

JOURNAL OF LAW AND POLITICAL SCIENCES (JLPS)

Scientific and Academy Journal

Print ISSN 2222-7288

Online ISSN 2518-5551

IMPACT FACTOR VALUE of 2.701

Fourteenth year

Vol. (42) - Issue (3) JULY-2024



ESCI



***18- Analysis of Legal Regulation and
Liability For The Use of Drones in Various
Areas, Including Commercial Use and Public
Safety by Yevheniia Kravtsova and Others
Ukraine, 374***

CENTER FOR LAW and POLITICAL RESEARCH- DENMARK

AALBORG ACADEMY of SCIENCES – DENMARK

<http://journal-law.com/>

journallaw1@yahoo.co

JOURNAL OF LAW AND POLITICAL SCIENCES(JLPS)

P. ISSN 2222-7288 E. ISSN 2518-5551



Vol. 42-ISSUE 3-JULY-2024

FIRST EDITION 2011

IMPACT FACTOR VALUE OF 2.701



JOURNAL OF LAW AND POLITICAL SCIENCES

SCIENTIFIC AND ACADEMY JOURNAL

Print ISSN 2222-7288

Online ISSN 2518-5551

IMPACT FACTOR VALUE OF 2.701

VOL. (42) FOURTEENTH YEAR– ISSUE (3) JULY 2024

FIRST EDITION 2011

**CENTER FOR LAW AND POLITICAL RESEARCH – DENMARK
FACULTY OF LAW - ACADEMY OF THE AALBORG – DENMARK**

<http://journal-law.com/>

journallaw1@yahoo.co



Chief in Editor Prof. SUHAIL H. AL-FATLAW

General Supervisor-Prof. TALAL ALNADAW

Secretary of the Editorial Board-Prof. SALEH AL-TAI

Editorial Board

1- Prof. HOSSAM GHARABAWI: University of Baghdad – Iraq

2- Prof. ADEL AL ALI -University of Al - Isra University- Jordan.

3- Prof. YURIY PYVOVAR. Department of Constitutional and Administrative Law -National Aviation University, Ukraine.

4- Prof. JAMIL MUSAB-University of Baghdad – Iraq.

5- Prof. E SAHIB OBEID AL – FATAWI-Amman National University – Jordan.

6- Prof. MUSLEH HASSAN AL – HADITHI-Al-Rashid University, Iraq.

7- Dr. Nguyen Binh An (B. An Nguyen) Law Faculty, Binh Duong University- Vietnam

8- Prof. AAD ALI AL-KAISSI -University of Sharjah-UAE.

9-PROF. ASHJAN AL-ZUHAIRY

Al-Qasim University, College of Sharia and Islamic Studies- Saudi Arabia-Systems Department

10-- Prof. ACHOUR FTIMA -Dean of the Faculty of Law – Algeria.

11- Dr. OROOBA JABAR ABDEL HUSSEIN, DIRECTOR of the Journal's Department



ADVISERS

Prof. Noman Al-Khatib, President of the University of Jordan

Pro. Shafiq al-Samarrai - University President-Belgium

Prof. Emad Rabee Vice President of Jerash University-Jordan

Prof. Ahmed Abu Shanab - Amman Arab University- Jordan

Prof. Mohammed Wsal- Dean of the Faculty of Law-Syria

Prof. Ali Al_husenawe- Dean of the Faculty of Law-Iraq

Prof. Mohamed Hossam- Dean of the Faculty of Law-Oman

Prof. Ahmed Hawamdeh- Dean of the Faculty of Law- Jerash University

- Jordan

Dr. Abderrahman Alarman -Dean of the Law Faculty-Jordan

Prof. Mohamed Aboul Ela- Academy-Egypt

Prof. Asaid Mostafa Aboalker-Academy-Egypt

Prof. Khalil Elias Murad -Denmark

Prof. Dr. Mustafa Eчек- Academy-Turkey

Prof. Ahmed Fedaioglu Academy-Turkey

Prof. Karim Harzallah- Academy- Algeria

Prof. Aiser Khalil Al-Obidi- Baghdad university Iraq

Prof. Amrouche elhoucine Faculty of Law and Political Science -Yahiya

Fares University-Medea –Algeria

Dr. Murtada Abdullah Khairi- Academy-Sudan

Rosi Topham- Academy-UK

JOURNAL OF LAW AND POLITICAL SCIENCES (JLPS)

P. ISSN 2222-7288 E. ISSN 2518-5551

Vol. 42-ISSUE 3-JULY-2024

FIRST EDITION 2011

IMPACT FACTOR VALUE OF 2.701



The Journal certified by:

 	 ESCI
<p>The Journal of Law and Political Sciences is published by the Law and Political Research Center which is accredited by CVR - Det Centrale Virksomhedsregister-Denmark</p>	 cvr virk
<p>Accredited by the Faculty of Law - Aalborg Academy of Sciences –Denmark</p>	
	
<p>Islamic Word Science citation Center</p>	
	<p>QUALITY IMPACT VALUE 2.329</p>
 <p>TOGETHER WE REACH THE GOAL</p>	<p>QUALITY IMPACT VALUE 7.234</p>



Published Terms in the journal:

1. Number of pages of no more than 40 pages. 14 × 21 cm;
2. Subject of research in the Law and political and Islamic law;
3. Researcher must use scientific sources, or documents depends referred to in accordance with the scientific bases used in scientific research;
4. The research includes an abstract of no more than 150 words.
5. The research includes keyword.
6. The introduction shall include the importance of research and the research problem. The introduction shall not exceed two pages.
7. The research referred on two experts, to ensure compliance with the terms of the researcher scientific research;
8. Written in the footnote in the bottom of the page and printed electronically.
9. The researcher shall have a PhD in law, or political science or Islamic law.
10. Research written in English, French or Arabic language.
11. The researcher is responsible for the views expressed in his research.
12. Research is sent by e-mail to the head of the editorial board.
13. At the end of the research conclusion includes the pleadings and recommendations.
14. List of sources by alphabet at the end of research.
15. The research may not be published in another journal, or in a book.

