UNMANNED AIRCRAFT SYSTEM: THIRD-PARTY LIABILITY AND INSURANCE PROTECTION IN INDONESIA AND THE EUROPEAN UNION

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Abstract

This article explores the legal framework of Unmanned Aircraft System ("UAS") in Indonesia and European Union ("EU"). Both Indonesia and EU is similar in a way that both do not have a third-party liability regulation for UAS. As no uniform law on third-party liability is found in EU, national legislations (France and Spain) will be used as comparisons. This article aims to compare the different minimum amount of insurance coverage between Indonesia and the EU, and find out what lessons can Indonesia extract from the practice of EU. It is recommended that the Indonesian government refers to the practice of EU member states such as Spain and France where UAS operators are bound with more responsibilities for the operation of UAS, such as the requirement of the third-party protection system or establishing a protection area and safe recovery zone. The Indonesian regulation also needs to clarify on the party to seek compensation from. Lastly, the minimum requirement for insurance coverage should also be included within the regulation because it serves as a protection towards third-party in case the insurance purchased by the UAS operators could not cover the amount of loss that the injured party suffer.

Intisari

Artikel ini membahas kerangka hukum Pesawat Tanpa Awak ("UAS") di Indonesia dan Uni Eropa ("UE"). Indonesia dan UE memiliki kesamaan dimana keduanya tidak memiliki peraturan pertanggungjawaban pihak ketiga untuk UAS. Oleh karena tidak ada hukum yang seragam tentang tanggung jawab pihak ketiga di UE, perundang-undangan nasional (Prancis dan Spanyol) akan digunakan sebagai perbandingan. Artikel ini bertujuan untuk membandingkan jumlah minimum pertanggungan asuransi antara Indonesia dan UE serta mencari tahu pelajaran apa yang dapat diambil Indonesia dari praktik di UE. Pemerintah Indonesia juga direkomendasi untuk merujuk pada praktik negara nggota UE seperti Spanyol dan Prancis di mana operator UAS terikat dengan lebih banyak tanggung jawab untuk pengoperasian UAS, seperti persyaratan sistem perlindungan pihak ketiga atau membangun area perlindungan dan zona pemulihan yang aman. Peraturan Indonesia juga perlu mengklarifikasi pihak mana yang harus dituju untuk meminta pertanggungjawaban. Terakhir, persyaratan minimum untuk pertanggungan asuransi juga harus dimasukkan dalam peraturan sebab hal tersebut berfungsi sebagai perlindungan terhadap pihak ketiga jika asuransi yang dibeli oleh operator UAS tidak dapat mencakup jumlah kerugian yang diderita oleh pihak ketiga yang dirugikan.

Keyword: *Unmanned Aircraft Systems, liability, third-party liability, insurance*

Kata Kunci: *Pesawat tanpa awak, tanggung jawab, tanggung jawab pihak ketiga, asuransi*

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A. Introduction

The use of Unmanned Aircraft Systems ("UAS") or commonly known as drones, is gradually expanding to different industries. The multipurpose functions of UAS break through several stagnant and conventional ways of business. For instance, Japan's electronic commerce and online retailing company, Rakuten Inc., utilized UAS to deliver products from Lawson convenience stores to customers who would otherwise need to travel long distances to shop.[3]

Besides commercial purposes, UAS plays a crucial role in this COVID-19 pandemic by sending medical supplies to rural areas in Ghana and Rwanda.[4] However, it should be noted that the operation of UAS should carry a third-party liability protection just like any other aircraft. Third-party liability is when one can be held liable for causing damage, loss, or injury to a third-party. UAS can potentially interfere with the route of a flying aircraft, like the near-miss collision with Airbus A320 soon after it took off at Heathrow Airport[5]. It might also be used to facilitate an attack or any other criminal activity. Hence, the state legislature is left with no choice but to regulate the usage and operation of UAS for civilian uses.

The International Civil Aviation Organization ("ICAO") defined UAS as 'an aircraft and its associated elements which are operated with no pilot on board.' The *magna carta* of aviation law, the Chicago Convention on International Civil Aviation 1944[6] ("Chicago Convention") also recognized UAS as 'pilotless aircraft' on Article 8, where it states that pilotless aircraft can be flown over the territory of a contracting State only with special authorization by that State and in accordance with the terms of such authorization. Furthermore, each contracting state undertakes to insure that the flight of such pilotless aircraft in regions open to civil aircrafts is controlled in order to obviate danger to civil aircraft.

In the meantime, there is no international convention regulating UAS, and member states of ICAO have urged the organization to create an international legal framework for UAS that operates outside of the IFR international area.[7] As of today, the ICAO have reviewed the regulations of UAS between states and their best practices in the absence of an international regulatory framework. Consequently, the ICAO released a Model UAS Regulations and supporting Advisory Circulars to guide member states in adopting or supplementing their existing UAS Regulations.[8]

The Model UAS Regulations take into account the issue regarding certification, standard operating condition, manufacturing standards, approval from Approved Aviation Organization, and other concerns. Despite all that, this model law does not include any materials regarding the minimum liability of UAS. Certainly, UAS could potentially lead to a third-party liability, which includes an injury towards a person and damage to property. There is an absence of legal framework for the protection of third-party liability in the international regime.

