

ICUAS MAGAZINE

State-of-the-art
and recent developments
in unmanned aviation

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EDITORIAL

Dear colleagues and readers:

The Fall 2023 issue of the *eMagazine* includes: A progress report about ICUAS 2024; two articles entitled “The New Unmanned Aircraft Flight Management Regulation in China”, and “Unmanned Aviation Regulations and Ethics”, respectively; and useful information with critical dates about the upcoming conference on June 4-7 in Chania, Crete, Greece.

PROGRESS REPORT ON ICUAS 2024

ICUAS '24 focuses on civil and public domain applications and on the societal impact of unmanned aviation, and its effect on everyday quality of life. Topics of special importance are: Bioinspired aerial platforms; Hybrid platforms; Design for resiliency; Human factors; and Framework and regulations for integration into the national airspace.

The conference includes three keynotes. The topics are: Biologically Inspired Drones (Dr. Dario Floreano, EPFL); Mapping Advanced Air Mobility to Mature Flight Operations (Dr. Chester Dolph, NASA Langley); and The Future of Drones in Ecology (Dr. Salua Hamaza, TU Delft). In addition, Tutorials and Workshops will be offered on Tuesday, June 4. The topics will be announced soon, and all needed

information will be on the conference web. Moreover, details about the UAV Competition will be posted by the end of December. As in all previous years, ICUAS 2024 is technically co-sponsored by IEEE CSS and IEEE RAS, and the proceedings will be acquired by CSS and will appear on IEEE Xplore.

There will be two Special Issues after the conference: one in the *Journal of Intelligent and Robotic Systems* (Springer), and one in *Drones* (MDPI). The deadline for paper submission is November 30, 2024.

To better assist conference authors and participants, a list of Hotels, Resorts, Airbnb, and Room Rentals within the city of Chania and in the greater vicinity is provided in this issue. For all details about logistics, travel, visa requirements, etc., click on www.uasconferences.com.

THE NEW UNMANNED AIRCRAFT FLIGHT MANAGEMENT REGULATION IN CHINA

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1. INTRODUCTION

Over the past half-century, the Chinese unmanned aircraft systems (UAS) – also commonly known as ‘drones’ – technology and industry have experienced remarkable development and considerable improvement. At present, there are more than one million registered civil UAS in China, flying nearly twenty million hours each year, and more than 15,000 enterprises are involved in UAS businesses while the number of UAS owners exceeds 700,000. China is currently the leader in the civil UAS market with DJI, the world’s largest commercial UAS manufacturer by market share, estimated to command over 70% of the sector, globally, according to International Data Corporation (IDC). In addition to DJI, six other Chinese companies were also among the top ten civil UAS companies in the world, namely EHang, XAG, Yuneec, Zerotech, Flypro and AEE. By 2025, the market size of the Chinese civil UAS industry is expected to exceed CNY 210 billion (USD 29.4 billion), with a compound annual growth rate of 44%.

The booming Chinese UAS industry, with its wide range of UAS applications in logistics, aerial surveying, scientific research, forestry conservation, agricultural operations, and emergency response and rescue, has played a pivotal role in driving economic and social development. Yet, the risks and hazards related to UAS operations, such as unauthorized and disruptive ‘black flights’, injuries and damage caused by UAS accidents, and unauthorized aerial photography and privacy infringements, have posed newly generated regulatory challenges to safeguard aviation safety, public safety and national security. As in many other areas, China’s existing aviation regulatory

system is designed primarily for the operations of manned aircraft, which is difficult to adapt to the rapid technological advancements and diversified application scenarios of UAS. Accordingly, a regulatory framework and detailed rules specific to UAS are needed urgently.

President Xi Jinping specifically emphasized the importance of accelerating the legislation process for UAS in the provincial and ministerial seminars. In the last two decades, the Chinese UAS regulations have been developed rapidly mainly by the Civil Aviation Administration of China (CAAC), covering topics including, but not limited to, definitions and categorisation of UAS, trial operation of specific categories of UAS, airspace and air traffic management for UAS operation, airworthiness certification management of UAS, certification and licence of UAS pilots, operational flight activities of UAS, and legal liability.

