

UKRSPEC SYSTEMS

USG-405

camera system

ISTAR USG-series payloads were designed by our company for UAVs, small manned aircraft, helicopters, autogyros, and aerostats. It's perfect for long-range surveillance, search and rescue, and security applications.

Full HD EO with 30x optical zoom

Scene lock

Target tracking

Digital video stabilization

Anti-fog feature

On-board recording
and storage

Laser rangefinder

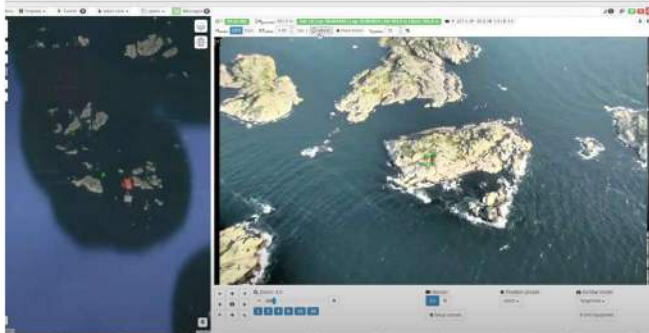
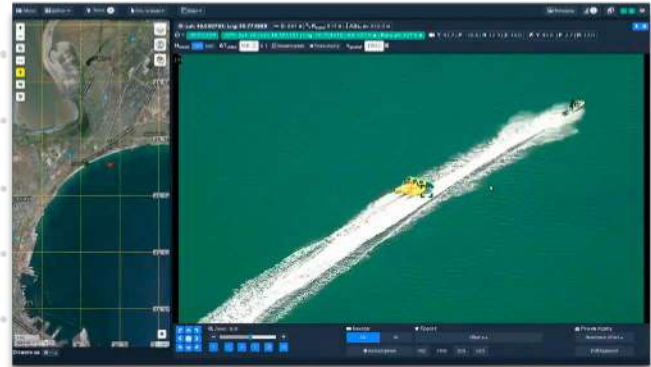


Application cases

The synergy between the hardware and the software allows executing various tasks depending upon the mission.

Search and rescue

Our equipment is able to make search and analysis in hard-to-reach areas of the Earth, create reports while searching, and operate in accordance with included protocols.

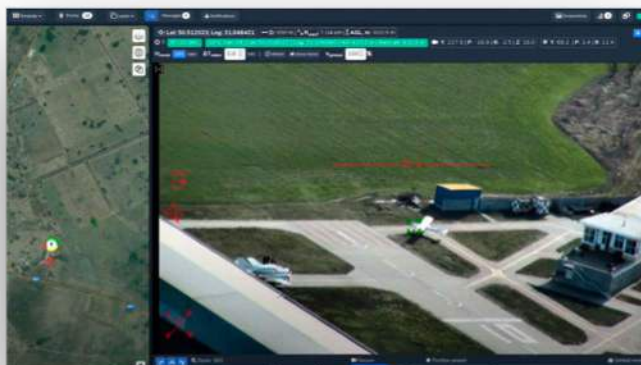
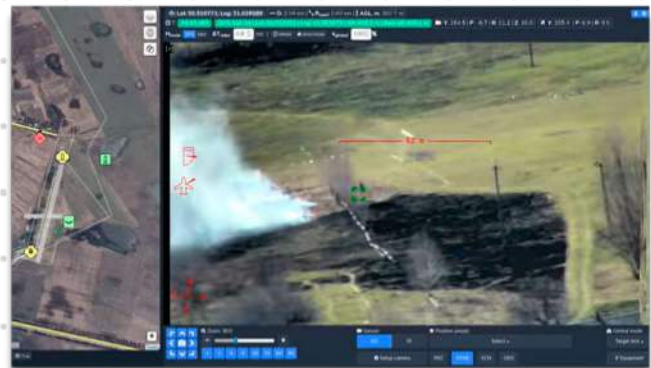


Anti-poaching

The flexibility of our technical solution gives us an opportunity to adapt the functionality of our software to collect information in different fields. Whether it's counting polar bears in the Arctic or locating ivory poachers.

Wildfire prevention

Monitor open space areas and measure the temperature changes in the selected preset area in automatic mode, locate the fire, determine the scale, position, and transmit all information to the Response Service.



