.

ONE PILOT OUT OF SIX IS "ATYPICAL" EMPLOYEE

One of the pillars of the academic research was a survey among over 6,600 pilots flying for Europe's major carriers, including Air France KLM, SAS, EasyJet, Norwegian, Lufthansa, Ryanair, etc. While the majority of surveyed pilots (79%) still has a direct employment contract with the airline they fly for, a growing number of pilots are "atypically" employed. The research defines as "atypical" all types of employment which are different from the

standard open-ended direct labour contract with an airline. This includes self-employed pilots, fixed-term contracts or contractual agreements via temporary work agencies, zero-hours contracts and pay-to-fly schemes.

The study shows that atypical employment is largely a phenomenon of low fares sector. Hence, only 52.6% of low fare airline pilots fly under regular employment contracts, compared to 96.5% for network carriers and 92.7% for regional airlines. However, some low fare airlines (LFAs) seem to be able to compete without having to resort to such employment practices. The portion of pilots flying under a direct contract with their airline is 88% at easyJet, in comparison to 49% at Wizz Air, 34% at Ryanair, and 30% at Norwegian.

Employment via a temporary agency and self-employment, as well as employment via a company owned or co-owned by the pilot (often a limited liability company, which provides piloting services exclusively to one airline) are the most prevalent forms of such

atypical pilot employment. In low fare airlines, 16.7% of pilots fly via a temporary employment agency, 15.3% are self-employed and 11.0% are employed by their own company, vs. 1.7%, 0.6%, and 0.4% at network carriers and 1.3%, 2.9% and 1.1% for regional carriers

SOCIAL INSECURITY

The fact that companies are increasingly shopping for "cheap" labour has sparked worries across the aviation community. One of the main problems of these constructions is that to a certain extent outsourcing comes down to avoiding applicable legislation in terms of social security and tax legislation to the detriment of pilots and responsible airlines.

For pilots, "atypical" employment often means no clear idea where they should pay taxes and social security contributions. For example, in 2013, the homes of a number of pilots based in Germany and working for a low fares airline have been raided by the authorities

Next Generation Pilots Pay-to-Fly

The study reveals that the new generation of pilots – young pilots – are most vulnerable: 40% of all 20-30 year old pilots are flying without a direct employment contract. More than half of those pilots working at Norwegian, Ryanair, and other smaller European discount carriers, have been hired under "atypical" arrangements.

Faced with the difficulty of finding a job while having to pay back their pilot training loans, young pilots end up subsidising their employer, e.g. by paying the airline to fly its aircraft in order to gain flight experience ("pay-to-fly" schemes).

30,000 to 50,000 euro for type rating in addition to a huge debt is a reality for a large part of young pilots. But pay-to-fly schemes are neither "new" nor "business models". They are straight financial exploitation and are now growing exponentially in number.

as part of an investigation into alleged non-payment of taxes. The Ghent study quotes pilots testifying that this is one of their biggest "fears". Interestingly, over 20% of respondents in the survey did not answer the question where they pay their social contributions. This could indicate that they are not certain where to pay social security or an indication that they do not pay it at all. Social security inspections, which could flag out potential problems, are practically non-existent across Europe. Legislation, where it exists, is practically inapplicable.

EU Member States are exclusively responsible for some regulatory domains, including social and tax legislation. Yet, a patchwork of legislation, with the inevitable loopholes, is a reality in Europe. In this context, having elaborate subcontracting chains, social and fiscal engineering and even tax dodging by some airlines – without legislation to effectively remedy these issues – is quite worrying.

WIN-WIN FLEXIBILITY

These types of employment have been called into life initially due to demands for a higher flexibility for companies. So what is in for "employees"? Job security is certainly not "in", contracts for "services" can be terminated

easily. In addition, 80% of the low fare airline pilots have to pay for their own hotel room, 64% pay for their recurrent training and licenses, 62% for their crew ID cards and 59% for their uniforms. Over 90% of LFA pilots receive no per diem. There is not really a "win-win" potential related to "atypical" employment or self-employment, which one should normally expect in such situation.

Which brings us to question if the self-employment status of respondents is genuine in the first place. More than 25% of survey respondents state not to be able to amend instructions of the company based on safety considerations. Remarkably, over 90% of them indicate to they fly for a low fares airline. But there are other criteria to determine the genuine status of self-employed pilots: can they offer their services to other companies? Do they provide essential material for their work like an aircraft? Probably not.

AND THERE IS AN EVEN BIGGER PROBLEM: SAFETY

The potential impact of such employment and contract schemes on the crews' safety decisions and safety reporting is tangible and quite visible. Pilots' decisions – willingly or unwillingly – could be influenced by the fact that they are not paid for the hours when a

flight has been delayed, or fear of losing their job because of a decision which will cost the airline a stack of money.

Pilots are reluctant to take themselves off roster if fatigued or sick for fear of retribution. In some airlines, getting a captain's position is invariably conditional on a base transfer. The newly promoted captains will then work hard and avoid "creating problems" in order to secure a transfer (back) to their preferred home base, where they can try to establish a better work-life balance, says the research. Not to mention that subcontracting chains put pilots in extremely volatile and precarious situation, characterized by high dependency and little protection, often topped up by the threat of both civil and criminal liability.

Or the crew member might be under pressure to accept a one-sided zero-hours contract. While the contractor (i.e. crew agency) is under no obligation to offer them work, the self-employed pilot is under pressure to accept whatever work is made available, whenever it is made available. Safety and employment status are intertwined. A pilot should simply never have to face a situation in which he/she has to balance commercial considerations over safety.

This report acknowledges that atypical employment in aviation is on the rise. It has become the buzz word in the ears of most low fare airlines' CEOs, and many other airlines are considering it.

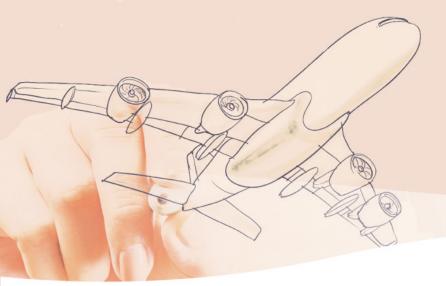
IS THERE HOPE?

