

# What Are Satellites Used for?



## Satellites Utilization

### Space serving marine environments



Space provides a unique vantage point from which to monitor seas and oceans, effectively responding to their challenges.

### Taking action on climate change



Satellites are valuable tools to increase our knowledge of climate change and its impacts, thus properly target our action plans and response activities.

## Annex D

### Agriculture in the satellite age



Thanks to satellite data, farmers can maximize the use of their lands, which in turn benefits all Canadians.

### How satellites help you stay healthy.



Earth observation satellites and space science play an active role in improving the health of Canadians.

### Satellites and satellite-based systems: Indispensable tools to keep us safe



Satellites play a critical role supporting first responders and search and rescue teams in emergency situations.

### Monitoring and protecting our ecosystems from space



Using satellites, we can monitor changes and promote the responsible use of land and natural resources to protect our ecosystems and biodiversity.

Source: <http://marine.copernicus.eu>  
Source: <http://www.asc-csa.gc.ca/eng/satellites/everyday-lives/default.asp>  
Photo credit: <https://www.google.com/maps/place/Saint+Helena,+Ascension+and+Tristan/@-15.9587411,-5.78544326464m/data=!3m2!1e3!4b1!4m5!3m4!1s0x4ea213352e5e3.0xae804f0450199fa618m213d-15.9650104!4d-5.7089212>



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# What Is a Satellite?

