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The New Development Trends of China's Low-Altitude Economy and Drone Industry Driven by Policies

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|| ABSTRACT ||

Against the backdrop of the rapid development of the global economy and technology, the low-altitude economy, as an emerging economic form, holds great significance for development. This paper first elaborates on the origin of the low-altitude economy, which is the result of reflecting on the scientific allocation of low-altitude airspace resources and management reforms, and is closely related to the general aviation industry. Then, it reviews the policy support during the development of China's low-altitude economy. The continuous introduction of national and local policies has promoted its vigorous development. Subsequently, it provides a detailed introduction to the development of the drone industry, covering aspects such as technological improvement, intelligent development, expansion of application fields, and growth of the industrial scale. Moreover, drones and the low-altitude economy are highly integrated in terms of airspace utilization, technology, and industrial demand. The research shows that although China's low-altitude economy and drone development face challenges, with the impetus of policies and their own advantages, they have broad prospects for development and are of great significance for promoting high-quality economic development.

Keywords: low-altitude economy, drone industry, technological innovation, industrial upgrading

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I . Introduction

In the current era, the global economic landscape is evolving at an accelerated pace, and technology is advancing by leaps and bounds. Every field is undergoing profound changes and innovations, and the aviation sector is no exception. The low-altitude economy, an emerging economic form derived from the in-depth integration of the aviation industry with numerous other industries, is gradually coming to the fore and demonstrating huge development potential, emerging as one of the key forces driving high-quality economic development.

From a macro perspective, with the continuous growth of the global economy, people are constantly expanding the breadth and depth of resource utilization. As a special and highly valuable resource, airspace resources have attracted significant attention in terms of development and utilization. Traditionally, aviation activities have mainly focused on limited areas such as high-altitude transportation. However, the low-altitude airspace has long remained like an unexploited "virgin land," containing immense economic value yet to be unleashed. Driven by technological progress, industrial upgrading, and diverse human needs, the concept of the low-altitude economy has emerged. It encompasses multiple dimensions, including general aviation, drone applications, aviation tourism, aviation sports, and low-altitude logistics. The aim is to break the previous limitations in the utilization of low-altitude airspace and construct a diverse, efficient, and dynamic economic ecosystem.

In China, the development of the low-altitude economy aligns with multiple requirements of national development strategies. On the one hand, China is in a crucial stage of economic restructuring and transformation. Traditional industries face growth bottlenecks and urgently need to identify new economic growth points to inject development momentum. With its high industrial relevance and strong driving effect, the low-altitude economy can effectively integrate upstream and downstream industrial resources, giving rise to numerous emerging business forms and bringing new development opportunities to multiple fields such as manufacturing and services. This, in turn, helps China's economy move towards high-quality and diversified development. On the other hand, the vigorous development of scientific and technological innovation in

China provides a solid technical foundation for the low-altitude economy. From the continuous breakthroughs in aviation manufacturing technology to the in-depth integration of intelligent and information technologies in flight control and applications, low-altitude flight activities have become safer, more efficient, and more convenient, laying a sound foundation for the large-scale development of the low-altitude economy.

Among the many components of the low-altitude economy, drones play an extremely important role. As an aircraft that can fly flexibly at low altitudes and perform diverse tasks, drones have rapidly penetrated various industries, such as agriculture, logistics, surveying and mapping, and emergency rescue, with their advantages of low cost, easy operation, and strong adaptability. They have not only transformed traditional operation models but also significantly improved production efficiency and service quality. Drones and the low-altitude economy are interdependent and mutually reinforcing. The widespread application of drones has expanded the business scope and market space of the low-altitude economy, while the development environment of the low-altitude economy provides a broader platform and policy support for the drone industry, promoting its continuous technological innovation and industrial growth.

