

My journey to IITH & 5G

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My journey to IIT Hyderabad and 5G started at end of 2018 when I initially joined as a project associate in 5G testbed project, I was new to telecom and cellular technology, before joining here word 5G was just a buzzword for me but after learning about it I was amazed by the length and breadth of it. Initially few months I spent my time learning specification giving by the standardization body which gave me a deep insight about 5G, later when I started coding, I came to know how complex it is yet how it can make life simple.

5G is expected to provide speed in gigabits and latency in a few milli-seconds and whatnot for an end-user it's just an upgrade from 4G but when it comes to design it a lot more challenging. I developed a solution for the 5G protocol stack, basically writing layers and interface code as per standardize specification.

By the end of 2019, I was getting more interest in the wireless network domain, so I decide to apply for the Master's program here in IIT Hyderabad itself, after coming into MTech life took a 180-degree turn, I learned about Wi-Fi, IoT, and software-defined networks and network virtualization. My learning curve was expectational, with constant guidance from the professor here I was able to publish my research work.

Now my focus was shifted from building 5G to make it efficient and scalable, my research involves studying and implantation of ways in which we can make 5G more energy-efficient, make it cloud-native so that it's easy to deploy it on the go. During my MTech program, I got the opportunity to play with the architecture of 5G, even though I am new to this field but after so much exposure here I have enough confidence to propose changes at the architectural level.

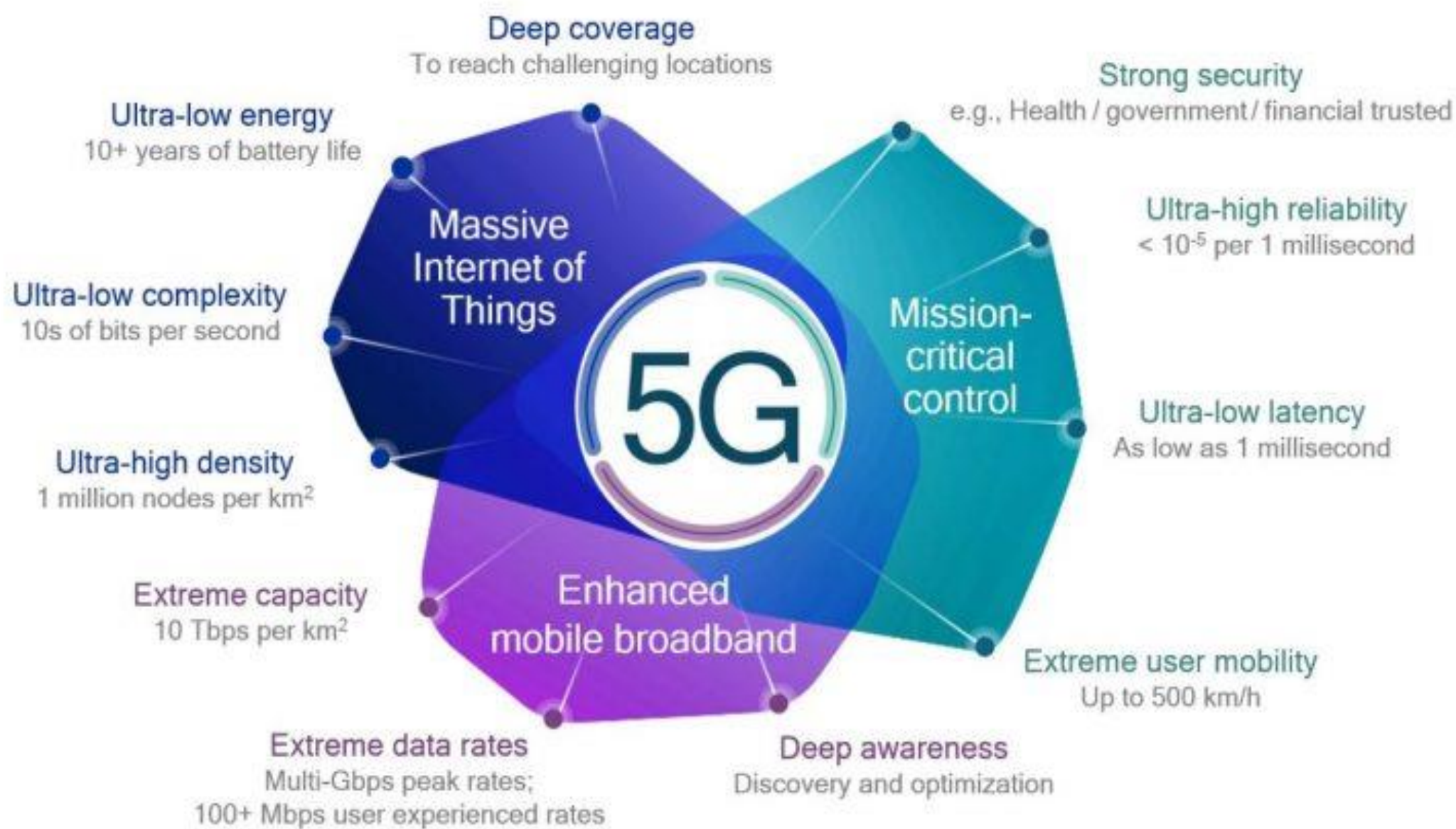


Fig. 8 Goals of 5G NR

(Image source: <https://www.qualcomm.com/media/documents/files/whitepaper-making-5g-nr-a-reality.pdf>)

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Students' Diary

In summary, my work in 5G involves building components of the protocol stack, energy-efficient Cloud radio access network, the study of the functional split, and various solutions to deploying it, making 5G function as virtualized function. I met a lot of people in this journey who had a lot of experience to share and knowledge to transfer. I can say that within the next few years India will play important role in cellular.

One thing I would like to say is if anyone wants to get their carrier in 5G IIT Hyderabad has lots of opportunities available, and I am confident enough that IIT Hyderabad will be a pioneer as well. It is well known that only a few organizations in India know when it comes to 5G and other network technology. My next goal will be to contribute to network security for 5G and beyond.



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