In addition, as of early 2023, out of thirty-four provincial administrative regions nationwide, more than twenty-one provinces, three municipalities and thirty cities in China have adopted local UAS regulations, measures or policies applicable to local administrative areas. The typical examples are the Interim Implementary Measures for UA Flight Management in Shenzhen Area (2018), the Interim Administrative Measures of Shenzhen Municipality for Civil Micro and Light UA (2019), and the Interim Administrative Measures of Hainan Province for Civil UA Management (2020), which are regulatory instruments supplementary to those CAAC UAS rules, and may be tailored to meet specific development and regulatory requirement locally.

Despite such considerable regulatory progress, most of these existing regulations are of a lower legal hierarchy, fragmented with inconsistencies and updated from time to time, and China has long been facing a gap in its legislation at the national administrative regulation level, which is the regulation promulgated by the State Council of China. In this context, the Chinese State Council and Central Military Commission issued China's first comprehensive UAS regulation at the national administrative regulation level – the Interim Regulation on Unmanned Aircraft Flight Management (hereinafter 'UA Regulation') – on 31 May 2023, which will take effect by 1 January 2024. The UA Regulation consists of sixty-three articles with six chapters as following: (a) general provisions, (b) management of civil UA and UA operators, (c) airspace and flight activity management, (d) supervision and emergency response, (e) legal liability, and (f) supplementary provisions.

The formulation of the UA Regulation is underpinned by 'Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era', enshrining the overall national security concept, the bottom-line thinking and a systematic view

to coordinate development and safety. An overarching objective of the UA Regulation is to refine the existing Chinese civil UAS regulatory framework, with a particular focus on safeguarding aviation safety, public safety and national security. It also aims to achieve end-to-end chain management for UAS throughout their design, production, operation, and application, endeavouring to establish a scientific, normalized and efficient UAS flight management system institutionally.

The UA Regulation applies to the flight of civil unmanned aircraft (UA) and related activities within the territory of China, but it does not apply to indoor flights of UA. For the issues not covered under the UA Regulation, the Civil Aviation Law of China (2018), the Basic Flight Rules of China (2007), the Regulation on the Control of General Aviation Flight (2003), and other relevant laws and administrative regulations shall apply. And for the administration of military UA, should the State Council and the Central Military Commission provide other rules, such rules shall apply. The following sections will briefly introduce the new UA Regulation.

2. CLASSIFIED AND DIFFERENTIATED MANAGEMENT OF UA

Under the UA Regulation, 'UAS' means 'a system including a UA and its associated remote-control console (station), mission payload, and control link', and 'UA' means 'an aircraft with no pilot onboard but with an independent power train'. In the UA Regulation – as well as in this paper – the term 'UAS' is generally used in the context of design, manufacture, certification, maintenance and import of UAS products while the term 'UA' is referred to in other circumstances.

Considering the differentiation regarding performance, applications, and operational risks among different UA, the UA Regulation has adopted a classified and differentiated management approach. On the one hand, UA are classified into five categories – the micro UA, light UA, small UA, medium UA and large UA – based on the 'performance indicators' including weight, flight altitude and speed, and a UA that has been modified shall comply with the rules for the category after the UA's modification; on the other, both the general rules applicable to all UA and the specific rules for supervision of different categories of UA and differentiated operations, are adapted to better meet the practical needs. For instance, the UA Regulation has introduced 'agricultural UA' – which is exclusively used for plant protection, sowing, feeding, or any other agricultural, forestry, animal husbandry, or fishery operations – as a specific UA category, providing more relaxed management rules as *lex specialis* to foster the development and application of industrial UA in China.