Platform  
+  
Payload

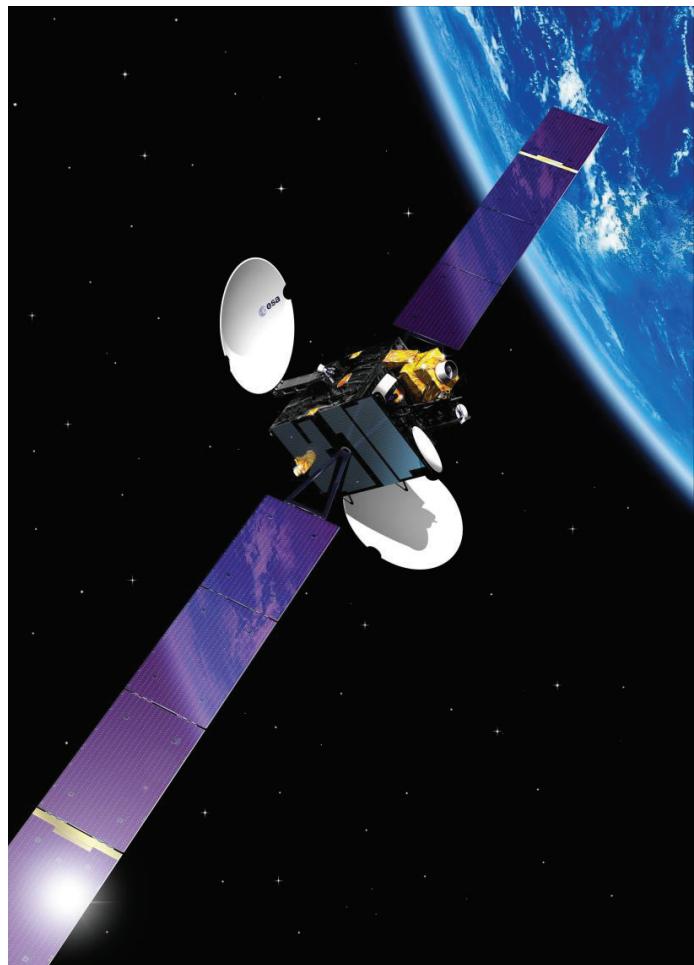


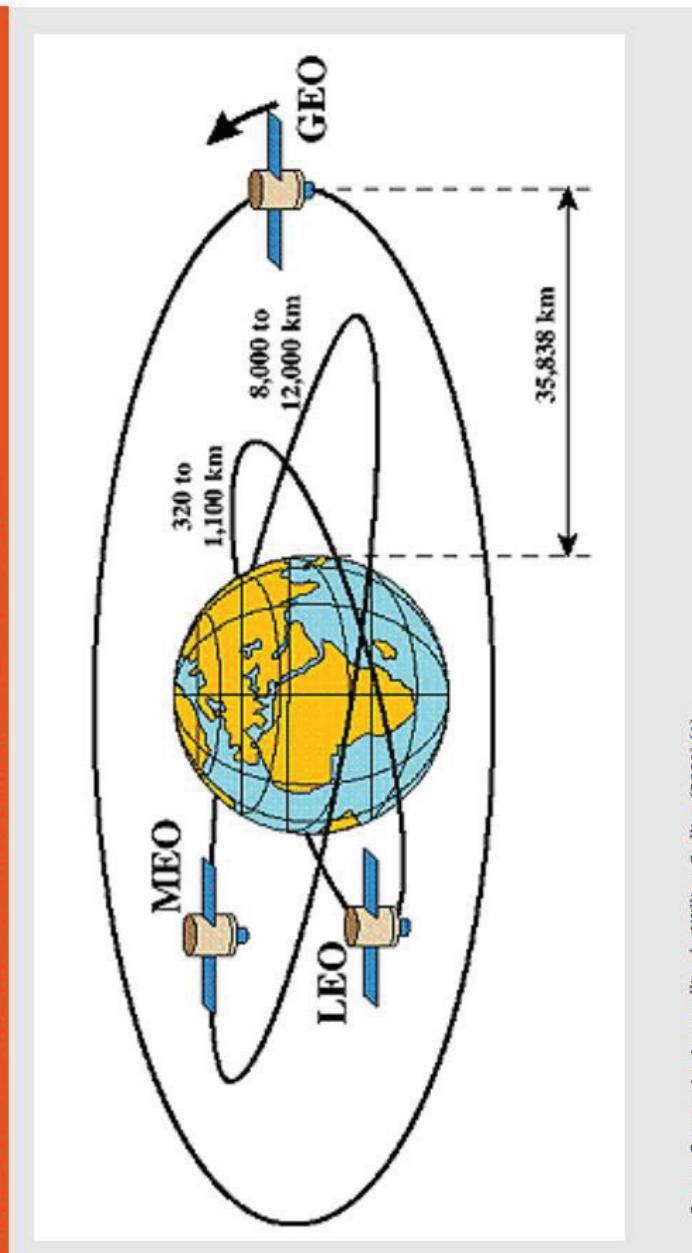
Photo credit: [https://www.esa.int/ESA\\_Multimedia/Images/2002/02/ESA\\_s\\_Artemis\\_satellite2](https://www.esa.int/ESA_Multimedia/Images/2002/02/ESA_s_Artemis_satellite2)

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# What Are the Typical Earth Orbits?

