

Regulating for Resilience

Telecommunications Authority of Trinidad and Tobago
June 2025



Statutory Mandate

Telecommunications Act

- Section 3 (b) facilitate orderly development of telecommunications (c) promote the public interest as it relates to quality of services
- Section 18 (d) on establishing standards (p) on systematic development of telecommunications

Concessions issued to Operators

- Sections A43 – 45 on Quality of Service
- Section C27 – 38 on Service interruptions
- Schedule F – D.1 – 2 (Internet services), 5.1 – 3 (Internet Access)

Subsidiary legislation

- Standards for wired and wireless networks, broadcasting technical QoS
- Guidelines for cybersecurity for public telecommunications networks

Regulating Resilience in the Telecommunications Sector



Establishment
and
monitoring of
Standards and
Guidelines



Promoting
Sustainable
Competition



Development
of Regulatory
Frameworks



G5 Regulatory
Collaboration

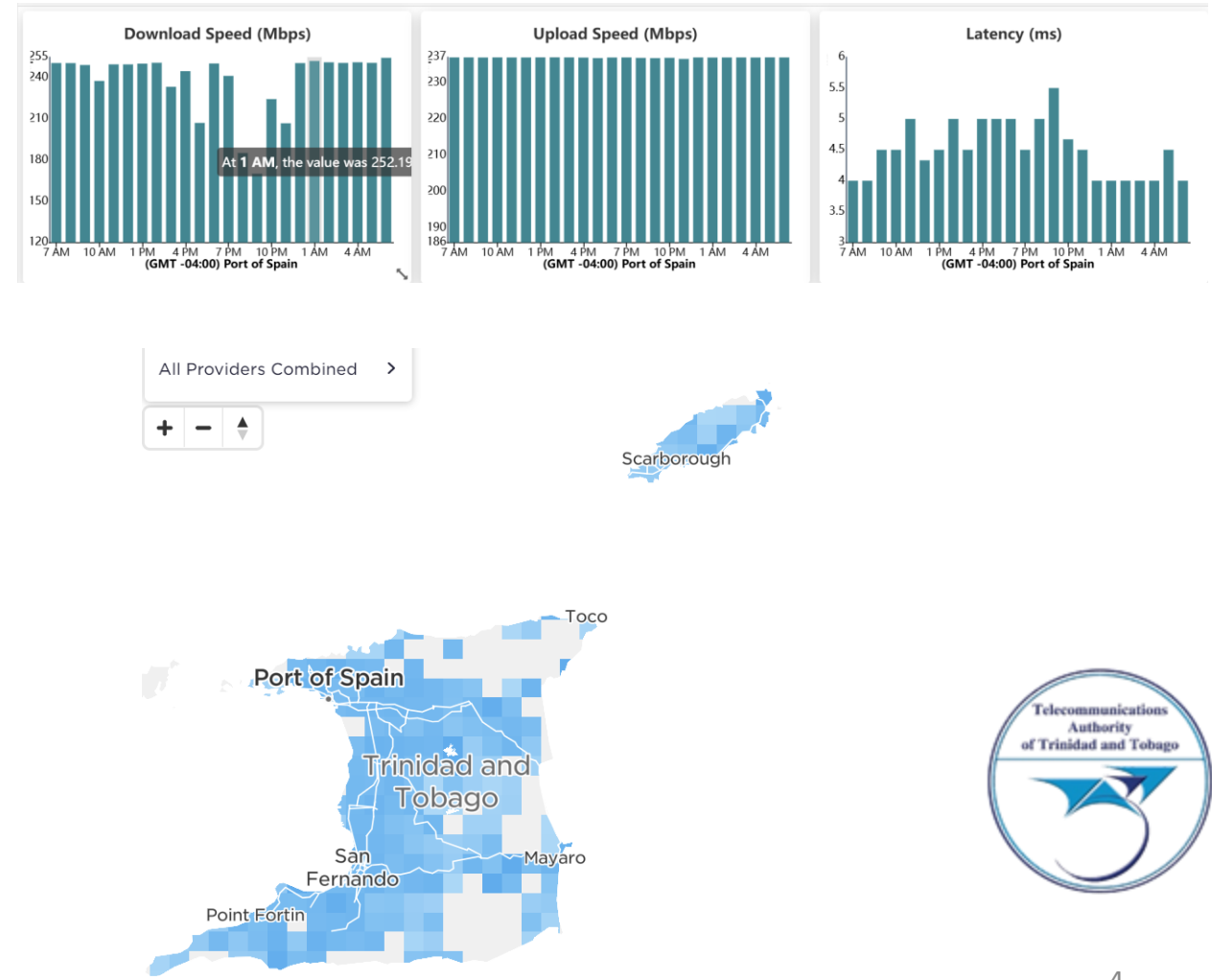


Diversity of
Critical
Infrastructure



Regulating Resilience – Standards and Guidelines

Establishing and Monitoring of Standards	
Technical Standards/Guidelines	Fixed Public Telecommunications Networks (2021)
	Wireless Networks (2023)
	Cybersecurity for Public Telecommunications Networks (2025)
Measurement Tools	Crowdsourced data to measure coverage and performance
	Probes to supplement crowdsourcing metrics



Standards for measuring Resilience

- **User Experience**

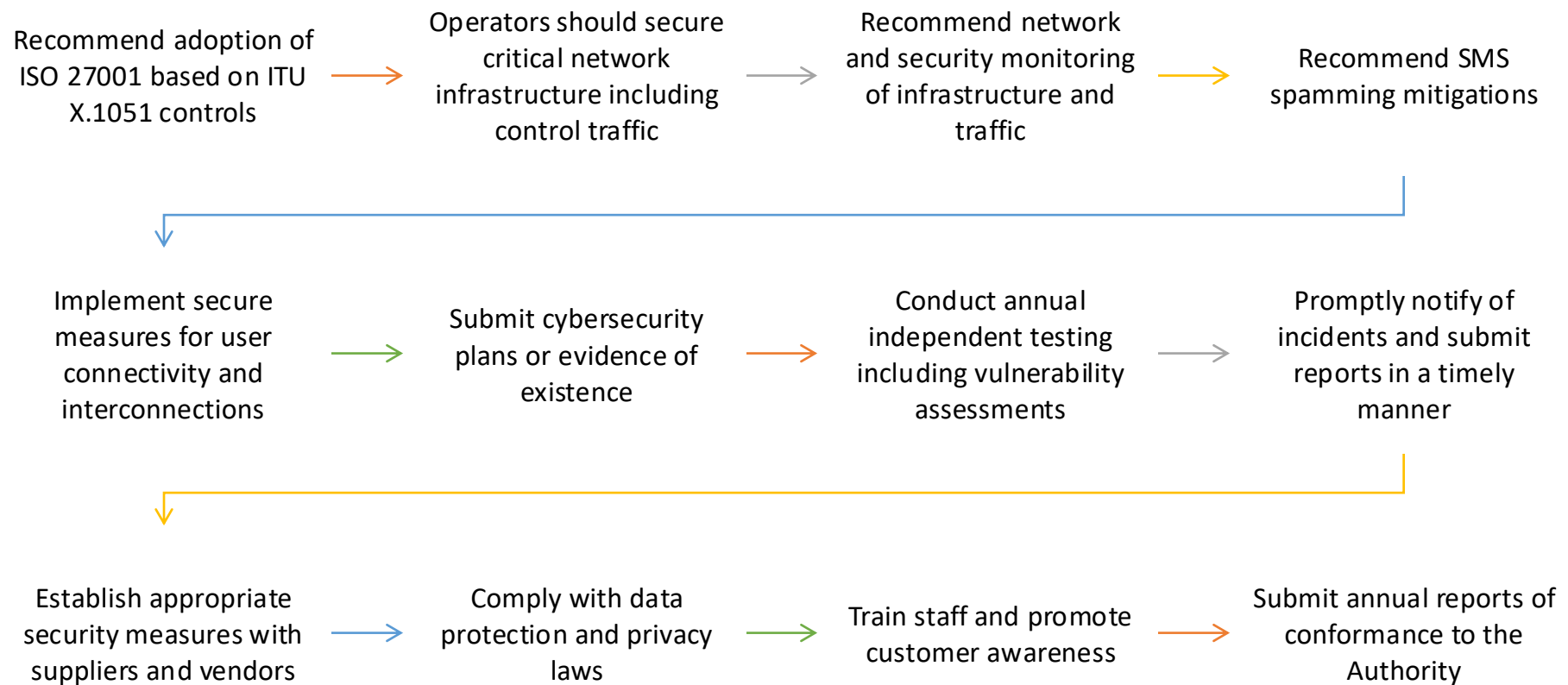
- Download Speeds (ITU-T Q Supp 71)
- Mean Upload Speeds (ITU-T Q Supp 71)
- Latency (ITU-T Q Supp 71)
- Fault Repair Time (ITU-T M.1537)
- Availability

