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Web Based Tools Facilitating Drone Operations in the Specific Category

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Abstract

Following the rapid increase of non-military drone operations, this article summarises the European regulations on the matter based on a performance approach and its required risk assessment. After the technical description of the Specific Operations Risk Assessment (SORA) methodology recommended by EASA for UAS operations in the Specific category, the article analyses two emerging web-based tools which facilitate the risk assessment and the subsequent implementation of its mitigations: the AW-Drones Repository (alias "metastandard") and SAMWISE.

Introduction

The Unmanned Aircraft System (UAS) domain has only just begun its long-term evolution on a global scale: in fact, the last decade has seen an exponential growth in demand for leisure and commercial applications of civil and public interest non-military drones. Europe has the opportunity to play a pivotal role in the rapidly evolving sector of drone operations, expected to generate a great source of economic value, not only from manufacture or maintenance, but even more from operations, services and exploitation of acquired information.
Already this on-going trend is offering significant benefits to the EU drone market and industry, resulting in new employment opportunities and a positive impact on the European economy. Recent studies estimate the positive effects will further increase in the long run: for instance, according to the European Drones Outlook Study[1] the European drone market will value over EUR 10 billion annually by 2035 and over EUR 15 billion annually by 2050, whereas the total impact of the drone industry (including adjacent industries such as computer, electrical machinery, motor vehicles, …) could range between EUR 25 billion and EUR 45 billion in 2050.
The civil drone market is expected to meet mostly social and commercial needs (in agriculture, energy sector, logistic delivery, safety and security), in contrast to the today's predominant recreational use. Above all, operations extending the range beyond visual line of sight (BVLOS) of the remote pilot (RP) represent the main area for expansion of future applications.

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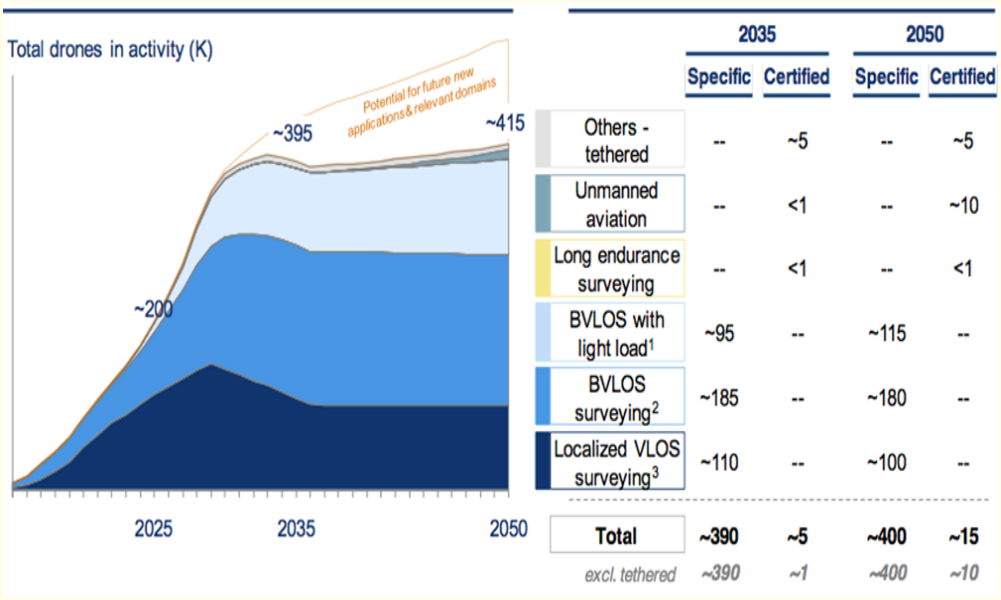
The views expressed are purely those of the authors and thus may not in any circumstances be regarded as an official position.



	2035		2050	
	Specific	Certified	Specific	Certified
Others - tethered	--	~5	--	~5
Unmanned aviation	--	<1	--	~10
Long endurance surveying	--	<1	--	<1
BVLOS with light load[1]	~95	--	~115	--
BVLOS surveying[2]	~185	--	~180	--
Localized VLOS surveying[3]	~110	--	~100	--
Total	**~390**	**~5**	**~400**	**~15**
excl. tethered	*~390*	*~1*	*~400*	*~10*

Figure 1 SESAR (2016), European Drones Outlook Study

European Commitment

As a consequence, the pace of development in the drone industry in Europe is now boosted by significant advancements in comprehensive regulations adopted by the European Commission (EC), based on Opinions issued by the European Aviation Safety Agency (EASA). This solid and comprehensive regulatory framework for non-military UAS has presently no equal in the world, fosters new services and applications offering a solid basis for business cases, creates a level playing field for the single market and unlocks demand by final users and global competitiveness. With technological advancement running faster than regulations, aviation authorities have initially set cautious boundaries to limit civil drone usage capped at 120 m above ground level and within visual line of sight (VLOS). However, now several questions have been answered at regulatory level to mitigate societal concerns related to, for example, privacy and safety. Since the EU UAS regulatory framework is “operation centric”, now is for the “operators” (i.e. the legal entities employing remote pilots) to implement further drone applications.