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3 (2017, November 1). Rakuten Drone Delivers Hot Meals to Fukushima Customers. Retrieved from https://rakuten.today/blog/rakuten-drone-delivers-hot-meals-fukushima.html. Accessed 16 May 2020.

4 Lewis, N. (2020, May 12). A Tech Company Engineered Drones to Deliver Vital COVID-19 Medical Supplies to Rural Ghana and Rwanda in Minutes. Retrieved from https://www.businessinsider.com/zipline-drone-coronavirus-supplies-africa-rwanda-ghana-2020-5?IR=T> accessed 16 May 2020.

5 Forest, C. (2018, June 13). 17 Drone Disasters that Show Why the FAA Hates Drones. Retrieved from https://www.techrepublic.com/article/12-drone-disasters-that-show-why-the-faa-hates-drones/. Accessed on 16 May 2020.

6 Chicago Convention on International Civil Aviation (7 Desember 1944) [hereinafter Chicago Convention]

7 ICAO. Model UAS Regulations. Retrieved from https://www.icao.int/safety/UA/UAID/Pages/Model-UAS-Regulations.aspx. Accessed on 18 May 2020.

8 *Ibid.*

The Indonesian Minister of Transportation Regulation No. 90 of 2015 on Operational Control of Unmanned Aircraft Systems in Indonesian Airspace Provided by Indonesian Air Service ("Minister Regulation No. 90") defines UAS as a flying machine that functions with remote control by a pilot or is able to control itself by aerodynamics.[9] Fortunately, the Indonesian Ministry of Transportation regulates the liability of UAS through Minister of Transportation Regulation No. 47 of 2016 on Amendment of Minister of Transportation Regulation No. 180 Year 2015 on Operational Control of Unmanned Aircraft Systems in Air Services Provided by Indonesia ("Minister Regulation No. 47"). When applying for a UAS license or permission to operate on Indonesian airspace, one of the documents required is an insurance document including third-party liabilities caused by human errors or technical failures. However, there is again a lack of legal certainty under Indonesian law as no minimum amount of liability insurance coverage is specified.

This article explores the legal framework of UAS in Indonesia and European Union ("EU"). EU has regulated about insurance requirements for air carriers and aircraft operators (including UAS) since 2004. Besides, Indonesia and EU is similar in a way that both do not have a third-party liability regulation for UAS. Since no uniform law about third-party liability is found in EU, national legislations (France and Spain) will be used as comparison even though these national laws are only sufficient when UAS is operated within the territory of the country. Furthermore, this article also aims to compare the different minimum amount of insurance coverage between Indonesia and the EU. Lastly, the final objective of this article is to find out what lessons can Indonesia extract from the practice of EU (member states).

B. Current Regulatory Framework in Indonesia

Civilians and governments in Indonesia have been utilizing UAS more often to fulfill their necessities. For instance, UAS is used for traffic monitoring during the month of Ramadhan or to gather evidences against illegal palm oil companies in Borneo.[10] Indonesian Defense Department has been investing more in UAS utilization for military operations. In August 2006, Smart Eagle II became the highlight of the Geospatial Technology Exhibition held in Jakarta Convention Center. This local UAS is designed to carry out tactical air surveillance tasks suitable for military operations.[11] Aside from that, the defense department purchased several Searcher MK II UASs and actively utilized it for military purposes since 2012.[12]

Acknowledging the massive growth of UAS utilization, the government has managed to develop regulations in order to maintain the Indonesian aviation safety level.[13] Potential hazards caused by the operation of unmanned aircraft and how it concerns safety and security encourage the Ministry of Transportation to initiate the Minister Regulation No. 90 as mentioned as its basis of consideration. This provision mainly focuses on classifying prohibitions in several regions into prohibited and restricted areas, such as the public airport, military airport, presidential palace, nuclear installation, etc.[14] Altitude limitations and licensing issues are also included in this

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[9] Minister Regulation No. 90, Annex I, 1.2.2.

[10] Nugraha, R. A., Jayodi, D., & Mahem, T. (2016). Urgency for Legal Framework on Drones: Lessons for Indonesia, India, and Thailand. Indonesia Law Review, 6(2), 139.

[11] Hutahean, P. (2006) HAPS dan UAV Serta Manfaatnya dalam Peningkatan Kesejahteraan Masyarakat Indonesia. Pusat Analisis dan Informasi Kedirgantaraan Lembaga Penerbangan dan Antariksa Nasional, 1, 191.

[12] *Ibid.*

[13] Nugraha, R. A., Jayodi, D., & Mahem, T. *Op. cit,* 140.

