



# IRIDIUM SATELLITE



## The Iridium System

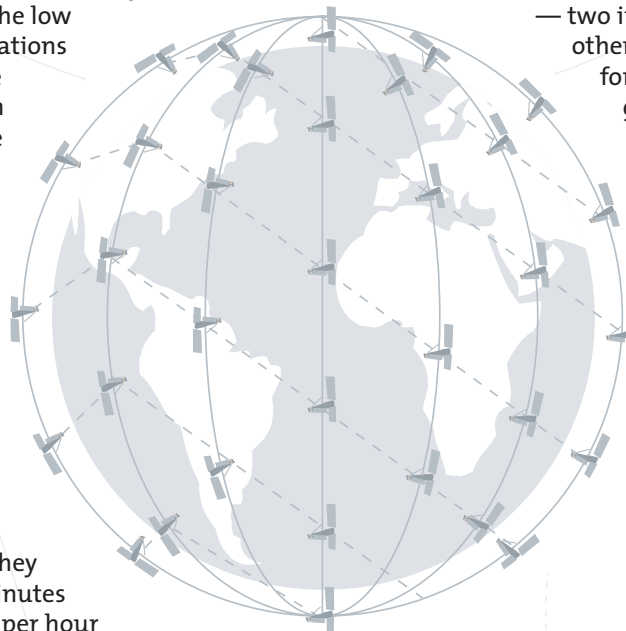
### Satellite Constellation

The unique geometry of Iridium's low-earth orbiting (LEO) satellites provides global coverage, including the extreme Polar Regions that are not covered by geostationary satellite systems. The low satellite orbits permit communications using compact handheld satellite phones or fixed installations with very small external antennas. The voice quality is sharp and clear, without the delays and echoes commonly experienced with higher-orbit satellites. The Iridium satellite constellation consists of 66 operational satellites and 11 spares, which the company can activate to replace an unserviceable satellite at any time. The 66 satellites are organized into six orbital planes. They are in near-polar orbits at an altitude of 485 miles (780 km) above the earth. They circle the earth once every 100 minutes traveling at a rate of 16,832 miles per hour (27,070 kph). Each satellite has a footprint of about 2,800 miles.

### Network

The constellation architecture ensures that every location on the globe is covered by at least one satellite at all times.

Each satellite is cross-linked to four other satellites — two in the same orbital plane and two others in adjacent planes. It is not necessary for the satellite to be in view of the ground station gateway. The network routes calls across intersatellite links to the Iridium Gateway. The Gateway connects the call into terrestrial phone and data networks. (When calling from one Iridium phone to another Iridium phone, the Iridium system does not have to route the call through the Gateway. The call goes directly from satellite to satellite.)





## Ground Infrastructure

Iridium's commercial Gateway is located in Arizona, USA, and provides interconnections between the satellite and terrestrial communications networks. The Gateway also provides network management functions for its own network elements and links. Iridium provides operational control and support services for the satellite network through a Satellite Network Operations Center in Virginia, USA, with a backup center in Arizona. There are four telemetry tracking and control sites at strategic locations around the world. Iridium provides its satellite voice and data calls on the L-Band (1616-1626.5 MHz). Intersatellite links, ground downlinks and uplinks utilize Ka-Band frequencies.

## Users

Iridium is designed to provide reliable communication links for users in locations where landline or mobile phone connections are unavailable, unreliable or overburdened. Commercial markets served include the maritime, aviation, emergency services, oil and gas, forestry, mining, journalism and other similar industries. Iridium also provides satellite communications services to the U.S. Department of Defense and other countries' defense organizations.

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## Partners

Iridium sells its service through a worldwide network of major Service Providers and Dealers that have significant experience with satellite telephony and are successful leaders in their fields. These Service Providers offer a host of value-added services, targeted pricing plans, popular billing options and even rental programs to ensure that they meet their customers' remote communications needs. A list of Service Providers may be found at [www.iridium.com](http://www.iridium.com).

Iridium also works with a network of Value Added Manufacturers and Resellers that provide specialized products and services for diverse applications such as maritime and aircraft equipment, tracking systems and security. Through these partners, Iridium is rapidly expanding its offerings to supply robust solutions to real problems for remote customers.

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