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AVIATION

AIR MEDICAL ASSISTANCE: AN UNCLEAR SCENARIO

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Introduction

Each year nearly three billion people travel by air on domestic and international airlines. The International Air Transport Association (IATA) has predicted that in the coming two decades, the number of passengers would double. A global increase in travel, as well as an increasingly aged population in many countries, makes it reasonable to assume that there will be a significant increase in older passengers and passengers with illness. Modern commercial aircraft are very safe and, in most cases, considerably comfortable. However, air travel, in particular over long distances, exposes passengers to a number of factors that may have an effect on their health and well-being. Passengers with pre-existing health problems are more likely to be affected and should consult their doctor or a travel medicine clinic in good time before travelling. Health risks associated with air travel can be minimized if the traveller plans carefully and takes some simple precautions before, during, and after the flight. In 2005 the World Health Organisation (WHO), in collaboration with IATA and the International Civil Aviation Organisation (ICAO), prepared a document on air travel and relevant health considerations[1]. The main factors that can influence the passenger's health are:

- Cabin pressure: although aircraft cabins are pressurized, cabin air pressure at cruising altitude is lower than air pressure at sea level. At typical cruising altitudes in the range 10,500–12,000 metres (35,000–40,000 feet) air pressure in the cabin is equivalent to the outside air pressure at 1,800–2,400 metres (6,000–8,000 feet) above sea level. As a consequence, less oxygen is taken up by the blood and gases within the body expand. The effects of reduced cabin air pressure are usually well tolerated as cabin contains ample oxygen for healthy passengers and crew. However, because cabin air pressure is relatively low, the amount of oxygen carried in the blood is reduced compared to sea level. Passengers with certain medical conditions, in particular heart and lung disease, and blood disorders such as anaemia, may not tolerate this reduced oxygen level (hypoxia). Such passengers are usually able to travel safely if arrangements are made with the airline for the provision of an additional oxygen supply during flight.
- Gas expansion: as the aircraft climbs, the decreasing cabin air pressure causes gases to expand in accordance with Boyle's Law (Pressure x Volume = Constant). Similarly, as the aircraft descends, the increasing pressure in the cabin causes gases to contract. This can cause problems to individuals with ear, nose, and sinus infections.

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- Cabin humidity and dehydration: The humidity in aircraft cabins is low, usually less than 20% while in the home is normally over 40%. Low humidity may cause skin dryness and discomfort of the eyes, mouth and nose.
- Immobility, circulatory problems and Deep Vein Thrombosis (DVT): prolonged immobility (especially in long haul flights) may cause problems, especially for people who have suffered from previous DVT or pulmonary embolism, or for pregnant women.
- Psychological aspects: travelling by air is a stressing activity for many people and may lead the passenger to a disruptive behaviour that can be dangerous for the safety of flight.

Other minor factors identified by the WHO are: jet lag, cosmic radiation, diving (before flying). The same document of the WHO also considers the case of passengers with reduced mobility that need to move on a wheelchair and be assisted during the flight.

The WHO document recalls that airlines have the right to refuse to carry passengers with conditions that may worsen, or have serious consequences, during the flight. Airlines may require medical clearance from their medical department/ adviser if there is an indication that a passenger could be suffering from any disease or physical or mental condition that: i) may be considered a potential hazard to the safety of the aircraft; ii) adversely affects the welfare and comfort of the other passengers and/or crew members; iii) requires medical attention and/or special equipment during the flight; iv) may be aggravated by the flight.

In 2003 the Aerospace Medical Association has published a more detailed analysis – compared with the WHO document - on medical guidelines for airline travel[2].
Finally, in 2004 the British Medical Association, with the contributions of many external experts, published another important document analysing the passengers' eventual diseases that may negatively affect the safety of flight. The document offers a precise description of "*aviation and physiology*" and a useful in-flight management of medical conditions[3], including visual impairment and hearing impairment.

The regulatory framework

Airlines tend to facilitate passengers with "*reduced mobility*" (this term includes sensory or motor impairment) to travel by air to increase the number of their clients. Besides the problems created by factors connected with flying, the increased threat of terrorism has created additional problems for passengers with some medical conditions. This is most apparent for those who wish to carry sharp items in their hand luggage, such as hypodermic needles for use by insulin dependent diabetics or oxygen for respiratory diseases or simply liquids. In the US, the Transport Security Administration (TSA) has issued specific guidelines for acceptance of such items, which include requirements for a covering letter from the treating doctor and a pharmacy label on all medications.
ICAO has not yet paid any attention to the health issues. For this reason, governments have generally prioritised safety (and other ICAO requirements) on the aircraft and the aerodromes or air navigation services, but with little attention to health of passengers. European Union and the US have instead given a considerable attention to this matter.

The main European Union provisions are those contained in the Regulation No.1107/2006/EC of 5 July 2006[4]. Recitals therein stress that *"…disabled persons and persons with reduced mobility, whether caused by disability, age or any other factor, should have opportunities for air travel comparable to those of other citizens". Therefore: "assistance to meet their particular needs should be provided at the airport as well as on board aircraft, by employing the necessary staff and equipment. In the interests of social inclusion, the persons concerned should receive this assistance* ***without additional charge"***[5]. To finance such assistance the Regulation provides that *"The managing body of an airport may, on a non-discriminatory basis, levy a specific charge on airport users for the purpose of funding this assistance"*[6]. And *"For the purpose of funding either of these, the managing body may levy a charge on the air carrier additional to that referred to in Article 8(3), which shall be transparent, cost related and established after consultation of the air carrier concerned"*[7].

The Regulation defines *"disabled person or person with reduced mobility any person whose mobility when using transport is reduced due to any physical disability (sensory or motor, permanent or temporary), intellectual disability or impairment, or any other cause of disability, or age, and whose situation needs appropriate attention and the adaptation to his or her particular needs of the service made available to all passengers"*[8]. On 11 June 2012 the Commission published a Staff Working Document containing guidelines for the interpretation of Regulation 1107/2006/EC[9]. Nevertheless, some provisions or definitions still remain unclear like, for example the definition of "disabled person" (Q1 page 2) and the medical assistance on board (page 8, point b). Despite from Whereas (1) and (4) it seems that assistance should be offered without additional charge, the Staff Working Document states that *"Air carriers may choose to provide oxygen directly to the passenger. However, there is no obligation on air carriers to do so. Where oxygen is provided directly, the air carrier may charge for its provision. Where charges are imposed for the provision of medical oxygen, carriers may wish to consider offering it at a discounted rate. Carriers have to publish the cost of this service as part of the rules and restrictions applicable".*
Actually, oxygen for passengers with respiratory problems is offered for free by some airlines (Etihad, British Airways, Vueling, Air Baltic, Tarom) while other airlines (Air France, Alitalia, Lufthansa) require a contribution that varies from €200 to €350 per leg, that looks unreasonable in respect of the actual cost of the service. This happens despite the Regulation 965/2012/EC states *"There shall be a sufficient number of oxygen dispensing units, but in no case less than two, with a means for cabin crew to use the supply"*[10], service that should be at no cost for the passenger.

The same Regulation 1107/2006/EC suggests that *"In organising the provision of assistance to disabled persons and persons with reduced mobility, and the training of their personnel, airports and air carriers should have regard to document 30 of the European Civil Aviation Conference (ECAC), Part I, Section 5 and its associated annexes, in particular the Code of Good Conduct in Ground Handling for Persons with Reduced Mobility as set out in Annex J thereto at the time of adoption of this Regulation"*[11]. The main attention has been given to the assistance to be provided to passengers during the flight, considering the particular conditions existing in an aircraft cabin in respect of ground, but it is clear from the above that the assistance has to be offered also at the airport by its managing body[12].

Article 4 of the regulation provides for cases of denied boarding to a person with reduced mobility on the ground of the same reasons foreseen by the WHO document mentioned here above.

Finally, Article 16 of Regulation 1107/2006/EC establishes that Member States have to set up rules on penalties applicable to infringement of the Regulation. Regarding this matter, it is worth to recall a case occurred in the UK whose judgment was issued in 2014[13]. The case concerned a man with a serious disability who could not be seated next to his wife during the flight, as regularly requested in advance to the air carrier. The issue was whether a court may award damages for a claimant's *discomfort and injury to feelings* caused by a breach of the UK Disability Regulations, implementing Regulation 1107/2006/EC. The conclusion of the court was that any such award is precluded by the Montreal Convention, as adopted in the EU by the Montreal Regulation No 2027/97 on air carrier liability in the event of accidents, as amended by Parliament and Council Regulation (EC) No 889/2002"). The conclusion of the Court was that the claim was outside the substantive scope and/or temporal scope of the Montreal Convention, according to the proper interpretation of the scope of that Convention.

Assistance provided by airport and airlines

The assistance provided by airport normally concerns persons with reduced physical mobility, i.e. persons who need a wheelchair and an assistant assuring a smooth embarkation and disembarkation. Procedures are normally easy, requiring only a notification of the person's particular needs to the air carrier for such assistance to be provided 48 hours before the published time of departure of the flight. The situation is more complicated when the assistance is requested for sick persons during the flight. The airline is responsible for carrying its passengers safely and efficiently to the destination. The airline has no real means of ensuring that all passengers are fit to begin their journey. The medical department is responsible for ensuring, as far as possible, that passenger health does not deteriorate during the journey, and that there are adequate measures in place to deal with any unforeseen in-flight medical emergency. Due to the marked increase of the number of passengers with reduced mobility or difficult medical conditions, the medical advice to the passenger by the airline medical department has assumed great importance and is a major factor in successful airline operations. Many airlines release medical clearance for passengers with recent or unstable medical conditions requiring a special medical form based on the IATA Medical Information Form (MEDIF)[14].Those passengers with chronic, but stable, medical conditions, and those with additional needs, may be issued with a FREMEC card, copy of which is kept in the airline reservations system for easy reference for future travel. Cabin crew must be well trained in First Aid to enable them to assist a passenger, or fellow crewmember who becomes unwell in-flight. They must be prepared for virtually any sort of medical emergency and airlines now put crew through a rigorous training programme, to incorporate all aspects of First Aid including CPR (Cardio Pulmonary Resuscitation) and emergency childbirth. The crew must be trained in their use and limitations and be sufficiently confident and competent to use them promptly when the need arises. Services may include:

- First aid and emergency medical kits (EMKs);
- Trained cabin personnel;
- Air to ground communication between the cockpit and ground physicians;

- Automatic External Defibrillator;
- Telemedicine[15].

However, it should be noted that the emergency medical kits contain only a limited number of devices, drugs or other medication items. The first step in designing any airline's medical kit is to survey and determine what medical events are occurring more frequently on board. Certainly, cardiac events are more frequent in respect of other illness, which include, inter alia: blood disorders, respiratory diseases, neurological disorder, after surgery situation, etc.

One of the more significant changes in the last ten years has been to carry on board automatic external defibrillators (AEDs) to face inflight problems with passenger having heart disease. Airlines have also trained flight attendants to use the defibrillators. The U.S. Congress passed the Aviation Medical Assistance Act[16] in 1998 requiring the Federal Aviation Administration (FAA) to collect inflight and in-airport medical events data over a one-year period to determine whether current minimum requirements for air carrier to carry on board medical equipment and train their crewmembers should be modified. In response to the Act, the study was conducted from July 1998 to July 1999. It revealed 188 deaths (43 occurred in-flight) of which approximately 2/3 were believed to be cardiac (Jordan J. Personal communication).
On June 12, 2001, in response to the Aviation Medical Assistance Act, the FAA issued a final rule that required passenger aircraft of more than 7,500 pounds maximum payload capacity, with at least one flight attendant, to carry at least one automatic external defibrillator (AED) and at least one enhanced emergency medical kit. The new rule became effective on April 12, 2004, giving the airlines 3 years to meet the standards. In addition to the AEDs, the expanded medical kit contains additional equipment and medication as listed in Tables I and II (30,31) of the Act. Airlines also implemented flight crewmember training programs to use the AED.
In the European Member States this matter has been ruled by Regulation No. 965/2012/EU[17]. Annex IV of the regulation gives only a limited number of provisions regarding the Medical Kit to be carried on board, but the AMC (Acceptable Means of Compliance) to the Regulation (EU) No 965/2012, issued by the European Air Safety Agency (EASA)[18], shows a quite detailed list of medication and instrumentation items, suggesting, however, that "*these kits should be complemented by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers")*. It also recommends for commercial air transport operations, to carry an automatic external defibrillator on aeroplanes required to carry an emergency medical kit (those having a passenger seating configuration of more than 30 seats) when any point on the planned route is more than 60 minutes flying time at normal cruising speed from an aerodrome at which qualified medical assistance could be expected to be available. Namely, the acceptable means of compliance to the rule concerned (CAT.IDE.A.225), listing the content of the Emergency Medical Kit, recommends operators to determine through risk assessment the need to carry the defibrillator. So there is no strict requirement for operators, but only a recommendation based on the result of a risk assessment. Actually, EASA states that the AMC "*is an unofficial courtesy document, intended for the easy use of stakeholders, and is meant purely as a documentation tool. The Agency does not assume any liability for its contents*". The above is however in line with the current ICAO Annex 6 recommendations[19].

Medical assistance to passengers when travelling by sea and inland waterway.

Similar provisions for disabled persons and persons with reduced mobility travelling by sea and inland waterways have been established in the European Union by the Regulation 1177/2010/EU[20]. Like Regulation 1107/2006/EC for air passengers, this regulation recalls the Charter of Fundamental Rights of the European Union stressing the right of non-discrimination and of receiving assistance in terminals and on board. The definition of "disabled person or person with reduced mobility" is the same for both regulations. Obligations for air carriers and airport managing bodies are the same established for sea carriers and terminal operators. EU Member States provide penalties for infringement of both regulations. However, it should be noted that health problems that can occur inflight do not occur at sea level. In addition vessels normally offer an equipped infirmary and doctors able to face any health emergency.

Conclusions

The above concise description shows that the medical assistance provided by the air carriers has not a clear and homogeneous set of rules binding for all airlines. It differs from one country to another and it is to some extent based on soft rules like codes of conduct; consequently the kind of assistance offered varies substantially from one air carrier to another. A clear example is that of oxygen supply reported here above. In addition, this uneven regulatory framework is reflected in the fitness to fly guidelines. Regarding anaemia, for example, the minimum level of haemoglobin required to fly without oxygen varies enormously from one airline to another. Only a few airlines publish in their site a clear table showing for any illness or difficult health conditions a precise status or value acceptable or not acceptable for flying (short/medium haul and long haul) and relevant comments. However, regarding anaemia it should be pointed out that it is impossible to establish an absolute haemoglobin value permitting a "safe flight". Even from a clinical point of view, symptoms and signs may not be closely related to the degree of anaemia and may vary from patient to patient. Consequently medical measures for anaemia (e.g. transfusion) are usually clinically based rather than defined by a certain haemoglobin threshold. Therefore, the value of haemoglobin suggested by the airlines is precautionary measure to avoid problems during the flight.
Considering the development of human rights in the current society, the need to avoid discrimination against older passengers and passengers with illness, which was negligible a few decades ago, will become more and more important in the XXI century. Therefore, at the European level, the European Commission, EASA and the European Airlines Association (AEA), in agreement with IATA, should take the initiative to design a complete and clear regulatory framework providing binding standards applicable to all European air carriers.

