Telecommunications Media

> Tags: Telecommunications, Telecommunications medium, Twisted-Pair wire, Coaxial cable, Fiber-Optic Cable, Submarine Fiber Cable,

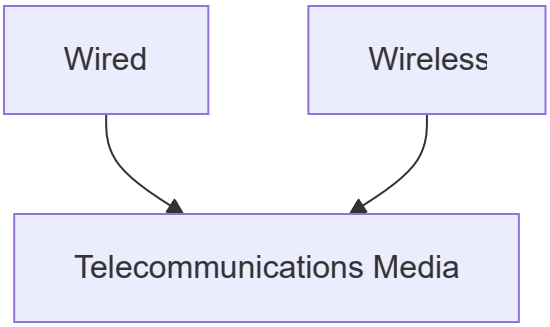
Telecommunications Media

*While designing a telecommunications systems, the **transmission media** selected depends on:*

- The **amount** of information to be exchanged
- The **speed** at which data must be exchanged
- The level of concern for **data privacy**
- Whether or not the users are **stationary or mobile**

Telecommunications Media is divided into **two** broad categories:

- **Wired(guided)**- signals are guided along a solid medium
- **Wireless**- the signal is broadcast over airwaves as a form of electromagnetic radiation



Wired(Guided) Transmission Media Types

Media Type	Description	Advantages	Disadvantages
Twisted-pair wire	Twisted pairs of copper wire, shielded or unshielded	Used for telephone service; widely avaliable	Transmission speed and distance limitations
Coaxial Cable	Inner conductor wire surrounded by insulation	Cleaner and faster data transmission than **Twisted - pair wire**	More expensive than **Twister - Pair wire**

Media Type	Description	Advantages	Disadvantages
Fiber-optic cable	Many extremely thin strands of glass bound together in a sheeting; uses light beams to transmit signals	Diameter of cable is much smaller than **Coaxial cable**; less distortion of signal; capable of high transmission rates	Expensive to purchase and install

IMPORTANT NOTE:

Fiber-optic cables are so fast that it travels in **light speed**

Submarine Fiber Cable

The Submarine Fiber Cable consists of **8 parts**:

1. Polyethylene
2. Mylar tape
3. Stranded steel wires
4. Aluminum water barrier
5. Polycarbonate
6. Copper or aluminum tube
7. Petroleum jelly
8. **Optical Fibers**