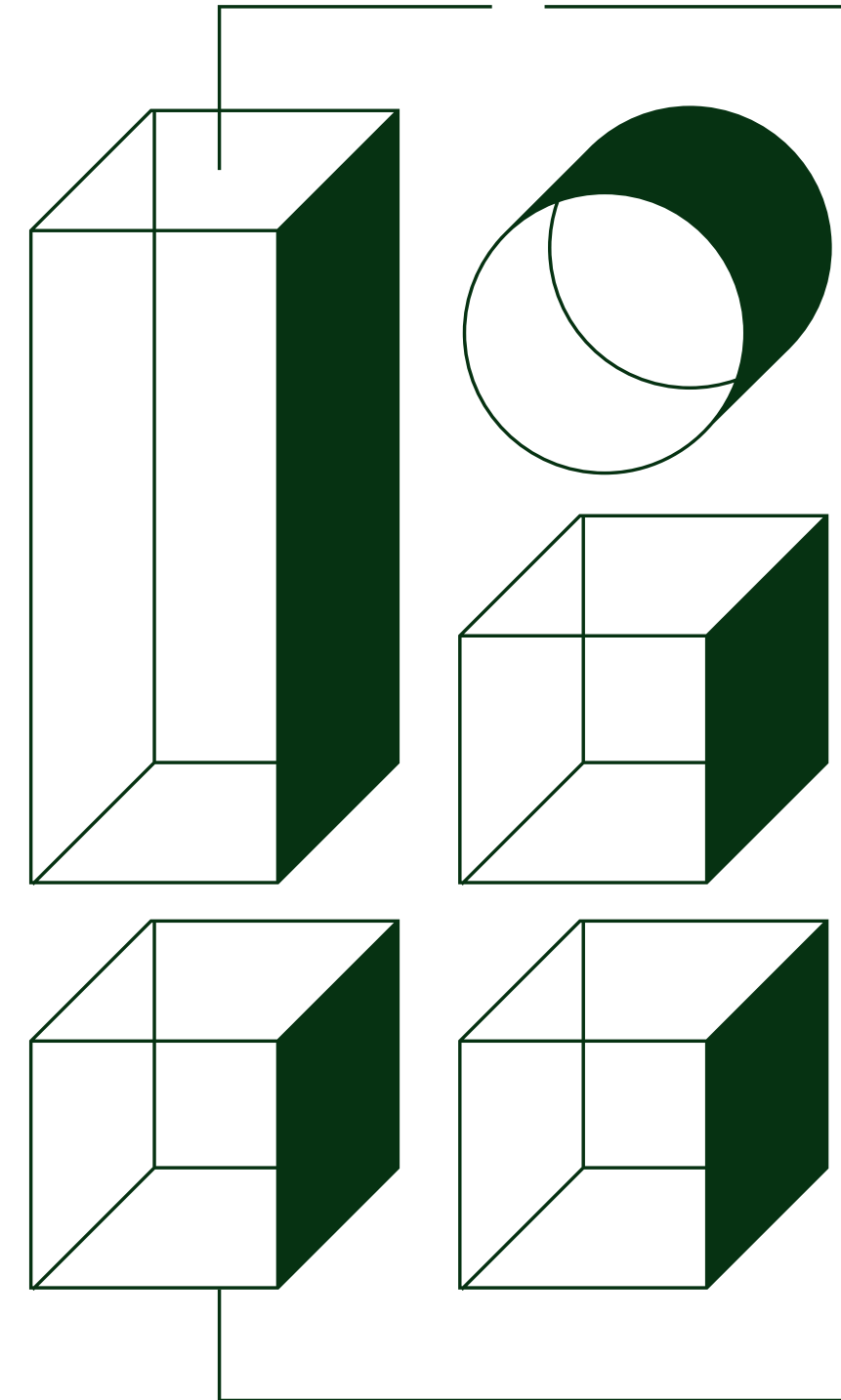


# «R&D Center Kazakhstan Engineering» LLP

## Perspective projects



Astana 2023



# ABOUT US

**"Research and Development center "Kazakhstan engineering" LLP - the research center whose activities are aimed at the development of domestic science in the field of the military-industrial complex, scientific and technical support for the modernization of existing and the development of new types of military and dual-use products in the interests of the military security of the state, the development and implementation of information technologies based on domestic innovative solutions and the provision of a full range of services, support and support of projects for innovators with the aim of bringing ideas to industrial mass production.**

## Since 2009

The research institute has opened.

## Since 2015

More than 50 scientific research works have been carried out.  
More than 10 projects of experimental design work on armament and military equipment and special equipment have been carried out.

## Since 2016

Conducting an independent examination of weapons, military and special equipment in the interests of enterprises of the military-industrial complex, the Armed Forces, and other military formations of the Republic of Kazakhstan.

# Unmanned aerial vehicle - air target with heat flow simulator



This target is designed to create a target environment during the annual training of anti-aircraft missile units and combat shooting by anti-aircraft gunners of any portable anti-aircraft missile systems and anti-aircraft installations.

