

## **An Analysis of Different Essential Components of Flight Plan Operations at Low Altitude**

**Authors :** Apisit Nawapanpong, Natthapat Boonjerm

**Abstract :** This project aims to analyze and identify the flight plan of low-altitude aviation in Thailand and other countries. The development of UAV technology has led the innovation and revolution in the aviation industry; this includes the development of new modes of passenger or freight transportation, and it has also affected other industries widely. At present, this technology is being developed rapidly and has been tested all over the world to make the most efficient for technology or innovation, and it is likely to grow more extensively. However, no flight plan for low-altitude operation has been published by the government organization; when compared with high-altitude aviation with manned aircraft, various unique factors are different, whether mission, operation, altitude range or airspace restrictions. In the study of the essential components of low-altitude operation measures to be practical and tangible, there were major problems, so the main consideration of this project is to analyze the components of low-altitude operations which are conducted up to the altitudes of 400 ft or 120 meters above ground level referring to the terrain, for example, air traffic management, classification of aircraft, basic necessity and safety, and control area. This research will focus on confirming the theory through qualitative and quantitative research combined with theoretical modeling and regulatory framework and by gaining insights from various positions in aviation industries, including aviation experts, government officials, air traffic controllers, pilots, and airline operators to identify the critical essential components of low-altitude flight operation. This project analyzes by using computer programs for science and statistics research to prove that the result is equivalent to the theory and be beneficial for regulating the flight plan for low-altitude operation by different essential components from this project and can be further developed for future studies and research in aviation industries.

**Keywords :** low-altitude aviation, UAV technology, flight plan, air traffic management, safety measures

**Conference Title :** ICAAAE 2024 : International Conference on Aeronautical and Aerospace Engineering

**Conference Location :** Bangkok, Thailand

**Conference Dates :** December 23-24, 2024