However, despite the promising development trend of the low-altitude economy and drones in China, they still face numerous challenges. These include the further optimization of airspace management policies, the improvement of the safety supervision system, the coordination of standards in international cooperation, and the intensification of market competition. Conducting in-depth research on the development of China's low-altitude economy and drones, analyzing their development history, current situation, requirements, and international cooperation, is of great practical significance for seizing development opportunities, addressing challenges, and achieving sustainable development. Therefore, this paper will focus on this topic and conduct a comprehensive and in-depth discussion, aiming to provide useful references for the future development of China's low-altitude economy and drone industry.

II. China's Low-altitude Economy and Policy Support

1. The Origin of the Low-altitude Economy

In the development history of the modern aviation field, the utilization of airspace resources has always been a key issue. For a long time, the allocation of airspace resources in China and globally has been unbalanced. Most of the attention and resource investment have been concentrated on the high-altitude transportation field. For example, the route operations of civil airliners have established a vast and efficient intercontinental and domestic long-distance passenger and cargo transportation network, becoming one of the important pillars of the modern transportation system. In contrast, the development and utilization of the low-altitude airspace have been relatively limited and, to some extent, remain underexplored (Wang & Tan, 2025).

From a historical perspective, the early development of aviation technology mainly focused on meeting the needs of large-scale and long-distance transportation. Low-altitude flight was restricted by many factors, such as the high difficulty of flight safety assurance and complex airspace management. As a result, the low-altitude airspace was more regarded as an auxiliary and temporary flight area, and there was no systematic exploration of the development path for its economic value (Zhang, 2025).

However, with the progress of the times and the booming development of related industries, this situation began to change. The gradual development of the general aviation industry has been one of the key factors promoting the formation of the low-altitude economy concept. General aviation encompasses civil aviation activities other than public air transportation, including operational flights in industries such as industry, agriculture, forestry, fishery, and construction, as well as flights for medical and health services, emergency rescue, weather exploration, ocean monitoring, scientific experiments, education and training, and cultural and sports activities (Qiao, 2024). For example, in the agricultural field, it has been found that using aircraft for tasks such as pesticide spraying and seeding can greatly improve operation efficiency compared to traditional manual methods, with a wider coverage area and better results. In emergency rescue, helicopters and other aircraft can quickly reach disaster-stricken areas with

difficult access, carrying out crucial tasks such as personnel rescue and material delivery, demonstrating the unique advantages of low-altitude flight in special situations.

Based on the significant economic value demonstrated by these general aviation and related diversified industrial practices, scholars and industry insiders began to deeply consider how to develop and integrate low-altitude airspace resources more rationally and comprehensively. The term "low-altitude economy" was first seen in a news report published on the first page of the Anyang Daily (Zhou, 2010). Subsequently, it frequently appeared in local official media and various forums. Later, Professor Qin Rui from the Civil Aviation University of China and others (2010), as well as Yang Xiaodong, the former mayor of Anyang City (2011), successively and pioneeringly proposed the concept of the low-altitude economy. They systematically discussed the theoretical and practical basis of the low-altitude economy as an economic form concept and its industrial composition. In the following decade, Xu (2012), Bu (2013), Fan (2022), and others successively elaborated on the concept definition and industrial composition of the low-altitude economy from different perspectives and using different methods. By examining academic literature and relevant materials at home and abroad, it has been found that the concept term of the low-altitude economy was created by domestic circles in response to the development issues of China's general aviation. It is the result of reflecting on the scientific allocation of low-altitude airspace resources and management reforms. In other words, there is an inherent connection between the low-altitude economy and the general aviation industry.

