Technology Innovation in Mobile Telephony

Today we are Mobile. So Simple and so Smart phrase. People who are not having even a savings account in a bank or even a credit card, one can find a mobile handset with them. World has seen so many innovations both Technical and Business, but if we club these two together Im sure it will be a real hard job to find out a faster and smarter innovative example beyond the word called Mobility. Its just awesome. This specific segment has shown tremendous growth in both Technology and Marketing innovation and in this small article Im trying to inscribe the most important Technology Innovations in a chronological way. A. Pre-Cellular Era: In 1895, Marconi transmitted wireless signals and it gave birth of radio. Till the end of World War I, wireless innovation took place in AM (Amplitude Modulation) technology. Then FM (Frequency Modulation) came to the picture. Till the end of World War II , the technical development in the field of radio and other wireless technologies were done by Government bodies , in different countries. But the birth of cellular concept came just after the innovation of Integrated Circuits. B. The 1G Era: Analog Cellular: Based on Analog Transmission and launched in early 80s, the 1G networks were for voice communication. The basic concepts came from two key standards, (i) the Nordic NMT and, (ii) the US AMPS. In late 80s, when 1G took its own pace, different standards started getting popularity in different regions, for example, NTTs proprietary standard in Japan, US AMPS in North America, the British Standard (a derivative of US Standard) in Western Europe and NMT standards in Scandinavian countries. C. The 2G Era: Digital Cellular: In early 90s GSM became mandatory in Europe and it was done by the European Commission. Regional wireless leaders specifically the Nordic vendors Ericsson and Nokia and a couple of another operators held the major market share. Not only they became popular in their respective countries but in a very short span of time, they became Global Giants. And the impact became very strong in late 90s, only in Western Europe GSM caught almost 35% of the worldwide market. In US and APAC, the same thing happened, that was a huge business growth. By the year 2000, in APAC, GSM held almost 60% of the regional market. D. The 3G Era: Multimedia Cellular: After the super success of 2G Standards, it got a world wide demand for Data Traffic also, along with the Voice Traffic. But initially the basic target was to get a uniform platform for that. Here the European GSM got a tough challenge from US based Qualcomms CDMA technology. Now all the mobile handset manufacturers got two options, either GSM or CDMA and ultimately the adoption became absolutely regional. The first adoption of 3G could not bring that pace as it was expected the transition from Voice to Data. In Japan , the local leader NTT Do-Co-Mo did the Data Transition in 1999 in their own way. E. The 4G Era: Towards Wireless Broadband: From 1G to 2G to 3G, the basic intention of all the carriers was to improve and increase the spectrum capacity. Now when we talk or think beyond 3G, its really very difficult to comment on the 4G standards today. We can only say that the major players in the market are putting their huge efforts to build the base. For example, the technologies like Wi-Fi , WiMax , UWP, ZigBee , Mobile-Fi are nothing but the building blocks for a super powered , never seen Mobile Broadband revolution. The major careers have put endless endeavors to develop 4G, but according to industry specialists, 4G Ear shall be seen after 2010.

About the Author

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