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INNOVATING FOR INDIA A LIFE IN PUBLIC SERVICE

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India's G20 Sherpa & Ex-CEO, NITI Aayog

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THE FUTURE OF MOBILITY

Insights from a Telecom Innovator

Navigating the complex challenges of mobility in the ever-evolving world of telecommunication requires a blend of innovation and practical wisdom. Having spent two decades in this field, I would like to share my insights on how emerging technologies are shaping mobility solutions while taking a nostalgic look at the days of dial-ups and rotary dial phones – a sharp contrast to today, when the OTT services are omniscient and readily accessible on our smartphones.

From Rotary Dials to AI Twins: The Evolution of Telecom Over 25 Years

My journey in the telecom industry is a standing testament to the rapid evolution of technology. I still remember the days of the dial-up internet. Mobile phones, introduced later, revolutionized communication by making it portable. The advent of pagers allowed one-way messaging, followed by mobile phones, which enabled text messages. The introduction of the BlackBerry and emails marked the beginning of feature phones with advanced capabilities. We

thought a 56k modem was the pinnacle of speed! Fast forward to today, and we're talking about 5G networks that are transforming entire industries. This leap from kilobits to gigabits per second isn't just a technological marvel; it's a revolution in how we experience the digital world.

Data Consumption: The Unquenchable Thirst

The launch of 2.5G Edge technology introduced data communication over phone lines, setting the stage for 3G and 4G. In 2010, 3G brought higher speeds, enabling applications like WhatsApp, Facebook, and YouTube to flourish. Smartphones became a reality, with the iPhone leading the way. The rise of OTT platforms like Netflix and Hotstar, coupled with cloud-based applications, further amplified data consumption.

One of the most fascinating trends is the relentless increase in data consumption. As bandwidth increases, so does our appetite for data. People are always ready to consume more – it's all about availability. This observation is more than just a statement;

it reflects our digital age where streaming, video calls, and IoT devices are part of our daily lives. Keeping a keen eye on this trend will help businesses ensure that their services meet the ever-growing demand.

The Advent of 5G

With the launch of 5G, the telecom industry entered a new era. 5G offers a significantly larger bandwidth and lower latency, enabling ultra-high-definition content consumption and real-time cloud access. One of the most notable advancements is the introduction of machine-to-machine (M2M) communication. This allows devices to interact seamlessly, paving the way for smart manufacturing, IoT, and enhanced AI applications.

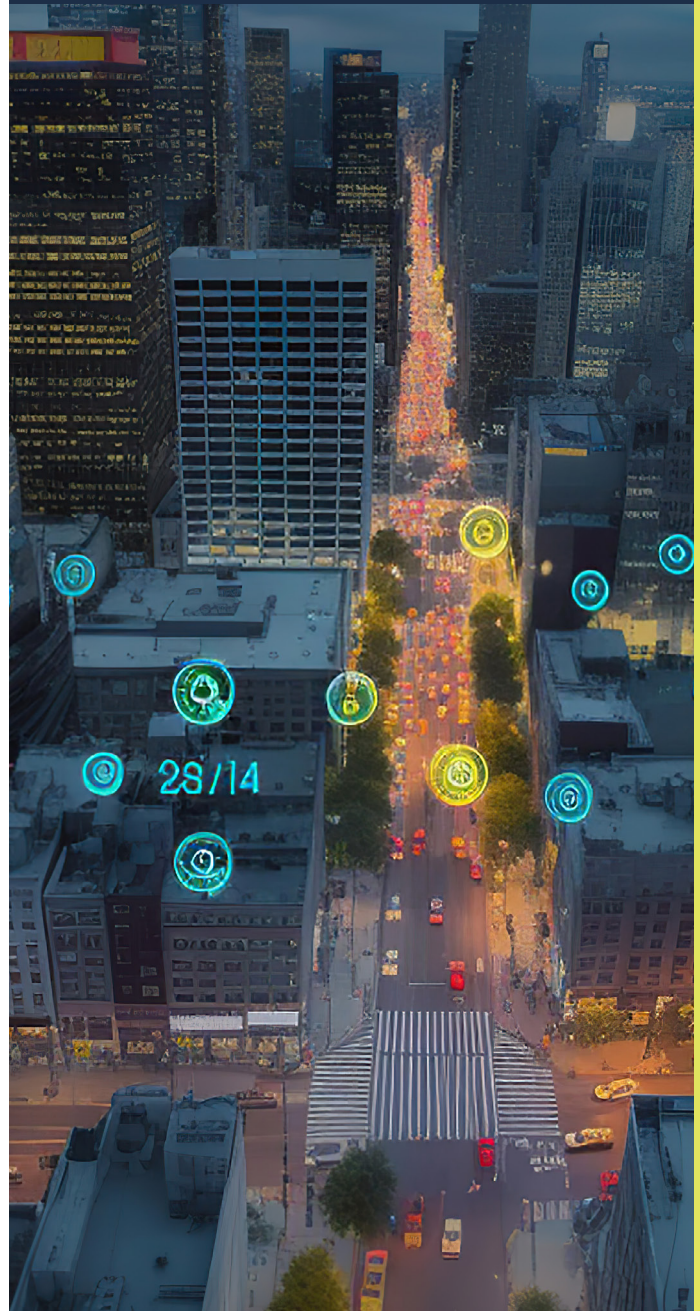
In manufacturing, for instance, 5G enables real-time control and monitoring of machines across multiple plants globally. IoT devices, embedded with SIM cards, can be controlled remotely, enhancing convenience and efficiency. Applications like car-to-car communication and remote medical interventions in ambulances are becoming possible due to 5G.