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[1] *World Health Organisation – Travel by air – Health considerations. 2005.*

[2] *Aerospace Medical Association – Alexandria, VA - Medical Guidelines for Airline Travel – 2nd Edition – 2003.*

[3] *The impact of flying on passenger health: a guide for healthcare professionals. British Medical Association - Board of Science and Education 2004 - www.bma.org.uk*

[4] *Regulation (EC) no 1107/2006 of the European Parliament and of the Council of 5 July 2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air.*

[5] *ibid. Whereas (1) and (4).*

[6] *Ibid. Article 8(3).*

[7] *Ibid. Article 9(5).*

[8] *Ibid. Article 1 – Definitions.*

[9] *Commission Staff Working Document - Interpretative Guidelines on the application of Regulation (EC) N° 1107/2006 of the European Parliament and of the Council of 5 July 2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air. 11 June 2012. See also the European Commission Memo of 14 June 2012.*

[10] *Regulation 965/2012/EU Annex IV - CAT.IDE.A.230 First-aid oxygen*

[11] *ECAC Policy statement in the field of civil aviation facilitation ECAC/CEAC doc no. 30 (part i) 10th Edition/December 2006.*

[12] *Regulation 1107/2006/EC Article 7.*

[13] *Hilary Term [2014] UKSC 15, On appeal from: [2012] EWCA Civ 66 – JUDGMENT Stott (Appellant) v Thomas Cook Tour Operators Limited (Respondent), 5 March 2014.*

[14] *MEDIF Information Form (English language is a must) is used for providing confidential information of passengers requiring special assistance. The information enables the airline's Medical Centre to assess fitness of the passenger for air travel and to determine the use of medical equipment during travel e.g. stretcher, incubator, etc. In same cases the airline may require a detailed Medical Report to accompany the MEDIF, which should be presented to the air carrier at least 48 or 72 hours before the scheduled time of departure.*

[15] *IATA Medical Manual – Montreal -2015.*

[16] *1998 Public Law 105-170, 49 USC 44701.*

[17] *Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council. Annex IV - Part CAT.*

[18] *Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Annex IV – Part-CAT to Commission Regulation (EU) No 965/2012 on air operations including the initial issue of and all subsequent amendments to the AMC/GM associated with this Annex. Issued by the European Air Safety Agency (EASA) on 20 February 2015.*

[19] *Annex 6 – Attachment B – Medical supplies - Chapter 6, 6.2.2 a), which reads as follows:*
Based on the limited available evidence, only a very small number of passengers are likely to benefit from the carriage of automated external defibrillators (AED) on aeroplanes. However, many operators carry them because they offer the only effective treatment for cardiac fibrillation. The likelihood of use, and therefore of potential benefit to a passenger, is greatest in aircraft carrying a large number of passengers, over long duration sector lengths. The carriage of AEDs should be determined by operators on the basis of a risk assessment taking into account the particular needs of the operation.

[20] *Regulation (EU) no. 1177/2010 of the European Parliament and of the Council of 24 November 2010 concerning the rights of passengers when travelling by sea and inland waterway and amending regulation (EC) no 2006/2004.*

Commentary in memoriam of the 2014 MH17 accident in light of conflict zone risk mitigation

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ABSTRACT

While threats against civil aviation have been witnessed throughout its history in many sizes and forms for a variety of reasons, including the latest bombing at Brussels airport, the incidents of direct missile attacks against civilian aircraft, such as the KAL Flight 007 shot down by the former Soviets in 1983, are relatively countable. The issue of using weapons against civil aviation has resurfaced with the downing of Malaysia Airlines (MH17) on 17 July 2014 by the pro-Russian insurgents in Ukraine, the responsibility of which are denied by both the Ukrainian and Russian governments. With the troubling concerns about civilian carriers operating to, from and over conflict zones, this incident reinforces the critical role of information and intelligence vis-à-vis potential risks to civil aviation in such airspace. Indeed, renewed awareness and commitment are called for among the members of the international civil aviation community. The leading investigator, Dutch Safety Board (DSB), in October 2015, concluded their task by delivering their Recommendations to various stakeholders; *i.e.*, States and international organizations like ICAO and IATA with respect to the measures in guarding the safe operation of civil aircraft in the disputed airspace. On the other hand, the criminal investigation of the incident is still ongoing by the Dutch prosecution services. This commentary thus intends to address certain aspects of the DSB Recommendations aspects of the DSB Recommendations as well as to contemplate upon the implications of the incident in general.

SYNOPSIS OF ACCIDENT

- Event: Shooting down of Malaysia Airlines Flight 17 by a Buk surface-to-air missile (SA-11) during the battle in Shakhtarsk Raion as part of 2014 pro-Russian unrest in Ukraine
- Main Hazard: Use of weapons against civil aviation
- Key Issue: Conflict zone risk mitigation
- Lead Investigation Authorities: Technical – Dutch Safety Board / Criminal – Public Prosecution Service of the Dutch Ministry of Justice
- Final Investigation Report: Technical – 13 October 2015 / Criminal – In progress
- Cause of Crash: Missile attack by the Russian-built BUK systems (surface-to-air 9M38-series missile with 9N314M warhead) in the airspace interfered by the insurgents (pro-Russian separatists)
- Nature of Risk: Political

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• The root of the incident: Inadequate risk assessment by several stakeholders
- The Ukrainian Air Traffic Control should have closed the airspace;
- Malaysia Airlines should have chosen an alternative route; and
- International Civil Aviation Organization / public authorities did not sufficiently account for risks of flying over conflict areas.

SUMMARY: MH17/MAS17

Date of accident
17 July 2014 at 13 h 20 min 03*
Site of accident
Hrabove, Donetsk Oblast, Ukraine
(At reference 48°8′17″N 38°38′20″E)
Route
Origin: Amsterdam (ASM)+
Destination: Kuala Lumpur (KUL)

** CVR/FDR recordings ending time*
+ IATA Airport Codes

Type of flight
International Scheduled Passenger Flight MH17
Aircraft
Boeing 777-200
Registered 9M-MRD
Owner /Operator
Malaysia Airlines
Persons on board (298)
Flight crew: 4
Cabin crew: 11
Passengers: 283

INVESTIGATION

As mentioned above, the Dutch Safety Board had led the technical investigation of MH17 accident, which may raise a doubt why and how. Pursuant to Article 26 of the Chicago Convention, its Annex 13[1] lists the eligible States that are entitled to initiate and/or participate in the process of investigation, such as the States of Occurrence, Registry, Operator, Design and Manufacture, and accredited representatives. According to these relevant provisions, Ukraine must have been the primary party to conduct this investigation, and yet under Annex 13 5.1[2], it had delegated its full task to the Netherlands being the State of flight origin.

For such accident/incidents/occurrence investigations, normally both investigations for technical errors and criminal liabilities take place in parallel. As a result of the MH 17 technical investigation, the DSB concluded that there was no indication of technical, operational issues amounted to the crash, and therefore, an external impact appeared to be the major cause of it[3].

While the Public Prosecution Service of the Dutch Ministry of Justice in charge of its criminal investigation has remained a neutral position withholding from jumping to conclusion or presenting any indications of such, it had attempted to form an international tribunal through the UN to judge which of the two States, either Russia or Ukraine, would prove to be ultimately held liable for the crash. And yet, it has been put up with challenges due to Russia's veto power. Thus, this criminal investigation is still in progress to date.

Depending on the outcome which of the two States may eventually be indicted, its legal liability for the crash would probably trigger certain political and economic consequences.

RECOMMENDATIONS

According to its final report, the DSB recommends that states involved in armed conflicts should exercise more caution when evaluating their airspace, and operators should be more transparent into their methods of selecting flight routes, in particular regard to (i) airspace management in conflict zones; (ii) risk assessment of flying in such areas; and (iii) operators' public accountability for the choice of their flight routes.

COMMENTS ON DSB'S RECOMMENDATIONS

For the matter of achieving the maximum possible degree of safety in civil aviation, States' as well as ICAO's roles and responsibilities have long been discussed and studied, which includes the delicate borderline between States' sovereignty and ICAO's function with thereby limited binding force[4].

In DSB's recommendations for the accident concerned, the emphasis was given to the same context; *i.e.*, States' sovereignty over their airspace granted and affirmed by the Chicago Convention, in turn, defines their responsibility for ensuring the safety and security in it. Also, air carriers shall take their full responsibility for operating via the safest routes by comprehensively assessing risks in flying open airspace over conflict zones.

A. Practicality, Feasibility and Suitability

The Recommendations by the DSB may generally be summarized in the following three points:

- Stricter responsibility of States for safeguarding their airspace;
- More proactive role of ICAO in supporting States in this regard; and
- States' more active role towards ICAO

Speaking of the underlying philosophy of the above suggestions,it may be worthwhile to reiterate that apparently, only to a certain degree, ICAO can actively get involved in situations where the essence of a conflict amounts to political tensions, because it is a technical agency by nature and therefore, in principle, it is supposed to minimize its political intervention, which the DSB had presumably taken into account as well when drafting this Recommendations.

Besides, has it frequently been pointed out that the Ukrainian authority failed timely closure of the concerned segment of its airspace which could otherwise have saved nearly 300 lives onboard MH17 flight. Among several situational elements that might have delayed closing the airspace in question, the debate over losing its commercial interest from the overflight fees imposed on civilian flights appears to be a major one[5]. While it might have been somewhat premature or considered even an overrated measure declaring a no-fly zone at the time, such hesitation in timely and adequate decision-making must have cost Ukraine much more than the revenues gained in exchange of forsaking the greater good called public safety. Inevitably, the government of Ukraine is indebted not only to the victims of the accident but to all by failing to fulfill their *erga omnes*[6] obligation of ensuring safety in their airspace.

That being said, there are certain delicate technicalities in making a weighted decision between conflicts of interest in an attempt to define the boundaries of 'disputed airspace' over unrest areas, because the exposure to risks may vary depending on the altitudes/FL (Flight Level) and the classes of airspace that the aircraft overflies. So was the case of MH17; namely,

> … the airspace above Donetsk Oblast was closed by Ukraine below 26,000 feet (7,900m) on 5 June 2014 and, on 14 July, below 32,000 feet (9,800 m). The route in Russian airspace that MH17 would have taken was closed below 32,000 feet (9,800 m) by the Russian air control a few hours before the airliner took off[7].

MH17 was then operating between FL330-350 in the airspace controlled by the Ukrainian ATC. It was reported that there had been other civilian carriers like Singapore Airlines Flight 351 (B777) and Air India Flight 113 (B787) adjacent to MH17 passing this disputed airspace at the time of the accident[8], either of which could have become the target instead. In any event, according to the investigation report, other than the timely closure of the airspace by a higher level of authority, both the Ukrainian (Donetsk) and the Russian air traffic controllers on duty cannot be held immediately liable for their professional performance conducted in the course of MH17's operation above the conflict zone in concern.

Further to these general comments, the following is some considerations with regard to a few particular aspects of the Recommendations.

(1) Coordination between civil and military ANS during an armed conflict: From the European perspective familiar with the SES[9] framework enabling close cooperation among multiple air navigation service providers, *e*.g., FAB[10], this may seem like quite an attainable goal and feasible proposal, but not in all States, ANS is provided under such a concept like FUA[11], which was designed to achieve the maximized joint use of airspace by appropriate civil/military co-ordination. Depending on a State's history, tradition and development of civil aviation infrastructure, it may not be an easy task to find a channel and mechanism to establish smooth ANS cooperation between civil and military authorities even in times of peace. For example, given its particular situation of a prolonged ceasefire state, it is not practically and entirely feasible for the Republic of Korea to adopt the FUA concept and redesign a more interoperable system between civil and military ANS albeit their relatively established aviation framework, and Korea must not be the only example. It is ideal, and should certainly be an ultimate goal, but due to a number of circumstantial and immediate obstacles, it may not happen overnight regardless of States' willingness.

(2) Amendment of the Chicago Convention and SARPs: While certain relevant Annexes may possibly be amended with more stringent and structured requirements in a reasonable timeframe, it seems very unlikely that the main provisions of the Chicago Convention itself would in any foreseeable future, considering the established pattern of practice through the years. The Convention is supposed to provide only the fundamental principles, like the skeleton, and the details of practices are meant to be guided by its Annexes, and such a structure of this legal instrument also indicates an intention to minimize the possibility of amending the Convention contemplated by its initial drafters. However, in light of the imbalanced relationship between ICAO's function and its member States due to their 'sacred' sovereignty, which creates vulnerability in enforcing a higher level of security for civil

aviation[12], like in the case of MH17, it is true that a more ultimate solution should constantly be sought for. While it has, since the incident MH17, been suggested by some authors that "the due respect to the international law applicable to the armed conflict zones by the parties involved is the fundamental way to achieve the security[13]" of the civil aircraft overflying, the recent events have highlighted the urgent need for a more innovative perception beyond the existing legal framework.

(3) Operators' responsibility of risk assessment for a safe flight operation: If incidents of this kind occur frequently, it would be the operators to be more heavily burdened with higher insurance premium, especially war-risk insurances. For instance, due to fatal accidents in a row within the same year, the underwriters of Malaysia Airlines might, quite predictably, have reevaluated its policy.

(4) Disclosure of operating routes to public on a regular basis: Absolutely, it is passengers' right to make an informed decision regarding their safety. From airliners' perspective, a question, however, arises whether it would not conflict with their commercial interest and business strategies in the long run and on a greater spectrum, even though it may be agreeable as a temporary measure.

B. Other Security Measures

Following the MH17 tragic event, many industry experts have, either in an individual capacity or through the means of international forums, emphasized the need for more effective and efficient channels of sharing threat-information, data collection and intelligence among civil aviation authorities and industry, which is also included in the Recommendations. On a related note, developing a directory of up-to-date anti-aircraft weaponry and further, establishing corresponding regulatory as well as technical systems seem to add a helpful precautionary measure to the existing security protocol as suggested by ICAO, IATA, ACI and CANSO in their Joint Statement on 29 July 2014[14]. Considering the increased level of technology development and intelligence, this may be a reasonably achievable goal through global collaboration, even though certain States would very likely to veto the implementation of the plan for the ever-so-famous 'national security' reasons.

There have been numerous discussions, comments and suggestions since, and apparently, their conclusions all sum up in the united regulatory intergovernamental, industry and national level all together. Just to briefly mention, even though it is certainly the beyond the subjectof aviation security measures, often economic sanctions are used not only to retaliate the responsible party but to alarm others with such intentions and/or prevent similar acts of threat in the future.

Like most documents of the similar nature, the DSB's Recommendations overall come across rather a normative statement. Perhaps, due to the fundamental cause of the accident with political sensitivity, the extent that the investigation authority in charge could stretch might have been relatively limited in comparison to the ones with more technical concerns, like the Air France Flight 447 accident in 2009 led by the BEA (the French Civil Aviation Safety Investigation Authority)[15], which appears more extensive and thorough. Even taking this limitation into account, the DSB Recommendations still leave a lot of the 'how' in the hands of the concerned parties.

ADDITIONAL CONSIDERATIONS

A. Political Aspects

Would it have really been an overreaction, had Ukraine declared a no-fly zone for its disputed airspace over Donetsk Oblast a bit sooner? While it has been noted that States are burdened with unnecessarily high security cost due to inadequately assessed risks and unreasonable amount of fear. This statement probably holds truth under 'normal' circumstances where security measures are taken to be alert and preventive. Given the fact that not only MH17 but several Ukrainian military aircraft had also been shot down in the concerned conflict zone by the insurgents prior to the date of MH17 accident, it now seems that the Ukrainian government should have paid more attention to those warning signals.