Regarding the management of UA and UA operators, first, an individual or entity shall apply for an airworthiness

certification from the CAAC for implementing activities of design, manufacture, import, flight and maintenance of medium and large UAS; and for micro, light and small UAS, the airworthiness certification is not required, but such UAS must comply with the laws, regulations and national mandatory standards on product quality in China. In case defects are discovered in the products, their manufacturer or importer shall recall the defective UAS products.

Second, implementing activities of design, manufacture and application of UAS shall follow the rules on real-name registration and activation, flight area restrictions, emergency response, cybersecurity and information security, and effective measures shall be taken to reduce atmospheric pollutants and noise emissions.

Third, a UAS manufacturer shall assign a unique product identification number to each UA it manufactures, and an owner shall make real-name registration for the UA. For a civil UA engaged in an overseas flight, nationality registration is mandatory.

Fourth, for any UA commercial/operational flight activities and for the non-commercial/operational flight activities that use small, medium or large UA, liability insurance is mandatory.

Last, but not least, a UA operator of small, medium or large UA shall apply for a corresponding operator's license; and for micro or light UA, the UA operator's license is not required, but such an operator shall comprehensively understand the risk warning information and relevant management rules.

3. AIRSPACE DESIGNATION AND UA FLIGHT ACTIVITY MANAGEMENT

The airspace designation for UA shall follow the principles of overall planning and promoting efficiency while securing safety, and fully considering flight safety and the public interest. Air traffic management (ATM) agencies are mandated to prioritize the airspace designation for UA involved in military, police, customs and emergency management flight missions. The airspace under the UA Regulation is divided into the 'UA-controlled airspace' and the '(UA)-flyable airspace'.

The UA-controlled airspace includes: (a) airspace at or above the true altitude of 120 meters, (b) restricted airspace and its surrounding areas, (c) airspace for the ultra-low-altitude flight of military aircraft, and (d) seven specific designated areas as follows: (i) an airport and its surrounding area; (ii) an area within a distance from the Chinese side of a national boundary, actual control line and border line; (iii) any military restricted or administrative zone, place under supervision, or other secret-related entity and the surrounding area of the foregoing; (iv) the protected area of an important arms industry facility, the control area of a nuclear facility, a production or storage area of inflammable, explosive, or other hazardous articles, and the large warehousing area of flammable important materials; (v) a public infrastructure and its surrounding area, as well as any source water protection area; (vi) any radio astronomy observatory, satellite tracking and control (navigation) station, aeronautical radio navigation station, radar station, or other facility that requires special protection of the electromagnetic environment and the surrounding area of the foregoing; and (vii) an important revolutionary memorial site or important immovable cultural relic and its surrounding area. The national ATM authority may specify other areas as the UA-controlled

airspace and, without the approval of an ATM agency, unauthorized flights of UA in the UA-controlled airspace are prohibited.

The airspace outside the scope of the UA-controlled airspace is the flyable airspace that is specifically accessible for the micro, light, and small UA.

The flight activities of UA are generally required to maintain separation from those of manned aircraft, with the exception that integrated operations are allowed with the approval of the proper ATM authority, mainly including the following circumstances: (a) a UA of a police, customs, or emergency management authority, as needed by a task or flight program, flies in the same airspace or airport area as a manned aircraft of the same authority; (b) the flight of a large UA with an airworthiness certificate; (c) the flight of a medium UA with an airworthiness certificate at a true altitude of not more than 300 meters; (d) the flight of a small UA at a true altitude of not more than 300 meters; and (e) the flight of a light UA at a true altitude of not more than 300 meters above the flyable airspace. Additionally, integrated operations may be exempt from the ATM agency's approval for a micro or light UA in flyable airspace and for the conventional operations of the agricultural UA.

The rules for yielding the right of way and for the prohibited acts of UA are also specified. For instance, UA are required to yield the way to manned aircraft, unpowered aircraft, and land or water transportation vehicles, a single UA shall yield the way to multiple UA in formation flights, and a micro UA shall yield the way to any other UA. For another example, a foreign UA or a UA operated by a foreigner is prohibited from conducting surveying and mapping, radio wave parameter testing, or other flight activities within the territory of China.