In recent decades, Europe had in fact embarked on a wide process of regulation for UAS. In particular, EASA has proposed a performance-based and risk-based approach to regulation of safety of non-military UAS. This approach has been adopted by the EC, which has promulgated two EC Regulations in 2019: the Commission Delegated Regulation 2019/945[2] and the Implementing Regulation 2019/947[3].

The Commission Delegated Regulation 2019/945 on “putting on the EU market” unmanned aircraft systems (‘UAS’) and on third-country operators of unmanned aircraft systems, addresses importers and vendors of drones manufactured out of the EU (e.g. in China) and relies on industry specifications and mechanisms to verify conformity of small UAS. Conversely the Implementing Regulation[2] has introduced common rules for operations presenting lowest risks and belonging to the “open” category as well as for medium risk operations in the “Specific” category. The Operator is indeed the main actor in[2] rather than the manufacturer.

Now the EC, EASA and the Member States (MS) of the Union are working on a further regulation, to allow operation of several Unmanned Aircraft not only within the Single European Sky, but at Very Low Level (VLL) above metropolitan areas (so called "Urban Air Mobility" or UAM). One of the EU's main objectives for this new ecosystem (so called "U-Space") is to modernise the way to manage air traffic and to "use" our European skies by enabling the new entrants to safely enter the airspace and also to share it with other "manned" users (i.e. aircraft with pilot on-board, like low flying helicopters). In this sense, the new Regulation under discussion will contribute to the evolution of Air Traffic Management (ATM) towards UAS Traffic Management (UTM), which means ensuring the safety of all airspace users, at any height and of third parties on the ground, through massive provision of automatic and digitised services. Some of them would also be accessible through simple electronic devices, like mobile telephones or tablets.
Most of the drones operating in BVLOS at VLL in the U-Space context will continue to operate in the Specific category of UAS operations.

Therefore, the risk-based approach from Regulation 2019/947 would continue to apply, based on three categories:

- Open category which presents a low level of risk. In this case the Unmanned Aircraft (UA) has a Maximum Take-Off Mass (MTOM) of less than 25 kg and may operate in sufficient safety, for example above sparsely populated areas and exclusively in VLOS. No prior approval by the competent aviation authority is required before flying the UA, as the safety risk perceived by society is negligible.
- Specific category instead presents a medium level of risk. In this case an authorisation by the competent authority is necessary prior to initiating the operation. Before issuing the authorisation, the authority will take into account the implementation of the mitigation measures identified in an operational risk assessment, with the exception for certain standard scenarios where a declaration by the operator is sufficient.
- Certified category presents a high level of risk, and comparable with that of "manned" aviation. In this case the traditional method of regulating aviation is applied, allowing critical operations with large drones, including those over assemblies of people, possibly involving the transport of people or even carriage of dangerous goods. For these reasons, operations in the certified category, to ensure a sufficient level of safety, require the certification of the airworthiness of the UA, a licensed remote pilot and an operator holding a certificate for its organisation, equally issued by the competent authority.

Article 11 2019/947: The Risk Assessment Requirement

As shown in figure 1, most drone operations lead to an expanded level of risk, that cannot be accommodated in the Open category. For this reason, the EU has established that the medium safety risk involved in such operations, in the Specific category, shall be mitigated through safety measures identified in a specific operational risk assessment. Article 11 of Regulation (EU) 2019/947[3] defines the legal requirements for this assessment.
In particular, it shall:

- describe the UAS operation;
- identify the risks of the operation (on the ground and in the air);
- identify a range of possible risk mitigating measures.

EASA recommends the Specific Operations Risk Assessment (SORA) methodology as a valid multi-stage process of risk assessment, for operators and regulatory authorities to analyse the proposed UAS operation.

EASA AMC1 To Article 11: The SORA Methodology

SORA was originally developed by the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) with the aim of holistically assessing safety risks for Unmanned Aircraft Systems in any affected domain, considering through a single methodology airworthiness of the UA, competency of the RP, organisation of the operator and airspace. Because of its reliability and great utility, in 2019, the SORA methodology has been endorsed by EASA as Acceptable Means of Compliance (AMC) to fulfil the requirements of mentioned Article 11 for operations in the Specific category.
In any case, the "AMC and Guidance Material (GM) to Commission Implementing Regulation (EU) 2019/947"[4] clearly specifies that, being always AMC/GM "soft rules", other methodologies might be used by the UAS operator as alternative means of compliance (AltMOC). Therefore, SORA is not meant to be compulsory, but it is strongly recommended to guide to find the best mitigation means, so reducing the risks for UAS operations within the Specific category. It is also conceived as a work in progress database, to be constantly improved through the feedback from UAS operations, to provide answers to all the challenges related to the integration of UAS in the airspace.
The assessment is based on a holistic risk-based approach as it considers all natures of threats associated with a specified hazard, the relevant design and the proposed operational mitigations in order to establish that the operation can be conducted with an adequate level of safety. SORA is employed to support not only UAS operators but also the competent authorities in giving the authorisation to operate a UAS in the Specific category. In this sense, SORA consolidates knowledge and expertise for the entire UAS community and facilitates standardisation at European level.