There certainly is hope for European pilots. The research says it is past midnight and action is needed. Strengthening the social security law, its cross-border enforcement, tackling fiscal and social engineering and enforcing effectively existing legislation are just a few proposals put forward by the researchers. Strengthening safety management systems, safety report and setting up whistleblowing mechanisms to counter mala fide management styles are other steps to be taken. Now, the only thing that Europe needs is political will.

EVENTS

ATYPICAL EMPLOYMENT IN AVIATION

HIGH-LEVEL CONFERENCE



12-13 February 2015

Hotel Novotel Les Halles, Paris

An IFALPA delegation recently attended a two-day conference on Atypical Employment in Aviation on February 12th and 13th. Funded by the European Commission, the conference was organized by the European Cockpit Association (ECA), with the participation of the University of Ghent from Belgium, the Association of European Airlines (AEA), and the European Transport Workers' Federation (ETF). The purpose of the conference was to discuss the main findings of the atypical employment model study conducted by the University of Ghent.

Numerous issues were raised at the conference: Bogus self-employed pilots suffer from segregation, as they are considered a different category of pilots even within a single airline, which results in different treatment than their peers; and there is no direct

employment relationship. In one case used to illustrate this point, pilots were required to create a sham company in Singapore, which had them serve as its only employee leased via another agency to the airline – who had sole rights to their labour. Although they flew out of a European airport, they were officially based in Thailand. Many safety concerns were raised as being directly related to this form of "fiscal and social engineering" by representatives from the industry at the conference. As a result, the attendees proposed some actions to be undertaken; and IFALPA analyzes them:

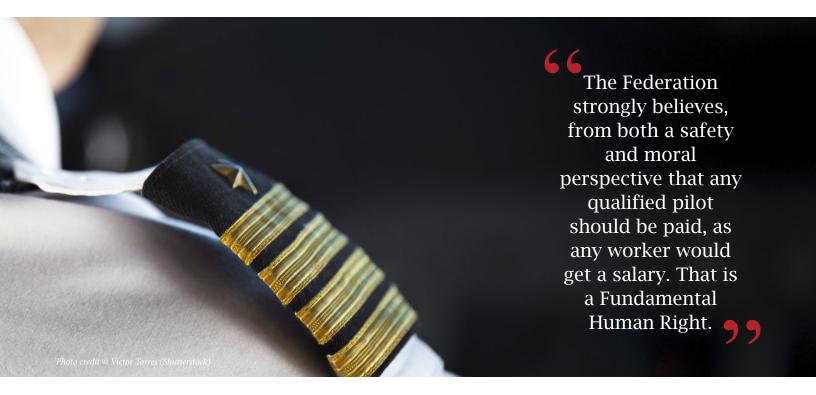
For the European Commission/European Institutions

The European model was heavily supported. A mature cooperation and negotiation between social partners at Company, National and regional levels, all need to be strengthened, not

undermined. The European Commission should be asking questions to the European Aviation Safety Agency (EASA), as to the effects of changing away from direct employment of licenced personnel on safety margins. The conference attendees were told that reporting cultures, safety decision making and safety culture were all undermined by the lack of direct employment. The State also lost significant revenue with the avoidance of tax and social security payments.

For Regulators, Civil Aviation Authorities

There are at least two additional events/ inquiries in the upcoming months that will address the implications of the "atypical employment" model. The first of these is an examination of the "safety implications of new business models in aviation", which is being conducted by the EASA via a working group. That working group expects to issue a working paper by the end of April of this year for review



by a broader group within EASA. The other event is a conference on "social dumping" in the transportation sector that will be held by the European Commission on June 2nd. These events, coupled with what appears to be an awakening of interest in the European Parliament about these employment models, suggest that the conference may have been a precursor to a heightened level of attention to this issue.

In particular, the notion of "bogus employment" (treating a pilot as an independent contractor when the airline dictates all the terms under which work will be done), "pay-to-fly" schemes (a growing phenomenon under which new pilots pay commercial airlines for the opportunity to sit in the right seat to build hours), and Norwegian's use of Asia contact/based crew were all particularly and widely condemned. With respect to all of these cases, concern was voiced about whether the independent judgment of the pilot involved, and thus safety, was being compromised. In Europe, the ECA is lobbying to ban pay-to-fly schemes within the continent and has enacted a policy in this regard. IFALPA supports this action, and on a more global basis, will put pressure on the authorities and the regulators to regulate the

market to avoid social dumping and precarious employment conditions. The Federation strongly believes, from both a safety and moral perspective that any qualified pilot should be paid, as any worker would get a salary. That is a Fundamental Human Right.

An International Aviation Convention, to copy the International Maritime Convention?

The International Maritime Convention (IMC) was concluded at the International Labour Organization (ILO) and social matters have been added in 2013. The IMC has been adopted by 65 States (each of the States has had the signature of the Government, the relevant unions and the ship-owners) and implemented in August 2013. Some argue that this would be the solution to achieve fair competition and a fair playing field for aviation. While the adoption of the IMC has been a positive development for the maritime industry, the standards it set are very low and were only adopted after the maritime industry was decimated by the widespread adoption of the "flag of convenience" business model.

With the growing removal of Nationality Clauses for Ownership and Control of

Airlines, other definitions are needed.

Under the guise of flexibility, pilots working in a trans-national airline are often denied social policy benefits and enforceable labour contracts. The notions of Home Base (which might define which country regulates social security), Principal Place of Business, and Operational Base (which might define the nationality of the labour contract), all need to be carefully evaluated as potential remedies for the negative employment side effects of economic liberalization.

To start legal actions on a national level when labour laws, international conventions, collective conventions or union rights are infringed by airlines, CAAs and/or Governments

Plaintiffs could be Member Associations, social partners, social security authorities, pension funds, taxation authorities, etc. The Courts need to ensure a fair and acceptable labour, and social jurisprudence, are set; and avoid the boom of contract pilots and crew of convenience such as in the case of Norwegian Air International (NAI) or Primera Air in Europe. Consistency from the authorities and the regulators is needed in this extremely dynamic and flexible industry.