## Flying quality parameters

|                                     |          |
|-------------------------------------|----------|
| Wingspan, m                         | 2,12     |
| Take-off weight, kg                 | 6        |
| Power plant                         | electric |
| Maximum flight speed, km/h          | 100      |
| Maximum practical ceiling, m        | 3500     |
| Flight duration, min                | 45       |
| Deployment time of the complex, min | 10       |
| Payload, kg                         | 1        |

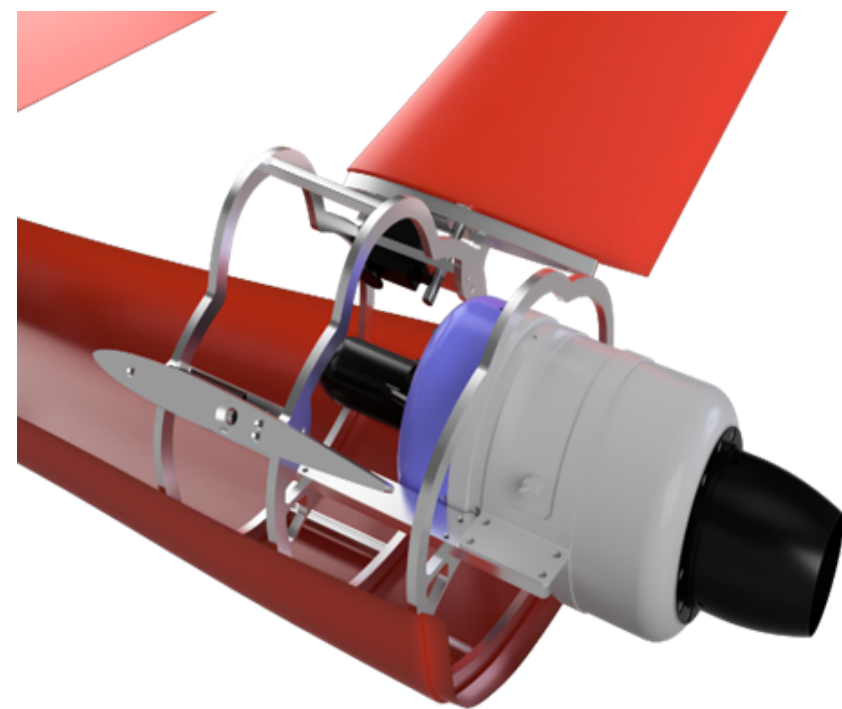
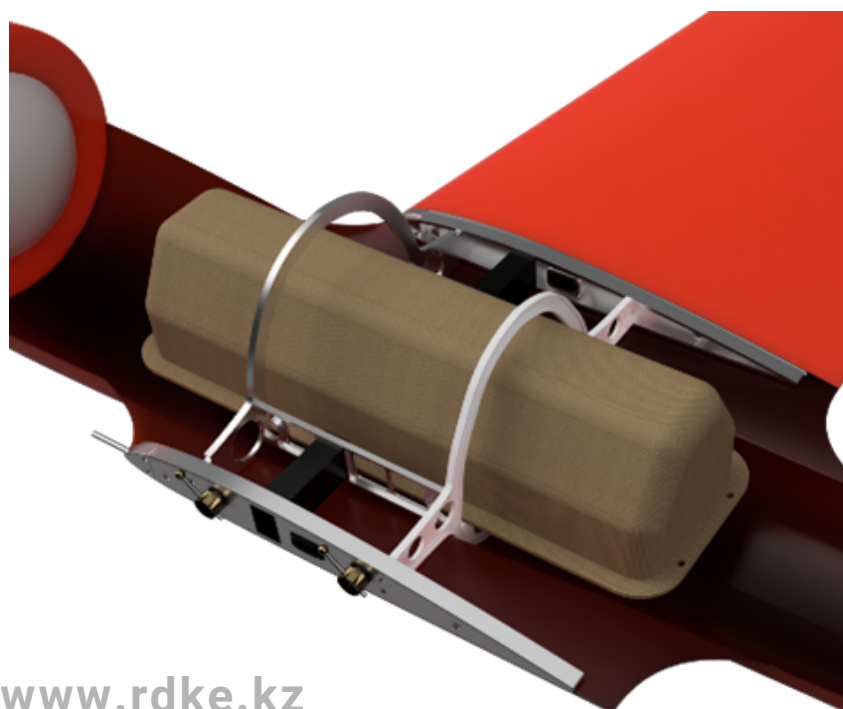


# Unmanned aerial vehicle - turbojet-powered air target

The air target is designed to provide combat training for troops and to practice (test) air defence means.

The UAV target is equipped with a passive Luneburg lens reflector, enabling the production of a low and high-speed moving air target that simulates a wide range of different modern air attack weapons, such as aircraft, a barraging shell for short-range surface-to-air missiles and object-based air defence systems.