From a theoretical perspective, Qin Rui, Li Weimin, and others were the first to define the concept of the low-altitude economy, elaborated in detail its industrial attributes and composition, and creatively constructed a conceptual model of the low-altitude economy system (Qin et al. 2011). This research pointed out that the low-altitude economy is a comprehensive economic form formed by integrating various related elements based on the special low-altitude airspace resources. It is not simply equivalent to the general aviation industry but covers a wider range of flight services, related supporting industries, and diverse application scenarios. Xu (2012) further strengthened the understanding of the general aviation industry as the main category of the low-altitude economy, clarifying the important position of general aviation in the composition of the low-altitude economy (Xu, 2012). The operational flights in industries

such as industry, agriculture, forestry, fishery, and construction, as well as flights for medical and health services, emergency rescue, weather exploration, ocean monitoring, scientific experiments, education and training, and cultural and sports activities involved in general aviation demonstrate the application value of low-altitude flight in numerous fields and also provide practical evidence for further clarifying the concept of the low-altitude economy.

Over time, the aviation industry in China and globally has experienced profound technological and market changes. The connotation and extension of the low-altitude economy have also been continuously expanding and enriching. The low-altitude economy has become a typical representative of new forms of productive forces. It is an inevitable result of the in-depth development and utilization of low-altitude airspace resources against the backdrop of continuous breakthroughs in aviation technology and increasingly diverse market demands (Lü, 2024). For example, the rise of aviation tourism has allowed tourists to overlook natural scenery and urban landscapes from the air, greatly satisfying people's demand for unique travel experiences and giving rise to the emerging business form of low-altitude tourism. In the agricultural field, low-altitude operations such as pesticide spraying and seeding by aircraft have effectively improved agricultural production efficiency and reduced labor costs, highlighting the economic value of low-altitude flight in agricultural production. In emergency rescue scenarios, low-altitude aircraft such as helicopters can quickly reach disaster-stricken areas with difficult access, carrying out key tasks such as rescue and material delivery, demonstrating the important role of the low-altitude economy in ensuring public safety. In addition, the driving role of technological innovation in the development of the low-altitude economy has been pointed out. With the continuous progress of drone technology, flight control technology, communication and navigation technology, etc., low-altitude flight has become safer, more efficient, and more convenient, further expanding the application scenarios of the low-altitude economy and enabling more industries to integrate and develop with it, promoting the low-altitude economy to gradually transform from a theoretical concept to a booming reality (Ouyang, 2024).

It is precisely due to the combined effect of numerous practical explorations, theoretical research, and technological development that people have increasingly recognized the huge economic potential contained in the low-altitude airspace. The

concept of the low-altitude economy, which aims to integrate low-altitude airspace resources and construct a comprehensive economic system covering flight services, related supporting industries, and diverse applications, has gradually been widely accepted and has become an important category in current aviation field and economic development research, attracting all sectors to continuously invest resources and explore more development possibilities.

2. Policy Support

The development of China's low-altitude economy emerged in response to domestic economic and social development needs against the backdrop of the global aviation industry's development. In 2009, Associate Professor Li Weimin from the Civil Aviation University of China first proposed the concept of the "low-altitude economy" at the seminar on the "Research on the Development of China's General Aviation" project. In 2010, the release of the Opinions on Deepening the Reform of Low-altitude Airspace Management in China marked the beginning of the reform of low-altitude airspace management, and China's low-altitude economy embarked on a development path.

Subsequently, relevant policies were continuously introduced, providing strong support for the development of the low-altitude economy. The Regulations on the Use and Management of Low-altitude Airspace (Trial) implemented in 2014 divided the low-altitude airspace into three categories: controlled, monitored, and reported, clarified the requirements for flight plan filing, and achieved refined classification management of airspace resources. The Guiding Opinions on Promoting the Development of the General Aviation Industry in 2016 proposed that by 2020, more than 500 general airports would be built, with an economic scale exceeding 1 trillion yuan, indicating the development goals for the general aviation industry, an important part of the low-altitude economy. The Overall Plan for the Construction of the Low-altitude Flight Service Support System released in 2018 clarified the composition of the flight service system and further improved the support system for the development of the low-altitude economy.