Surveillance and observation

The flexibility of our technical solution gives us an opportunity to adapt the functionality of our software to collect information in different fields. Whether it's counting polar bears in the Arctic or locating ivory poachers.

System

features and technologies

During the years of constant improvement, our team received comprehensive feedback from the end-users. Based on our experience and expertise we've made a conclusion that first and foremost human factors should be eliminated to decrease critical issues and failures. We want you to have one of the most reliable drones on the market.



Objects on the map

Capture points of interest with just one click on the video. Click and the system saves the object and immediately add it to the map, with a photo attached.



Live map

Observe the current location of the drone and the area where your gimbal is pointed. Moving map helps a lot to know the current mission information and plan the next steps.



Augmented reality

See names of the streets, objects, and other useful information right above the video in real-time, so you won't miss anything.



Reporting tools

Quickly generate standard PDF reports, save all objects on the live map, include general information of the flight.



Laser rangefinder

The high-precise laser rangefinder can accurately resolve the longitude and latitude, ensuring precision target geopositioning.



Onboard video recording

The whole mission may be recorded from both sensors for better analytics or post-mission check.



Digital video stabilization

Stabilizes the image for clear and smooth video both online and raw onboard recordings.



Target tracking

Simply click on the object and the camera system will immediately start tracking it: whether it's a human, vehicle, or any other object. Nothing can escape your eye.



30x optical and 4x digital zoom EO / 5x optical and 4x digital zoom IR

Observe your point of interest in the smallest details no matter what the distance is.



Capable of operating in harsh weather conditions

From -10C to +40C, despite the rain, fog, wind, or mist.



Picture-in-picture

Check video streams simultaneously.



On-screen display

Real-time output of vital metadata on the screen.

Aerowatcher

software

Reporting module allows you to quickly generate a standardized report of your aerial surveillance. It will contain general information about your flights, such as time and date, duration, total distance traveled, number of detected objects, and flight route.

Right after that, you will find every object that was detected during the current session. Object description includes general information, coordinates, photo, and location on the map. The report can be exported as a PDF file and can be easily forwarded to a client and passed by to a decision-maker.

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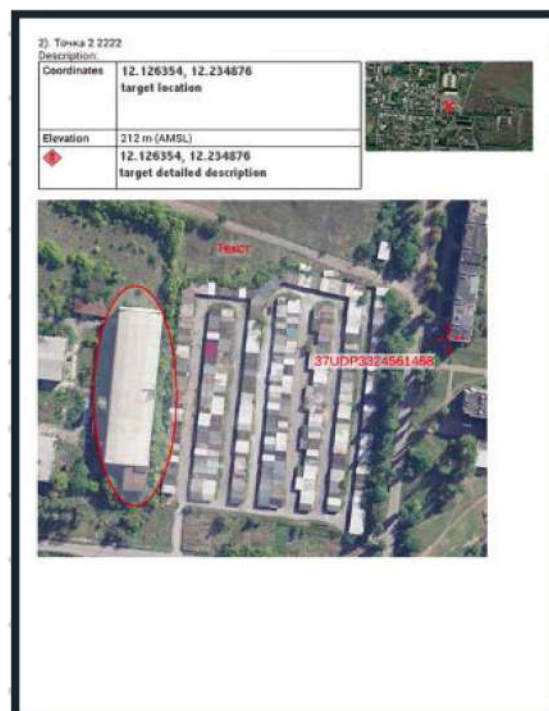
Report created by "Terminal" software by "UkrSpecSystems" Ltd.
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restricted

REPORT ON AIR RECONNAISSANCE #2019-05-15

Air reconnaissance team: UkrSpecSystems

UAV type	PD-1 + photocamera (offline)
Date and time of mission (takeoff - landing)	2016-09-09 05:52:13 - 2016-09-09 10:01:21
Duration	3:32:24
Area	Desna, Kiev region
Takeoff & landing place	Kozelets
Flight distance	351.56 km
Height over ground, up to	1.61 km
Materials analyzed	122 photos (3.28 GB)
Results	1). Block-post1 (Military Base - Military Infrastructure - Infrastructure - Land installations) 2). Точка 2 2222 (Multiple Rocket Launcher - Weapons/Weapons System - Land equipment)
Report creation time	2019-12-21 13:48:47