Post the MH17 accident, ICAO however reacted promptly by forming a special Task Force on Risks to Civil Aviation arising from Conflict Zones (TF RCZ)[16], and discussed the topic of conflict zone risk mitigation with care through various channels, including but not limited to its High-level Safety Conference in February 2015[17].

As briefly discussed earlier, economic sanctions are one of the available means that States may resort to, however controversial they maybe, and it appears that certain States have already put their thoughts into action; "the anger generated by this mass murder in the skies especially in Europe has enabled certain parties to expand and reinforce their economic sanctions against Russia[18]."

B. Operational Aspects

Early-adopters like Korean Air, Asiana Airlines and British Airways proactively avoided the Eastern Ukrainian airspace during the period of the Ukrainian unrest. Provided that it is a standing practice among airlines that they do not compete insofar as security matters are concerned, and share related information and intelligence to the best extent possible, how come certain other carriers like Malaysia Airlines had not considered alternative routes? Some suggest that even though ICAO as well as the US FAA had previously warned to avoid the airspace over Crimea, their intelligence did not include the region that MH17 was crashed[19]. In line with the principle of Annex 13, there is no point of blaming the operator when and where it must be the most severely affected party. Nevertheless, regrets remain.

CONCLUDING REMARKS

Given the unpredictability of an armed conflict, risk factors increase for civil aviation. Depending on the final resolution adopted by the global civil aviation community in the forms of policies and regulations, additional preventive or detective security measures vis-à-vis attacks against civil aviation by weapons may add up the cost of security, which is already high in proportion to actually existing or potentially measurable risks. Like Laura Logan, Director of Air Canada's Security Systems & Regulatory department says, "every day is a new challenge" in the world of aviation security. Thus, collaborative actions in one voice among the industry stakeholders to generate more effective standards for carriers and simpler procedures for passengers are ever more desired.

In light of safeguarding civil aviation from armed threats, while it may sound even more ideal than the DSB's Recommendations, the essential first step above any gestures should be the recognition that human lives and people's safety supersede any political consideration, and only based on such foundation, solutions that actually respond to the practical needs of our everyday life may be found[20].

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[1]*ICAO, Annex 13 to the Convention on International Civil Aviation, Aircraft Accident and Incident Investigation, 9th ed. (July 2001).*

[2]*"State of Occurrence initiate investigation, but can be delegated by mutual arrangement and consent." See also, Dutch Safety Board, Preliminary Report Crash involving Malaysia Airlines Boeing 777-200 flight 17(September 2014), at 3 [DSB Preliminary Report].*

[3]*See ibid.*

[4]*See Ntorina Antoni, "Safety oversight over disputed airspace," (2015) 14:3 the Aviation & Space Journal, University of Bogota Alma Mater Studiorum,at 11-24.*

[5]Wikipedia, <en.wikipedia.org/wiki/Malaysia_Airlines_Flight_17>.

[6]Towards all/everyone. See also, Antoni, "Safety oversight over disputed airspace."

[7]*Wikipedia*, *supra* note 5.

[8]*Ibid.*

[9]*Single European Sky.*

[10]*Functional Airspace Blocks.*

[11]*Flexible Use of Airspace*

[12]*Antoni, "Safety oversight over disputed airspace," at 22.*

[13]*Huaping (Maggie) Qin, "Reparation for Victims of the International Civil Aviation Arising from Armed Conflict Zones," (2015) 30:1 Korea Journal of Air & Space Law, the Korea Society of Air & Space Law and Policy, at 269.*

[14]*"Joint Statement on Risks to Civil AviationArising from Conflict Zones," online: ICAO, <www.icao.int/Newsroom/Pages/Joint-Statement-on-Risks-to-Civil-Aviation-Arising-from-Conflict-Zones.aspx> (29July 2014).*

[15]*BEA (The French Civil Aviation Safety Investigation Authority), Final Report on the accident on 1st June 2009 of Air France flight AF 447 Rio de Janeiro - Paris (July 2012).*

[16]*"ICAO Welcomes MH17 Accident Investigation Final Report," online: ICAO Press Release, <www.icao.int/Newsroom/Pages/ICAO-Welcomes-MH17-Accident-Investigation-Final-Report.aspx> (13October 2015).*

[17]*"Information sharing Key to Conflict Zone Risk Mitigation," (2015) 70:1 ICAO J., at 11.TF RCZ recommendations included advice on risk assessment terminology, a comprehensive review of existing requirements and message formats, and industry led-initiatives to share operational information and be more transparent with passengers. ICAO has also begun work on agreed contingency flight routings for conflict zones under its regional air navigation planning groups.*

[18]*Chandra Muzaffar, "The Downing of Flight MH17: Why is Malaysia Not Part of the Joint Investigation Team (JIT)?" Global Research (November 24, 2014), online: Global Research <www.globalresearch.ca/the-downing-of-flight-mh-17-why-is-malaysia-not-part-of-the-joint-investigation-team-jit/5415863>.*

[19]*Wikipedia, <en.wikipedia.org/wiki/Malaysia_Airlines_Flight_17>.*

[20] *Recent Development: As of April 2016, competing allegations regarding this MH 17's detonation was reported through some of the UK's media, raising a question who was ultimately behind this tragic event. Such controversial claims had been initiated by a documentary film, which was publicized to be aired by BBC TV on 03 May 2016. The so-called new theories – puzzling the DSB's official findings – include the possibilities of the Ukrainian jet fighter's willful shooting against this civilian aircraft supported by eye-witnesses as well as the CIA-backed terrorist operation using the explosives installed on the MH 17's aircraft at the time of its departure from Amsterdam. Much can be said about these conspiracy theories, and yet nothing has officially been announced to give them a voice. With time, certain undebatable evidences may be revealed to invalidate our current understanding of the accident, if fortunate. It will however be interesting to see if these emerging doubts would affect the MH 17's pending criminal investigation, at least to a certain degree, or eventually result in opening another round of technical investigations. As the history suggests though, somewhat frustrating reality of such 'conspiracy theories' may be that they often remain 'unproved' even if they may be speaking disturbing truth. (For more information, see Poppy Danby, "Did a Ukrainian fighter jet shoot down MH17? Eye witness accounts claim Boeing 777 may have been targeted by another plane," Mail Online (24 April 2016), online: MailOnline <www.dailymail.co.uk/news/article-3556177/Was-MH17-shot-Ukrainian-fighter-jet-BBC-documentary-claims-Boeing-777-targeted-plane.html>).*

AVIATION

A cost-benefit analysis of the ECJ Open Skies Judgment: EU-India aviation relations

Rishiraj Baruah*

1. Introduction

Thomas Jefferson said, '*Merchants have no country. The mere spot they stand on does not constitute so strong an attachment as that from which they draw their gain*'. The ECJ open skies judgment reiterated the philosophy behind these wise words for international air transport. On 5 November 2002, the European Court of Justice ruled that the bilateral air services agreements between eight Member States and the United States were not in conformity with EC law[1]. The aftermath of this judgment was the EU external aviation policy, in which the Commission basically grabbed competence regarding bilateral negotiations from Member States step by step in past 14 years.

The primary emphasis of the ECJ judgment was on the nationality clauses in bilateral air services agreements, which essentially restricts the right of non-nationals of one EU Member State to establish themselves in the territory of another EU Member State and conduct air transport operations to third countries[2]. This violates the right of establishment granted under Art. 43 of EC Treaty, which prohibits discrimination on grounds of nationality[3]. Although, the ECJ judgment specifically referred to the bilateral agreements with US, it was generally understood that it would impact the agreements between EU Member States and third countries, such as India. This aforementioned quote by Thomas Jefferson holds true with the purported illegality of nationality clauses in light of the right of establishment granted by the EC Treaty. In simpler words, let me rephrase his words, '*Airlines have no country. The mere port they stand on does not constitute so strong an attachment as that from which they draw their profits.*'

The judgment paved way for the external aviation relations of the EU and its member States. It also bolstered the common aviation market and liberalization of the sector in the past few years. Due to the impact of the judgment, new business models have developed and airlines have successfully utilized the 'community clause' in bilateral agreements with the US and third countries which were either newly negotiated or renegotiated post-2002.

The paper will firstly deal with the ECJ Open Skies judgment in brief and the immediate impact of the judgment. Thereafter it shall discuss the 2005 Roadmap of the Commission and the 2012 External Aviation Policy Paper. Two recent case studies relevant to the cost benefit analysis of the Open Skies Judgment will be discussed and finally the development of EU-India aviation relations will be analysed in light of the external aviation policy of EU which was an indirect result of the 2002 Open Skies judgment.

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2. ECJ Open Skies Judgment of 2002

Although the ECJ decision was taken in 2002, establishing competence of the EU Commission to conduct negotiations for bilateral air services agreements with the US and third countries, the Commission's quest to grab authority began in early 1990's with the EU Committee of Wise Men recommending the adoption of a common external aviation policy by middle of 1995[4]. John Balfour noted that, '*Even before the internal market process was completed, the Commission had turned its attention to the question of external aviation relations. In 1990 it published a memorandum claiming somewhat ambitiously, that the EC was exclusively entitled to conduct aviation negotiations with third countries on behalf of member states, and it proposed legislation authorizing it to undertake such negotiations.*'[5]

The Commission made two basic arguments before the Court. The primary argument of the Commission was that '*Community law applying to aviation has developed in such a substantial way that (...) the Community should have exclusive competence over external aviation relations*'[6], which was rejected by the Court. The secondary argument pertained to the right of establishment. The Commission argued: '*the bilateral agreements included elements that at that time were already covered by Community legislation. The main elements at issue were the (...) so-called third package (...) and the Right of Establishment embodied in the Treaty itself under Article 43*'[7], which was partially accepted by the court, specifically the Court accepted that nationality clause i.e. clauses relating to the ownership and control of airlines, infringed Article 43 of the EC Treaty on the right of establishment.

The ECJ finally held that:

(a) Bilateral air transport agreements do not fall within an area completely covered by EU regulations, since those regulations do not constitute a complete set of common rules. Therefore, the European Community does not have an exclusive external competence to conclude these agreements[8].

(b) However, the court accepted that Commission had implied exclusive competence for concluding agreements with third countries in so far as the provisions which impact existing EU legislations. These legislations include Regulation 2409/92 on fares[9], Regulation 2299/89 on Computer Reservation Services[10] and Regulation 95/93 on slots[11]. The result of this dictum was that the Court successfully denied the Commission's exclusive competence without having to explicitly say so. However, in reality it only left crumbs for Member States to negotiate which consequently led to the granting of a mandate by the Council to the Commission regarding EU external aviation policy. Interestingly, Henri Wassenberg aptly termed the judgment a 'politically correct decision', wherein although it denied Commission the explicit competence, it paved way for the Council to grant a mandate to the Commission in future[12].

(c) Specifically, with respect to the bilateral agreements of EU Members with the US, the court held that the nationality clause in the bilateral agreements in question infringed the freedom of establishment. This clause allowed the U.S. to refuse traffic rights in its airspace to air carriers, if the majority of the ownership and effective control of that carrier, is not held by the nationals of the other contracting party[13].

3. Immediate Impact of the Judgment

The impact of this judgment on existing bilateral agreements with third countries was that Member States had to either renegotiate those agreements to modify the nationality clause to a Community clause or terminate their agreements inconsistent with EU law. Subsequently, the developments and uncertainty in the legal status of competences of the EC and the Member States resulted in adoption of a three-fold package of measures by the Council in 2003, especially in field of external aviation relations. The package included:

1. The Commission received mandate to negotiate a comprehensive agreement with the United States to liberalize air transport within and between the European Union and the United States. This led to the EU-US Open Skies Agreement in 2007, subsequently revised in 2010[14].

2. The Commission received mandate to negotiate 'horizontal agreements' with third countries in order to correct the legal problems of existing agreements. The peculiarity of horizontal agreements lies in the Free Rider Clause[15] included in those agreements.

3. The EU Parliament and Council Regulation 847/2004, which came into force on 30 May 2004. The Regulation dealt with the issue of negotiation and implementation of air service agreements between EC Member States and third countries[16]. Its main principles included: (a) Member States should notify about their bilateral negotiations to the Commission and Member States should endeavour to negotiate 'Community standard clauses' with third countries. (b) the Commission has discretion to decide if bilateral agreement between Member States and third countries may be concluded/ provisionally applied, provided they adhere to the prescribed requirements of the Regulation. The effectiveness of Regulation 847/2004 has been questionable since Member States have not followed the provisions of the regulation.

4. The 2005 Roadmap

The EU external aviation policy was defined in 2005 in a Roadmap developed by the Council and the European Commission. The Roadmap termed as 'Communication from the Commission: Developing the agenda for the Community's external aviation policy', was based on three pillars:

1. Bringing existing bilateral air services agreements between EU Member States and third countries in line with EU law: The horizontal mandate granted in 2003 was furthered in 2005, which led to amend some 1500 bilateral agreements of the Member States with third countries, especially regarding the nationality clauses. The primary objective of the horizontal agreements were to allow Community carriers the benefit of the right of establishment, wherein each Community carrier should be able to be designated on all routes with third countries on a non-discriminatory basis[17]. The joint effort of the Commission and Member States made 1000 bilateral agreements to be brought in conformity with EU law ranging about 122 countries. Among them, horizontal agreements had been negotiated with around 50 countries by 2005.

2. The creation of a Common Aviation Area with EU's neighbouring countries, which led to the European Common Aviation Area. The ECAA aims at forcing State parties to assume obligations while benefitting from its advantages. The ECAA is applied at a phased period with different countries applying the agreements at different provisional periods. Till date such agreements have been concluded with Norway, Sweden, Switzerland, Albania, Bulgaria, Romania, former Yugoslavia States, and Morocco. Similar Agreements are envisaged with Ukraine, Jordan, Israel and other Euro-Mediterranean countries[18].

3. The conclusion of aviation agreements with key strategic partners and Comprehensive agreements with global partners.

5. The 2012 EU External Aviation Policy Paper

The EU external policy is aimed at greater flexibility, openness and certainty based on bilateral (EU Member States/third countries) and multilateral actions (EU/ third countries). It involves the creation of new economic opportunities through market access and promotion of investment opportunities for users and operators. The EU's external aviation policy should be driven by three parallel objectives, which can be reconciled to the benefit of the overall economy, growth and jobs: (i) creating consumer benefits (which suggests a strong continued focus on market opening); (ii) safeguarding competitiveness, which suggests stronger EU-level measures to insist on ownership and control reform, reductions of the regulatory burden and an international level playing field (all difficult to secure at Member State level); (iii) wider public policy objectives going beyond traffic rights (the EU approach will therefore seek to ensure overriding public safety, security and environmental goals)[19]. In furtherance of these goals, the three pillars were used as a tool in the 2005 Roadmap. The effectiveness of these tools by 2012 will be discussed here below.

