
# الجهـــاز القـــومي لتنظيـــم الاتصـــالات

## National Telecom Regulatory Authority

# Submarine Cable Connectivity in Egypt

# Why Submarine Cables?

- High-capacity fiber-optic cables laid on the seabed.
- Carry 97%+ of global internet and data traffic.
- Provide low-latency, high-bandwidth international connectivity.
- Critical infrastructure for cloud, telecom, and financial systems.

# Why Egypt Is a Global Cable Hub

- Geographic position between Europe, Asia, and Africa.
- Shortest route between the Mediterranean and Red Sea.
- Over 17 active & planned submarine cable systems.
- Suez Canal corridor provides a controlled and secure passage.
- Massive investment in terrestrial crossing routes (Red Sea ↔ Mediterranean).

# Major Submarine Cables in Egypt

- SEA-ME-WE 4 / 5 / 6
- AAE-1 (Asia-Africa-Europe)
- MENA Cable
- TE North
- 2Africa (largest global system) Design Capacity 180 Tbps, Cable Length 45,000 km

# Economic & Strategic Importance

- Positions Egypt as a critical node for global internet traffic.
- Generates major telecom revenues from transit and landing fees.
- Supports cloud providers, data centers, and digital economy.

# Investments in Submarine Cable Infrastructure

- Billions invested by Telecom Egypt & global consortia.
- New cable landing stations (e.g., Suez, Ras Ghareb, Zafarana).
- Expansion of terrestrial routes to increase redundancy.
- Partnerships with hyperscalers (Google, Meta, Microsoft).
- Modernization of power systems and repeater technology.

# Competition Landscape

- Multiple global operators participating in cable consortia.
- Increased competition between hyper scalers for capacity.
- Regional rivalry for hub leadership (Saudi Arabia, UAE, Greece).
- Egypt maintains edge through strategic geography and infrastructure diversification.

# Regulatory Approach

- Egypt follows a regulated open-access model.
- Licensing requirements for landing stations and operators.
- Rules for redundancy, security, and resilience.
- Government encourages private investment via partnerships.
- Regulatory oversight ensures fair competition and service quality.

# Case Study: 2Africa Cable

- One of the largest submarine cable projects in history.
- 45,000+ km loop connecting 33 countries.
- Egypt hosts two major landing points and multiple crossings.
- Built by a consortium including Meta, China Mobile & Vodafone.
- Boosts capacity and reduces latency for Africa & Middle East.

# Case Study: SEA-ME-WE-5

- Connects Southeast Asia → Middle East → Western Europe.
- High-capacity system with landing in Zafarana and Abu Talat.
- Critical for Egypt’s central role in Eurasian connectivity.
- Redundant terrestrial routes reduce outage risk.

# Case Study: Google’s Project

- Large-scale investment connecting India → Europe through Egypt.
- Dual routes through Egypt enhance global redundancy.
- Reflects rising role of cloud providers in cable ownership.

# Challenges Facing Submarine Connectivity

- Geopolitical risks and regional instability.
- Physical vulnerabilities (anchors, earthquakes, sabotage).
- Need for continuous modernization due to capacity growth.
- Some organizational matters related to security and sovereignty.

# Future Trends

- Shift toward hyper scaler-driven cable ownership.
- Increasing terrestrial redundancy inside Egypt.
- Smart landing stations.
- Expansion of Egypt as a cloud and data center hub.

# Conclusion

- Egypt is a strategic global gateway for data connectivity.
- Massive investments strengthen its leadership role.
- Balanced competition and strong regulation enable growth.
- Submarine cables will continue shaping Egypt’s digital future.


# THANK YOU

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