A Review SWOT UP on 5G Technology Boon or BANE

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Abstract: Technology is on a never-ending cycle where it becomes more and more advanced with each day that passes. As we know, 5G network, which is the 5th generation mobile communication technology, is in development phase and it has got the ability to help in the development of other technologies like smart appliances on the Internet of Things (IoT), autonomous vehicles, virtual reality, robotics and automation, better entertainment services, as well as incredible internet speeds. How much incredible, one might ask – we are talking about 100 times or faster than today’s typical cellular connection.

Keyword: 5G, Security, Frequency, 3G, 4G.

I. INTRODUCTION

5G is simply round the corner. With its blazing quick speeds and lower latency, the means we tend to use technology is absolute to modification forever and in each means. As these fascinating developments unfold, security can ought to bear vital changes also. however can the arrival of 5G technology be a boon to security or gift a full new set of issues for the business to handle. “5G security provides level of trustiness that permits the 5G system to satisfy the wants of the overwhelming majority of those use cases from the top user, service supplier, and restrictive views. The trustiness not solely originates from a collection of safety features, however additionally from system style principles and implementation issues that have all been applied with a holistic and risk-based mind-set.

II. BENEFITS OF 5G

5th generation technology offers a broad range of features, which are helpful for all group of people including, students, professionals (doctors, engineers, teachers, governing bodies, administrative bodies, etc.) and even for a common man. 5G is the next generation technology is more than just a boost for the phone. Apart from speed, the biggest benefit of 5G technology is its low latency, which means the short time lag between the device pinging the network and the response time. The significant difference in speed between 3G, 4G and 5G is shown below.
There are several advantages of 5G technology, some of the advantages have been shown in the above Ericsson image, and many others are described below:

- High resolution and bi-directional large bandwidth shaping.
- Technology to gather all networks on one platform.
- More effective and efficient.
- Technology to facilitate subscriber supervision tools for the quick action.
- Most likely, will provide a huge broadcasting data (in Gigabit), which will sustain more than 60,000 connections.
- Easily convenient with the previous generations.
- Technological sound to support heterogeneous services (including private network).
- Possible to provide uniform, uninterrupted, and consistent connectivity across the world.

5G technology will unlock the true capability of drones. Companies like Amazon, FedEx, Flipkart, etc. will unlock the full potential of drones by using them to deliver items, mail, small parcels, thereby cutting the cost of delivery by actual people; as well as by government agencies for surveillance and monitoring purposes, thereby reducing the crime rate.

### III. HAZARDS IN 5G

Though we are advancing in technology but on the other hand it also leads to a variety of problems. While 5G network would allow super speed downloads and use the millimetre frequencies of the 6GHz-300GHz range, this would require cell phone towers to be located closer to homes and offices than before. For example, in the U.S. it is said that they are going to install around 300,000 new towers. If we go technically then we will get to know that 5G network will need to transfer data at a higher frequency in comparison with the previous generation of network and which will result in more towers here and there because the higher the frequency rate is, the shorter will be distance at which it can travel. 5G coming technology is so dangerous

- DNA single and double strand breaks.
- Oxidative may get damaged.
- Disruption of cell metabolism.
- Increased blood brain barrier permeability.
- Melatonin reduction.
- Disruption to brain glucose metabolism.
- Generation of stress proteins.
- Effect on eyes.
- Effects on Skins.
- Effect on immune System.
- Effect on heart.
- Effect on Bacteria resistance.
- Effects on Plants Growth.
- Effects on birds or animal life.
- Effects on the atmosphere and depletion of fossil fuels.

We know the electromagnetic radiation emitted from these network towers can lead to a variety of problems, not only to us but also to other living organisms such as birds, animals and environment. If we go further, research already indicates serious adverse effects from the wireless modalities in use today. Research studies from the Dielectric Spectroscopy Laboratory of the Department of Applied Physics, Hebrew University of Jerusalem, headed by Doctor Yuri Feldman, indicate that 5Gs milli-meter and sub milli-meter waves will uniquely interact with human skin and sweat glands, leading to preferential layer absorption.

![Figure 5: Hazards of 5G Networks](image_url)

An event that occurred in The Netherlands has sparked some outrage and more worries and concerns. In October 2018, hundreds of birds in a park in the Netherlands suddenly started falling from the trees and dying during a suspected 5G experiment around The Hague. Although we can’t really blame 5G network test for the so-called occurrence but because of higher frequency, it could be possible too.

People living in the area with network towers often report several health issues and which is a great concern. Speculation about 5G towers being located next to domestic areas has been going around since 2017. But it is known to be true that the microwaves from cell phone towers can interfere with your body's own EMFs, causing a variety of potential health problems such as headaches, memory loss, sleeping disorders, increased stress, depression, cardiovascular stress, birth defects, and in some cases, cancer.
IV. CONCLUSION

Scientists are cautioning that before rolling out 5G, research on human health effects urgently needs to be done first to ensure the public and environment are protected. Therefore, before deploying the 5G spectrum on a large scale, there should be steps taken in the concern of human health. Government should also set some norms for these telecommunication service providers so that these radiations don’t effect adversely. We are living in a world which is getting advanced every day, but in the end we all know advancements are done for making life easier not to end it. If we want advancement then we have to take care of our existence too.

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