

Cellular system

The world's 1st cellular system was introduced by Nippon Telephone & Telegraph Company (NTT) in Japan

<u>Standard</u>	<u>Type</u>	<u>Year</u>	<u>Multiple Access</u>	<u>Frequency Band</u>	<u>Modulation</u>	<u>Channel B.W</u>
NTT	Cellular	1979	FDMA	400/800MHz	FM	25 KHz

NTT uses 600 FTI Duplex channels (25 KHz for each one way link) in 800 MHz band.

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NMT-450	Cellular	1981	FDMA	450-470MHz	FM	25 KHz
E-TACS	Cellular	1985	FDMA	900 MHz	FM	25 KHz
C-450	Cellular	1985	FDMA	450-465MHz	FM	20KHz/ 10KHz
GSM	Cellular/ PCS	1990	TDMA	890-960MHz	GMSK	200 KHz
IS-136	Cellular	1993	TDMA	810-1501MHz	π/4-DQPSK	25 KHz

Europe Developed NMT450 → Nordic Mobile Telephone system (NMT)

European Total Access Cellular system (EATCS)

In Germany a cellular standard called as C-450 was introduced in 1985

These above systems were Replaced by Pan European Digital Cellular standard GSM (Global system for Mobile)

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GSM standard is gaining world wide acceptance as the 1st universal digital cellular system with modern network features extended to each mobile user.

In Japan, Pacific Digital Cellular standard (PDC) was introduced in 1993 which used Time Division Multiplexing Access and used Differential Quadrature Phase shift Keying (DQPSK) for modulation purpose.

Some more facts & history of Cell phones:-

1947:- The concept of cell phone & cellular network was proposed by Bell labs.

1973:- 1st Call on Cell phone by Dr. Martin Cooper

1983:- Motorola launched its 1st cell phone named **DynaTAC 8000c**. 30 minute talk time was given to users and cost was \$3,995.

1992:- Nokia launched its 1st Cell phone **Nokia 1011** based on GSM standard.

1993:- First SMS text message was sent between two phones.

1994:- IBM launched its 1st smart phone named Simon Personal Communicator in which **E-mail**, **Address Book**, **Calculator**, **Calendar** & **Notepad** facilities were available.

2001:- NTT DoCo Mo launched 1st 3G cell phone using WCDMA standard in the year 2001.

2007:- Apple launched its 1st Smart phone iPhone, 29 June 2007. In this 2G cellular Network system was used.

2008:- 1st WiMax Network, a 4G cellular Network was launched in Netherlands

2009:- 1st LTE Network, a 4G cellular Network was launched in Sweden by TeliaSonera

2010:- Dell launched Venue Pro which was 1st smartphone that uses Windows Operating system.

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WMC
ELEX 3rd year