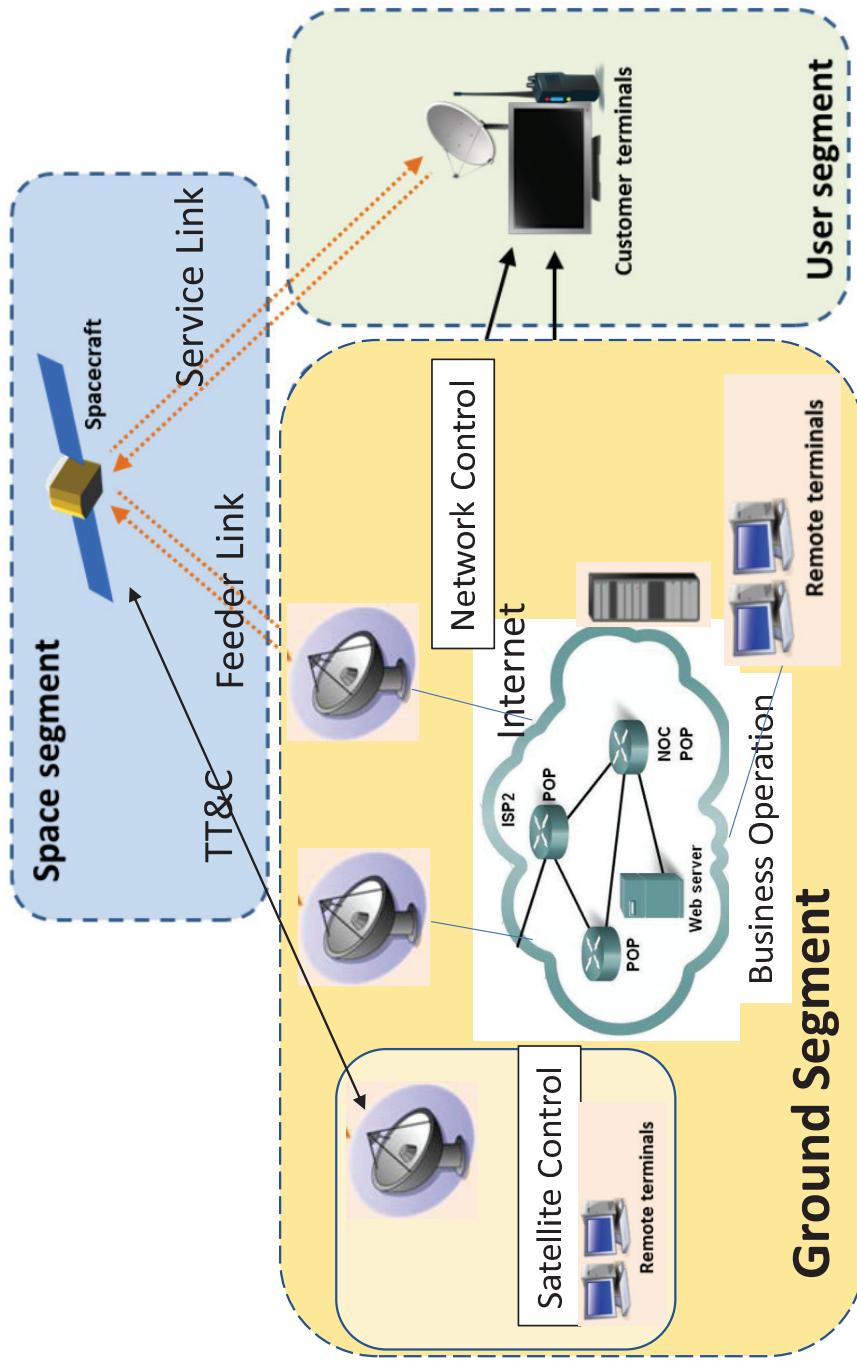
Figure 1: Presentation of LEO, MEO and GEO orbits



Source: Communication satellites by William Stalling (2001) (1)

Source: [https://ec.europa.eu/growth/tools-databases/sites/default/files/monitor/sites/DEM-monitor/files/DTM\\_LEO%20-%20Spectrum%20access%20v1\\_0.pdf](https://ec.europa.eu/growth/tools-databases/sites/default/files/monitor/sites/DEM-monitor/files/DTM_LEO%20-%20Spectrum%20access%20v1_0.pdf)

# What Is a Satellite System?



Source: Tony Azzarelli, Azzurra Telecom, [tony@azzurra-telecom.com](mailto:tony@azzurra-telecom.com)