Commercial Aviation's 2nd Century: A view from the flight deck

The Royal Aeronautical Society 11th annual Assad Kotaite Lecture was delivered by Captain Don Wykoff, IFALPA's President, at International Civil Aviation Organization Headquarters.



Captain Don Wykoff IFALPA President Executive Board

The named Lecture is held each year by the Royal Aeronautical Society (RAeS) Montreal Branch to honour the career of Dr. Assad Kotaite FRAeS who served as ICAO Secretary General from 1970 to 1976, helping to define its growing role in multilateralism and resolution of regional conflicts. As President of the Council of ICAO from 1976 to 2006, he was instrumental in guiding the organization to support the safe, orderly and sustainable growth of air transport.

Prominent aerospace leaders present on advanced international topics.

On December 3th, 2014, IFALPA President Capt Don Wykoff, delivered the 11th annual Assad Kotaite Lecture at ICAO Headquarters.

ECONOMIC LANDSCAPE

The futures of pilots as stakeholders and the airline industry at large are inextricably tied. A shared understanding of economic drivers is an important element of their engagement.

Legacies of the world financial crisis range from large private and public debt to high unemployment. These factors influence confidence, demand and growth.

The global recovery is uneven and its pace is increasingly country specific. The International Monetary Fund (IMF) reports that global GDP growth has slowed and has revised its projection downward to 3.3% in 2014 and 3.8% in 2015.

Geopolitical adversities and pandemic threats persist as factors of volatile share prices, sluggish production and lethargic exports.

However, the IMF notes that among advanced economies, the United States and the United Kingdom in particular are leaving the crisis behind.

Fuel costs have moderated due to weakening demand and increased production, crude down 16%; jet fuel down 12% and prices have stabilized. Passenger revenues show steady growth while cargo revenue recovery is promising.

Real GDP Growth and Projections

Source: IMF World Economic Outlook: Legacies, Clouds, Uncertainties (October 2014)

	2012	2013	2014P	2015P
World	3.4%	3.3%	3.3%	3.8%
Advanced Economies	1.2%	1.4%	1.8%	2.3%
United States	2.3%	2.2%	2.2%	3.1%
Euro Area	-0.7%	-0.4%	0.8%	1.3%
United Kingdom	0.3%	1.7%	3.2%	2.7%
Japan	1.5%	1.5%	0.9%	0.8%
Emerging & Developing Economies	5.1%	4.7%	4.4%	5.0%
Asia	6.7%	6.6%	6.5%	6.6%
Sub-Saharan Africa	4.4%	5.1%	5.1%	5.8%
Commonwealth of Independent States	3.4%	2.2%	0.8%	1.6%
Middle East / North Africa	4.8%	2.5%	2.7%	3.9%
Latin America & Caribbean	2.9%	2.7%	1.3%	2.2%
Central & Eastern Europe	1.4%	2.8%	2.7%	2.9%

IFALPA EVENTS

Register via the Members Area of the IFALPA website: www.ifalpa.org

HUPER/1 Committee Meeting May 9-11, 2015 - Vienna, Austria

ATS/1 Committee Meeting May 25-27, 2015 - Hong Kong

ADO Committee Meeting June 29 - July 1, 2015 - Seattle, Washington

AIRLINE INDUSTRY PERFORMANCE

The growth in premium traffic is outpacing that of economy travel which increased by 3.7%. Moreover, premium yields have been more robust so the premium revenue share has risen faster, to almost 29% of total revenue. Premium yields have been supported by the relative strength of longer-haul markets, with the strongest growth of larger markets seen on the North Atlantic, Pacific and Europe-Far East. In contrast, markets connected with emerging markets have generally been weak and some are getting weaker.

The growth in premium traffic is coming from accelerated long-haul growth, meaning that international revenue passenger-kilometres are growing much faster than passenger numbers.

Individual airline financials continue to improve but overarching concerns remain.

The airline industry is undergoing continued structural change to improve efficiencies and lower costs. The main focus is on consolidation and reduction of overcapacity.

Of particular interest is the performance of new and changing business models including low-cost, long-haul carriers and the role of government support, oversight and regulations.

Although the airline industry is expected to be profitable for the fifth consecutive year, margins are narrow. The 2014 net profit margin will be 2.4% on revenues of \$7.5 billion.

Despite historically cyclical fluctuations, air transportation remains resilient and growing.

However, the IATA 2014 Financial Forecast reveals a net profit of just \$5.65 per departing passenger on unit revenues of \$225.5.

Breakeven load factors (BLFs) are highest in Europe, a combined result of low yields due to intense competition - and high regulatory costs.

Middle East airlines have some of the lowest BLFs. Average yields are low but unit costs are even lower, partly driven by strong capacity growth; 13% in 2014. Post-tax profits are expected to grow to \$1.6 billion, representing a profit of \$8.98 per passenger and a net margin of 2.6%.

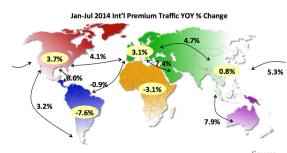
Latin American airlines faced weak domestic markets but limited consolidation and some long-haul success will boost net profit above \$1 billion this y ear, which is \$4.21 per passenger and a margin of 3%.

African airlines will post profits of just \$1.64 per passenger. BLFs are relatively low-since costs are low – yet few airlines perform profitably. Yields are improving but slowly.

FUTURE CHALLENGES

Air transport aspirations while involving pilots, are not pilot-centric. However, effective

achievement of objectives requires collaboration across the industry and among all its stakeholders.



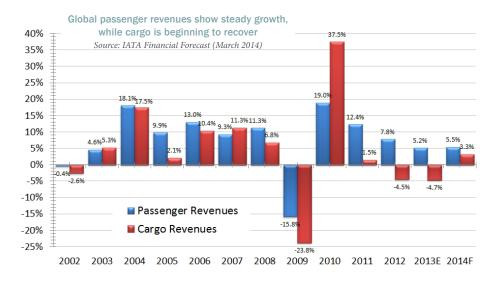
IATA Premium Traffic Analysis (July 2014)

The future holds several challenges awaiting resolution, including:

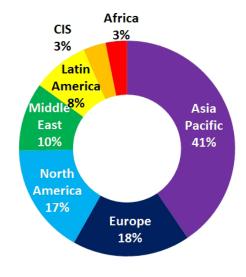
- Pilot recruitment and selection;
- Pilot training;
- Risk-based strategies for aviation safety and security;
- Airspace modernization; and
- · Emerging business models.