After entering the rapid development period, the intensity of policy support continued to increase. In 2021, the Outline of the National Comprehensive Three-dimensional

Transportation Network Planning included the "low-altitude economy" in the national plan for the first time. In the same year, the 14th Five-Year Plan for the Development of Civil Aviation proposed to build a diversified and efficient aviation service system for transport aviation and general aviation, making a strategic layout for the development of the low-altitude economy at the national level. In 2022, the 14th Five-Year Plan for the Development of the Modern Comprehensive Transportation System promoted the construction of general airports and explored the integrated development of general aviation with multiple fields. The 14th Five-Year Plan for the Development of the Tourism Industry advanced the integrated development of general aviation and tourism, promoting the coordinated development of the low-altitude economy with other industries. The Central Economic Work Conference in 2023 clearly listed the low-altitude economy as a strategic emerging industry. In the same year, the General Requirements for the Logistics Operations of Civil Unmanned Aerial Vehicle Systems - Part 1: Island Scenarios was released, standardizing the operations of logistics drones on islands.

In 2024, the low-altitude economy witnessed even more intensive policy benefits. It was not only included in the government work report for the first time but also incorporated into the category of new forms of productive forces. The implementation of the Interim Regulations on the Flight Management of Unmanned Aerial Vehicles ended the previously relatively ambiguous regulatory situation of China's drone industry and ensured the safety of low-altitude flights. The Implementation Plan for the Innovation and Application of General Aviation Equipment (2024 - 2030) jointly issued by four departments, including the Ministry of Industry and Information Technology, set clear goals for the development of the general aviation industry, proposing that by 2030, the low-altitude economy would be promoted to form a trillion-yuan market scale.

Under the guidance of national policies, local governments have also actively responded and introduced policy measures to support the development of the low-altitude economy. For example, the Regulations on Promoting the Low-altitude Economy Industry in the Shenzhen Special Economic Zone provides legal guarantees and policy guidance for the industrial development of Shenzhen's low-altitude economy. The Action Plan for Promoting the High-quality Development of the Low-altitude Economy Industry in Beijing (2024 - 2027) (Draft for Soliciting Opinions) proposes to cultivate the low-altitude economy into a leading demonstration industry for the coordinated

development of Beijing-Tianjin-Hebei, creating an innovation capital for the low-altitude economy industry and a national low-altitude economy demonstration area. The Action Plan for Promoting the High-quality Development of the Low-altitude Economy in Guangdong Province (2024 - 2026) plans to make the scale of the low-altitude economy exceed 300 billion yuan by 2026, basically forming a low-altitude economy industrial pattern with three cores in Guangzhou, Shenzhen, and Zhuhai, multiple supporting points, and integrated development. The Implementation Plan for Accelerating the Cultivation and Development of the Low-altitude Economy in Anhui Province (2024 - 2027) and Several Measures aims to make the scale of the low-altitude economy reach 80 billion yuan by 2027. These local policies provide strong support for the development of the low-altitude economy in local areas from aspects such as industrial cultivation, expansion of application scenarios, and factor supply, promoting the vigorous development of the low-altitude economy across the country.

Ⅲ. Drone Development and the Low-altitude Economy

1. Continuous Technological Improvement

In the early days, drones were constrained by factors such as the battery energy density and aircraft structure design of that time. Their endurance was generally short, usually only able to maintain a flight time of about ten to thirty minutes. This severely limited their operation range and application scenarios. However, with the breakthrough progress in battery technology, for example, the continuous optimization of lithium - ion batteries in terms of energy density, charge - discharge efficiency, and cycle life, drones can carry more power reserves, thus significantly extending their flight time. Meanwhile, the application of new battery management systems has further enhanced the safety and stability of battery use, ensuring the reliability of drones during long - term flights (Li et al. 2024).

In the lightweight design of the aircraft body, the extensive application of advanced lightweight materials in the aerospace field, such as carbon fiber composites, not only

reduces the weight of the drones themselves but also, while ensuring structural strength, decreases the energy consumption during flight, indirectly contributing to the improvement of endurance. Nowadays, some industrial - grade drones can achieve several hours of continuous flight, or even be customized to achieve longer flight times according to different mission requirements. This provides strong support for complex tasks such as long - term maritime patrols and large - scale agricultural and forestry monitoring.

