

The Socio-Economic Value of Satellite Communications

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When we discuss the economy of satellite communications, the first topic is often **cost**.

However, the real value of connectivity is not only the price of the communication link itself.

Its value comes from what the connection enables:

- Education in remote communities
- Emergency coordination after disasters
- Connectivity for ships, aircraft and mobile platforms
- Economic activity in underserved regions





Fiber / Cable

High capacity and low cost where infrastructure already exists.

But infrastructure must physically reach the location.



Terrestrial Mobile

Efficient in populated areas with towers, power and backhaul.

Coverage depends on terrestrial infrastructure.



Satellite

Large-area coverage with deployable user terminals.

Connectivity without continuous terrestrial infrastructure.

There is no universally best technology. The right solution depends on geography, mobility and resilience requirements.

Fiber / Cable	Terrestrial Mobile	Satellite Communications
Civil works, trenching, ducts or poles	Towers, base stations and site acquisition	Satellite, launch and orbital infrastructure
Rights of way and route maintenance	Power, backhaul and site maintenance	Gateway, hub and network operations
Infrastructure expands along the route	Coverage expands through terrestrial sites	Space infrastructure covers very large areas

Key Economic Question

What infrastructure must be built to connect the next location?

As remoteness and geographical difficulty increase, the economics of the communication solution can change significantly.

Where Satellite Creates Unique Value



REMOTE

Villages
Schools
Mines
Islands



MOBILE

Ships
Aircraft
Vehicles
Offshore platforms



UNDERSERVED

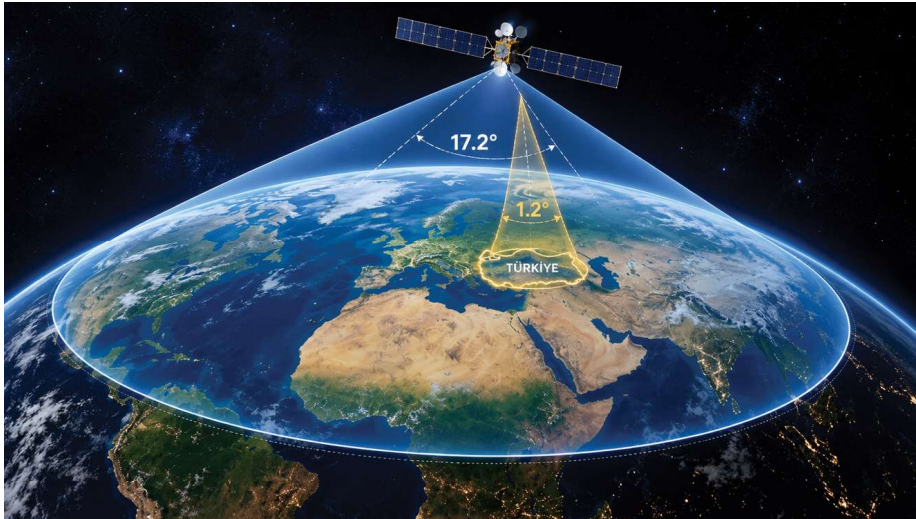
Low population density
Difficult terrain
Limited infrastructure



CRITICAL

Emergency response
Public safety
Network backup

Satellite creates its greatest value where connectivity is remote, mobile, underserved or critical.



One Satellite, Vast Coverage

From geostationary orbit, a satellite can provide connectivity across an extremely large geographical area.

- A **17.2° global beam** can cover a large portion of the Earth visible from the satellite.
- A beam of approximately **1.2°** can provide coverage on the scale of Türkiye.



Space Segment

Satellites and Capacity

Ground Segment

Teleports and Gateways

Network Infrastructure

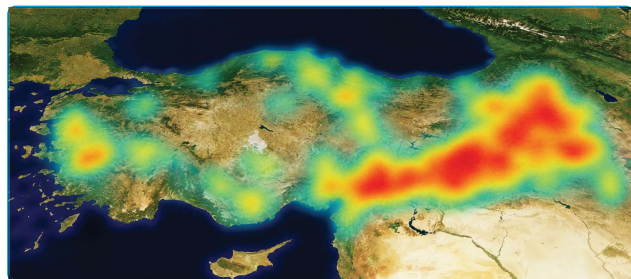
Hubs and Network Operations

Communication Services

VSAT and Managed Networks

Socio-Economic Applications

Türksat combines space, ground and network infrastructure to provide end-to-end satellite communication solutions supporting government, enterprise, mobility and critical communication services.



Satellite connectivity for schools in cooperation with Türkiye's Ministry of National Education

1,000+ Schools Connected

through cooperation with Türkiye's
Ministry of National Education

Satellite Connectivity



Internet Access



Digital Educational Resources



Long-Term Human Capital

Main Message

Low commercial demand does not mean low socio-economic value.

Case Study 2: When Terrestrial Infrastructure Fails



Terrestrial Impact

Fiber cuts, damaged towers, power outages and congestion can disrupt communications.



Satellite Response

Satellite terminals can establish an independent communication path when terrestrial infrastructure is unavailable.

Resilience Value

Connectivity enables emergency teams to coordinate people, information and resources during a crisis.



Türksat mobile emergency communication platform

A temporary communication network can provide:

- Satellite backhaul independent of local terrestrial networks
- Local Wi-Fi connectivity for emergency personnel
- Radio communication support
- Autonomous power for field operation
- Rapid deployment where communications are needed

**Sometimes satellite connects places infrastructure has never reached.
Sometimes it reconnects places where infrastructure no longer works.**

1. Use the Right Technology

Satellite should complement fiber and terrestrial mobile networks, not unnecessarily replace them.

2. Evaluate Socio-Economic Value

Education, healthcare, public services and emergency response may create value far beyond telecommunications revenue.

3. Build Resilient Hybrid Networks

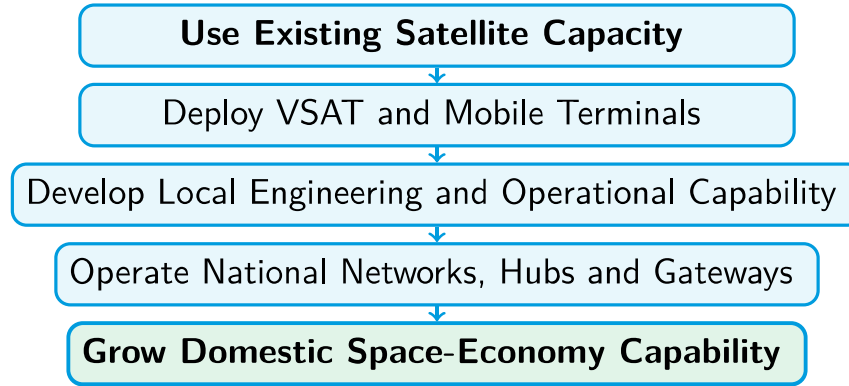
Resilience is strengthened by integrating:

Fiber + Mobile + Satellite

4. Start with Applications

Countries do not need to launch their own satellite before benefiting from space technologies.

Start with the service need, then choose the appropriate technology.



Participation in the space economy can begin with practical applications on the ground.

When infrastructure **does not reach**, satellite can **connect**.

When users **move beyond infrastructure**, satellite can **follow**.

When infrastructure **fails**, satellite can **reconnect**.

Final Message

The true economic value of satellite communications is not only the cost of connectivity; it is the value of what that connectivity makes possible.

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