Pilot recruitment. Flight crew needed over the next 20 years for forecasted fleet growth and retirement is 533,000, up from the 2013 forecast of 498,000.

Asia Pacific remains the region with the highest overall demand, although the anticipated number of pilots required in the Middle East has increased significantly to match airline fleet expansion plans. Emerging markets that historically relied heavily on recruitment of pilots from outside their home markets will increasingly need a sound local



Pilot hiring needed for fleet growth and retirements, 2014-2033 [right] Source: Boeing 2014 Pilot & Technician Outlook



foundation for training and developing qualified pilots. The process is involved but often overlooked, assumed or forgotten. It is equally important to ask whether or not the industry and the profession of piloting is marketed appropriately and if career paths are optimized for limited resources.

Pilot training. ICAO has promulgated two competency-based training schemes: multi-crew pilot licensing (MPL) and evidence-based training (EBT). MPL introduces an alternative for ab initio student pilots to seamlessly complete a training programme leading to a type rating and line operations indoctrination training with a specific airline. EBT is a promising but as yet unproven method for the flight simulator training device (FSTD) portion of recurrent training. Upset prevention and recovery training (UPRT) should be included in all schemes to focus attention on associated threat recognition and prevention. Continued training in this area during type and recurrent training will enhance skills learned earlier in a pilot's career.

Risk-based strategies. Global initiatives such as safety management systems (SMS) and fatigue risk management systems (FRMS) have given rise to a useful framework for application and acceptance of similar schemes in future, recognizing that:

- Pilots fully support risk based approaches;
- Implementation of risk-based strategies is often a source of concerns;
- Collaboration between the regulator and the regulated is mandatory;
- A data-driven approach requires Just Culture;
- Certain cultures resist change and these will be a barrier; and
- Strategies must prohibit competition on safety.

It is implicit that the operator and regulator must be separated – they cannot be one – to sustain effective risk-based aviation safety and security strategies.

AIRSPACE MODERNIZATION

The ICAO consensus-driven Aviation System Block Upgrade (ASBU) systems engineering

modernization strategy strives to ensure that safety and operational improvements are globally harmonized, environmentally responsible and cost-effective.

Three initial priorities are agreed: performance-based navigation (PBN) RNP approaches with vertical guidance, continuous descent operations (CDO), continuous climb operations (CCO) and runway sequencing. ASBU initiatives clearly leverage the utility of existing onboard avionics.

Emerging business models. Rather than an expression of anti-competition, the call is for States to regulate with taxation, ownership and economic policies which promote a fair and equitable marketplace.

The case of nationally-owned or highly-subsidized versus unsubsidized carriers is an example worthy of closer scrutiny. State-owned enterprises operate under well-developed and favourable national aviation policy but private carriers generally do not. Over time, a number of airline operating models have emerged, with varying levels of success. However, ALPA is pressing the US Congress to pass legislation barring the



Unions and many US airlines argue that the illustrated scheme violates the US-EU open skies treaty which mandates carriers obey labour laws in the country of origin, while also skirting Norway's strict labour laws.

allocation of federal funds from being used to approve foreign air carrier permits for any airline thought to violate U.S. law. At issue is one carrier's plan to operate under an air operator certificate (AOC) issued by one European State to serve the United States from another European State with crews sourced there, elsewhere in the EU, the United States and possibly Asia. Attendant complexities obscure identification of which qualification, training, operating and employment standards apply and mask which State has effective oversight responsibility.

OPEN SKIES VS. FAIR SKIES

A strong international aviation industry is in the world's best interest. Efforts should not be to race and "open" a market for short term needs – create an environment where everyone can compete and provide consumers with durable products.

FLIGHT PLAN FOR SUCCESS

In concluding, President Wykoff offered a flight plan for successful development of future air transport, urging:

- Concentration on the 90% which is agreed, not on the 10% which is not;
- Involvement of all stakeholders in synergies which work to overcome resource limitations;
- Identification of stakeholder strengths and weaknesses – exploiting strengths to achieve goals and making changes which mitigate inherent weaknesses;
- Recognition of needed change, overcoming resistance to its inevitability and adapting to its outcomes;
- Measured acceptance of risk and unease to move forward, contending that comfort with the status quo may indicate a failure to recognize an insufficiency or need for change.

APPRECIATION AND CLOSING

Air Cdre EW Tyack CBE FRAeS, President, Royal Aeronautical Society, expressed appreciation for the Lecture, presenting Capt Wykoff with his certificate of Fellowship in the Society.

In closing, he noted that only two years remain until the 150th anniversary of the Society.

The RAeS Montreal Branch caters to the aerospace community across Canada. Those interested are invited to visit the Branch website at www.raes-montreal.org for information on activities or Society membership.

Capt Don Van Dyke FRAeS Permanent Representative to ICAO Chairman, RAeS Montreal Branch

This article has been edited by the author from the original published in the March 2015 issue of the RAeS *Aerospace* magazine.

IFALPA Human Factors Training in Tunis

Humans design, build, operate and maintain the aviation system. There is no doubt that the majority of aviation accidents and incidents have roots in human factors. With this realization, comes the revelation that quality human factors training is effective in improving safety.

In another effort to add aviation safety expertise to the Africa & Middle East (AFI/MID) Region, IFALPA, in cooperation with the University of Southern California (USC) Viterbi School of Engineering, had offered to its Member Associations a four-day training course, "Human Factors in Aviation". This course was part of an ambitious academic

program consisting of several aviation safety trainings in order to obtain the USC Aviation Safety and Security Certificate.

