

# **SATELLITE COMMUNICATION**

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# Introduction:

A **communication satellite** is a **microwave repeater station** in a space that is used for telecommunication, radio and television signals. A communication satellite processes the data coming from one earth station and it converts the data into another form and send it to the second earth station.



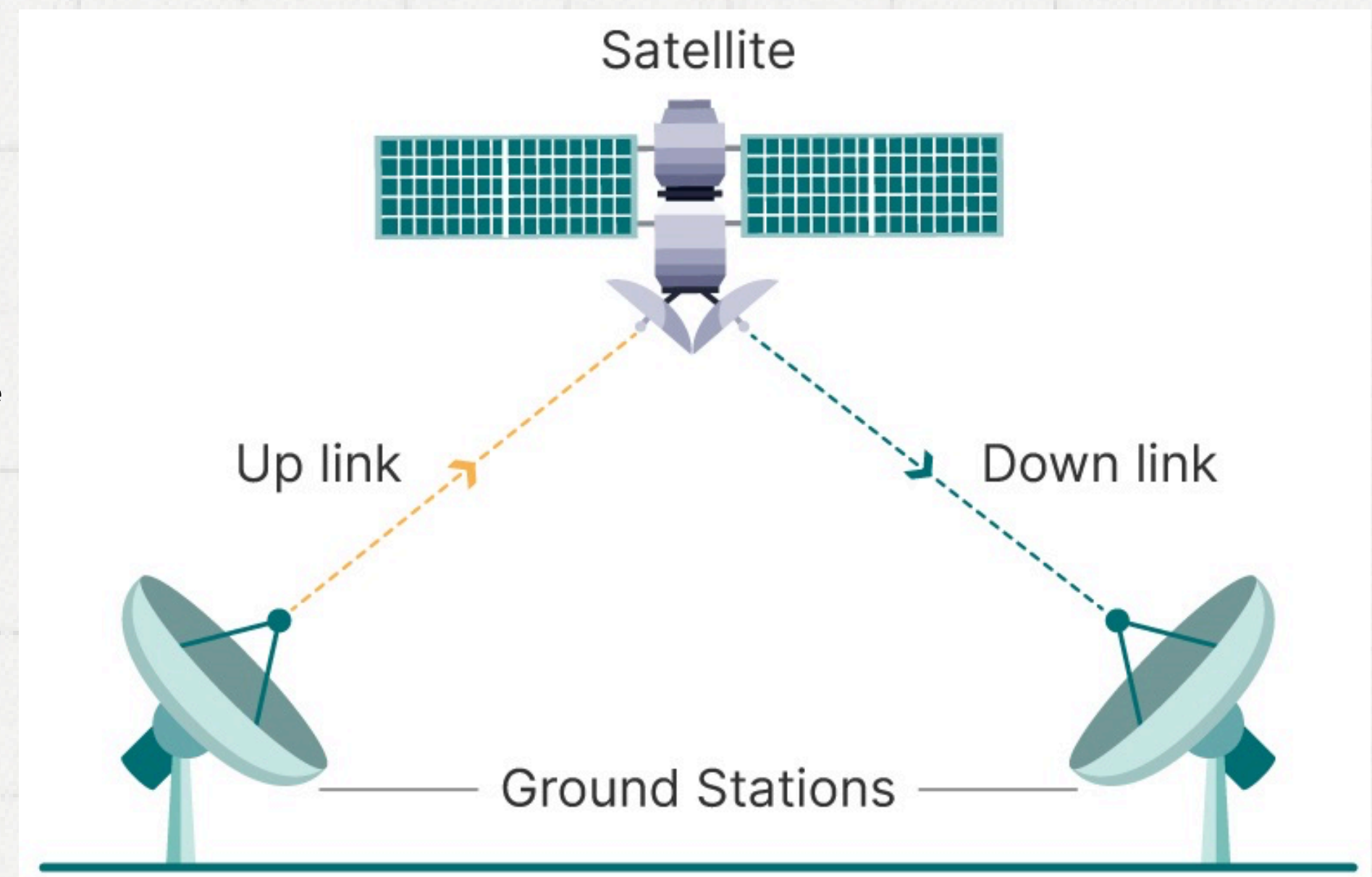
# How does satellite communication works?

Uplink frequency- It is the frequency in which ground station communicate with the satellite.

Downlink frequency- It is the frequency in which the satellite sends the signal to the receiving station on the earth's surface.