[14] Government Regulation No. 4 Year 2018 on Security of Indonesian Airspace, Article 7-8.

provision.[15] Pilots are required to obtain flight permits in order to ensure safety and security.[16] One needs to provide insurance documents in order to attain the permit.[17]

As a member of the ICAO, Indonesia needs to adhere to the standards and regulations established by ICAO. The Ministry of Transportation adopted ICAO's Civil Aviation Safety Regulations ("CASR") Part 107 about Small Unmanned Aircraft System into Minister of Transportation Regulation No. 163 of 2015 on Civil Aviation Safety Regulations Part 107 on Small Unmanned Aircraft System. The provisions address restrictions over the general UAS utilization, operating rules, operator certification, and UAS registration.

In November 2015, a few changes were made to Minister Regulation No. 90 to better comply with CASR provisions which led to the revocation of the regulation. The previous regulation did not classify unmanned aircrafts into any categories based on types, sizes, nor functions. Meanwhile, Minister of Transportation Regulation No. 180 of 2015 on Operational Control of Unmanned Aircraft Systems in Air Services Provided by Indonesia ("Minister Regulation No. 180") classifies recreational unmanned aircrafts as weighing no more than *55 lbs* in accordance with CASR Part 107. Meanwhile, unmanned aircrafts weighing more than *55 lbs* will require an experimental certificate for research and development needs and special flight permits for production flight-testing new production aircraft in compliance with CASR Part 21 and Part 91.

Later on, the Ministry of Transportation made several adjustments which resulted in the latest regulation, Minister Regulation No. 47. The current regulation requires insurance documents, which include third party liability and applicable administrative penalties. Article 5 paragraph (1) Minister Regulation No. 47 limits these penalties into certain measures: for pilots who do not have legitimate permits as required, operates not according to the permission granted, and operates UAS in an emergency condition which prohibits the use of UAS.[18] A separate regulation, the Minister of Transportation Regulation No. 78 of 2017 on Imposition of Administrative Sanctions for Violations of Laws and Regulations in the Field of Aviation stipulates administrative penalties applicable in the aviation field. However, this provision still hasn't taken third party liability issues into consideration.

As a type of aircraft under Law No. 1 of 2009 on Aviation ("Law No. 1/2009"), every UAS operator is obliged to compensate the losses suffered by everyone involved, including the third party.[19] There is no provision regarding who will be held liable for the damage related to a third party and how much each should be compensated. Thus, there is no legal certainty to protect the third parties based on Indonesian Law.

C. Potential Third-party Liabilities Caused by Unmanned Aircraft Systems

In 2016, a UAS was flying above a populated area in Cape Town, South Africa. The pilot lost control of the UAS and it ended up crashing into a 5th story office window, then hit a man on his

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15 Minister Regulation No. 47, Article 3 paragraph (1).

16 Minister Regulation No. 47, Article 3 paragraph (4).

17 *Ibid.*

18 Minister Regulation No. 47, Article 5 paragraph (1).

19 Law No. 1/2009, Article 1 number 3:

> "An airplane is any machine or device that can fly in the atmosphere due to the lift force from the reaction of the air, but not because of the reaction of air to the surface of the earth used for flight."

head and other properties around him.[20] Another incident also happened in 2013 where a UAS crashed onto the grandstand during the Great Bull Run, a public festival in Virginia. The incident led to minor injuries to four or five people.[21] This is a precise example of how UAS may be held liable for a third-party damage. On August 2015, a Phantom 2 UAS fell on the courtyard of Menara BCA building at Central Jakarta.[22] Recently in 2019, a UAS crashed onto the State Palace area in Jakarta (prohibited area), precisely on the courtyard of the Radio Republik Indonesia Building.[23] Fortunately, no one was injured in the two incidents. UAS may not be used to carry any passenger but its operation carries a huge risk to the people, property, or any other objects around or below it.

UAS accidents resulting in injury, damage to property, or others will later require legal indemnity for the injured party. The court should be able to determine the actor at fault in the indicated situation. Ergo, there are two approaches that can be applied in determining which parties are liable in a UAS accident: strict liability or vicarious liability.

In common law countries, the practice of strict liability does not impose the defendant to prove its negligence or intent on the grounds that every action executed by UAS is merely complying with a previous command input.[24] Therefore any harm resulted from the operation of UAS becomes the responsibility of the operator. Although there are certain cases where the manufacturers are liable. In 2018, DJI, a UAS manufacturing company, announced an official warning regarding the occurring power issues with DJI Matrice 200.[25] The UK's Civil Aviation Authority claimed that the power failure causes UAS to fall directly to the ground.[26] Similar issue happened to GoPro's first UAS, the Karma. These UAS were found falling out of the sky due to a loose connection between the UAS and their batteries during the night of the US Presidential Election.[27] In the case of product defects, the manufacturer is going to be held to strict liability for the accident.[28]

Another applicable method is implementing vicarious liability principle. Unlike strict liability, this principle will hold an individual employee as liable. The employer in this case is not liable for his employee's actions. Within the narrative, the operator is considered as the employer, while the UAS is the employee. This approach is rather difficult to be applied without the essence of proof.

