

ANNOUNCEMENT NO. 2/ZPBSU/2025 REGARDING THE ACQUISITION OF TECHNICAL SOLUTIONS IN THE DOMAIN OF UNMANNED AERIAL WEAPONS SYSTEMS

Pursuant to Ministry of National Defence Decision 123/MON of 12 September 2025, the Inspectorate of Unmanned Armament Systems announces a procedure for the acceptance of applications from manufacturers of unmanned solutions on the organization and modes of testing in the Polish Armed Forces.

I. Subject of the announcement

Commercial unmanned aerial vehicle, VTOL vertical take-off aircraft, equipped with a daytime zoom camera and a thermal imaging camera designed for basic training.

II. INTENDED USE

The unmanned aerial system is designed to carry out exercises and training tasks by soldiers, pilot candidates and UAV operators. The exercises will be carried out on tactical exercise strips designated and designated by the military. Exercises will be carried out only during the "P" time. An unmanned aerial system, a vertical take-off aircraft of the VTOL type, must provide the implementation of VLOS and BVLOS flights, enabling reconnaissance at the platoon/company level. The system must be equipped with a daytime camera with zoom and an LWIR thermal imaging camera. It is recommended to use the ATAK CIV system. It is not possible to connect the systems to the Ministry of National Defence IT (MI, MZ) network.

III. LIST OF MINIMUM TECHNICAL REQUIREMENTS.

I. DEFINITION - DEVICE KIT

The set includes the following elements and equipment:

- a. An unmanned aerial vehicle of the VTOL class with a take-off weight of MTOW not exceeding 5 kg.
- b. A set of at least 3 batteries for the UAV device;
- c. GCS (Ground Control Station) computer flight control set with manual control manipulator (pad);
- d. Radio system with antennas and necessary tripod;
- e. A set of chargers and power supplies with electrical wiring;
- f. An additional portable power bank or power station to power the batteries in the car or for field work;
- g. Durable protective and transport packaging in the form of a crate or backpack;
- h. Necessary electrical, antenna, video and USB cabling;

- i. Technical documentation in printed form in an abbreviated version and in full form saved on an electronic medium (CD or SD card) in the form of PDF files;
- j. Manufacturer's declaration of approval for sale in the EU, catalogue note, photocopy of approval and technical test certificates, if any;

II. CRITICAL REQUIREMENTS:

- a. The manufactured device is manufactured in the European Union or in NATO countries.
- b. The equipment must be CE marked;
- c. The device is approved in the EU and meets environmental protection requirements;
- d. The device shall fly at a distance of not less than 10 km from the pilot in a zone that provides visibility to the radio horizon. It is not allowed to use software locks that limit the flight distance from the operator to only 10 km;
- e. The device should fly above 300m AGL (Above Ground Level);
- f. The UAV should fly on one charged intelligent battery for at least 80 minutes of flight. (Flight performed in optimally favourable, windless weather conditions during the summer);
- g. The appliance shall operate at an ambient temperature in the range of $-10/+40$ OC;
- h. The UAV should fly at a speed of not less than 72 km/h for at least 10 minutes;
- i. The system shall perform vertical take-off and landing without the need for a special launch device or catapult. Take-off and landing must be from the ground;
- j. The UAV should be capable of flying in winds up to 12 m/s;
- k. The device should operate in light rain, allowing you to return to the operator when drizzle occurs during the flight. The minimum moisture resistance of the system should be IPX1 or higher;
- l. The device must have manual and automatic take-off and landing functions;
- m. The equipment shall have a GNSS receiver that receives GNSS satellite constellations such as GPS or GALILEO or GLONASS;
- n. The device shall operate with and without GNSS in the event of a jamming. Thus, it is not possible to start the device in the absence of GNSS signal,
- o. The device must have a transponder, ADS-B remote identification system;
- p. The device shall be able to stabilize horizontal flight with altitude maintenance based on the integrated IMU, barometric altimeter, optical stabilization system and GNSS. In the absence of a GNSS signal, the device should stabilize based on the IMU gyrocompass or optics;
- q. The device must have an automatic return to the starting point (RTH) function or to the place designated by the remote control on the map in the event of activation of this function by the remote control, in the event of loss of radio range, in the event of a critically low power battery level;

