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Safety and Oversight of Low-level Air Traffic Management (LATM) Services

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Abstract

The paper analyses documents emerging from Aviation Authorities and from Standard Development Organisations (SDO) in the perspective of 'performance-based' and 'risk-based' regulation, in the developing UAS – Unmanned Aircraft System - framework.

The article is focused on safety and its oversight as it emerges from international and European regulations and from industry standardisation activities. In particular, it intends to present the possibility to have new services for UAS management, classified as 'safety-critical', 'safety-related' and 'additional'. This is a way to protect citizens, imposing to industry proportionate rules and reducing the level of involvement of authorities.

Introduction

Drones are increasingly expecting access to civil airspace, including at very low altitudes over metropolitan areas. Applications are expanding from recreational use in Visual Line-of-Sight (VLOS) towards more demanding uses and Beyond-VLOS, not excluding commercial transport of freight or even passengers. To manage these increasing volumes of drones employment, traffic authorities and industry are defining new Traffic Management paradigms. Also, safety for third parties on the ground and for all airspace users must be ensured, as well as security, which requires effective but proportionate oversight.

Current Situation

Like jet propulsion, Internet or satellite navigation, development and exploitation of drones first emerged for military purposes in the last decades of the 20th century. However, since 2000, governmental non-military and civil uses started to emerge. Aviation regulatory authorities have been very cautious in gradually allowing insertion of civil drones into airspace.

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So, until 2015, operations of civil drones were essentially limited to Very Low Level (VLL), meaning at heights of less than 120 m (400 ft) or 150 m (500 ft) Above Ground Level (AGL) and in Visual Line-of-Sight (VLOS) from the remote pilot. Although early adopters of drones were unhappy about the regulatory limitations, this gradual approach allowed industry to initiate growth in this segment of aviation, without compromising safety (no major catastrophes caused by civil drones were recorded in the period 2000-19) and without compromising societal acceptance.

But drones can go also Beyond VLOS (i.e. BVLOS) and be used not only for recreational purposes but for a huge variety of aerial work applications and as well for Commercial Air Transport (CAT) of freights (e.g. small parcel along the so called 'last mile') or even passengers. And of course, the greatest demand would be over metropolitan areas.

According to a SESAR JU study[1] published in 2016, around 2050, there will be around 250 million of drone flight hours above the European cities, compared with 33 million of en-route flight hours by traditional jet-liners. In other words, the number of drone flights at VLL above populated areas would outstrip the volume of activity of traditional 'manned' aviation (i.e. with the pilot on-board the aircraft), by almost one order of magnitude.

A similar trend of constant growth of drone activity was observed and estimated to continue[2] by the Federal Aviation Administration (FAA) and confirmed by several commercial market researches.

This expected growth poses several challenges among which:

- How to ensure sufficient safety and security of this huge volume of new aviation activities without excessively burdening Small and Medium-sized Enterprises (SMEs) and without overloading aviation authorities;
- How to manage such high volumes of air traffic, to handle which current procedures would not prove suitable;
- Which Communication, Navigation and Surveillance (CNS) technologies to use, since traditional aviation ground-based systems do not provide coverage at VLL over cities;
- Which new services would be necessary and how to oversee them.

All experts around the world in 2020 agree that indeed the community has a challenge to face. But no consensus has been yet reached on the regulations and industry standards which should support the evolutionary growth of the market. The controversy starts already from the definitions. In fact, in USA the term 'UAS Traffic Management' is used, while in Europe EU entities promote the use of the term 'U-Space'. In this work the authors hence aim at providing an analysis of current regulatory and standardisation developments, indeed starting from the definitions and providing recommendations for a proportionate, but safe, framework for regulation of traffic management services at VLL.
In conclusion, there are encouraging developments for establishing a comprehensive regulation and oversight programmes of these services in Europe, based on cooperation between authorities, Standard Development Organisations (SDO) and conformity assessment bodies.

A Glossary of the acronyms used in this work is contained in Appendix A.

Materials and Methods

This article of based on a desk research and comparison of regulatory and standardisation material, so far released by aviation authorities or being compiled by SDOs. Main sources include:

- ICAO common UTM framework[3];
- EASA Opinion 01/2020[4];
- U-Space CONOPS developed by Project CORUS, funded by the EU through SESAR JU[5];
- Work underway in WG/4 (UTM) of SC/16 (UAS) of ISO TC/20[6].

The analysis focused on four aspects: definition of UTM (or similar), approach to regulation (i.e. prescriptive or performance-based), oversight and risk-based regulation and taxonomy of emerging UTM services.

Results

What UTM is?

The European Union has developed a vision called U-Space, which is the phased introduction of procedures and 'a set of services designed to support safe, efficient and secure access to airspace for large numbers of drones'. ICAO instead used the term UTM, defining it as 'a specific aspect of ATM which manages UAS operations safely, economically and efficiently through the provision of facilities and a seamless set of services in collaboration with all parties and involving airborne and ground-based functions.'

EASA had proposed a definition of U-Space in October 2019[7] but the comments received by the Advisory Bodies[8] of that Agency were not only unfavourable; in fact, they also showed divergent positions and proposals. In the end, no definition was proposed by EASA in the official Opinion addressed to the European Commission (EC) in March 2020.

One may observe that, while the majority of experts in the global aviation community use the term 'UTM', in the EU that term was challenged, observing that at VLL there are not only 'unmanned' (i.e. no pilot on board), but also 'manned' aircraft (e.g. traditional helicopters in emergency services and with the pilot in the cockpit) and therefore any (air) traffic management concept should encompass both categories of airspace users. The principle is sound, but the term hence chosen by the EC (i.e. 'U-Space') as explained by CORUS still considers only drones. Further work is hence necessary before the community could converge on a definition acceptable by the vast majority of experts.

Prescriptive or Performance-based Regulation

The tradition of prescriptive regulation

Regulation of civil aviation started at international level in 1919 with the ICAN Convention[9] and with the establishment of 'accident investigators' in Denmark and UK.

The subsequent development of civil aviation in several States and the absence at the time of sufficient standards developed by industry, led the States to promulgate regulations containing detailed technical requirements. Among them the 'Information Bulletin No. 7'[10] by the US Department of Commerce in 1928 (the FAA was not yet existing at the time), which introduced not only the 'type certificate' approving the aircraft design, but also detailed certification specifications. Since then, the 'prescriptive' approach to regulation of civil aviation, meaning that technical details are established by authority, often through acts having force of law, spread around the world with innumerable examples, among which one may mention:

- some US Federal Aviation Regulations (FAR)[11] which are still current today (e.g. FAR25);
- so called 'EU-OPS'[12] which consisted of more than 200 pages establishing detailed requirements for commercial air transport operations using fixed-wing 'manned' aeroplanes;
- Annex 10 to the Chicago Convention, which in 2020 consisted of 5 volumes for a total of about 1300 pages, most of which containing detailed technical requirements.

This prescriptive approach to regulation of civil aviation has at least three shortcomings:

- Adoption at high level of organisations (e.g. the ICAO Council) or institutions (e.g. EC or even European Parliament) which inevitably implies going through complex and long procedures;
- Consequent inability to respond rapidly to technological innovations;
- Rigidity, if technical details are 'frozen' in legally binding rules, which prevents applicants to propose new or alternative solutions.

Departure from tradition

The last of these shortcomings started to become prominent around 1975 when in aviation 'area navigation' (RNAV) allowed avionics designers to propose different architectures and sensors to achieve a certain accuracy of navigation along long-range air routes. Nevertheless regulations of the time prescribed a list of equipment whose carriage was mandatory.

The departure from tradition initiated in 1977, when the FAA published AC 120-33[13], no longer mandating a list of equipment to be carried on-board but instead a 'Minimum Navigation Performance Specification' (MNPS).

Performance-based Regulation

Since then the pace of technological innovation did not only accelerate, but it also offered on the market a number of alternative solutions (readers may just consider how many different communications means we have today in our daily lives).

Hence, gradually, there was a trend by the most relevant aviation regulators in the world, including EASA and FAA, towards 'performance-based regulation', and so Aviation Authorities around the world started speaking no longer about 'mandatory equipment', but instead more and more about 'Required Performance'.

In 2002 the Legislator of the European Union (EU) established[14] the European Aviation Safety Agency (EASA) providing a solid legal basis for 'performance-based' safety regulation in the EU:

- Safety objectives established by the Legislator in the form of 'essential requirements' (i.e. verifiable obligations to implement certain 'means' to ensure safety);
- Content of legally-binding implementing rules as much as possible technology agnostic;
- And instead emphasis moved inside legally binding rules towards legal actors (e.g. pilots; aviation organisations), regulatory processes (i.e. certifications, approvals, etc.), responsibilities of applicants and holders of any approval, privileges of natural persons and organisations, interfaces between regulated organisations;
- Obligation for regulated organisations to implement a systematic 'safety management system', beyond mere compliance with prescriptive rules;
- The legally binding rules were also a 'hook' for non-legally binding provisions on technologies, test methods, and similar, published by EASA as Acceptable Means of Compliance (AMC) or Certification Specifications (CS) but also published by 'Standard Development Organisations' as consensus-based industry standards.

This Performance-Based approach to regulation of aviation safety continued and was even more applied, in the so called 'New EASA Basic Regulation'[15]. In it in fact the EU Legislator created the basis for wider use of industry standards for small Unmanned Aircraft Systems (UAS), as well as for conformity assessment procedures involving independent third parties with no direct involvement of the Aviation Authority.

For civil drones in the EU, so far, the performance-based regulation has been mainly implemented through two EC Regulations. The former is Commission Delegated Regulation 2019/945[16] which in fact leaves technical details for specifications concerning small UAS with MTOM below 25 kg, to consensus-based standards developed by ASD-STAN[17] and published by CEN[18] as 'European Norms' (EN). The latter is Implementing Regulation 2019/947[19] which on one side implements 'prescriptive' regulation for operation of small drones in the 'open' category (i.e. low risk perceived by society), but on the other side is 'performance-based' for operations in the (medium risk) 'specific' category. The corner stone of such category is in fact a risk assessment (Article 11 in [19]) developed by or on behalf of the UAS operator (i.e. the employer of the remote pilot) and based on the Specific Operation Risk Assessment (SORA)[20], developed by JARUS. The methodology is quite cumbersome, but web-based tools are available to go through it[21]. Anyway, the SORA methodology leads to the identification of several risk mitigation measures, but each of them should be implemented with a certain level of 'integrity' robustness and a certain level of 'assurance' robu-

stness. To ensure integrity hence several consensus-based technical standards developed by SDOs are necessary. In the EU, the Project AW-DRONES[22] has identified more than 600 consensus-based standards published or under development by several SDOs, which could potentially substantiate the integrity required by SORA. This Project plans to make available a single EU metastandard to guide industry through this jungle of several hundreds of standards possibly applicable.