4. SUPERVISION, EMERGENCY RESPONSE AND LIABILITY

By establishing the Integrated Unmanned Aircraft Regulatory Service Platform, the UA Regulation reinforces supervision and emergency response measures for UA flight activities to dynamically regulate and serve nationwide, and to share information while adopting measures to protect information security.

For an unknown air situation or a UA in violation of the applicable laws, a public security authority may implement preliminary disposal of the low-altitude target when conditions allowed, and be responsible for the on-site disposal of the UA in flight after its landing. Where a UA violates the provisions on flight management, disrupts public order, or endangers public safety, the ATM agency, civil aviation authority and public security authority may take necessary emergency response measures including technical prevention and control, impounding any relevant item, grounding the UA, and placing under seal the place for illegal activity.

For the first time, the UA Regulation provides that the armed forces, police and entities managing high-risk anti-terrorism key targets authorized by the public security authorities, may be equipped with counter-unmanned aircraft systems (C-UAS) per relevant laws, and shall strictly control, configure and use C-UAS under the guidance and supervision of relevant military authorities. No entity or individual may illegally possess or use C-UAS. Administrative legal liability for different individuals/entities in violation of the UA Regulation is also detailed, of which the main forms are ceasing illegal activities, ordering corrections, confiscating illegal income, imposing differentiated fines, suspending operations for rectification, revoking operational certificates, temporarily seizing and revoking operator licenses, grounding the UA, confiscating the UA and confiscating the C-UAS. If the violation is criminally punishable, the violator shall be held criminally liable under Chinese Criminal Law; and if

personal, property or any other damage is caused, the violator shall assume civil liability as well.

In cases where foreign UA or UA operated by foreigners in violation of the UA Regulation, engaging in-flight activities for surveying and mapping within the territory of China, the relevant authority shall order the violator to stop the violation, confiscate the violator's illegal income, surveying

and mapping achievements and the UA, and impose a fine of CNY 100,000 to 500,000 (USD 13,950 to 69,750), or if the circumstances are serious, a fine of CNY 500,000 to one million (USD 69,750 to 139,500). In addition, in accordance with their respective responsibilities, the public security authority and national security authority may decide to force the violator's departure from China within a specified period or deport the violator.

5. CONCLUDING REMARKS

The UA Regulation recently promulgated has refined the existing regulatory system for civil UAS in China, strengthening the safety supervision of the UAS and their operations and related activities. First, the UA Regulation has established a comprehensive management system to improve the airworthiness and quality management of UAS throughout their lifecycle, covering UAS design, production, maintenance, modification, operation and application. Second, the UA Regulation has established a strict UA flight activity management system and, for the first time, defined and designated the UA-controlled airspace and the flyable airspace. It detailed the application process for conducting UA flight activities and specified rules regarding integrated operations, yielding the right of way and prohibited acts. Third, the UA Regulation specified the rules regarding supervision, emergency response and legal liability, typically with the construction of the Integrated UA Regulatory Service Platform to strengthen emergency response and information-sharing capabilities.

The principle of coordinating industry development and safety also plays a crucial role under the UA Regulation. While ensuring aviation safety, public safety and national security, the UA Regulation also focuses on facilitating the UAS industry's sound and orderly development. First, the classified and differentiated management approach provides the UAS industry with more flexibility regarding UAS innovations and trial operations, creating an enabling environment for the industry's long-term innovation. Second, the UA

Regulation simplifies the approval procedures for UA flight activities based on the characteristics of differentiated UA operations. Third, the UA Regulation introduces the category of agricultural UA and provides more relaxed rules specific to their operations. Fourthly, the UA Regulation reaffirms that China encourages scientific research on and innovation in UAS and the promotion and application of the achievements, and promotes the integration of innovation between UAS and new technologies such as big data and artificial intelligence. Last but not least, regarding airspace management, China will actively innovate the airspace supply and use mechanism for UA conditional on ensuring safety and improving the infrastructure and service system to support UA operations.

