# Into the Decade with 5G

Before starting on to what 5G actually is, how is it different and what it can do, let’s brush up with some basic terms. I am pretty sure you might know what a 4G or 3G supported mobile phone is and own one as well, have you ever wondered what exactly is this number followed by ‘G’? Between the conversations around the lines “My mobile is better because it supports 4G and yours doesn’t”, this single-digit gap is what we can probably call a generation gap (pun intended). The designation of a number followed by a ‘G’ actually represents generations of evolution of the wireless networks. It can be considered similar to what we have as 1st generation heir, 2nd generation heir and so on.

Now we can distinguish how each generation is different in layman’s terms, let’s dive in a little deeper. Let me begin with a fun fact: A lot of people do not know that wireless generation starts with a **0G** and not **1G**. Strange right? The reason is actually quite simple; since the onset of **0G** was a pre-cell phone mobile telephony tech, say radios and does not exactly relate to cell phones in today’s terminology, this pretty little fact is lesser-known. Now as humans, we always want to do more, dive more, this curiosity of ours gave birth to a better version or the next-gen of **0G**, better known as **1G**. A little bit forward, but hey, still far from what we have today. This gen includes only voice calling signals, worked on analog cell phones and supported **NMT (Nordic Mobile Telephone)** and **AMPS (Advanced Mobile Phone System)**. With this gen, we were able to do basic voice overcall. But we needed more, no, wait, scratch that, we **wanted** more, hence we came up with **2G** and **2.5G**, a little enhancement, it brought us the world of data signals and **CDMA, EDGE, TDMA, GSM, and GPRS**. Boom! Now you can use the internet. Satisfied? Not yet. **3G** brought us a better internet usage version and of course our video calling services with **3G, WCDMA,** and **UMTS**. Later on, enhancements in protocols, IP based services, and **VoLTE** brought to what we have now, the **4G**.

Think we are done yet? Of course not. We always want more, you see humans are born greedy and so we enhanced more and more which brings us back to the topic, **5G**. To say that 5G is a mere extension of 4G would be called a little rude, but at the same time, it is not some new technology that is coming to the surface. In the case of wireless network generation standards, the baselines are defined by an industry organization called the **3GPP (3rd Generation Partnership Project)**, which, as its name suggests, was first put together to help define worldwide standards for 3G cellular networks 20 years ago. The 3GPP creates what is called Release Documents every few years that define some of the core capabilities of next-generation wireless networks. The latest release document is called **Release 15** which came out in **June 2019** with many important new enhancements, including the full definition of the **5G NR (New Radio)** standard, which forms the foundation of 5G service. The next 3GPP document is underway and is expected to be formally released by June this year. So you see, it’s not exactly an extension to 4G and is actually a catalyst in the economic growth where AI and IoT play a huge part. **5G makes possible the connection and interaction of billions of devices of almost any kind and collection of data from those devices**, cool right?

With the advancement towards 5G, obviously we need 5G phones, why? Because you know “it's better”(pun intended). So with that many mobile tech giants have released and some are on the verge of releasing 5G phones like:

* Samsung Galaxy S10 5G, Samsung A90 5G, and Samsung Galaxy Note 10+ 5G
* OnePlus 7 Pro 5G
* Huawei Mate X
* Huawei Mate 30 Pro 5G
* Oppo Reno 5G
* LG V50 Thinq 5G
* Xiaomi MI Mix 3 5G
* Moto Z3
* Huawei Mate 20X 5G

There is **Xiaomi Mi Mix Alpha 5G** that is supposed to be released soon where the display covers almost every part of the phone.

Now with this venture of going towards 5G, we can all hope that more beautiful and advanced technology is on its way and we can wait for them to come to the surface.