This training event in Tunis brought together 28 attendees from Kenya, Lebanon, Morocco, Serbia and Tunisia (combining members of Tunisia ALPA (FTPL), Tunisian Civil Aviation Authority (DGCA) and Tunisian Civil Aviation and Airports Authority (OACA), operator of airports and Tunisian airspace), thus accumulating a broad spectrum of aviation background and experience. Emphasis was placed on identifying the causes of human error, predicting how human error can affect performance, and applying



countermeasures to reduce or eliminate its effects. The course also addressed some of the topics recommended in the International Civil Aviation Organization's Human Factors Digest No. 3: Training Operational Personnel in Human Factors, and relied heavily on participation, case studies, demonstrations, self-assessment and practical exercises. This training and its great success would not have been possible without the utmost support and hospitality of FTPL as the hosting association. The series of IFALPA/USC training efforts continued, and the second course, scheduled for March 16th to 20th 2015 in Casablanca, covered "Aircraft Accident Investigation".

IFALPA Accident Investigation Training for AFI/MID

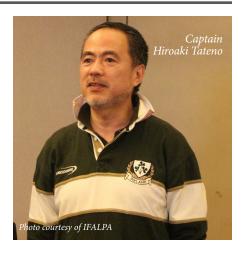
From March 16th to 20th 2015, IFALPA's Member Association in Morocco, AMPL, hosted a University of Southern California (USC) Accident Investigation Course at the Kenzi Towers hotel in Casablanca. The primary aim of this course was to train pilots from the African and Middle East (AFI/MID) Region and increase the number of local IFALPA-accredited accident investigators; it was very well attended and successfully completed by 39 pilots from 9 countries: Egypt, Kenya, Lebanon, Morocco, Senegal, South Africa and Tunisia, as well as from Germany and Italy.

The ALPA Japan Scholarship Fund was used to support participants. Captain Hiroaki Tateno, President of ALPA Japan, had been invited by AMPL as guest of honour and had travelled all the way from Tokyo to present the students with their course certificates, and to sponsor one of the group lunches on behalf of ALPA Japan. Addressing the audience in both, English and French, Captain Tateno stressed ALPA Japan's ongoing support of IFALPA activities, welcomed this new generation of accident investigators and encouraged them to

consider their certificate as an important step in their engagement with IFALPA and their own Association.

The course itself was run by two outstanding instructors from USC, Mr Greg Phillips and Mr Keith McGuire, whose vast experience with the NTSB, great teaching skills, sense of humour and personal touch made it both effective and entertaining. Captain Arnaud du Bédat, IFALPA's Senior Technical Officer, thoroughly briefed the attendees on the goals of the course, the IFALPA accreditation scheme, the various commitments expected from the graduates and IFALPA's activities and initiatives in the field of flight safety and accident prevention.

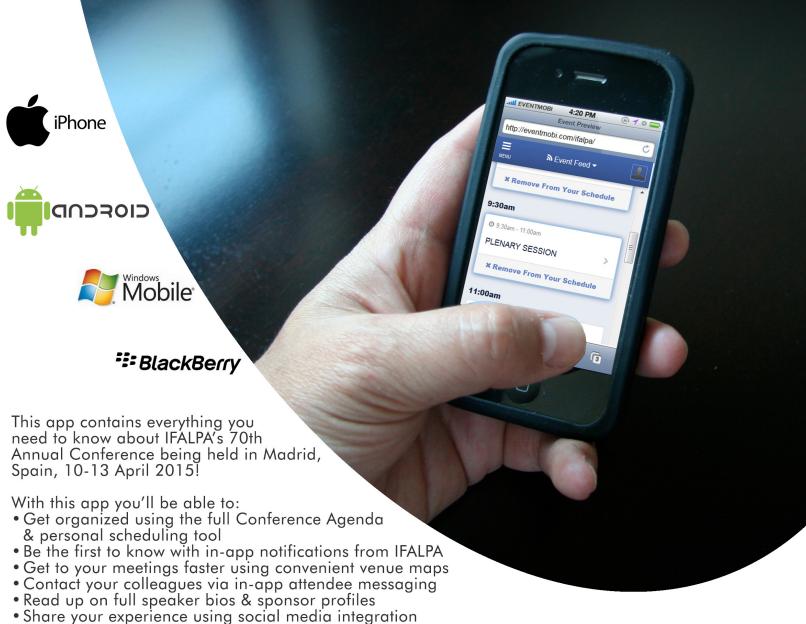
With the support of Captain Souhaiel Dallel, Executive Vice President AFI/MID, and the IFALPA Montreal office under the direction of Mr Christoph Schewe, Managing Director, the local preparation and logistics of the course were very efficiently handled by Captains Leila Bougja, Mustapha Serraj and Brahim Tahiri, as well as by the technical staff from the Kenzi Towers. Captain Najib Al Ibrahimi, Vice Chairman of IFALPA's Accident



Analysis and Prevention (AAP) Committee, acted as coordinator for the various presentations. There was unanimous recognition of AMPL's organization skills and outstanding hospitality, which once again demonstrated the strong potential of Casablanca as a venue of choice for IFALPA meetings and training.

Finally, Captain Fadi Khalil, President of the Lebanese Pilots Association (LPA) used the opportunity provided by the big attendance from the AFI/MID Region to officially invite IFALPA's AAP Committee to meet in Beirut next year, in order to keep the momentum started by the course. This kind invitation will be considered by IFALPA's Executive Board at their next meeting in June.

The Conference at Your Finger Tips!









The IFALPA 70th Conference takes place this year in Madrid. Discover this cosmopolitan and inviting city which has much to offer.

adrid is known as a cosmopolitan city for a reason. It is a place where modernity and tradition are blended perfectly well together, giving it a rich cultural heritage which has helped shape its identity. Madrid welcomes people from all the corners of the world making everyone feel at home with its diverse tasty cuisine, numerous shopping outlets, and extensive green areas; without forgetting to mention the hospitality of its inhabitants.

HISTORICALLY ARTISTIC

Although Madrid is considered to be one of the most contemporary cities in Europe, it has not lost its historical and cultural legacy. In the maze of the streets are located the most emblematic spots of the city: Palacio Real, Plaza Mayor and Plaza de la Villa, where modernity and tradition are fused together. Visitors will enjoy discovering the splendors of the Palacio Real and Plaza de la Villa, as well as the lively atmosphere of the Plaza Mayor where all kinds of events and celebrations are held. The streets have become a great showcase accessible to all, where historic and vanguard architecture provide the perfect backdrop. For art lovers, the Padro, Reina Sofia Art Centre and Thyssen-Bornemisza museums showcase incredible masterpieces that are a must-see.

