GENERATION OF MOBILE TELEPHONY

1G

1ST GENERATION
wireless network

- Basic voice service
- Analog-based protocols

2G

2ND GENERATION
wireless network

- Designed for voice
- Improved coverage and capacity
- First digital standards (GSM, CDMA)

3G

3RD GENERATION
wireless network

- Designed for voice with some data consideration (multimedia, text, internet)
- First mobile broadband

4G

4TH GENERATION
wireless networ

- Designed primari for data
- IP-based protocol (LTE)
- True mobile broadband

THE NEED FOR SPEED
in kilobits per second

2.4 *kbps*

64 *kbps*

2,000 *kbps*

100,000 *kbp*

What is mobile communication?

- Mobile communication is radio communication between subscribers, the location of one or more of which changes. One of the types of mobile communication is cellular communication.
- Currently, there are 7 generations of mobile communication. It's 1G, 2G, 2.5G, 3G, 3.5G, 4G, 5G

1G

- All the first cellular communication systems were analog.
- These include: AMPS, TACS, NMT-450, C-450,RTMS, Radiocom 2000, NTT.
- All analog standards use frequency modulation for speech transmission and frequency modulation for control information transmission.

2G

- 2G is short for second-generation cellular network.
- 2G cellular networks were commercially launched on the GSM standard in Finland by Radiolinja (now part of Elisa Oyj) in 1991.
- Three primary benefits of 2G networks over their predecessors were that:
- *phone conversations were digitally encrypted.
- *significantly more efficient use of the radio frequency

  spectrum enabling more users per frequency band.
- *Data services for mobile, starting with SMS text messages.

3G

- 3G (short for third generation) is the third generation of wireless mobile telecommunications technology.
- It is the upgrade for 2.5G and 2.5G GPRS networks, for faster data transfer.
- This is based on a set of standards used for mobile devices and mobile telecommunications use services and networks that comply with the International Mobile Telecommunications-2000 (IMT-2000) specifications by the .
- 3G finds application in wireless voice telephony, mobile Internet access, fixed wireless Internet access, video calls and mobile TV.

4G

- 4G is the fourth generation of broadband cellular network technology, succeeding 3G. A 4G system must provide capabilities defined by ITU in IMT Advanced.
- Potential and current applications include amended mobile web access, IP telephony, gaming services, high-definitionmobile TV, video conferencing, and 3D television.