U-Space Regulation is less mature in 2020. However, EASA has published an Opinion proposing high level (= performance-based) regulation to the EC. In fact, also this proposed regulation is technology agnostic and hence several consensus-based standards would be required to actually implement it. Some of these standards may even not come from the aviation community, since the related technologies may be useful in other segments of mankind activity. For instance, standards for radio-navigation signals-in-space transmitted from satellites are equally necessary for road transportation. And standards for digital communications at VLL may come from telecommunication industry (e.g. 4G, 5G), but nevertheless useful to support U-Space (alias UTM or LATM).

The second iteration of mentioned Project AW-DRONES is expected to provide, in 2021, a reasoned inventory of the standards necessary to support LATM.

Oversight and Risk-based regulation

However, SORA does not only provide guidance to identify which mitigations are necessary and with which level of integrity. It also suggests the necessary level of 'assurance' robustness, meaning which evidence the applicant (i.e. the Accountable Manager (AM) of the UAS operator) should provide to the aviation authority when requesting authorisation for the planned UAS operations in the specific category.

According to SORA, three possible levels of assurance robustness may be required as described in Table 1:

Table 1

Assurance Integrity	*Required evidence*	*Examples*
Low	*Declaration signed by AM of UAS Operator*	*AM declares that remote pilots in the organisation are trained according to ISO 23655*[23]
Medium	*Declaration backed by evidence*	*In addition, AM attaches to the declaration the Training Manual of the organisation and the training records of the remote pilots*
High	*Declaration backed by attestation of conformity issued by an independent, accredited and competent third party*	*AM attaches to the declaration evidence of competency of remote pilots assessed by an independent and accredited third party*

In the EU legislation this competent, accredited and independent third party is mentioned under three different denominations:

- 'Conformity Assessment Bodies', e.g. in the EU Regulation for market surveillance[24] and in Delegated Regulation 2019/945;
- 'Notified Bodies' (NB) in the Regulation[25] for Interoperability in the Single European Sky (SES);
- 'Qualified Entities' (QE) in Article 69 of EASA Basic Regulation.

There is not yet evidence that EC/EASA would apply the 'risk-based' approach to regulation of the LATM services. However, readers may notice that CORUS proposed around 20 different LATM services, while only about 1/3 are mentioned in the EASA Opinion and proposed to be subject to certification by the aviation authorities. For instance, the LATM Communication Service (LCS), which is absolutely necessary to connect UAS operators, LATM users and LATM service providers (SPs) among them, is not mentioned in mentioned EASA proposal, which can be justified assuming that LATM is 'safety-related', but not 'safety-critical' and hence not requiring direct oversight from the aviation authority.

Discussion

UTM definition

For a proper regulation of UTM (alias LATM or U-Space) a clear definition, applicable and accepted globally is highly desirable. In 2020 there is neither yet a global standard on the matter adopted by ICAO or agreed in ISO, nor an official definition from EC/EASA. Several proposals have however been put forward. They are compared and commented in Table 2, where in fact the left column reproduces text proposed by authoritative sources.
These sources are referred in the middle column, while comments by authors of this paper are inserted in the last column:

Proposed Definition	***Source***	***Comments***
A specific aspect of Air Traffic Management (UTM) which manages UAS operations safely, economically and efficiently through the provision of facilities and a seamless set of services in collaboration with all parties and involving airborne and ground-based functions.	*ICAO Common UTM Framework*	• *Unclear whether UTM also serves manned traffic in the involved airspace volume;* • *The statement that UAS manages 'operations' creates confusion between the OPS domain and the ATM domain;* • *Security is completely ignored.*

Federated set of services designed to ensure safe, secure and efficient integration of multiple manned and unmanned a/c in the airspace in collaboration among all involved parties	*Proposed by Mrs. Francine Zimmermann (FOCA) to JARUS Plenary (19 Oct 2018)*	• *Clear that U-Space/UTM is a 'set of services';* • *Clear that it is not related to 'operations' (i.e. one single aircraft), but to 'multiple' aircraft (i.e. indeed managing 'traffic');* • *Clear that these aircraft may be manned or unmanned;* • *Reference in general to 'airspace' and not to a specific volume of airspace, since different services may have different service volumes (e.g. information may be available even outside the volume within which U-Space ensures traffic deconfliction).*
A set of services designed to support safe, efficient and secure access to airspace for large numbers of drones	*SESAR JU (CORUS CONOPS)*	• *Clear that U-Space/UTM is a 'set of services';* • *Clear that it is not related to 'operations' (i.e. one single aircraft), but to a 'large number' of drones;* • *Unclear whether UTM also serves manned traffic in the involved airspace volume.*
Set of services provided in an automated way through a digital system in a volume of airspace designated by an EU Member State	*EASA Draft Opinion of 08 Oct 2019*	• *Clear that U-Space/UTM is a 'set of services';* • *Implicit that it is related to 'management' of manned and unmanned traffic in the same airspace volume;* • *Objectives (i.e. safety, security and efficiency) not elicited in the definition;* • *Consequently, which is the scope or aim of such services is totally unclear;* • *The fact that the U-Space services are automated and digital, may not necessarily belong to the definition;* • *The fact that airspace volumes are designated by Member States in the EU is obvious (ref. Article 15 of [19] and not requiring to be reiterated in the definition.*

Set of traffic management and air navigation services aiming at safe, secure and efficient integration of multiple manned and unmanned aircraft in the airspace in collaboration among all involved parties	*Developed by DIODE*[26]	• *'Set' means that there can be several services;* • *The term ATM/ANS is used in Regulation 2018/1139; mentioning these terms in the U-Space definition clarifies that services related to OPS (e.g. C2 Link) are beyond the scope of U-Space;* • *For the rest the definition proposed by Project DIODE is similar to the one proposed to JARUS.*

Table 2

The authors of this article, based on the comments in the right column of Table 2, suggest that, among the definitions for Low-level Air Traffic Management (LATM) proposed so far, the most suitable one is the one proposed by Project DIODE, which in fact has been brought to the attention of WG/4 of ISO TC/20 SC/16 for 23629-12[27].

Risk-based oversight

According to Niall McCarthy[28], but based on data from ICAO, IATA and other authoritative sources, the number of fatalities due to accidents in CAT around the entire world, was slightly above 1,000 in the year 2000 and since then it further decreased to few hundreds per year until end of 2019. Conversely, the World Health Organisation (WHO) reports[29] that mosquitoes are one of the deadliest animals in the world. Their ability to carry and spread disease to humans causes millions of deaths every year. In 2015 malaria alone caused 438,000 deaths.

Readers should hence compare 1,000 victims per year in CAT with 1 million (i.e. three orders of magnitude higher) of fatalities caused by mosquitos. From the media we also learn that earthquakes or collapsing bridges or railway accidents may cause several victims. This results in a consolidated perception by society that aviation today is sufficiently safe, while the resources of the Governments should be directed towards other priorities.

The consequence is that the resources assigned by the Government of the almost 200 Contracting States of ICAO are not exuberant and therefore, in several cases, respective Civil Aviation Authorities (CAAs) have growing difficulties in coping with volume and complicity of contemporary civil aviation. In fact, the ICAO General Assembly[30] recognised that whereas the results of the audits and ICAO Coordinated Validation Missions (ICVMs) conducted under the Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP-CMA) indicate that several ICAO Contracting States, until 2019, had not yet been able to establish a satisfactory national safety oversight system and some States had been identified as having Significant Safety Concerns (SSCs).

To face this situation, and aware that it would not be feasible to request States to assign more resources to the CAAs, ICAO is promoting pooling resources at regional level through the Global Aviation Safety Oversight System (GASOS)[31]. This however may not be enough, also in the light of the growing volume of drone activity. And in fact, in its Legislative Proposal[32] of 2015 EC It proposed that Qualified Entities (now covered by Article 69 in[15]) may be granted a privilege to issue, revoke, and suspend certificates on behalf of the Agency or national competent authority, so reducing the Level of Involvement (LoI) of the authorities for safety oversight.

But SORA is applicable to risk assessment of UAS operations, not directly to LATM services. However, in the opinion of the authors of this article, nothing prevents to apply the same principle also in the LATM context, e.g. requiring certification by authorities of providers of safety-critical LATM services, and instead leaving for QEs the privilege of assessing safety-related SPs.

Safety critical and safety related services

The terms 'safety critical' and 'safety related' are neither standardised by ICAO, nor established by EU aviation safety Regulations. Several international standards exist covering 'safety related' systems, such as IEC 61508[33] or ISO 13849-1[34] or ISO 26262[35], while other international documents issued by SDOs, use the term 'safety critical', such as ISO, TR 21974[36] or ISO 13702[37].

For example, ISO 26262 standard is applicable to the automotive industry and based on the general IEC 61508 standard, the use of a Safety Integrity Level (SIL). This standard is the basis for the assessment of a hazard considering the severity of its potential effects and the relative likelihood of the hazard to materialize. The determination of an SIL is the result of hazard identification and risk assessment, possibly using a risk matrix.

The SIL standardised by IEC and ISO comprises 4 levels of risk (or safety criticality), but it is substantially equivalent to using the risk matrix recommended by ICAO[38] which has 5 levels. Aerospace industry applies 5 levels of risk also to development of software[39].

However, even though the SIL/risk matrix approach allows to classify risks in 5 levels of growing safety criticality, all the standards and recommendations mentioned in this paragraph assume that there is one organisation (e.g. Design Organisation) taking the responsibility for the risk assessment.

Instead, in case of LATM one organisation may provide only safety related services, while other service providers may offer also safety critical services, and regulatory regimes may be different: e.g. safety critical services and related SPs certified by aviation authorities, while safety related could be verified through NBs or QEs. This would be perfectly consistent with the approach of SORA for UAS operations and more in general with risk-based regulation, reducing the level of involvement of authorities, while still ensuring sufficient protection of society.

