ICANN & 5G Technology

Remember 3G? And the hype generated around its ability to enable usage of internet browsing along with voice and text? After that there was 4G, and the focus of its capabilities on faster broadband speeds and the smooth fulfilment of media heavy streaming services. It may be harder for some to remember 2G, which was introduced in 1991 on the Global System for Mobile Standard (you may recognise the more popular acronym, GSM). This network allowed download and upload speeds of up to 236 Kbps, and its benefits included the ability to send short text messages (SMSs) and even multimedia picture messages (MMSs). It operated on the digital network, meaning that devices used less power to transmit signals and hence prolonging general battery life. But 2nd Generation implies that there was another Generation preceding it, and indeed, in the 1980s, 1G was introduced. It operated on an analogue network, as contrasted from later Generations, and its main premise was the capability of transferring calling seamlessly from one area to the next as a person might, while travelling. Named 'Cells', these signal enabling areas set up the alternative name for mobile phones as 'cell phones'.

With 1G deployed in 1980s, 2G in the 90's, 3G in the 2000's and 4G in the late 2000's, it seems that approximately every decade a new Generation of mobile networking technology is commercially released. And one might ask for what purpose? Essentially, to align with the growing productivity demands of populations increasingly using the Internet as a means to run businesses, day-to-day activities and leisure. 2.5G, the bridge connecting 2G on the way to its development into 3G, was an iteration of 2G technology, and provided data speeds of up to 100 Kbps, which was sufficient for web browsing and email messaging. It set up platform for the introduction of 3G, which allowed around 2000 Kbps, a figure twenty times bigger than 2.5G. More contextually, the release of 2G/3G accompanied the internet boom in the late 20th Century and early 21st, as people scrambled to embrace the possibilities and applications of the Internet. Hence faster communication, including the ability to obtain information from the Internet whilst on the move, enabled higher productivity.

4G, the technology which cities are predominantly utilising, describes an environment where bandwidth is much wider, allowing the usage of more devices (other than mobile phones) on the Internet. Your Apple Watch, smart TV, smart fridge and miscellaneous home appliances, now use the increased space on the 4G network to communicate data to your phone. Subsequently, your phone keeps you informed of whether, as an example, your baby is sleeping or awake, as alerted by the motion-detecting video camera sitting above her cot or if it is time to take your Kratom capsules and other medications via an app installed in your mobile device. Moreover, by increasing the speed and lowering the latency of channels transferring packets of data between devices, 4G enables more and more existing functions to be replaced by data usage.

Have you noticed that mobile network operators are increasingly focussing on monthly 'GB allowances' as their key product feature? Some have even gone to providing unlimited GB usage for a set cost each month, as was trialled by an Australian telecommunications carrier, Optus, recently. More indirectly though, many have released 'unlimited GB' offerings in the form of video streaming, where telecommunication carriers allow devices or SIM cards purchased on plans to stream media services such as Netflix and Foxtel as much as the user wants on their phone. Traditional phone calling through the usage of a mobile service number is also increasingly less preferred to the alternative of data calling, where applications such as Facebook Messenger and Whatsapp have inbuilt video and voice calling functions.

So 4G networks, which are to this day increasingly being developed to offer more seamless data transfers, operate between the 700MHz and 2600MHz spectrum. On this spectrum, it is a daily commonality to stream music, watch movies and participate in conference calls whilst on the mobile phone. Music offerings are already more popular on the streaming scene, where companies such as Spotify, Apple Music and Amazon Prime have replaced the necessity to stock a physical library full of CDs. Browsing is a given, with Samsung even offering split screen functionalities on their phones to allow more information absorbing and internet comparison activities, and if you may have noticed, phone screens are being enlarged with each new model release. Increasingly, our usage of accessories necessitate the data-tracking and accumulating capabilities enabled by Internet connectivity, as you might when your Smart Watch tracks the route of your morning run and allows it to be reviewed on your computer. So this begs the question of what's next?

The Internet of Things, which includes the smallest to the biggest spectrum of appliances which can be connected to the Internet, will be reason for the next generation of mobile network technology. It's called 5G, perhaps unsurprisingly. Allowing for speed claims in the Gbps spectrum, this generation will enable high definition movies to not be streamed, but downloaded, in a matter of seconds, and will allow the simultaneous transfer of information between Internet of Things and control devices. Whilst 4G already offered real time data transfer, think of the huge demand for data monitoring in the world today. From self-driving cars, drone technology, thermostats, sensors and robot development, the future path of technological development will be reliant on the heightened frequency of 5G networks to allow essentially no delay between a device and a server it's trying to communicate to. And with the closing of the decade, the next generation in 5G is expected to launch in 2020.