EXQUISITE CUISINE

Madrid's gastronomic cuisine faithfully reflects its outgoing, diverse and innovative character. Traditional culinary delights are valued as highly as the very latest tendencies. Some of the world's most innovative chefs have placed the city firmly at the forefront of international cuisine. Locals and visitors alike sample and applaud their latest accomplishments while still enjoying their favorite traditional tapas. This approach to good dining has given rise to a wide variety of superb restaurants. Indeed, Madrid boasts over 3,000 such establishments, including traditional taverns, century-old restaurants, gastro bars and Michelin-star restaurants.



"Crystal Palace" located inside the Buen Retiro Park

bottom Plaza Mayor





SHOPPING FOR EVERY TASTE

Madrid is often described as a vast shop window where visitors can buy almost anything and everything at prices suitable for all budgets and tastes. The city offers many possibilities of shopping experience. The major shopping district extends towards Plaza de España and Princesa Street.

The ABC Serrano Centre, the Mercado de Fuencarral, and La Vaguada are just a few of the large shopping malls in the city. Visitors will also find many department stores and internationally known clothing stores, such as Zara and H&M, in the central area around Gran Via, Plaza Mayor and the Puerta de Sol. The Slamanca neighborhood is the place to go for fashionistas seeking the latest designer trends. However, there are many charming and family-owned boutiques around the city that cannot be missed, as well as the renowned open-air market El Rastro.

OWL CITY

Magical and never-ending, Madrid's nightlife unveils many opportunities to create unforgettable memories. Morning is the best time to enjoy nature, have a drink in an outdoor café or practise some sport. In the afternoon, entertainment shows begin all around the city, especially along Gran Vía. Once the sun goes down, visitors are faced with an infinite choice of nostalgic cafés, terraces, pubs, flamenco haunts, clubs, and bars where they can spend the night until sunrise

GREEN CITY

Feel the need to escape from the hustle and bustle of the city life? Madrid does not disappoint in terms of having numerous green areas and spaces where one can enjoy a relaxing afternoon under the blue sky. The Buen Retiro Park is without doubt one of the best options to momentarily escape from the frenzy of the city. Known as the emblematic green space of the metropolis, it is frequented every day by visitors and locals alike due to its unspeakable beauty. At the entrance of Paseo del Prado, Madrid's main boulevard, is located the Royal Botanical Gardens. One can stroll along the paths surrounded by an enormous variety of trees and plants from all corners of the globe and have their senses stimulated in delight. The majestic beauty of Madrid's green spaces makes it one of the greenest cities in the world.

A PASSION FOR SPORTS

The city's passion for sports is unquestionable. Visitors can indulge in practically all kinds of sport activities. Examples of the city inhabitants' devotion towards sports are the weekly sell-out matches played in the iconic football stadiums of Real Madrid and Atlético de Madrid, and the massive participation in the San Silvestre Vallecana running race. No wonder Madrid is experienced in organizing major sporting events such as the Mutua Madrid Tennis Open.



Charting a Course Together - Each Day Matters



WHAT IS GPS?

The Global Pilots' Symposium (GPS) is the result of a joint initiative between the International Federation of Air Lines Pilots' Associations (IFALPA) and the three largest global pilot alliances: the Associations of Star Alliance Pilots (ASAP), the OneWorld Cockpit Crew Coalition (OCCC), and the SkyTeam Pilots Association (SPA). The purpose is to bring pilot leaders from all across the world together to exchange ideas, share experiences and provide solutions to help maximize returns on strategic decisions. This one-day event will enable panelists and attendees to engage in thought-provoking strategic planning for dealing with challenges and opportunities facing our industry. They will also collaborate to build strategies for the future of the piloting profession.

CHARTING A COURSE OF ACTION

The fifth edition of GPS will take place this year in Madrid, Spain, on Thursday April 9th. Pilot leaders can expect, after the symposium, to be equipped with tools to develop and implement strategic action plans that advance favorable aviation policies and regulations.

Participants will explore key policy and regulatory challenges in the industry and will analyze information regarding the challenges and opportunities related to advocacy efforts. Since building relationships between labour, management, and government is critical to affect change, case studies demonstrating how these relationships work will be discussed at the symposium.

In order to help build an effective program, resources will be provided by the keynote speakers and panelists, but for a successful advocacy campaign, leveraging grassroots member involvement is vital. GPS will deliver real-world examples that illustrate how advocacy works, because the future is about taking action—charting a course together to make a difference by building relevance and influence.

CONFERENCE PROGRAM

WEDNESDAY, APRIL 8TH

14.00-17.00 Registration

THURSDAY, APRIL 9TH

8.00-18.00	Registration
09.30-10.30	The Global Pilots' Symposium
10.30-10.45	Comfort Break
10.45-12.00	The Global Pilots' Symposium
12.00-13.30	Lunch
13.30-14.30	The Global Pilots' Symposium
14.30-15.00	Coffee Break
15.00-17.30	The Global Pilots' Symposium
16.00-18.00	Standing Committee Chairmen's
	Meeting

IFALPA Welcome Reception

FRIDAY, APRIL 10TH

18.00-20.30

07.30-09.30	Registration
08.30-09.00	Conference Officers' Briefing
9.30-11.00	Plenary Session
11.00-11.15	Comfort Break
11.15-12.30	Plenary Session
12.30-14.00	Lunch
14.00-17.00	Regional Meetings
19.00-22.00	Hospitality Event by VNV

SATURDAY, APRIL 11TH

09.00-11.30	Plenary Session
11.30-11.45	Comfort Break
11.45-13.15	Emergency Response Plan Seminar
13.15-14.30	Lunch
14.30-16.00	Presidents' & Chief Delegates's Meeting
15.00	Afternoon Free
17.00	Nominations for Executive
	Vice-President (Region) and Regional
	Vice-President positions close.
18.30-19.15	Pre Awards Dinner Reception
19.15-00.00	Awards Dinner