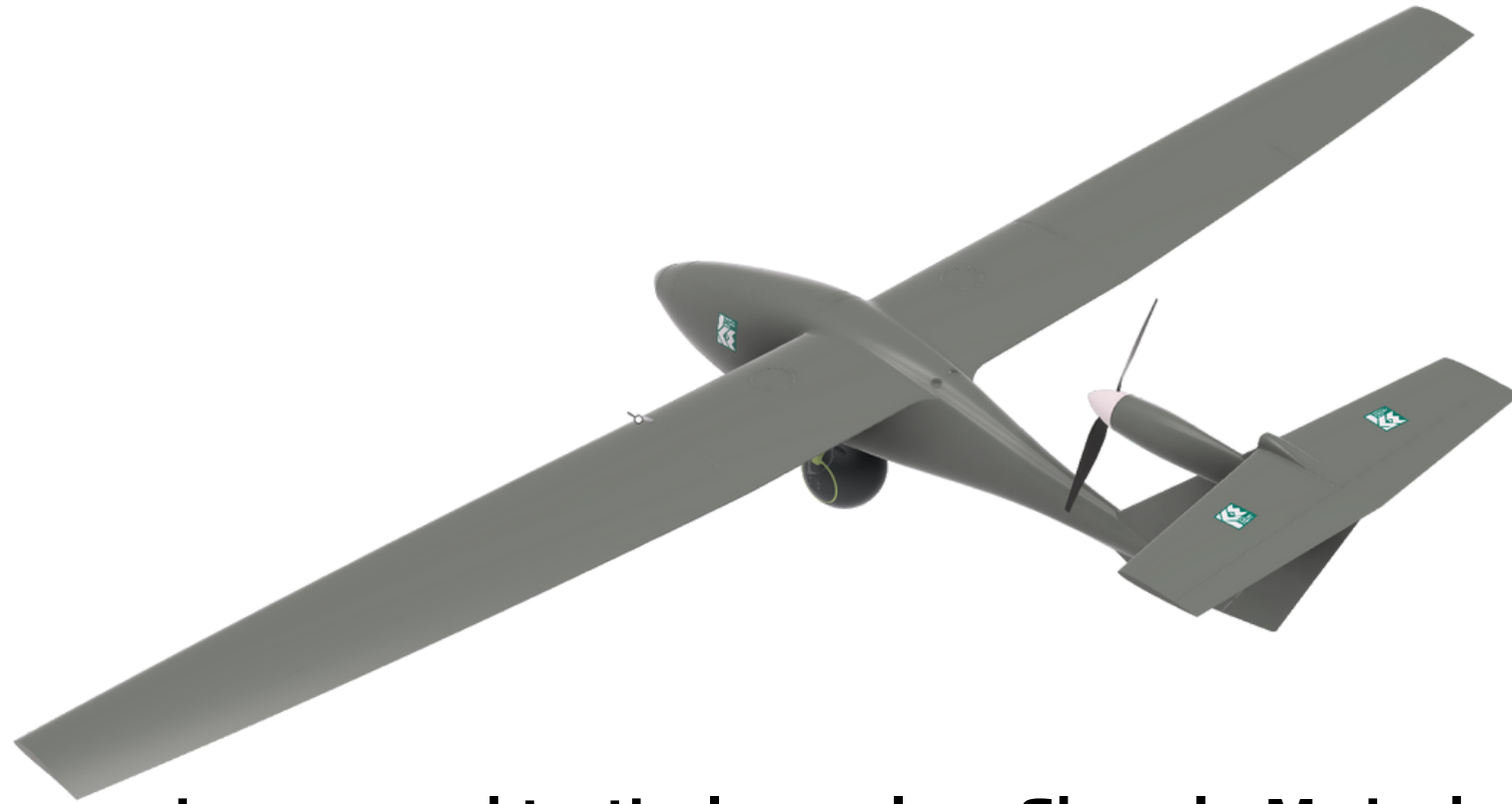
The UAV can be modified for use as a bomber missile.



**Flying quality parameters**

|                                     |                 |
|-------------------------------------|-----------------|
| <b>Wingspan, m</b>                  | <b>2,6</b>      |
| <b>Take-off weight, kg</b>          | <b>20</b>       |
| <b>Power plant</b>                  | <b>turbojet</b> |
| <b>Maximum flight speed, km/h</b>   | <b>500</b>      |
| <b>Maximum practical ceiling, m</b> | <b>3500</b>     |
| <b>Flight duration, min</b>         | <b>45</b>       |
| <b>Payload, kg</b>                  | <b>6</b>        |