JOURNAL OF LAW AND POLITICAL SCIENCES (JLPS)

P. ISSN 2222-7288 E. ISSN 2518-5551



Vol. 42-ISSUE 3-JULY-2024

FIRST EDITION 2011

IMPACT FACTOR VALUE OF 2.701



International Journal Evaluation

INTERNATIONAL

 Scientific Indexing

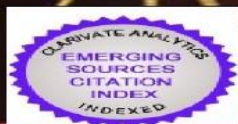
Fresh Ideas for Growing your Citations

Certificate

This is to certify that **Journal of Law and Political Science** is indexed in International Scientific Indexing (ISI). The Journal has Impact Factor Value of **2.329** based on International Citation Report (ICR) for the year **2022-2023**. The URL for journal on our server is <https://isindexing.com/isi/journaldetails.php?id=4032>

Editor ICR Team (ISI)

International Scientific Indexing (ISI)



Contents of Vol. No. (42) of issue (3) JULY-2024

- 1- Effect of Breach by The Depository of His Obligations in The Deposit Contract- Non-Contractual Deposit – (Comparative Study). By Alzahraa Adil Rabeea And Oters.Iraq. P. 10.
- 2- A Study of The Uk Security Disembedding Mechanism From A Comparative Political Perspective: Centering on The Bosnia War and The Russian-Ukrainian War. By Yuhong Li and others. China P.24.
- 3- Jurisdiction of The International Criminal Court: Theoretical and Practical Aspects. Rahim Mammadov. Azerbaijan p. 53.
- 4- Population Aging and Challenges To The Social Security System in Vietnam. Hai Ninh Nguyen Thi and Others. Vietnam.P.72.
- 5- The Legal Framework For Foreign Investment in Saudi Arabia and Its Dispute Resolution Mechanisms. Dr. Yasser Ahmed Badr Muhammad. Saudi Arabia. 90.
- 6- Study on The Interaction Between Mainland Asean States and China Under The Gms Mechanism Framework: Based on Neoclassical Realist Theory of International Politics. Yuhong Li and Others .China. p. 122.
- 7- Alternative Institution For Handling Children in Conflict With The Law: An Indonesia Jurisprudence Lessons. Suharyanti. and Others. Indonesia p. 147.
- 8- Divorce With A Foreign Element: Problems of Theory and Practice. by Evgen Kharytonov and Others Ukraine. p. 162.
- 9- Effects of Civil Liability Arising From The Defective Legitimate Allotment (Comparative Study). by Jaafar Kadhim Jawad and Others.. Iraq. p. 179.
- 10- Cyber Security in The Maritime Transportation Sector: From Actors' Voluntary Commitment To Cyber Security Duty By. . Rym Ben Khelifa and Others. 196.
- 11- Adaptation of Saudi Public Prosecution Law With Royal Order No. (A/240) (1438 Ah). by Dr. Haydar Bashir Mohammed Ghulam Allh. Saudi Arabia. P, 215.
- 12- Public Services in Agricultural Sector – Politic Strategies and Realities: A Case Study in Hung by Nguyen Thi Bich Diep and Others, Vietnam. p. 242.
- 13- Menstrual Leave Policies in India in Education and Employment: Empowering The Empowered. by Dr. Sanu Rani Paul and Others India, p. 260.
- 14- Developing Farmstay in Vietnam: The Legal Issues and Recommendations. by Ho Ngoc Ninh and Others. Viet Nam. 279.
- 15- Legal Aspects of The Mechanism For Preventing Epidemics and Pandemics in The Context of Military Biological Threats Through The Lens of Human Rights. by Victor Gorodovenko and Others Ukraine. p. 300.
- 16- Decentralization in Local Government in Vietnam: The Case of Hochiminh City. by Phan Hai Ho and Others Vietnam. p. 334.
- 17- Insolvent Liquidation and Its Personal Scope in Light of Jordanian Insolvency Law: A Study of Jordanian Insolvency Law of (21/2018), by Banan Al-Tarawneh and Others. Jordan, P, 354,
- 18- Analysis of Legal Regulation and Liability For The Use of Drones in Various Areas, Including Commercial Use and Public Safety by Yevheniia Kravtsova and Others Ukraine, 374.
- 19- Examination of Legal Mechanisms For Combating All Forms of Discrimination and Supporting Equal Rights in Society, by Iurii Rega and Others. Ukraine, p. 393.
- 20- Studying Legal Aspects of Online Transactions, Consumer Protection and E-Commerce Regulation by Olena Cherniaieva and Others. Ukraine. p. 413.
- 21- The Concept and Scope of Privacy in The Digital Age: An Analytical Study by Saed Abdelwahhb Salem Al-Qatawneh and Others Jordan. p. 430.
- 22- A Study on The Gender Moral Crisis in China Under The Moral Panic Theory in The First Half of The 20th Century: A Comparison Between The “Fu Dang Youth” Incident and The Case of Feng Vs. Zhang, by Yan Zhang and Others, China, P, 448.
- 23- The Role of Legal Frameworks in Achieving Digital Justice: A Case Study of Compensation For Online Social Media Abuse By, Mahmoud Abufarwah,.. Saudi Arabia.P. 481.
- 24- Human Rights in Light of Islamic Jurisprudence and The Universal Declaration of Human Rights and International Conventions-A Comparative Study. by Dr. Mukhtar Issa Mustafa. , Jordan. p. 507.