To fully realize the objectives of China's new UA Regulation, supporting regulations, measures and standards for UAS that are more detailed and pragmatic are needed, and will be formulated soon by the relevant authorities. With the enactment and enter into force of the UA Regulation, it is expected to create a management environment based on the rule of law, to effectively prevent and mitigate safety and security risks and hazards associated with UAS operations, as well as to facilitate the UAS industry's sound and orderly development. Having said that, the construction and refinement of the UAS regulatory system in China will be a dynamic process with continuous work, and considering the fast evolution of UAS technology and application, the UA Regulation is named as an 'interim' regulation on purpose, with the idea to be improved in the future.

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ARE THERE BORDERS IN THE AIR? A CLASSIC AVIATION STORY, BUT WITH DRONES

KONSTANTINOS I. ANDRITSOS



1. INTRODUCTION

The integration of unmanned aircraft, commonly known as drones, technology into the airspace has become a common occurrence in our daily lives. From recreational drones for photography to professional drones deployed in complex civil missions such as farming and infrastructure monitoring, drones have emerged as valuable assets in various professions, enabling faster, more sustainable and more efficient results. In addition to civil applications, drones have significantly impacted military operations, as evidenced by their use in recent fields of conflict, such as Nagorno/Karabakh, Ukraine and Gaza. These simple but sophisticated at the same time machines have been utilised for both reconnaissance and strike missions, demonstrating their versatility and effectiveness in military applications.

The advent of unmanned aircraft has given rise to numerous legal debates and discussions in various sectors, most notably aviation law. The legal community, in particular, has been grappling with a range of pertinent issues regarding drones, including their legal classification, behavioural protocols within their designated airspace, and permissible operating areas.

This article aims to provide a succinct overview of the legal nature of drones, their classification under public international law and selected aspects of their operational behaviour with reference to their use within various airspaces.

2. DRONES UNDER PUBLIC INTERNATIONAL LAW

First things first, it is crucial to underline that the term «drone» is an informal label that encompasses various concepts of unmanned aerial vehicles, including Unmanned Aircraft Systems (UAS) and Remotely Piloted Aircraft Systems (RPAS). While the terminology may differ, the technology and capabilities of these unmanned aerial systems remain relatively consistent. For the purpose of this article, the term «drone» will be utilised to cover all unmanned aircraft and their associated systems.

The Convention on International Civil Aviation (hereinafter referred to as the Chicago Convention), which regulates the function of international civil aviation since 1944 and has been ratified by 193 State-Parties, serves as the legal foundation for the operation of drones around the world. This instrument has stood the test of time and is widely regarded as one of the most successful international legal frameworks.

For the Chicago Convention to be applicable, two prerequisites have to be met:

- the Chicago Convention applies to international civil aviation, so the international element must be present and
- The aircraft in question must be classified as a “civilian aircraft” according to Article 3 of the Convention.

In international law, drones are classified as «aircraft». Only civil drones (aircraft) are subject to the rules of the Chicago Convention, while State aircraft, which includes military drones, are clearly exempt from its scope. This means that passenger transport with eVTOLs and long-endurance operations crossing international borders fall under the Convention’s jurisdiction. However, small recreational uses and local commercial activities that are confined to a single country are not covered by the Chicago Convention, even if they are civil in nature. However, there may be challenges as they can be dual-use or used for activities that are shared by both civil and state actors (such as infrastructure monitoring or disaster relief). With this in mind, the main question addressed in this paper is: What are the legal provisions governing the entry of a civilian drone into the airspace of a third state without proper authorisation? According to Article 8 of the Chicago Convention, which dictates that:

«No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.»