# Unmanned aviation complex "Shagala-M"



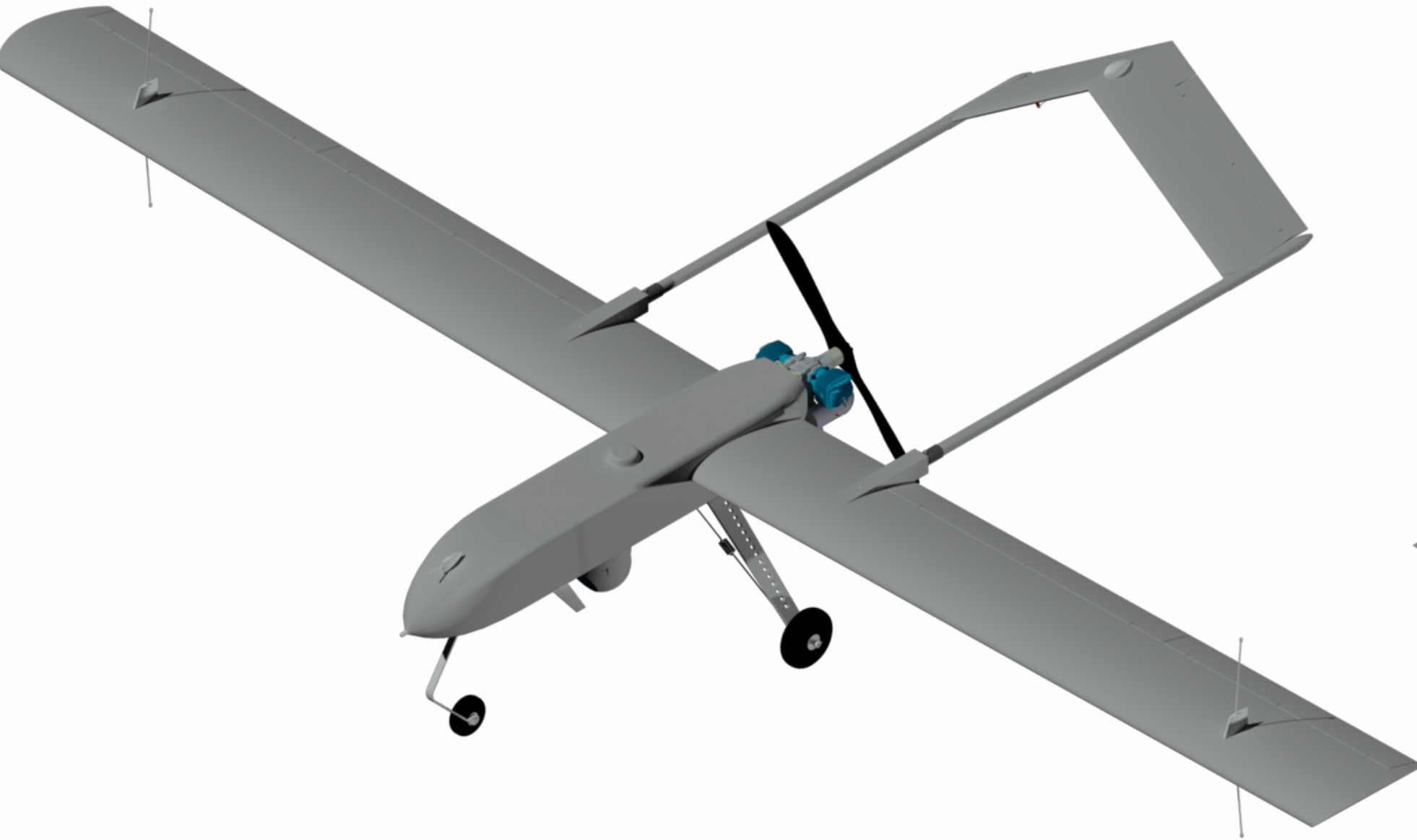
**This reconnaissance and tactical complex «Shagala-M» is designed for reconnaissance reconnaissance, surveillance and target designation. «Shagala-M» can be used at any time of the day, all year round in various climatic and geographical conditions. there is a possibility to use it as a repeater for communication and control facilities. Subject to modification, this UAV can be used in the interests of civil agencies in various areas of the country's economic activity.**

**Flying quality parameters**

|                                     |                 |
|-------------------------------------|-----------------|
| <b>Wingspan, m</b>                  | <b>3,9</b>      |
| <b>Take-off weight, kg</b>          | <b>12</b>       |
| <b>Power plant</b>                  | <b>electric</b> |
| <b>Maximum flight speed, km/h</b>   | <b>120</b>      |
| <b>Maximum practical ceiling, m</b> | <b>4000</b>     |
| <b>Flight duration, min</b>         | <b>240</b>      |
| <b>Payload, kg</b>                  | <b>4</b>        |



# Multipurpose reconnaissance UAV



**Flying quality parameters**

**This UAV is designed for information gathering, surveillance and reconnaissance; it can be used for maneuver groups, security service operations, security and law enforcement.**

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| <b>Wingspan, m</b>                  | <b>4,5</b>                        |
| <b>Take-off weight, kg</b>          | <b>50</b>                         |
| <b>Power plant</b>                  | <b>Internal combustion engine</b> |
| <b>Maximum flight speed, km/h</b>   | <b>210</b>                        |
| <b>Maximum practical ceiling, m</b> | <b>5000</b>                       |
| <b>Flight duration, hour</b>        | <b>8</b>                          |
| <b>Payload, kg</b>                  | <b>15</b>                         |

# Helicopter complex of an unmanned aviation system

This helicopter complex is designed to carry out various kinds of activities (photographing, surveillance, reconnaissance, cargo transportation, monitoring) in mountainous terrain, as well as in the event of natural and man-made disasters.

