

**Wangbo**, Associate Professor,  
Economics and Management  
College of Ningbo University of Technology (China),  
PhD in Economics

**Volodymyr Kharchenko**,  
Professor of Traffic College of Ningbo University of Technology (China),  
Vice-rector of National Aviation University (Ukraine),  
Doctor of Sciences, Professor

**Dmytro Bugayko**,  
Leading Researcher of National Aviation University (Ukraine),  
PhD in Economics, Associate Professor

**Ismael Ali** (Iraq), Post-Graduate Student  
of National Aviation University (Ukraine).

## **GLOBAL APPROACHES TO CIVIL AVIATION ACTIVITY REGULATION FRAMEWORK**

### **1. Introduction**

The main targets of global aviation activity are safety, efficiency and regularity. Nowadays global civil aviation system are forming progressive component of general transport system. According to world civil aviation regulation framework, air transport system is regulated on three hierarchical levels – global, regional and national [1]. The research article is devoted to the analysis of the regulatory activities of the various aviation organizations of the world, regional and national levels of regulation.

### **2. Global Level of Air Transport Regulations**

The structure of Global multilateral regulation of international air transport has:

— an organizational component consisting of a large and growing number of international organizations, including intergovernmental and non-governmental, worldwide and regional, trans-regional, formal and informal organizations; and

— a legal component embodied in multilateral treaties and similar instruments as well as relevant resolutions, recommendations and decisions of international organizations, both binding or non-binding on their members [1].

*International Civil Aviation Organization (ICAO) and Convention on  
International Civil Aviation*

The International Civil Aviation Organization (ICAO) was created in 1944 by the Convention on International Civil Aviation (Chicago Convention) to promote the safe and orderly development of international civil aviation

throughout the world. This specialized agency of the United Nations serves as the forum for cooperation in all fields of civil aviation among its 192 Member States, and sets Standards and regulations necessary for aviation safety, security, efficiency, and regularity, as well as for aviation environmental protection. With the collaboration of Member States, ICAO plays an essential leadership role in the field of aviation security with the ultimate goal of enhancing civil aviation security worldwide. To this end, its efforts are focused primarily on developing and coordinating an effective global policy and legal framework in response to the evolving threat to civil aviation. The most important regulatory function performed by ICAO is the formulation and adoption of Standards and Recommended Practices (SARPs) for international civil aviation. ICAO sets and promotes the introduction of the SARPS in the fields of aviation safety, aviation security, effectiveness and regularity, environment protection from aviation influence [2].

Convention on International Civil Aviation (chapter 44) defines the following objectives of ICAO:

1. Insure the safe and orderly growth of international civil aviation throughout the world;
2. Encourage the arts of aircraft design and operation for peaceful purposes;
3. Encourage the development of airways, airports and air navigation facilities for international civil aviation;
4. Meet the needs of the peoples of the world for safe, regular, efficient and economical air transport;
5. Prevent economic waste caused by unreasonable competition;
6. Insure that the rights of contracting States are fully respected and that every contracting State has a fair opportunity to operate international airlines;
7. Avoid discrimination between contracting States;
8. Promote safety of flight in international air navigation;
9. Promote generally the development of all aspects of international civil aeronautics [2].

38 ICAO Assembly ICAO eliminates following Strategic Objectives for 2014-2016: Safety, Air Navigation Capacity and Efficiency, Security & Facilitation, Economic Development of Air Transport and Environmental Protection [3].

#### *International Air Transport Association (IATA)*

The International Air Transport Association was founded in Cuba in 1945. IATA is the prime vehicle for inter-airline cooperation in promoting safe, reliable, secure and economical air services, for the benefit of the world's consumers. Today it has some 270 members from 126 nations in every part of the globe, representing 84 per cent of total air traffic. Air transport is one of the most dynamic industries in the world, and IATA is its global trade organization. Over 60 years, IATA has developed the commercial standards that built a global industry. The IATA Traffic Conference structure consists of Procedures

Conferences and Tariff Coordinating Conferences and is governed by the Provisions for the Conduct of Traffic Conferences, which provide government-approved terms of reference for conferences. Among the most noteworthy IATA services which are related to air transport regulation are:

- the Billing and Settlement Plan (BSP), which provides for the computerized processing of accounts between airlines and their passenger agents;

- the Cargo Accounting Settlement System (CASS), which provides for the computerized processing of accounts between airlines and their cargo agents.