Based on the interpretative approach of Article 8 and the definitions provided by the International Civil Aviation Organization (ICAO), drones are categorised as aircraft and, therefore, must adhere to the provisions and principles of the Chicago Convention. However, it is important to determine whether all types of drones are subject to the provisions of this Convention.

3. DOES THE AIRSPACE HAVE BOUNDARIES?

In order to comprehensively assess the matter at hand, it is imperative to analyse the concept of airspace and its demarcations. While the Chicago Convention does not provide an explicit definition of airspace, it lays down a fundamental principle that underscores the supreme authority of a state over its territory, as enshrined in Article 1 of the Convention. Article 2 of the Convention further specifies that the jurisdiction of a State encompasses its land areas and the adjacent territorial

waters adjacent thereto under the sovereignty, suzerainty, protection, or mandate over. Based on these provisions, it can be inferred that airspace denotes the expanse that encompasses the horizontal extension of a state's territory within its boundaries. The vertical boundaries of a State's airspace remain a subject of debate among aerospace scholars and professionals, as they are not clearly defined under any convention, including the Chicago Convention. This is and will continue to raise questions for high-altitude operations, such as the recent incident in the US involving a Chinese balloon.

It is apparent that the airspace above a State's territory is an integral part of its territorial sovereignty, which means that it is not open to unauthorised operations of aircraft from third States. Hence, it is evident that it is a breach of international law for a drone from a third State to operate in the airspace of another State without proper authorisation or a relative international (bilateral or multilateral) agreement between the State of origin and the State in which the drone operates. However, what are the legal implications if such an incident occurs? Are new entrants who lack an aviation background aware of such limitations and requirements?

The Chicago Convention was formulated to ensure the safety of international civil aviation. Article 3bis of the Convention prohibits the use of weapons against civil aircraft. Despite the ban on weapons, alternative measures exist to address unauthorised flights of civil drones (aircraft). Article 3bis (b) of the Convention, for instance, provides guidance on this matter. According to this Article, which finds its origins in 1925:

«The contracting States recognize that every State, in the exercise of its sovereignty, is entitled to require the landing at some designated airport of a civil aircraft flying above its territory without authority or if there are reasonable grounds to conclude that it is being used for any purpose inconsistent with the aims of this Convention; it may also give such aircraft any other instructions to put an end to such violations».

It is evident that international law has established regulations pertaining to the issue of drones encroaching upon the airspace of a third country without prior authorisation, with the primary objective of safeguarding civil aviation and precluding any potential escalation of conflict between two or more sovereign states, which could result from the deployment of weapons. It is noteworthy that the legal implications would differ if the authorities in the affected country classify a drone as military. However, this matter does not pertain to the subject matter of the current discourse. This raises pertinent questions regarding counter-drone technology. The European Union Commission has been actively involved in this area, and a general consensus has been reached regarding the permissibility of removing drones from the airspace under certain circumstances. However, the approach used to remove the drones may not necessarily be in line with Article 3bis.

4. CONCLUSION

The proliferation of drones in the everyday lives of both amateur users and professionals is a relatively recent development. However, it is noteworthy that international law established the groundwork for their proper operation almost a century ago (1925). Drones have been classified as aircraft, and this classification has enabled them to benefit from the extensive regulatory framework that exists in international air law. The resulting intricate web of regulations serves to govern their operations comprehensively.

It is imperative that the use of drones adhere to international law to fully realise their potential benefits for both private entities and the public. To this end, it is critical to ensure that drones are utilised appropriately and in accordance with national and international law. By doing so, the advantages of this technology can be enjoyed to their fullest extent.

