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5G Network and Technology

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Introduction

The purpose of 5G network and technology was developed so that consumers could have an easier lifestyle. Before 5G along with wireless technology, hand-held phones and Bluetooth was some of the new technologies we've got to experience. However, with the development 5G, innovative technologies are starting to appear one by one. Throughout the last several years, 5G's predecessor was followed by 1G (first generation), 2G (second generation), 3G (third generation) and 4G (fourth generation). However, with mobile companies, along with consumers, faster speed within the mobile phones became desirable. "5G is the newest (fifth generation of mobile cellular technology and is intended to vastly improve the Internet speed, coverage and latency of wireless networks. Speed is usually the most discerning factor between the changing generations of wireless cellular technology (Kanchwala, 2018, para 6)." Though, most industries and mobile companies have not completed the development of 5G, the nations that are leading in technology in East Asia such as China, Japan and South Korea is already adding 5G into their mobile phones.

Current Use

In America, the telecommunication companies such as Verizon, A.T. & T., T-Mobile and etc., is testing on 5G network (Halpern, 2019, para 4). While 5G network and technology is not available everywhere just yet, it is starting to become accessible in major telecommunications companies such as Huawei of China, Samsung of South Korea, and NTT Docomo of Japan. With South Korea being one of the leading nations to promote modern technologies, 5G was showcased in the 2018 PyeongChang Winter Olympics as a sign signaling that South Korea is advancing in this technology era. It is notable that South Korea has already advanced in 5G network because South Korean telecommunication companies such as Samsung, SK Telecom,

KT and LG Uplus has incorporated 5G network into their mobile phones (Pickup, 2019, para 2 and 3). Some of the technologies that is associated with 5G is the Samsung Galaxy Fold and that launched earlier this month. However, it is not just mobile phones these companies are coming out with, they are also coming out with other technologies that will benefit the consumers. “Each new hardware release creates a spike in local interest, and marketing of new 5G services such as VR, AR, live sports, and gaming content are also contributing Horwitz, 2019, para 5).” Another major telecommunication company that is already developing 5G is the Huawei telecommunications company of China. Some equipment’s such as their chips is being used to develop faster speed for mobile phones. Because western countries like the United States banned Huawei, Huawei substituted their products to other countries so that their chips would be in use. According to (Lucas & Kynge, 2018 para 3 and 7), T-Mobile used a device from Huawei and that major countries they are focusing on for the development of Huawei is Australia, New Zealand, Central Asia, Russia and then move onto western Europe. Due to the fact that China is the leading nation for 5G technology, they are also known to have major impact in other countries as well. According to (Medin & Louie, p. 15), Huawei showed that because of their influence, they were able to impact 28% of the world in the technology industry.

Security Aspects of 5G Network

Though there might not be many security concerns because 5G is still developing in many countries, there are still many things to worry about. Some major aspects to be concerned about 5G is the cyberattacks that can occur. “Adding more devices to the online universe is destined to create more opportunities for disruption (Halpern, 2019, para 3).” According to (Medin & Louie, p. 27), some other aspects of security concern of 5G is that the United States government is worried about the Chinese telecommunications industry taking advantage of their

growing influence and use it to obtain some facts. Because Huawei has taken advantage of their impact on other countries, other countries like Czech Republic and Australia are in the process of restricting Huawei so that they can protect their security (p. 17).

Ethical and Social Implications of 5G Network

With Huawei being one of the leading nations to develop and incorporate 5G into their technology, it was accused by multiple western countries such as the United States for using their equipment's for hacking and other form of dangerous activities that could prevent privacy. It is also stated that the daughter of Huawei, Meng Wanzhou has conducted illegal actions such as money laundering, which lead to her arrest in Canada. This lead the United States to lose their trust in Chinese companies and disassociate themselves from it (Halpern, 2019, para 9 & 11). This indicates that the ethical implications of 5G is being violated because it is being used for negative purposes. The United States government made sure to ban Huawei from entering the American market because of the fact that Huawei has close ties with the Chinese government. "China's 5G strategy should be viewed in the context of the Chinese Communist Party's (CCP) grand strategy (Medin & Louie, p. 15)." When it comes to social issues, the 5G network and technology will bring a lot of benefits to the consumers. Some of the positive factors of 5G is the wireless technology and faster internet speed. According to (Kanchwala, 2019, para 11), the complete development of 5G is going to bring in advanced technologies such as ATM machines or convenient air conditioners. This will make consumers want to incorporate 5G network and technology into their lives.

Future Use

As 5G network and technology is becoming desirable in every nation, there are many reasons as to why 5G is becoming incorporated in various technologies. Because 5G is said to

improve faster speed on any technology, many countries are aiming to improve and work on their own developments of 5G. As stated by (Sequeira, 2019, para 2, 3, 4, 5 & 6), the establishment of 5G network will benefit the consumers because most technology will be wireless. The addition of 5G will produce self-driving cars, healthcare, logistics, smart cities, and retail in the upcoming years. Due to the benefits of 5G network, governments will start using 5G networks to add their influence onto smaller businesses and companies that wants to develop 5G. “Private industry may not be able to build 5G networks on their own. Building robust 5G networks may require a more active government role than past wireless transitions (Eldrid, Kenney, Kushida, Murray, & Zysman, 2019, p. 5).” While most people may think that government involvement of 5G development within companies is not a good idea, it can benefit the companies because companies can utilize the materials given by the government. For example, while AT&T is not a small company, it has collaborated with the United States government so that it could share partial information with them and some with the public (2019, p. 6). Although there are many benefits to 5G network and technology, not every company has 5G ready for consumers. Most companies are preparing to launch their 5G network and technology by 2019 or 2020. According to (Spence, 2019, para 1), it was stated that the Apple company would not be launching their iPhone 5G not until September of 2020.

What makes East Asia special for the development of 5G is that China, Japan and South Korea have already come out with devices that has 5G incorporated in them. For example, as mentioned earlier, South Korea has already started the development of 5G and managed to use it at their winter Olympics that they had in 2018. Given that all of South Korean telecommunications company all has 5G networks and technology incorporated into their devices, such as Samsung and their new 5G mobile phones, they are one of the leading nations to

advance in the development of 5G. Another way 5G network and technology is going to be used in the future is that another technology motivated country such as Japan is also in the process of using 5G for their upcoming Tokyo 2020 Olympic games. “From innovations that draw on 5G platforms to artificial intelligence (AI) solutions to immersive media to esports, Intel will showcase technology in three focus areas at the Olympic Games Tokyo 2020: Compute, Connect and Experience (Release, 2019, para 4).”

Conclusion

To sum up on 5G network and technology, the new fifth generation will have a huge impact on our lives. It will give us faster Internet speed and the wireless technologies will become convenient for us. Because 5G is becoming desirable by countries all over the world, many companies are already starting to develop 5G. With, East Asian countries such as China, Japan and South Korea diving into the development of 5G into their technologies, or is almost complete in the development process, they will become some of the leading nations to develop 5G network and technology. 5G is expected to come out in late 2019 or 2020 as most telecommunications company is hoping to release their products by then. If not, more testing's there will be further testing of 5G.

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