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TELECOM'S GREEN SIGNAL FOR GROWTH

As technology leads India's sustainable transition, innovations like 5G and green energy are paving the way for inclusive growth and environmental stewardship

Our best bet in balancing progress and preservation lies in technology and intelligent communications networks. This is easy to see. Take India's telecom sector, for instance. As the world's second-largest, it plays a pivotal role in fuelling the country's GDP growth, creating millions of jobs, and driving a multiplier effect across society and businesses.

India's telecom industry has been at the forefront of remote work, a necessity during the Covid years that has persisted post-pandemic. The success of India's telecom sector is reflected not only in its impressive performance metrics—strong subscriber growth, high usage, and low tariffs—but also in its transformative impact on lives and livelihoods. With a subscriber base exceeding 1.2 billion today and some of the world's lowest tariffs driving service affordability, India stands among the largest data consumers globally.

GREEN DEVELOPMENT THROUGH TECHNOLOGY

The true transformative power of telecommunications lies in its ability to accelerate economic, social, and

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environmental progress, offering the promise of sustainable development. Reducing carbon footprints is a boardroom agenda for both the telecom sector and other industries. Telecom service providers in India are proactively embedding sustainability into their operations, extensively using green energy at network sites and data centres.

Committed to achieving the Net Zero objective by 2050, telecom companies are taking active steps to reduce their carbon footprint through initiatives like energy-efficient green data centres, energy optimisation, and the adoption of renewable energy sources.

Beyond working within a robust ESG framework and adopting responsible business practices, telecom companies are also aligning partners and suppliers with their green objectives. Telecom infrastructure companies are also developing decarbonisation roadmaps and exploring alternative energy solutions like solar, wind, and hydropower.

In combating climate change, telecom companies are also solarising network sites and opting for eco-friendly procurement practices, such as sourcing SIM cards made from recycled plastic materials. Their Environmental, Social, and Governance (ESG) efforts are directly overseen, reviewed, and monitored by board-level committees.

ROLE OF 5G IN ADVANCING SUSTAINABILITY

5G technology is crucial in advancing sustainability efforts across various sectors. It is revolutionising business operations and contributing significantly to the ESG journey. Studies suggest that 5G networks are up to 90% more energy-efficient than legacy wireless technologies. This remarkable efficiency is complemented by the digital technologies powered by 5G networks, which support industries on their decarbonisation paths.

One of the key advantages of 5G is its ability to enable real-time analytics, drive energy efficiency, facilitate smarter warehouse and inventory management, and help large fleets save time, consume less fuel, and produce fewer emissions by optimising routes to destinations.

SUPPORTING SUSTAINABLE DEVELOPMENT GOALS

As the world navigates unprecedented challenges and disruptions, advanced telecom networks provide solutions that align with multiple dimensions of the UN's 17 Sustainable Development Goals (SDGs). From ending poverty to ensuring food security and inclusive and equitable education to reducing inequalities, telecom technology is significantly impacting these areas globally today.

Intelligent networks and smart devices have already demonstrated their potential to enhance financial services and extend them to unserved and underserved communities. In India, the powerful combination of Jan Dhan, Aadhaar, and Mobile (JAM Trinity) has fuelled financial inclusion and reduced leakages in subsidy transfers, making it a shining example of how technology and telecom connectivity can improve lives.

In education, robust communications networks and reliable connectivity bring quality educators into virtual classrooms previously inaccessible due to geographic or socio-economic barriers. Digital connectivity is also the building block for smart and sustainable cities, leveraging data networks and automation to manage resources, reduce wastage, and improve public safety optimally.

Moreover, strong digital connectivity enabled video conferencing and collaboration tools to work seamlessly as the world came to a standstill. The long-term benefits to productivity and efficiency have been widely recognised. The advent of 5G, with its superfast speed and low latency, will undoubtedly further optimise remote work capabilities, reducing corporates' need for global travel.

This progress improves not only the ease of living for communities, with intelligent transport systems, smart grids, next-gen building management solutions, and reduced traffic congestion, but also lowers carbon

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IN BRIEF

- Telecom is driving India's economic growth with over 1.2 billion subscribers and strong demand for data consumption.
- Telecom companies are embedding sustainability through green data centres, energy optimisation, and eco-friendly practices to achieve Net Zero by 2050.
- 5G networks, up to 90% more energy-efficient, are pivotal in transforming industries by enabling real-time analytics and optimising energy and resource use.
- Telecom innovations support SDGs by enhancing financial inclusion, access to education, and building smart cities with intelligent transport and energy systems.
- Digital technologies, including 5G and IoT, could help achieve global emission reductions, contributing significantly to India's economic growth and sustainability goals.

emissions through smart planning of infrastructure, buildings, and mobility systems.

According to estimates, Information and Communication Technology (ICT) has the potential to reduce global greenhouse gas emissions by up to 15%. Technologies such as Artificial Intelligence (AI), Internet of Things (IoT)-based smart metering systems, sensors, and live data analytics are revolutionising utility operations, providing urban planners with valuable insights for more efficient energy management and sustainable development.

ENABLING ECONOMIC GROWTH

The World Economic Forum has suggested that digital technologies could deliver up to one-fifth of the emission reductions needed to achieve the 2050 net-zero energy, materials, and mobility goals. It is well established that an average 10% increase in mobile broadband adoption can lead to an approximate 1% increase in GDP growth. With a GDP of over USD 3.4 trillion, India is currently the fifth-largest economy globally and is on track to become the third-largest economy by FY28. India has also set its sights on becoming a fully developed economy of USD 35 trillion by 2047.

As the world moves towards a future characterised by both growth and sustainability, technology stands at the forefront of this transition. With its ability to drive economic development, enhance social inclusion, and support environmental stewardship, the sector is a vital enabler of progress. By leveraging innovations such as 5G, embracing sustainability practices, and contributing to achieving global sustainability goals, the industry will continue to play a central role in shaping a brighter, greener future for all.

The author is a decorated military veteran who retired as Signal Officer-in-Chief, the head of the Indian Army's ICT. He was also the first CEO of the Telecom Sector Skill Council (TSSC) and is the Director General of the Cellular Operators Association of India (COAI).

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