

## **Advantage and Disadvantage of Satellite Communication**

Satellite Communication is one of the most impressive spin-off from space programs, and made a major contribution to the international communication. Satellite plays a very important role in telephone communication, TV and radio program distribution and other certain communications. This the major field of study and has intensive literature. These communication systems are now become an integral part of major area telecommunication networks through the world. The purpose of this post is to discuss various advantages of Satellite Communication and Services provided by the Satellite.

### **Advantages of Satellite Communication:**

Because of its unique geometry and it's inherently a broadcast medium with an ability to transmit simultaneously from one point to an arbitrary number of other points with in its coverage area. Thus satellite Communication possesses several advantages which are as follows:

Number-1: Point to multipoint communication is possible whereas terrestrial relay are point to point, this is why satellite relay are wide area broadcast.

Number-2: Circuits for the satellite can be installed rapidly. Once the satellite is in position, Earth Station can be installed and communication may be established within some days or even hours.

Number-3: During critical condition each Earth Station may be removed relatively quickly from a location and reinstalled somewhere else.

Number-4: Mobile communication can be easily achieved by satellite communication because of its flexibility in interconnecting mobile vehicles.

Number-5: As compared to fiber cable, the satellite communication has the advantage of the quality of transmitted signals and the location of Earth Stations. The sending and receiving information independent of distance.

### **Disadvantages of Satellite Communication:**

With the Satellite in position the communication path between the terrestrial transmitter and receiver is approximately 75000 km long.

Number-2: There is a delay of  $\frac{1}{4}$  sec between the transmission and reception of a signal because the velocity of electromagnetic wave is  $3 \times 10^8$  Km/second.

Number-3: The time delay reduces the efficiency of satellite in data transmission and long file transfer, which carried out over the satellites.

Number-4: Over-crowding of available bandwidth due to low antenna gains is occurred.

Number-5: High atmosphere losses above 30GHz limit the carrier frequency.

### **Services provided by Satellite:**

Satellite Communication has a wide range of services. Applications are innumerable and broadly classified as follows:

Number-1: In communication such as T.V. telephony, data transfer such as mail and internet etc. are mostly done through different communication satellites these days.

Number-2: Remote sensing and Earth observation can be done with the help of lower Earth Orbits (LEO) Satellite.

Number-3: Metrological applications such as whether survey to study different layers and amount of ozone's content in the atmosphere.

Number-4: Military applications like short distance local communication from any camp to another, to study the location of the enemy etc,

The number of operational and planned satellite communication system is growing rapidly.