So far there is no evidence of the regulatory aviation authorities going in this direction for LATM services, but one may notice:

- ICAO in paragraph 2.2.2 its Annex 3[40] mandates that each Contracting State shall ensure that the designated Meteorological (MET) SPs establishes and implements a properly organised quality system. However, this provision does not require certification by State (or CAA) being followed by Recommendation 2.2.3 suggesting that the quality system should be in conformity with the ISO 9000 series of quality assurance standards and should be certified by an approved organisation (i.e. NB or QE using the terminology of this article);

- Equal provisions are established in paragraph 3.6.1 and Recommendation 3.6.2 of ICAO Annex 15[41] with reference to SPs of Aeronautical Information Service (AIS).

- In its Opinion, EASA listed only 8 U-Space (LATM) services, omitting the COM service, which could perhaps be interpreted that this service was considered by EASA safety related, but not safety critical;
- The list of services identified by CORUS is much longer than the one from EASA and it would be disproportionate to regulate all of them through certification by the aviation authorities.

To pursue risk-based regulation even for LATM services and related SPs, it would be necessary to first establish a clear distinction between safety related and safety critical services. The authors of this article have hence proposed to WG/4 of ISO TC/20 SC/6 to introduce in ISO 23629-12 the draft definitions presented in Table 3:

Term	***Definition***
Safety critical LATM service	*LATM service providing functions that, if lost or degraded, or as a result of incorrect or inadvertent operation, would result in catastrophic consequences*
Safety related LATM service	*LATM service providing functions that have the potential to contribute to the violation of or achievement of a safety goal, but whose loss of degradation would not in itself produce catastrophic consequences*

Table 3

Possible adoption of these (or similar) differential definitions by ISO would of course not dictate any specific regulatory regime, since this is obviously a prerogative of the competent authorities and not of ISO.

But in the opinion of the authors of this article, consensus-based definitions adopted by ISO, would facilitate discussion in regulatory authority towards a possible performance-based and risk-based regulation of LATM services.

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Appendix A – Glossary

Acronym	*Description*
AC	*Advisory Circular*
AGL	*Above Ground Level*
AIS	*Aeronautical Information Service*
AM	*Accountable Manager*
AMC	*Acceptable Means of Compliance*
ANS	*Air Navigation Services*
ATM	*Air Traffic Management*
BVLOS	*Beyond Visual Line-of-Sight*
C2 Link	*Command and Control (data) Link*
CAA	*Civil Aviation Authority*
CAT	*Commercial Air Transport*
CEN	*European Committee for Standardisation*
CENELEC	*European Committee for Electrotechnical Standardisation*
CMA	*Continuous Monitoring Approach*
CNS	*Communication, Navigation and Surveillance*
COM	*Communication Service*
CONOPS	*Concept of Operations*
CORUS	*Concept of Operations for EuRopean UTM Systems*
CS	*Certification Specifications*
DIS	*Draft International Standard*
EASA	*European Union Aviation Safety Agency*
EC	*European Commission*
EN	*European Norm*
EP	*European Parliament*
EU	*European Union*
FAA	*Federal Aviation Administration*
FAR	*Federal Aviation Regulations*
FOCA	*Federal Office Civil Aviation (Switzerland)*
GASOS	*Global Aviation Safety Oversight System*
IATA	*International Air Transport Association*
ICAO	*International Civil Aviation Organisation*
ICVM	*ICAO Coordinated Validation Mission*
IEC	*International Electrotechnical Commission*
ISO	*International Standard Organisation*
JARUS	*Joint Authorities for Rulemaking on Unmanned Systems*
LCS	*LATM Communication Service*

LOI	*Level of Involvement*
LATM	*Low-level Air Traffic Management*
MB	*Management Board*
MET	*Meteorological Service*
MNPS	*Minimum Navigation Performance Specification*
MTOM	*Maximum Take-Off Mass*
NB	*Notified Body*
OPS	*Operations*
QE	*Qualified Entity*
RNAV	*aRea NAVigation*
SC	*Sub-Committee*
SDO	*Standard Development Organisation*
SES	*Single European Sky*
SESAR JU	*Single European Sky ATM Research – Joint Undertaking*
SIL	*Safety Integrity Level*
SME	*Small or Medium-sized Enterprise*
SORA	*Specific Operation Risk Assessment*
SP	*Service Provider*
SSC	*Significant Safety Concern*
TC	*Technical Committee*
UAS	*Unmanned Aircraft System*
USOAP	*Universal Safety Oversight Audit Programme*
UTM	*UAS Traffic Management*
VLL	*Very Low Level*
VLOS	*Visual Line-of-Sight*
WD	*Working Draft*
WG	*Working Group*
WHO	*World Health Organisation*

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COVID-19 Pandemic Measures in Turkey Affecting the Aviation Sector

*Serap Zuvin**

Abstract

*COVID-19 pandemic changed our ways of life, air transportation included. Around the world, 40% of passengers are planning to wait at least six months or more for air travel since the beginning of the wide-spread of COVID-19 pandemic, whereas the 60% anticipate that they could continue to travel with airplanes within two months following the containment of the COVID-19 pandemic, according to a survey conducted by the International Air Transport Association ("**IATA**")[1]. In this environment, as expected, many countries introduced flight-bans for domestic and international flight. Taking part in these measures, on 21 March 2020. Turkey banned commercial flights to 68 countries around the world and in total of 71 countries have also introduced commercial flight bans towards Turkey. However, in accordance with the decrease in the daily number of cases announced by the Ministry of Health, Turkish Government started to lift restrictions on overseas travel. As of 16 June 2020, Turkey lifted restrictions on entrances and exits for Turkish citizens and foreign nationals, except for the country's land border with Iran.*

While the aviation sector took a great blow from COVID-19 financially, thanks to the decreasing increase rate of the virus in Europe, the sector works to return to normal. According to measurements taken by governmental bodies, domestic flights were suspended on 21 March 2020 until June 2020. Since the infection rate is decreasing Turkey's flag carrier airline, Turkish Airlines restarted its domestic and international flights on 11 June 2020 after a two-month cut due to the Covid-19 pandemic in light with the recent updates.

In this article, we will try to summarize the legislation introduced in Turkey affecting the aviation business in Turkey following the COVID-19 pandemic.

Legal Measures

General Directorate of Civil Aviation Department of Turkey (the "**CAD**") took preventive measures to fight against the virus and ensure the maintenance of passenger rights. Up until the pandemic, Article 6 of the Regulation on Air Passenger Rights[2] ("**SHY - Yolcu**") used to regulate the passenger rights in cases of cancellation of flights[3]. The air carrier is required provide the following remedies to the passengers whose flights are cancelled or delayed;

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- compensation, as per the determined amounts under the SHY - Yolcu taking into consideration the total distance of the flight[4 5];
- offering reimbursement, re-routing at the earliest convenience, or re-routing at a date of the passenger's choice[6]; and
- offering free-of-charge services to the passengers (e.g., meals, refreshments, accommodation and transport).

The burden of proof regarding whether passengers had been informed of the cancellation and when they have been informed had been on the part of the air carrier performing the flight. That being said, desperate times calls for desperate measures; and therefore, the CAD introduced certain changes on SHY-Yolcu due to COVID-19 pandemic.

With the introduction of the Regulation Amending the Regulation on Air Passenger Rights (**"Amending Regulation"**)[7], a provisional article has been added to the SHY-Yolcu. The article provides that if a flight is cancelled after the date of 5 February 2020 due to COVID-19 pandemic, air carriers shall be released from their obligations provided under the articles 8 on "indemnities", 9 on "refund and rerouting" and 10 on "services" of the SHY-Yolcu, as listed in the foregoing paragraph. Such reliefs until the end of 2 months following the lifting of the travel/flight bans. The Amending Regulation further provides that that the passenger whose flight has been cancelled due to COVID-19 pandemic, will be entitled right to change the date of her/his flight or suspend the same. The passenger choosing to suspend her/his flight, shall be eligible to receive the refund of the flight, until the end of 2 months following the of the lifting of the travel/flight bans.

Commercial Measures

Turkey's budget airline, Pegasus Airlines[8] has changed its flight policies in line with the availabilities provided with Amending Regulation and announced that all cancelled flights ticket operations will be handled as follows:

- **Open Ticket**: Passengers may convert their existing ticket to open ticket. During this process, no penalty will be applied, passengers will be able to use their open ticket within a year on any route and if they do not use their open ticket, they will be able to get a full refund two months after the reciprocal flight restrictions have been lifted.
- **Reissue/Change**: All cancelled flights tickets may be changed without paying any penalty or price difference. The passenger whose flight has been cancelled although her/his bookings was made after 26 March 2020, may still change her/his ticket without paying any penalty and by just paying the price difference between the existing ticket and the new ticket. No difference fee will be applied if the existing ticket and the new ticket are in the same ticket class.
- **Refund**: All cancelled flight tickets can be refunded via the airline's free call center.

Similarly, Turkey's flag carrier airline Turkish Airlines ("THY") started applying "*Zero Change Fee and Change to Open Ticket Policies*". According to THY's policy, if flight tickets are purchased on or before 20 March 2020, passengers can change their dates without paying any change fee and can change the existing tickets to open tickets[9]. It is possible to use an open ticket until 31 December 2021. Change requests can be made through the THY's sales offices, call centers, online channels and agencies at which the ticket was purchased.

Preventive Health Care Measures in Cabins

According to measurements taken by governmental bodies, domestic flights were suspended until June 2020. Although the suspensions have been extended several times given the fact that the increase rate of the virus is slowing down, as stated in the foregoing paragraphs, THY announced that their flight operations has resumed. The very first international flights were to Amsterdam, London, Dusseldorf, Munich and Frankfurt from İstanbul Airport. Such flight schedule published by THY shows the flights to be operated until the end of July. As the flight schedule is updated, THY will keep its passengers notified. During such flights, THY decided that the carry-on bags will not be allowed in the cabin area but will be checked-in to be placed with other luggage. Therefore, an additional right is granted to the passengers to add the 8 kilograms more weight to their already 32 kilograms of baggage weight limit to compensate their cabin luggage right. Moreover, requirement of wearing face masks during the entire duration of flights is determined as a new security measure[10]. For longer flights, it is important that face masks should be replaced with new ones in every four hours.