SORA Technical Description

Every UAS operation can potentially present risks generating harms of some type. SORA mainly considers two kinds of harms:

- fatal injuries to third parties on the ground, that is the risk of a person to be struck by the UA;
- fatal injuries to third parties in the air, that is the collision risk in the intended airspace environment;

As a consequence, SORA focuses firstly on the assessment of air and ground risks. At the first stage, SORA requires the operator to provide details that fully and accurately describe the proposed operation; according to these, SORA assigns to the UAS operation an initial risk class for both the ground and the air.
Once established the initial ground and air risk classes, SORA guides the operator through the application of mitigations (for example using a tethered drone or providing a robust Emergency Response Plan) to try to reduce the initial risk of the operation. Consequently, SORA derives the final risk level of the operation, alias the Specific Assurance and Integrity Level (SAIL): in other words, this indicates the level of confidence to be applied to control and reduce the risk of the operation in relation to third parties in the air and on the ground.

The SAIL consolidates the ground and air risk and drives the operator through the application of mitigations.
In particular, the level of "integrity" indicates the safety gain (alias effectiveness) provided by each mitigation. It can be implemented to help the UAS operator work to lower the initial risk through the application of strategic mitigations. For example, a highly effective parachute which can significantly reduce the effects of the impact on the ground will ensure a higher integrity level.
Instead, the level of "assurance" refers to the "Means of Evidence" (MoE) to be provided to demonstrate to the authority that a claimed safety gain has actually been achieved. The MoE may be related to three different "Levels of Involvement" (LOI) of the authority:

- Low LOI (assurance) in which case the applicant (i.e. the Accountable Manager of the Operator) simply declares, under her/his responsibility, that the required level of integrity has been achieved;
- Medium LOI when the applicant provides supporting evidence that the required level of integrity has been achieved (for example tests, analyses, design reviews and/or simulations and records of training, etc.);
- High LOI, when declaration or evidence generated and checked only by the operator are no longer sufficient. In this case the achieved integrity shall be found acceptable by a competent third party.

The levels of integrity and assurance determine the level of robustness, as shown in figure 2. Consequently, the level of robustness can be low, medium or high.

	Low assurance	Medium assurance	High assurance
Low integrity	Low robustness	Low robustness	Low robustness
Medium integrity	Low robustness	Medium robustness	Medium robustness
High integrity	Low robustness	Medium robustness	High robustness

This means that, for example, higher robustness involves more stringent requirements that the UAS operator must comply to. Conversely lower robustness involves less risk mitigation or operational safety objectives to demonstrate compliance to.
The SAIL also determines the Operational Safety Objectives (OSOs), that are the SORA requirements to be met at different level of robustness to demonstrate that the UAS operation can be carried out safely.
In total, the OSOs are 24, grouped based on the threat they help to mitigate (technical issues, deterioration of external systems, human error and adverse operating conditions). OSOs provided by SORA ensure that the operation can be safely conducted with an adequate level of confidence, but the competent authorities may define additional OSOs for a given SAIL and the associated level of robustness.

It should be added that, to facilitate the process and avoid repetitive individual approvals, EASA has developed so-called Standard Scenarios (STS)[5] , for which known hazards and acceptable risk-mitigations have been defined by the Agency. However, even applying a Standard Scenario does not relieve the operator from the duty to provide appropriate MoE, demonstrating that the mitigations have been implemented.

Assurance - Level of Involvement (LOL) of the Authority in the Specific Category

As expressed above, the level of assurance indicates how to demonstrate to the authority that a given integrity level has been reached. These notes have already described the three levels of assurance indicating the effectiveness of a mitigation: low, medium, high, respectively correspond to increasing levels of active involvement in the certification process of the authority, when reviewing the attachments to the application.
For a high level of assurance, the involvement and validation of a competent and independent third party is required. In fact, in this case, the UAS operator shall obtain an Operational Authorisation (OA) from the Competent Authority of the Member State where the operator is registered, specifying the exact scope of the authorisation and its duration. In case of changes in the information contained in the operational declaration or application, the UAS operator must immediately communicate such changes to the competent authority and then apply for an updated OA.
Each Member State is in charge of designating one or more Competent Authorities and defining its specific geographical area of competence. The Competent Authority can be responsible only for a specific task, in accordance with the Article 62, comma 3, of Regulation (EU) 2018/1139 of the European Parliament and of the Council[4].
Competent Authorities of each Member States are required to collect and share safety information concerning UAS operations in their territory in order to ensure transparency and cooperation with other authorities or interested parties (in aviation safety, cyber security and other sectors).
The “third parties” producing the attestation of conformity when high assurance robustness is required, in the EU legal order can be of two types:

- Notified body (based on Regulation 768/2008): an organisation designated by an EU country to assess the conformity of certain products before placing them on the market. These bodies carry out tasks related to conformity assessment procedures set out in the applicable legislation, using consensus-based standards developed by industry (e.g. CEN) when a third party is required.
- Qualified entity (based on Article 69 of 2018&1139): an accredited legal or natural person which may be charged with certain certification or oversight tasks by and under the control and the responsibility of the Agency or a national competent authority.

In accordance with Annex VI of the Regulation (EU) 2018/1139[4] , the Qualified entity must be independent from manufacturers, ATM, aircraft operators, etc. This is because the Qualified entity must operate with the greatest possible professional integrity, impartiality and technical competence, free of any pressure and incentive of any kind affecting its judgement and decisions.

