

Unmanned Aircraft Systems

Setup of assembly facility for Unmanned Aerial System
“Berkut-VM”

UAS “Berkut-VM”. Designation and composition

Designation

UAS “Berkut-VM” is designed for:

- training of crews of anti-aircraft missile systems (AAMS) at the places of permanent deployment at various types of targets;
- tests and further evaluation of real performances of firing radars of ADMS and Radars, including after refurbishment and adjustment works: target detection range, accuracy of tracking by distance, speed and angular coordinates;
- creation of target situation for ADMS, training-combat and combat firing during exercises with combat firing;
- flight over the Radar and ADMS positions in order to draw logbooks of positions.



Unmanned Aerial System “Berkut-VM” is equipped with Ground Control Station (GCS), set of Unmanned Aircrafts “Berkut” which acts as a robotized air target, and launcher.

Major performances of “Berkut” UAV

Item name	Characteristic
Engine	Turbojet
Takeoff mass	35 kg
Range of horizontal flight speed	100–360 km/h
Maximum air speed	400 km/h
Service ceiling	3 km
Practical flight range	110 km
Flight duration (altitude 500 m)	30 min
Number of applications	10 times
Radar Cross-Section	
Without devices for increasing radar cross section	0,15 m ²
Radar cross section achieved using the corner reflector	1–1,5 m ²
Radar cross section achieved using the radar simulator of the reflected signal	0,15–30 m ²

UAS “Berkut-VM” composition

Name	Description	Q-ty
“Berkut” UAV	Equipped with: radar target simulator with corner reflector, parachute landing system, radio beacon for landed UAV search, four target miss video recorders	up to 24 pcs.
Ground Control Station “UH-GCS”	Ground Control Station (GCS) “UH-GCS” is designed for remote control of UAV, its equipment as well as for receipt and displaying on monitors of information from the installed payload	1 pc.
Transportation container	Transportation container for moving and storing of “Berkut” UAV	1 pc.
UAV Preflight Preparation System “TPS aero”	Preflight Preparation System for UAV systems diagnostics before flight without using of GCS	1 pc.
Launcher “KP120”	Launcher for launching of the UAV and pre-launch control	1 pc.
UAV SPTA	Set of spare parts, tools, accessories and materials for “Berkut” UAV repair	1 pc.
Operational documentation	Operational documentation for correct operation of “Berkut-VM” UAS, list of its main components with indication of their main parameters and characteristics	1 set

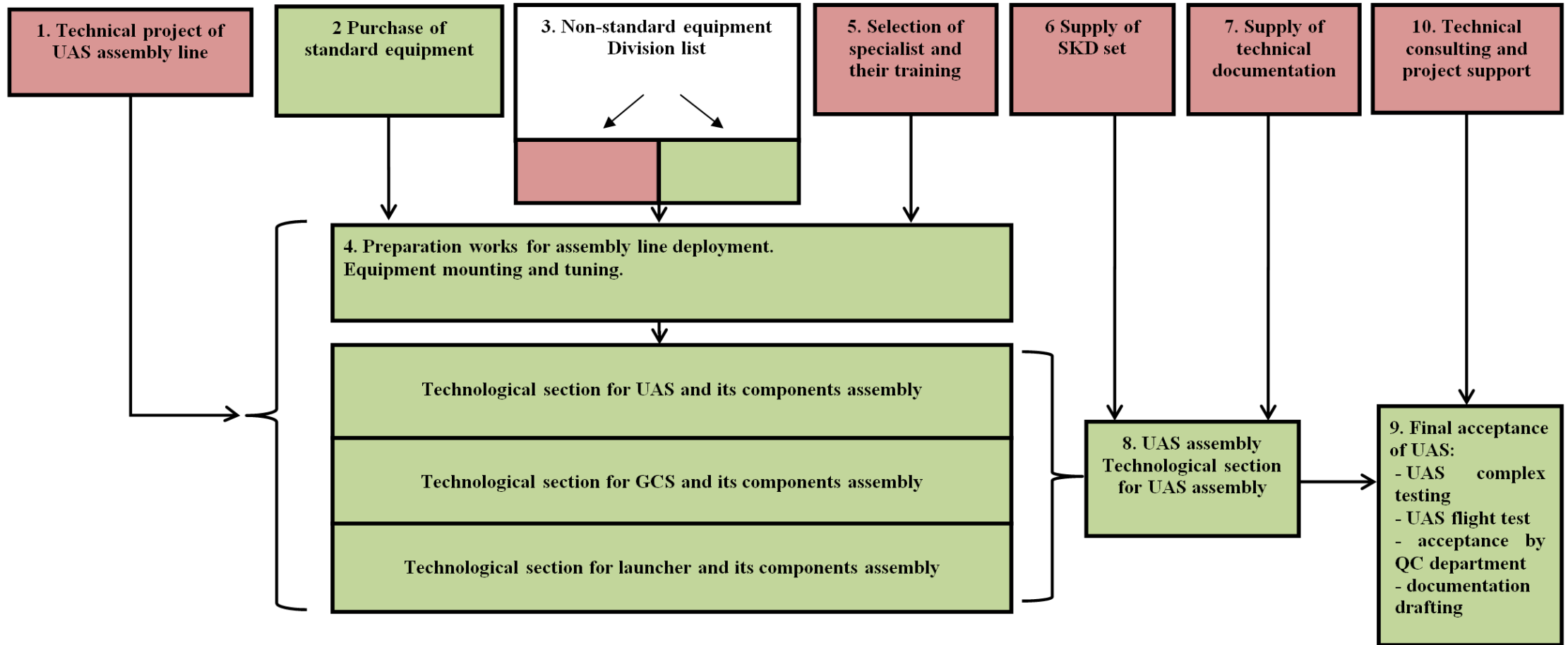
Setup of an assembly facility for production of UAS “Berkut-VM”