(18)

**ANALYSIS OF LEGAL REGULATION AND
LIABILITY FOR THE USE OF DRONES IN
VARIOUS AREAS, INCLUDING COMMERCIAL
USE AND PUBLIC SAFETY**

Receipt 3/Feb.

Approval 28/Feb.

Publishing 1st July/ 2024

YEVHENIIA KRAVTSOVA

Postgraduate, Department of International Law and Branch Legal Disciplines, Kyiv University of Law of the National Academy of Sciences of Ukraine, Kyiv, Ukraine.

<https://orcid.org/0009-0008-6454-9242>

naukarmy@gmail.com

IRYNA UDOVENKO

Candidate of Economic Sciences, Associate Professor, Department of Geodesy, Cartography and Cadastre, Faculty of Forestry and Horticulture, Uman National University of Horticulture, Uman, Ukraine.

<https://orcid.org/0000-0001-5971-8365>

irinaudovenko8@gmail.com

MYKHAILO SHEMIKIN

PhD in Agricultural Sciences, Assistant Professor, Department of Geodesy, Cartography and Cadastre, Faculty of Forestry and Landscape Management, Uman National University of Horticulture, Uman, Ukraine.

<https://orcid.org/0000-0002-3621-1446>

misha.uman@gmail.com

ABSTRACT

This topic is relevant in the context of rapid technological advancements and the proliferation of drones across various sectors. The legal regulation and accountability of drone usage is crucial for ensuring safety, protecting personal and public interests, and fostering new opportunities in commercial applications. The aim of this study is to analyse the legal regulations and accountability determinations for drone usage in Ukraine, including commercial use and public safety. The key tasks



involve highlighting the relevance of the topic, analysing current legislation, identifying potential gaps and issues, and formulating conclusions regarding the effectiveness of existing legal approaches and possibilities for further improvement. This study analysed the current legislation, identified the types of accountability for violating drone usage rules, and uncovered potential problems and challenges faced by aviation entities and government authorities in Ukraine.

Keywords: *Drones, Unmanned aerial vehicles, Legal regulation, Liability, Public safety, Commercial use, Normative legal acts, Prohibition, Permission, Airspace safety.*

INTRODUCTION

Drones, or unmanned aerial vehicles, play a significant role in commercial, public, and military activities. However, the use of drones during times of war in Ukraine is subject to a special legal regime.

The introduction of martial law in February 2022 has resulted in adjustments to the legal context of drone usage. This article conducts a comprehensive analysis of the legal regulations surrounding drone usage, with a particular focus on commercial use and public safety. The research considers the unique aspects of martial law.

The purpose of this article is to determine the impact of martial law on the current legal dynamics of drone usage in Ukraine and to consider possible prospects for the development of this technology in the context of the ongoing state of war. The article addresses security issues, aspects of responsibility, and changes in the legal environment.

Literature Review:

Several scholars have researched the topic of drones, including Calandrillo S., Oh J., and Webb A., who critiqued the FAA's drone safety regulations¹. Johnson A. M. et

¹ Calandrillo, S., Oh, J., Webb, A. (2020). Deadly drones: Why faa regulations miss the mark on drone safety. *Stan. Tech. L. Rev.*, 23, 182.



al. explored the impact of drones in emergency medical care². Additionally, Jean-Michel Normand wrote an article on the rules for recreational drone use³. Kraus et al. investigated the social, technological, and systemic challenges of drone use⁴. Mustofa explored the use of drones from a regulatory and national defence perspective⁵. Merkert and Bushell also conducted research on this topic. This is a systematic literature review that explores current drone use and future strategic directions for effective control⁶. The study by Mohsan S. A. H. et al. examines the practical aspects, applications, challenges, and future trends of UAVs⁷. The research conducted by Pathak H. et al. is also relevant to this topic. This text discusses the opportunities and challenges of using drones in agriculture⁸. Stampa M. et al. review the maturity levels of drone applications in public safety⁹. Sabino H. et al. present a systematic literature review on the main drivers of public acceptance of drones¹⁰. Smith et al. explore public acceptance of drones for

² Johnson, A. M., Cunningham, C. J., Arnold, E., Rosamond, W. D., Zègre-Hemsey, J. K. (2021). Impact of using drones in emergency medicine: What does the future hold? *Open Access Emergency Medicine*, 487-498.

³ Normand, J.-M. (2021). Drones de loisirs: de nouvelles règles à partir du 1er janvier. <http://surl.li/qsxxs>

⁴ Kraus, J., Kleczatský, A., Hulínská, Š. (2020). Social, technological, and systemic issues of spreading the use of drones. *Transportation Research Procedia*, 51, 3-10.

⁵ Mustofa A. (2021). The use of drones: From the perspective of regulation and national defense and security. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(10), 670-677.

⁶ Merkert, R., Bushell, J. (2020). Managing the drone revolution: A systematic literature review into the current use of airborne drones and future strategic directions for their effective control. *Journal of air transport management*, 89, 101929.

⁷ Mohsan, S. A. H., Othman, N. Q. H., Li, Y., Alsharif, M. H., Khan, M. A. (2023). Unmanned aerial vehicles (UAVs): Practical aspects, applications, open challenges, security issues, and future trends. *Intelligent Service Robotics*, 16(1), 109-137.

⁸ Pathak, H., Kumar, G., Mohapatra, S. D., Gaikwad, B. B., Rane, J. (2020). Use of drones in agriculture: Potentials, Problems and Policy Needs. *ICAR-National Institute of Abiotic Stress Management*, 300, 4-15.

⁹ Stampa, M., Sutorma, A., Jahn, U., Thiem, J., Wolff, C., Röhrig, C. (2021). Maturity levels of public safety applications using unmanned aerial systems: a review. *Journal of Intelligent & Robotic Systems*, 103, 1-15.

