

# Training

Telesat provides customized training to address the needs of technical and non-technical audiences in the fields of commercial and military satellite-based applications.



Telesat delivers theoretical and practical training sessions at our facilities or at the customer's premises in both English and French.



Telesat Headquarters, Ottawa



## Satellite Basics

- Frequency bands
- Satellite types
- Location and nature of the geostationary orbit
- Communication functions of a satellite
- Footprints
- Frequency reuse
- Concept of polarization
- Interferences
- Access methods
- Satellite parameters: EIRP, SFD, C/N, Eb/No, BER

## Link Budget

An engineering calculation to determine if a particular combination of satellite and earth station resources can support a specific telecom link between geographic locations of interest

- Overview of link analysis
- Elements of link design
- Factors affecting link performance
- Antenna characteristics and G/T
- Propagation characteristics
- Satellite characteristics
- Interference allocations
- Performance parameters
- Typical service examples including all link elements

## Earth Station

### Operations & Maintenance

- Introduce VSAT, satellite and test equipment basics
- Lecture, demo and practical training on: spectrum analyzers, block diagram analysis, modems, SPA/power meter, transceivers
- Erect and peak antenna, antenna pointing
- Satellite access, link budgets and xpol
- Carrier access documentation
- Radiation safety
- Redundancy controller
- Communications between 2 antennas and testing
- Testing, tear down and pack equipment

To learn more about how Telesat can help your business succeed, please contact us at:

613.748.0123 ▪ [info@telesat.com](mailto:info@telesat.com) ▪ [www.telesat.com](http://www.telesat.com)

## Hub and Modem Training

Extensive experience with major vendors:

- iDirect, Gilat, HNS, Viasat and Comtech

### Satellite Network Platforms

- Available and preferred vendors
- Hub technology
  - Dedicated vs. shared solutions
- Customer terminal options
- Satellite gateway facilities
- Satellite network capacity
- Private network & public network access (Internet)
- Backhaul redundancy and diversity

### Satellite Network Services

- Common protocols and applications
- Terrestrial protocols over satellite network
- Capacity and performance

### Network Management Systems

- Real-time performance monitoring
- Centralized remote monitor & control
- Network element fault isolation & mitigation
- Task automation
- System administration & management
- Historical reporting



## Telesat has provided training to:

- NavCanada
- Northwestel
- Canada Coast Guard
- Department of National Defence
- Arctec Alaska
- Hydro Québec
- VNPT
- Telkom Indonesia

### Customer Testimonial

*“The quality of the instruction was excellent. Steve was knowledgeable and obviously experienced with the iDirect system and satellite communications in general. He also realized that he had a knowledgeable audience and tailored his presentation accordingly. His presentation was informative and easy to follow”*

Doug Henry  
Life Cycle Manager  
Canadian Lightning Detection Network  
Meteorological Service of Canada

## About Telesat

Headquartered in Ottawa, Canada, Telesat is a leading global satellite operator with offices and facilities in North America, Latin America, Europe and Asia. The company provides reliable and secure communications solutions worldwide that create competitive and operational advantages for customers – solutions that draw on a winning combination of Telesat satellite coverage, fleet depth and operational expertise.