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20 Perel, D. (2016, April 12). The World Thinks I Faked A Drone Crashing Through My Office Window and into My Head. Retrieved from https://medium.com/@obox/the-world-thinks-i-faked-a-drone-crashing-into-my-office-window-and-head-10a732d62e74. Accessed on 20 May 2020.

21 Weil, M. (2013, August 26). Drone Crashes into Virginia Bull Run Crowd. Retrieved from https://www.washingtonpost.com/local/drone-crashes-into-virginia-bull-run-crowd/2013/08/26/424e0b9e-0e00-11e3-85b6-d27422650fd5_story.html. Accessed on 21 May 2020.

22 Tempo.co. (2015, August 4). Drone Jatuh di Menara BCA Bundaran HI, Ini Isi Gambarnya. Retrieved from https://metro.tempo.co/read/689137/drone-jatuh-di-menara-bca-bundaran-hi-ini-isi-gambarnya/full&view=ok. Accessed on 2 August 2020.

23 Epriyadi, Z. (2019, June 20). Sebuah Drone Jatuh Saat Terbang di Sekitar Gedung MK. Retrieved from https://video.tempo.co/read/15102/sebuah-drone-jatuh-saat-terbang-di-sekitar-gedung-mk. Accessed on 2 August 2020.

24 Harris, K-K. (2018). Drones: Proposed Standards of Liability. Santa Clara High Technology Law Journal, 35(1), 67.

25 (2018, October 30). Police Ground Drones After Reports They Fall Out of the Sky. Retrieved from https://www.bbc.com/news/technology-46032019. Accessed on 31 July 2020.

26 *Ibid.*

27 Murphy, Mike. (2017, July 25). People are Complaining That Their New DJI Spark Drones are Falling Out of the Sky. Retrieved from https://qz.com/1037497/people-are-complaining-that-their-new-dji-spark-drones-are-falling-out-of-the-sky/. Accessed on 31 July 2020.

28 Harris, K-K, *Op. cit,* 68.

Hence the plaintiff is imposed to prove that the employee (UAS) committed a tort and acted outside of the employer's intention.[29]

The Indonesian legal framework does not specifically emphasize on the types of third-party liabilities, whether it is damage to property, injury to people, or any other types. As to the courtroom approach in resolving indemnity caused by UAS accidents is still unknown due to the absence of convoked UAS cases in Indonesian court.

D. Comparative Analysis of Unmanned Aircraft Systems Legal Framework in Indonesia and the European Union

a. *Applicable Domestic Law for Unmanned Aircraft Systems Third-party Liability*

Minister Regulation No. 47 has eluded the need to include third party liabilities caused by human errors and technical failures. Aside from Article 3 paragraph (11) regarding insurance, Article 5 para (2) in Minister Regulation No. 180 not only protects third parties but also fellow users in order to avoid air-to-air collision.[30] This preventive provision is necessary, but it still does not accommodate the current necessity. It is possible for a UAS to have operational or technical failure beyond the operator's responsibility. In another instance, the product manufacturer can be held liable for damage resulting from product failure.[31]

In 2018, Airnav Indonesia reported four new cases of recreational UAS operating in an airport area although Minister Regulation No. 47 has stated the airport as a restricted area which prohibits the use of UAS.[32] A year later, another recreational UAS was found flying around I Gusti Ngurah Rai Bali International Airport.[33] Fortunately, none of the cases caused any casualties or damaged any facilities. The airport operators were quick to react and took down the UAS. This would be a warning to government if another incident happened in the near future as it raises a question on who will be held liable and which regulation would be applicable.

Even so, anyone who experienced loss due to the conduct of others may refer to the tort law adopted in Indonesia. Tort is regulated under the Indonesian Civil Code in Article 1365 to Article 1380. Article 1365 states that, every act that violates the law and causes damage to other(s), obliges the person who caused the damage due to his mistake to compensate the loss.[34] It is possible for the injured third party to file a lawsuit towards the wrongdoer who causes the damage to seek for compensation.

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[29] Harris, K-K, *Op. cit, 73.*

[30] Minister Regulation No. 180, Article 5 paragraph (2):
"Decisive action is taken by considering:
a. the interests of the safety of users of the area / airspace;
b. protection of buildings and humans which are under the area and the airspace used by the unmanned aircraft."

[31] Nurbaiti, S. (2013). Aspek Yuridis Mengenai Product Liability Menurut Undang-Undang Perlindungan Konsumen (Studi Perbandingan Indonesia – Turki). Jurnal Hukum Prioris, 3(2).

[32] Jatmiko, B. (2019, July 17). Kemenhub: Di 2018, Ada 4 Kasus Drone yang Masuk ke Bandara. Retrieved from https://money.kompas.com/read/2019/07/17/130245126/kemenhub-di-2018-ada-4-kasus-drone-yang-masuk-ke-bandara. Accessed on 17 May 2020.