¹⁰ Sabino, H., Almeida, R. V., de Moraes, L. B., da Silva, W. P., Guerra, R., Malcher, C., Passos, F. G. (2022). A systematic literature review on the main factors for public acceptance of drones. *Technology in Society*, 102097.



logistics¹¹, while Tan et al. examine public acceptance of drone applications in highly urbanised environments¹². Tice discusses unmanned aerial vehicles as a force multiplier¹³. Yaacoub et al. analyse the security of drone systems, including attacks, limitations, and recommendations¹⁴.

Research Methods:

The study employed various methods, including legal analysis of regulations, statistical data analysis of violations, comparative analysis of regulations in other countries, expert opinion analysis, and case study analysis of drone use. These methods facilitated a more profound comprehension of the legal and safety aspects of drone use in commercial and public areas.

1: THE CONCEPT AND CHARACTERISTICS OF DRONES

Drones have become an essential component of modern life due to their unique capabilities, finding wide application in various fields, particularly in the commercial sector. The context of rapid technological advancement has contributed to their increasing popularity. They are used for videography, delivery of goods, and market research.

¹¹ Smith, A., Dickinson, J. E., Marsden, G., Cherrett, T., Oakey, A., Grote, M. (2022). Public acceptance of the use of drones for logistics: The state of play and moving towards more informed debate. *Technology in Society*, 68, 101883.

¹² Tan, L. K. L., Lim, B. C., Park, G., Low, K. H., Yeo, V. C. S. (2021). Public acceptance of drone applications in a highly urbanized environment. *Technology in Society*, 64, 101462.

¹³ Tice, B. P. (1991). «Unmanned Aerial Vehicles – The Force Multiplier of the 1990s». *Airpower Journal*. Archived from the original on 24 July 2009. <https://web.archive.org/web/20090724015052/http://www.airpower.maxwell.af.mil/airchronicles/apj/apj91/spr91/4spr91.htm>

¹⁴ Yaacoub, J. P., Noura, H., Salman, O., Chehab, A. (2020). Security analysis of drones systems: Attacks, limitations, and recommendations. *Internet of Things*, 11, 100218.



Drones have become an essential tool for reconnaissance and monitoring of territories in the realm of public safety. They are also widely used in the agricultural sector for monitoring fields and crop yields ¹⁵.

However, the growing popularity of drones raises concerns regarding safety, privacy, and potential criminal misuse. In the context of a state of war, where drones may have strategic importance, the legal regulation of this technology becomes particularly significant. In this analysis, we will explore the impact of a state of war on the legal status and usage of drones in Ukraine.

2: UAVS IN MODERN CONDITIONS

Particularly within the context of a state of war, the legal regulation of drone usage becomes particularly significant due to its strategic importance. One key aspect to consider is the evolving nature of drone usage during wartime. Drones can be used for reconnaissance and delivering goods and equipment to areas inaccessible by conventional means.

The use of drones in military operations may involve tasks such as monitoring enemy movement, determining the precise location of important targets, and observing conflict zones. Their use can provide crucial information for strategic decision-making and coordination of military operations.

Therefore, there is a need to adapt existing legislation to the specifics of drone usage during wartime. This may require the creation of new regulatory measures that consider the unique characteristics of this technology in the context of a state of war, as well as modifications to current regulations and limitations.

Determining legal liability for the use of drones during wartime is important. This applies to both drone operators and manufacturers. Questions about possible damages

¹⁵ Johnson, A. M., Cunningham, C. J., Arnold, E., Rosamond, W. D., Zègre-Hemsey, J. K. (2021). Impact of using drones in emergency medicine: What does the future hold? *Open Access Emergency Medicine*, 487-498.



and harm caused employing drones must be addressed, as well as establishing mandatory insurance to compensate for potential losses.

2-1: UAVS IN CONDITIONS OF WAR

Additionally, it is crucial to consider the specific aspects of legal regulation regarding the use of drones during wartime in Ukraine. Within the general legal context, we focus on international conventions and agreements related to military technology. It is important to note that drones have multiple uses, such as reconnaissance, navigation, and material transportation.

During a state of war, it is important to consider the peculiarities of the domestic legal system. This may involve imposing temporary restrictions and granting additional powers to the authorities to regulate and control drone usage. These measures may apply to both commercial and military drone operations.

It is important to analyse the current legislation of Ukraine regarding drones. When determining the legal status and obligations of drone operators during wartime, it is necessary to consider the specifics of their use and ensure compliance with international standards and agreements.

Potential changes in legal regulation should be aimed at effectively ensuring the security and protection of the state's interests. Such analysis involves identifying potential risks and defining strategies to counter them using legal instruments.

Therefore, a comprehensive approach is required to consider legal regulation issues regarding the use of drones during wartime in Ukraine, considering both international norms and the country's internal legal system.

3: LEGAL BASIS OF DRONES

Firstly, the concept of a drone must be defined. A drone, also known as an Unmanned Aerial Vehicle (UAV), is an autonomous or remotely controlled aerial device that does not require direct human involvement in its flight. Drones can be



equipped with various sensors, cameras, and data collection tools, allowing them to perform a range of tasks. They are used in various fields, including commercial activities, public security, and military operations. As per the current legislation in Ukraine, a drone or unmanned aerial vehicle is defined by the order of the State Aviation Service of Ukraine and the Ministry of Defence of Ukraine dated May 11, 2018, No. 430/210.

3-1: THE MAIN TYPES OF DRONES

Examples of drones in the researched topic context are provided below.

1. Reconnaissance drones are used in military operations as an integral part of strategic planning and security provision. They are designed to gather reconnaissance information in open or hard-to-reach territories, allowing for detailed data collection on enemy movements, geography, and other strategically important parameters ¹⁶.

The drones are equipped with sensors and cameras that enable high-quality imaging and video footage. Their tasks include reconnaissance of enemy positions, precise object location determination, and territory monitoring.