- the Clearing House, which includes proration services and enables airlines (and suppliers) to settle credits and debits between themselves at one location, thus minimizing the need to make actual transfers of money on a worldwide basis;

- the IATA/SITA baggage tracing (BAGTRAC) system, to recover checked baggage that is lost or misdirected; and

- the Multilateral Interline Traffic Agreement (MITA), i.e. a legally binding agreement relating to issuance of passenger tickets and cargo waybills and the acceptance of each other's passengers, baggage and cargos.

The Electronic Data Interchange for Administration, Commerce and Transport (EDIFACT) is used by IATA to develop message formats for the exchange of passenger, cargo, fuel invoice and fuel delivery information among airlines and their business partners. Recently, IATA and SITA have joined together to offer connectivity between airlines using EDIFACT messaging to facilitate the use of electronic tickets (e-tickets) in the interline environments (<http://www.iata.org>) [4].

#### *Airports Council International (ACI)*

ACI has 573 members operating 1,751 airports in 174 countries and territories, representing over 95 per cent of global airport traffic. It is a non-profit organization whose prime purpose is to advance the interests of airports and to promote professional excellence in airport management and operations and this mandate is carried out through the organization's multiple training opportunities, as well as the customer service benchmarking programme, a wide range of conferences, industry statistical products and best practice publications.

Airports act as facilitators within the air cargo supply chain and provide the infrastructure and facilities that enable the smooth flow of trade by air cargo carriers. The relationship between the airport operator and the air cargo carrier will depend, to a large extent, on the type of air cargo operation and the mix of aircraft operations (all cargo, express carriers, all passenger carriers) and the specific requirements of each component. Ensuring the security of air cargo at an airport depends upon the physical configuration of the airport, the relationship between all entities operating at the airport and the regulatory

framework in place for the state (<http://www.aci.aero>) [5].

*The International Air Cargo Association (TIACA)*

TIACA is a global non-profit trade association representing all the major segments of the air cargo and air logistics industry, including passenger and all-cargo aircraft operators, forwarders, airports, ground handlers, road carriers, Customs brokers, logistics companies, shippers, information technology companies, aircraft and equipment manufacturers, trade press, and educational institutions. To accomplish its mission, TIACA engages in activities that seek to improve industry cooperation, promote innovation, share knowledge, enhance quality and efficiency, and promote education (<http://www.tiaca.org>) [6].

*International Business Aviation Council (IBAC)*

The **International Business Aviation Council (IBAC)** is a Council of business aviation associations from around the world. Governance is established through the IBAC Governing Board, with representation from each of the Member Associations. IBAC represents the interests of business aviation worldwide. IBAC is an International Non-Governmental Organization (INGO) with permanent observer status with the International Civil Aviation Organization (ICAO), the UN Specialized Agency for aviation matters. IBAC's Secretariat is based in the ICAO headquarters building in Montreal Canada. IBAC, in coordination with Member Associations, also produces material of direct value to flight departments, such as the International Standard for Business Aircraft Operations (IS-BAO), Safety Management Tool Kit, SMS eLearning training and the Aircrew Identification Card. Members: business aviation companies in over 20 States and territories (<http://www.ibac.org>) [7].

*International Council of Aircraft Owner and Pilot Associations (IAOPA)*

The International Council of Aircraft Owner and Pilot Associations (IAOPA) is a nonprofit federation of 73 autonomous, nongovernmental, national general aviation organizations. IAOPA has represented international general aviation for nearly 50 years. The combined total of individuals represented by these constituent member groups of IAOPA is over 470,000 pilots, who fly general aviation aircraft for business and personal transportation. General aviation is defined by ICAO as «All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire» (<http://www.iaopa.org>) [8].

*International Federation of Air Line Pilots' Associations (IFALPA)*

The International Federation of Air Line Pilot's Associations represents over 100,000 pilots and flight engineers in almost 100 countries world-wide. The mission of IFALPA is to be the global voice of professional pilots by providing representation, services and support in order to promote the highest level of aviation safety worldwide. Members: national airline pilots associations in over 70 States and territories (<http://www.ifalpa.org>) [9].

