

Azerspace/Africasat-1a

Hybrid C-band and Ku-band Communications
for Azerbaijan, Central Asia, Europe and Africa



Mission Description

Under a contract with The Ministry of Communications and Information Technologies of the Republic of Azerbaijan (the Ministry), Orbital is designing and building the Azerspace/Africasat-1a commercial communications satellite. Based on Orbital's flight-proven GEOStar-2™ platform, the hybrid C- and Ku-band satellite will generate approximately five kilowatts of payload power and carry 36 active transponders. Azerspace/Africasat-1a will provide communications services to Azerbaijan, Central Asia, Europe, and Africa from an orbital location at 46 degrees East Longitude through an arrangement between the Ministry and Measat of Malaysia, which owns the rights to the orbital slot.

Orbital will be responsible for providing the satellite and ground system. Upon completion of in-orbit testing, operational control of the satellite will be handed over to the Ministry, which will continue to operate the spacecraft from its control center in Baku, Azerbaijan.

QUICK FACTS

Coverage:

Azerbaijan, Central Asia, Europe and Africa

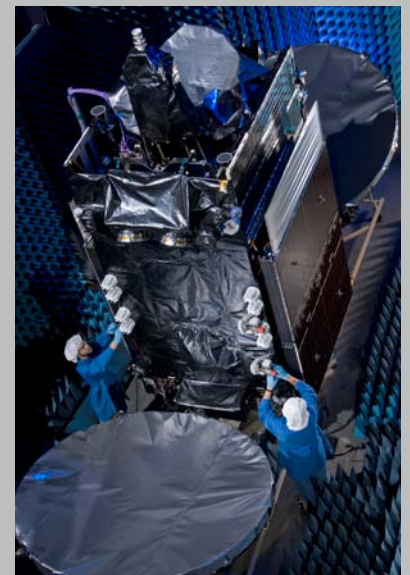


Mission:

C- and Ku-band communications

Customer:

Azercosmos OJSC.



Azerspace/Africasat-1a is based on Orbital's GEOStar™ satellite platform, and will undergo integration and testing at Orbital's satellite manufacturing facility in Dulles, Virginia.

Azerspace/Africasat-1a

Specifications

Spacecraft

Launch Mass:	<3,250 kg (<7,163 lb.)
Solar Arrays:	Four panels per array, UTJ Gallium Arsenide cells
Stabilization:	3-axis stabilized; zero momentum system
Propulsion:	Liquid bi-propellant transfer orbit system; monopropellant (hydrazine) on-orbit system
Batteries:	Two >4840 W-Hr capacity Li-Ion batteries
Mission Life:	15 years
Orbit:	46° East Longitude

Hybrid Payload

C-band

Repeater:	24 active transponders
Antenna:	2.5 x 2.7 m single shell super-elliptical deployable reflector; 1.4 x 1.4 m single shell super-elliptical deck-mounted

Ku-band

Repeater:	12 active transponders
Antenna:	2.5 x 2.7 m single shell super-elliptical deployable reflector

Launch

Launch Vehicle:	Ariane 5
Site:	Kourou, French Guiana
Date:	2012

The GEOStar™ Advantage

Orbital's highly successful Geosynchronous Earth Orbit (GEO) communications satellites are based on the company's GEOStar spacecraft platform, which is able to accommodate all types of commercial communications payloads and is compatible with all major commercial launchers. The company's GEOStar product line includes the GEOStar-2 design, which is optimized for smaller satellite missions that can support up to 5.0 kilowatts of payload power. Orbital has also developed the higher-power GEOStar-3 spacecraft design, delivering the next increment of payload power for applications between 5.0 and 7.5 kilowatts, allowing Orbital to offer its innovative and reliable satellite design to the medium-class of communications satellites.

Mission Partners

Azercosmos OJSCo.

Orbital Sciences Corporation

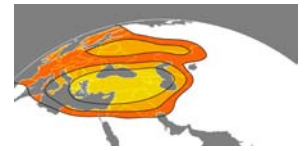
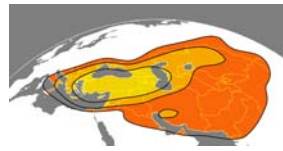
Prime Contractor for the Azerspace/Africasat-1a spacecraft and ground system

Coverage Contour Maps

Ku-band EIRP Contours – 11.2 GHz

East (Central Asia)

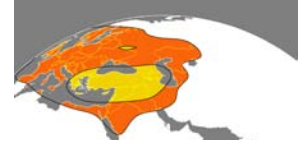
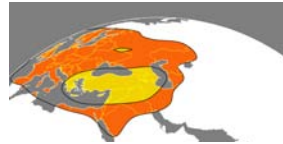
West (Europe)



Ku-band G/T Contours – 14.0 GHz

East (Central Asia)

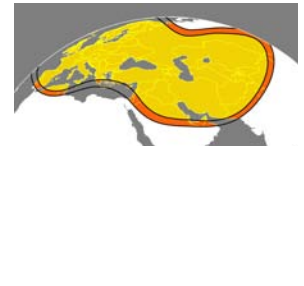
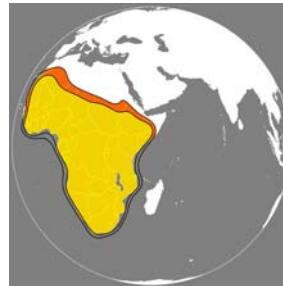
West (Europe)



C-band EIRP Contours – 3,740 MHz

Africa and Europe

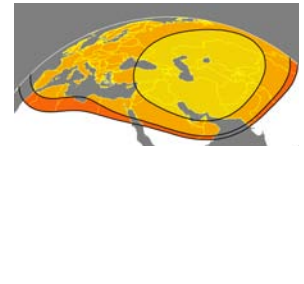
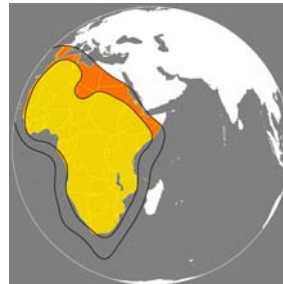
Central Asia and Europe



C-band G/T Contours – 5,965 MHz

Africa and Europe

Central Asia and Europe



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