In the context of the ongoing conflict in Ukraine, reconnaissance drones can play a crucial role in gathering information on enemy troop movements, monitoring frontlines, and identifying strategic targets. The legal regulation of the use of reconnaissance drones in wartime is critical to ensuring their effectiveness and accountability. Such regulation is governed by a complex set of legal, ethical, and security norms. International humanitarian law, including the Geneva Conventions and Additional Protocols, establishes rules for conducting warfare and protecting civilians in conflict zones.

Each country sets its own rules and limitations for the use of reconnaissance drones within its territory, including licensing, control, and restrictions.

Export control is also an important aspect of regulation to prevent unlawful use of reconnaissance drones from external sources.

¹⁶ Normand, J.-M. (2021). Drones de loisirs: de nouvelles règles à partir du 1er janvier. <http://surl.li/qsxxs>



International agreements can regulate the use of reconnaissance technologies in military conflicts, establishing standards and limitations. Compliance with these regulatory mechanisms is important for the responsible and ethical use of reconnaissance drones in wartime circumstances.

National legislation of each country is also an important element in regulating the use of reconnaissance drones. Each country establishes its own norms and restrictions regarding the registration, licensing, and operation of drones within its territory. These rules are designed to ensure safety, considering the specific conditions and needs of each country.

Furthermore, it is important to control the export and import of reconnaissance drones to prevent their unlawful use or falling into the hands of unauthorized entities. Many countries restrict the export and import of drones and related equipment to control their spread. This may involve licensing agreements and export notification requirements.

This dual approach, which considers national legislation and export/import controls, promotes responsible and safe use of reconnaissance drones at the international level, reducing the risks of their use for harmful or unlawful purposes.

2. Commercial drones serve as an integral part of modern technology in various industries, particularly in the realm of commercial utilization. Their usage encompasses a wide range of tasks such as aerial photography, goods delivery, agriculture, and many others¹⁷.

They are designed to improve efficiency and optimize business processes. For example, in the field of trade and logistics, commercial drones can deliver goods to remote or hard-to-reach locations, making them essential for improving logistical systems. They are commonly used for commercial purposes, including aerial photography, goods delivery, agriculture, monitoring the condition of agricultural fields, and early issue detection.

¹⁷ Kraus, J., Kleczatský, A., Hulínská, Š. (2020). Social, technological, and systemic issues of spreading the use of drones. *Transportation Research Procedia*, 51, 3-10.



However, the commercial use of drones presents challenges and requires legal regulation. In the context of legal liability and regulation, issues of flight safety, privacy, operator registration, and licensing are relevant.

The use of commercial drones is regulated to ensure safety and compliance with laws and regulations.

Aviation legislation sets standards for commercial drones, including registration, operator licensing, and compliance with flight safety requirements. Operators may be required to undergo specialized training.

Rules of separation define zones and altitude restrictions to avoid conflicts with other aircraft, including passenger planes. Operator licensing may require adherence to certain standards and specialized training.

Restrictions on filming and data collection control the use of cameras and sensors to protect privacy and prevent unlawful data collection ¹⁸.

Safety requirements establish standards for the drone and its equipment to avoid accidents and ensure flight safety. Community interaction rules define requirements for notification and interaction with the community to avoid adverse impacts of drones on the environment and safety ¹⁹.

Regulatory mechanisms aim to ensure the safe and effective use of commercial drones in various industries, considering safety, privacy, and economic responsibility.

In times of war in Ukraine, commercial drones may be of particular interest due to their potential for reconnaissance or transportation of materials. Such usage may require additional control and regulation to ensure safety and prevent drones from being used for overt aggression.

3. Combat drones, also known as military UAVs, are unmanned aerial vehicles designed for military purposes. They are used for reconnaissance, attacks, observation, and coordination of military operations. Ukraine is considered a pioneer in the use of

¹⁸ Mustofa A. (2021). The use of drones: From the perspective of regulation and national defense and security. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(10), 670-677

¹⁹ Yaacoub, J. P., Noura, H., Salman, O., Chehab, A. (2020). Security analysis of drones systems: Attacks, limitations, and recommendations. *Internet of Things*, 11, 100218.



maritime drones, which provide new levels of functionality for maritime military applications²⁰.

Combat drones are essential in modern military operations due to their ability to identify targets precisely, conduct reconnaissance, and execute attacks with minimal risk to own forces. They can be equipped with various combat payloads, such as missiles or bombs, and are capable of executing strategic missions²¹.

The use of maritime drones by Ukraine expands its capabilities for monitoring and defending its maritime borders. This may involve conducting reconnaissance within the exclusive economic zone, patrolling maritime routes, and detecting potential aggression in the maritime environment.

The use of combat drones in military actions in Ukraine, particularly for defending territorial integrity and repelling Russian aggression, is considered a crucial element in ensuring security and conducting defensive operations effectively. However, it is crucial to ensure appropriate legal regulation and responsible use of these technologies to avoid negative consequences and comply with international norms.

The regulation of combat drones is based on a complex set of legal, ethical, and international norms. These norms aim to ensure safety, protect human rights, and ensure compliance with military law standards. International humanitarian law, such as the Geneva Conventions and Additional Protocols, establishes rules for conducting war and protecting civilians in conflict zones. National legislation in different countries includes regulations on the registration, licensing, control, and restrictions of combat drones.

Additionally, there are international standards and export limitations for combat drones to prevent their potential use for aggressive purposes. Countries can also form international agreements to control the use of combat drones, setting standards and limitations on their application.

²⁰ Calandrillo, S., Oh, J., Webb, A. (2020). *Deadly drones: Why faa regulations miss the mark on drone safety. Stan. Tech. L. Rev.*, 23, 182.