As of today, none of the Turkish air carriers announced any specific rules regarding seating arrangements such as leaving an empty seat between the passengers. IATA is opposing any regulation that would require airlines to leave empty seats between passengers, arguing that such a measure would severely affect operators' economic prospects and yet deliver no "significant improvement in safety" for travelers[11]. If a regulation which obliges airline companies to leave empty seats between passengers is going to be introduced, it can be reasonably expected that most airlines will suffer economically because of this practice. Also, it is inevitable that the ticket prices would significantly increase.

Preventive Health Care Measures at the Airports

In addition to the flight safety in the cabins, it is detrimental that preventive measures are taken at the airports against Covid-19 virus. As a result, passengers will feel confident enough to travel again when airlines take adequate measures against the spread of virus in their aircraft. Efforts on the preventive measures that can be taken against coronavirus at the airports are carried out in collaboration with the Turkish Ministry of Health, the Turkish General Directorate of Health Services for Borders and Coasts and IGA Havalimanı İşletmesi A.Ş. (operator of the İstanbul Airport). Until now, several preventive measures have been taken and put in practice swiftly at Istanbul Airport, such as thermal camera surveillance, filter and duct cleaning works in ventilation ducts and filter disinfection activities, frequent disinfection activities both in the terminal building and transportation vehicles, informing passengers on the disease, hand sanitizer stations, and staff trainings[12] .

Similar precautions are taken at İstanbul Sabiha Gökçen Airport such as placement of one hundred (100) hand disinfection/sanitation devices in the terminals, placement of one meter apart lines to all security pass and passport control points in order to ensure social distancing rule, cancellation of each of the two seats in the waiting rooms and temporarily suspension of the activities of the domestic and international lounges and flash pass services[13]. As per the Turkish Government's COVID-19 travel updates as announced on 11 June 2020, all passengers planning to fly on domestic or international flights departing from Turkey are required to obtain the HES code, a mobile application namely "*Hayat Eve Sığar*" which generates a code in accordance with the decision taken by the Ministry of Health. HES mobile application generates a code to confirm whether one is deemed healthy, meaning not been admitted to a hospital or came in contact with another infected person based on the GPS data of other users of the application. With such code and other measurements determined by the destination countries, passengers are able to fly domestic or international flights.

Financial Supports Provided by the Government to Airline Companies in Turkey

In the current picture, common view is that it is very difficult for airline companies to survive this crisis without any governmental support. Topics that are constantly highlighted in the IATA reports are certain recovery plans for airline companies such as direct financial aid, bank loans and tax immunity.

Alexandre de Juniac, IATA's Director General and CEO stated, *"Many airlines are cutting capacity and taking emergency measures to reduce costs. Governments must take note. Airlines are doing their best to stay afloat as they perform the vital task of linking the world's economies. As governments look to stimulus measures, the airline industry will need consideration for relief on taxes, charges and slot allocation."* [14]

When it comes to Turkey, no solid financial support has been provided to the airlines, except for the reduction of the Value Added Tax ("VAT") rate from 18% to 1% in domestic passenger transportation. Even this decrease in the VAT percentage has reflected as an important reduction in the ticket prices of the air carriers.

Furthermore, because of COVID-19 pandemic, short-term working allowance has been facilitated by adding a temporary article to the Unemployment Insurance Law No. 4447 to be effective until 30 June 2020[15]. Since, COVID-19 pandemic continues to effect employers as well as employees, a Presidential Decree was published in the Official Gazette dated 30 June 2020 numbered 31171 for the extension of the short-term working allowance until the end of July 2020. Short-term employment has been defined as temporary shortening of the employment period in a workplace totally or partly by at least one-third, or complete or partial suspension of operation in a work-place for at least four weeks and it should not be longer than three months. Many businesses have applied for short-term working allowances to be provided for their employees, which is partially helping the businesses to continue their activities in a challenging financial environment. Also, taking into consideration that enormous amount of financial pressure is being borne by most of the Turkish air carriers that operates international flights. Therefore, additional aids should be introduced by the government.

Transition Period to the New Normal

Due to the heavy toll of the pandemic, many governmental bodies, courts, execution offices and trade registries had been stopped their activities in Turkey until 15 June 2020 pursuant to the Presidential Decree on Extending Deadlines to Prevent Forfeiture in the Courts[16]. After such date, all courts, execution offices trade registries and other governmental bodies resumed their daily activities. Therefore, the financiers' rights under the Convention on International Interests in Mobile Equipment and even their right to use the Irrevocable Deregistration and Export Request Authorization (IDERA) can now be exercised before Civil Aviation Department and Turkish courts and execution offices without further delay.

Conclusion

To conclude, although airline companies suffered from COVID-19 pandemic by losing vast amount of their profits, and in certain cases even became bankrupt, encouraging news are coming from different parts of the world for the ones who are able to stand still for the past few months. Number of the people affected by COVID-19 is getting lower each day, countries are announcing when to resume their flights one by one. So, a belated spring is in the horizon for the aviation sector. For now, just like everyone else, our desire is not to face with this pandemic's second wave in the fall.

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Further Compensation Rights in Cases of Overbooking Analysis of Article 12 of the EU Regulation 261 under Contract Law

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Abstract

According to article 12 of the EU Regulation 261, only denied passengers have rights to further compensation. Voluntary passengers shall still have such rights. The act of surrendering reservations does not automatically exempt airlines from liabilities for non-performance of the contracts.

Introduction

Overbooking refers to situations in which more seats are sold than those actually available on the flight. Originating from the concerns of air carriers about non-shows of passengers, overbooking is a business practice broadly adopted by airlines. It has been regulated by specific provisions, like EU Regulation 261/2004[1] and U.S. 14 CFR part 250.[2] According to article 12(2) of the Regulation,[3] passengers who have voluntarily surrendered their flight reservations in overbooking cannot receive further compensation unless there are explicit national laws, differing from passengers who are denied boarding.

For passengers who have voluntarily accepted re-routing or reimbursement from air carriers, normally they will not sue carriers on courts for further compensation. This provision, however, is not consistent with contract law principles that when there is breaching of contracts, the default liability is not excluded by the conclusion of new contracts. Such principles, however, may not be held in practice on courts since they are not explicit rules covering passenger protection and further compensation. From reading article 12(2), only explicit national laws could be invoked to support further compensation without interpretations established by courts. In this regard, amendments and proper judicial interpretations are needed to promote internally legislative conformity and legal rationality of the Regulation. For the further compensation, another question lies in whether the overbooking is one cause of delay under the Montreal Convention.[4] All these questions shall be analyzed before proposing practical solutions concerning passenger protection in overbooking.

This paper challenges article 12(2) of the Regulation which denies volunteers' rights to further compensation. The conclusion is that the act of surrendering reservations terminates old contracts and does not deprive passengers of rights to further compensation under general contract law principles. By introducing legislative amendments and judicial interpretations to offer volunteers equivalent rights to further compensation, it is expected to have more passengers being encouraged to surrender seats in overbooking and reduce litigation, which is also the result airlines want to

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Provisions of the EU Regulation 261 Concerning Overbooking

Overbooking is not defined in either the EU Regulation 261 or the U.S. 14 CFR part 250. It generally refers to practices of airlines to sell more tickets than seats available on specific flights.[5] Since in many cases there are passengers not showing up for flights, airlines try to get more profit under a fixed high cost by overselling flight tickets. In practice, there are two types of overbooking: theoretical overbooking and actual overbooking. Airlines calculate the reasonable percentage of overbooking based on historical statistics of no-shows of passengers and, in many cases of overbooking, there are no excessive passengers to check in and passengers do not notice such practices of airlines. This scenario is theoretical overbooking. Furthermore, actual overbooking refers to that there are more passengers showing up at the counter than seats available and air carriers must call for volunteers or deny boarding to passengers. There are few litigation cases under the theoretic situation and only the actual overbooking is under further discussions in this paper.

The EU Regulation 261 has established explicit rules on compensation and assistance to passengers who are negatively influenced by overbooking. As stipulated in article 4, there is a two-step procedure: call for volunteers and then deny boarding to passengers. In this regard, there two categories of passengers and the Regulation offers different provisions regarding them as below.

Provisions	Volunteers	Denied Passengers
Article 7 Right to compensation Passengers could get compensation when they are denied boarding. And if they are offered re-routing to their final destination on alternative flights, compensations will be reduced as per the comparison between arrival time of the re-routed flight and the original flight.		✓
Article 8 Right to reimbursement or re-routing Passengers could be offered the choice between reimbursement of full cost of the ticket and a re-routing flight.	✓	✓
Article 9 Right to care Airlines should offer passengers free of charge meals, refreshments, transport and hotel accommodations if the reasonably expected time of departure is at least a day after the original flight.		✓
Article 12 Further compensation This is the main subject of this paper, according to which, denied passengers could still get further compensation after receiving compensation under the EU Regulation 261, while volunteers do not have such rights.		✓

Compared with provisions of the EU Regulation 261, U.S. 14 CFR part 250 has the comparable application scope and similar provisions. One characteristic design of the 14 CFR part 250 lies in that the U.S. Department of Transportation will review the maximum denied boarding compensation amounts every two years.[6] In this way, compensation could match general living standards irrespective of the currency fluctuation. Interests of consumers could get better protection.

Contract Law Relations in the Air Carriage

Air carriage is operated based on contractual relations between passengers and airlines. Carrier liability for overbooking is also closely related to contract law principles. Since there is no explicit definition of the contract of carriage in the Warsaw Convention,[7] the Montreal Convention or other international aviation agreements, it is helpful to appeal to national laws. According to the definition of transportation contracts established in article 288 of the Chinese Contract Law,[8] a general idea could be given: air transportation contracts are the contracts formed between air carriers and passengers, based on which air carriers provide air services. Air carriers are bound to carry passengers from the agreed departure to the agreed destination at the agreed time. Under this definition, the mentioned three conditions ('agreed departure', 'agreed destination' and 'agreed time') are critical to determine whether the original contract exists, is modified or terminated and whether the new contract is concluded.

Technically, passenger tickets do not equal to the contracts of carriage. As stipulated in article 3 of the Warsaw Convention and article 3 of the Montreal Convention, though an incomplete travel document might influence the application of said conventions, non-compliance with these provisions will not affect the existence of the contract of carriage. Airlines normally publish their contracts on websites which usually contain the overbooking and denied boarding clauses.