III. REQUIREMENTS OF THE UNMANNED AERIAL VEHICLE

- a. The system should be made of durable material, plastic, aircraft laminate, expanded modelling sturodur, extruded polystyrene or other lightweight material with similar properties;
- b. The weight of the UAV, the so-called MTOW, should not exceed 5 kg.
- c. The wingspan should not exceed 2.5m;
- d. The aircraft should be assembled from several elements. Installation must be carried out without the need for special tools and should be possible at night;
- e. The time of assembling the aircraft and preparing it for take-off should not exceed 10 minutes;
- f. The device must have electric propulsion motors designed for vertical take-off and propulsion of the airframe during horizontal flight;
- g. It is permissible to use a separate push or pull drive and a separate one for take-off and landing operations;
- h. The system should be equipped with a camera or set of daytime surveillance cameras described later in the document;
- i. UAVs should be equipped with proximity sensors. The sensors should support take-off and landing. ToF sensors, optical sensors based on CMOS, ultrasonic, laser sensors are allowed, thus leaving the manufacturer free to choose the appropriate solution;
- j. The device should be equipped with an electronic gyroscopic flight stabilization system (IMU) with a backup system acting as redundancy;
- k. The device must have an encrypted radio transmitting and receiving system designed to control the UAV and to transmit the image in real time. (the specification of the radio part is described later in the document);
- l. The UAV should have a GNSS receiver receiving several typical GNSS satellite constellations such as GPS, GLONASS, GALILEO.
- m. The aircraft shall have an identification system in accordance with ADS-B. The transponder must be switched off during flight from the control panel;

IV. OPTICAL SYSTEM, PAYLOAD, CAMERAS:

I. CMOS DAYTIME CAMERAS

- a. The device must have a camera or a set of cameras designed for daytime observation;
- b. The camera set should be stabilized automatically during flight;
- c. The resolution of the daytime camera should not be lower than 1280x720 pixels;
- d. The daytime camera should have an optical zoom of at least x 20 giving a lossless close-up of objects and additionally a digital zoom of 2 x or more;
- e. The UAV device shall provide the possibility of replacing the camera as a whole module (payload) under service conditions in the event of failure of the camera system; (replacement and calibration is carried out by qualified service personnel of the manufacturer);
- f. The camera or cameras should process moving images in h264 or h265 compression at a rate of not less than 25 FPS;

- g. The camera system should generate a video stream (streaming) and transmit it to the GCS ground station;

II. THERMAL NIGHT IMAGING CAMERA

- a. The device is equipped with a 8-12 μm LWIR thermal imaging camera
- b. The resolution of the thermal imaging camera is not less than 640 x 480 pixels
- c. The thermal imaging camera has the ability to zoom in x 4 or more;
- d. The viewing width of the lens is about 25 degrees. A deviation of +/- 25% from the specified parameter is allowed;

IV. RADIO TRANSMISSION SYSTEM:

- a. The unmanned device as well as the control system should be compatible and compatible with each other;
- b. The equipment must operate in the "S band" or "C band" radio band, in the frequency ranges that are in accordance with the Regulation of the Council of Ministers, on the National Frequency Allocation Table of 27 December 2013 (as amended) in government or civil-government use, intended for the mobile aviation radio communication service;
- c. The transmitting system should operate in FHSS (Frequency Hopping Spread Spectrum) mode;
- d. The system shall support MESH communication between radios of the same type;
- e. The radio system should support automatic adjustment of the output power – Adaptive control of transmitting power;
- f. The radio communication system must be encrypted via the AES-256 algorithm;
- g. The device should support the ability to control at least 2 GCS stations, thus enabling the control to be taken over by another designated station during the flight progress;
- h. The device should prevent a flight controller or other control device that is not paired with the UAV from taking control;

V. ANTENNA MASTS AND ANTENNAS

- a. The manufacturer will provide 1 foldable antenna mast with antennas to receive telemetry and video signal;
- b. The antenna mast will be made of light metal or plastic;
- c. The height of the mast will be not less than 3m;
- d. The mast will be protected against tipping over by special counterweights or anchors with guys.
- e. Coaxial cables are included to connect the antennas to the GCS or goggles and the control station. Cable terminations, connectors must be compatible with antennas and all radio equipment;
- f. The wiring should be 20 m long. Deviations from the designated length of +/- 25% are allowed.