In addition, key flight performance indicators of drones, such as flight altitude, speed, and wind resistance, have also witnessed a qualitative leap. In the past, most civilian drones had limited flight altitudes and found it difficult to break through the low - altitude limit. Now, some professional - grade drones can climb to altitudes of several thousand meters to carry out tasks by optimizing the power system, improving the aerodynamic shape, and adopting high - performance flight control algorithms. They play important roles in fields such as weather detection and high - altitude surveying and mapping. In terms of speed, the emergence of racing drones has pushed the flight speed to new heights. Some models can reach speeds of over one hundred kilometers per hour or even higher, meeting the requirements of some application scenarios with extremely high timeliness requirements (Xing & Zhao, 2025).

The improvement of wind resistance has enabled drones to operate smoothly in complex and changeable weather conditions. With the help of advanced wind tunnel tests and simulation technologies, the shape design of drones is more in line with the principles of aerodynamics. Coupled with high - precision attitude sensors and intelligent flight control systems, drones can perceive and automatically adjust their flight attitudes in real - time to cope with crosswinds and headwinds of different intensities. Therefore, they can stably carry out tasks such as geographical surveying and mapping in mountainous areas with complex airflows and maritime rescue in the sea with changeable wind conditions.

2. Intelligent Development Driven by Artificial Intelligence

The rapid development of artificial intelligence technology has injected powerful impetus into the improvement of the intelligence level of drones. Machine learning

algorithms, especially technologies such as convolutional neural networks (CNNs) and reinforcement learning in deep learning, are widely applied to various links of drones, including target recognition, environment perception, and decision - making control (Feng & Zhang, 2024). For example, in the autonomous obstacle - avoidance function, drones obtain real - time three - dimensional information of the surrounding environment through multiple sensors they carry, such as lidar and visual sensors. Then, they analyze and process these data using deep - learning algorithms to accurately identify various obstacles, whether they are static buildings, trees, or dynamic birds and other aircraft. They can also quickly calculate reasonable avoidance paths to ensure flight safety.

In terms of intelligent path planning, drones integrate path - search algorithms (such as the A* algorithm, Dijkstra algorithm, etc.) with real - time environmental perception information. According to task requirements (such as the shortest path, minimum energy consumption, avoiding specific areas, etc.), they plan the optimal flight route in complex geographical spaces and changeable airspace environments (Wei & Chen, 2024). Take logistics delivery drones as an example. In an urban environment, they need to consider many restrictive factors such as high - rise buildings, no - fly zones, and densely populated areas. At the same time, they also need to take into account the impact of weather conditions and cargo weight on flight. Through the intelligent path - planning system, they can dynamically adjust the route, avoid congested airspace and adverse weather areas, and accurately deliver goods to the designated location, greatly improving the delivery efficiency and success rate.

Moreover, drones have the ability to learn independently and adapt to environmental changes. Based on reinforcement learning algorithms, drones can continuously try different flight strategies in different task scenarios. They learn the optimal behavior patterns through a reward mechanism, and thus better adapt to diverse operating environments. For example, in agricultural plant protection operations in complex terrains, drones can autonomously adjust parameters such as spraying height, speed, and pesticide dosage according to the irregular shape of farmland, crop distribution, and actual pest and disease conditions, achieving more precise and efficient operations.