[33] (2019, July 24). Terbangkan Drone Tanpa Izin di Sekitar Bandara Bisa Kena Denda Rp 1 Miliar. Retrieved from https://www.liputan6.com/bisnis/read/4020748/terbangkan-drone-tanpa-izin-di-sekitar-bandara-bisa-kena-denda-rp-1-miliar. Accessed on 23 May 2020.

[34] Indonesian Civil Code, Article 1365:
"Tiap perbuatan yang melanggar hukum dan membawa kerugian kepada orang lain, mewajibkan orang yang menimbulkan kerugian itu karena kesalahannya untuk menggantikan kerugian tersebut."

However, the tort law itself is not enough because a specific governance is still needed to accommodate the whole operation of UAS as the scope of the liability of an aircraft is extensive. In spite of that, the Indonesian law requires insurance for every UAS operation. By equipping every UAS operation with a third-party insurance protection, it will provide another alternative (compromise settlement) instead of filing a lawsuit. At the same time, it guarantees the protection of third-party liability. Insurance is mostly applicable to any types of potential liabilities damages.

b. ***Legal Framework for Third-party Liability in the European Union***

There is currently no uniform EU regulation concerning third-party liability. Despite that, there are efforts made by member states such as France and Spain to provide a legal framework regarding third-party liability that may be potentially caused by UAS.

France regulates the use of UAS under two regulations, the *Arrêté du 17 décembre 2015 relatif à l'utilisation de l'espace aérien par les aéronefs qui circulent sans personne à bord* (Order of 17 December 2015 on the Use of Airspace by Unmanned Aircraft) ("Order on Use of Airspace"),[35] and the *Arrêté du 17 décembre 2015 relatif à la conception des aéronefs civils qui circulent sans personne à bord, aux conditions de leur emploi et aux capacités requises des personnes qui les utilisent* (Order of 17 December 2015 on the Creation of Unmanned Civil Aircraft, the Conditions of Their Use, and the Required Aptitudes of the Persons that Use Them) ("Order on Creation and Use").[36] Both regulations define UAS as "any aircraft flying without anyone on board".[37] The scope of Order on Use of Airspace does not include tethered balloons, kites, or military UAS.[38] On the other hand, Order on Creation and Use does not apply to free-flying balloons, tethered balloons used at a height of less than 50 meters with a payload of a mass less than or equal to 1 kilogram, rockets, kites, and aircraft used inside closed and covered spaces.[39]

The above French regulations do not specifically govern the UAS operator's liability for third-party damages. Nonetheless, UAS is still considered as an aircraft and thus is included within the scope of *Code des transports* ("Transportation Code")[40]. Articles L. 6131-1 and L. 6131-2 of the Transportation code specify that the aircraft operator will be held liable in case of injury or damage on the ground.[41] In other words, the operator is strictly liable for damages caused by UAS to persons or property on the ground. The liability of the UAS operator can be defended, however, by proving that the victim solely causes the third-party damage to occur.[42]

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35 *Arrêté du 17 décembre 2015 relatif à l'utilisation de l'espace aérien par les aéronefs qui circulent sans personne à bord* [Order of 17 December 2015 on the Use of Airspace by Unmanned Aircraft] https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031679868&dateTexte=20160330.

36 *Arrêté du 17 décembre 2015 relatif à la conception des aéronefs civils qui circulent sans personne à bord, aux conditions de leur emploi et aux capacités requises des personnes qui les utilisent* [Order of 17 December 2015 on the Creation of Unmanned Civil Aircraft, the Conditions of Their Use, and the Required Aptitudes of the Persons That Use Them] https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000031679906&dateTexte=20160330.

37 Order on Use of Airspace, Article 1, Order on Creation and Use, Article 1.

38 Order on Use of Airspace, Article 1.

39 Order on Creation and Use, Article 1.

40 *Code des transports* [Transportation Code] https://www.legifrance.gouv.fr/affichCodeArticle.do?idArticle=LEGIARTI000023078234&cidTexte=LEGITEXT000023086525.

41 Transportation Code L. 6131-1.

42 Transportation Code L. 6131-2.

Although the latest regulations in 2015 do not deal with third-party liability, France has a different approach towards minimizing the risk of damages on third-party through its regulation. Annex 3 of Order on Creation and Use requires that heavier-than-air UAS of more than 2 kg to be equipped with a third-party protection system.[43] Moreover, UAS of more than 4 kg must be equipped with a system that could indicate the speed of the aircraft and satisfy the protection system requirements.[44] Noncompliance with the requirements under the law may subject the UAS operator to a punishment of up to one year in jail with a €75,000 fine.[45]

Similarly, the provision on the use of UAS also exists in Spain's national law. The use of UAS was prohibited until the Royal Decree No. 1036 of 2017 on the Civil Use of UAS ("RD No. 1036")[46] was passed. The new legislation allows the flying of UAS at night and over urban areas, under certain permission and requirements. The definition of UAS mentioned is similar to that of French law, but instead of "Unmanned Aircraft System", the RD No. 1036 utilizes the term "Remotely Controlled Aircraft (RPA)". It is further indicated by Royal Decree No. 601 of 2016 on Operational Air Circulation ("RD No. 601")[47] that the words "drone" and "unmanned aerial vehicle" are considered to be synonyms for RPA.[48]

UAS operator is liable for every operations of their UAS towards third parties.[49] To minimize the risk of third-party damages, under Article 30 of RD No. 1036, the operator of UAS is also obliged to establish a protection area for take-off and landing within a radius of 30m from people, except in the case of vertical take-off and landing in which the radius may be reduced to a minimum of 10m. In addition, the operator must establish a safe recovery zone on the ground in order to reach

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43 Order on Creation and Use Annex III Chapter II Section 2.7.