The SAMWISE Tool

A Safety risk assessment is always necessary in the Specific category because of its operational differences and greater level of risk compared with the Open category. In this sense, SORA has been truly indicated as "a tailoring guide that allows a UAS operator to find a best fit mitigation means, and hence reduce the risk to an acceptable level"[3]. Nevertheless, the methodology often proves to be cumbersome and difficult to apply by several UAS operators. Different critical aspects might be considered.

Firstly, completing a risk assessment requires such an extensive expertise in Unmanned Aircraft System (UAS) operations that even experienced manned-aviation operators may not have. Secondly, gathering manually all the necessary information (material to demonstrate compliance to SORA requirements to justify that a specific level of robustness has been met for a given mitigation, etc.) may take several days, while often drone operators need to promptly apply for the required approval for the UAS operation, because of the business needs of their respective customers. Finally, considering the rapid increase of drone operations, national CAAs are expected to evaluate more and more applications per day, with the consequent increase in the time required for operators to obtain the approval. Standard Scenarios and Pre/ Defined Risk Assessments (PDRA) will certainly alleviate the workload but not eliminate it. Moreover, the SORA methodology is particularly suited, but not limited to Specific operations and it may also be applied outside EU: in these cases, Standard Scenarios may result not applicable.

Issues arising from these considerations gave EuroUSC-Italia, a leading consultancy company in the field of drone regulations and safety, member of the JARUS working group that developed SORA, sufficient justification to develop a dedicated web-based tool. EuroUSC-Italia ltd has hence developed SAMWISE: a freely available, online tool (www.online-sora.com) based on the JARUS SORA 2.0 methodology to ensure that all aspects of the analysis are accurately addressed.

SAMWISE does not replace the need to prepare a formal risk analysis but facilitates the application of the SORA methodology. Firstly, SAMWISE performs a quick and easy preliminary feasibility analysis; secondly, according to the SORA methodology, it assesses both the risk to third parties on the ground and in flight, identifying the related technical and operational risks; then, it derives the initial risk level of the operation and offers a list of mitigations that the operator may wish to implement to reduce the operational scenario's intrinsic risk. Ultimately, in accordance to the final computed level of risk (SAIL in SORA terms), SAMWISE presents the list of requirements with which the operator must comply to in order to ensure the safe execution of the UAS operation; finally, it gathers all the information and material required to demonstrate compliance to the established requirements and prepares the formal application to be submitted to the authority. In other words, SAMWISE supports the operator, even when not familiar with SORA, by preparing the full safety assessment, providing step by step guidance through all the SORA process.

The advantages offered by this tool are numerous. SAMWISE is accessible and easy to use; it does not require specific expertise in UAS regulations and removes the burden of having to manually collect all the necessary airspace and ground information from appropriate sources, which are not widely known and not always easily accessible. It is time saving as it drastically reduces the time required to perform a complete risk assessment and at CAA level can automatise the evaluation process. SAMWISE is also cost effective as reducing the time and the resources required to prepare a safety assessment can reduce costs for operators while increasing their ability to respond quickly to customer needs, thus fostering the use of drones for a variety of applications with a beneficial impact on the whole drone sector.

The AW-Drones Metastandard

However, SAMWISE is still not enough. Demanding operations in the Specific category require in fact the operator to ensure high levels of integrity, for which the application of a specific consensus-based industry standard is normally necessary. It is therefore necessary, as expected by SORA, for UAS operators to identify industry-recognised standards to be complied with, to guarantee the safety of the envisioned operation. Nevertheless, the lack of clear guidance on which technical standards the UAS operator should use, at a global level as well as in Europe, makes it difficult to identify the standards applicable to a given mitigation. This issue is further complicated by the fact that many standards are available (or planned) for the UAS domain, and it is not clear which ones are recognised by the authority.
In this regard, the European Union's Horizon 2020 Research and Innovation Programme funded the Project AW-Drones to implement a coherent and interoperable standardisation framework and facilitate the ongoing European Union rulemaking process for civilian drone operations.

Two are the main objectives of this project:

- providing a repository of "best practices" to support EASA's regulatory process;
- proposing and validating a set of technical standards to comply with existing regulations for drone operations.

To reach these goals, AW-Drones adopts a twofold approach:

- a top-down collection and assessment of rules, procedures and standards already developed worldwide;
- a bottom-up consultation with key stakeholders and end-users to ensure that standards are adequate and as agreed upon as possible means to fulfil regulatory requirements.

After collecting technical rules, procedures and standards for mass-market drones, AW-Drones carries out a critical assessment of this data to identify best practices, gaps and bottlenecks and propose a well-reasoned set of technical standards for each category of drone operations.
During the first year of the Project, AW-Drones focused on standards suitable to support the demonstration of compliance to the requirements set out in the SORA methodology, while the second iteration will focus on harmonising the standards related to the requirements set by the UAS Traffic Management (UTM or U-Space) perspective.
In particular, AW-Drones will analyse the mitigation strategies proposed by SORA and verify to what extent supporting standards to implement those mitigations are available or need to be developed. Ultimately, AW-Drones will determine which standards can be considered Acceptable Means of Compliance (AMC) to one or more OSOs/ mitigations.
In this sense, AW-Drones will effectively aid UAS operators by identifying and implementing all the standards which are applicable to every SORA requirement.
To facilitate this process, an Open Repository will be made available on web (https://www.aw-drones.eu/). This system will provide information about the standards suitable to apply to a given mitigation deriving from the SORA methodology: for this reason, it is defined as "metastandard".