- **Network Performance**

- Standby Power Runtime
- Lighting Protection (ITU K.112 2019)
- Sparing and redundancy
- Grounding (Motorola R56 2005)
- Minimum Capacity for Core Links (ITU E.811 2017)
- Prioritisation of Critical Traffic (ITU Y.1271 2014)
- Building Codes (ITU L.70 2007)

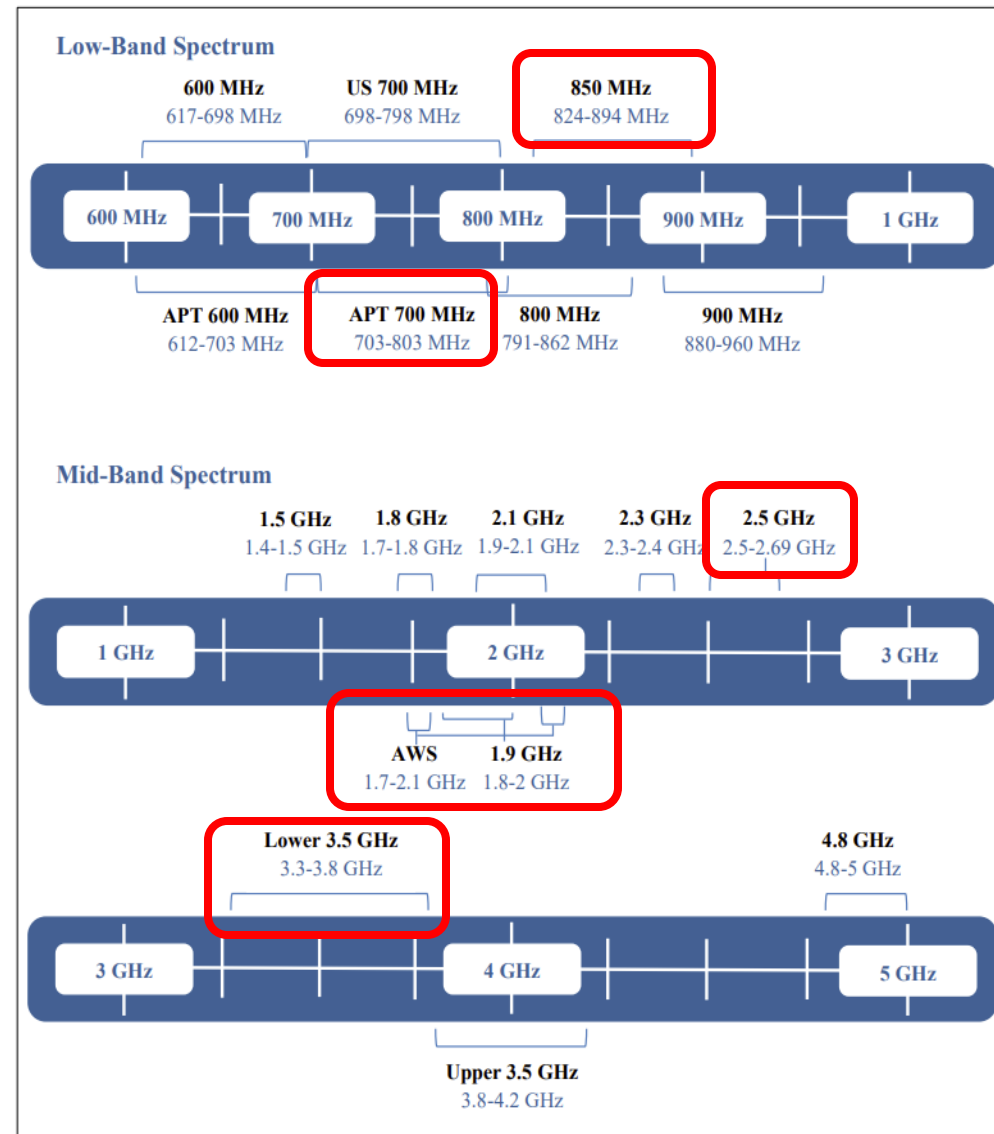
These parameters measure across multiple dimensions the extent of a network's resilience – its ability to maintain an acceptable level of service during an outage or crisis (Phokeer et al. 2021)