The helicopter complex also monitors and studies situations in places with increased threat – forest belts, reservoirs, dams.

## Flying quality parameters

|                              |      |
|------------------------------|------|
| Wingspan, m                  | 2,6  |
| Take-off weight, kg          | 25   |
| Maximum flight speed, km/h   | 40   |
| Maximum practical ceiling, m | 2000 |
| Flight duration, min         | 120  |
| Payload, kg                  | 7    |



# Target training complex «Kolchan»

The target-training complex «Kolchan» (hereinafter – MTK «Kolchan») is designed to create a complex target environment for air defense (hereinafter – air defense).

The uniqueness of this complex is that it allows you to simulate the simultaneous attack of air targets of various types - from low-flying to high-altitude, and from slow-speed to high-speed. With the help of such a complex, air defense calculations will be able to detect, accompany and destroy training targets with real combat anti-aircraft missiles.

The complex can also be used when checking the settings of air defense systems (air defense systems, RTV) in places of permanent deployment.

## The composition of the target training complex «Kolchan»

- a mobile ground control point (NPU) located in a unified container body;
- targeted funds;
- means of launching targets.

There are unmanned aerial vehicles (UAVs) that repeat the characteristics of all currently known types of aircraft that can be used by the enemy as a means of attack - helicopters, airplanes, ballistic missiles. In addition, the MV-1 aerial target is included in the complex to simulate air targets when training short-range, short-range and MANPADS combat crews.

## The capabilities of the target training complex «Kolchan»

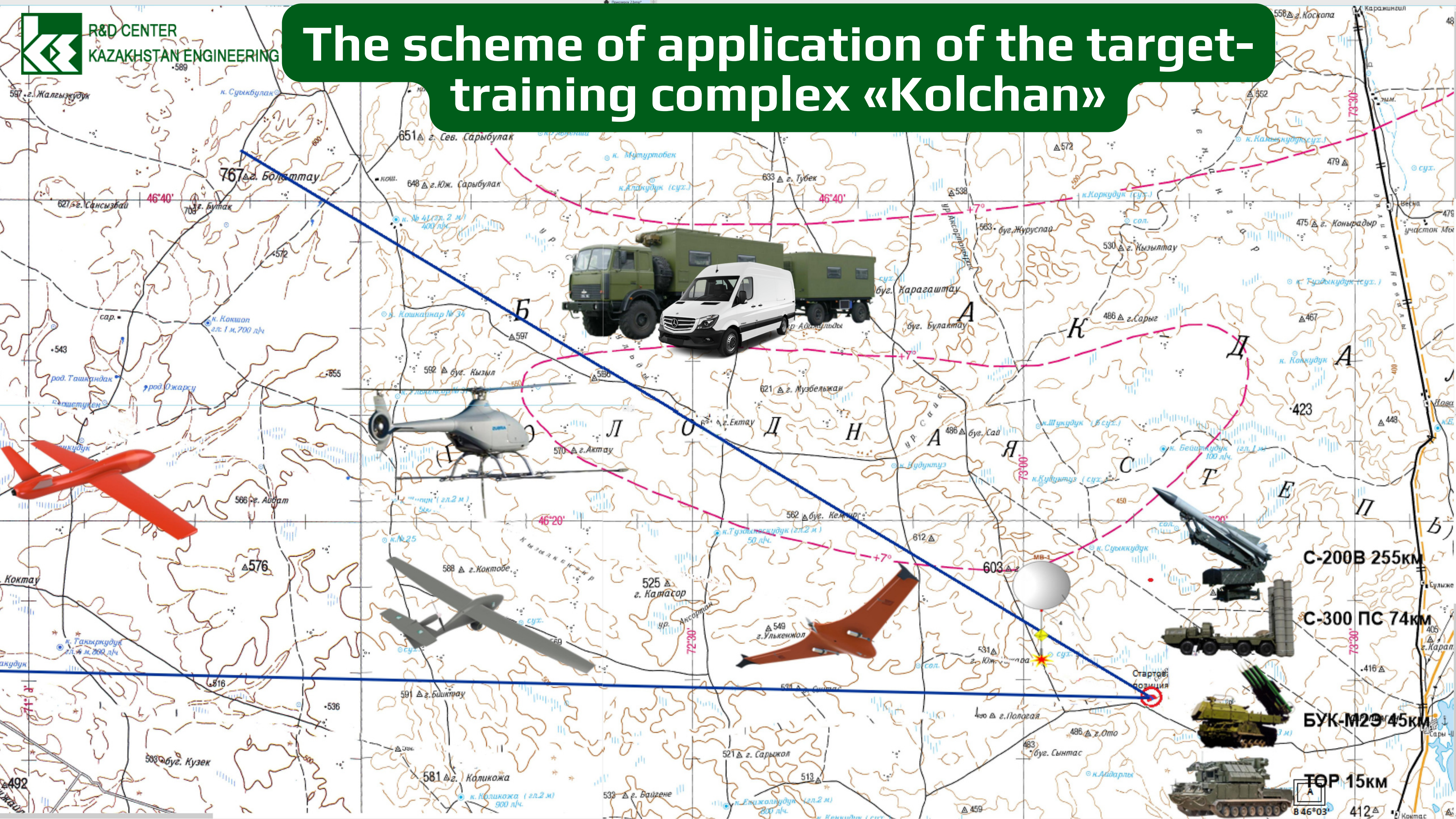
The complex allows you to control 6 targets of all the listed types.