IFALPA Office Open

SUNDAY, APRIL 12TH

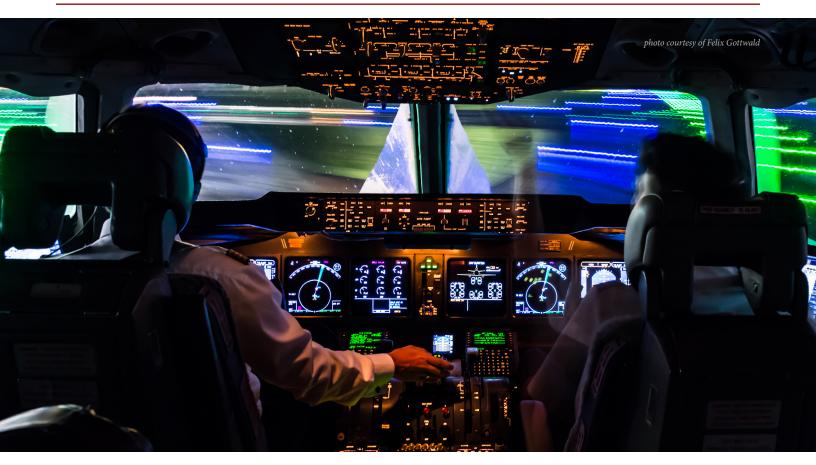
09.00-15.30

10.00-12.15	Committee Sessions
12.30-13.00	Regional Elections - EVPs & RVPs
13.00-14.00	Lunch
14.00	Afternoon Sponsored Event
17.00	Nominations for Executive
	Committee Officers and Standing
	Committee Chairmen positions clos
21.00	Alpha Omega Club Dinner

20.00-23.00 Hospitality Event by IFALPA

MONDAY, APRIL 13TH

09.30-10.30	Presidents' & Chief Delegates' Meeting
10.30-13.00	Plenary Session
13.30-14.30	Newly Elected Officers' Briefing



When Laser "Attacks" Cooperation is Needed

ne of the areas of concern that the IFALPA SEC Committee has been dealing with for a long time now is the issue of laser attacks on aircraft. Capt. Arnaud du Bédat (ADB) recently spoke with Capt. Craig Hall on this topic.

ADB: The issue of laser attacks has been a thorn in the side of the world-wide piloting community for many years, has it not?

Capt. Hall: Arnaud, that's an understatement if I have ever heard one! Many pilots know first-hand what it's like to get hit with a powerful laser. Of particular concern are hits that occur in the most critical phases of flight, namely the "safety window" during takeoff and landing. It is during these phases of flight, especially landing, that the greatest potential for a catastrophic hull loss and attendant loss of life is most apparent.

In this edition of *InterPilot*, Capt. Craig Hall, IFALPA's Security (SEC) Committee Chairman, explains the danger of laser attacks on aircraft and how the combine expertise of major international stakeholders can help solve this issue.

ADB: Just how prevalent are these attacks, and which way are the trends pointing?

Capt. Hall: Based on the International Air Transport Association (IATA)'s STEADES database, the daily incidence is still on a sharp increase and has been so for the past five years. Latest numbers, and extrapolation of these numbers, lead to the conclusion that we have seen a world-wide rate of occurrences rise from one per day in 2008 to 12 per day in 2010, and 17 per day in 2012. These attacks are increasing, in part, because of the ease of availability of these units and their relatively low

cost. Of great concern is the trend to more powerful lasers being readily available; ones that are capable of emitting light from all ranges of the spectrum, including invisible light. One can readily see that the potential for a catastrophe has greatly increased and continues to do so.

ADB: Do we have a good idea of the effects of an attack on the ability of a pilot to safely operate his aircraft? By that I mean a good handle on what percentage of these attacks can seriously impair the ability of the crew to carry out a safe landing, for instance.

RISE IN US LASER INCIDENTS Incidents between 1980 - 2010

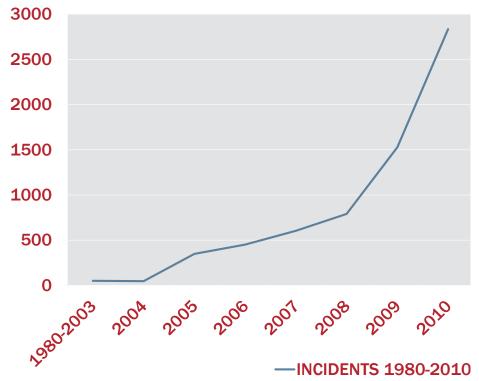
Capt. Hall: We do indeed. We know that in a typical laser attack, momentary incapacitation occurs in 62% of cases. In a further 19% of cases, this incapacitation lasts up to a full minute. In a further 15% of cases, it lasts up to 45 minutes. And in 4% of cases, it last over two hours. Correlating these statistics with the number of attacks that are occurring worldwide on a daily basis, we can therefore conclude that in a given year, we will see 400 attacks where crews suffer impairment/incapacitation on a scale serious enough to significantly compromise their ability to carry out a safe and successful landing.

ADB: There are a lot of lasers out there. Which ones are we most concerned with, and can we look at instituting controls on their purchase and possession?

Capt. Hall: Many States have done just that, although with the number and variety of units out there, that's not going to be an easy task. I can, however, provide a few examples.

In 2008, the Australian government announced that it would restrict the sale and importation of lasers that emit a beam stronger than 1 Mw. Some Australian provinces have also issued their own legislation, expanding upon these restrictions. In 2011, Canada introduced new regulations controlling the importation and sale of portable laser pointers. In the Netherlands, it became illegal in 1998 to trade Class 2 laser pointers that are "gadgets" (e.g. ball pens, key chains, business gifts, devices that could end up in children's possession, etc.). The trade of lasers of less than 1 Mw is allowed, but they have to meet requirements regarding warnings and instructions for safe use in the manual. Trading of Class 3 and higher laser pointers is not allowed. Sweden requires a special permit in order to own a laser pointer with a classification of 3R, 3B or 4, i.e. over 1 Mw. The UK and most of Europe are now harmonized on lasers of less than 1 Mw (Class 2 lasers). Anything above 1 Mw is illegal for sale in the UK, although import is unrestricted. In the United States, lasers capable of more than 5 Mw may not be sold or promoted as laser pointers and require certain safety features to be installed.

