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Patent Search

Invention Title	SMART DRONE ROOF TOP AND GROUND AIRPORT SYSTEM FOR EFFICIENT AND SECURE DRONE OPERATIONS
Publication Number	35/2023
Publication Date	01/09/2023
Publication Type	INA
Application Number	202341042444
Application Filing Date	23/06/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	MECHANICAL ENGINEERING
Classification (IPC)	B64C0039020000, G08G0005000000, G05D0001000000, G05D0001100000, H04B0007185000

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Abstract:

7. ABSTRACT The smart drone rooftop and ground airport system revolutionize drone operations with a network of strategically positioned docking stations and advanced infrastructure. The ground control station receives unmanned vehicle mission information and provides a plurality of instructions to the unmanned vehicle to execute including a take-off procedure and a landing procedure. A plurality of micro-services process requests from a controller and at least one charging station provides a docking station for the plurality of unmanned vehicles. The charging station provides a power source to the plurality of unmanned vehicles and receives mission information from the control station, wherein the unmanned vehicles are operable to deliver a good to a remote location. It enables efficient and secure drone operations through features: automated charging, real-time monitoring, and collision avoidance. The system integrates centralized control software for optimized coordination and resource allocation; security protocols ensure authentication, encryption, and data integrity. Weather monitoring technology enables proactive decision-making for safe operations. The user interface provides comprehensive control and incident management. Overall, this system offers efficient, secure, and seamless integration of drones, transforming their operations. The figure associated with abstract is Fig.1.

Complete Specification

Description:4. DESCRIPTION

Technical Field of the invention

The present invention generally relates to unmanned aerial systems (UAS) or drone technology and more particularly, relates to an intelligent and automated system for drone operations at both rooftop and ground-based airports.

Background of the invention

In recent years, the use of drones has seen significant growth across various industries, ranging from aerial photography and surveying to package delivery and infrastructure inspection. However, the efficient and secure integration of drones into existing airspace systems has become a pressing challenge.

Traditional drone operations often rely on centralized charging stations located at a distance from their operational areas. This leads to inefficiencies in terms of time and limits the range and duration of drone flights. Additionally, ensuring the safety and security of drone operations in complex urban environments poses substantial challenges.

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Page last updated on: 26/06/2019