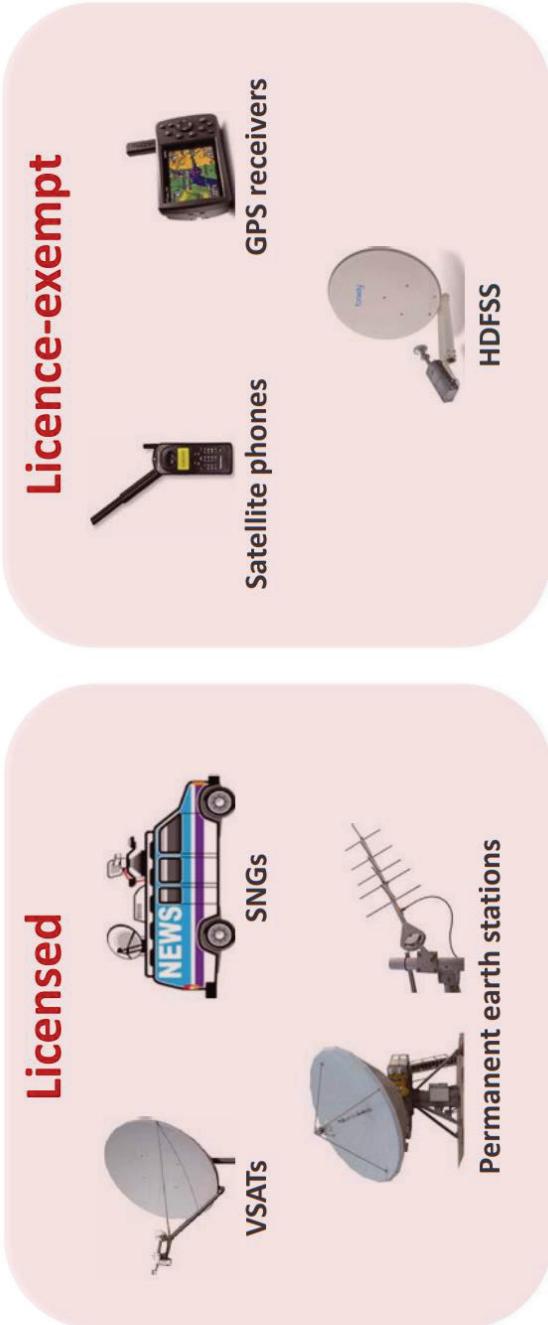
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# How Are Satellite Earth Stations Regulated?

## Satellite earth stations

- Type of authorisation depends on earth station and frequency band



Source: [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0025/107557/Satellite-regulation-teach-in-event.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0025/107557/Satellite-regulation-teach-in-event.pdf)

# What Is Regulated?



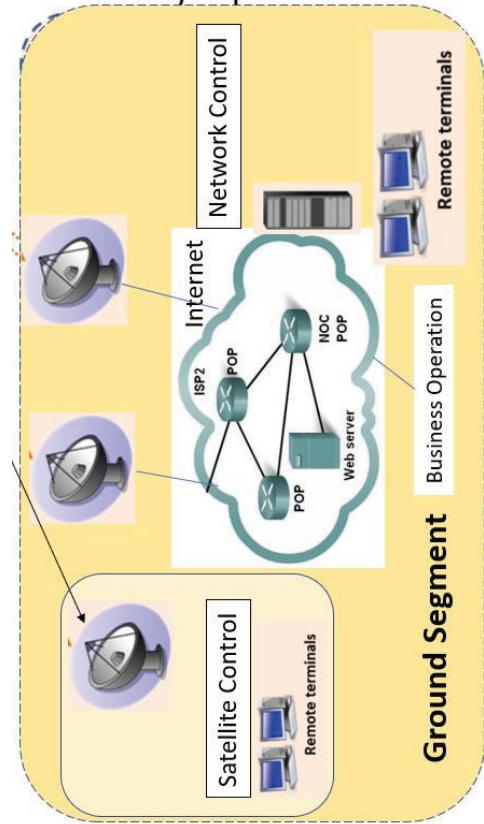
Source: [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0025/10757/Satellite-regulation-teach-in-event.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0025/10757/Satellite-regulation-teach-in-event.pdf)

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# What Is an Earth Station Licence?

- Licence applications forms
- No. antennas (Earth stations) depends on architecture
  - May require coordination with incumbent licensees to avoid harmful interference
  - Requires an ITU registered satellite filing
- Technical characteristics
  - (location, frequency, power, antenna gain and pointing etc)



# St Helena Project

## *Regulatory Advice on Satellite Ground Station*

- Write a policy paper summarising a new regulatory framework/licensing process for satellite ground stations, taking into account telecommunications licences, land planning and environmental impact assessment requirements.
- Include within the paper a summary of the regulatory framework of other British Overseas Territories. Undertake any associated consultation as necessary.
- Recommend Amendments to St Helena's Telecommunications Ordinance and Land Development Control Ordinance in line with the policy. Work with St Helena Government's Draftsperson to develop the amendments.
- Draft application forms to be used by satellite ground stations to apply for a Telecommunications licence from Registrar.
- Develop best practice procedures for the Registry function and build capacity / Capability of the Registrar to deal with future Satellite Ground Station enquiries and future business needs, etc..
- Respond to requests by SHG for technical support/advice when SHG liaise with satellite ground station providers, should this be required.



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