The first pillar, with respect to restoring legal certainty through horizontal mandate, resulted in more than 75% of all extra-EU traffic being brought in legal conformity with EU law. Of these, 55 countries have agreed to amend their bilateral agreements through horizontal agreements, while remaining States have dealt with the issue on bilateral basis with each EU member State[20]. Although, it seems a positive step, the success regarding horizontal agreements has been dismal as only five new agreements have been signed since 2005 until 2012, while after the 2003 mandate, horizontal agreements with 50 countries have been successfully negotiated within a span of 2 years till 2005. The reason seems to be more aero-political in nature rather than legal, which shall be discussed in the context of India at a later stage.

The second pillar, which aims at creating a common aviation area with neighbouring countries, has been quite successful. Air services agreements based on a parallel process of market access and regulatory convergence with EU aviation law of neighbouring countries had been concluded. Apart from Switzerland, Norway and Iceland, as part of internal aviation market, comprehensive air transport agreements have been signed with Western Balkans, Morocco, Georgia, Jordan and Moldova and negotiations have been on-going with Israel, Ukraine, Lebanon, Tunisia, Azerbaijan and Armenia[21].

In the third pillar, dealing with Comprehensive agreements with key partner and strategic partners, few agreements have been negotiated with major partners, including US, Canada and Australia till 2012[22]. Other important partners include Turkey, Brazil, Russia, China and India, which are part of the 2015 Aviation policy, discussed further in this paper. These agreements aim at creating a combination of market access by fair competition conditions through regulatory parallelism, liberalization of ownership and control of airlines through changes in foreign investment regulations and facilitation of business operations.

6. Case Studies

International Jet Management Case (2014)

The ECJ further clarified the freedom of establishment based on authorization requirements. The Court held that EU law precludes German legislation on authorization requirements of undertakings established in another member State for provision of services in Germany. The authorization requirement was held to be discriminatory as it was not required for German undertakings in order to protect the national economy.

The facts of this case are peculiar wherein an Austrian undertaking (International Jet Management) licensed under EU law was fined for operating charter flights from Russia and Turkey to Germany without clearing the authorization process required by German legislation[23]. Jet Management had operating license under Regulation 1008/2008 granted by Austrian authorities, while the Germans asked them to produce a non-availability declaration required under German law[24]. Hence the Germans did not recognize the license granted on the basis of EU legislation by another Member State, in contrary to the mandate of Regulation 1008/2008.

The Court acknowledged that Member States remain free to impose restrictions on air transport services between the EU Member States and third countries insofar as the EU legislator has not exercised its competences to liberalize those services[25]. That being said, Member States '*remain subject to the general principle of non-discrimination on grounds of nationality enshrined in Article 18 TFEU*'[26]. However, to make Article 18 applicable, the case had to fall under the scope of the Treaty. This derives from the interpretation of Regulation 1008/2008, which not only applies to intra-Community air services, but also to licensing of carriers to and fro from third countries[27]. Such an interpretation was reasonable because the primary objective of licensing requirements is to guarantee compliance of safety and security requirements[28]. Hence, as the EU had legislated on the subject of licensing of Community carriers for to and fro services from third countries, Member States were precluded from legislating on the issue and EU law took precedence over the legislation adopted by Member States which run contrary to EU legislation.

LH Cargo Case (2015)

This recent case has been completely disregarded by the ECJ Open skies and the Jet management case, as it upheld establishment restrictions upon Lufthansa cargo, for 5th freedom rights under the EU-US bilateral agreement.

The Dutch Administrative Court of the Hague wrongly upheld the Dutch Civil Aviation Authority's ban on Lufthansa from operating commercial freight services between Puerto Rico and Amsterdam on the ground that it did not have traffic right to do so based on an erroneous interpretation of the EU-US bilateral agreement while differentiating between traffic rights and routes[29]. It held that the EU-US bilateral agreement was not applicable in the present case. An analysis of the case is beyond the scope of this paper but briefly this case seems to put forth a view that while non-discrimination principle is applicable for external relations, establishment restrictions in the internal market is allowed, which runs afoul of the Open Skies Judgment.

The Aviation Package 2015

The new Aviation package was adopted on 7th December 2015. The recent aviation strategy package consists of various milestones to strengthen its industrial base and ensure global leadership of the EU. One of the pillars includes placing the EU as a leading player in international aviation whilst guarantying level playing field by tapping into new markets. The process involves conclusion of new aviation agreements with strategic partners in order to achieve market access and ensure fair and transparent market conditions[30]. The key principles of the strategy with respect to external relations are the following:

1. Negotiating new EU-level agreements with several countries and regions in the world to improve market access;
2. Providing more connections and better prices for passengers;
3. Exploring new measures to address unfair commercial practices from third countries;
4. Creating investment opportunities with third countries based on mutual liberalization of ownership and control rules

The aviation industry would benefit through level playing field, higher standards and regulatory convergence. In 2014, 42% of the passengers flying in and out of the EU were covered by EU level agreements already signed while 72% passengers were from countries with which agreements have been proposed[31]. Till 2015, agreements have been signed with Canada, Georgia, Israel, Jordan, Moldova, Morocco, USA, Western Balkans, and an agreement is pending signature with Ukraine. There are negotiations going on for agreements with Australia, Azerbaijan, Brazil, Lebanon, New Zealand and Tunisia while future negotiations are requested with Armenia, Brunei, Cambodia, Indonesia, Laos, Malaysia, Burma, Philippines, Singapore, Thailand, Vietnam, China, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE, Mexico and Turkey[32].

EU-India Relations: Impact of ECJ Open Skies Judgment

The aftermath of the grant of competence to the Commission regarding conclusion of Horizontal agreements was the 'Joint Declaration' of 22 November 2006 between EU and India as a conclusion to the EU-India Aviation Summit of 2006. The summit provided an effective platform for identification of priority areas for future cooperation between EU and India in the aviation sector[33]. Amongst other issues like safety, security, technical and industrial cooperation, issues on market opening and consumer benefits were also discussed during the summit[34].

The most significant step was a consensus ad idem regarding restoring legal certainty to all bilateral air services agreements between EU Member States and India, which meant concluding a horizontal agreement by EU as a priority for aviation relations. Negotiations led to a Horizontal agreement in 2008 on both sides[35].

The Horizontal Agreement signed between India and EU contains clauses on designation, safety, competition law, termination requirements, etc. The most pivotal part of the agreement is the designation clause by Member States[36]. Firstly the agreement recognizes the exclusive competence of the EU with respect to the services included in such horizontal agreements in the preamble. It also reiterates the grant of fair and equal opportunity amongst Community carriers in operating agreed services on specified routes; however it does recognize the fact the horizontal agreements are not intended to affect traffic rights and capacity restrictions in existing bilateral agreements[37], which is in conformity with the Open Skies judgment that did not confer the competence to the Commission to negotiate traffic rights, and such residual power was left with the hands of Member States[38].

Article 2, para.2 literal (i) states that on an air carrier being designated by a EU Member State, India will grant proper authorization in case, '*the air carrier is established in the territory of the designating Member State under the Treaty establishing the European Community and has a valid Operating Licence in accordance with European Community law*'. This clause permits an effective implementation of the provisions of Regulation 1008/2008 and Regulation 847/2004 as well as it reinstates the competence of Commission to negotiate nationality clauses. According to Peter van Fenema, this standard designation clause basically means, 'a third country shall treat the designation by a Member State of any Community carrier of whatever (European) nationality as if that Community carrier is a national carrier of that designating Member State[39].'

The freedom of establishment principle, which was raised and reinforced in the Open Skies judgment, is given effect through another clause in the horizontal agreement which states: '*the air carrier is owned and shall continue to be owned directly or through majority ownership by Member States and/or nationals of Member States, and/or by other states listed in Annex III (Iceland, Norway, Switzerland and Liechtenstein) and/or nationals of such other states, and shall at all times be effectively controlled by such states and/or such nationals*[40].' This clause ensures that Community carriers can avail the benefit of right of establishment enshrined in the Treaty of establishment of EU. For example, this allows Air France -KLM to carry traffic seamlessly without the fear of being questioned regarding its ownership or control structure. This also promotes airlines to experiment with various commercial structures in the EU and still be able to exercise traffic rights as a Community carrier by way of a horizontal agreement.

Although, the Horizontal agreement was signed by India in 2008 as part of its EU-India Joint Action Plan, it is yet to be ratified by India. Recently in March 2016, the President of the European Council, the President of the European Commission and the Prime Minister of India met in Brussels for the 13th India-European Summit wherein they endorsed the EU-India Agenda for Action-2020 as a common roadmap for strengthening the strategic partnership.

One of the key issues discussed during the ministerial summit was the implementation of the EU-India horizontal agreement signed in 2008[41]. Pablo Mendes de Leon says that the main irritation and reluctance on the Indian side regarding the horizontal agreement are the EU Emissions Trading Scheme (ETS) and night curfews in European airports, which have halted the ratification of this important agreement[42]. India, along with China, Russia and the US have been vehemently opposing the unilateral imposition of the EU ETS, which is considered a clear violation of its sovereignty and integrity while night curfews at European airports does not allow Indian carriers the provision of lucrative flight schedules due to the difference in time zones. Another thorn that might be a real possibility is the fact that it might distort the balance between Indian carriers and Community carriers, as Community carriers will have full access to the Indian market through a free rider clause, the same may not be available to Indian carriers. This distortion is evident through various horizontal agreements signed by EU with Morocco and other politically weaker countries. While the question of balances is aero political in nature, it is very much a part of the legal framework and should be addressed through proper legal checks and compromises. After all, the Open Skies Judgment was itself a 'politically correct' decision.

In the Aviation package adopted in 2015, the EU Commission plans to enter into dialogue with India for a Comprehensive Agreement by 2020. This represents the developing EU-India aviation relations and the interest of the EU in the fastest growing aviation market in the world. What remains to be seen is whether officials at Brussels are able to bypass the hurdles presented by India's socialist culture!

Conclusion

The ECJ Open Skies Cases have been a path breaking judgment for EU external aviation relations as they lead to the liberalization of international air transport through a multilateral process of agreements for recognition of Community laws. Although Horizontal agreements may seem to be tilted in favour of European market, they have benefitted third countries through market opening, boost of tourism and economic activities. However, a lot remains to be done as Member States are reluctant to give away their negotiation powers and do not necessarily follow Regulation 847/2004 and powerful third countries are reluctant to open their markets to foreign competition. This does not mean that there has been no development as the recent Aviation strategy is a good example of the aftermath of the ECJ Open Skies judgment.

The principle of freedom of establishment is a powerful tool to hold together the European common market and the Commission has successfully endeavoured to do the same. It has made efforts to ensure a level playing field, as this principle is the basis on which an economic union like the EU can remain strong and united. This has also put great impact on EU-India relations as well, but it remains to be seen how it develops in the future. It will be interesting to watch how the EU intends to tap the exponential market potential of a huge country like India, whose socio-cultural structure is completely different from the principles of the EU Treaty that promotes free market while India is a socialist economy.

[1] *Cases C-466/98, c-476/8, C-469/98, C-471/98, C-472/98, C-475/98 and C-476/98.*

[2] *Ludolf Van Hasselt, 'The aftermath of the ECJ Open Skies judgments- impact on the regulatory environment', EALA Conference Papers (2003), pg.71*

[3] *The right of establishment allows a Community carrier to establish itself in another Member State, where it shall benefit from the same treatment as the carrier originally established in the Member State in question.*

[4] *P.P.C.Haanappel, 'Recent European Air Transport developments: 1992-1993', 18 Annals of Air and Space Law, pg.134-135*

[5] *John Balfour, 'A question of competence: the battle for control of European aviation agreements with the United States', 16-SUM Air & Space Lawyer 7 (2001)*

[6] *Delphine Deleau, The European Court of Justice 'Open Skies' Judgments of 5 November 2002: A European Contribution to the Multilateral Framework for International Aviation Relations, LL.M. Thesis submitted to Institute of Air and Space Law, McGill University (2003), pg.37*

[7] *Ibid, pg.37-40*

[8] *The ECJ stated: 'In relation to air transport, Article 80(2) of the Treaty merely provides for a power for the Community to take action, a power which, however, it makes dependent on there being a prior decision o f the Council. Accordingly, although that provision may be used by the Council as a legal basis for conferring on the Community the power to conclude an international agreement in the field of air transport in a given case, it cannot be regarded as in itself establishing an external Community competence in that field.'*

[9] *Art 1(3) of the Regulation provides that only Community carriers are entitled to introduce fares lower than existing fares on intra-EC routes.*

[10] *This Regulation applies to non-EC nationals where they use or offer for use a CRS in the Community.*

[11] *This Regulation applies to non-EC carriers as well as EC carriers*

[12] *Henri Wassenbergh, 'The Decision of the ECJ of 5 November 2002 in the 'Open Skies' Agreements Cases', 28 Air and Space Law 1 (February 2003)*

[13] *John Balfour, 'Developments Regarding the Community's External Aviation Relations', EALA Conference Papers (2003), pg. 27*

[14] *P.M.J. Mendes de Leon, IIASL Public Air Law Reader, pg. 239*

[15] *The Free Rider Clause can be explained with an example: if a carrier of a Member State establishes itself in a main hub in another State within the EU and is designated under an Open Skies bilateral air agreement of the State where it is established with a third country, with which the own State of the carrier has no or a restrictive air agreement. Such carrier becomes a 'free rider', and the State of establishment a 'flag of convenience'.*

[16] *Regulation (EC) No. 847/2004 of the European Parliament and of the Council of 29th April 2004 on the negotiation and implementation of air services agreements between Member States and third countries, OJ L 157/7 (30th April 2004)*

[17] *supra n.2, pg.73*

[18] *P.M.J. Mendes de Leon, IIASL Public Air Law Reader, pg.222*

[19] *European Commission, Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions: The EU's External Aviation Policy - Addressing Future Challenges, COM (2012) 556 final, Brussels (27th September 2012), pg.9*

[20] *Ibid, pg. 10, 15*

[21] *Ibid, pg.16*

[22] *Ibid, pg.17*

[23] *International Jet Management (Judgment of Court) [2014] EUECJ C-628/11 (18th March 2014), para.20*

[24] *Ibid, para.21-23*

[25] *Ibid, para.59*

[26] *Ibid, para.78 (1)*

[27] *Ibid, para.78 (2)*

[28] *Laurens Ankersmit, The outer limits of article 18 TFEU? Case C-628/11 International Jet Management, www.europeanlawblog.eu (24th March 2014)*

[29] *Stuart Todd, Lufthansa Cargo to appeal Dutch Court judgment upholding ban, Lloyd's Loading List (5th September 2013)*

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[38] *Ibid, Art. 1(4)*

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AVIATION

The problem of licensing the Air Traffic Services Electronic Personnel (ATSEP).

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1.Introduction

The existence and development of modern aviation, for more than a century ago, hardly anyone could have guessed in its infancy. The development of technology that being used in aviation has led to unimagined heights and this development, and fortunately, has not stopped even today. We are aware of that kind of an impact even nowadays. Further technological development in future is desirable, and this is something that will most certainly happen. However, we should ask ourselves in which of the phenomenal forms and dynamics the change will happen? What can certainly be argued, is that the future of aviation technology will be even more sophisticated.

If we know this for a fact[1], the question is, who is the one who will manage such a sophisticated technology in aviation? What are the requirements to be met? Could all this new technology, so sophisticated, given to the management staff inadequately trained, does not have the appropriate knowledge and skills to manage the same technique in the Air navigation? These issues are not new and people were asking about them in the early days of the development of aviation, slowly giving the answers to these questions through the gradual development of regulations, guidelines and procedures dealing with the proper response to the question about the expected level of competence to respond to tasks in aviation.