²¹ Merkert, R., Bushell, J. (2020). *Managing the drone revolution: A systematic literature review into the current use of airborne drones and future strategic directions for their effective control. Journal of air transport management*, 89, 101929



Organisations such as the UN may establish ethical standards for the use of military technologies, including drones. These standards define principles of responsible use and ensure the safety of civilians. Ukraine, like other countries, must adhere to these regulatory mechanisms and norms to ensure effective and responsible use of combat drones in conditions of armed conflict.

4. Civil drones are subject to regulation defined by legal, ethical, and safety norms. This includes aviation legislation, which establishes rules for registration, licensing, and flight safety.

The aim of regulation is to protect privacy and citizen safety by setting requirements for limiting filming and collection of personal information. Operators of civil drones must adhere to licensing rules and restrictions, including flight altitudes and usage zones ²².

Additionally, rules are established to avoid conflicts with other aircraft and ensure safety in interactions. It is important for operators to inform and warn the public about flights of civil drones to ensure understanding and avoid unforeseen situations.

The regulation of civil drones aims to ensure safety, protect privacy, and consider the interests of the public during their use in various sectors, such as photography and videography, search and rescue operations, training.

5. Transport drones are subject to specific regulations to ensure safety, efficiency, and responsible use. This includes aviation legislation that establishes requirements for registration, licensing, and safety, as well as altitude and spatial limitations to avoid conflicts and ensure safety in interactions with other transport vehicles. Safety standards are established for the drone, its equipment, and the transported cargo. Licensing for operators and rules for informing the public about flights are also included. Regulation of transport drones also considers legislation regarding cargo transportation, including





²² Stampa, M., Sutorma, A., Jahn, U., Thiem, J., Wolff, C., Röhrig, C. (2021). Maturity levels of public safety applications using unmanned aerial systems: a review. *Journal of Intelligent & Robotic Systems*, 103, 1-15.

relevant customs requirements and international rules, ensuring high standards of safety and efficiency in the field of cargo operations ²³.

3-2: THE MAIN TYPES OF UKRAINIAN DRONES

Here are examples of modern domestic drones for various purposes:



Table 1. Ukrainian Military Drone Types²⁴.

Developer, photo, model	Cost (UAH million)	Take-off weight, kg	Route length, km	Time in the air, hrs
 Ukrspesystems, PD-2	30	55	1100	10
 Skyeton, ACS-3M	18,6	23	2500	30
 Athlon Avia, "Furia"	4,8	5,5	200	3
 DeViRo, "Leleka-100"	2,7	5,5	100	2,5

²³ Smith, A., Dickinson, J. E., Marsden, G., Cherrett, T., Oakey, A., Grote, M. (2022). Public acceptance of the use of drones for logistics: The state of play and moving towards more informed debate. *Technology in Society*, 68, 101883

²⁴ Krasnomovets, P. (2022). Born to fly. Since 2014, a whole industry of drones has grown in Ukraine. Will the war help it become a global player. *Forbes*, September 8



	3	3	70	1,25
Spaitech, Sparrow				
	1,9	7,5	90	1,5
UaDynamics, Punisher				

In the context of the conflict in Ukraine, the use of drones carries significant strategic importance. Therefore, legal regulations and responsibilities regarding their use are crucial. The introduction of relevant norms and restrictions is necessary to ensure safety and compliance with the law during a state of war.

3-3: LEGAL REGULATION OF DRONES IN VARIOUS COUNTRIES

The operation of drones is subject to national legislation and regulations, which vary between countries. The following are examples of areas of scrutiny in different countries:

Table 2. Regulation of Drones in Various Countries

Country	Basic rules and requirements for the operation of drones
United States of America	Regulated by the FAA. Operator registration, altitude restrictions, flight restriction zones ²⁵ .
European Union	Standards and requirements for operation, registration, licensing (Regulation (EU) 2019/947) (Tan et al., 2021).
China	National legislation and standards. Registration and licensing of operators.
Canada	Transport Canada sets the rules: registration, height restrictions,

²⁵ Convention Commercial Aviation (1928). Signed at Havana (February 20, 1928). The Department of State, 12 p



	restricted areas ²⁶ .
India	The DGCA defines the rules, including registration, licensing, and height restrictions ²⁷ .
Australia	The aviation law sets out requirements such as registration, altitude restrictions, and safety rules.
Japan	Requires registration, height restrictions and restricted areas.
Brazil	Registration with ANAC, safety rules, prohibition of flights in certain areas ²⁸ .
France	Regulated by the Aviation Law. Registration, height restrictions, safety rules ²⁹ .

It should be noted that each country has its own specifics and nuances in regulating drones, and it is important for operators to comply with the specific requirements and definitions in their local jurisdiction.

When analysing liability for the use of drones, certain general requirements for each country can be noted:

1. Responsibility for the use of drones includes strict compliance with all laws and regulations governing this area. Operators must obtain the necessary licences and registrations, and comply with the safety standards set by the competent aviation authorities.
2. Drone operators are responsible for ensuring safe flight and avoiding possible negative consequences. They must avoid situations that could lead to accidents or damage to third parties or property.

²⁶ Flying your drone safely and legally (2020). Transport Canada. <https://tc.canada.ca/en/aviation/dronesafety/learn-rules-you-fly-your-drone/flying-your-drone-safely-legally>

²⁷ Mohsan, S. A. H., Othman, N. Q. H., Li, Y., Alsharif, M. H., Khan, M. A. (2023). Unmanned aerial vehicles (UAVs): Practical aspects, applications, open challenges, security issues, and future trends. *Intelligent Service Robotics*, 16(1), 109-137.