44 Order on Creation and Use Annex III Chapter II Section 2.7.3:
"In addition, for aerodynes with a mass greater than 4 kg:
- a) The remote pilot has an indication of the speed of the aircraft in relation to the ground.
- b) In addition to the conditions defined in paragraph 2.2.5, the third party protection system satisfies the following additional conditions:
  - i. the triggering of the device causes the stopping of the propulsion of the aircraft;
  - ii. the control link of the device is independent of the main command and control link of the aircraft;
  - iii. the electrical power supplies for the device and its remote control are independent of the main power supplies for the aircraft and its command and control system;
  - iv. the device signals the fall of the aircraft by an audible alarm;
  - v. if the device consists of a parachute, it must include an active ejection or extraction system not based solely on gravity;
  - vi. the correct functioning of the device's triggering mechanism can be checked on the ground by the remote pilot before flight."

45 Transportation Code L. 6232-4.

46 *Real Decreto 1036/2017, de 15 de diciembre, por el que se regula la utilización civil de las aeronaves pilotadas por control remoto, y se modifican el Real Decreto 552/2014, de 27 de junio, por el que se desarrolla el Reglamento del aire y disposiciones operativas comunes para los servicios y procedimientos de navegación aérea y el Real Decreto 57/2002, de 18 de enero, por el que se aprueba el Reglamento de Circulación* Aérea [Royal Decree 1036/2017, of December 15, which regulates the civil use of remotely piloted aircraft, and modifies Royal Decree 552/2014, of June 27, which develops the Regulation of the air and common operational provisions for air navigation services and procedures and Royal Decree 57/2002, of January 18, which approves the Air Circulation Regulation.] https://www.boe.es/buscar/doc.php?id=BOE-A-2017-15721.

47 *Real Decreto 601/2016, de 2 de diciembre, por el que se aprueba el Reglamento de la Circulación Aérea Operativa* [Royal Decree 601/2016, of December 2, which approves the Regulation of Operational Air Circulation] https://www.boe.es/buscar/doc.php?id=BOE-A-2016-11481.

48 RD No. 601 Chapter 1.

49 *Ibid.*

the UAS without risking damage to third parties and property of the ground in the event of failure.[50]

Furthermore, UAS is also included within the scope of the definition of aircraft under Article 11 of Law No. 48 of 1960 on Air Navigation.[51] As a result, the liability that applies to conventional aircraft will be applicable to UAS as well.[52] This principle of liability is similar to France wherein the operator is liable for damages on ground towards persons or property.

In 2019, European Commission as the executive branch of the EU, regulated the rules and procedures for the operation of unmanned aircraft through Commission Implementing Regulation (EU) 2019/947 ("Regulation 2019/947"). An implementing regulation is legally binding and has a direct effect on all member states of the EU where no national ratification is required.[53] It prevails over national legislation when there is a conflict of law because the supremacy of EU law plays a role.[54] The Regulation 2019/947 is intended to ensure that there is a uniform regulation throughout EU member states supporting the operation of UAS where it categorized UAS by risk-based - open, specific, and certified. Besides, Regulation 2019/947 also shows a specific differentiation in the types of UAS is crucial as it is directly related to the registration and operational requirements. Nevertheless, this regulation does not specifically touch on third-party liability. Instead, it obliges member states of the EU to insure that the operation of UAS is backed up with adequate insurance policy number to compensate third-party when an accident happens.

Regardless, based on the above explanation, it is shown that the concept of strict liability to third-party is the commonly used accidents caused by UAS. The reason behind the common use of strict liability in civil aviation rule is because it is closely related to public interest. Strict liability is applied when the benefit to the community set aside any potential disadvantage of the person held liable.[55] Arafah and Nursani also mentioned about strict liability as 'liability without fault', where the element of 'guilt' is not relevant because in the context of aviation, if someone suffers a loss for the actions of others, then person who causes the damage must be held accountable.[56]

Although there is no regulation about third-party liability in EU, the governments of France and Spain as member states of the EU have visibly made an effort to provide a protection to third parties who might potentially become victims of an accident caused by UAS. The form of third-party liabilities and the party that should be held liable for an accident are clearly regulated under their national law. Unfortunately, these provisions are not reflected in Indonesian regulations. These are important aspects of UAS liability that should be regulated comprehensively in Indonesian law in order to provide a legal protection to a third-party when accident occurs. At the very least, the law should give a legal certainty on who an injured third-party can request a compensation from.