According to that, there is also the first systematized legislation that addressed the issues of aviation personnel, respectively who is crucial interest in aviation, which should be adequately trained, and afterwards licensed. It is understood that the pilots, flight crew members were the first under scrutiny when it comes to licensing. After the end of World War II as an agreement that is achieved the well-known Convention on International Civil Aviation, also known as the Chicago Convention (herein after: the Chicago Convention) issues related to this matter receive a quality trend. It can be said that Annex 1 to the Chicago Convention practically represents the first comprehensive regulation of this matter arose in 1948 in accordance with its Article 37.

2. Legal aspect

The term "License", as it is stated in the General Information section of Annex 1 Personnel Licensing, has the same meaning as the terms used in the Chicago Convention "certificate of competency and license", "license or certificate" and "license".

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Regardless the comprehensiveness and the way it regulates this matter, (especially Chapters 2, 3 and 4) in Annex 1 Personnel Licensing it is not present. As mentioned in the Introduction of this article, another category has not been included in aviation personnel who is just leaning directly on technique/technology related to air traffic management (Air Traffic Management-ATM) and it's Air Traffic Safety Electronic Personnel-ATSEP (hereinafter: ATSEP). Although, as such, it is recognized in the world of civil aviation, ATSEP failed to obtain a license that would be recognized worldwide. ATSEP has been working on this issue for many years and status issue was raised. How did this happen and what to do about it will be answered through the treatment of this theme by considering not only legal, but a brief safety, professional, social and health aspects related to the profession. Is it still a satisfactory solution to ATSEP without worldwide recognized license or with licenses eventually valid at the national level of the member states of ICAO?

Addressing this problem as a matter of ATSEP licenses certainly cannot be subsumed under the exclusive legal framework as it requires understanding from multiple angles. Of utmost importance is to show this issue comprehensively. It is also important that a global organization of civil aviation, such as ICAO, deals with this issue of reviewing the facts. Of course, the same thing should be done in regional and especially at the national level in each member state of ICAO.

Legislation in this case can arise from the international/regional or national level. If we were to take into consideration, then in most European countries, the relevant regulations would include:

- Annex 1 to the Chicago Convention (Chicago Convention), Personnel Licensing
- ICAO Doc 9868, PANS-Training
- ICAO Doc 7192, Training Manual, Part E-2 Air Traffic Safety Electronics Personnel (ATSEP)
- Eurocontrol ESARR[2] 5
- Competence Assessment of ATM Staff other than ATCOs complying with requirements set out in commission (EC) No 2096/2005
- EUROCONTROL Specification-132 for Air Traffic Safety Electronics Personnel Common Core Content Initial Training
- EU Regulations 1035/11
- EASA NPA 2013 (ongoing with extension reference 2013-08)
- EASA Opinion No 03/2014
- ILO – International Labour Organization (ISCO 08) ATSEP 3155

When it comes to national legal frameworks, the regulation can vary and differ from country to country. Depending on the tradition, legal inheritance and other factors, or whether State has Air Navigation Act, or does some other law, will depend on the respective bylaws solutions. Generally speaking in Europe, the countries of codification law where there is usually a special law, in this specific case in Serbia, when related to ATSEP it is looks like:

- Air Traffic Law, 2010., (article 172.)
- Regulation on Licenses and Training Centers for ATC technical personnel

2.1. Legal status and ATSEP licensing in some European countries

To make ATSEP licensing matters properly approached it an overview of solutions that are used in various European countries is executed, as members of the European Union, and those countries that are not members. A random sample in the considered European countries (10) shows the presence of numerous ATSEP licenses to perform professional duties, which is not necessarily the case in the whole Europe.

Lack of uniformity solutions when it comes to ATSEP training and its regulations that cover the same, caused the unfavorable situation considering the licenses for the profession such as ATSEP. Still, the importance of activities that ATSEP deals with, demand that things move to the starting point and to finally change something in this domain. Since the beginning of the 2000s things began to change. A professional organization that unites ATSEP globally - IFATSEA[3] in this regard to develop a separate document that is later used by ICAO in cooperation for the development of the document ICAO Doc 7192 AN/857 E2, and who in fact gave some solutions when it came to training ATSEP.

The proposed solutions provided by ICAO Doc 7192 AN/857 E2 certain number of member states incorporate into its national legislation and begin training ATSEP accordingly. Later development brings a number of documents which had just given certain guidelines are related to ATSEP. Here is primarily the guidance document in the form of Eurocontrol ESARR 5 or EAM / GUI 5 3. It is necessary to say that the ESARR 5 paid attention to personnel not covered by the licenses, thinking of the technical staff working in air traffic control. As important documents related to this issue are considered among other and Eurocontrol Specification for Air Traffic Safety Electronics Personnel Common Core Content Initial Training, EU Regulations 1035/11, EASA NPA 2013 (the ongoing extensions with reference 2013-08)[4].

In recent years, under the program that started with the ICAO stakeholders the Next Generation Aviation Professional-NGAP there was intensive work being done to restructure the ICAO Doc 9868 which is attached to the training ATM staff where in Chapter IV ATSEP is placed. At the same time a proposal for integration of ATSEP official in Annex 1 Personnel licensing starts to be more active. Thus, at the 38th session of the ICAO General Assembly held 24.9 - 04.10.2013, one of the proposals WP/151[5], submitted by Indonesia was bound for licensing ATSEP and their integration in Annex 1 Personnel licensing. Unfortunately, the proposal as such has not passed, and the report[6] of the Technical Commission to the General Assembly - 38th Session, paragraph 38.12, it provided, in other words, it is early for ATSEP integration in Annex 1 Personnel Licensing. So, conditions have not been met that ATSEP license as the Standard and Recommended Practice-SARPs becomes a part of Annex 1 Personnel Licensing. With presented proposal envisaged a simplified hierarchy of ICAO documents related to the licensing ATSEP would look as follows:

ICAO Doc 7192 E2 ⟹ ICAO Doc 9868 ⟹ Annex 1 Personnel Licensing ⟹ Chicago Convention

However, the aforementioned proposal does not lose its importance. In the fall of 2016, as scheduled, the regular session of the General Assembly ICAO at which ICAO should reconsider an earlier proposal integration ATSEP in Annex 1 Personnel Licensing.

Obviously, the time for that has come. In the reasoning of the above-mentioned proposal ICAO Technical Commission noted that the absence of internationally recognized licenses ATSEP does not prevent states or regions to introduce[7] them. The furthest ones to go in that rare recommendation are some European countries. If we conducted a retrospective ATSEP licenses around the world we would see that Europe is leading the so-called Non-ICAO licenses, or permits ATSEP applicable at the national level. For the purpose of this article, a retrospection for ATSEP license has been conducted in some European countries.

Czech Republic

The first one to discuss a comparative solution was Czech Republic. ATSEP, after obtaining the appropriate education and training completion, receives a document issued by the Authorized National Service Provider (here and after: ANSP) called the "License". For this document to be issued by ANSP, it needs to be approved by the Civil Aviation Authority-CAA. This document contains information about the holder of the "license" associated ratings for systems and equipment. The basis for the issuance of such document by the ANSP approved by the CAA is in the national regulations of the Czech Republic (see: http://lis.rlp.cz/predpisy/predpisy/dokumenty/L/L-1/data/effective/dodO.pdf) or the law that deals with matters of air traffic and bylaws. "Licensing" ATSEP located in Amendment 0 in the implemented national regulations L1, which is transcribed in Annex 1 Czech L1. The license is valid only at the national level.

Spain

Unlike the Czech Republic, Spain, also a member of the EU, Spanish ATSEP has no license or certificate. It is not usually seen as a solution, but has a document that defines ATSEP as staff working in safety chain related to ATM equipment. What must be emphasized is that this document applies only to purely operational ATSEP, while the rest of the ATSEP which is involved in the development and management positions does not possess such a document. Possession of a document that is part of ATSEP "safety chain" was in fact done with compliance of Eurocontrol's ESARR 5 document that relates primarily to the licensing of air traffic controllers in the EU.

Here there is another locally specific solution when considering ATSEP. It is noted that there is no license or certificate to ATSEP in Spain, but there is an ATM supervisory body called the AESA (Spanish Air Safety Agency). Also, regardless of the existence of the obligation to register ATSEP and their qualifications, the final step towards the introduction of a license for ATSEP has not been made.

Germany

By status ATSEP in Germany until 1993 were civil servants. After commercialization of 30.07.1992, the job of air traffic control has been entrusted to Deutsche Flugsicherungs GmbH (in the following referred to as DFS) according b to §31 German Aviation Law and previous legal frameworks and methods of licensing staff begin to change. As for the German national legal frameworks related to the functioning of ATSEP licenses and their issue is the legal basis aviation law LuftVG-Luftverkehrsgesetz (see:http://www.gesetze-im-internet.de/luftvg/) as well as adequate bylaws determined by ministry of traffic. What includes ATSEP license in Germany is in fact working on the operational CNS/ATM equipment. So, equipment and systems used for the purpose of air traffic management, respectively which use air traffic controllers.

In addition to basic license contains the appropriate qualifications and ratings. Maintenance of the qualification and competence scheme ATSEP are one of the goals. German ATSEP professional association that operates within the GdF Gewerkschaft der Flugsicherung believe to have a monopoly on expert analysis, believing that no subject in the DFS would not ignore their expert opinion.

Greece

Status ATSEP in Greece is determined with operating license and is regulated by the form of a presidential decree. Positive regulations related to air traffic in Greece defining Air Traffic Controllers and ATSEP as civil servants[8]. Thus, licenses are issued by the ANSP's, but under the control of the National Supervisory Authority-NSA, which means that there is a functional separation. NSA and ANSP are controlled under Hellenic Civil Aviation Authority-HCAA. The license is valid only within national borders. The Greek Association of Professional ATSEP-ATSEEA considers that Greece implement a positive policy for ATSEP license.

Bulgaria

Officially Bulgarian ATSEP has a license in the form of Air Traffic Control Systems Maintenance License (ATSML). Training activities and theoretical exams are provided by the ANSP (computer based), but the Bulgarian CAA is responsible for the issuance, revalidation and renewal every three years. CAA is part of the Ministry of Transport. The license is valid for a national framework of Bulgaria. Inscriptions in the license are in Bulgarian. Issuance is based on Regulation No 1 (see: http://caa.bg/page.php?category=15&id=170) of the Bulgarian CAA.

Croatia

When discussing the situation with regard to ATSEP licenses in Croatia can be said that there is legal continuity of licensing. Licenses issued by the ANSP CROCONTROL is under the supervision of the Civil Aviation Agency, which is a government agency. Such ATSEP licenses are recognized at the national level. According to the former regulations license is issued by the ministry responsible for air traffic, and all the ratings went to the approving to registration in the ministry. Since it was established in the Civil Aviation Agency changed the policy for issuing ATSEP license so that the duty of CROCONTROL to issue a license and the revalidating, renewing ratings, while the Civil Aviation Agency performs only supervision. The regulation is written by Eurocontrol documents as well as the recommended documents relevant aviation organizations for this purpose.

Former Yugoslav Republic of Macedonia

The existing solution for ATSEP licenses in FYR of Macedonia is based on the legal heritage of the former Yugoslavia, respectively, on the basis of the old Regulations on licenses from a previous state maintained the legal continuity of when the license for ATSEP concerned. The current solution for ATSEP license is to be issued by the Civil Aviation Agency of the Republic of Macedonia as a regulatory body, while the M-NAV national provider of air navigation services. Licenses are valid at the national level. Bylaw that deals with the licenses: Regulation on training, examination and licensing and ratings of CNS technical personnel No.73/09 (see: http://www.caa.mk/95Podzakonski_propisi_za__vozdushen_personal.html).

Belgium

What can be noted (pointed out) when it comes to status ATSEP in Belgium is that there are no licenses. All this even though in terms of its national implementing training and competence schemes related to ATSEP the CEC in accordance with the EUROCONTROL ATSEP CCC (Common Core Content). The types of training that are covered include initial, system/equipment, rating training, refresher training and instructor training. That training was successfully completed and it is necessary to do assessments ATSEP after which they will be declared competent by the ANSP.

What else is doing is conducting an administrative database of ATSEP but within the ANSP, strictly speaking in Human resource there is something similar registry staff. There you can find information about each ATSEP in respectively the one with whom he recognized competence. The role of the Civil Aviation Authorities of Belgium has been reduced to the fact that it monitors whether the training and competence schemes implement under the current regulations relating to ATSEP.

Switzerland

Switzerland is a country that has unfortunately experienced a direct connection to an unfortunate accident above Überlingen in 2001 and that although it did not happen on its territory was a consequence of its responsibility ANSP Skyguide. Among other things, due to a series of failures led to the conviction of managers from the ATSEP. Negative experience did not change much. Since then it's been almost 15 years, and although there have been many initiatives, what is the professional association SATTA[10] forced, until now ATSEP in Switzerland does not have a license but only certificates issued by the ANSP.

Slovenia

Slovenia is one of many states of the former Yugoslavia where there were licenses for ATSEP under the old bylaw passed in 1979. This legal continuity has been maintained to this day where the new proposal of May 2015 the old regulations is being replaced with a new one, harmonized with the existing EU regulations and still retain the license for ATSEP.

Serbia

Serbia has been entered on the list of countries that have ATSEP license again from May 2015. Although, it was exactly the same legal heritage when it comes to this area as well as other countries of the former Yugoslavia in Serbia it is a slightly different case. In fact, unlike other ex-Yugoslavian countries that had continuity in ATSEP licenses Serbia has not always had continuity.

In fact, what happened was that in 1998 the then Air Navigation Law for ATSEP did not provide licenses but had instead provided the certificates issued by Federal Air Traffic Control Authority-FATCA, later Serbia and Montenegro Air Traffic Services Agency-SMATSA. The fight for the return of the license ATSEP that has been guided by a professional association SRBATSEPA and was long and unsuccessful for years. However, the strength of the arguments and persistence brought results that have led to the return of the license to the latest legal provisions from 2015.

The transition period is in progress and bylaw solutions for ATSEP are not done yet, but there are some proposals. What is important, is to note when there is a case like this is that take into account the quality of bylaws because they can "spoil[11]" much more, compared to what the law allowed and what should be a general solution.

3. Safety aspect

3.1. General

Today more than ever, we recognize the importance of safety in the world of civil aviation and try to take care of safety in aviation. Regarding that, it must be noted also that the air traffic remains the safest mode of transport. In parallel to the technical improvement of safety systems over the last 15 years has done a lot on the development of safety documents that are slowly taking over primacy in aeronautical regulations. The result is the emergence of institutions, and regulatory bodies when it comes to the safety of civil aviation, such as, among others, EASA in Europe (EU), as well as generating of new safety standards, regulations, manuals, recommendations, contingency procedures. The development of the same leads to defining new concepts of safety interest, or what is the safety of aviation and how to establish a safety management system (SMS) in aviation. We'll just mention that the last Annex 19[12] to the Chicago Convention is about Safety.

The definition of what is safety in aviation has a really great deal. Starting by scholar to definitions that were proclaimed by scientific institutions or the relevant civil aviation organization as their own. At this point we do not deal with them, nor to certain definitions favored. Each of the respective definition, wider or narrower, provides an answer to what is the safety of aviation. Nevertheless, despite this definition, we are aware that accidents and incidents occurring in the world of aviation and task of safety experts is to reduce existing number of accidents in the future.