AW-Drones represents a great means to clarify the current standardisation landscape and, consequently, fosters the growth of safe drone usage. In fact, it coordinates and accelerates the identification of standards and conformity assessment programs needed to facilitate the safe integration of unmanned aircraft systems into the airspace. The metastandard makes the certification process for both small and large operators easier and more efficient as it gives much clearer guidelines and speeds up the application and authorisation process with the authority. In this sense, the AW-Drones metastandard will definitely facilitate the SORA process as well as complement the SAMWISE tool.
On the whole, AW-Drones will promote the harmonisation of EU drone regulations and increase a safer use of UAS for civil, commercial and public operations.

Conclusions

The path towards the harmonisation of regulations in the UAS sector has just started in the world. The Union is however ahead of other ICAO Regions, since a comprehensive, logic and complete performance-based and risk-based regulatory framework is emerging. Its main objective is to ensure the safety of drone operations through common European rules. The Commission Delegated Regulation 2019/945[2] and the Implementing Regulation 2019/947[3] represent a strong acceleration in this process. Nevertheless, these rules might not be effectively applied if not supported by accepted and safe references or patterns for guidance. The AW-Drones Repository and the contribution of Euro-USC Italia with SAMWISE seem to provide a significant breakthrough: both tools are in fact synergistic, contributing to collect and share best practices, to drastically reduce risks and facilitate UAS operators' work to comply with Article 11 of 2019/947. The Operator may in fact use SAMWISE to speed up the execution of the SORA process, in conjunction with the AW-Drones "metastandard" to identify the consensus-based industry standards necessary to implement the mitigations identified by the SORA methodology.

Acronyms	
AltMOC	Alternative Means of Compliance
AMC	Acceptable Means of Compliance
ATM	Air Traffic Management
BVLOS	Beyond Visual Line Of Sight
CAA	Civil Aviation Authority
EASA	European Aviation Safety Agency
EC	European Commission
EU	European Union
GM	Guidance Material
JARUS	Joint Authorities for Rulemaking on Unmanned Systems
LOI	Level of involvement
MoE	Means of Evidence
MS	Member States
MTOM	Maximum Take Off Mass
OA	Operational Authorisation
OSO	Operational Safety Objectives
PDRA	Pre-Defined Risk Assessment
RP	Remote Pilot
SAIL	Specific Assurance and Integrity Level
SORA	Specific Operation Risk Assessment
STS	Standard scenarios
UA	Unmanned Aircraft (i.e. only the 'machine' which flies in the air)
UAM	Urban Air Mobility
UAS	Unmanned Aircraft Systems (i.e. comprising not only the Unmanned Aircraft, but also other components, among which the unit from which the remote pilot commands the flight)
UTM	Unmanned Traffic Management
VLL	Very Low Level
VLOS	Visual Line Of Sight

[1]European Outlook Study, Unlocking the value for Europe, 2016, p. 29.

[2]European Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems.

[3]European Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft.

[4]Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency.

[5]Commission Implementing Regulation (EU) 2020/639 of 12 May 2020 amending Implementing Regulation (EU) 2019/947 as regards standard scenarios for operations executed in or beyond the visual line of sight.

The dispute between Qatar and *the Quartet* on the jurisdiction of the ICAO Council

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Abstract

On 14 July 2020, the International Court of Justice (ICJ) of the United Nation rejected an appeal filed by Bahrain, Saudi Arabia, Egypt and United Arab Emirates (UAE) against a decision of the Council of the International Civil Aviation Organization (ICAO). In its decision, ICAO Council rejected the objections raised by the four States which argued that this organisation lacked jurisdiction to resolve the claims raised by Qatar since it is not empowered with judicial functions.

Overview

In 2017, these Countries (also called the Quartet) claimed that Qatar's relationship with Iran forced them to close their airspace to Qatari air carriers and to impose restrictions against the latter.

Despite Kuwait and United States efforts to mediate the relations between these States, in the last three years the situation remained tense.

Since all Countries involved in this case were ICAO members, on 30 October 2017, Qatar filed two proceedings before the ICAO Council claiming the unlawfulness of the restrictions imposed against Qatari air carriers.

The first proceeding was filed pursuant to Article 84 of the Chicago Convention which provides that *"if any disagreement between contracting States, relating to the interpretation or application of the Convention cannot be settled by negotiation, it shall be decided by the ICAO Council"*.

The second proceeding was filed pursuant to Article II, section 2 of the International Air Service Transit Agreements (IASTA) which recalls the provisions of the Chicago Convention for the resolution of such disagreements.

The Quartet invoked ICAO Council's lack of jurisdiction. They claimed that the restrictions imposed to Qatari air carriers were countermeasures compliant with the 2013-2014 Riyadh Agreements and they argued that Qatar asked ICAO Council to rule on a question outside its jurisdiction (i.e. the lawfulness of those countermeasures).

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They also objected that Qatar failed to comply with the Chicago Convention's negotiation precondition and that the proceedings were inadmissible.

On 29 June 2018, ICAO Council rejected the preliminary objections presented by the Quartet, upholding Qatar's appeals. On 4 July 2018, by joint application, Bahrain, Egypt, Saudi Arabia and the UAE filed an appeal to the ICJ against the decision rendered by the ICAO Council.