VI. UAV CONTROL STATION (GCS)

- a. The GCS control controller should be compatible with the UAV device;
- b. The GCS air traffic control station should be made in the form of a portable system based on a military PC such as GETAC, DELL, PANASONIC with the use of WINDOWS or LINUX operating system;
- c. The GCS (Notebook PC) should have a screen brightness of 1000 nits or more;
- d. The device must meet moisture and dust resistance standards not less than IP53;
- e. GCS should allow you to connect an additional control controller, gamepad, or other solution via a short, durable cable. There is no obligation to use cabling with military terminations. The purpose of the pad is to control the optical system or control the UAV when switched to manual flight mode;
- f. The language version of the configuration panel should be in Polish or English. The software menu in Polish will have a positive impact on the evaluation of the device.

VII. SMART BATTERIES FOR UAVS

- a. The smart battery should be compatible and designed to power a dedicated UAV;
- b. In terms of capacity, the battery should be selected by the manufacturer in such a way that the device is able to perform the task set, i.e. to perform a flight of not less than 80 minutes in favorable weather conditions;
- c. The battery should be integrated with its own overcharge and over-discharge protection BMS management system;
- d. The battery should have indicator lights to indicate the charge level;
- e. The battery should be able to charge 150 cycles or more.

VIII. CHARGERS AND POWER ADAPTERS

- a. The device, the set is delivered with the company's charger, a power supply designed to charge UAV batteries and a control controller;
- b. The power supplies are adapted to 230V AC mains power supply, they are equipped with a short electric cable (not longer than 1 m) with a European termination;
- c. The charger shall be able to sequentially charge several UAV batteries; It is possible to connect an additional special distributor to perform this function;
- d. The charger should be equipped with a safety device to prevent overcharging of the batteries;
- e. The power supply should be able to operate at +5 to +35C;
- f. The kit should be equipped with a car charger or other alternative solution that allows you to charge the battery in the car from the cigarette lighter socket + 12V DC.

V. PACKAGING, TRANSPORT

- a) The transport packaging should be durable and sturdy. The main purpose is to provide protection against damage, the influence of moisture on transport and storage in a warehouse;

- b) Transport packaging, crates should be made of ABS with moisture seals and closures. The boxes should have grommets for the installation of security seals;
- c) The package should resemble the shape of a shipping box with carrying handles;
- d) The package should include: UCS, batteries, control controller, goggles for the remote control, wiring, power supply, quick start guide, tools for changing propellers, reserve propellers, other accessories of the set (without antenna mast);
- e) A separate box is allowed to be used to store the UCS drones themselves;
- f) The color should be subdued. Black, gray, green, olive green are allowed and sand. Bright colors that attract attention (fluo orange, fluo yellow, etc.) are excluded.

VI. SOFTWARE LICENSE AND PATENTS

- a. The manufacturer or importer makes a statement that the supplied devices are manufactured without infringing copyrights or patent rights that could infringe the interests of "third" parties;
- b. The software used is created by the manufacturer or in the case of using software purchased from "third parties", the manufacturer has appropriate agreements regulating the transfer of copyrights to the software, the operating system used, programming libraries, drivers, scripts included in the entire system. Transfer agreements govern licensing issues, including permits for further copying of software and redistribution;
- c. The software manufacturer agrees to the use of the software in systems intended for serial sale, commercial and military systems and this is in accordance with the software license.

VII. DOCUMENTATION

- a. The contractor will provide documentation of the equipment, including a user manual in Polish. The manual can be delivered on an electronic medium in the form of a PDF file. The manufacturer agrees to copy the electronic documentation for the internal purposes of the ordering party and to place it in military ICT systems (milnet-I)
- b. Shortened in paper version in Polish for each piece of equipment. Summary documentation must be included in the shipping package;

IX. CYBERSECURITY, REQUIREMENTS FOR THE SUBJECT MATTER OF THE AGREEMENT

- a. The device or GCS (Ground Control Station) does not automatically connect to the Internet to share telemetry data, including UAV or GCS location data;
- b. The device has an OFFLINE mode for uploading digital maps, without the need for constant connection to telecommunications devices such as a modem or Starlink. Entered maps are stored in the GCS system's memory;
- c. Files produced by installed cameras in the UAV are saved in internal memories or removable SD card. Data files are encrypted via the AES-256 algorithm;
- d. Radio transmission via the integrated transmitter shall be encrypted via the AES-256 algorithm;

- e. The manufacturer provides technical support in the form of updates. Updates are carried out without the need to connect the system to the Internet.