It should be noted that whatever measures by safety experts to recommend, or require that they are not completely independent. As it usually happens, the limiting factors come from the domain of economics, law and politics. To put it simply the thing will easily reach the conclusion that something that is acceptable in terms of security can be from economic standpoint absolutely unacceptable, or unreachable. So, what will be at the operational level in the aviation carried out depends on many factors. At this point I would add one more very important component, and that is the security provided that it would not be evaluated at this place.

Safety in aviation is mainly associated with operational safety, which will among other things involve licensing of aviation personnel. In particular, the licensing of aviation personnel are engaged primarily in Annex 1 Personnel licensing. Chapters 2, 3 and 4 are counted and processed categories of aviation personnel covered by the licenses. Unfortunately, ATSEP is not among them. The document which also deals extensively with the licenses of aviation personnel ICAO Doc 9379 AN/916, Manual of Procedures for Establishment and Management of a State's Personnel Licensing System does not require licenses for all staff in the aviation, and especially not for the ground staff.

The same document in a compartment 4.2.2 How to decide whether an activity requires a license in about six passages performed elaboration of that. Two passages deserve special attention when it comes to licensing staff and they are subsections 4.2.2.4 Assessment of the criticality of a function to the safety of aviation and 4.2.2.5 Assessment of the need to provide evidence of competency in the form of a license. Here we come to the key point, and that is how to connect with the safety of aviation with personnel as ATSEP?

3.2. Safety cases

To get the whole story to safety in aviation closer to concrete cases and thus clearly showed the share of responsibility that may have ATSEP taken examples from the recent past that have occurred in Europe. Of course, that does not mean that similar things are not happening around the world. Two accidents were taking into consideration and three of accidental events in air traffic control. Mid-Air Collision, Überlingen that took place in 2002. and second Runway Incursion, Linate in 2001. and serial occurrence at Swanwick 2013, 2014 and Brussels 2015. All of these events are very famous and are treated with multiple viewpoints.

In short, the case mid-air collision in Überlingen, Germany, took place on 1 July 2002. This disaster occurred between Bashkirian Airlines passenger plane and DHL cargo plane. The event which took place in airspace on the border between Germany and Switzerland, in fact belongs to Germany and was controlled by the Swiss ANSP Skyguide (Switzerland) based on the Letter of Agreement (LoA). What actually happened is the result of several circumstances. Aircrafts that were involved in the accident had been under the responsibility of air traffic controllers who had worked with the norms out of stipulated safety standards. There is a possibility that the two aircraft colliding air traffic controller was aware at less than a minute until the moment of the accident. Although the aircrafts were properly equipped with TCAS (Traffic Collision Avoidance System), collided in the air. Also, the air traffic controller was not aware of the operation of TCAS and had issued a clearance contrary to the TCAS[13]. It had created confusion, which led to the Bashkirian Airlines pilot following the instruction of air traffic controllers, although his TCAS showed the opposite, while the DHL pilot followed the instructions of TCAS. The result was 71 dead passengers.

The accident was followed by a series of investigations[14] and judicial proceedings that were conducted before various courts in several states[15]. What we need to focus on here in the context of this article is to investigate the responsibility of the Swiss ANSP SkyGuide, or ATSEP employees in the CNS (Communication/ Navigation/Surveillance) department as direct perpetrators. A detailed investigation conducted in this case has identified errors that are committed by the ATSEP employee.

Epilog fault is that, among others, the manager of the Department CNS becomes fined with 13,500 CHF, although absent at the time of the event against any omissions made by suspending for 2 years as the court costs of 25,000 SWF. This is primarily related to the failure to adequately coordinate the job modifications to the Voice Communication System-VCS at Area Control Centre in Zurich with adjacent air traffic control units. Work on the modification of VCS prevented the air traffic controller on duty to communicate with aircrafts from one working position, direct responsibility of ATSEP. Finally, among the four liberated in this process is ATSEP technician who was on duty at the time of the accident.

Another equally well-known case occurred at the Linate airport, Milano, Italy on October 8th 2001 between the aircraft Cessna Citation CJ2 (call sign: D-IEVX) that collided with the McDonnell Douglas MD-87, Scandinavian Airlines (call sign: SK 686), which was in preparation for takeoff. Instead of taxiing across the platform toward the taxiway pilot Cessna Citation CJ2 opted for taxiing toward the main taxiway. This decision has produced the fatal outcome of the 114 dead who were in the two aircraft. In the campaign of prevention and rescue of even greater consequence of the accident, the fire claimed the lives of 4 employees and 4 injured. However, can just one bad decision lead to such an outcome? From what has been shown of investigations and final report[16] it turned out that Linate airport organization and condition of the equipment was far from the required level. Moreover, CNS/ATM systems/facilities had particularly significant shortcomings: lack of ground radar, problems with radio communication equipment, the absence of stop bars and the absence of appropriate procedures.

The case showed that coincidence had even more bad circumstances. Notwithstanding, given the reported problems with the CNS equipment liability of Italian ANSP ENAV[17] particularly was examined. Due to organizational shortcomings, poor planning, failure to take appropriate measures, non-introduction of certain procedures then director of ENAV was sentenced to six and a half years in prison. In the same trial, with him, was still convicted seven junior managers. So, there was a concrete set of omissions in such an event. In other words, no one from the CNS Department did not switch on the "wrong button" or hit the "click" and directly produced disaster (accident). But the liability ATSEP can be seen in the fact that the management of CNS behaved in a way that even though they knew or should have known that it is possible that an unwanted event occurs, lightly maintained that it will not happen. It is this neglect, failing to act has led to disastrous consequences, although not the sole culprit for the accident.

If the above-mentioned two cases transferred into the field of safety chain and the chain links as they lined:

PILOT ⬭ MECHANIC ⬭ AIR TRAFFIC CONTROLLER ⬭ ATSEP

As a continuation of a streak is quite logical. Simply put, if the mechanic/ engineer is the key in aircraft maintenance and pilot is an inevitable link, and then the air traffic controllers and ATSEP are crucial in maintaining the functioning of radio navigation aids as essential for the safe operation of air navigation. That is, if you look at a potential hazard, then the irregular mechanic/engineers in equipment maintenance aircraft are a concrete threat to the aircraft while the improper operation of ATSEP supposed to represent a risk for a number of aircraft simultaneously.

Errors resulting from CNS/ATM domains, and human factors related to ATSEP have not always, luckily, caused accidents or deaths. Yet what potentially requires special attention. In recent years in Europe took place in these cases and the CNS/ATM which include the emergency. Here in this place to extract the occurrence that took place in the ATC Center Swanwick, UK. The first event took place on 6/7.12.2013.

What actually happened is that the problem occurrs on the Technical Monitoring and Control System–TMCS of Voice Communications System (VCS) as a result of carrying out a update-causing inability to return to work normally in the daytime 15-20 sectors configuration of the operating rooms from the night configuration of 5 sectors, producing a numerous re-routing and part of the flight cancellations[18]. This disorder is produced in addition to the hazard and serious economic damage.

After a year, a similar thing happened again in the ATC Swanwick center in 12.12.2014. The cancellation took place at 14:44 whose cause latent software error present since the '90s[19]. The cause has resulted in the cancellation of take-offs and landings in the area of responsibility of Swanwick, precisely over UK airspace and European airports which had planned route to UK airspace. Assessment done by NATS says about the 230,000 passengers that were affected by this disorder in traffic on the first day and an additional 6,000 passengers on the second day 13.12. Serious economic damage without casualties, fortunately.

In 27.05.2015 the problem occurred in the Belgocontrol's Brussels was related to power supply. Although the result of routine testing emergency generator operations, what are periodically carried out, there was a considerable over-voltage when switching from the primary to the secondary power supply. The result was the termination of important technical systems for the operation of air traffic control in Brussels ACC. However, in the web of bad circumstances emergency telecommunications transmitters remained active as an opportunity for Brussels ACC conduct contingency procedures by submitting to the jurisdiction of aircraft adjacent ACC gradually close its airspace. In all this immeasurable role was played by a military center in Semmerzake assisted in this operation.

Based on the described cases, the question that arises as inevitable, given the potential hazard or actual damage that can produce irregular work ATSEP is whether one such staff, which is obviously part of safety critical chain, deserves to be integrated in Annex 1 Personnel Licensing. Only the previous examples given unambiguously indicate that it is necessary to safety standpoint. What still needs to be mentioned at this point is the increasing importance and role of Cyber Security and its impact, especially contemporary when we have growing integration/ networking in ATM such as in the case in Europe through the Single European Sky project-SES and centralized services. Further development of this story would require a separate article.

4. Professional aspect

Look at ATSEP integration in Annex 1 Personnel Licensing only from a safety point would be too narrow and insufficient. Another aspect that should be considered is a professional. It is known that the process of building a profession is long process that requires meeting certain standards. ATSEP as a specific profession is not only recognized in the aviation community but also beyond through the International Labour Organization-ILO. The International Standard Classification of Occupations, Volume 1 Structure, Correspondence Group Definitions and Tables, specifically on page 193[20] Unit 3155 of the Air Traffic Safety Electronic Technicians, where he defined the scope of their activities.

One of the most important standards in the aviation profession is training. Training in terms of the quality of performance training and what is should be achieved by training, or unification of training for aviation personnel and thereby recognition training anywhere in the world.

Precisely, training issues were often debated between the relevant bodies of ICAO (i.e. Air Navigation Commission; General Secretariat) and the organization IFATSEA that unite ATSEP professionals worldwide. Both organizations were aware of the problems with training for ATSEP primarily in terms of the lack of a uniform standard by which to ATSEP were trained in the same way everywhere in the world. Accordingly, there was a great diversity in administrative coverage given to training but today we have examples of that training ATSEP covered internally within the ANSP certificates or licenses by the State (the so-called. NON-ICAO license).

For this reason in the early 2000s things are beginning to change in line with the increasing needs for the functioning of the CNS /ATM systems globally. Precisely, because of these perceived shortcomings relevant ICAO bodies begin cooperation with IFATSEA on drafting regulations that will uniquely define the standards of training ATSEP. Later, as a product of such cooperation ICAO Doc 7192 occurs, where part of the E2 admits the undoubted contribution to the organization IFATSEA in drafting the document. Literally it was said that the respective document in question arose on the basis of another document that is IFATSEA independently developed.

What is thoughtfully aforementioned ICAO Doc 7192 is that the principles of training for ATSEP be divided through three ATSEP main duties: maintenance, installation and management/monitoring/control of CNS/ATM system/equipment. In addition, we should also mention the importance of the develop, review and modification of the CNS/ATM system/equipment and/or maintenance procedures and standards.

ICAO Doc 7192 gave the basis for standards in the field of training ATSEP. However, worldwide the same document was not accepted completely. The differences at the national level between the Member States of ICAO, when it comes to ATSEP still exist. At the moment when the CNS/ATM systems begin to function globally and when systems are connected, is it realistic to expect that ATSEP will be trained in various standards? Is it allowed and whether it is safe? In our opinion, certainly not. At the national level, except for the differences in training often have a difference in the regulatory recognition ATSEP. The laws of many countries which are engaged in air traffic does not recognize ATSEP as aviation personnel and the ATSEP has status of auxiliary staff[21], although there are possibility for certificate or license on a national level. For this occasion, it is also important to mention recital (17) of EU Regulation 1108/2009 (second extension of EASA): "(17) With regard to the regulation of professions which are not covered by this Regulation, the competence of Member States should be retained to establish or maintain at their own discretion, inter alia, certification or licensing requirements of the personnel." It is obviously what EU legislator wants to emphasis is on the acquisition and demonstration of competence than formal licenses issued by the aviation authority.

With the advent of the increase in air traffic has been observed by the relevant aviation organizations (ICAO and stakeholders) the problem of lack of competent personnel in the era of the increasing influence of technology in the unwinding of this type of traffic. It is known that the administration launched Next Generation Aviation Professional- NGAP 2009 is a response to precisely this lack of observation. In this regard, the originate proposals restructuring ICAO Doc 9868 PANS-TRG. Under the proposal ATCOs and ATSEP are ATM personnel. Anticipated decision in PART IV there are three sections where the principles and procedures for ATM personnel. At the end of the document[22] there is a table framework for ATSEP. It must be emphasized that this document does not have the same status as SARPs. As it is stated in the document The PANS-TRG specifies, in greater detail than in the SARPs, the actual procedures to be applied by training organizations when providing training for aeronautical personnel[23].

The unique professional training, which would fulfill issue shown in ICAO Doc 7192 PANS TRG 9868 and should provide an answer to the previously identified problems at the national level, that non-standardized training ATSEP and practical in some way to avoid the exercise training on the same principles by member states of ICAO. After all, how is this resolved with the other air personnel who has long been a subject to licensing and is part of Annex 1 Personnel Licensing? Is it necessary to use solutions that have already been seen? Absolutely not.

5.Social aspect

Bearing in mind that the ATSEP as a profession due to the nature of the bound on the international level, and with each day passing it becomes increasingly necessary to look the same from its sociological aspect. But we should ask whether all ICAO States have a case that ATSEP at the national level is able to define itself as a profession. Differences between countries are quite large. Of course it all starts with the level of development of aviation at the national level and then by the other factors. In some countries there are even professional associations ATSEP[24].

Why are these associations important? Well, precisely in order to develop a code of professional ethics as an important condition to a group of professionals in an organized way manifested its performance in a particular community. Where there is such a professional organization or where it functions poorly can be difficult to talk about professional ethics, respectively or the Code. If there is a case that ATSEP professionals failed to develop the structure, then it is a professional lagging behind in comparison to other professions in aviation. The reply to the statement in the preceding sentence shall be existence a professional association with a highly developed professional consciousness by which it is possible to achieve professional ethics, which is recognized in one community.

As mentioned, there are some cases where the actual situation is such that ATSEP failed to develop itself from occupation to the profession. This is the case when the respective interest profession failed to gain autonomy and distinctive position in society and it is on the basis of expertise and their monopoly on expertise in a given field of activity. For example, in this case ATSEP is only an occupation, respectively a job that allows the individual to live from it and for that professional education is required.

Because of existing differences there is a need of building a profession to a national and international level. The existence of professional associations is important but not the only important thing in building professions as ATSEP. Educational institutions have an important role, in particular the existence of specialized institutions for training ATSEP[25] or organizations where ATSEP perform their duties. In the end, it is essential that ATSEP gain autonomy in relation to other related professions. Licensing ATSEP will make that difference.

It is very important that professions other than their members and that what members should do for their profession must have the proper environment by state authorities in order to achieve their goals. Meeting the above factors leads to the development of professional ethics, followed by sanctions or exclusion from the profession of those members who are unworthy of the profession. An expert's opinion is that all this should result in what we mean by the term professionalization.

Maintaining professional standards and professionalization will necessarily acquire professional identity. Members of the profession will also get some other properties in terms of acceptance of certain traditions, respect reference institutions, individuals as-proved professionals.

If these elements are met and if certain countries civil aviation authority recognizes that, it is possible to get to the point to achieve a professional integrity. Integration in Annex 1 Personnel Licensing and getting licenses will be recognized around the world and it will be just what ATSEP needs.