Public hearings of the ICJ proceeding were held in December 2019 and the Court delivered its judgment on 14 July 2020. The ICJ rejected the appeal brought by the Quartet, confirmed ICAO Council's jurisdiction to entertain the proceedings submitted by Qatar and declared them admissible.

ICJ stated that Qatar respected the Chicago Convention's negotiation precondition and that the disagreement between the Parties brought before the ICAO Council concerned the interpretation and application of the Chicago Convention because "*the mere fact that this disagreement has arisen in a broader context does not deprive the ICAO Council of its jurisdiction under Article 84 of the Convention*" (see ICJ, *Appeal relating to the jurisdiction of the ICAO Council under Article 84 of the Chicago Convention on International Civil Aviation*, paragraph 48).

The recurring States invoked before ICJ some procedural violations. Indeed, they argued that ICAO Council violated the principle of equality of the parties and the right to be heard. This because, as respondents before the ICAO Council, they were not given sufficient time to present their case. In fact, they were collectively given the same length of time of that given Qatar individually. The Quartet also alleged that ICAO Council did not state proper reasons, it did not deliberate as a collegial body and it voted by secret ballot (id., paragraphs 110-115).

To address these alleged procedural violations, ICJ recalled its judgment rendered on the ICAO Council's jurisdiction in the *India v. Pakistan* case. In that judgment, ICJ found that ICAO Council reached the correct decision as to its jurisdiction, which is an objective question of law. Therefore, in the judgment on *Qatar v. the Quartet* case, ICJ denied the procedural violations claimed by the Quartet and confirmed that ICAO Council did not prejudice the requirements of a fair trial (id., paragraph 123).

ICJ referred the case back to ICAO Council which shall decide on the merit underlying that "*it will be best positioned to act on any future appeal if the decision of the ICAO Council contains the reasons of law and fact that led to the ICAO Council's conclusions*" (id., paragraph 126).

The ICJ judgment on the *Qatar v. the* Quartet case may play an important role in the definition of the function of non-judicial international organizations whit regard to the settlement of disputes.

The judgment stated that a non-judicial body, such as ICAO Council (which has solely the power to decide the disagreements among contracting States), is entitled to examine preliminary questions of law that may lie outside its jurisdiction to determine whether it has jurisdiction or not.

Therefore, with this decision, ICJ confirmed that an international non-judicial body can settle a quasi-judicial dispute. Nevertheless, ICJ observed that the ICAO Council's dispute settlement function cannot transform this body "*into a judicial institution in the proper sense of that term*" (id., paragraph 60).

Conclusions

In conclusion, the judgment might lead to an increase of the proceedings before non-judicial bodies which require less strict preconditions then those required before judicial bodies.

The impact on the Air Transport of the Provisions of Italian Law Decrees No. 34/2020 and No. 104/2020

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Abstract

The paper provides an overview of the main provisions relating to the air transport sector introduced by Law Decree no 34 of 19 May 2020 (the so-called "Decreto Rilancio"), which was converted into law by Law no 77 of 17 July 2020.

The analysis of these new measures is conducted in light of the rules provided for in Law Decree No 104 of 14 August 2020 (the so-called 'Decreto Agosto'), which was converted into law by Law No 126 of 13 October 2020.

The New Provisions

Articles 198, 202 and 203 of Law Decree No 34 of 19 May 2020, converted into law by Law No 77 of 17 July 2020, have introduced significant additional measures relating to the air transport sector.

First of all, pursuant to Article 198, the Ministry of Infrastructure and Transport established a fund in favour of Italian air carriers for the damages suffered due to the COVID 19 pandemic.

The fund - with an allowance of EUR 130 million in 2020 - is available only for air carriers based in Italy holding a valid air transport licence issued by the Italian CAA (ENAC). Therefore, the access to the fund is precluded for foreign airlines.

Moreover, the access to the fund is allowed only to operators who apply to their employees[1] - as well as to third-party's employees - a remuneration not lower than the minimum wage established by the National Collective Agreement of Air Industry Sector.

The rule at stake does not clarify whether minimum remuneration refers only to a fixed wage or to a variable part of income which shall be fixed on the basis of the criteria established in the contract (it should be considered that the variable part can often have a significant impact on the total overall salary).

The implementing procedures for the allocation of financing to Italian air carriers shall be defined by a subsequent decree of the Ministry of Infrastructure and Transport.

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In this context, the article 85 of the Law Decree no 104 of 14 August 2020 has authorized the Ministry of Infrastructure and Transport to provide an advance for a maximum of € 50 million to the Italian air carrier which meets the above-mentioned required.

According to the article 202 of Law Decree no 34 of 19 May 2020, the establishment of a new airline (Newco Alitalia) wholly controlled by the Ministry of Economy and Finance or controlled, even indirectly, by a publicly owned company has been authorized.

The effectiveness of this provision is subject to the authorization of the European Commission. In the meantime, Article 87 of Law Decree No 104 of 14 August 2020 has established an initial allocation to New Alitalia for an amount of € 20 million in order to proceed with the elaboration of a business plan.

Finally, according to Article 203 air carriers and undertakings operating and employing personnel in Italy are required to apply the minimum economic standards set forth in the National Collective Agreement of the Air Industry Sector.

