The History of Submarine Telecommunications Cables

From telegraphy to today's global fiber-optic networks

1840s–1850s | Early Experiments

Advances in insulation, especially gutta-percha, made undersea telegraph cables possible. Early trials connected nearby coastlines and proved that electrical signals could travel under water.

1851 | English Channel Success

A durable cable between England and France demonstrated that submarine telegraphy could work commercially and reliably.

1858 | First Transatlantic Cable

The first cable between Ireland and Newfoundland briefly connected Europe and North America, but it failed after only a short period of service.

1866 | Lasting Transatlantic Breakthrough

The Great Eastern successfully laid the first durable transatlantic cable, transforming international communication from weeks to minutes.

1870s–1940s | Global Telegaph Networks

Submarine cable networks spread across the world, linking empires, ports, and financial centers. Improvements in armoring, shore ends, and operations increased reliability.

1956 | TAT-1 and the Telephone Era

TAT-1, the first transatlantic telephone cable, opened a new era of voice communications using coaxial cable and submerged repeaters.

1988 | TAT-8 and Fiber Optics

TAT-8 became the first transatlantic fiber-optic cable, marking the beginning of modern high-capacity digital submarine networks.

2010s–Today | The Modern Internet Backbone

Today's systems use coherent optics, optical amplifiers, and high-fiber-count designs to carry global internet, cloud, streaming, AI, and enterprise traffic.

TECHNOLOGY EVOLUTION

1. TELEGRAPH CABLE

Copper conductor with gutta-percha insulation and jute/armor protection.

2. COAXIAL TELEPHONE CABLE

Coaxial design with copper shielding and repeaters for long-distance voice.

3. FIBER-OPTIC CABLE

Glass fibers carry light signals with massive bandwidth and minimal loss.

WHY SUBMARINE CABLES MATTER

They carry the vast majority of intercontinental digital communications.

They provide the low-latency, high-capacity foundation for the global internet.

They connect nations, businesses, data centers, and cloud platforms worldwide.