

# Mobile phones then and now

[Technology](#), [Mobile Phone](#)



Professor name Student name Date Course title Introduction The word “Telephone” is derived from the Greek words for “ far” and “ sound.” The first telephone company, the Bell Telephone Company, was established on July 9, 1877. Bell always said that he would rather be remembered as a teacher of the deaf. But his invention of the telephone was so important that it will always overshadow his teaching accomplishments. Since its invention, the telephone has undergone many transformations. Some changes dealt with using new technology. Other changes have focused more on fashion, design and form.

The earliest telephones came with instructions such as “ when you are not talking, you should be listening.” The 1878 “ Coffin” style phone used a wooden handle to transmit and receive. In 1879, the “ Blake” transmitter was installed in thousands of phones. It used a battery instead of a wooden crank. There was the time when the cell-phones didn’t exist. It was in the early ’80s that the first mobile phone came about. Previous ‘ wireless communication systems’ were too bulky to be called mobile — although many did exist for military and civilian use. The first generation of cell-phones did nothing excluding calls — and that too for about 30 minutes; Blair states that “ it was all that the battery in those days allowed” (2011).

The next few generations were fondly called ‘ bricks’— not just for their appearance but also because they could come in handy as a blunt weapon if needed. Between the ’80s and ’90s, devices kept evolving and getting more popular.

## **Early Mobile phones**

By the mid-1890s three different systems were being used to signal the operator or party. The Magneto System sent an electric signal by turning a crank. The common Battery System signaled the operator when the receiver was taken off the hook. And Automatic System used button or a dial to directly signal the party (which eliminated the need for an operator).

By the end of the 19th century, telephone design became less decorative and more practical. In the early 1920s, upright or “Candle stick” telephones were popular in urban areas and wood-wall phones were favored in rural areas. The one-piece handset was introduced in Europe as early as the 1890s, but did not become popular in North America until well into the 1920s. In 1927, the first Cross-Atlantic phone service began (at a cost of \$75 for the first three minutes ). In the 1930s phones began to incorporate the ringer, network and handset into a single unit. In the 1950s, telephone companies began offering phones in different colors. In some cases they simply painted the old phones new colors. The 1960s saw the introduction of the “Touch-Tone” phone in both desk and wall versions. At this time people did not buy their phones; phones were rented from the telephone company. In the 1970s, “Modular” connections allowed phones to be plugged into a jack. Later Lana Rakow and Vija Navarro wrote cell phones as “Remote Mothering” (1993).

## **Use of Mobile Phones**

Cell phones represent a type of technology that has been around for little over fifty years. However, it has only been recently that many people began

to use cell phones as a major part of their everyday life. In the past, cell phones were used by business people to conduct their business. In today's society, one member of every residence owns a cell phone. Cell phones are interesting, useful and play a major role in our lives by bringing people closer together and keeping in constant touch with one another. Herzog Sharma & John Melfi stated that “ mobile is the most important advertising medium because it helps close the loop from an impression and first sight to transaction and spend” (2008).

## **Need for a new system**

As analogue mobile phones were gaining in popularity, it became clear that the design of the system was going to put a hard limitation on the number of mobiles and the call volume the networks could manage. There were issues with security, celebrities' taped mobile conversations being published, and increasing numbers of mobile phones being illegally “ cloned”. People wanted to use their mobile phones in other countries, which the analogue system did not really support. As Qualcomm states that “ Evolving mobile technologies deliver great mobile experiences” (2014).

## **Mobile phones development**

### **First generation (1G)**

Mobile phones began to proliferate through the 1980s with the introduction of “ cellular” phones based on cellular networks with multiple base stations located relatively close to each other, and protocols for the automated “ handover” between two cells when a phone moved from one cell to the other. At this time analog transmission was in use in all systems. Mobile

phones were somewhat larger than current ones, and at first, all were designed for permanent installation in cars (hence the term car phone). Soon, some of these bulky units were converted for use as “transportable” phones the size of a briefcase. Motorola introduced the first truly portable, hand held phone. These systems (NMT, AMPS, and TACS) later became known as first generation (1G) mobile phones. In September 1981 the first cell phone network with automatic roaming was started in Saudi Arabia; it was an NMT system.

### **Second generation (2G)**

In the 1990s, second generation (2G) mobile phone systems such as GSM, IS-136 (“TDMA”), IDEN and IS-95 (“CDMA”) began to be introduced. The first digital cellular phone call was made in the United States in 1990, in 1991 the first GSM network opened in Europe. 2G phone systems were characterized by digital circuit switched transmission and the introduction of advanced and fast phone to network signaling. In general the frequencies used by 2G systems in Europe were higher though with some overlap, for example the 900 MHz frequency range was used for both 1G and 2G systems in Europe and so such 1G systems were rapidly closed down to make space for 2G systems.

### **Third generation (3G)**

Not long after the introduction of 2G networks, projects began to develop 3G systems. Inevitably there were many different standards with different contenders pushing their own technologies. Quite differently from 2G systems, however, the meaning of 3G has been standardized in the IMT2000 standardization process. This process did not standardize on a technology,

but rather on a set of requirements (2Mb/s maximum data rate indoors, 384Kb/s outdoors, for example). At that point, the vision of a single unified worldwide standard broke down and several different standards have been introduced. By 2009 Fahd Ahmad Saeed stated that “ it had become clear that, at some point, 3G networks would be overwhelmed by the growth of bandwidth-intensive applications, such as streaming media” (2010).

Consequently, the industry began looking to data-optimized fourth-generation technologies, with the promise of speed improvements up to ten-fold over existing 3G technologies.