Guidelines for Cybersecurity of Public Telecom Networks



Promoting Sustainable Competition

Allocating PMTS Low-Band and Mid-Band Spectrum



Key Updates to PMTS Spectrum Plan



Increase lower mid band 1900, AWS bands to Band 25, 66



Allocate more low-band (700, 850) spectrum



Add 90 MHz of mid band 2.5 GHz, and 200 MHz of 3.3 – 3.65 GHz spectrum



Introduce aggregate spectrum caps across bands for larger channel bandwidths



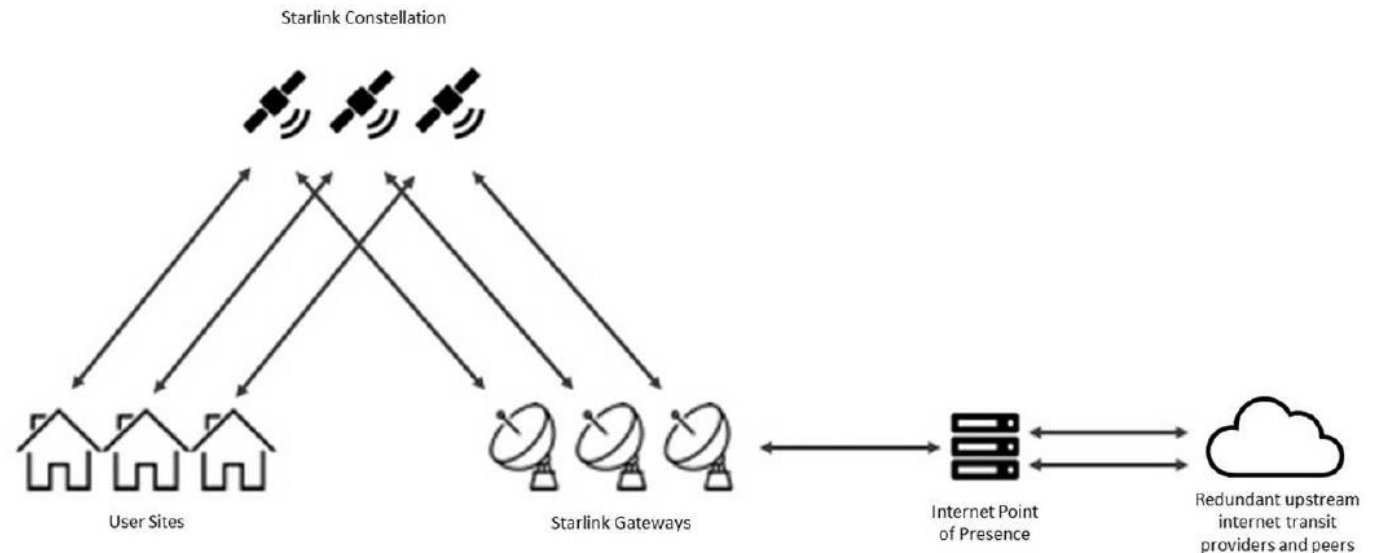
Authorisation of LEO/GSO Broadband Services