Airlines	*Contracts of Carriage*	*Overbooking Clauses*
KLM[9]	All Carriage is subject to the General Conditions of Carriage to the Carriers' fare regulations in force at the time of the Passenger's Reservation.	Article 13: Denied boarding and downgrading 13.1 In the event the Carrier decides to deny boarding the Passenger, due to overbooking or other reasons, with the result that the Carrier is not in a position to offer a seat to the Passenger, even though the Passenger has a valid Ticket and has arrived for check-in and boarding in accordance with the required timeframes and conditions, the Carrier shall grant the Passenger the compensation provided for by the relevant applicable regulations, where applicable. […]

Airlines	*Contract of Carriage*	*Overbooking Clauses*
Ryanair[10]	Except as provided in Articles 2.2 and 2.3, these Terms and Conditions of Carriage apply only on those flights, or flight segments, where our name or Airline Designator Code is indicated on the Confirmation / Itinerary for that fight or flight segment.	*Article 9.4 Denied boarding compensation* If we are unable to provide previously confirmed space, we shall provide compensation to those Passengers denied boarding on our flights in accordance with applicable law. If you are denied boarding, we will provide you with the text stating your rights, particularly with regard to compensation and assistance.

Therefore, when a specific contract of carriage is formed for a flight, rules on overbooking are also established as the default clause. According to article 12 of the EU Regulation 261, passengers have rights to further compensation apart from claims under the Regulation. And in practice, the claims to further compensation could be addressed based on the contract of carriage and national contract laws.

Contractual Comparison between Volunteers and Denied Passengers

Overbooking means that more seats have been booked on a flight than the seats available. In this case, the original contract may not be performed properly because of air carriers' such intentional marketing practices, rather than *force majeure* or passengers' negligence which could exempt carriers from the liability for breaching contracts. According to article 4(1) of the Regulation, carriers shall first call for volunteers in cases of overbooking. And when a passenger voluntarily surrenders the reservation in exchange of benefits, there are two options.

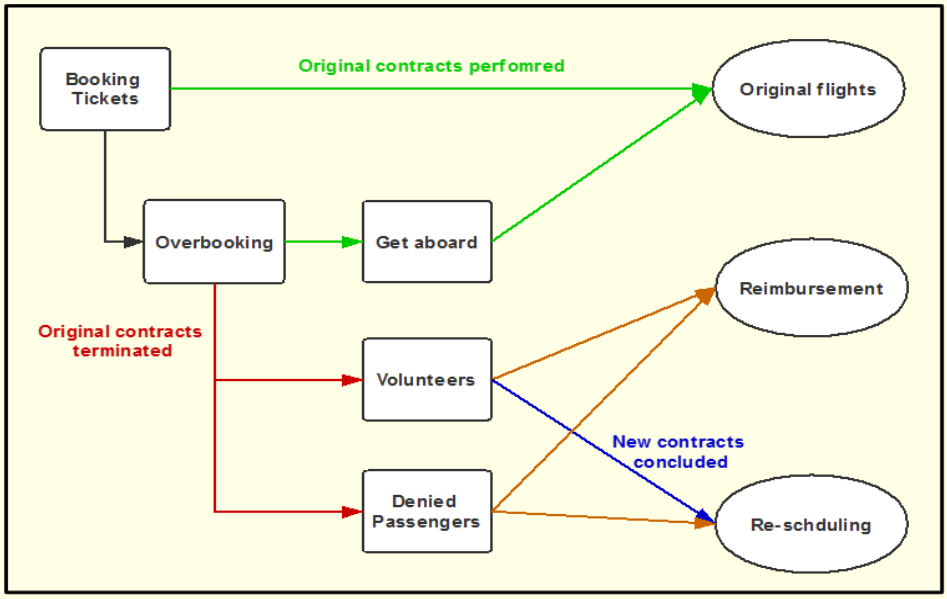
In the case of reimbursement, the original contract is terminated and there are no other contract relationships established between passengers and air carriers. Reimbursement is a common practice of recovering. Most air transportation contracts are bilateral and when surrendering reservations, passengers have fulfilled their main contractual obligations by completing the payments. Therefore, after terminating contracts, airlines are obliged to make all things back to the situations what they were before the contracts were formed, which is one way of the legal remedy confirmed by many national contract laws, such as article 1229 of the French Civil Code stipulating that "Termination takes effect, according to the situation, on the conditions provided by any termination clause […] Where the acts of performance exchanged were useful only on the full performance of the contract which has been terminated, the parties must restore the whole of what they have obtained from each other."[11]

And article 346 of the Germany Civil Code has similar provisions that "If one party to a contract has contractually reserved the right to revoke or if he has a statutory right of revocation, then, in the case of revocation, performance received, and emoluments taken are to be returned."[12]

For re-routing, the new contract of carriage is drawn up. Since passengers get aboard a different aircraft and normally at a different flight time, it is not reasonable to review the new legal relationship under the original contract. Actually, modification of contracts and establishment of new contracts are both typical ways to deal with the breaching or non-performance of contracts. In this regard, alternative re-routing for volunteers cannot be deemed as the compensation. When passengers take a different flight to their final destination, even with comparable conditions, they may still suffer damages and airlines cannot totally exonerate themselves from liabilities by completing obligations under the new contracts.

Even when passengers are denied boarding against their will, they could still take alternative flights. But this act should be differentiated from volunteers' surrendering reservations in exchange of re-routing. As discussed above, since the consensus exists between airlines and voluntary passengers, new contracts are formed in the case of re-scheduling. For denied passengers, however, there is no contractual agreement since these passengers have refused to surrender seats and the decision of denied boarding is against their will. This is one of the most important characters of denied passengers. As confirmed by article 1128 of the French Civil Code, consent of the party who is bound is essential to the validity of an agreement. Therefore, the offer of re-routing is actually compensation for denied passengers and it might be far-fetched to review re-routing for denied passenger under a new contractual relationship.

A comparison between denied boarding and voluntarily surrendering conservations will be given under following three contract law situations of overbooking.



Firstly, when there are enough volunteers or other passengers denied boarding, some passengers could still get access to their seats in overbooking. For these passengers, the contracts of carriage are performed as planned. Secondly, for volunteers there are two choices which have different legal results. If they received the reimbursement for flight tickets, original contracts are terminated, and there are no new contracts concluded between passengers and air carriers. If they accepted the alternative re-scheduling to their final destinations, original contracts are terminated with new contracts of carriage established and implemented. Thirdly, for denied passengers, one significant difference lies in the fact that denied passengers and airlines do not reach consensus on subsequent reimbursement and re-routing offers. If they take the re-routing flights, even on the same routes as the ones of volunteers, new contracts are not concluded, and such offers could only be regarded as compensation. And the compensation will reduce the amount of further compensation based on article 7(2) of the EU Regulation 261.[13] From reading contract law analyses above, one difference between volunteers and denied passengers lies in whether new contracts are established. The original contracts are nevertheless terminated because of airlines' overbooking practices and ensuing breaching of contracts. The right to further compensation shall also be given to passengers based on the contractual relations in air carriage.

Before the introduction of comprehensive regulations on overbooking, passengers sued airlines, alleging that air carriers had fraudulently misrepresented the fact about seat reservations. In the case *Nader* v. *Allegheny*, the U.S. Supreme Court supported that position.[14] After this decision, however, the U.S. Civil Aeronautics Board issued regulations requiring air carriers to inform passengers of overbooking practices and thus preventing passengers suing for fraudulent misrepresentation.[15] To constitute fraud, it is required that airlines have the intention to lead passengers to give consent against passengers' real will. In practice, airlines usually publish their overbooking policies on websites and check-in points at airports, which could exempt them from the fraud charges. It is easier to clarify this issue under national contract laws, like article 442 of the Germany Civil Code: "(1) The rights of the buyer due to a defect are excluded if he has knowledge of the defect at the time when the contract is entered into.

If the buyer has no knowledge of a defect due to gross negligence, the buyer may assert rights in relation to this defect only if the seller fraudulently concealed the defect or gave a guarantee of the quality of the thing." and article 1130 of the French Civil Code: "Mistake, fraud and duress vitiate consent where they are of such a nature that, without them, one of the parties would not have contracted or would have contracted on substantially different terms." Hence, on the basis of national contract laws, gross negligence and ignorance are required to be a fraud practice. In the cases of overbooking, airlines have normally adequately published the related information and it is not easy to support the claim for gross negligence of passengers on courts. While it has to be determined case-by-case basis whether passengers have been informed of such situations and their rights, the denied boarding does not constitute fraud or deception in most cases.

Denied Boarding and Delay under Contract Law

The EU Regulation 261 offers denied passengers rights to further compensation in article 12. Without an explicit definition of further compensation, claimants must refer to other EU Regulations and national laws. The Warsaw Convention and the Montreal Convention have built the internationally uniform regulatory framework on carrier liability to passengers, as least the intention of State parties being like this.[16] An important issue is that if passengers are offered re-scheduling and then the overbooking caused delay in the end, do passengers, either volunteers or denied passengers, have rights to compensation for delay under the international liability treaties?

There have been many discussions about exclusivity of the Montreal Convention. In the case *Weiss* v *El Al Israel Airlines,* the court holds that: "[…] the academic literature indicates that the courts have dealt with this question in other signatory countries have almost uniformly accepted that bumping constitutes contractual nonperformance redressable under local law and not delay for which convention supplies the exclusive remedy."[17] And there are courts arguing that when passengers are offered an alternative carriage, the Warsaw Convention or the Montreal Convention is still applicable on the basis of the provisions on delay.[18] In this regard, the EU Regulation 261 has attracted EU member States to go against obligations they should have taken as contracting States, by offering regulations on similar scenarios. Judgements of the courts in cases like *Sturgeon* v. *Condor Flugdienst GmbH* and *Bock and Lepuschitz* v *Air France*,[19] *Nelson and Others* v. *Lufthansa* and *TUI Travel and Others* v *Civil Aviation Authority*,[20] have made strained relationships worse.

From reading the judgements above, compatibility of the EU Regulation 261 with the Montreal Convention lies in their different application scope. The distinction between applicable issues is artificial with no contract law basis. For cases of overbooking, legal basis of the compatibility is different under the contract law. There is no definition of delay in the Warsaw Convention and the Montreal Convention, but compensation for delay is not created out of thin air. The legal relationship between passengers and airlines is based on the aforementioned contracts of carriage. In this case, while delay is regulated under international liability treaties, it is actually the liability for breaching contracts. Moreover, overbooking in essence concerns the liability for non-performance of contracts. They are covered by different categories of liabilities and there is no con-competition relation between the EU Regulation 261 and the Montreal Convention. Delay arises when the contract has been executed, but not timely. Complete non-performance in overbooking may trigger non-applicability of the Montreal Convention.