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50 RD No. 1036, Article 30.

51 *Ley 48/1960, de 21 de julio, sobre Navegación Aérea* [Law No. 48 of 1960, of July 21, on Air Navigation] https://www.boe.es/buscar/doc.php?id=BOE-A-1960-10905.

52 Abogabos, A. (2019, December 10). Drone Regulation in Spain. Retrieved from https://www.lexology.com/library/detail.aspx?g=5b51712e-4fe7-4b90-a5a6-a1869a84924b. Accessed on 1 August 2020.

53 Solanke, I. (2015). The Supremacy of EU Law. EU Law, p. 167-196. UK: Pearson Education Limited.

54 *Ibid*, p. 201.

55 Civil Aviation Safety Authority. (2018, 6 August). Strict Liability. Retrieved from https://www.casa.gov.au/standard-page/strict-liability. Accessed on 4 August 2020.

56 Arafah, A. R. & Nursani, S. A. (2019). Pengantar Hukum Penerbangan Privat, p. 29. Jakarta: Prenadamedia Group.

c. ***Comparison of Insurance Liability between European Union and Indonesia***

Insurance is particularly relevant to third-party liability protection as it may guarantee the coverage of loss suffered by any injured party caused by the operation of UAS. The Regulation (EC) No. 785/2004 of the European Parliament and of the Council of 21 April 2004 ("Regulation 785/2004") regulates the insurance requirements for air carriers and aircraft operators. This regulation is also binding to every member states of the EU and they refer to this limit of liability when a UAS accident occurs. Article 2 of Regulation 785/2004 mentions that the scope of the regulation does not apply to 'model aircraft with an Maximum Takeoff Mass ("MTOM") of less than 20 kg'. It is a fact that many civilian UAS used have a MTOM of 20kg or less. Nevertheless, the above article refers to 'model aircraft', so using it for commercial purposes exclude UAS users from the exemptions of the regulation and must satisfy the requirements of the regulation. Based on Article 7 of the Regulation 785/2004, the minimum insurance coverage for third party liability is outlined below:

Category	MTOM (kg)	Minimum insurance (million SDRs)
1	< 500	0.75
2	< 1 000	1.5
3	< 2 700	3
4	< 6 000	7
5	< 12 000	18
6	< 25 000	80
7	< 50 000	150
8	< 200 000	300
9	< 500 000	500
10	≥ 500 000	700

Certain amounts of minimum insurance are required, depending on the category of each UAS. This gives a legal certainty to insurers and UAS users regarding the insurance policy in order to operate UAS in the EU. Most importantly, protection of third party (person or property) is more guaranteed in case of an accident.

Both the EU and Indonesia require insurance for every UAS operation. Hence, for every liability caused, there will surely be a compensation given as an insurance coverage is usually applicable to any types of potential liabilities whether it is for the person or the property's owner. However, the question now would be whether or not the maximum coverage amount of the insurance would be enough to cover the loss of any third-party.

Unlike the EU, the classification of UAS is not divided specifically into categories like the Regulation 2019/947. The Minister Regulation No. 180 distinguished UAS into those with MTOM < 55 lbs and > 55 lbs. As mentioned previously, the Minister Regulation No. 47 demands an insurance document for potential liabilities including a third-party loss as a result of UAS system failure. The regulation of UAS in Indonesia is very limited in scope and not comprehensive enough as it does not guarantee a legal certainty for UAS operators, insurers, and third parties when it comes to liability issues.

Additionally, the use of the word 'including' in the above article also means that there can be more than one type of insurance document to cover all liabilities.

The EU divided the MTOM of UAS into categories to determine the minimum amount of insurance coverage for each. Sizes and mass of UAS cause a difference in casualties since the loss suffered are depending on the circumstances. Unfortunately, even though an insurance document is required by Minister Regulation No. 47 when applying for license to operate in Indonesia, the minimum amount of insurance coverage for the liability is not indicated in the regulation. It is important for the government and insurance industry to classify UAS based on their usage.[57] Certainly, the insurance coverage of a small-sized UAS used for hobby is different from a larger UAS used for aerial surveillance.[58] Differentiating the minimum insurance coverage also aims to fulfill the insurance indemnity principle as reflected on Article 277 of Indonesian Commercial Code.[59] This principle aims to prevent insuree from receiving excess compensation where insurer should only compensate for total real loss that happened.[60] The government should prescribe the minimum insurance coverage under UAS regulation, while maintaining the applicability of indemnity principle on insurance contract since minimum insurance coverage could be higher than the amount of compensation.

The lack of minimum insurance coverage requirement becomes a loophole as UAS owners is allowed to select any amount of insurance cover prior to authorization for operation in Indonesia. As a result, the injured party may be disadvantaged as the insurance coverage chosen by the UAS operator may fail to cover the total amount of loss. Additionally, it is also not explicitly stated in the regulations to whom a third-party should seek compensation from as there are many possible parties such as UAS owner, UAS operator, or UAS manufacturer. Thus, it gives a legal uncertainty for victims to claim for reparation.