Received applications for requisite authorisations in 2022 from Starlink and Neptune

Authorisations (concessions) to provide broadband services granted in 2023

Authorisation for user terminals (Ku) and earth station/gateway (Ka) to use respective spectrum granted under ***point-to-multipoint*** licence category

Protection measures to safeguard existing GSO and Fixed Point to point links incorporated in granted licence



Benefits of DTT Transition

Enhances viability of the broadcasting sector

Increased coverage will facilitate reaching a wider population

Presents an additional means of communication independent of the telecommunications networks during an emergency

Enables communication to disaster relief agencies



Regulatory Frameworks that support Resilience

Framework for
Authorisation of
Amateur Radio
Services

Framework for OTT
Services

Framework for Net
Neutrality



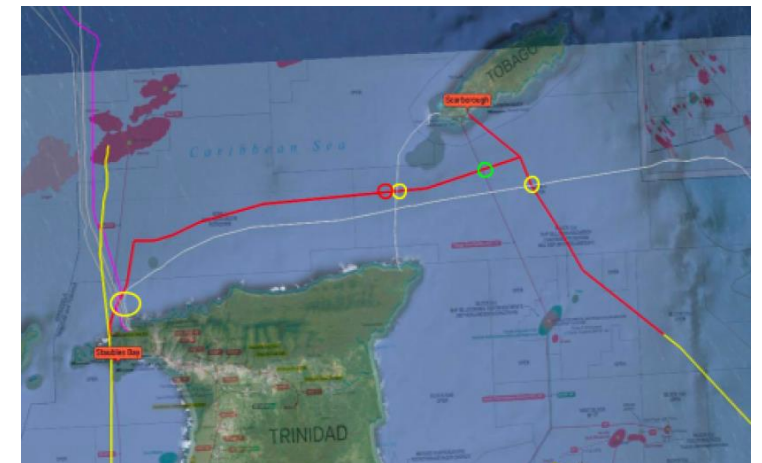
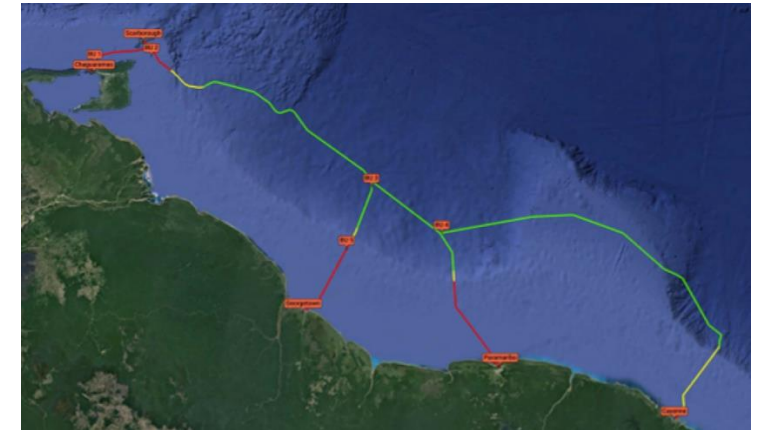
Regulating Resilience in the Telecommunications Sector

G5 Collaboration

- Support for ODPM Support for ODPM in development of the National Emergency Telecommunications Plan, specifying submission of business continuity plans and operator requirements
- Engagement with municipal corporations to maintain critical infrastructure routes

Diversity of Critical Infrastructure

- Authorisation of multiple international and inter-island subsea cable systems
- Facilitation of diverse landing stations and subsea paths
- Proliferation of IXPs



Thank You

Questions

