

Space Law, Air Law, Telecommunications Law: Elective Affinities and Fundamental Differences

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In relation to outer space, airspace and telecommunications are considered as related areas. The choice of these fields/areas is not coincidental. Satellites in orbit often serve as telecommunications hubs, whereas radio frequencies greatly facilitate space activities.

Activities in these fields, however, were historically developed before the space adventure of Humankind.

Development of Air transport – the role of ICAO

The distinction between national and international airspace was already incorporated in the 1919 Paris Convention “Relating to the Regulation of Aerial Navigation”, which was the first multilateral aviation convention. After the 2nd World War, the distinction was the central concept in the 1944 Chicago Convention “on international civil aviation”. The International Civil Aviation Organization is created.

A main characteristic of airspace law is a two-fold legal regime: complete and exclusive sovereignty of States over their territory and their territorial sea (art. 1 of the 1944 Chicago Convention) and freedom of overflight over the high seas, overflight which is governed by international law (art. 12, “over the high seas, the rules in force shall be those established under this Convention”. Said “rules” are the international standards and the recommended practices (SARPs) embodied in the 19 Annexes to the Chicago Convention.

Development of Air transport – the role of ICAO

The Chicago Convention is supplemented by **the Annexes**, which cover every possible aspect of air transport.

Development of Air transport – the role of ICAO

The Annexes

Annex 1 - Personnel Licensing

Annex 2 - Rules of the Air

Annex 3 - Meteorological Services

Annex 4 - Aeronautical Charts

Annex 5 - Units of Measurement

Annex 6 - Operation of Aircraft

Annex 7 - Aircraft Nationality and Registration Marks

Annex 8 - Airworthiness of Aircraft

Annex 9 - Facilitation

Annex 10 - Aeronautical Telecommunications

Annex 11 - Air Traffic Services

Annex 12 - Search and Rescue

Annex 13 - Aircraft Accident and Incident Investigation

Annex 14 - Aerodromes

Annex 15 - Aeronautical Information Services

Annex 16 - Environmental Protection

Annex 17 - Security

Annex 18 - The Safe Transportation of Dangerous Goods by Air

Annex 19 - Safety Management

Development of Air transport – the role of ICAO

ICAO Provisions: either international standards or recommended practices. It is worth mentioning that **ICAO's international standards have binding force upon member States:** Pursuant Article 38 CC, States must comply with said standards unless they notify their differences to ICAO within 60 days: “In the case of amendments to international standards, any State which does not make the appropriate amendments to its own regulations or practices shall give notice to the Council within sixty days of the adoption of the amendment to the international standard, or indicate the action which it proposes to take”.

Development of Air transport – the role of ICAO

Annexes 2, 5, 7 & 8 contain international standards and no recommended practices (RPs). The remaining 15 Annexes contain both.

Contracting States are required to give notification of differences to standards and invited to notify differences from Recommended Practices in Annexes. This information is then listed in Supplements to the Annexes.

It should be noted that ICAO Standards do not preclude the development of national standards which may be more stringent than those contained in an Annex.

Development of Air transport – the role of ICAO

The 3rd paragraph of Article 12 CC is a key provision for the administration of international airspace, as it stipulates that **“over the high seas, the rules in force shall be those established under this Convention”**. Said “rules” are the international standards and the recommended practices (SARPs) embodied in the 19 Annexes to the Chicago Convention.

The ATM Paradigm - The administration of global airspace by ICAO

Global airspace, both national and international, is divided into nine “Air Navigation Regions”, each of which is divided into “Flight Information Regions” (FIRs), on the basis of a “Regional Air Navigation Plan” (RAN Plan), agreed by the States of the corresponding Region. Within a FIR, a “competent authority” provides for a) the flight information service (giving advice and information useful for the safe and efficient conduct of flights); and b) the alerting service (notify appropriate organizations regarding aircraft in need of search and rescue aid). These two services, together with the air traffic control service, are known as the Air Traffic Services (ATS). Annexes 2 and 11 are key documents for ATM.

The ATM Paradigm - The administration of global airspace by ICAO

Main characteristics of ATM as regulated by ICAO:

- 1) Advanced international cooperation;
- 2) Centralised supervision (ICAO) of a de-centralised TM system (Management of ATS, FIRs by States);
- 3) Institutionalized exchange of information between users (aircraft) and the competent authorities;
- 4) Classification of airspaces for the purposes of ATS provision (Annex 11, 2.6);
- 5) Constant monitoring of civil flights all over the world;
- 6) Increased civil/military coordination, based on the timely exchange of information between military and civil users.

Air transport facts + figures: a “safe, regular, efficient and economical air transport” (art. 44 (d) CC) is here to stay!

According to ICAO’s preliminary compilation of annual global statistics for 2017, the total number of passengers carried on scheduled services rose to 4.1 billion in 2017, which is 7.2 per cent higher than the previous year, while the number of departures reached 36.7 million in 2017, a 3.1 per cent increase compared to 2016. Detailed air transport statistics appear on the [Presentation of 2017 Air Transport Statistical Results](#) page.