The provision at stake specifies that the minimum economic standards provided for the National Collective Agreement must apply to all the personnel working in the aviation sector, including third party employees providing services for the airlines (i.e. ground handling service, security, maintenance). This makes more complicated to understand which collective contract applies.

In case of non-compliance with this rule, ENAC can revoke the concessions granted to Italian air carriers (i.e. licensed by ENAC), while, as long as foreign airlines are concerned, it can impose penalties (varying from € 5,000 to 15,000 for each employee).

Conclusions

The new provisions introduced by Law Decree No 34 of 19 May 2020 could have considerable effects on air transport sector, since the low-cost airlines - which apply a wage lower than that established in Italian Collective Agreement to their employees - are now exposed to the risk of heavy fines.

Foreign low-cost airlines represent a significant part of national air traffic, as confirmed by ENAC passenger transport report. These circumstances have recently led foreign low-cost airlines to set up an association called 'Voliamo per l'Italia' ('We fly for Italy') which assists them in carrying out institutional relations with Italian government and other national authorities.

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[1]The rule refers to the employees which have 'home base' in Italy according to Regulation (EU) 5 October 2012 n. 965/2012 ('home base' means "the location, assigned by the operator to the crew member, from where the crew member normally starts and ends a duty period or a series of duty periods and where, under normal circumstances, the operator is not responsible for the accommodation of the crew member concerned").

European Commission's Proposal to Update the Single European Sky Regulatory Framework According to the European Green Deal

*Carlotta Matteuzzi**

Overview

On 22 September 2020, the European Commission adopted a proposal for the upgrade of the Single European Sky (SES) regulatory framework in light of the European Green Deal objectives. Specifically, the Commission highlights the need to modernise the management of European airspace and to establish more sustainable and efficient flightpaths in order to reduce up to 10% of air transport emissions.

The developments in technology and overall traffic growth until early 2020, as well as the drop in air traffic caused by the coronavirus, made it clear that a reform to ensure a more resilient EU air traffic management capable to deal with both these phenomena is needed.

Since the Green Deal itself classifies the SES as one of the key measures to reduce aviation emissions, the Commission decided to introduce amendments to the SES regulatory framework. The main proposed actions to ensure safe and cost-effective air traffic management services concern (i) strengthening the European network and its management to avoid congestion and suboptimal flight routes by establishing a common unit rate for en route services across the SES airspace; (ii) promoting a European market for data services required to ensure a better air traffic management; (iii) strengthening economic regulation of air traffic services by entrusting designated air traffic service providers with the task to draft and submit their performance plans for approval by the competent authority.

The proposal will be submitted to the Council and the Parliament for deliberations and, after its final adoption, implementing and delegated acts will be drafted to address technical aspects.

*Associate at R&P Legal Law Firm, Italy

9th Annual Cape Town Convention Academic Project Conference

*Francesca Berni**

Overview

The ninth annual conference of the Cape Town Convention Academic Project was held both in Rome and virtually, by means of a Zoom platform, on 10th and 11th September 2020.
The encounter enabled the auditors to gather a wide view on some actual themes concerning the implementation of the Cape Town Convention (CTC) on International Interests in Mobile Equipment.

The Cape Town Convention Academic Project (CTCAP) is a joint undertaking composed by the University of Cambridge and UNIDROIT; its aim is to facilitate and deepen the study and assessment of the CTC and its Protocols. The Aviation Working Group is the founding sponsor of the project, while the International Civil Aviation Organization and the Intergovernmental Organisation for International Carriage by Rail are also cooperating[1].

The meeting was moderated by some of the directors of this project, namely Professor Jeffrey Wool, Senior Research Fellow at Harris Manchester College, Oxford and Secretary-General of the Aviation Working Group, Professor Louise Gullifer, Rouse Ball Professor of English Law, University of Cambridge and Professor Ignacio Tirado, Secretary General of UNIDROIT.

Opening remarks were made by UNIDROIT President Maria Chiara Malaguti. During her speech, she emphasized that the CTC is one of the most successful instruments ever realized to coordinate different jurisdictions in the aviation sector. Undoubtedly, the CTC can represent a great support in addressing many of the issues characterizing the difficult times this industry is experiencing.

The first conference day the discussion focused on the coordination of the CTC with the Insolvency Framework present in Europe (“Recast EIR”). Professor Tirado gave a clear picture of the importance of the insolvency system, defining it as the touchstone for the efficiency of secured transactions. He described the relationship between the EU and its Member States regarding CTC's implementation and he explained how COMI (Center of Main Interests) is considered to decide whether to apply the insolvency rules written in the CTC.

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Secondly, he presented the EU Restructuring Directive 2019/1023, which aims at creating a degree of substantive harmonization, in particular for the informal/hybrid proceedings at an early stage of financial distress.

The commentator Dr. Felix Steffek (Cambridge University) highlighted the need to review the 'relation' between the CTC and the Member States to align national laws, since the lack of harmonisation between the EU and Member States inexorably leads to a strong degree of inefficiency. Furthermore, he made some considerations about the double bond connecting efficient insolvency proceedings and the minimisation of the finance's cost.