²⁸ Pathak, H., Kumar, G., Mohapatra, S. D., Gaikwad, B. B., Rane, J. (2020). Use of drones in agriculture: Potentials, Problems and Policy Needs. *ICAR-National Institute of Abiotic Stress Management*, 300, 4-15

²⁹ Sabino, H., Almeida, R. V., de Moraes, L. B., da Silva, W. P., Guerra, R., Malcher, C., Passos, F. G. (2022). A systematic literature review on the main factors for public acceptance of drones. *Technology in Society*, 102097.



3. It is important to consider aspects of privacy and confidentiality when using drones. Operators should respect the personal privacy of individuals who may be captured in images or affected by drone activities.

4. Operator training and certification. A responsible approach requires proper training, certification, and mastery of flight techniques, airspace rules, and safety standards.

5. The launch and control of the drone should actively cooperate with other aircraft, such as aircraft and helicopters, to avoid conflicts and dangerous situations, and to maintain airspace safety.

6. Drone operators should comply with local regulations and restrictions. This includes avoiding restricted or no-fly zones and using drones judiciously in high-risk areas.

Overall responsibility requires a balanced and comprehensive approach to the use of drones, considering safety, legal requirements, and ethical standards.

3-4: THE LEGAL REGULATION OF DRONES IN UKRAINE

The legal regulation of public relations in the field of drone use in various areas is mainly governed by the Rules for the Use of Ukrainian Airspace.

For instance, the use of airspace and flights of unmanned aircraft weighing up to 20 kg can be conducted without submitting applications, obtaining permits, or informing military and civil aviation authorities in Ukraine.

According to paragraph 4 of Section II of the Rules for the Use of Ukrainian Airspace, unmanned aircraft weighing up to 20 kg may be flown without filing applications and obtaining permits. However, this is only possible if a number of mandatory requirements are fulfilled:

- 1) The drone does not cross the state border of Ukraine.



2) Flights are not conducted over prohibited areas or territories with restricted use of airspace, except as provided for in the Regulations.

3) Flights shall be conducted at a safe distance from aerodromes and other objects.

4) Unmanned aircraft shall be kept at a distance of at least 500 metres from manned aircraft.

5) It is prohibited to fly over crowded areas and in densely built-up areas.

6) Flights shall be carried out within the operator's line of sight.

7) The maximum flight altitude is limited in accordance with specific conditions and requirements.

8) Flight speed does not exceed 160 km/h.

Aircraft flights are only permitted in designated zones and routes if they meet the specified requirements. To obtain the necessary permits, the appropriate application procedure must be followed. It is important to note that the Law of Ukraine “On State Secrets” imposes restrictions on photo and video shooting of military objects.

Additionally, there is a permanent ban on the use of drones in certain areas, regardless of the time or circumstances. The use of unmanned aerial vehicles is prohibited over important state facilities, including nuclear power plants, nature reserves, hydroelectric power stations, facilities or industrial enterprises, and dams posing an increased environmental hazard. These restrictions apply to both peacetime and wartime conditions and aim to ensure safety and prevent potential hazards to important facilities and the environment.

However, in 2021, despite the peaceful situation in the country, 2283 cases of unmanned aerial vehicle (UAV) use were registered, which is almost three times higher than the previous year's figures (789). The reports included concerns raised by representatives from various sectors, including enterprises, institutions, and the Armed Forces of Ukraine, about violations in UAV usage. The identified violations included flights in prohibited zones and over objects requiring special protection, such as military facilities, power plants (including nuclear facilities), railway facilities, oil and gas industry facilities, and other key infrastructure objects.



In 2021, the National Guard of Ukraine recorded 1335 cases of non-compliance with airspace usage regulations and rules by unmanned aerial vehicles (UAVs). Violations of the airspace usage ban can have serious legal consequences, including under Articles 109-114 of the Criminal Code of Ukraine. It is important to note that these articles define liability for crimes against the foundations of Ukraine's national security. Unauthorized drone flights may raise suspicions of collaboration, cooperation with an aggressor state, sabotage, or espionage.

Responsibility for violations of airspace usage rules by drones is provided for by various articles of Ukrainian legislation. Legal entities are responsible for such violations, including various types of offences and specified fines, as stated in Article 127 of the Air Code of Ukraine. Article 111 of the Code of Ukraine on Administrative Offences states that individuals involved in aviation activities are responsible for conducting flights that violate regulatory legal acts governing aviation activities. Criminal liability is established by Articles 109, 110, 111, 112, 113, 114, 281, and 282 of the Criminal Code of Ukraine.

Discussion

During the import of drones into Ukraine, questions arose regarding their classification as military goods or dual-use items. Importers were directed to seek expertise from Export Control, register, and obtain permits. If a drone was classified as a military item, the importer was obliged to register with Export Control and obtain the necessary certificate before importing it. After obtaining permission, the drone could be imported without any issues.

Export control did not authorize expertise for some items, which complicated the situation for individuals who could not prove that their item was not of military nature. This often caused delays at customs for drones and components used in their production.

In February 2023, the Cabinet of Ministers of Ukraine addressed the issue of importing military and dual-use items by expanding the list of items that can be



imported without permission from the State Export Control Service. The State Export Control Service of Ukraine provided clarifications on the import of drones such as DJI Mavic 3, Autel EVO II, and DJI Matrice 300, but the issue remains unresolved for other models.

Registration of civil unmanned aerial vehicles (drones) is not currently mandatory under existing legislation. However, if you intend to fly in restricted areas or if your drone weighs more than 20 kg, you must obtain permission to use the airspace. The procedure for obtaining such permission is regulated by Aviation Rules. The relevant regulatory act defines the procedure for issuing permits, and details can be found on the official website of the State Aviation Service of Ukraine.

It is important to note that currently there is no recognised profession as a drone operator or any synonym. However, individuals are typically classified under the general “KVED” code 84.22.