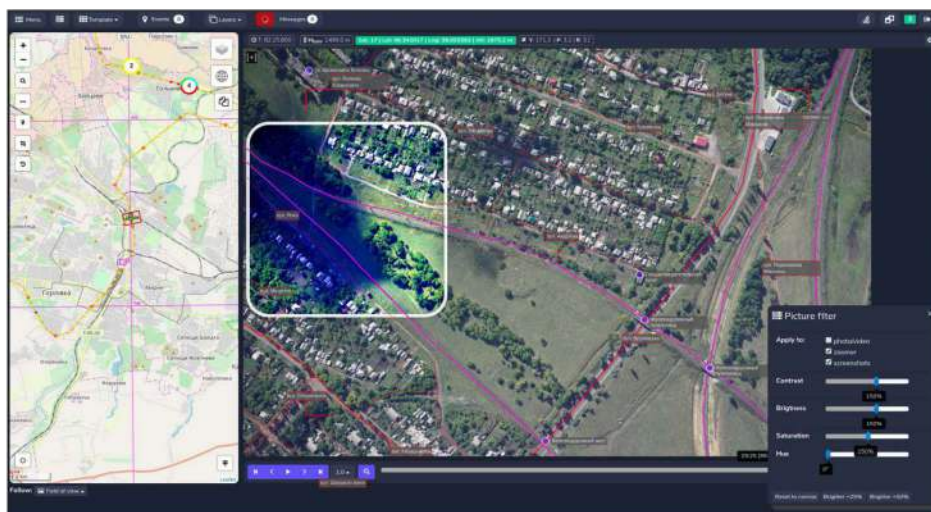


Mission replay mode

Sometimes you miss important things when you are in a rush or there is simply not enough time to carefully study the video during the flight. This is why we introduce the post-processing mode.

Upload video or photos from the drone, together with the log file to the software and you will enter replay mode that will simulate the flight.

You can see the same video already synchronized with the flight route, and know exactly where it was recorded. Use a set of tools, like video enhancement, zoom, annotations to take a maximum of your visual materials and collect as much information as possible.



Application

cases

Ukrspesystems offers a wide range of EO/IR gyro-stabilized gimbals for fixed-wing and multi-rotor platforms. Possible application cases are innumerable and can be limited only with the platform restrictions our solution will be installed on. However, our camera systems comply with the highest quality standards and our team has huge expertise with camera systems integration on the various platforms.



Military



Wildlife monitoring



Border control



Pipeline inspection



Powerlines inspection



Police assistance

Technical

details

Physical data:

Width	180 mm
Height	180 mm
Depth	250 mm
Power consumption	50 W
Power voltage	12-24 V
Environmental protection	IP65

Control:

Pan angle	360°
Tilt angle	-90..+45°
Angle control accuracy	0.01°
Stabilization angle RMS	100 μ rad

Daylight camera:

Image resolution	1920x1080
Frame rate	30
Zoom optical	30x
Zoom digital	4x
View angle wide	63.7°
View angle tele	2.3°
Sensitivity	0.01 luxv

IR camera:

Image resolution	640x512
Frame rate	60
Sensitivity wavelength	8-14 μ m
Pixel pitch	12 μ m
Temperature sensitivity	≤ 50 mK°
WFOV/NFOV	29.9°/5.8°
Optical focus	5x (15-75mm)

Laser rangefinder:

Safety class	Class 1
Wavelength	1.5 μ m
Range	4.5 km



System

includes

The USG camera systems come as a plug-and-play turnkey solution. To begin with cabling and to end with controllers - simply connect it with your aircraft and execute the mission.

Communications:

Network interface Ethernet
Control interface..... Serial RS-232/485
Video output..... Ethernet
Video stream format..... MPEG-TS, RTP/RTSP
KLV metadata..... MISB ST.0601

What you get :

- USG-405 gimbal
- Anti-vibration mount
- Rugged laptop/tablet pc with preinstalled software
- Controllers
- Connection kit
- Rugged transportation case

Please note, that design and technical details may differ upon release





— S m a r t s o l u t i o n s c o m p a n y