The Right to Further Compensation under Contract Law

In the cases of overbooking, when liability issues are not complete and conclusive, passengers may also wish to claim further compensation for damage caused by denied boarding on the basis of contractual provisions. Original contracts are terminated in cases of overbooking because of the non-performance of air carriers, after which parties are not bound by original contracts, but the right to compensation is not excluded. This could be seen in national laws like article 325 of the Germany Civil Code: "The right to demand damages in the case of a reciprocal contract is not excluded by revocation."

According to article 12(2) of the EU Regulation 261, however, volunteers do not have rights to further compensation outside the Regulation unless there are explicit national laws. This is one of differences regarding volunteers and denied passengers. As discussed above, denied passengers have the rights to care, compensation and further compensation based on articles 7, 9 and 12 under the Regulation, while volunteers do not. For articles 7 and 9, it is not difficult to understand the difference. In the case of overbooking, whether surrendering reservations or not is the choice left to passengers which will bring different benefits. Volunteers could be arranged re-routing as soon as possible and denied passengers could still have the chance to get boarding if there are enough volunteers. This is a process of balancing interests. Therefore, the different treatment of passengers made under article 12(1) and article 12(2) is the principal question analyzed in this paper. The legal review of the acts of volunteers and denied passengers under general contract law principles is as follows.

Subjects	**Volunteers**		**Denied Passengers**	
Choice	Reimbursement	Re-Routing	Compensation and Reimbursement	Compensation and Re-Routing
Old Contract	Terminated	Terminated	Terminated	Terminated
New Contract	Not Formed	Formed	Not Formed	Not Formed
Further Compensation				
Domestic Laws	No, unless explicit provisions on the further compensation		Yes	
International Air Laws	No		Yes	

From reading the article 12(2) together with national contract laws, though this provision shall be implemented without prejudice to national laws, it is up to the decision of courts regarding the relations between the EU Regulation 261 and national laws. Except national laws which explicitly offer passengers further compensation, international treaties, other EU Regulations or national civil laws, especially contract laws, may not be applied to support additional compensation. This result, however, contradicts the contract law principles of many States. For example, article 325 of the Germany Civil Code stipulates that "the right to claim compensation in the case of a bilateral contract is not precluded by termination."

There are liabilities for breaching contracts for damage caused to both volunteers and denied passengers, and subsequent establishment of new contracts or partial compensation cannot exclude the right to further compensation. Volunteers face difficulties of travel similar to those experienced by passengers denied boarding against their will. Though they agreed to give up reservations, such decisions were made under urgent and unequal situations in most cases, which left passengers little room to make rational decisions. In the present case, it is not reasonable to deprive volunteers of rights to compensation only because of their voluntary acts. Article 12 (2) actually offers support to this point through acknowledging that this article should be applied without prejudice to national laws.

The question lies in that since volunteers could get further help from explicit national laws, they should also have rights to further compensation under other international and EU regulations, as well as general contract laws. Admittedly, there might be different damage to volunteers and denied passengers. This difference, however, should not influence their lawful remedy measures and might only make the amount and level of compensation different. As for how to improve the formulation of this provision or introduce uniform judicial interpretations, in order for it to be practical and acceptable, this is a problem of 'being' rather than 'oughtness', which could be solved by legislative skills and judgements of courts. A better policy for volunteers will also encourage more passengers to surrender reservations when there is overbooking and reduce potential legal disputes to benefit air carriers' future development.

The Way Forward

After the entry into force of the EU Regulation 261 in 2004, there have been many struggles of the aviation industry, national enforcement bodies and courts with interpretation and application of the Regulation. Particularly, contradictions between the Regulation and the Montreal Convention have drawn much attention, especially on the exclusivity of the Convention. Also, there are concerns about the relationship between the Regulation and consumer protection laws. The EU Commission has proposed an amendment of the Regulation in 2013, which, however, does not provide revision suggestions on article 12. As analyzed above, the liability for delay, which refers to not properly preforming contracts, cannot be established under overbooking which concerns non-performance of contracts. The Regulation acts as a supplementary tool rather than a replacement to the Montreal Convention. And the exclusivity of the article 12(2) Regulation 261 which denies the application of other legal instruments, has no legal basis and contradicts national contract law, like article 325 of the Germany Civil Code mentioned above. There are disputes about the Regulation and the exclusivity of the Montreal Convention. In this case, solving the problems caused by article 12(2) could be a good start to mitigate negative influences, through which, the Regulation will be less aggressive in the relations with other applicable laws. For example, the Regulation interacts with EU Directive 2005/29. [21]
A better design on volunteers' rights to further compensation could also benefit the application of this Directive. According to article 12(2) of the EU Regulation 261, the voluntary passengers may only claim compensation when there are explicit national laws. There are two possible solutions. Firstly, before reaching consensus on the legislative level, it is to be hoped that State practices and judicial decisions by courts may help set uniform interpretative standards which, by regarding further compensation rights under the contract law principles as the 'national laws' under the article 12(2), could give voluntary passengers more possibilities to claim compensation based on possible legal instruments, either other EU regulations or national laws.

Secondly, amendments could be introduced to this provision. It is not difficult to revise article 12(2). In essence, volunteers have faced similar difficulties to those experienced by denied passengers, which means article 12(2) could just be deleted. Then another paragraph could be added to article 12. As stipulated in Article 12(1), the compensation granted under this regulation may be deducted from further compensation. For denied passengers, the compensation granted under this Regulation refers to the one under article 7, which, however, does not apply to volunteers. To avoid the unfair treatment to denied passengers, the deduction clause should also be applied to volunteers and the amount could be referred to the compensation which passengers could have gotten when they are denied boarding.

In practice, such interpretations and revision will also be more acceptable to airlines. Recent aviation regulations have been criticized by airlines for a 'consumer friendly' standpoint. For example, the EU Regulation 261 is commented as a consumer protection regulation whereas the government parties to the Montreal Convention stated in the Preamble: "Recognizing the importance of ensuring protection of the interests of consumers in international carriage by air and need for equitable compensation based on the principle of restitution." Even though this statement has no legal force on courts, it does reveal the drafting and purpose of this instrument, and, accordingly, will help interpret provisions. Against this background, an overly aggressive proposal may not be easily acceptable to airlines, and when uniform rules are established for denied passengers and volunteers, the principle of proportionality should be taken into account and the reasonable revision is preferable, to wit via the compensation deduction clause. Though it is not likely to introduce legislative amendments in the near future, uniform interpretations could be established by courts on article 12 of the EU Regulation 261. Specifically, since the article 12(2) shall be implemented without prejudice to the national laws and principles, it is possible to reconcile the relations between the article 12 and general contract law principles by allowing voluntary passengers to claim further compensation.

Conclusion

Article 12(2) of the EU Regulation 261 denies rights to further compensation for passengers who have voluntarily surrendered reservations in cases of overbooking. Such drafting contradicts general contract law principles and should be revised or properly interpreted to offer a fairer policy for volunteers. In essence, the act of surrendering reservations is a way to terminate the original contract. No matter whether volunteers received re-scheduling of flights or reimbursement, the right to claim compensation based on breaching the contract of carriage is not precluded by the termination of contract. This is a principle recognized by many national laws. As discussed above, the relations between the EU Regulation 261 and the Montreal Convention have been debated a lot. The provision laid down in article 12(2) is too aggressive and might prevent the establishment of uniform rules relating to international air carriage. Therefore, legislative amendments to article 12 and uniform judicial interpretations to offer volunteers rights to further compensation could help resolve tensions of aviation regulations on various levels and benefit the development of overbooking practice.

[1]Regulation (EC) No 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and repealing Regulation (EEC) No 295/91.

[2]Code of Federal Regulations, Title 14. Aeronautics and space, Part 250. Oversales.

[3]Article 12 Regulation 261: (1) This Regulation shall apply without prejudice to a passenger's rights to further compensation. The compensation granted under this Regulation may be deducted from such compensation. (2) Without prejudice to relevant principles and rules of national law, including case-law, paragraph 1 shall not apply to passengers who have voluntarily surrendered a reservation under Article 4 (1).

[4]Convention for the Unification of Certain rules for International Carriage by Air, opened for Signature at Montreal on 28 May 1999.

[5]Stanley Lee Tice, Overbooking of Airline Reservations in View of Nader v. Allegheny Airlines, Inc.: The Opening of Pandora's Box, Journal of Air Law and Commerce, Vol 43, 1997, pp 1-46.

[6]See article 250.5:Amount of denied boarding compensation for passengers denied boarding involuntarily.

[7]Convention for the Unification of Certain Rules Relating to International Carriage by Air, Signed at Warsaw on 12 October 1929.

[8]The Contract Law of the People's Republic of China (1999).

[9](https://www.klm.com/travel/gb_en/customer_support/booking_conditions_carriage/index.htm), last visited (11-12-2019).

[10](https://www.ryanair.com/us/en/useful-info/help-centre/terms-and-conditions/termsandconditionsar_84805816 9), accessed on 12 June 2020.

[11]English translation of the French Civil Code, https://www.trans-lex.org/601101/_/french-civil-code-2016/#head_34, accessed on 12 June 2020.

[12]English translation of German Civil Code, http://www.gesetze-im-internet.de/englisch_bgb/englisch_bgb.html#p1254, accessed on 12 June 2020.

[13]Article 7(2) Regulation 261: when passengers are offered re-routing to their final destination on an alternative flight pursuant to Article 8, the arrival time of which does not exceed the scheduled arrival time of the flight originally booked (a) by two hours, in respect of all flights of 1500 kilometers or less; or (b) by three hours, in respect of all intra-Community flights of more than 1500 kilometers and for all other flights between 1500 and 3500 kilometers; or (c) by four hours, in respect of all flights not falling under (a) or (b), the operating air carrier may reduce the compensation provided for in paragraph 1 by 50 %.

[14]Nader *v* Allegheny Airlines, Inc. - 445 F. Supp. 168 (D.D.C. 1978).

[15]Elliott Blanchard, Terminal 250: Federal Regulation of Airline Overbooking, New York University Law Review, Vol. 79, 2004, pp 1799-1832.

