

A-50U

RUSSIA'S MODERNIZED AIRBORNE EARLY WARNING AND CONTROL AIRCRAFT



- AIRBORNE EARLY WARNING**
Wide-area airspace surveillance
- AIR BATTLE MANAGEMENT**
Supports fighter direction and force coordination
- LONG-RANGE SURVEILLANCE**
Detects and tracks aircraft, including cruise missiles
- COMMAND AND CONTROL**
Manages the air picture and coordinates operations
- MODERNIZED AVIONICS**
Improved electronics, processing and operator workstations

PLATFORM OVERVIEW

The A-50U is a modernized variant of the A-50 airborne early warning and control (AEW&C) aircraft, built on the Il-76 strategic transport platform. It provides long-range surveillance, battle management and command and control for Russian air operations.

AIRFRAME AND MISSION SYSTEMS

Rotodome
Houses the Shmel radar antenna for 360° surveillance.

Communications suite
SATCOM, VHF/UHF and data links for coordination and C2.

KEY SPECIFICATIONS (APPROXIMATE)

Crew (flight crew)	5
Mission operators	10–15
Wingspan	~ 50.5 m
Length	~ 48.3 m
Max takeoff weight	~ 190,000 kg (190 t)
Powerplant	4 x Soloviev D-30KP turbofan engines
Endurance	~ 7–9 hours
Range (ferry)	~ 7,000+ km
Patrol altitude	~ 9,000–12,000 m
Mission role	AEW&C / battle management

DIMENSIONS (APPROXIMATE)

Wingspan ~ 50.5 m

Length ~ 48.3 m

Radar mission suite
Shmel (S-200) radar with electronic scanning (reported).

Operator consoles
Multiple workstations for surveillance, battle management and C2.

Self-protection / mission avionics
Radar warning receivers, countermeasures and updated mission systems.

RADAR AND SURVEILLANCE ROLE

- Long-range aerial surveillance using the Shmel radar system (reported).
- Detection and tracking of aircraft, including low-flying targets and cruise missiles (reported).
- Provides a real-time air picture across a wide area.
- Supports fighter direction, air defence coordination and broader command and control operations.

A-50 vs A-50U MODERNIZATION

A-50 (original)	A-50U (modernized)
<ul style="list-style-type: none"> Earlier mission electronics Analogue displays (largely) Less capable processing Lower reliability More limited operator facilities 	<ul style="list-style-type: none"> Updated mission electronics Improved data processing Digital displays and workstations Higher reliability and maintainability Improved crew working conditions

MISSION CREW / INTERNAL FUNCTION

Total crew (typical) 15–20 <small>personnel</small>	Flight crew 5 <small>(aircraft operation)</small>	Mission operators 10–15 <small>(surveillance, battle management, communications and C2).</small>
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OPERATIONAL ASSESSMENT

The A-50U is a high-value airborne sensor and command platform, providing critical situational awareness and force coordination for Russian air operations. It greatly extends detection and command capabilities, but is a large, high-value asset that relies on standoff operation and fighter escort for survivability in contested environments.

KEY POINTS

- Provides wide-area aerial surveillance and C2.
- Detects and tracks aircraft and cruise missiles (reported).
- Modernized avionics and improved processing over A-50.
- Key enabler for fighter direction and air battle management.
- High-value asset dependent on survivability and escort.