6.Commercial aspect

We are aware that we live in a world that is in terms of time of 30 years ago, a lot has changed. There are a lot of reasons and they will be mentioned, but the key one would be: globalization, economic liberalism, the development of information technology, especially internet, etc. Removing barriers in terms of restrictions on movement of people, providing services and the flow of goods between countries is something that is permanently taking place in almost the last three decades. Tough competition that played between all economic actors has not spared Civil Aviation which became highly commercialized. The struggle for every cent earned, or transported passengers or kilogram of goods is becoming sharper[26].

However, whether such a competition, or struggle for profit, commercialization services, can be an excuse for a breach of security and professional standards in civil aviation, even if it only related to one segment such as CNS/ATM, respectively ATSEP?

From a safety and professional standpoint it certainly should not happen. However, whether is one profession strong enough to resist this? If the aim of the profession is to meet the goals that move only in the context of the exchange of expertise knowledge it certainly is not the case. But if the profession has in society what is called the right to dispose of expertise, then there are better things for sure. Such professions, and professional associations are becoming a partner in the development of an area that is of interest for the respective profession.

This is what ATSEP should possess. So what is related to ATSEP and his professional work must be accompanied by appropriate public ATSEP associations.

Commercialization of services, like CNS/ATM, must not be an excuse for the deterioration in the status of a profession, although it must be admitted that it is often the case. The struggle for profit or for the lowest price of services in the civil aviation should not override safety and professional criteria. Actually, profiling of future members of the profession ATSEP through its licensing obtained during the unified training is exactly what the profession needs to do.

It is important to create a balance, which means that ATSEP cannot get away from commercialization. Respectively this recognition in the provision of services related to CNS/ATM which would be based on a unique training and licensing which would lead to even greater cooperation among States/ANSP. Some countries, developed in aviation, have their own institutes or centers of development when it comes to CNS/ATM. These services can be offered a variety of stakeholders and beneficiaries.

To explain something like this specifically in the sphere of action aviation technical personnel of air traffic control it is possible to look at the experience of other countries through the provision of consulting[27] services and development centers. Also it is possible to provide professional services in the field of air traffic control overall or just in certain segments, such as CNS, educating air traffic controllers from other countries as well as service calibration radio navigation aids.

7.Health aspect

Last but not least in consideration of the license ATSEP is the health aspect. There will be noted only a few things that are a direct result of difficulty of the job and the stress that comes with it. Of course, considering the stress and problems that we are facing a variety of professions in their actions are a part of a special study which is necessary to spend a certain amount of time.

Shortly said, ATSEP wise, we can say that the staff in the course of their career, which is for foreseen to the full length[28], working in shifts, 24 hours a day suffer significant levels of stress. Harmful effects of working shifts is well known and properly documented, and may affect the biological disorder of physiological processes, including sleep-wake cycle, impaired physical health or psychological well -being, as well as problems with attention and performance.

Of utmost importance is emphasized, which is very often neglected, and participation in social life and family life. Working in shifts itself, causes sleep disturbances, insomnia or drowsiness at home and at work, and for most people this can have a negative impact on productivity and quality of life. It is questionable if the social life of the rhythm of work duties ATSEP are bit different from the living ATSEP environment which is generally the case. Low productivity and quality of life experiential lead people in stress both at work and at home.

Such stressful situations can be related to the functioning of the CNS system in which members ATSEP can be found at failure equipment or different contingency situations, (the closure of airspace FIR Zagreb[29] 30.07.2014., London 2013 TMCS VCS etc.) which should be the subject special consideration.

ATSEP division by specialties is based on systems and devices serving. These divisions must produce different requirements when the maintenance, installation and use of such equipment/system is in question. Radio-navigation aims can be geographically very different placed in terms of distance and accessibility. Climatic conditions prevailing at the location of the device/system as well as the height at which they are located, then the radiation emitted can vary greatly. Such harsh conditions are necessary to produce additional problems for ATSEP and require additional efforts of required tasks. What are harsher working conditions should be improved to psycho-physical condition. More specifically, to such assignments successfully carried out it is necessary to meet the special medical criteria. Fulfilling the medical criteria must be confirmed by a certified aviation medical centers. So this must be a conditio sine qua non, or necessary medical criteria must be closely linked to the future ATSEP license.

8.Conclusion

Its rapid development and long-time international civil aviation can thank, among others, the development of regulations that followed it. It is this dynamism of civil aviation, quickly overcome international barriers has made the need for harmonization of key issues in international civil aviation. It can be said that the International Civil Aviation highly relevant aviation organizations, such as ICAO and its member states better equipped compared to other transport activities.

When it comes to aviation personnel licenses are just one of the key regulatory things. All these years we see that a part of the aviation community has licenses recognized worldwide which is very important in the performance of such a responsible job. The focus is definitely still on pilots, flight crew members, mechanics and air traffic controllers. Some would say it is justified, yet the aviation community is not complete, missing one link, ATSEP. Unjustified, they would say.

As already mentioned, any importance in the world of modern civil aviation has a technique/ technology and its development. With that technology, the work of which is related to ATM, managing people and their professions is called ATSEP. Affiliation critical safety chain ATSEP nowadays is no longer questionable. Previously considered accidents in civil aviation clearly indicate that safety standards must be met. Developing appropriate regulations in terms of uniqueness / distinctiveness training for ATM Personnel is something that was jointly launched by ICAO and IFATSEA and what is working on continuously. Removal of non-uniformity of standards of training ATSEP disappear and the last reason for the absence of ATSEP being integrated in Annex 1 Personnel Licensing.

Moreover, it also analyzed the various aspects of the ATSEP the same in favor of the need integration in Annex 1 Personnel Licensing. Aspects used for the purposes of this article, starting from the legal standpoint and finally to health issues, unambiguously indicate that. Also, a new standardized/unified requirements in training ATSEP would bring added value in terms of dynamism, higher and mobility profiling profession. Commercial effects are also indispensable. In educational terms, there would be an opportunity for dissemination ATSEP such as specific specialist studies. The benefits are really visible. It's about time. ATSEP is definitely qualified for Annex 1 Personnel Licensing. Being welcomed to Annex 1 Personnel Licensing for ATSEP is what aviation community should do.

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[1]*Some of the examples: Advanced Air Transportation Technologies (AATT) Project, The Next Generation Air Transportation System (NextGen) in USA or SESAR in Europe*

[2]*European Safety Regulatory Requirements – ESARR 5 sets out the general safety regulatory requirements for all ATM services' personnel responsible for safety related tasks across ECAC area*

[3] *International Federation of Air Traffic Safety Electronics Associations, established 11.10.1972.*

[4]*Chapter 10, Annex XII, point 215, page 55*

[5] *A38-WP/151 TE/60 22/8/13 THE INTEGRATION OF AIR NAVIGATION PERSONNEL INTO ANNEX 1*

[6] *See: ICAO A38-WP/401 TE/178, ASSEMBLY — 38TH SESSION ,TECHNICAL COMMISSION DRAFT TEXT FOR THE REPORT ON AGENDA ITEM 38*

[7]*ICAO Doc 9379 chapter 4.2.1*

[8]*This is not very often the case in Europe but there is also in France*

[9]*According Letter of Agreement (LoA) Skyguide was liable for portion of German's air space*

[10]*SATTA represents engineers and technicians working in the technical domain of air traffic safety electronics*

[11]*Mainly referring to the level of achieved rights („Grandfather rights")*

[12]*After 30 years ICAO issues the new Annex 19 which entered into force 14.11.2013*

[13]*According to Eurocontrol Review of the BFU Überlingen Accident Report after this case recommendation 18/2002 made to the ICAO on 1st October 2002 relates to changes in the requirements of Annex 2 and 6 and the PANS-OPS documentation to ensure that pilots follow TCAS advisories even in the face of conflicting information from ATM officers;see also:BFU Investigation Report,2004, page 112.*

[14]*The official investigation was conducted by German BFU according to ICAO Annex 13 and EU Directive 94/56 (European Council 1994)*

[15]*In Germany, Switzerland and Spain*

[16]*Final Report, AGENZIA NAZIONALE PER LA SECUREZZA DEL VOLO*

[17]*FINAL CRIMINAL JUDGEMENT AFTER THE COURT OF CASSATION DECISION 20 February 2008, ENAV General Manager Marzocca Fabio 4 years and 6 months, Manager Director Gualano Sandro ENAV Managing Director 6 years and 6 months*

[18]*NATS-CAA Report, "Some 300 flights were cancelled and almost 1,500 were delayed which we have calculated could have affected some 240,000 passengers".*

[19]*NATS System Failure 12 December 2014 – Final Report,"The fault lay in the software's performance of a check on the maximum permitted number of Controller and Supervisor roles (known as Atomic Functions)."*

[20]*Ahead of ATSEP with code 3154 there are air traffic controllers*

[21]*The case with ATSEP in Montenegro, see: http://www.sluzbenilist.me/PravniAktDetalji.aspx?tag=%7BC42FA975-10D6-4D49-ADB4-B645FC0C4E38%7D, page 30, article 104.*

[22]*See page 48*

[23]*Procedures for Air Navigation Services-Training, 2. Scope and purpose*

[24]*For example, it has been achieved in Serbia a few years ago, see: http://tangosix.rs/2013/27/06/osnovana-srbatsepa/*

[25]*In SMATSA there is a training center which is in charge of training SMATSA's employees in Serbia and Montenegro*

[26]*Over a 40 year period, airlines have generated the lowest returns on invested capital out of a world-wide sample of almost 30 industries, THE CYCLICAL CRISIS IN COMMERCIAL AVIATION, Prof.Paul S Dempsey, McGill University*

[27]*DFS provided consulting to SMATSA for project FAMUS, see:https://www.dfs.de/dfs_homepage/de/Consulting/%C3%9Cber%20uns/News%20&%20Brosch%C3%BCren/Brosch%C3%BCren/Brochure_Consulting%20Services_Web.pdf*

[28] *Common labour legislative practice says: ATSEP does not have an accelerated internship*

[29]*30.07.2014. closed air space under jurisdiction of CROCONTROL caused by a flood in ACC Zagreb's building*

European Commission: guidelines for the interpretation of regulation on passengers' rights and regulation on air carriers liability in the event of accidents.

Alfredo Roma*

On 10th June 2016, the European Commission has published a *Notice* for the interpretation of European Regulation 261/2004 on passengers' rights and on Regulation 2027/1997 on air carriers' liability in case of accidents rights.

Regulation 261/2004 on passengers' rights

The matter of passengers' rights is ruled by different regulations and documents, needing therefore an official overall interpretation, since the unclear legal scenario has given rise to a multitude of claims contested by the airlines and in many cases filed in Courts, showing that it is difficult for passengers to affirm their individual rights.

In order to clarify such rights and ensure better application of Regulation 261/2004 by air carriers and its enforcement by national enforcement bodies, the Commission has presented a proposal for an amendment of Regulation 261/2004/EC. The proposed changes also take into account the financial impact on the aviation sector and therefore include some measures aimed at capping costs. The EU Parliament is currently examining the proposal. With these interpretative guidelines, the Commission does not seek to replace or complement its proposal, but just clarify some grey areas of these norms. These guidelines report a high number of case laws to facilitate the interpretation of the regulatory framework and possibly reduce the number of future controversies.

First of all, the guidelines establish the territorial application of the Regulation, saying that it refers to passengers departing from an airport located in the territory of a Member State to which the Treaty applies, and to passengers departing from an airport located in a third country to an airport situated in the territory of a Member State to which the Treaty applies, if the operating air carrier is an EU carrier. With regard to travels by disabled persons or persons with reduced mobility, reference is made to Article 4 of Regulation (EC) No 1107/2006 and the relevant guidelines. The Regulation 261/2004 protects passengers against denied boarding, flight cancellation, flight delay, upgrading and downgrading. The operating carrier is always responsible for these rights, not another carrier that may have sold the ticket only. A detailed analysis is made on any single right.

Regarding the denied boarding, it is pointed out that the concept of 'denied boarding' relates not only to cases of overbooking but also to those where boarding is denied on other grounds, such as operational. Denial of boarding against the passenger will give right to 'compensation' as defined in Article 7 of the Regulation, a right to choose between reimbursement, re-routing or rebooking at a later stage, as provided in Article 8, and a right to 'care' according to Article 9.

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The guidelines precise that cancellation occurs in principle where the planning of the original flight is abandoned and passengers of that flight are boarded on another flight. Important appears the distinction between cancellation and delay. Normally, a flight is considered as cancelled when its flight number changes, but this might not always be a determinant criterion. Indeed, a flight may experience such a long delay that it departs the day after with the same flight number. In this case, it could still be considered as a delayed flight and not a cancellation. In any case, this should be assessed on a case-by-case basis. In case of a long delay, the Court has ruled that a delay at arrival of at least three hours gives the same rights in terms of compensation as a cancellation. Regarding upgrading and downgrading, logically only downgrading gives right to compensation.

A consistent part of the guidelines is dedicated to the right of information to passengers on their rights and, in case of denied boarding, cancellation or delay, information must be provided on the possible options to make passengers decide how to reach their destination in the best and most rapid way. It is stressed that Article 8(1) of the Regulation imposes on air carriers the obligation to offer passengers a triple choice, between: (i) reimbursement of the ticket price and, in case of connections, a return flight to the airport of departure at the earliest opportunity; (ii) re-routing to their final destination either at the earliest opportunity or; (iii) re-routing at a later date at the passenger's convenience under comparable transport conditions, subject to availability of seats. The air carrier has to bear the costs for re-routing or for a return flight, and must reimburse the costs for the flight borne by the passenger, where the air carrier does not comply with its obligation to offer re-routing or return under comparable transport conditions at the earliest opportunity. If several flights are available with comparable timings, passengers having the right to re-routing cannot refuse the offer of re-routing made by the carrier, including code-sharing carriers' flights, being understood that if they refuse the offer they will loose the right to compensation. Regarding the assistance for people with disabilities or reduced mobility, if assistance was requested for the original flight, such assistance should equally be available on the alternative route.
Detailed interpretation is given for the provisions concerning the right to care, i.e. meals, refreshment and accommodation, for passengers suffering from a long delay, cancellation or denied boarding, even in case of extraordinary circumstances or exceptional events.

The guidelines provide the correct interpretation, especially for the amount of compensation due in case of the three cases where the passengers' rights have been denied. Particular attention is given to the case of long delay at arrival, as it is the most frequent case that occurs. As regards 'long delays', the Court has ruled, on the principle of equal treatment, that passengers reaching their final destination with a delay of three hours or more are entitled to the same compensation (Article 7) as passengers whose flight is cancelled. Some particular cases are examined, like, for example, the case of connecting flight, the case of passengers departing from a non-EU country and directed to a EU Member State, or compensation for late arrival, when a passenger accepts a flight to an airport alternative to that for which the booking was made.

Chapter 5 of the guidelines provides interpretation of "Extraordinary circumstances", establishing that, "*in accordance with Article 5(3) of the Regulation, an air carrier is exempted from paying compensation in the event of cancellation or delay at arrival if it can prove that the cancellation or delay is caused by extraordinary circumstances which could not have been avoided even if all reasonable measures had been taken*".
Technical problem is one of the most common causes of delay declared by airlines. In this respect the guidelines recall that the Court has clarified that a '*technical problem, which comes to light during aircraft maintenance or is caused by failure to maintain an aircraft cannot be regarded as extraordinary circumstances*'.
When passengers believe that an air carrier has infringes their rights, the Commission suggests that they first complain to the air carrier and, if they do not receive satisfaction, they may complain to a national enforcement body (the list is reported in Regulation 295/91).
Chapter 8 of the guidelines specifies the jurisdiction under which actions can be brought according to the Regulation and the time for bringing such actions.