## Tactical and technical characteristics of the complexes

|                               |        |
|-------------------------------|--------|
| Target speed, km/h            | 18-500 |
| Maximum practical ceiling, km | 0-12   |
| Range, km                     | 0-350  |
| Maximum flight duration, hour | 3,5    |



# The scheme of application of the target-training complex «Kolchan»







# Barrage ammunition

The barrage munition is designed to make a long flight over the battlefield, independently detect targets and, if necessary, destroy them by diving.



## Tactical and technical characteristics

|                                     |               |
|-------------------------------------|---------------|
| <b>Wingspan, m</b>                  | <b>1,5</b>    |
| <b>Take-off weight, kg</b>          | <b>7</b>      |
| <b>Radius of the task zone, km</b>  | <b>40</b>     |
| <b>Flight duration, min</b>         | <b>30</b>     |
| <b>Maximum practical ceiling, m</b> | <b>1000</b>   |
| <b>Speed range, km/h</b>            | <b>60-100</b> |
| <b>Dive speed km/h</b>              | <b>250</b>    |
| <b>Payload, kg</b>                  | <b>1</b>      |

# A robotic ground complex based on a tracked platform

This complex is designed to solve a wide range of tasks on the battlefield: reconnaissance, detection and defeat of stationary and mobile targets, fire support of units, protection of convoys, identification and destruction of enemy forces, towing of broken equipment, perimeter protection, protection, rescue, border patrol, riot control and ammunition disposal. At the same time, the ground platform can move in any weather on very steep slopes and rough terrain. If the complex is modified, the remote-controlled module can be replaced with a carriage barrel for fire extinguishing.

## Tactical and technical characteristics

|                              |              |
|------------------------------|--------------|
| Weight, kg                   | 200          |
| Payload weight, kg           | 250          |
| Movement speed, km/h         | 10           |
| Power plant                  | electric     |
| Control range, km            | 5            |
| Working hours, hours         | 8            |
| Main dimensions, LxWxH in mm | 1800x950x600 |



# Multifunctional robotic system for the search and disposal of mines, ammunition and improvised explosive devices

The multifunctional robotic system is designed to move potentially dangerous objects and create conditions for clearing explosive devices using a mechanical clutch system. It can be controlled remotely via a wired or wireless channel.

## Tactical and technical characteristics

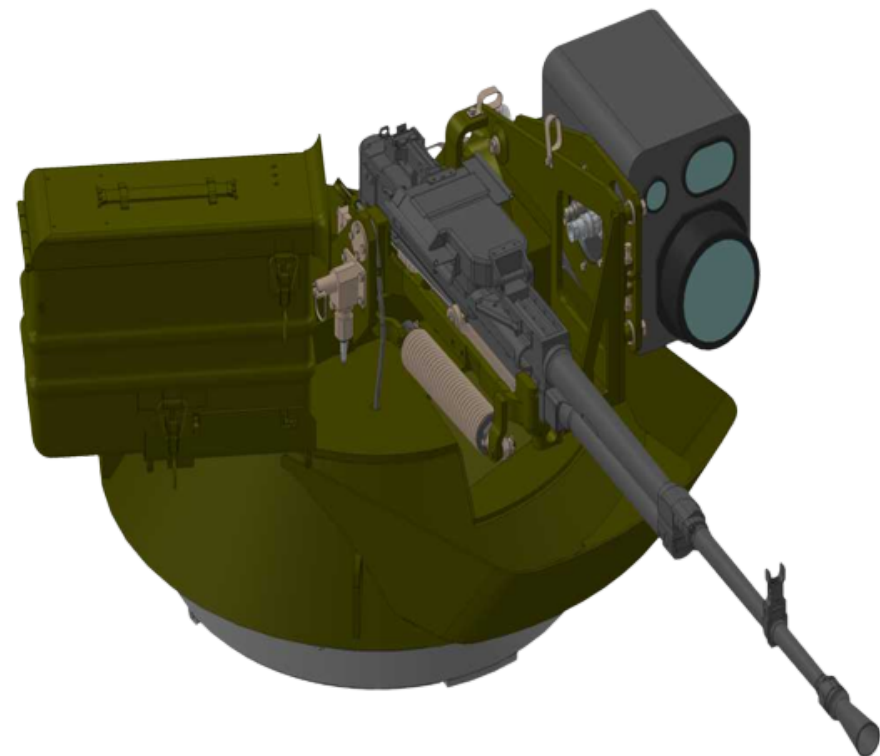
|  |          |
|--|----------|
| Weight, kg   | 14       |
| Overcoming obstacles:<br>Vertical angle of inclination, degree | 60       |
| Horizontal angle of inclination, degree                        | 30       |
| Height of the obstacle, cm                                     | 15       |
| Movement speed, km/h   | 5        |
| Power plant  | electric |
| Control range, km  | 100      |
| Working hours, hours   | 1,5      |
| Main dimensions, LxWxH, cm                                     | 60x40x17 |



# Remote weapon station



This weapon station is designed for reconnaissance and target detection, monitoring of the background-target situation, destruction of manpower (in means of individual armor protection) and firepower, as well as unarmored and lightly armored vehicles.