ADB: You refer to these incidents as "attacks". That's a powerful word.



• SYD

• LGW

• YUL

Source: STEADES Analysis/IATA/AEA

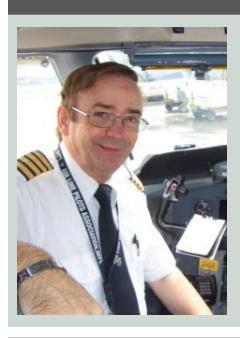
Top Ten Cities with Laser Attacks Outside U.S

- LHR London HeathrowDVB Dubai, UAE
- YYZ Pearson Int'l, Toronto
- MEL Tullamarine, MelbourneGLA Glasgow Int'l, Glasgow
- NAP Capodichino, Naples
- LCY London City, London
 - Kingsford Smith, Sydney London Gatwick, London
 - Trudeau Int'l, Montreal

Source: STEADES Analysis/IATA/AEA

Capt. Hall: Yes, and we intentionally use that word. In our view, the word "attack" perfectly describes the use of a laser deliberately aimed at the cockpit of an airliner. The author of this action is, or certainly should be, fully aware that a laser can have serious debilitating effects on the crew. And yet with malice aforethought, he chooses to aim his laser and activate it. I can think of no better word than "attack" to describe such an action.

This is why we introduced a Working Paper calling for the inclusion of laser attacks in the International Civil Aviation Organization (ICAO) definition of an "act of unlawful interference" at the last meeting of the ICAO AVSEC Panel. Our paper was circulated to IATA, EUROCONTROL, and the NEASCOG (NATO EUROCONTROL Air Traffic Management Security Coordinating Group) who agreed to endorse and jointly present our



Capt. Craig Hall is the current Chairman of the IFALPA SEC Committee. He was first elected to the Chairmanship at the 2011 IFALPA Conference in Thailand and re-elected in Dublin in 2013, and has been a Committee member representing Canada since 1994. Widely regarded as a leading expert on a broad range of security issues, Capt. Hall has forged critical relationships for ALPA-I with other airline security stakeholders.

The gravitas that Capt. Hall brings to aviation security was particularly evident in 2007, when the Canadian Commission of Inquiry sought his testimony as part of its evaluation of airline security improvements since the 1985 bombing of an Air India flight. In his testimony before the Commission, Capt. Hall discussed the RAIC program and challenged the

Canadian government to do more to screen passengers for intent to do harm through behavioural evaluation as opposed to simply screening for objects.

Capt. Hall has also presented ALPA pilots' perspectives in the Canadian and international news media. His testimony before the Air India inquiry was covered by numerous news organizations, including the National Post, the Vancouver Sun, the Toronto Star, and CBC television.

Capt. Hall served ALPA pilots as the Association's National Security Committee Director—Canada, and was awarded the ALPA Security Award in 2008. An avid fan of the NHL's Edmonton Oilers and the CFL's Edmonton Eskimos, he resides in Sherwood Park, Alberta, Canada with his wife and son.

[...] we will see
400 attacks where
crews suffer impairment/incapacitation
on a scale serious
enough to significantly compromise
their ability to carry
out a safe and successful landing.

paper. The paper was well received, and although not adopted, gained significant support amongst many States.

ADB: You say that the paper was "well received" but not adopted. That really doesn't sound all that positive. Can you expand on that a bit?

Capt. Hall: The paper served a very useful purpose, in that it's the first time that this issue has

been discussed in this amount of detail at ICAO. The addition of laser attacks as an Act of Unlawful Interference would have been a gigantic step, but was not one that some States were comfortable with. Unfortunately, many States still consider this as a "safety" issue and not a "security" issue, which is a position that we fundamentally disagree with. Safety is tasked with preventing accidents. Security is tasked with preventing attacks.

ADB: So, was anything significant achieved by the introduction of this paper, other than to just raise the awareness amongst States?

Capt. Hall: Absolutely. One of the biggest challenges that we have is that many - in fact most - States do not criminalize laser attacks. As a result of our paper, we (along with the other presenters of the Working Paper) were able to convince enough States of the seriousness of this issue that a request was put to the AVSEC Panel to issue a State Letter to all ICAO Member States. This State Letter informed all States that the Panel considered this issue a serious one, and called on those States who do not criminalize these attacks to enact legislation in their respective criminal law that would address this shortcoming; and to those States that do criminalize these attacks, to ensure that appropriate penalties for conducting such attacks are applied.

This gave our individual Member Associations a very valuable tool that they can take to their respective governments and, where nec-

essary, call upon them to take the appropriate action. Governments regard State Letters very seriously, and I consider the issuance of this State Letter to be a significant development that will be of great assistance to us.

ADB: It seems that this is significant in another way; it highlights the things that can be accomplished when different stakeholders can come together to achieve a common goal.

Capt. Hall: I couldn't agree more. In fact, this is a great example of precisely that. We have always worked very well with IATA. We don't agree in all areas, but we have always had a great deal of common ground. In this case, we were also able to partner with other international organizations that have great gravitas of their own. When you combine the expertise and reputation of these four major international stakeholder organizations, it provides a significant uplift in our ability to present our positions in such a way as to give them the best chance of success. In this case, the fact that we were able to coordinate this successfully made a huge difference; in fact, it's entirely possible that a paper presented by IFALPA alone would simply not have had the desired effect.

I also have to say that a lot of people worked very hard on this coordination, including key members of the SEC Committee and our IFALPA staff. They deserve a ton of the credit for this paper, and made my job of presenting the Paper a much easier one than it might have been.

The International Federation of Air Line Pilots' Associations





The International Federation of Air Line Pilot's Associations represents over 100,000 pilots and flight engineers in almost 100 countries.

The mission of IFALPA is to be the global voice of professional pilots by providing representation, services and support in order to promote the highest level of aviation safety worldwide.

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