[16]Thomas J. Whalen, The New Warsaw Convention: The Montreal Convention, Air and Space Law, Vol. 25, 2000, pp12-26.

[17]Weiss *v* El Al Israel Airlines, Ltd., 433 F. Supp. 2d 361 (S.D.N.Y. 2006).

[18]Igwe *v* northwest airlines, Civil Action No. H-05-1423 (S.D. Tex. 2007).

[19]Joint Cases C-402/07 and C-432/07 Christopher Sturgeon, Gabriel Sturgeon and Alana Sturgeon *v* Condor Flugdienst GmbH (C-402/07) and Stefan Böck and Cornelia Lepuschitz v Air France SA (C-432/07), ECLI:EU:C:2009:716.

[20]Joint Cases C-581/10 and C-629/10, Emeka Nelson and Others *v* Deutsche Lufthansa AG and TUI Travel plc and Others v Civil Aviation Authority, ECLI:EU:C:2012:657.

[21]Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council.

The Indonesian Aviation Industry During Covid-19 Pandemic: The Recent Legal Developments

*Ridha Aditya Nugraha**

Abstract

The Covid-19 pandemic hits the Indonesian aviation industry hard. National airlines are operating in limited flight frequency which in turn affects towards airports traffic. A pro-airline policy has been enacted to promote domestic flight which is seen as the key to recovery. Unfortunately, it costs passenger protection too much. This article aims to describe the steps taken following the rapid changes made by regulations of the Ministry of Transportation and the Covid-19 Response Acceleration Task Force pertaining to health protocol in air transportation. At the end, this article provides legal and policy recommendation to keep the balance between airlines' interest and passenger protection.

Overview

Since November 2018, the price for domestic plane tickets in Indonesia has been noticeably high. It was partly due to the minimal competition on domestic route since Garuda Indonesia Group and Sriwijaya Group entered an operational cooperation agreement— causing a duopoly.[1] The Indonesian domestic market is bound by the lowest authorized price (or price floor) and the highest authorized price (or price ceiling) for national routes. Consequently, airlines charge their tickets at the maximum price allowed.[2] Flying becomes expensive.

The Indonesian Ministry of Transportation (MoT) had ceased international flights to and from all China destinations on 5 February 2020 following the spread of Covid-19 pandemic in Wuhan. Other international destinations followed depending on the situation in the respective countries.

There was even a plan to follow the neighbouring ASEAN Member States' (AMS) by closing the borders in February. However, Indonesia saw this situation as an opportunity to attract more foreign tourists and provided a 30% flight ticket discount to ten selected destinations for the next three months, a decision that was perhaps reinforced by the need to catch up with last year's failed attempt to fulfil the target for foreign tourist visits. In the end this plan stalled due to the rapidly increasing number of Covid-19 cases. To make matters worse, at the beginning of 2020 there were fewer domestic passengers – leaving national airlines with little to no profit.

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The first Covid-19 case in Indonesia was announced on 2 March 2020. However, by that time domestic flights were still allowed to fly with few restrictions until mid-April. Since then, the number of domestic scheduled flights decreased until there was no flight at a certain period in late April. As a consequence, layoffs have also hit the Indonesian aviation industry.

The Indonesian Government believes that the recovery shall rely on domestic flights instead of international, considering the uncertainty caused by the closure of borders worldwide. Since February, they have taken several steps to help the industry recover. This article aims to review the relevant policy from a legal perspective, especially from that of national laws pertaining to aviation.

Rapid Change of Minister of Transportation Regulations

The MoT Regulation No. 18/2020[3] which was enacted on 9 April was the first regulation addressing the Covid-19 pandemic. It mentioned that i.) airport slots shall be reduced; ii.) aircraft shall only be allowed to carry a maximum of 50% passengers from total seats in accordance with the applicable physical distancing protocol; and iii.) the current upper tariff limit and/or surcharge shall be adjusted. Airlines were still allowed to serve domestic routes.

However, MoT Regulation No. 18/2020 was revoked and replaced by MoT Regulation No. 25/2020[4] on 23 April 2020— less than 14 days later. Airlines were temporarily banned from serving domestic flights to and from airports located in specific "red zones" and/or large-scale social distancing (‘Pembatasan Sosial Berskala Besar’ – PSBB) zones from 24 April to 31 May. This policy included several major airports such as Jakarta (CGK and HLP), Makassar (UPG) and Surabaya (SUB). Cargo flights were exempted.

There was a grey area within MoT Regulation No. 25/2020. Article 20(1)(f) mentioned that exemptions to flight restriction could be granted through a special permission from the Director General of Civil Aviation. At that time, the pressure to get the airline industry back to business was high. Business won over health concerns through that special permission as the exit, for domestic flights were only stopped for a moment. Two weeks later, airlines were allowed to fly again, including those flying to and from red zones and/or PSBB zones with limited frequency. It started with Garuda Indonesia (May 7th), Citilink (May 8th), Lion Group (May 10th) and Sriwijaya Air Group (May 13th). At that time only AirAsia Indonesia remained on the ground.

Sanctions were unclear which led to legal uncertainty. An incident occurred on 14 May 2020. Batik Air failed to comply with the provision which allowed aircraft to only carry a maximum of 50% from the total seat capacity in accordance with physical distancing measures. The violation led to MoT a sanction in the form of the suspension to operate on certain routes.[5] However, it was never clear on which routes and for how long. This case had proven that legal enforcement possibly only served as lip service.

Around mid-May until early-June, overlapping regulations forced airlines to temporarily halt their services even after getting the permission to fly. There was a debate on how to implement health protocols in air transportation which potentially impacted the number of passengers.

As the result, Citilink stopped their flight again on 22 May and resumed flying on 1 June; Lion Group halted their flights on 27 May and resumed flying on 1 June – then stopped flying on 5 June and finally back to service again on 10 June.

MoT Regulation No. 41/2020 is the latest regulation which was enacted on 8 June and it revises some articles from MoT Regulation No. 18/2020. Most importantly, the original provision which stated that "aircraft were only allowed to carry a maximum of 50% passengers from total seats in accordance with physical distancing protocol" was revised into "aircraft shall limit its capacity in carrying passengers with attention to physical distancing measure".[6] The plan to adjust upper tariff limit and/or apply additional surcharge is postponed, and thus is deleted from the regulation.

In parallel, Circular Letter of the Director General of Civil Aviation No. 13/2020 was also enacted on the same date to provide further details on MoT Regulation No. 41/2020. Narrow body and wide body jet aircraft are allowed to embark a maximum of 70% passengers; while propeller aircraft may bring 100% of the total seat to ensure profitability.[7]

These regulations have shown that the International Air Transport Association (IATA) recommendation which states that it is safe for airlines to fly with full capacity prevails. Currently, two influential national airlines are registered as IATA members, namely Batik Air and Garuda Indonesia. At the same time, both are also members of the Indonesian National Air Carriers Association (INACA) which also convinced the MoT into increasing the allowed passenger capacity.[8] Thus, just within two months, MoT regulations on capacity has changed into ones in favour of airlines and airports.

The Absence of Passenger Protection within Domestic Flight

The Covid-19 Response Acceleration Task Force ('*Gugus Tugas Percepatan Penanganan Covid-19*') was set up and has enacted circular letters to assist the implementation of relevant MoT regulations. The pandemic itself has been declared as a national disaster through Presidential Decree No. 12/2020[9] on 13 April which open doors for the activation of the force majeure clause. Furthermore, since each provincial government enjoys autonomy, they are free to carry out the regulation on borders control on their own terms. Thus, the requirements for airports may vary between them.

To board an aircraft, a passenger is required to submit a Polymerase Chain Reaction (PCR) swab test (around IDR 3 million/USD 210) result or rapid test (around IDR 360.000/USD 25) result – depending on the destination – shall be covered by the passenger's own money. Bali is one of the popular destinations where passengers are obliged to submit a PCR test which cannot be substituted with a rapid test result.[10] In comparison, a Jakarta-Surabaya (the busiest Indonesian domestic route; around 800 km) ticket with a low-fare airline costs around IDR 650.000/USD 46. Until late June, the obligatory swab test cost almost five times the ticket price.

Following the discovery of forged test results, several provincial governments decided to use their own discretion in handling the issue.[11] Regulations on health protocol were also changing fast. Such situations have become the reason why many passengers at the airport have been denied boarding even though they brought the required test result documents.

There are efforts to ensure valid test results as well as to reduce rapid test costs for encouraging domestic flight revival. Lion Group offers rapid test for IDR 95,000 or around USD 7 since 29 June. Five airports (CGK, BDO, PDG, PNK, and YIA) have also been providing rapid test at the terminal since June, offering the passengers a more time-efficient option compared to going to the hospital. Since 26 June, the validity period of PCR and rapid test results have been extended from three days to fourteen.[12]

The ongoing national disaster status – which is deemed a case of force majeure – leads to the absence of passenger protection. MoT Regulation No. 89/2015[13] which stipulates matters regarding the right to care and right to compensation for both denied boarding and delay cases cannot be invoked in this situation. Another loophole for airlines is MoT No. 89/2015 which only stipulates matters regarding compensation for denied boarding due to overcapacity of the aircraft and no other reasons. Passengers who are denied boarding because of health protocols may not be compensated at all.[14]

No compensation seems to be the right option considering the fact that airlines are running out of cash as well. However, this argument does not necessarily apply to the right to care. Providing meals and refreshment drinks could violate health protocols and lead to the transmission of virus. This would result in liability issue which airlines and airports tend to avoid. The current situation is also testing whether a passenger is still entitled for accommodation pertaining to delays which last more than six hours.[15]

Ticket refund becomes the main issue. Since the enactment of MoT Regulation No. 25/2020 in April, airlines are allowed to refund ticket in the form of rescheduling, rerouting, membership points, or voucher ticket with the same airline.[16] Indeed, it does still guaranteed 100% ticket refund, but passengers were left with no cash or credit refund option.

MoT Regulation No. 89/2015 which deals with delay management guarantees refund in cash (for purchases made with cash) or credit (for purchases with credit card) in 3 x 24 hours. Unfortunately, MoT No. 25/2020 as the lex specialis overrules the pro-passenger protection MoT Regulation No. 89/2015 in times of uncertainty – most likely until the pandemic is over. From the airlines' perspective, this situation is like a breath of fresh air pertaining to cash liquidity. On the other hand, this also means an uncertain time for travel insurance companies.

