
UVR
United Vehicle Robotics
COMBO
Unmanned aerial system
based on a Ka-26 helicopter
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Unmanned aerial system COMBO

Take-offs, landings, flights are carried out fully automatically without human intervention. COMBO is equipped with computer vision system. This allows the UAS to make corrections to the route in case of obstacles in its way. In order to increase efficiency, the software complex includes swarm flight algorithms. Also, COMBO has the ability to coordinate the route together with ground-based autonomous transport units.

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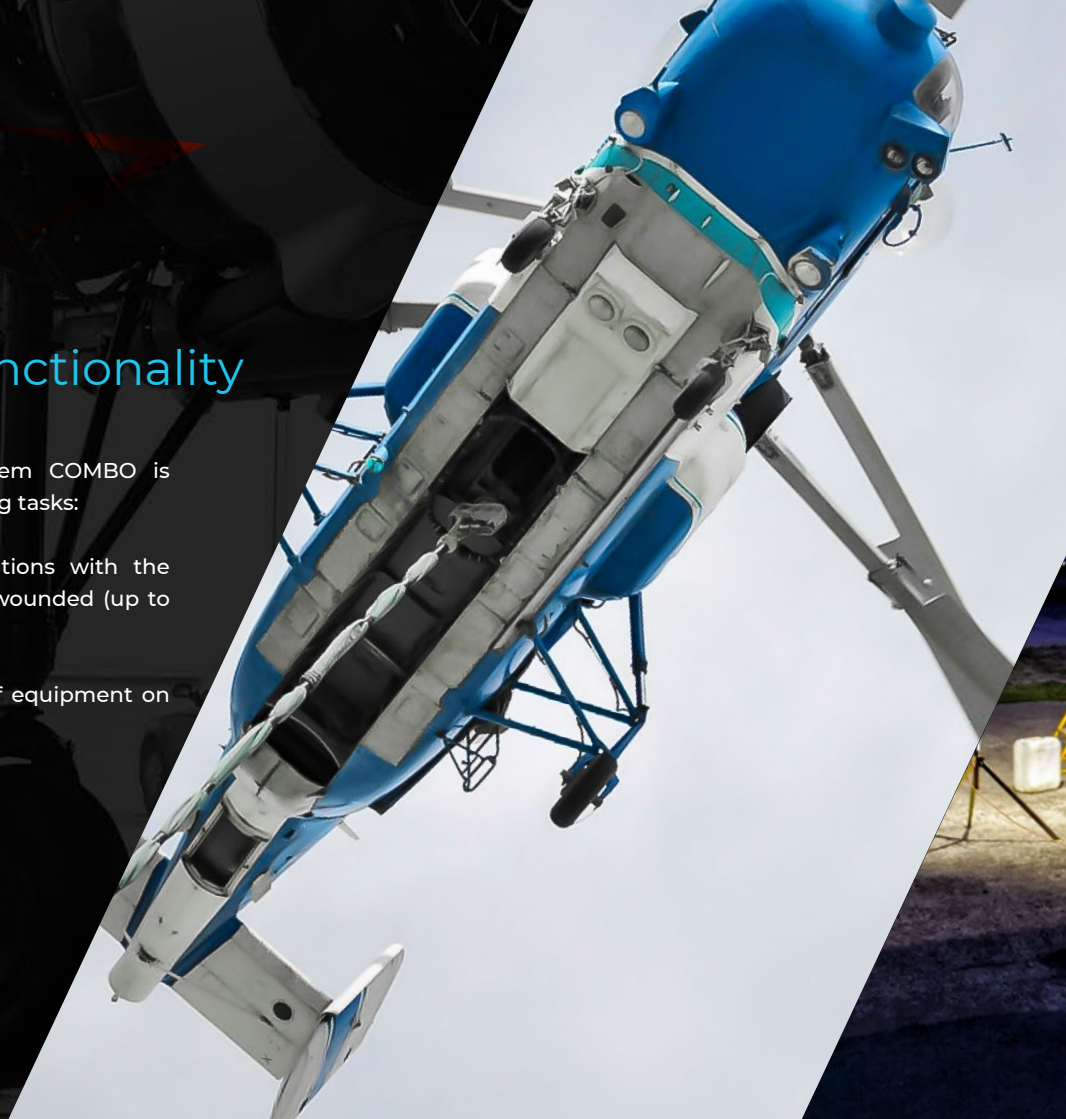
“Flying platform”

COMBO is a multi-functional platform “Flying Chassis” based on a Ka-26 coaxial helicopter. Various removable modules are docked to the helicopter, depending on the use cases. Conversion of a helicopter from one set to another can be carried out in the field by two or three people.