The International Air Transport Association (IATA) has welcomed the publication of Interpretative Guidelines on Regulation 261/2004 by the European Commission as it brings greater clarity to the European Union's passenger rights regulation. Guidelines are an important step to ensure that the Regulation is applied with greater consistency across Europe. However, IATA complains that the industry's issues remain unsolved. Revisions to the regulation proposed by IATA in March 2013 would help to provide a better balance between passenger rights and airline obligations, but they have been disregarded. In addition, several decisions of the European Court of Justice expanded the scope of the regulation and created further inconsistencies when applied. Nevertheless, IATA assures that, with a coalition of European regional airline associations, will continue to work constructively with the EC, the European Parliament and the Council towards the much-needed revisions of Regulation 261 to serve better the interests of both passengers and airlines.

Regulation 2027/1997 on air carrier's liability in case of accidents

The 'Montreal Convention', was agreed at Montreal on 28 May 1999. The European Union is a contracting Party to this Convention and some of its provisions have been implemented in Union law by Regulation (EC) No 2027/1997, as amended by Regulation (EC) No 889/2002. These rules are part of a set of measures aiming to protect air passengers' rights in the European Union along with Regulation (EC) No 261/2004.
The European Court of Justice, ruling on some cases, has confirmed the compatibility of the Regulation 2027/1997 with the Montreal Convention since the requirements to provide compensation for delay at arrival and assistance in the event of delay at departure are compatible with the Montreal Convention.
In that connection, the Court considers that the loss of time inherent in a flight delay constitutes an 'inconvenience' rather than a 'damage' as provided by the Montreal Convention. Such reasoning was based on the finding that excessive delay will first cause an inconvenience that is almost identical for every passenger and the Regulation provides for standardised and immediate compensation, whilst the Montreal Convention foresees redress which requires a case-by-case assessment of the extent of the damage caused and can consequently only be the subject of compensation granted subsequently on an individual basis.

Hence, the Regulation operates at an earlier stage than the Montreal Convention. The obligation to compensate passengers whose flights are delayed under the Regulation therefore falls outside the scope of that Convention, but remains additional to the system for damages laid down by it. The guidelines examine concrete situations that may refer to Regulation 261/2004 or to the Montreal Convention concluding that both sets of rules are perfectly compatible and applicable to the protection of passengers' rights, although at different stages.

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[1] *Interpretative Guidelines on Regulation (EC) No 261/2004 of the European Parliament and of the Council establishing common rules on compensation and assistance to passengers in the event of boarding and of cancellation or long delay of flights and on Council Regulation (EC) No 2027/97 on air carrier liability in the event of accidents as amended by Regulation (EC) No 889/2002 of the European Parliament and of the Council.*

[2] *Regulation 261/2004/EC, Regulation 295/1991/EC, Commission's White Paper on Transport adopted on 28 March 2011, Commission's Interpretative Guidelines on Regulation 1371/2007/EC, Commission Communication of 11 April 2011.*

The new EU airports legal framework.

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Introduction

EU Regulation No. 216/2008, commonly named "Basic Regulation", which has provided common rules concerning civil aviation and has set up the European Aviation Safety Agency (EASA), was amended by EU Regulation 1108/2009, which enlarged the EASA's competences to include Aerodromes, Air traffic management/Air navigation services within the EU safety system. According to Regulation 1109/2009, the EU Member States have to adopt common rules in the civil aviation sector with the purpose of achieving high safety levels and environmental compatibility, as well as free trade of goods, products and services.
The Basic Regulation also provides that the implementation procedures have to be specified in explicit "Implementing Rules'' (IRs) adopted by the European Commission. As far as the aerodromes are concerned, the IRs have been adopted by the approval of Regulation (EU) No. 139 of February 12, 2014, entered into force on March 6, 2014.
The EU Regulation 139/2014 now requires Member States, Civil aviation Authorities, airports (Aerodromes) and their Management Operators to ensure full compliance with the new rules by December 31, 2017.

Transition to the EU standards: the Italian implementation process

The Italian implementation process is managed by the Italian Civil Aviation Authority (ENAC), which has drafted a specific 'Roadmap' establishing a series of actions for ensuring - by December 31, 2017 – that the aeronautic Authority, Airports and airport management operators comply with the new EU provisions.
This Roadmap identifies four macro-areas of intervention:

- Regulatory management;
- Certifications and conversion of previous Aerodrome certifications;
- Communication;
- Training.

In May 2014, ENAC submitted to EASA the list of the 38 Italian airports interested in the application of Regulation (EU) n. 216/2008: these 38 national airports have already been certified according to the ENAC Regulation on airports Construction and Exercise (RCEA).
By 31 December 2017 ''national certificates'' will be converted into new ones that are consistent with the EU provisions.
The conversion proceedings shall be started by the Airport Operator by submitting to ENAC a specific application, regardless of the National Certificate's expiry date.

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ENAC is working at different levels to ensure guidance and support to stakeholders and it has also implemented a number of specific measures; for example, it has organized conferences, workshops and training sessions with the aim of clarifying the relevant contents, purpose and objectives of the Regulation (EU) 139/2014.
Finally, according to the powers assigned by the Italian Navigation Code, ENAC has to provide a specific Regulation regarding risk management plans for areas around the airports or near to the airports, in respect of prospective dangers and obstacles to air operations (e.g. risk Plans).

EU Directive to use Passenger Name Record (PNR) to prevent terrorist threats

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The use of PNR to prevent terrorist threats was requested by the USA after the 9/11 attacks. Fifteen years later the EU has eventually regulated this matter through the Directive 681/2016. This new Directive[1] - published in the Official Journal of the European Union (OJ) on 4 May 2016 - provides for the transfer by air carriers of passenger name record (PNR) data of passengers of extra-EU flights with the aim to prevent, detect, investigate and prosecute terrorist offences and serious crime. For this reason it is essential that all Member States introduce provisions laying down obligations on air carriers operating extra-EU flights to transfer PNR data they collect.
Member States may extend the application of this Directive to "intra-EU flights": in this case they shall notify the Commission in writing.

For the purpose of this Directive, "passenger name record" or "PNR" means a record of each passenger's travel requirements which contains information necessary to enable reservations to be processed and controlled by the booking and participating air carriers for each journey booked by or on behalf of any person, whether it is contained in reservation systems, departure control systems used to check passengers onto flights, or equivalent systems providing the same functionalities.

Air carriers already collect PNR data for their own commercial purposes: thus this Directive should not impose any obligation on air carriers to collect or retain any additional data from passengers.

By using PNR data it is possible to address the threat of terrorist offences and serious crime from a different perspective than through the processing of other categories of personal data. However Member States have to ensure that the processing of PNR data remains limited to terrorist offences and serious crime.

Moreover, PNR data should be transferred to a single designated passenger information unit (PIU) in the relevant Member State.
There are two possible methods of data transfer: under the "pull" method the competent authorities of the Member State can access the air carrier's reservation system and extract a copy of the required PNR data. On the other hand, under the "push" method - which is considered to offer a higher level of data protection - air carriers transfer the required PNR data to the authority requesting them, thus allowing air carriers to retain control of the provided data. The latter should be mandatory for all air carriers.

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The PIU shall appoint a data protection officer responsible for monitoring the processing of PNR data.

Member States shall ensure that the PNR data provided by the air carriers are retained in a database at the PIU for a period of five years. However, after a period of six months all PNR data shall be depersonalized through masking out those data elements which could serve to identify directly the passenger to whom the PNR data relate.

This Directive shall not affect national and EU provisions regarding the data protection.
In this perspective, Member States shall prohibit the processing of PNR data revealing a person's race or ethnic origin, political opinions, religion or philosophical beliefs, trade union membership, health, sexual life or sexual orientation.

Finally, to ensure that air carriers meet their obligations on the PNR data collection and transfer, Member States may provide for effective, proportionate and dissuasive penalties, including financial penalties.

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 25 May 2018.

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[1] *DIRECTIVE (EU) 2016/681 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the use of passenger name record (PNR) data for the prevention, detection, investigation and prosecution of terrorist offences and serious crime.*

MISCELLANEOUS MATERIAL OF INTEREST

National Space Legislation in Europe

Book review by Alfredo Roma

Editor: Frans G. von der Dunk

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Frans von der Dunk is professor of Law at the University of Nebraska. Previously, he had been professor of Air and Space Law at the University of Leiden, the Netherlands, and advisor of the Dutch Government and the European Commission. This book, which is the result of a Practitioners' Forum of the European Centre of Space Law (ECSL), offers a comprehensive and detailed analysis of space law systems in force in the major EU Member States, focusing on the "authorisation mechanisms" of private space activities. The final part is dedicated to a possible harmonisation process in the European Union and to the relevance of the competition law.

The introductory chapter, written by Frans von der Dunk, analyses the contents of the United Nations Resolution 1962 (VIII) of December 1963 (Declaration of Legal Principles Governing the Activities of States for a peaceful Exploration and Use of Outer Space) and of the Outer Space Treaty of January 1967 in respect of private space activities, in particular as far as Articles VI, VII and VIII of the Treaty are concerned. The analysis focuses on "authorisation and continuing supervision" of the activities of non-governmental entities in outer space, considering not only the launching activity, but also the activities performed in outer space.

Irmgard Marboe and Florian Hafner develop a comparative analysis of the space law regimes in force in some ESA Member States and non-ESA member States including the United States, the Russian Federation, South Africa and Australia.

Jean François Mayence proposes a very provocative approach and interpretation of Article VI of the Outer Space Treaty. The analysis goes through the difference between responsibility and liability, the launching State, the definition of airspace and space, to conclude that globalisation of the risks, a more rational design of the mission and an intelligent and integrated sharing of information should replace the obsolete liability view of the outer space treaty.

Armel Kerrest de Rozavel and Frans von der Dunk reconsider the matter of liability, combined with the further step of insurance.

Starting from the provisions of Article VI of the Outer Space Treaty, which attributes to the State the international liability for space activities conducted by private companies, the authors examine the norms adopted by some European countries and the United States, also in respect of competition, which could be distorted by an unlimited liability in some countries and a cap on liability in others.

Cécile Gaubert further completes the matter of insurance. She describes the different regimes adopted by European countries and the United States showing that the approach is different from one country to another.

Richard Tremayne-Smith is the author of the chapter on environmental protection. The protection concerns the near Earth space containing important satellite systems like GPS, GMES, GLONASS and others like Molnyia and Geosynchronosous Transfer Orbits, especially from the space debris.

Michael Gerhard and Matthias Credyt report on the export control regimes existing in the major countries resulting from the adoption of the Wassenaar Arrangement. With the Council Regulation 428/2009, the European Union has designed a common control system for exports of dual-use technology to third countries. Even for this matter, the authors carry out an useful analysis of the current regimes in force in the EU Member States, US and Canada.

Frans von der Dunk further develops the theme of national security, comparing the legislation of European and non-European countries. From such a comparison it appears that the six Member States of ESA and EU offer a wider range of ways of handling the security issues.

Apparently, the chapter on space tourism, written by Michael Gerhard, looks redundant, considering that this activity is still in the early stages. However, this chapter makes clear a few very important concepts like: suborbital space vehicle, hybrid vehicle, civil aviation, aircraft, space and airspace in the contest of the analysis. Actually, a suborbital vehicle initially flies in the air then enters space only for a limited time and without occupying an orbit. This leads to the conclusion that suborbital space flights are considered being part of civil aviation and are subject to its provisions for the flight performed in the airspace. The following scrutiny of the outer space law rules reveals some interesting considerations. The demarcation between airspace and outer space is considered where an aircraft will not find sufficient aerodynamic lift to sustain the flight. There is not an exact altitude; in late 1950s von Karman calculated an altitude of 84 km. Outer space is *terra nullius* where no State may exercise its sovereignty. Since part of the suborbital space transportation takes place in outer space, space law rules are applicable to this sort of flights. In short, the existing provisions of both air and space law are applicable to suborbital space flights and provide for a sustainable legal framework.

Bernhard Schmidt makes a very interesting exam of the Treaty of Lisbon, which attributes to the European Union a new space competence. This could lead to expect a EU set of rules for the Member States to uniform the national legislations. On the contrary, Article 189 of the Treaty on the functioning of the European Union establishes that "….the European space programme excludes any harmonisation of the laws and regulations of the Member States".

The fact that the EU is not unanimously recognised as a "State" could be in contrast with Article VI of the Outer Space Treaty, which assigns to the State the responsibility of outer space activities.

In conclusion, the book offers a unique and complete presentation of space legislation in the European Countries and in the major non-European countries with a continuous reference to international space laws. All relevant aspects are examined, like liability, environment, national security, space tourism and competition law. The book represents an excellent basis for designing the way forward for a harmonisation process of space law in the European Union.

FORTHCOMING EVENTS

Executive course

INTERNATIONAL CONTRACTS IN AEROSPACE INDUSTRY

AIAD (Italian Industries Federation for Aerospace, Defence and Security) in collaboration with the Italian Cluster for Airspace Technology, the Italian Civil Aviation Authority, the University Institute of European Studies (IUSE), the University of Bologna, the LS Lexjus Sinacta Law Firm and the International Training Centre of ILO.

Date: the course will take place from **27 June** to **02 July 2016**, at Luigi Einaudi Campus, in Turin, Italy.

Additional information is available at: http://icai.iuse.it

The Executive Course offers a-week study program, targeting mainly Professionals and Managers from the aerospace and aviation industry. This course aims at reinforcing the participant's knowledge by giving a complete theoretical and pratical analysis of the various sources and principles of law that govern international contracts in aerospace and aviation industries. During the course the participants will gain a comprehensive legal and business knowledge along with a practical understanding of key issues.

Main topics are:

- The European legal framework of the aerospace market; European aerospace industry and the latest EU strategy proposals.
- EU defense and security: the analysis of the procurement directive.
- ESA General Terms and Conditions and ESA tenders.
- Aerospace Contracts Law. Drafting and negotiating a contract in the aerospace sector: strategy and skills.
- General terms and conditions and battle of forms – Choice of law clauses – Transfer of risk and title.
- Limitation and exclusion of liability clauses – Penalties and liquidated damages clauses – Termination for convenience and for default.
- Systems of dispute resolution – Choice of forum and jurisdiction.
- Arbitration in aerospace – Mock case.
- Liability and insurance in aerospace. Aerospace product liability. Single European Sky-SESAR and the reallocation of risks and liabilities among the various operators. Cyber Risks.
- Physical damage and liability cover for manufacturers and suppliers. Case history.
- Economic and financial issues – Direct lending and bank financing.

The lecturers of the Executive Course are highly recognized academics with a longstanding reputation in Aerospace and Aviation Law. The expansion of global trade has resulted in an increasingly high degree specialization in international contract practices. The jurisdictional complexity of such contracts has led to a rapid growth in the role of alternative dispute settlement mechanisms. For this reason the course also focuses on arbitration and alternative dispute settlement mechanisms.

This course is recommended for:

- Professional and Managers of the industry;
- In house lawyers.

Registration form
http://icai.iuse.it/enrolment/registration-form/

Please do not hesitate to contact us for further information: icai@iuse.it