3. Expanding Application Fields

The application of drones in the agricultural field has become one of the important driving forces for the development of modern agriculture. In agricultural plant protection, the traditional manual pesticide - spraying method has many problems, such as high labor intensity, low efficiency, uneven spraying, easy pesticide waste, and potential harm to the health of operators (Zhang, 2025). However, after drones are equipped with professional pesticide - spraying systems, through their precise flight control systems, they can spray pesticides on large - scale farmland at a uniform speed and flow rate along the preset routes and heights. Some advanced agricultural drones are equipped with variable - amplitude nozzles and intelligent flow control systems. They can achieve precise variable - rate spraying according to factors such as the growth stage of crops, the distribution of pests and diseases, and the terrain of the fields. That is, they appropriately increase the pesticide dosage in areas with severe pests and diseases and reduce it reasonably in other areas, maximizing the utilization efficiency of pesticides and reducing environmental pollution.

With the booming development of e - commerce and the increasing demand for the timeliness of logistics delivery, drone delivery, as an innovative logistics model, is gradually evolving from experimentation to large - scale application (Yang et al. 2025). In remote mountainous areas, traditional logistics transportation methods often face many challenges, such as rugged roads, inconvenient transportation, and high transportation costs, resulting in low logistics delivery efficiency and difficulty in quickly delivering some urgently needed materials. Drones, with their advantages of being unaffected by terrain and being able to quickly cross geographical barriers such as mountains and rivers, have become an effective means to solve this problem.

The application of drones in the surveying and mapping and geographic information industries has brought revolutionary changes. Traditional surveying and mapping methods, such as total station measurement and manual aerial photographer, have disadvantages such as low work efficiency, high cost, and being greatly restricted by terrain and land forms. Especially in some areas with complex terrains that are difficult for people to reach, it is extremely difficult to obtain data. Drones, with their advantages of flexibility, ease of operation, and the ability to quickly obtain high - resolution images,

have become powerful assistants in modern surveying and mapping work (Zhang, 2024).

When dealing with natural disasters (such as earthquakes, floods, forest fires, etc.) or other emergencies, drones play an irreplaceable role. After a disaster occurs, ground transportation is often severely damaged, making it difficult for rescue workers and vehicles to quickly reach the disaster - stricken area. Drones, with their characteristics of rapid response and flexibility, can reach the scene immediately to carry out disaster - situation reconnaissance work (Li, 2024). For example, in earthquake rescue, drones can quickly fly over collapsed building areas. Using high - definition cameras, infrared thermal imagers, and other equipment, they can search for signs of life under the ruins, timely discover the locations of trapped people, and transmit the on - site images back to the command center in real - time through wireless communication links. This provides accurate disaster - situation information for rescue decision - making and helps rescue workers develop reasonable rescue plans.

4. Sustained Expansion of the Industrial Scale

In recent years, China's drone industry has demonstrated a robust and booming development trend and has become one of the core forces in the global drone industry. From the perspective of the industrial chain, the drone complete - machine manufacturing sector has gathered numerous enterprises with innovative capabilities and large - scale production strengths. Industry - leading enterprises represented by DJI Innovation, leveraging their advantages in drone research and development, production technology, and brand influence, have occupied a large share of the global consumer - grade drone market. Their products range from entry - level aerial - photography drones to high - end models applied in multiple fields such as professional film and television shooting, surveying and mapping, and agriculture. These products continuously push the boundaries of drone technology and optimize and upgrade product performance.

Meanwhile, in the field of component production, China has established a complete supporting system. There are numerous manufacturers of key components such as motors, propellers, flight control systems, and batteries. These enterprises continuously invest in technological research and development to improve the quality and performance of components and reduce production costs. For example, some

professional motor manufacturers enhance the power output efficiency and stability of motors by improving the electromagnetic design of motors and using high - performance permanent - magnet materials, providing a strong guarantee for the improvement of drone flight performance. In terms of flight control systems, the flight control algorithms independently developed by domestic enterprises are constantly optimized, enabling more precise flight attitude control, intelligent flight functions, and higher flight safety. They are also compatible with various types and purposes of drone platforms.