CONCLUSION

The legal regulation of drone use in Ukraine considers both commercial and public aspects. However, there are currently restrictions in place to protect public safety and national interests. Violating drone usage rules may result in administrative and criminal consequences.

There are open questions regarding the imposition of value-added tax (VAT) and import limits on certain drone models, which require further study and regulation. In the future, effective regulation of drone usage will require innovation and collaboration with the public.



References

1. Calandrillo, S., Oh, J., Webb, A. (2020). Deadly drones: Why faa regulations miss the mark on drone safety. *Stan. Tech. L. Rev.*, 23, 182.
2. Flying your drone safely and legally (2020). Transport Canada. <https://tc.canada.ca/en/aviation/dronesafety/learn-rules-you-fly-your-drone/flying-your-drone-safely-legally>
3. Johnson, A. M., Cunningham, C. J., Arnold, E., Rosamond, W. D., Zègre-Hemsey, J. K. (2021). Impact of using drones in emergency medicine: What does the future hold? *Open Access Emergency Medicine*, 487-498.
4. Krasnomovets, P. (2022). Born to fly. Since 2014, a whole industry of drones has grown in Ukraine. Will the war help it become a global player. *Forbes*, September 8.
5. Kraus, J., Kleczatský, A., Hulínská, Š. (2020). Social, technological, and systemic issues of spreading the use of drones. *Transportation Research Procedia*, 51, 3-10.
6. Merkert, R., Bushell, J. (2020). Managing the drone revolution: A systematic literature review into the current use of airborne drones and future strategic directions for their effective control. *Journal of air transport management*, 89, 101929.
7. Mohsan, S. A. H., Othman, N. Q. H., Li, Y., Alsharif, M. H., Khan, M. A. (2023). Unmanned aerial vehicles (UAVs): Practical aspects, applications, open challenges, security issues, and future trends. *Intelligent Service Robotics*, 16(1), 109-137.
8. Mustafa A. (2021). The use of drones: From the perspective of regulation and national defense and security. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(10), 670-677.
9. Nevara, L. M., Garbar, S. (2023). International legal regulation of the use of civilian unmanned aerial vehicles. *Kyiv Journal of Law*, (1), 397-402. <https://doi.org/10.32782/klj/2023.1.61>
10. Normand, J.-M. (2021). Drones de loisirs: de nouvelles règles à partir du 1er janvier. <http://surl.li/qsxxs>
11. Pathak, H., Kumar, G., Mohapatra, S. D., Gaikwad, B. B., Rane, J. (2020). Use of drones in agriculture: Potentials, Problems and Policy Needs. *ICAR-National Institute of Abiotic Stress Management*, 300, 4-15.
12. Sabino, H., Almeida, R. V., de Moraes, L. B., da Silva, W. P., Guerra, R., Malcher, C., Passos, F. G. (2022). A systematic literature review on the main factors for public acceptance of drones. *Technology in Society*, 102097.
13. Smith, A., Dickinson, J. E., Marsden, G., Cherrett, T., Oakey, A., Grote, M. (2022). Public acceptance of the use of drones for logistics: The state of play and moving towards more informed debate. *Technology in Society*, 68, 101883.
14. Stampa, M., Sutorma, A., Jahn, U., Thiem, J., Wolff, C., Röhrig, C. (2021). Maturity levels of public safety applications using unmanned aerial systems: a review. *Journal of Intelligent & Robotic Systems*, 103, 1-15.



15. Tan, L. K. L., Lim, B. C., Park, G., Low, K. H., Yeo, V. C. S. (2021). Public acceptance of drone applications in a highly urbanized environment. *Technology in Society*, 64, 101462.
16. Tice, B. P. (1991). «Unmanned Aerial Vehicles – The Force Multiplier of the 1990s». *Airpower Journal*. Archived from the original on 24 July 2009. <https://web.archive.org/web/20090724015052/http://www.airpower.maxwell.af.mil/airchronicles/apj/apj91/spr91/4spr91.htm>
17. Yaacoub, J. P., Noura, H., Salman, O., Chehab, A. (2020). Security analysis of drones systems: Attacks, limitations, and recommendations. *Internet of Things*, 11, 100218.

Laws

1. Air Code of Ukraine No. 3393-VI dated May 19 (2011). Information of the Verkhovna Rada of Ukraine. № 48-49. <https://zakon.rada.gov.ua/laws/show/3393-17>
2. Convention Commercial Aviation (1928). Signed at Havana (February 20, 1928). The Department of State, 12 p.
3. Convention on International Civil Aviation (1944). Chicago: ICAO. https://zakon.rada.gov.ua/laws/show/995_038#Text
4. Description of the annexes to the Convention on International Civil Aviation of 1944 (2006). International Civil Aviation Organization (ICAO). https://zakon.rada.gov.ua/laws/show/995_655#Text
5. ICAO Cir 328 (2011). Unmanned Aircraft Systems (UAS). *International Civil Aviation Organization*, 54 p.
6. Law of Ukraine dated May 12, 2015 No. 389-VIII "On the Legal Regime of Martial Law" (2015). <https://zakon.rada.gov.ua/laws/show/389-19#Text>
7. Manual on remotely piloted aircraft systems (RPAS). Doc. 10019/AN 507. 1-ed. Canada, Montreal: ICAO, 2015. 190 p.
8. On the approval of the Aviation Rules of Ukraine "Rules for the use of the airspace of Ukraine". Order of the State Aviation Service of Ukraine and the Ministry of Defense of Ukraine dated May 1, 2018 No. 430/210. <https://zakon.rada.gov.ua/laws/show/z1056-18>
9. On the approval of the Aviation Rules of Ukraine, Part 47 "Rules for the registration of civil aircraft in Ukraine": Order of the Ministry of Infrastructure of Ukraine dated 10/25/2012 No. 636 (2012). *Official Gazette of Ukraine*, 93, 330.