Meeting Title:
Low Altitude Economic Standard Working Group Preparation and Discussion Meeting

Meeting Time:
2:00 PM, December 5, 2024

Meeting Location:
Huagongda Central Hotel

Attendees (in no particular order):
Chen Xinguo, Zhang Wenqiang, Zhao Xiangnan, Wang Lei, Dai Shaopeng, Shang Yuanfeng, Zeng Xing, Yang Yuxuan, Cheng Di, Jian Ruijie, Wei Xinqi, Yan Rui

Recorder:
Cheng Di, Jian Ruijie

Main Content of the Meeting:
The meeting proceeded in two rounds of speeches. In the first round, each speaker introduced themselves and their organization, followed by their suggestions and comments on the standards. In the second round, the Deputy Leader of the Low Altitude Economic Standard Group, Chen Xinguo, led a discussion on a specific topic.

First Round of Speeches:

- **Dai Shaopeng (Institute of Computing Technology, Chinese Academy of Sciences)** organized a presentation explaining the scope of the Low Altitude Economic Standard Working Group, its workflow, and the seminar process. He presented a standard document prepared based on Professor Li Weiping's introduction to the low altitude economic standards. The document stated that the goal of the standard group is to promote economic development and the establishment of an international standard system. He emphasized the importance of improving safety, convenience, and quality of life in the low-altitude aviation field, as well as promoting the prosperity of general aviation and electric vertical take-off and landing (eVTOL) aircraft. He also outlined the newly established sub-committees and the standardization workflow, highlighting the importance of quality management systems and collaboration in promoting the field. Finally, he stressed the significance of setting and implementing international standards to regulate and promote the development and safety of the low-altitude aviation economy.

- **Wang Lei (Institute of Computing Technology, Chinese Academy of Sciences)** suggested applying evaluation theories to assess the low-altitude economy, focusing on added value, differentiation, comparability, consistency, and balancing evaluation costs and benefits. He identified three evaluation subjects: pilots, aircraft, and companies, and pointed out different stakeholder concerns such as safety, convenience, and economic growth. He discussed the challenges of defining evaluation conditions and the need to create a self-contained evaluation system for the complex ecosystem of low-altitude economics. Wang Lei also highlighted the balance between accuracy and cost, suggesting the development of an operable evaluation system.
- **Yang Yuxuan (Shandong Hengshengyuan Power Co., Ltd.)** shared the company's experience and exploration in the use of drones. He emphasized the effectiveness of drones in supporting surveying, 3D modeling, solar panel cleaning, and high-voltage line maintenance, saving both labor and time costs. Yang noted challenges faced by the industry, such as lack of management standardization and underutilized technological potential, and expressed the hope for richer industry standards to fully unleash the potential of drones.
- **Dai Shaopeng (Institute of Computing Technology, Chinese Academy of Sciences)** introduced the background of the low-altitude economy, noting that the airspace from 0 meters to 20,000 meters is divided into different zones, with the 0 to 3,000-meter range being the low-altitude region, covering general helicopters, eVTOL aircraft, and related infrastructure, manufacturing, and operational services. He mentioned that internationally, full digital methods for low-altitude intelligent integrated infrastructure have led the competition and are expected to accelerate the formulation of related rules and standards, placing China in a proactive position in the industry development.
- **Shang Yuanfeng (Institute of Computing Technology, Chinese Academy of Sciences)** discussed the difficulties encountered in high-altitude power line inspection in Yunnan. These included issues such as drones lacking the ability to handle extreme conditions, poor communication signal quality, low levels of intelligence, and a lack of standardized pilot training, increasing risks. He recommended discussing standards for drones and pilots in extreme conditions.
- **Cheng Di (Beijing Institute of Fashion Technology)** and **Jian Ruijie (University of Chinese Academy of Sciences)** briefly

introduced their understanding of the low-altitude economy and related work. Cheng Di focused on the intersection of low-altitude economy and the fashion industry, while Jian Ruijie discussed research in UAV risk identification.

- **Zhang Wenqiang (Binzhou Guoke Meteorological Technology Service Co., Ltd.)** introduced a recent collaboration with the China Meteorological Administration, Shandong Meteorological Bureau, and Zhongtian Atmospheric Physics Institute in establishing a weather modification experiment base in the Yellow River Delta. This base includes low-altitude meteorological services for the low-altitude economy, involving UAV flight, route selection, and meteorological data. Zhang emphasized the importance of low-altitude meteorology in low-altitude economics.
- **Zhao Xiangnan (China National Institute of Metrology)** shared the institute's work on metrology related to frontier developments, especially their recent collaboration with Chinese electrical appliance manufacturers, and highlighted the need for metrology standards in areas like system-level standards, electromagnetic environments, and battery standards.
- **Chen Xinguo (Institute of Software, Chinese Academy of Sciences)** provided suggestions for the work of the low-altitude economic standard group, including the establishment of standards for UAV hardware, the economic industry chain, and management standards for UAV supply chains and manufacturers. He emphasized the importance of local economic management and related standards.

Second Round of Discussions:

- **Chen Xinguo** proposed several suggestions, including the urgency of developing flight control system standards and addressing origin standards. He also highlighted the importance of onboard equipment standards for drones and suggested the creation of specialized standard groups for flight control, equipment, flight operations, and applications. He encouraged establishing a working mechanism, holding regular meetings, and publishing white papers or blue papers to promote collaboration. He emphasized the need for equality and high-quality standards and encouraged all parties to participate in developing standards.
- **Wang Lei** suggested first aligning standards with BenchCouncil and then launching group and national standards, advocating for greater openness and internationalization of the group.

- Zhao Xiangnan emphasized the importance of maintaining the vitality of the organization through regular exchanges and information sharing to promote growth.
- Yang Yuxuan discussed policy issues encountered in the use of UAVs in large cities and emphasized the need for the prompt release of industry standards.
- Chen Xinguo discussed UAV applications and the need for standardization, emphasizing the flexibility of UAVs as platforms that can be customized with different payloads. He also discussed the differences between standard and non-standard UAVs.
- Chen Xinguo further discussed the need to establish industry standards for flight control and UAV manufacturing, and shared his experience in emergency UAV projects, promoting collaboration with other institutions to further advance the UAV industry.