

ITU – Development Study Group 1

Transformative connectivity: Satellite Workshop

Satellites support disaster mitigation, preparedness, response and recovery

23 April 2024

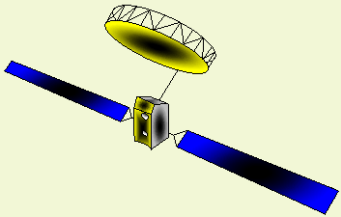


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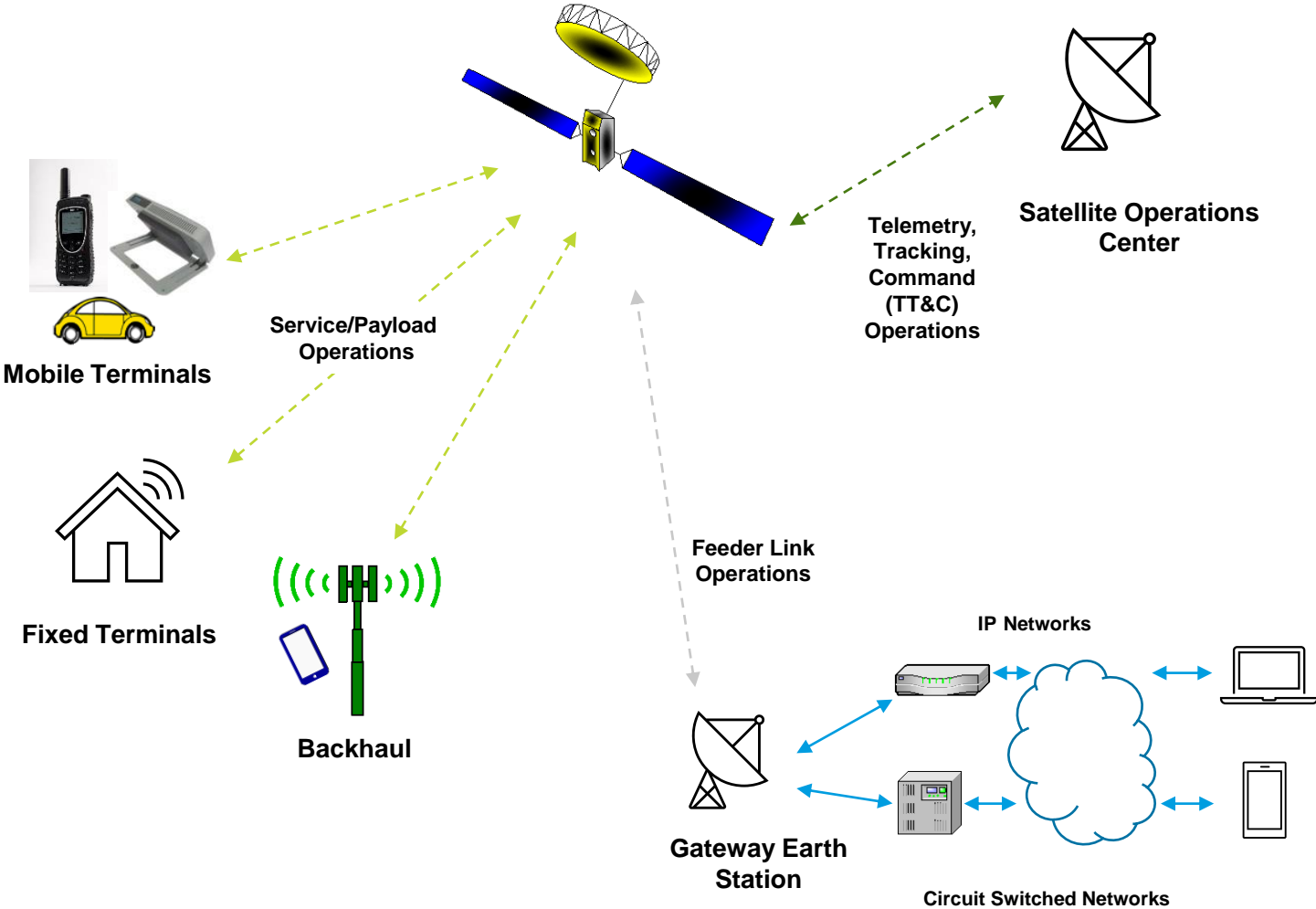
Disaster and risk reduction sequence of events



Satellites evolved at each stage of disaster relief and risk reduction

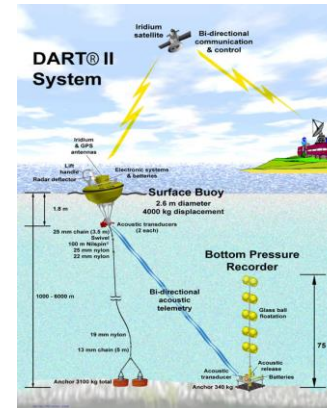
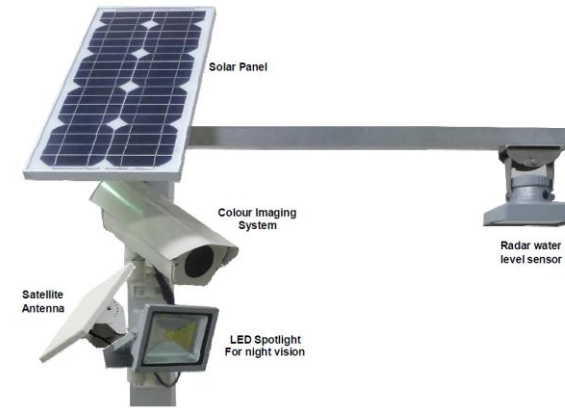
<ul style="list-style-type: none">• Meteorological and Earth exploration satellite service.	Weather and climate prediction. Detection and tracking of earthquakes, tsunamis hurricanes, typhoons, forest fires, oil leaks etc.
<ul style="list-style-type: none">• Broadcasting satellite • Fixed and Mobile satellite services	Receiving and distributing alert messages • Disseminating alert messages and advice to large sections of the public
<ul style="list-style-type: none">• Earth Observation Satellites & Geographic Information Systems	Establish extensive and accurate knowledge of Country Situation and areas at risks
<ul style="list-style-type: none">• Global navigation satellite systems	Earth observation data used with geographical ground information in real time
<ul style="list-style-type: none">• Broadcasting satellite • Earth exploration-satellite service • Fixed and Mobile satellite service 	Assisting in organizing relief operations in areas • Coordination of relief activities by disseminating information from relief planning teams to population • Assessment of damage and providing information for planning relief activities • Exchange of information between different teams/groups for planning and coordination relief activities • Exchange of information between individuals and/or groups of people involved in relief activities

Satellite systems architecture



Disaster Response – Satellite plays a key role in pre and post disaster monitoring

- Environmental monitoring a typical use case for satellite:
 - Weather monitoring
 - Seismic activity & Tectonic Plate Movement
 - Water level and flood monitoring
- Tsunameters use satellite communications to detect tsunamis early, providing an invaluable early warning capability.



Disaster Response – Satellite plays a key role in pre and post disaster monitoring



Closer look

> Portable telemedicine, mobile exam kit

> Scenario

- Remote location, field medical personnel require specialist support to provide life-saving treatment

> Requirement

- Stream live video of patient for assessment
- Transmit diagnostic data collected locally

> Solution

- Connect mobile exam kit to mobile terminal to send video via Streaming IP while transmitting diagnostic data via Standard IP

> Benefit

- Improve triage at disaster site, prioritizing patients based on condition
- Perform remote lifesaving procedures in the field with expert support from specialist doctor