Multifunctionality

The unmanned aerial system COMBO is designed to perform the following tasks:

- cargo transportation;
- search and rescue operations with the possibility of evacuation of the wounded (up to 6 persons);
- flying crane service;
- the use of a wide range of equipment on external suspension system.



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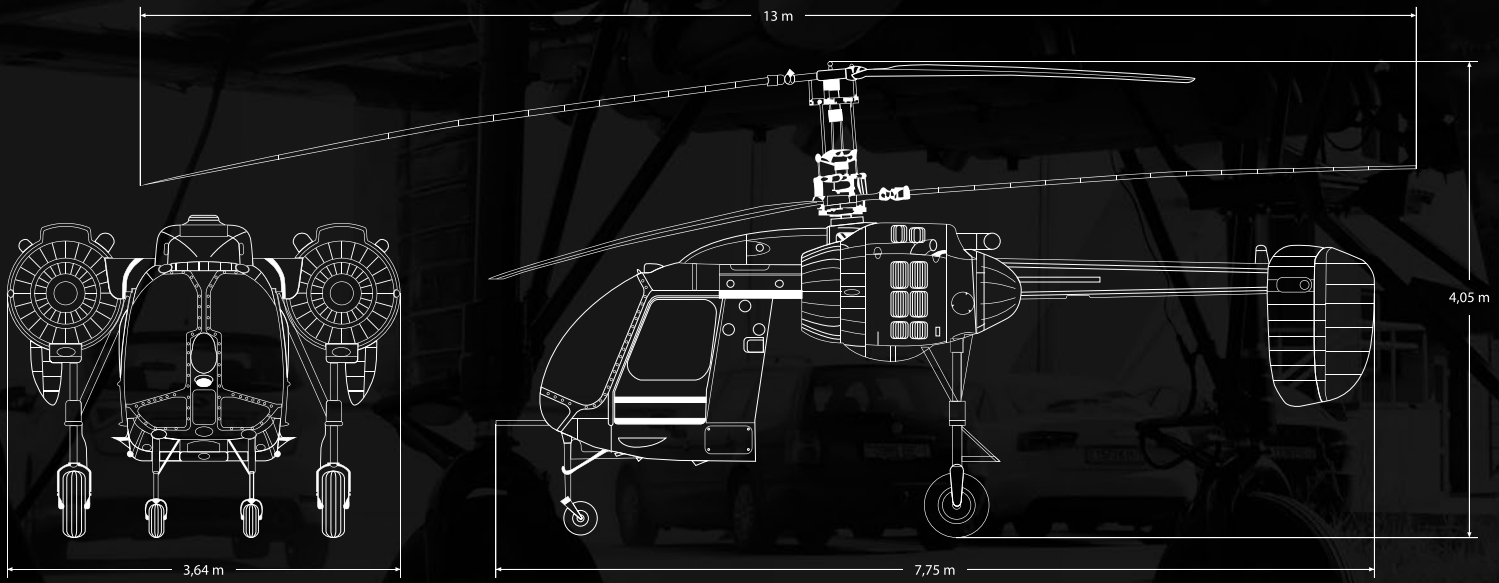
Development

The COMBO project has become a flying laboratory for the development and design of our own control systems, testing algorithms and integrated solutions. The obtained data allowed us to start creation of new generation vehicles as well as an intelligent control system for a variety of UASes.

Technical specifications



Weight characteristics

- Load Capacity	up to 900 kg
- Empty Helicopter Weight	2 072 kg
- Maximum Take-Off Weight	up to 3 250 kg

Dimensions

- Overall Fuselage Width	3,64 m
- Overall Fuselage Length	7,75 m
- Overall Height	4,05 m
- Rotor Diameter	13 m

Power Plant

- Power Plant	2 x PD M-14V-26
- Power Plant Output	2 x 325 H (2 x 239 kW)

Aircraft Features

- Autonomous Flight
- Wireless Flight Control
- Modular Platform
- Ground control station (GCS)
- Flight Without GPS*
- Safe Landing Zone Detection*
- Obstacle clearance*

Flight Performance

- Max Speed	160 km/h
- Cruising Speed	130 km/h
- Maximum Total Range	up to 250 km
- Maximum Flight Time	up to 2 hours
- Service Ceiling	3 000 m

*Beta version of high-level autopilot using Computer Vision

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