2024 INTERNATIONAL CONFERENCE ON UNMANNED AIRCRAFT SYSTEMS (ICUAS '24)



www.uasconferences.com

June 4 - 7, 2024

Chania, Crete, Greece



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ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ
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The 2024 International Conference on Unmanned Aircraft Systems, **ICUAS '24**, will take place on June 4-7. It is organized for the first time in the historical Center of Mediterranean Architecture (KAM), which is hosted in the *Great Shipyard (Megalo Arsenali)* of Chania. It is the last of the 17 shipyards located in the Venetian port of the Old Town of Chania. The conference is under the auspices of, and it is sponsored by, the Technical University of Crete (TUC).

ICUAS '24 focuses on *civil and public domain applications and on the societal impact of unmanned aviation, and its effect on everyday quality of life*. Although technical challenges cover a wide spectrum of topics, of special importance are topics like: 1) **bioinspired aerial platforms**; 2) **hybrid, platforms**; 3) **design for resiliency**, 4) **human factors**, and 5) **framework and regulations for integration into the national airspace**.

ICUAS '24 brings together, under one forum, national and international organizations, federal agencies, industry, the private sector, authorities, end-users, and practitioners, who work towards defining roadmaps of Unmanned Aircraft Systems/Remotely Piloted Aircraft Systems (UAS/RPAS), they set expectations and technical requirements and standards that are prerequisite to their full utilization and integration into the national airspace. Special emphasis will be given to research opportunities, and to *'what comes next'* in terms of the tools and support technologies, and standards, which need to be utilized and implemented to advance the state-of-the-art.

ICUAS '24 offers unique opportunities to meet, interact and shape the future of unmanned aviation, worldwide, bringing together the technical, regulatory, and legal communities. Details and logistics about the conference may be found at <http://www.uasconferences.com> and related links.

ICUAS '24 is fully sponsored by the **ICUAS Association, Inc.**, a non-profit organization, see www.icuas.com. It is technically cosponsored by the IEEE Control Systems Society, the IEEE Robotics and Automation Society, and the Mediterranean Control Association.

ICUAS '24 includes the student-focused and student-centered **UAV Competition**, which offers unique opportunities for students to test and compare their skills with those of their peers worldwide. The competition is organized in two stages: simulation qualifiers and in-person finals during the conference. Details on how to participate in the UAV Competition are available on the conference web.

CONFERENCE STRUCTURE

ICUAS '24 spans four days. The first day is devoted to Workshops and Tutorials. This is followed by three days of technical presentations. The 2024 conference aims to be 'physical presence' only with the requirement that every accepted paper is presented.

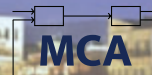
IMPORTANT DUE DATES

February 4, 2024:	Full Papers / Invited Sessions / Tutorial Proposals Due
February 15, 2024:	UAV Competition: simulation-based scenario
April 5, 2024:	Acceptance / Rejection Notification
April 5 – April 20, 2024:	Early Registration
April 20, 2024:	Upload Final, Camera Ready Papers

SUBMISSIONS

Papers: Paper format (two-column) follows IEEE guidelines. Electronic submission will be handled through PaperCept - details are available on the conference web site. Submitted papers should be classified as *Contributed* or *Invited Session* (max. 8 pages), or *Poster* (max. 6 pages) papers. Accepted, contributed, and invited session papers only, will be allowed up to two additional pages for an extra charge per additional page. **Poster papers should aim** at novel and cutting-edge ideas with potential, however, not yet fully developed. **Invited Sessions:** Proposals for invited sessions should contain a summary statement describing the motivation and relevance of the proposed session, the invited paper titles, and the names of the authors. **Authors must submit FULL invited papers.** Each paper must be marked as "Invited Session Paper". **Workshops and Tutorials:** Proposals for workshops and tutorials should contain title, list of speakers, and extended summaries (2000 words) of their presentations. All contributions (papers, invited papers, proposals for invited sessions, workshops, and tutorials) must be submitted electronically through <https://controls.papercept.net> by the due date.

Paper Review Process: All submitted papers will undergo a thorough peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members, Associate Editors, and qualified reviewers. Each paper will be reviewed by (at least) three qualified reviewers. Each Associate Editor will make recommendations. The Program Chairs will finalize and announce decisions by the due date. Each submitted paper will be checked for originality through the *iThenticate Plagiarism Detection Software*.