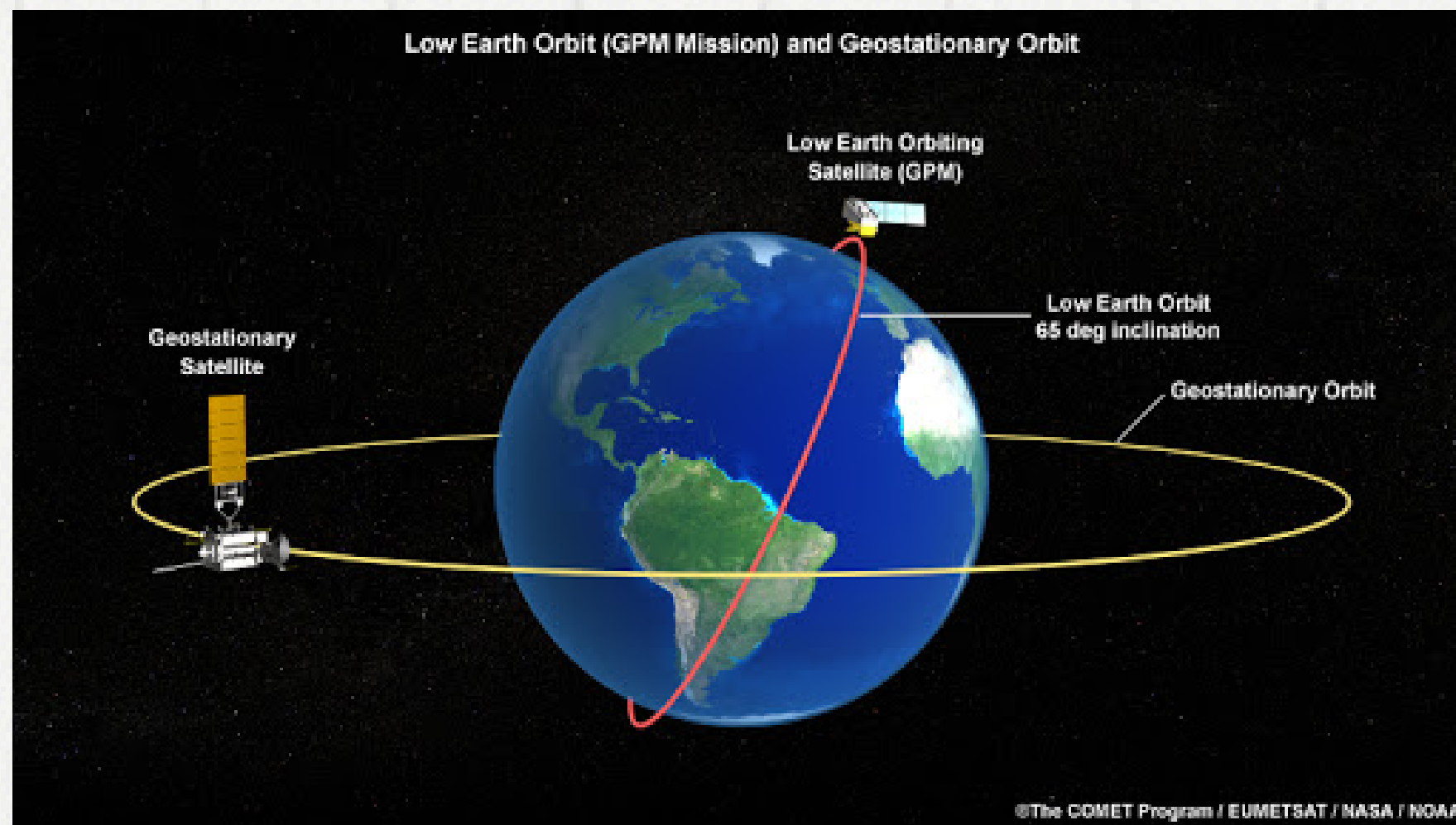
Frequency band-C band, Ku band, Ka band

Transponders- Receive, amplify, and retransmit signal back to earth





# Satellite Orbits:



## 01. Low Earth Orbit (LEO)

SATELLITES IN LEO ORBIT THE EARTH AT ALTITUDES BETWEEN 160 AND 2000 KILOMETERS, WITH FAST ORBITAL PERIODS.

## 02. Medium Earth Orbit (MEO)

SATELLITES IN MEO ORBIT THE EARTH AT ALTITUDES BETWEEN 2000 AND 35,786 KILOMETERS, WITH, LONGER ORBITAL PERIODS.

## 03. Geostationary Earth Orbit (GEO)

SATELLITES IN LEO ORBIT THE EARTH AT ALTITUDES OF 35,786 KILOMETERS, MAINTAIN A FIXED POSITION REALTIVE TO THE EARTH'S SURFACE.