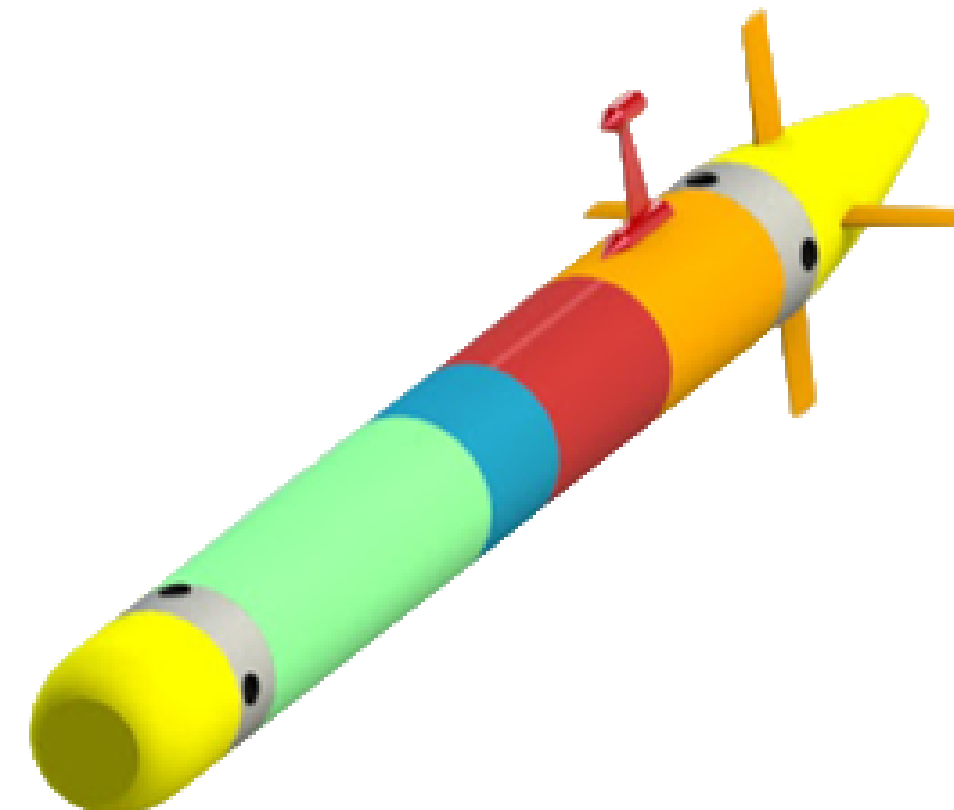
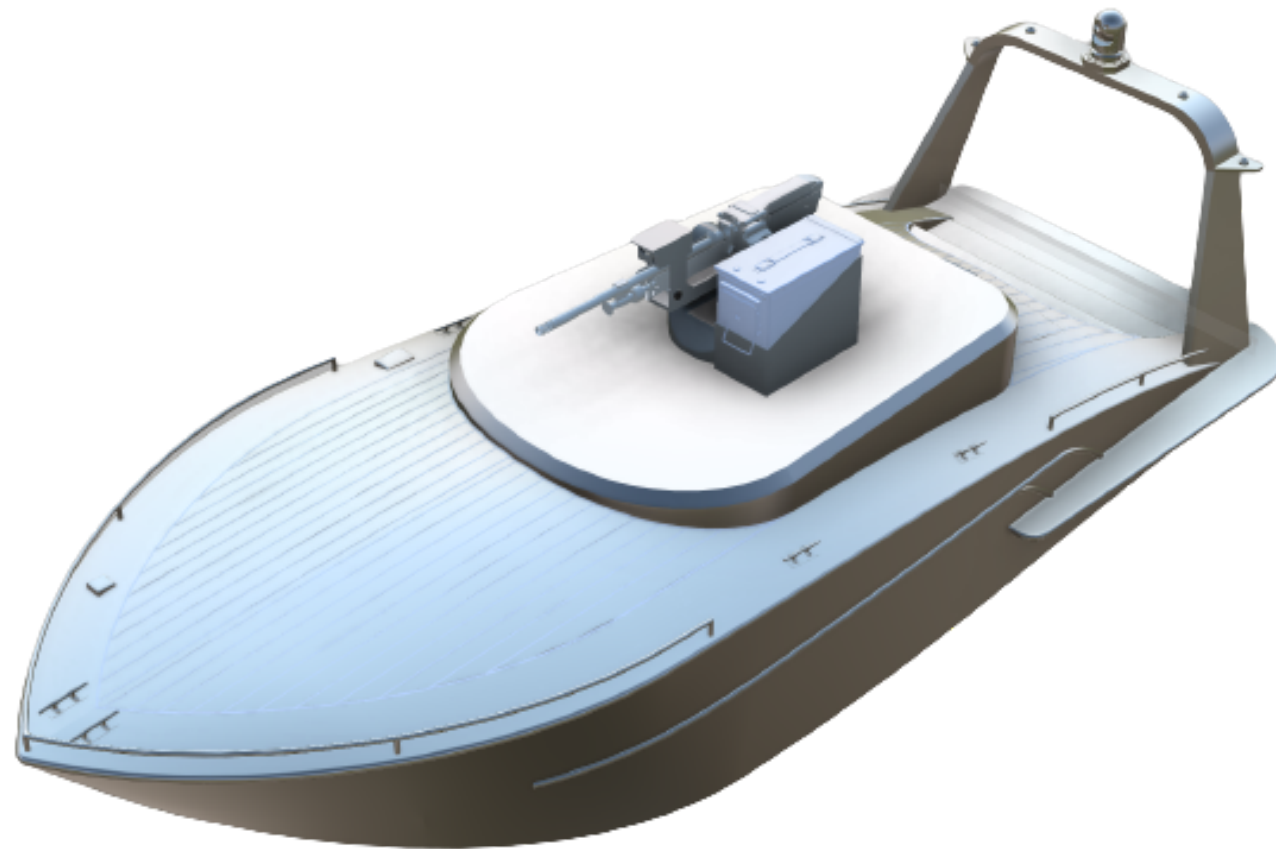
## Tactical and technical characteristics