THE 2024 INT'L CONFERENCE ON UNMANNED AIRCRAFT SYSTEMS

ICUAS 2024

JUNE 4-7, 2024

Chania, Crete, Greece



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List of Hotels and Resorts in Chania and in Close Vicinity

The list below provides only a small sample of accommodation options in, and around, the city of Chania. There is a plethora of accommodation alternatives ranging from Luxury Hotels and Resorts to Boutique Hotels, Airbnb, Room Rentals, and more. Participants may wish to explore these alternatives using relevant search engines and services. If you need any information, or help, with accommodations, you may also reach Kimon Valavanis, kvalavanis@icuas.com, or Nadia Danezou, danezou@icuas.com.

Accommodation in the City of Chania

Neoria Houses

<http://www.neoriahouses.gr> | Mob.: (+30) 6944650811

Located in the Old Venetian Harbor of Chania, very close to the city center

Porto Veneziano

<https://portoveneziano.gr> | +30 28210 27100

Just a 10-minute walk from the Old Town and a 3-minute walk from the conference venue

Avra Apartments

<https://www.avraapartments.gr> | +30 28240 84500

Located at the Old Venetian Harbor of Chania

La Maison Ottomane

<https://www.lamaisonottomane.com> | +30 28210 08796

Just a 3-minute walk from the Old Venetian Harbor of Chania

Elia Erato

<https://www.eliahotels.com> | +30 2821099383

Located inside the walls of the Old Town of Chania

Belmondo Hotel

<https://www.belmondohotel.com> | +30 28210 36217

Located in the heart of the Old Venetian Harbor of Chania

Kydon Hotel

<https://kydonhotel.com> | +30 28210 52280

Located in the city center

Avra City Hotel

<https://www.avracityhotel.gr> | +30 28210 27970

Located close to the Old Town of Chania

Kriti Hotel

<https://www.kriti-hotel.gr> | +30 28210 51881-3-5

Located in the city center

Samaria Hotel

<https://www.samariahotel.gr> | +30 28210 38600

Located in the heart of Chania

Irida Hotel

<https://www.irida-hotel.gr> | +30 2821046060

Located in the cosmopolitan area of Koum-Kapi, 10-minute walk to the conference venue

Accommodation in close vicinity and in the greater area of Chania

The following list of resorts, hotels, and suites offers excellent alternatives for families who want to enjoy business and pleasure. If you decide to stay in any of these places, it is highly recommended to rent a car for transportation.

Kalamaki Mare

<https://www.kalamakimare.gr> | +30 2821032810

Just a few steps from the Kalamaki coast

Elia Hotels

<https://www.eliahotels.com/elia-stalos> | +30 2821073131

Located on the beach of Stalos

Thalassa Resort

<https://www.thalassaresort.gr> | +30 28210 60660

Located on the beach of Agia Marina

Angels Suites

<https://angelssuites.com/suites> | +30 695 50 91 010

Located on the beach of Platanias

Porto Platanias

<https://luxury.portoplatanias.com/> | +30 28210 38800

Located on the sandy beach of Platanias, only 500 meters away from center of the town

Summertime Boutique Hotel & Spa

<https://www.summertime-hotel.gr> | +30 28210 84974

Luxury apartment Hotel right in the heart of Platanias

Esthis Suites Chania

<https://esthis-hotel.gr> | +30 28210 84406

Located in the town of Platanias

Indigo Mare

<https://www.indigomare.gr> | +30 28210 60420

Located on the golden beach of Platanias

Minoa Palace Resort

<https://www.minoapalace.gr> | +30 28210 36500

A popular tourist resort located in the town of Platanias

Enormi Eanthia Beach Resort

<https://www.enormehotels.com> | +30 28210 61185

Located at a 15-minute walk from the town of Platanias