Setup of an assembly facility for production of modern UAS in the territory of the Customer at the initial stage provides:


- localization of assembly;
- creation of own UAS service and repair base;
- maintenance, repair, production of other UAS types using the assembly facility equipment;
- capabilities to train national staff which will allow further performing of more complicated technical tasks of own developments;
- further localization of components and units of UAS.



Stages of Project “Management of UAS “Berkut-VM” Assembly Facility”



 - executed by “Beltechexport” Company

 - executed by the Customer

SKD set of UAS “Berkut-VM”. Purpose and composition

Purpose

SKD set of UAS “Berkut-VM” is intended for:

- stationary assembly of UAS “Berkut-VM”;
- creating base for serial production of UAS “Berkut-VM”, its further modernization, maintenance and repair.

Composition

SKD set of UAS “Berkut-VM” consists of:

- SKD set of UAV “Berkut”;
- SKD set of ground control station “UH-GCS”;
- SKD set of launcher “KP120”.



Workstations and requirements to personnel

Structure of UAS assembly facility required corresponding equipment and trained personnel.

Total area for placing standard and non-standard equipment for UAS assembly sections is 300 m².

No	Workstation	Specialist	Q-ty	Qualification requirements (education degree)
1.	Technological section for UAV and its components assembly	UAV airframe and its systems assembly engineer	1	Technical engineer (higher)
		Fitter	1	Advanced education
		Radio-electronic equipment and devices installer	1	Advanced education
2.	Technological section for GCS and launcher assembly	GCS and its systems assembly engineer	1	Technical engineer (higher)
		Fitter	1	Advanced education
		Construction electrician	1	Advanced education
3.	UAS assembly and testing technological section	Adjuster engineer	1	Electronics engineer (higher)
		Fitter	1	Advanced education
		UAV operator	1	Test engineer (higher)
		TOTAL	9	

Full list of the equipment is given in Technical Proposal.

Work Plan

No.	Designation
1.	Technical project of UAS assembly line
2.	Purchase of standard equipment
3.	Supply of non-standard, test equipment, specialized tools and appliances for the assembly facility.
4.	Preparation work for assembly line deployment. Equipment mounting and tuning.
5.	Training of Customer's specialists on assembly, monitoring and testing UAS "Berkut"
6.	Supply of SKD sets and auxiliary materials
7.	Supply of sets of technical documentation on assembly, monitoring, testing and operating UAS.
8.	Assembly of the first lot of UAS
9.	UAS production: - complex testing of UAS; - acceptance by quality control department; - documentation drafting.
10.	Technical consulting and project support

Standard equipment for assembly facility



UAS assembly section



Workstation for bag sealing
with exhaust hood



Climate chamber

Non-standard equipment for assembly facility



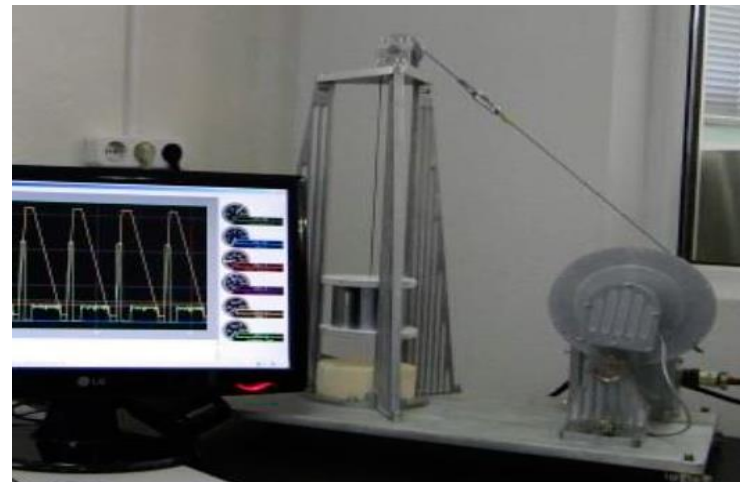
Autopilot test bench



UAV holding frame



UAV complex testing system



Stabilizer angles test bench