Conclusion and The Way Forward

Passenger protection in domestic route during Covid-19 pandemic is uncertain. Ideally, the Indonesian Government should maintain a balance between passenger and airline interests, but for now the latter is winning – by a large margin – since cash or credit card refund for passengers pertaining to denied boarding and flight cancellation are not mandatory. This situation becomes a serious polemic in the national air transportation sector that needs to be resolved soon. Allowing passengers to reschedule their flight with another airline could be the solution.

The right to care should be further promoted through providing free telecommunication to passengers in need during the pandemic. Neither MoT No. 89/2015 nor MoT No. 25/2020 mention any kind of telecommunication assistance. This could be considered as a ground for revising MoT regulations on passenger protection in the future. In the meantime, airports might act as the good Samaritan and provide such facilities.

While entering a phase of new normality, Indonesian airlines and airports are still improving their services. Angkasa Pura II as one of the state-owned airport operators plans to increase the number of available flight slots and normalize its operational hours in July – targeting to make 30% of its flight slots available at its 19 airports across the archipelago from the previous range of 10-20% during the early months of Covid-19 outbreak. Debates about serving in-flight meals to the use of personal protective equipment by cabin crew have been taking place since June 2020.

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[1]Ridha Aditya Nugraha, 'The Indonesian Aviation Sector in the Realm of Liberalisation: The Long and Winding Road' in Jae Woon Lee (ed), Aviation Law and Policy in Asia: Smart Regulation in Liberalised Market (Brill, Asian Law Series Volume 10, 2020) (forthcoming).

[2]*Ibid.*

[3]Minister of Transportation Regulation No. PM 18 of 2020 on the Restriction of Transportation in Preventing the Spread of Corona Virus Disease 2019 (Covid-19).

[4]Minister of Transportation Regulation No. PM 25 of 2020 on Restriction of Transportation during the 1441 Hijriah Eid Homecoming in Preventing the Spread of Corona Virus Disease 2019 (Covid-19).

[5]Kemenhub Sanksi Batik Air akibat Langgar Protokol Pencegahan Corona, https://katadata.co.id/berita/2020/05/19/kemenhub-sanksi-batik-air-akibat-langgar-protokol-pencegahan-corona.

[6]Minister of Transportation Regulation No. PM 41 of 2020 on Amendment to Minister of Transportation Regulation No. PM 18 of 2020 on the Restriction of Transportation in Preventing the Spread of Corona Virus Disease 2019 (Covid-19); point 5.

[7]Circular Letter of the Director General of Civil Aviation No. SE 13 of 2020 on Air Transportation Operation in Productive and Secure Community during the Corona Virus Disease 19 (Covid-19); point 12 to 13.

[8]Kemenhub Akan Tingkatkan Kapasitas Pesawat Bertahap hingga 100%, https://katadata.co.id/berita/2020/06/11/kemenhub-akan-tingkatkan-kapasitas-pesawat-bertahap-hingga-100.

[9]Presidential Decree No. 12 of 2020 on the Determination of the Non-Natural Disaster of the Corona Virus Disease 2019 (COVID-19) as a National Disaster.

[10]Catat - Masuk ke Bali Masih Harus Tunjukkan Hasil Tes PCR, https://travel.kompas.com/read/2020/06/23/162000927/catat-masuk-ke-bali-masih-harus-tunjukkan-hasil-tes-pcr?page=all#page2.

[11]Tetapkan Kebijakan Covid-19, Pemda Perlu Perhatikan Pemerintah Pusat, https://nasional.kompas.com/read/2020/04/14/21334871/tetapkan-kebijakan-covid-19-pemda-perlu-perhatikan-pemerintah-pusat ; Upaya Pemda Tangani COVID-19: Dari KLB hingga Karantina Wilayah, https://tirto.id/eKpc.

[12]Circular Letter of the COVID-19 Response Acceleration Task Force No. 9 of 2020 concerning Amendment to Circular Letter No. 7 of 2020 on the Criteria and Requirements for the Travel of People in the New Habits Adaptation Period towards Productive Communities Safe from Corona Virus Disease 2019 (Covid-19).

[13]Minister of Transportation Regulation No. PM 89 of 2015 on Delay Management on Scheduled Commercial Flights in Indonesia.

[14]*Ibid*, art. 2.

[15]*Ibid*, art. 10(4).

[16]Minister of Transportation Regulation No. PM 25 of 2020, *op.cit.*; arts. 23-24.

Book Review

Space Capacity Building in the XXI Century

Stefano Ferretti, European Space Policy Institute - Vienna
Springer Nature
ISBN 978-3-030-21937-6
415 pages

*Alfredo Roma**

Springer has recently published this book – the first after UNISPACE +50– which provides an overview of the national and international policy frameworks associated with space capacity building and the rationales for their adoption on a global scale. It examines examples of space capacity building efforts across different regions implemented by a range of actors, from agencies to industry and NGOs. It highlights space capacity building programmes that can empower the international community by accessing all the benefits that space assets and data can offer to the economy and to society.

Today, space exploration goes far beyond a merely technological endeavour, as its further development will have a tremendous social, cultural and economic impact, as partly already happened in the past. Space activities are entering an era in which contributions of humanity will become crucial for the future of space exploration.

The book is based on high-level contributions from key space stakeholders who will shape the space agendas and programmes for the coming decades, proving useful guidance to policymakers on a global scale, to industry and to financial institutions. The authors stress the need of international cooperation in space activities as the *condicio sine qua non* to reach concrete results for the benefit of human beings, as stated by International Space Treaties.
The contents are divided in 33 chapters written by prominent actors of the space community.

In the first chapter, Stefano Ferretti offers a detailed analysis of the cooperation between ESPI and UNOOSA to favour the development of new policies and technologies, addressing user needs and key themes such as space for global health, environmental monitoring and climate change research, in order to create a more sustainable life around the world. The applicability of today's space technologies is deeply examined by Simonetta di Pippo, Markus Woltran and Martin Stasko in the second chapter.

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Ulrike Bohlman then describes the contents of ESA Space 4.0 strategy to create a United Space in Europe for the benefit of European citizens, society and the economy.

Moreover, Stefano Ferretti examines the R&D process of the space sector, innovation plans for the XXI century and the role of space agencies. Andrea Vena, Gianluigi Baldesi and Arnaud Bossy present threats and opportunities for the ESA Space 4.0 era through megatrends as well as key priorities.

Fuki Taniguchi, Hiroki Akagi and Kunihiro Matsumoto present the results of the cooperation programme between UNOOSA and the Japanese space agency JAXA for Capacity Building by using the Innovative CubeSat launch opportunity from ISS "Kibo". Veronica La Regina and Bernhard Hufenbach show the perspective of the ESA exploration and innovation. Then, Luciano Saccani offers his perspective on new spacecraft and the relevant changes in the way to explore space. Very interesting and important is the contribution of Chiaki Mukai, Yoko Kagiwada and Nanoko Ueda describing Japan's Space Activities for Global Health.

Considering the recent pandemic that caused enormous losses around the world, the chapter of Cécile Vignolles dedicated to the use of space assets for global health to monitor epidemiology spread thanks to satellite data, is particularly valuable. The subject of global health is completed by other chapters on medical intervention and benefits of spaceflight, the efforts made by Australia and Canada. In particular, chapter 24 examines building capacity and resilience against diseases transmitted through water under climate perturbations and extreme weather stress. Also, the interaction between drones and space assets is examined.

Then, a consistent part is dedicated to climate change and resilient societies, starting from the World Meteorological Organisation and space-based observations for weather, climate, water and related environmental services proposed by Werner Balogh and Toshiyuki Kurino. Grazia Maria Fiore analyses satellite applications to enhance the quality of life in urban areas.

Part IV is dedicated to capacity building in the XXI century starting from ESA's programmes presented by Isabelle Duvaux-Béchon. The book then presents various space projects designed to favor sustainable development. It includes educational projects through an open university, use of communication tools, and innovation projects. Finally, the space and SATCOM for 5G and European transport details future strategies as seen by Stefano Ferretti, Hermann Ludwig Moeller, Jean-Jacques Tortora and Magali Vaissiere.

Italy: Motion on the ratification of Cape Town Convention and its Aircraft Protocol

*Anna Masutti**

On the 6th of December 2001 Italy has signed the 2001 Cape Town Convention on international interests in mobile equipment and its Protocol on matters specific to aircraft equipment. Nevertheless, this Convention has not been ratified yet.
On the 21st of July 2020, the Italian Senate approved the Motion (No. 1-00133) on the ratification of the Cape Town Convention and its Aircraft Protocol. By means of the approval of this Motion, the Italian Government committed itself to submit to the Parliament the draft law for the ratification of the Convention and its Protocol. Subsequently, the Parliament will review the draft law presented by the Government in order to conclude the legislative process for the ratification.

https://www.senato.it/3818?seduta_assemblea=12501

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Webinar "The insurance of new technologies in the aerospace sector. Present and future."

On **Thursday 17 September at 2:30** pm there will be a new stage of the AXA XL Insurance Academy in collaboration with ANRA.
We will talk about the insurance of new technologies in the aerospace sector, analysing the recent market adjustments and the novelties of the near future.

Event for ANRA members-only

Registration to the webinar at this link

Another subject of the debate will be the innovative Hyperloop, the means of transport of the future able of to transform science fiction into reality:
it will be faster than an airplane, cheaper than a train, less polluting than an oil and coal dependent vehicle, but what about the legal and the insurance market implications?

In the panel Federica Bisetti - Underwriter Aviation AXA XL Italia and Anna Masutti – Partner at R&P Legal

IBA Annual Conference 2020 and the Aviation Law Committee

The IBA 2020 Annual Conference will be virtually held in November 2020 and the Aviation Law Commitee's sessions will feature a programme focusing on State and international airline regulatory issues, recent developments in international aviation casualty litigation as well as discussion on current issues regarding aircraft, aircraft engine leasing and financing transactions and methods for enforcing the rights of the parties to those transactions.

Please see below the schedule of the Aviation Law Committee:

Recent developments in international aviation casualty litigation
Monday 09/11/2020
14.00 - 15.00 (GMT+1)

Hot topics in international aircraft leasing and finance
Wednesday 18/11/2020
10.00 - 11.00 (GMT+1)

State and international airline regulatory issues
Wednesday 18/11/2020
16.00 - 17.00 (GMT+1)