Innovating for Tomorrow: Smart Cities and Beyond

To create the cities of tomorrow, we need to look beyond the present. Building smart cities isn't just about technology; it's about creating environments where technology and humanity coexist harmoniously. I see smart cities as ecosystems where every element, from traffic lights to public services, is interconnected, creating a seamless, efficient urban experience. Innovation in smart city infrastructure isn't just adding layers of technology; it's about weaving technology into the very fabric of urban living.

Real-world applications are what bring innovative ideas to life. I recall a project where we implemented a smart traffic

management system in a bustling metropolis. We reduced traffic congestion by 30% within six months. The success of the project was not just on account of the technology; it was about understanding the city's unique traffic patterns and designing a solution tailored to its needs.



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Digital Twin: The Work-Life Balance Enabler

AI is set to revolutionize the telecom landscape further. Digital twins – AI-powered replicas of individuals – can perform tasks autonomously, doubling the effective population and bandwidth consumption. These AI clones will be trained to browse, research, and solve problems, leading to unprecedented data usage and new applications. While the human might go to the office or spend time with their family, their AI clone might be able to do redundant activities or monotonous chores like loading the dishwasher, cleaning, doing the laundry while the human would be left to perform efficient tasks and spend valuable time with their loved ones.

India's Position in the Global Telecom Arena

Historically, India has been perceived as a follower in telecom technology, lagging behind Western countries. However, this narrative is changing. The rapid rollout of 5G in India and the country's growing R&D capabilities signify a shift towards technological leadership. Indian talent has been instrumental in global tech advancements, and now, indigenous innovations are gaining recognition. Companies like Jio are developing their own 5G technologies and exporting them globally. The gap between global and Indian launches is shrinking, with



GD Singh

simultaneous rollouts becoming the norm. In my opinion, you will soon see technology emanating out of India; rather than being mere receptors of technology, we will be the exporter of technology in the future.

Looking Forward

In the realm of connectivity, where billions of devices surpass the human population tenfold, our role remains steadfast as providers of seamless connection. Whether linking devices, machines, or humans, our focus is on fostering connectivity. Utilizing telecom frequencies, WiFi, or any future technological advancements, our essence lies in facilitating connectivity. At iBUS, our core mission spans from enhancing WiFi capabilities to supporting mobile operators in expanding their reach. Looking ahead, the landscape is poised for transformation with concepts like digital twins shaping the future. iBUS serves as an umbrella, encompassing all discussed aspects, reaffirming our commitment to connectivity in this evolving digital era. ↩

ABOUT THE AUTHOR

As the Chief Executive Officer of the iBUS Mobility vertical, GD Singh is dedicated to driving the future of seamless connectivity and innovative mobility solutions, having pioneered advanced telecom and data ventures, high-end security solutions, and Smart City initiatives. His focus has been on building high-performing teams and fostering a culture of innovation, consistently delivering unique, creative, and cost-effective solutions. Alongside the founder, transforming organizational culture and spearheading significant changes that align with the evolving technological landscape has always been a priority.

With over 30 years of experience, GD Singh brings a wealth of expertise in managing and leading P&L, business operations, strategy development, business acquisition, and technology transfer. With extensive global exposure to telecom, data, and video networks, combined with recent work on digital platforms, he has a comprehensive understanding of the industry's complexities and opportunities. He has also played a crucial role in fundraising for new as well as established businesses, ensuring sustained growth and innovation.