- The orbit at an altitude of 36,000km such as BS and CS satellites, revolve at the same velocity as the earth's rotation, thus appearing to be standing still from the earth's surface. Satellites in addition to this kind that have different orbital velocities than the earth are called non-geostationary satellites.
- The communications industry plans to cover the whole earth with dozens or hundreds of satellites to create mobile communication networks which will allow phone conversations between any two points in the whole world.

Presently, the main medium is to be telephone • communications, but there are also possibilities in connection with Internet networks. Regarding broadcasting networks for Japan, it is thought that several satellites in an elliptical orbit will cover the country to provide high-quality music, pictures, and car navigation information for motor system vehicles. Moreover, research and development of Global Multimedia Mobile Satellite Communications Systems (GMMSS), which enable transmission of images with a portable terminal using the non-geostationary satellites, is underway with support from the Ministry of Posts and Telecommunications.



Application

- Geostationary satellites appear to be fixed over one spot above the equator. Receiving and transmitting antennas on the earth do not need to track such a satellite. These antennas can be fixed in place and are much less expensive than tracking antennas. These satellites have revolutionized global communications, television broadcasting and weather forecasting, and have a number of important defense and intelligence applications.
- One disadvantage of geostationary satellites is a result of their high altitude: radio signals take approximately 0.25 of a second to reach and return from the satellite, resulting in a small but significant signal delay. This delay increases the difficulty of telephone conversation and reduces the performance of common network protocols such as TCP/IP, but does not present a problem with non-interactive systems such as television broadcasts.

• There are a number of proprietary satellite data protocols that are designed to proxy TCP/IP connections over long-delay satellite links—these are marketed as being a partial solution to the poor performance of native TCP over satellite links. TCP presumes that all loss is due to congestion, not errors, and probes link capacity with its "slow-start" algorithm, which only sends packets once it is known that earlier packets have been received. Slow start is very slow over a path using a geostationary satellite.