*World Customs Organization (WCO)*

ICAO increased cooperation on air cargo security and facilitation frameworks with industry stakeholders and other international organizations, such as the World Customs Organization (WCO) and Universal Postal Union (UPU), demonstrate the importance given to air cargo security and facilitation by the international community. The development of technical expertise and the creation of working groups dedicated to air cargo security are also part of these efforts to increase both the level and quality of air cargo security baseline requirements implemented worldwide. Finally, the ICAO Implementation Support and Development – Security Section, under the Aviation Security Branch provides assistance to States in their efforts to implement Annex 9 and Annex 17 SARPs, including air cargo security aspects.

Established in 1952 as the Customs Co-operation Council, the main mission of the World Customs Organization is to ensure the harmonization and standardization of Customs procedures and the development of Customs techniques in order to facilitate and secure international trade. The WCO is a setting in which governments can compare policy experiences, seek answers to common problems, identify best practices and standards, and coordinate Customs policies. The organization is also noted for its work in areas covering the development of global standards relating to trade facilitation, commodity classification, valuation, and rules of origin, as well as compliance issues, the security of the end-to-end supply chain, protection of the health and safety of people, the promotion of integrity, and sustainable Customs capacity-building initiatives. The WCO, with its 179 Members that are responsible for processing over 98 per cent of world trade, aims to be the voice of Customs and the global centre of excellence for the development and delivery of effective, efficient, and modern Customs procedures and standards, underpinned by international cooperation, knowledge sharing, good governance and leading capacity building programmes, thereby meeting the needs of governments and society for a better world by being visionary, relevant and indispensable (<http://www.wcoomd.org>) [10].

#### *Universal Postal Union (UPU)*

Created in 1874 by the Treaty of Berne, the Universal Postal Union is an intergovernmental organization based in Berne, Switzerland. The rules applicable to the international postal service are given in its Convention and its Regulations, which are binding on all 192 Member States. The UPU is the primary forum for cooperation between governments, posts and other stakeholders from the worldwide postal sector. It maintains a universal network that provides modern products and services, and works to stimulate mail volume growth and improve the quality of service for customers. National postal networks are interconnected through regulations, standards and technological applications that help ensure coherence and improve the quality of postal services throughout the world (<http://www.upu.int>) [11].

#### *International Federation of Freight Forwarders Associations (FIATA)*

FIATA, International Federation of Freight Forwarders Associations was founded in Vienna, Austria on May 31st 1926. FIATA today is the leading non-governmental organization in the field of transportation and logistics, representing in excess of 40,000 companies employing up to 10 million people in more than 150 countries. Its institutional Membership consists of 112 Association Members with voting rights and over 5,600 Individual members. FIATA is therefore best placed to represent the unique position of the forwarder in the global supply chain. Its members' expertise touches on all aspects of international transport and logistics and is fostered through an autonomous training programme that is deployed in almost 100 countries (<http://fiata.com>) [12].

#### *Global Express Association (GEA)*

The Global Express Association is a non-governmental organization that represents the four leading express delivery carriers: DHL Express, FedEx, TNT Express, and UPS. GEA was established in Switzerland in 1983 as the International Express Carriers' Conference, and has observer status with the United Nations, UPU, and the WCO. GEA participates frequently in several ICAO bodies and committees (<http://www.global-express.org>) [13].

#### *Global Transport Organization (GTO)*

Global Transport Organization is a worldwide network of independent locally-owned international logistics companies. GTO is composed of highly qualified members in major cities throughout the world. The management of GTO is continually pursuing the firm goal of securing reliable / dependable members in over 140 countries / over 750 cities. GTO members are recognized as the leading professional logistics companies in the markets where they are located. Each GTO member utilizes the latest technology to provide a full range of international logistics services. GTO offers the best of both worlds to exporters and importers on a worldwide basis (<http://www.gtoglobal.com>) [14].