Kenneth Gray and Mark Kraggs by Northon Rose Fullbright focused on the conformity of the United Kingdom Corporate Insolvency and Governance Act to the CTC. They clarified how the new moratorium period works and showed the former "CIGA Superscheme" amending Regulation 37 of the Cape Town Convention, stressing also the need to solve some uncertainties about the meaning of "insolvency proceeding".

The conference continued with Professor Wool and Miguel Ruelas for Abogados Sierra, who talked about the judicial breach of CTC's provisions. Professor Wool made an explanatory introduction clarifying that being aware of what a breach of law is also frames the concept of compliance. Some hard points must be solved, for example, establishing the degree of good faith in failing to comply the CTC. Dr. Rumiana Yotova (Cambridge University) commented on this highlighting State's responsibility, and private parties involving State's responsibility, to respect the primacy of treaties.

The last intervention was made by Baris Mesci from the Instambul Kültür University, who talked about the assessment of applicable law contained in the Aircraft Protocol. He started describing the Conflict Rules (a.k.a. Reference Rules) contained in the CTC and in the Aircraft Protocol that determine the *lex causae* when an incident involving different jurisdictions occurs. The discussion continued with a focus on the *lex fori,* which depends on whether the issue is a contractual or proprietary one; in the last case the applicable law is that of the "centre of administration".

The second day Professor Wool and J. Jin displayed a presentation on the compliance with the CTC in the context of COVID 19 and on the Compliance Index recently elaborated. The pandemic represented a new challenge for the coordination of Private and Public International Law systems, and to solve the discrepancies the regulatory public law rule (RPL) may be applied. The Compliance Index was published in February 2020, its aim is to monitor States' compliance with the CTC's provisions and control how the legal implementation of those provisions takes place.

In order to obtain an accurate quantitative result on the behaviour of a State towards CTC's rules, an index formula has been created. The outcome of this formula provides the level of compliance of a jurisdiction that can result as low, medium or high.

Professor Tirado explained how having a perspective on a jurisdiction's compliance with the CTC can provide a useful perspective to the investors of the aviation market.

The second guest, Peter Watson, consultant by Allen and Overy, discussed the Judicial Guide to the CTC. Some jurisdictions are still unfamiliar with the application of the CTC, they often try to understand what other jurisdictions do and risk losing the CTC discount, causing the aviation market to suffer. The solution can be represented by a handbook for judges who do not have specialist knowledge.

Finally, Rob Cowan for Aviareto, Ole Böger from the German Ministry of Justice, Marek Dubovek, executive director by NatLaw and Gavin McCosker of the Australian Financial Security Authority provide an explanation on the MAC International Registry - a separate registry for low value assets - with unique characteristics, such as registration fees reduced to a minimum, absence of unnecessary obstacles and the presence of the manufacturer serial number.
Professor Tirado thanked everyone present and those who contributed to the success of the meeting, then officially declared the conference closed.

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[1] University of Oxford, The Cape Town Convention Academic Project, <https://www.law.ox.ac.uk/researchsubject-groups/cape-town-convention-academic-project>.

Book Review

Il Diritto Aeronautico, 3rd edition

Anna Masutti

G. Giappichelli Editore, Turin, 2020

281 pages

ISBN 9788892135420

*Massimo Deiana**

The third edition of *Il diritto aeronautico* contains an update of the complex international, European and national regulatory framework governing the aviation sector by providing a comparative overview of the most significant regulatory scenarios.

The first part of the volume analyses the current state of aeronautical regulations, the functioning and the organisation of air navigation bodies and the development of the regulations on airport concessions and airport services. Among these topics, particular attention is given to the methods for entrusting the management of airport infrastructures and of commercial services.

The author illustrates the historical evolution of international and European air services and the state of commercial relations in the aeronautical sector, explaining its liberalisation process, with particular regard to the bilateral agreements system and to the strategies for the negotiation of global agreements by European Union and Member States with third Countries.

Among the topics addressed in the book, the author lays particular emphasis on air transport and aircraft lease contracts, commercial agreements between air carriers, the different liability regimes and aviation insurances.

The book illustrates the most recent EU interventions for the development of the Single European Sky and the current trends in the aeronautical sector, which are receiving particular attention from regulatory authorities and stakeholders.

Several case law (from foreign, EU and national Courts) on the most controversial aspects of the current legislation are accurately reported and commented.

The author adopts an innovative approach aiming to involve the reader with a consistent use of the main educational tools.

The in-depth analysis and the logical progression of the main profiles of aviation law make the book a valuable and updated guide, useful for students, legal experts and professionals.

*Professor of Navigation Law at the University of Cagliari, Italy.

IBA Annual Conference 2020 and the Aviation Law Committee

The IBA 2020 Annual Conference will be virtually held from the 2nd to the 27th of 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.

Professor Anna Masutti will speak during the first session "*Recent Developments in International Aviation Casualty Litigation*" addressing the following topic "*Product liability for damage caused by technological components in the aviation sector*"

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)

EALA Webinar:
The State of Affairs in the COVID-19 Pandemic from an EU Perspective

The 2020 EALA Conference will be virtually held on the 6 November 2020, in two sessions from 10.00 to 11.30 CET and 14.00 to 15.30 CET.

During the webinar Prof. Anna Masutti and Mr. Stamatis Versamos, Senior Legal Advisor at Athens International Airport, will address the following topic "*The maintenance of fair competition in the European air transport market in light of Covid-19*".