Approximately 56 million tons of freight were carried in 2017. Growth of scheduled total freight traffic, expressed in terms of scheduled total freight ton-kilometres performed (FTKs), was at 9.5 per cent in 2017, significantly higher than the 3.6 per cent recorded in 2016. This growth was mainly due to the improving trade activity in 2017.

With respect to **safety**, based on overall numbers, odds of being in a plane crash is **one in 11 million**. **Car passengers are at a higher risk** of untimely death with the odds placed at one in 5,000.

Radio frequencies 4all: The Role of the ITU

The International Telecommunication Union is the oldest among all the specialized agencies of the UN System, as it dates back to 1865, when its predecessor, the International Telegraph Union, was founded.

At present, the ITU has 193 Member States, 579 Sector Members, 175 Associate and 52 from Academia.

The ITU Radiocommunication Sector (ITU-R) plays a vital role in the global management of the radio-frequency spectrum and satellite orbits - limited natural resources which are increasingly in demand from a large and growing number of services such as fixed, mobile, broadcasting, amateur, space research, emergency telecommunications, meteorology, global positioning systems, environmental monitoring and communication services - that ensure safety of life on land, at sea and in the skies.

Radio frequencies 4all: The Role of the ITU

International radio frequency management

Spectrum management is the process of regulating the use of radio frequencies to promote efficient use and gain a net social benefit. The term radio spectrum typically refers to the full frequency range from 3 kHz to 300 GHz that may be used for wireless communication.

1st step → **allocation**: put the frequency bands in groups of services. Table of frequency allocations.

2nd step → **allotment**: giving frequencies to States.

3rd step → **assignment**: giving frequencies to operators.

Radio frequencies 4all: The Role of the ITU

The key provision: Art. 44(2) ITU Constitution

In using frequency bands for radio services, Member States shall bear in mind that radio frequencies and any associated orbits, including the geostationary-satellite orbit, are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to those orbits and frequencies, taking into account the special needs of the developing countries and the geographical situation of particular countries.

“Equitable access” → frequencies for all States!

The space domain – space law

By comparison, human activity in space dates back to 4 October 1957, when the Soviet Union launched Sputnik 1 into an elliptical low Earth orbit.

Space law is a branch of international law that grew rapidly, following the harsh US-USSR competition for dominance in the space area. It is therefore hardly surprising that its identity clearly reflects the international relations of the Cold War Era and the confrontation of the two space-faring powers of the 50's and the 60's. However, the interaction of the two superpowers finally resulted in an optimal balance, which was reflected in a set of fundamental principles.

The space domain – space law

Said principles were initially formed in the context of the **Resolution 1962 (XVIII)/1963** of the General Assembly of the United Nations and finally incorporated in the **Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 1967**. These principles include: the freedom of exploration and use of outer space (which constitutes a “province of all mankind”) by all states without discrimination; the principle of non-appropriation of outer space; the use of the Moon and other celestial bodies exclusively for peaceful purposes; the rescue and return of astronauts in distress; the establishment of State responsibility with respect to national activities, whether such activities are carried on by governmental agencies or by non-governmental entities; State liability for damages caused by space objects; and the preservation of the Earth and the outer space environment.

The space domain – space law

These principles were further elaborated through the adoption of four more treaties, namely: The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space of 1968; the Convention on International Liability for Damage Caused by Space Objects of 1972; the Convention on Registration of Objects Launched into Outer Space of 1975; and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of 1979. This last treaty failed to gain a wide acceptance by the States members to the UNCOPUOS (United Nations Committee on the Peaceful Uses of Outer Space) having, to date, only 16 ratifications, mainly due to the reluctance of States to sign a collective regime of exploitation of the Moon, established by this treaty.

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Time for comparisons!

Air Law and Telecommunications Law → **highly developed branches** of international law, detailed regulation of the relevant activities.

Space Law → still a “**Law of principles**”!

Time for comparisons!

Air Law and Telecommunications Law → **enhanced multilateralism (binding character of the relevant provisions)**! “No one is left behind”, air transport and radio-frequencies are “4all”!

In Space Law → increasing reluctance of States to adopt new rules, of general or specific scope.

Time for comparisons!

Air Law and Telecommunications Law → were developed through the activity of **international organizations**, such as ICAO and ITU.

In Space Law → legal and technical matters are still discussed in the context of a subsidiary organ of the UN General Assembly, the COPUOS.

→ COPUOS should be promoted to a new specialized agency in the UN System, an “**International Organization for the Peaceful Uses of Outer Space**” (IOPUOS??).

Although it is quite understandable why international air law and international telecommunications law are characterized by a greater degree of completeness than space law, their specific character (binding, detailed norms, enhanced multilateralism, status of specialized UN agencies), evolution and overall structure constitute a useful paradigm for a current evaluation and the future development of space law.

It is time for Space Law to change, to be thoroughly enriched, to turn outer space a true “province for all Humankind”! It is time for space to be... 4all!

Thank you!