### **3. EU Regional Level of Air Transport Regulations**

#### *European Civil Aviation Conference (ECAC)*

The European Civil Aviation Conference (ECAC) was established in Strasbourg in 1954 pursuant to an initiative by ICAO and the Council of Europe. The primary objective of ECAC is the development of European civil aviation through coordination and cooperation. Forty-one States are members of ECAC (as of August 2003) ([www.ecac-ceac.org](http://www.ecac-ceac.org)). The ECAC Plenary Conference is the sovereign body of the organization which meets in Triennial and Intermediate Sessions to consider the work programme and to take basic policy decisions. ECAC Meetings of Directors General of Civil Aviation (DGCA) are held frequently for consultations, sometimes on a relatively informal basis, to deal with urgent matters. ECAC also uses numerous working groups, task forces and groups of experts. The Conference issues ECAC resolutions and ECAC policy statements which may be incorporated into the

national regulations of each Member State. It also acts as a forum for joint discussions between Europe and other regions or States and concludes international agreements, arrangements and memoranda of understanding (<https://www.ecac-ceac.org>) [15].

*European Aviation Safety Agency (EASA)*

EASA is the European Union Authority in aviation safety. The main activities of the organisation include the strategy and safety management, the certification of aviation products and the oversight of approved organisations and EU Member States. Established in 2002, EASA enjoys over 10 years in operation. EASA enjoys technical, financial and legal autonomy to ensure the highest common level of safety protection for EU citizens within the EU and worldwide, to ensure the highest common level of environmental protection, to avoid duplication in the regulatory and certification processes among Member States and to facilitate the creation of an internal EU aviation market.

EASA plays a leading role within the EU External Aviation Policy: the Agency is a strong counterpart of other Aviation Authorities outside the EU (e.g. USA, Canada, Brazil) and a major contributor to the export of the EU aviation standards worldwide, in order to promote the movement of EU aeronautical products, professionals and services throughout the world (<https://www.easa.europa.eu/the-agency>).

Principal objective: maintenance of a high uniform level of safety in Europe, to be achieved by:

- Provision of common aviation technical standards;
- Enforcement of those rules
- the establishment and functioning of EASA

Field of application of technical standards:

- Design and production of aircraft
- Maintenance and operation of aeronautical products and parts
- Personnel and organisations
- Environmental compatibility
- ATM service provision
- Essential safety requirements for the operation of airports
- Essential safety requirements for the provision of ATM
- Excluded:
  - Air navigation (ATM) products & organisations
  - Military, customs and police operations (<https://www.easa.europa.eu>)

[16].

*European Organisation for the Safety of Air Navigation (EUROCONTROL)*

EUROCONTROL, the European Organisation for the Safety of Air Navigation, is an intergovernmental Organisation with 41 Member States, committed to building, together with its partners, a Single European Sky that will deliver the air traffic management performance required for the twenty-first century and beyond.

Objectives of EUROCONTROL are following:

- Unification of European airspace through enhanced cooperation and coordination
- Provision of air navigation service provision
- Enhancing regulatory powers (from cooperation to integration)
- Through the development of common standards (cf. ESARRs)
- Implementation via national procedures (cf. ICAO standards)
- Limited enforcement powers (<https://www.eurocontrol.int>) [17].

#### *Association of European Airlines (AEA)*

The Association of European Airlines brings together 24 major European airlines. AEA brings together a wealth of expertise from its member airlines that meet on a regular basis in so-called «expert meetings». AEA gives its members the support they need to focus on their businesses and make them thrive, by following all aero-political issues, analysing their impact, recommending strategies, networking with all relevant stakeholders and defending the airlines' interests in the legislative process, at both European and national level.

#### **Key objectives of AEA:**

- Promote aviation's role in Europe's future;
- Innovate for the benefit of customers;
- Contribute to better, smarter and more cost-effective regulation;
- Accelerate progress towards a Single European Sky (See more at Chapter 2.1.1);
- Decarbonise aviation;
- Ensure conditions for fair competition: a level playing field;
- Champion a global security framework (<http://www.aea.be>) [18].

#### *Airports Council International (ACI-Europe)*

ACI-Europe represent over 450 airports in 45 European countries. In 2013, ACI-Europe member airports handled over 90 % of commercial air traffic in Europe, welcoming more than 1.7 billion passengers, 16.8 million tonnes of freight and 20.8 million aircraft movements.

ACI membership is comprised of airport operators of all sizes, along with national airport associations, educational establishments and world business partners. Working together in an active association to ensure effective communication and negotiation with legislative, commercial, technical, environmental, passenger and other interests. ACI-Europe is the European trade body for airports and as such, is also the European region of Airports Council International, the only global federation of airport operators. (<https://www.aci-europe.org>) [19].

