International Specialized Exhibition
INFOINVENT the 18th edition
Chisinau, Republic of Moldova, 22-24 Nov. 2023

Section
II

Title: FIXED-WING U.A.V. WITH VERTICAL TAKEOFF/LANDING SYSTEM WITH TRI-ROTOR PROPULSION SYSTEM AND METHOD OF INTERCEPTING THE SPECIFIC SOUND EMITTED BY THERMAL ENGINE-POWERED CHAINSAW

Patent No: A/00305

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Abstract

The present invention refers to a fixed-wing drone that incorporates an innovative tri-rotor system with vectorization capabilities, enabling both vertical takeoff and landing as well as forward flight propulsion. It has been designed as a flying wing, involving the elimination of the tail, which result in the transformation of ailerons into elevons, control surfaces serving the functions of both elevators and ailerons. To enhance the drone's stability, winglets have been introduced with the purpose of eliminating vortex production at the wingtips. The mission of this aircraft is to identify illegal deforestation by equipping it with an artificial intelligence system capable of detecting the specific noise of a thermal powered chainsaw. To achieve this, the drone has been equipped with sensitive microphones to detect the sound and a high-performance camera capable of capturing and recording the identified areas and transmitting to authorities. All of the mentioned functions can be performed autonomously with the assistance of the onboard autopilot.

Technical details

- ✓ Hover flight time: over 3 hours
- ✓ Mass: 15 Kg
- ✓ Range of control: 15 Km
- ✓ Cruise speed: 70 Km/h
- ✓ Wing span: 4 meters
- ✓ 4 microphones on board
- ✓ Payload: Video camera
- ✓ Capable of autonomous flight
- ✓ Vertical take-off and landing
- ✓ Innovative tri-rotor system
- ✓ Capture meteorological data

This invention was funded by Romanian Ministry of Research, Innovation and Digitization, within PTE program PN-II-P2-2.1-PTE-2021-0369, contract number 101 PTE/2022 - ENFORCING