# Advantages of Satellite Communication :

**Cost-effective**

**Global Coverage**

**Security**

**Disaster Recovery**



# Disadvantages of Satellite Communication:

**Cost**

**Delay**

**Weather**

**Vulnerability**





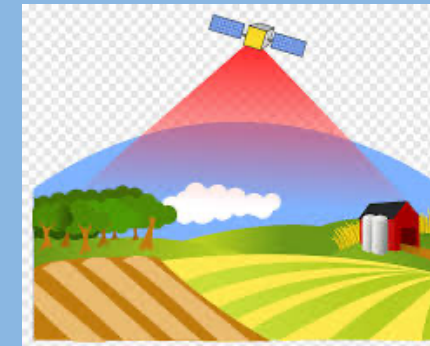
**Navigation**



**Military and  
Defence**



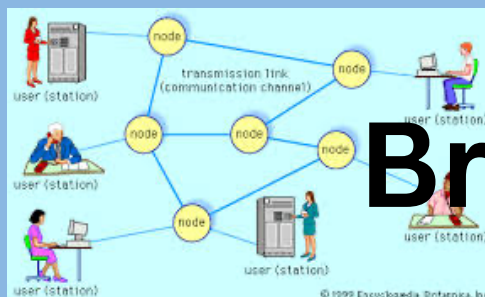
**Tele-  
Communication**



**Remote  
sensing**



**Internet  
Access**



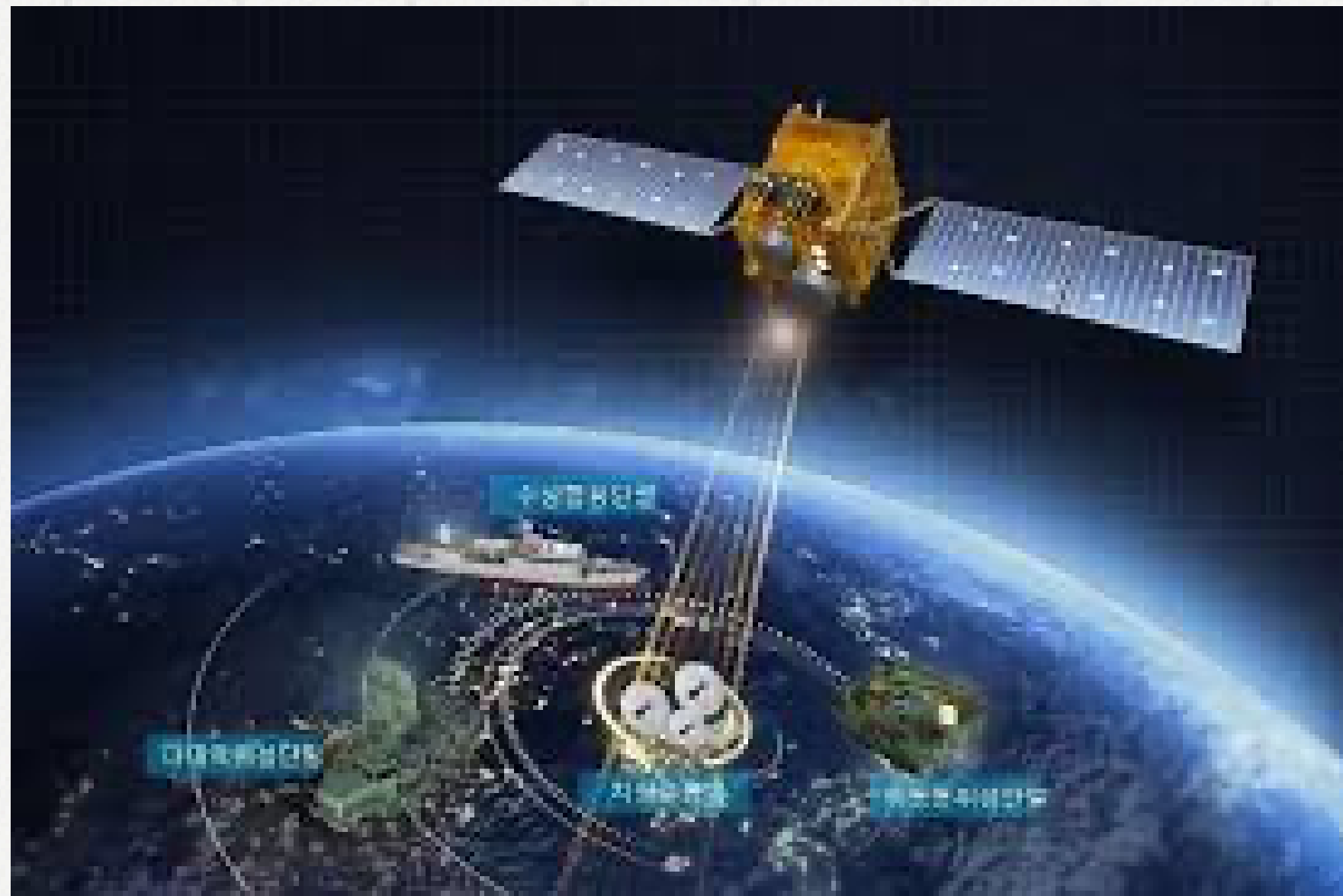
**Broadcasting**


**Applications**



# CONCLUSION:

Communication satellite has really paved way for many technologies to emerge and its advance in technology radically reduces the cost of deploying a satellite. Users of satellite systems will benefit from new service options and stability in terms current satellites and their replacement. It is very useful to economics of constructing and operating communication satellites. To conclude, I was really benefited by getting more knowledge by doing this assignment by researching on Communication satellite.



The background is a light gray grid. There are several hand-drawn blue scribbles in the corners: top-left, top-right, bottom-left, and bottom-right. In the bottom center, there are several small blue checkmarks.

**Thank you  
very much!**