

# *Безпека інформаційного простору держави*

## **Justification of remote-piloted vehicles use and metrology supply improvement**

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***Abstract – The paper dwells upon the urgency of the remote-piloted vehicles use in the human life. The main objectives of remote-piloted vehicle metrology supply improvement are considered. The analysis of remote-piloted use is made.***

Key words – remote-piloted vehicles, aerial photoshooting, metrology supply, quality, metrology supply indices.

Taking into consideration the present scientific and technological progress stage which is characterized by rapid development of information society, the use of remote-piloted vehicles in different spheres of life is really justified.

Moreover, nowadays Ukraine is faced with the problem of terrorism in the temporarily occupied territories. Under conditions of uncertain truce reconnaissance plays vital role and becomes an important component of military operations. The use of remote-piloted vehicles is the best and the safest way of reconnaissance.

Also the remote-piloted vehicles are used in the following cases:

- aerial photoshooting of different movies;
- TV series;
- festive event;
- and in spheres, where human presence is dangerous (fire, flood, radiation accidents).

The main objective of any industrial process should be the high-quality production and at the same time adequate metrology supply, because it is impossible to imagine the operation of product without measurement assurance.

The choice of remote-piloted vehicles is justified by the fact that in modern conditions of technology development they are the most effective, mobile, convenient and cheap means of exploration (photos, videos).

*The remote-piloted vehicle* it is the device under constant remote control of pilot or pilotes and the main purpose of which is to be returned to airfield for the repeated use.

**Among the advantages of the remote-piloted vehicles are the following:**

- high economic efficiency (the use is not very expensive, even cheap);
- low altitude of aerial photoshooting (it is possible to make aerial photoshooting at 10-200 m. in order to obtain precise images of the region(;
- aerial photoshooting exactness (the possibility to make detail photoshooting of little objects and areas in those places, where it is unprofitable and technically impossible to do by using other methods).

Consistent improvement of techniques, technologies, production development and increased efficiency dramatically changes value orientations. The main problem concerning remote-piloted vehicles is precise control and data transmission at long distances, because remote-piloted vehicles during flight are under the influence of a variety of factors:

- weather (temperature, wind direction, humidity);
- the level of radio barriers;
- region relief;
- atmospheric pressure.

Due to the fact that it is difficult to evaluate these factors the accuracy of remote-piloted vehicles metrology supply, processing speed and data transmission are very important.

It is extremely important to improve the control and localization of remote-piloted vehicles by improving metrological measurements and the reduction of the metrology errors.

**For this purpose it is necessary to highlight the following objectives:**

- 1). to analyze the existing problems relating to the control of remote-piloted vehicles;
- 2). to develop mathematical model of metrology supply;
- 3). to improve the measurement of metrology supply indices of remote-piloted vehicles control;
- 5). to make a practical realization.

The theoretical and practical value of the remote-piloted vehicles use is concerned with the methods development of control quality improvement based on different methods and approaches. They will help to describe accurately such concept as metrology supply and provide better quality of remote-piloted vehicles control.

The use of remote-piloted vehicles is perspective for the aerial photoshooting of different aereas. It helps to obtain information from different remote places. It is really cheap method of photoshooting. That is why it is really important to use remote-piloted vehicles and to improve the metrology supply indices measurement.

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