|  |                    |
|--|--------------------|
| Target range, km   | 1,5                |
| Ammunition, pcs  | 1000               |
| He aiming angles, a pointing angle, deg.<br>Vertically<br>Horizontally | -10.....+60<br>360 |
| Weight (with ammunition), kg   | no more than 250   |
| Main dimensions, LxWxH in mm   | 1674x1070x740      |



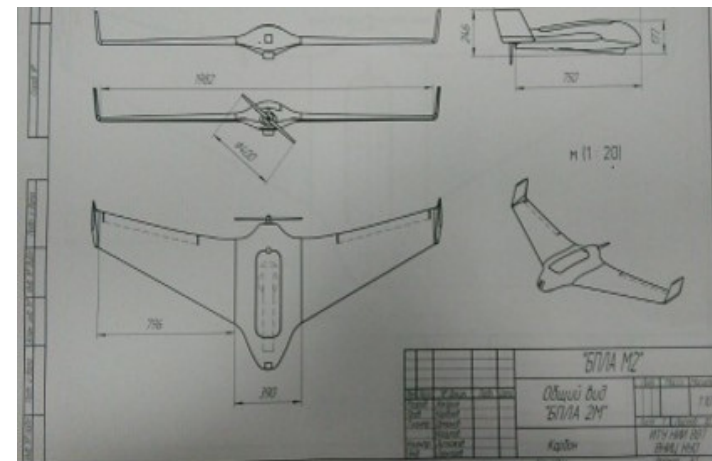
# An unmanned boat and an underwater vehicle with an intelligent control system and group behavior taking into account the impact of the external environment

**This unmanned boat and underwater vehicle is designed for the protection and defense of strategic marine facilities as part of the forces and means of the owners of strategic marine facilities and the naval forces of the Republic of Kazakhstan. It can also be used in services: rescue, engineering and hydrographic geological surveys, environmental control, meteorological. in the fields of oil and gas and energy complexes, such as the protection and monitoring of oil and gas fields, facilities, as well as the inspection of offshore underwater pipelines and underwater cable crossings.**



# Repair and maintenance of UAV composite backbone and electronics

- The production base allows manufacturing, modifying and promptly servicing UAVs of any complexity.
- The company provides warranty and post-warranty maintenance of the complexes and training of operators of UAV complexes.
- Modern composite polymer materials fiberglass, carbon plastic (carbon), kevlar, compound and polyester resins.
- A team of aeromodellers, designers, programmers and other experts from related technical fields create their own unmanned systems based on engineering, research, development, testing, production and operational experience.





## POSTAL ADDRESS

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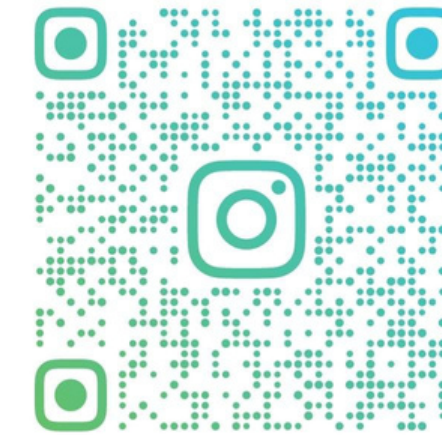
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