In software development, there is a flourishing situation in flight control software, mission planning software, data processing and analysis software for drones. Various types of software not only possess basic flight operation functions but also incorporate advanced functions such as intelligent flight modes (e.g., follow - shooting, circle - shooting), 3D modeling, data analysis, and visualization, meeting the diverse needs of different user groups in different application scenarios. Moreover, with the development of the mobile Internet, many drone software have achieved seamless connection with mobile terminals such as smartphones, allowing users to operate drones and view flight data and mission results anytime and anywhere.

Driven by the dual demands of domestic and international markets, the output value of China's drone industry has been rising year by year. In the domestic market, with the increasing popularity of drone applications in various industries, the procurement volume of drones by government departments, enterprises, institutions, and individual consumers continues to grow. From the procurement of drone services in agricultural production to the demand for aerial - photography drones by film and television production companies, and the purchase of consumer - grade drones for entertainment and photography by individuals, all these have injected strong impetus into the development of the industry. In the international market, Chinese drones, with their advantages of high cost - performance and excellent performance, have continuously expanded their export scale. The products are sold to many countries and regions around the world and are widely used in numerous fields such as agriculture, surveying and mapping, logistics, and film and television. They play a pivotal role in the global drone market and have become a shining business card for China's high - end manufacturing industry to go global.

5. Drones Boost the Low-altitude Economy

From the perspective of airspace utilization, the low - altitude economy aims to fully develop low - altitude airspace resources and tap their potential economic value. As an aircraft that can fly flexibly at low altitudes and perform diverse tasks as required, drones are naturally adaptable to the specific low - altitude airspace environment. Compared with other flight activities in the low - altitude economy, the restrictions on flight altitude, speed, and other conditions in the low - altitude airspace can be precisely adapted to the small and flexible characteristics of drones. Drones can accurately shuttle through various target areas in the complex and relatively restricted low - altitude airspace to carry out operations, expanding numerous operable business scenarios for the low - altitude economy.

At the technical level, the rapid development of drone technology, covering the improvement of flight performance, intelligence level, and other aspects, enables it to better integrate into various fields of the low - altitude economy. For example, the continuously enhanced endurance and wind resistance of drones allow them to execute tasks in a wider range of low - altitude areas under more complex weather conditions, meeting the requirements of low - altitude economic activities such as large - scale agricultural operations and logistics delivery in remote areas. At the same time, their intelligent autonomous flight, automatic obstacle - avoidance, and intelligent path - planning functions ensure the safety and efficiency of low - altitude flight, reducing human operation costs and risks, which is consistent with the goal of the low - altitude economy to efficiently utilize airspace resources and reduce operating costs.

Furthermore, from the perspective of industrial demand, numerous industries covered by the low - altitude economy, such as agriculture, logistics, surveying and mapping, and emergency rescue, urgently need an efficient, flexible, and cost - controllable tool to expand and optimize their businesses. Drones, with their own advantages, can precisely fill this demand gap. They can quickly cover low - altitude businesses with relatively low cost investment, bringing new development opportunities to various industries and thus promoting the growth of the overall scale of the low - altitude economy.

IV. Conclusion

The development of China's low-altitude economy and drones demonstrates great potential in the tide of the times. Regarding the low-altitude economy, its concept originated from considerations on the development of low-altitude airspace resources. After going through theoretical research and practical exploration, it has gradually matured. With strong policy support, it is showing a favorable development trend. From the perspective of drones, continuous technological progress, enhanced intelligence levels, expanded application fields, and an enlarged industrial scale have made them a crucial force driving the development of the low-altitude economy. The high degree of compatibility between the two in terms of airspace utilization, technology, and industrial demand provides strong support for each other's development.

However, it should be clearly recognized that during the development process, there are still many challenges, such as airspace management and safety supervision. In the future, it is necessary to continuously optimize the policy environment, strengthen technological innovation, and further deepen the integration of the two. By doing so, we can meet the challenges, fully unleash the development potential of the low-altitude economy and the drone industry, inject new impetus into high-quality economic development, and propel related industries to new heights.

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