

Ministry of Agriculture - Directorate of Fisheries

Croatian UAV system in fisheries inspection

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Introduction

- REGULATION (EU) No 508/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
- Article 76 – Control and enforcement - types of operations shall be eligible:
 - (e) the modernisation and purchase of patrol vessels, aircrafts and helicopters, provided that they are used for fisheries control for at least 60 % of the total period of use per year;
- In 2014. Ministry of agriculture – Directorate of fisheries made an agreement with Ministry of defence by establishing a working group to write a:
 - **„STUDY OF KEY REQUIREMENTS AND SYSTEM FEATURES NEEDED TO EQUIP MINISTRY OF AGRICULTURE AND MINISTRY OF DEFENCE - UNMANNED AERIAL VEHICLES”**

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Main features regarding Croatian sea territory are:

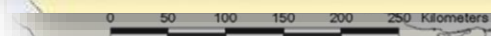
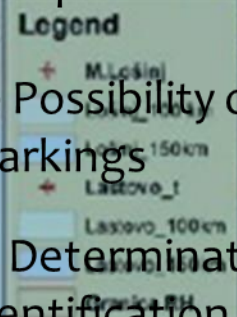
1. **1880 km** long and occupies most of the eastern Adriatic coast
2. The distance between its endpoints is **526 km**
3. Along the coast there are **718** islands and islets, **389** reefs and **78** small reefs
"the land of a thousand islands"
4. With its islands a total coastline length is **6278 km**, which is approximately $\frac{3}{4}$ of the total coastline in the Adriatic Sea. By the length of the coastline, Croatia is the third in the Mediterranean, behind Greece and Italy.



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In the study the use of the UAV for fisheries control and surveillance in 60% of flight time would be used for:

- 1) Detection and monitoring of illegal fishing activities and monitoring of ZERP- Ecological and Fisheries Protection Zone
- 2) Control of spatial time limitation of fishing in the territorial sea (restrictions on fishing in certain fishing zones - channels over a given period of time in the year)
- 3) Control during BFT season - especially in June - PS gear
- 4) Night-time control of fishing small pelagic fish
- 5) Supervision of entry of fishing vessels with foreign flag in the territorial waters
- 6) Possibility of identification of Croatian and EU fishing vessels based on external markings
- 7) Determination of position, speed and direction of fishing vessel movement and identification of fishing vessel type (VMS and E-logbook turned off)



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Other 40% of flight time will be used for:

- a) Sea search and rescue (SAR),
- b) Support other competent state bodies in the implementation of laws and other regulations under their jurisdiction
- c) Suppression of piracy and other forms of use of open sea for non-violent purposes
- d) Surveying and guidance in conducting large fire extinguishing operations
- e) Migrant crisis

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By the fact that Ministry of agriculture does not have experts and technical personnel for using and maintaining UAVs, through the mutual agreement major points were specified:

1. The owner is Ministry of agriculture and the operator is Ministry of defence (MOD) with an authorisation for fisheries control and inspections at sea
 2. For operative costs (logistics, launching sites, personnel...) and delivering data from UAV system to servers of Ministry of agriculture, the responsible party is MOD
 3. Flight plans for every 3 months in a year have to be defined from established joint committee
- before every flight a flight authorisation from Croatian Civil Aviation Agency is needed

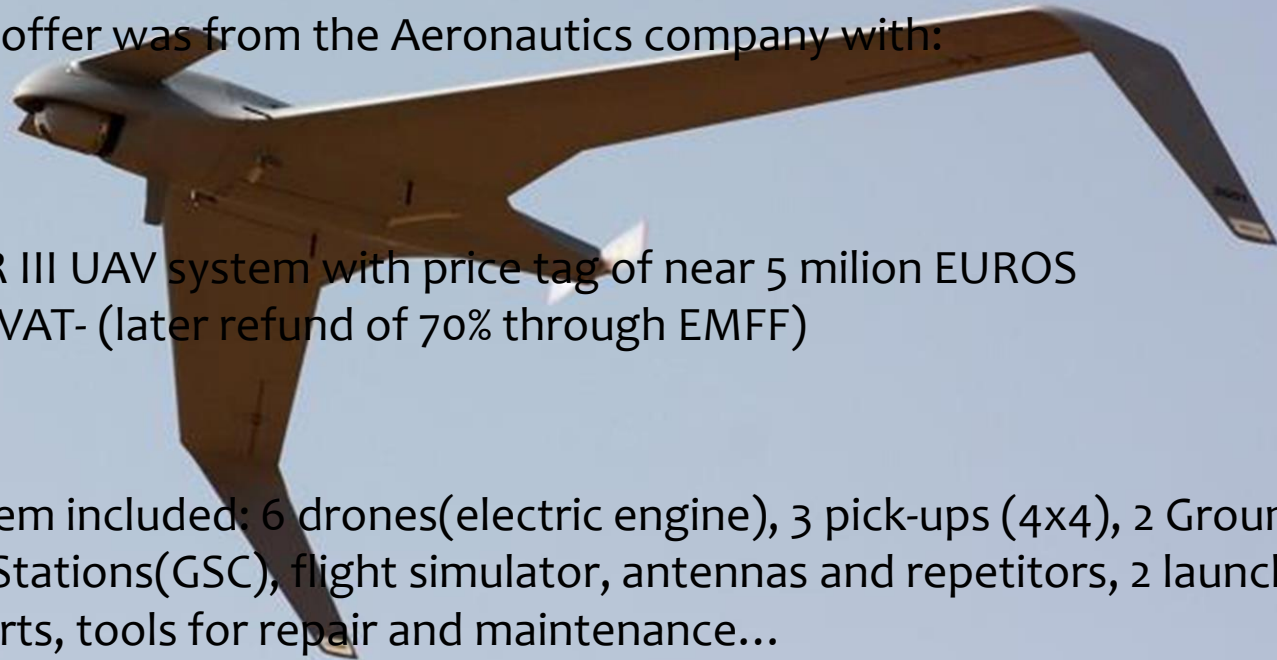
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In 2017. the finalisation of technical specifications based on study of Ministry of defence - a public tender was published and opening was 15.1.2018.

The best offer was from the Aeronautics company with:

ORBITER III UAV system with price tag of near 5 milion EUROS without VAT- (later refund of 70% through EMFF)

The system included: 6 drones(electric engine), 3 pick-ups (4x4), 2 Ground Control Stations(GSC), flight simulator, antennas and repetitors, 2 launchers, spare parts, tools for repair and maintenance...



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Regarding technical specifications, the main conditions relating to public tender and a contract signed on 15th of May 2018. were :

1. Previous experience of a bidder in contract values on similar projects
2. Warranty - total of 60 months given by the bidder
3. Test program under joint committee – 3 times in a country of origin before and during the production: March - initial testing – range, endurance, altitude, speed, sensors
 - a) June - Preliminary Design Review
 - b) September – Factory Acceptance Test
 - c) October-November - Site Acceptance Test on delivered UAV system
4. Courses (September) for flight operators and technicians - total of 16 personnel

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Experienced difficulties and recommendations

1. National legislative for a public procurement
2. Tehnical specifications
3. Realisation and deadlines
4. Tariff law

Thank you

Hvala