

### **Executive Summary**

Ever since the introduction of the earliest forms of wireless communication, the world was changed forever. Global impact resonates through every industry and the ability to communicate has played a big role in societal evolution. Without developments in wireless communication, business, entertainment, healthcare, and our very way of life would not be as developed as it is now.

Our paper begins with a brief history of telecommunications, beginning as early as 2400 BC where postal systems were used to communicate to each other. Over time, humans invented smoke signals, carrier pigeons, coded signal, written text, and audio-visual ways to speak to each other. The telegraph was the first form of almost instantaneous long-distance communication through electrical signals received by a magnetic end of the device. Next, radio and television changed the way we broadcasted news and entertainment. Cellular phones developed quickly after, with 2G networks that allowed for fast calls. The introduction of 3G allowed for mobile internet and video calls. Then, 4G/LTE was brought in to increase gaming ability, HD mobile video, and cloud computing. These technologies are not without risks however; some critics warn of radiation exposure and carcinogenic threats as a result of increased use of bandwidth.

The global impact of wireless communication was focused on five areas; health care, catastrophe response, business, entertainment, and education. Then, the paper explores the hazards of wireless communication. How has Wi-Fi, bandwidth, and widespread frequency transmission affected our global human health, and how will they affect the generations to come? There are barriers and risks to be considered for the future of wireless capabilities, especially regarding the introduction of 5G that include regulation and health risks. Currently,

consumer attitudes are positive towards mobile and home internet, despite perceived unaffordability. With reliability playing the biggest role in consumer attitude, the future of networks takes the form of 5G. The new technology will connect people faster and more effectively than ever before, and global society will change yet again in response.