#### *European Business Aviation Association (EBAA)*

EBAA aims to promote excellence and professionalism amongst

organization Members to enable them to deliver best-in-class safety and operational efficiency, whilst representing their interests at all levels in Europe, to ensure the proper recognition of business aviation as a vital part of the aviation infrastructure, supporting local and national economies.

EBAA counts some 500 Members from across the industry and represents a fleet of over 1000 aircraft. The Association is a founding Member of the International Business Aviation Council (IBAC), through which Members' interests are represented at the International Civil Aviation Organization (ICAO). EBAA deals with challenging issues such as the Single European Sky, environmental issues including Emission Trading, the European Aviation Safety Agency (EASA) rulemaking process including Fees and Charges, Security and Access to Airports and Airspace.

National Associations that are Full Members of EBAA include: BBGA (British and General Aviation Association), EBAA France, EBAA Switzerland, GBAA (German Business Aviation Association), IBAA (Italian Business Aviation Association), MBAA (Malta Business Aviation Association), NAOA (Norwegian Aircraft Operators Association) and RUBAA (Russian United Business Aviation Association). Some Membership are pending, such as for AESAVE Spanish Executive Aviation Association, ABAA (Austrian Business Aviation Association) and EBAA Belgium (<http://www.ebaa.org>) [20].

#### *European Cockpit Association (ECA)*

European Cockpit Association (ECA) is the representative body of European pilots at European Union (EU) level. It represents over 38,000 European pilots from the National pilot Associations in 37 European states. In addition, ECA has 2 Associate Members from outside the European region. Since the advent of the Single European Aviation Market, air transport is no longer a purely national domain. European policies are made in all areas of aviation that affect pilots, such as safety, flight crew licensing, air operations, fair competition, international air traffic agreements, air traffic management, aircraft maintenance, employment conditions, etc. In line with its mission statement and aviation safety being its prime concern, ECA strives to ensure safe and sustainable growth of the air transport industry across Europe, based upon clear, harmonised and enforceable rules throughout the EU (<https://www.eurocockpit.be/pages/about-eca>) [21].

### **4. National Level of Air Transport Regulations**

National regulation of air transport is regulation undertaken by a State within its territory in its exercise of sovereignty over that territory and the airspace above it.

Thus national regulation extends to both domestic and international air services and to both national and foreign air carriers. The national regulation of international air services must take into account the State's international obligations pursuant to bilateral and multilateral agreements and arrangements

and should give due regard to the actions and concerns of other States.

The particular aims of national regulation in the field of international air transport vary from State to State and are influenced by national economic policies, territorial size and location, the degree of national development, domestic and international politics, etc. Those aims are, however, likely to include all or several of the following:

- to provide for the transport requirements of foreign commerce;
- to promote particular service sectors (such as tourism);
- to provide employment;
- to earn foreign exchange;
- to meet the needs of the postal system;
- to create the conditions for a viable, healthy air transport sector;
- to aid in national development;
- to serve national defense; and
- to meet disaster assistance needs.

The process of national regulation of air transport services has three basic components:

- legislative (i.e. the making of laws, policies, rules and regulations);
  - licensing (i.e. the granting, conditioning, denying or withholding of permission to conduct air transport services on a continuous or long-term basis); and
  - ad hoc authorization (i.e. the granting, conditioning, denying or withholding of permission for individual tariffs, flights, etc.);
- each of which are complemented by enforcement actions taken if and when required [1].

## **5. Conclusions**

The Global level (provided by International Civil Aviation Organization (ICAO) and other global organisations consists of international civil aviation regulations (based on ICAO *Standards and Recommended Practices* (SARPS) and recommendations other global organisations), co-ordination of activities and sharing best practices, etc. ICAO Safety Management System is grounded on management commitment and consists of three main directions of civil aviation development – safety, effectiveness and efficiency. By ICAO main 3 risks defenses within Global Safety Management System are: regulations; training and technologies [22].

The Regional level adapts aviation standards to regional features and requirements.

At the National level implementation of aviation standards is provided. It should be underlined that universities and research institutions play a significant role in the development of aviation training programmes, technologies, and regulations. National Aviation University and Ningbo University of Technology are among them [23].

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