E. The Way Forward for Indonesia

In reacting to the sudden rapid growth of UAS in Indonesia, the government came up with several regulations from time to time. It started with Minister Regulation No. 90, which now has been replaced with Minister Regulation No. 47. ICAO's CASR part 107 was also adopted by the Indonesian law in the form of Minister Regulation No. 163. However, all of these acts failed to provide legal certainty over third-party liability.

The legal framework in EU established an additional protection over third-party damages, particularly in France where the law requires UAS of more than 2 kg to be furnished with an additional third-party protection system, otherwise the UAS operator would be subjected to a punishment of up to one year in prison and a €75,000 fine. In Spain, UAS operator should establish a protection area and a safe recovery zone for take-off and landing on ground. The provisions above decrease the risk of damaging third-party on the ground in case of failure.

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57 Nugraha, R. A., Jayodi, D., & Mahem, T. *Op. cit,* 150.

58 *Ibid.*

59 *Kitab Undang-Undang Hukum Dagang* [Commerical Code], Article 277:
"*Bila berbagai pertanggungan diadakan dengan itikad baik terhadap satu barang saja, dan dengan yang pertama ditanggung nilai yang penuh, hanya inilah yang berlaku dan penanggung berikut dibebaskan.*
Bila pada penanggung pertama tidak ditanggung nilai penuh, maka penanggung berikutnya bertanggung jawab untuk nilai selebihnya menurut urutan waktu mengadakan pertanggungan itu."

60 Setyawan, G. I. (2019). Perlindungan Hukum Terhadap Hak-Hak Konsumen Penumpang Pesawat Udara dalam Pembelian Premi Asuransi Melalui Situs Traveloka. Jurnal IUS, 7(1), 159.

The Minister Regulation No. 163 also limits the operation of UAS above people. There is a restriction to operate UAS over a human being who is not directly participating in the operation of UAS or not located under a covered structure that could provide a reasonable protection from falling UAS. The UAS operator must ensure that UAS will pose no undue hazard to other aircraft, people, or property for any reason.[61] Certainly, the Minister Regulation No. 163 provides a protection towards third parties on ground, even though the approach taken by Indonesia is different from France and Spain. Based on the practice of France and Spain, the Indonesian law could take a tighter approach by increasing the burden of responsibility on the UAS operators to protect third parties.

There is an absence of law in Indonesia regarding the form of third-party liability, the party to be held liable, and the minimum requirement for compensation. Although insurance is one of the requirements in operating UAS, UAS operator has the freedom to decide on the insurance coverage they want to purchase in order to satisfy the requirements of 'insurance document' under Ministerial Regulation No. 47. As an analogy, the Minister Regulation No. 77 of 2011 on the Liability of Air Carriers requires the conventional air carriers to compensate the death of a passenger for Rp1.250.000.000.[62] A lost or destroyed cargo shall be compensated for Rp100.000 per kg.[63] In the context of UAS and third party liability damage, the current regulation does not provide the minimum amount of insurance liability coverage, leaving third parties uncertain of the amount of compensation that they should obtain. To make matters worse, the insurance coverage chosen by the UAS operator may fail to cover the total amount of loss on third party. In addition, the regulation should also implement a strict liability concept on the regulation of UAS to accommodate an accident where negligence from the UAS operator (or owner) is proven, unless they are able to defend themselves by proving that the fault is on the victim's side.

In conclusion, it now becomes a homework for the Indonesian government to implement a regulation that completes the protection of third-party liability. An amendment or creation of a new Ministerial Regulation concerning third-party liability should be a part of the government's to-do-list. It is recommended that the Indonesian legislators refer to the practice of EU member states such as Spain and France where UAS operators are bound with more responsibilities for the operation of UAS, such as the requirement of the third-party protection system or establishing a protection area and safe recovery zone. The Indonesian regulation also needs to clarify on the party to seek compensation from – whether it will be the UAS operators, UAS owner, or UAS manufacturer. In relation to that, the minimum requirement for insurance coverage should also be included within the regulation because it acts as a protection towards third-party in case the insurance purchased by the UAS operators could not cover the amount of loss that the injured party suffer. Certainly, it is also important for the government and insurance industry to classify UAS based on their usage as different purposes and sizes of UAS should be backed up with different insurance coverage, while parties to an insurance contract should maintain the applicability of indemnity principle as minimum insurance coverage could be different from the amount of compensation.

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61 Minister Regulation No. 163, Article 107 paragraph (19).

62 Minister Regulation No. 77 of 2011 on the Liability of Air Carriers, Article 3.

63 Minister Regulation No. 77 of 2011 on the Liability of Air Carriers, Article 7.

F. Acknowledgement

The authors wish to thank Mr Ridha Aditya Nugraha as the Head of Air and Space Law Studies – International Business Law Program, Universitas Prasetiya Mulya for the continuous support and guidance throughout the writing process of this article.

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