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PREPARING INDIA'S WORKFORCE FOR 5G AND THE LEAP TO 6G ERA



India's GDP powerhouse telecom sector faces a 2.5 M talent shortfall. Rapid 5G and upcoming 6G require heavy investments in upskilling to stay ahead

In the last decade, India has established itself as a hub of technological innovation, spearheading the digital revolution globally. With the fastest 5G rollout in the world and the launch of 6G technologies aimed at 2030, there is a subsequent growth in the demand for a skilled labour force in the country.

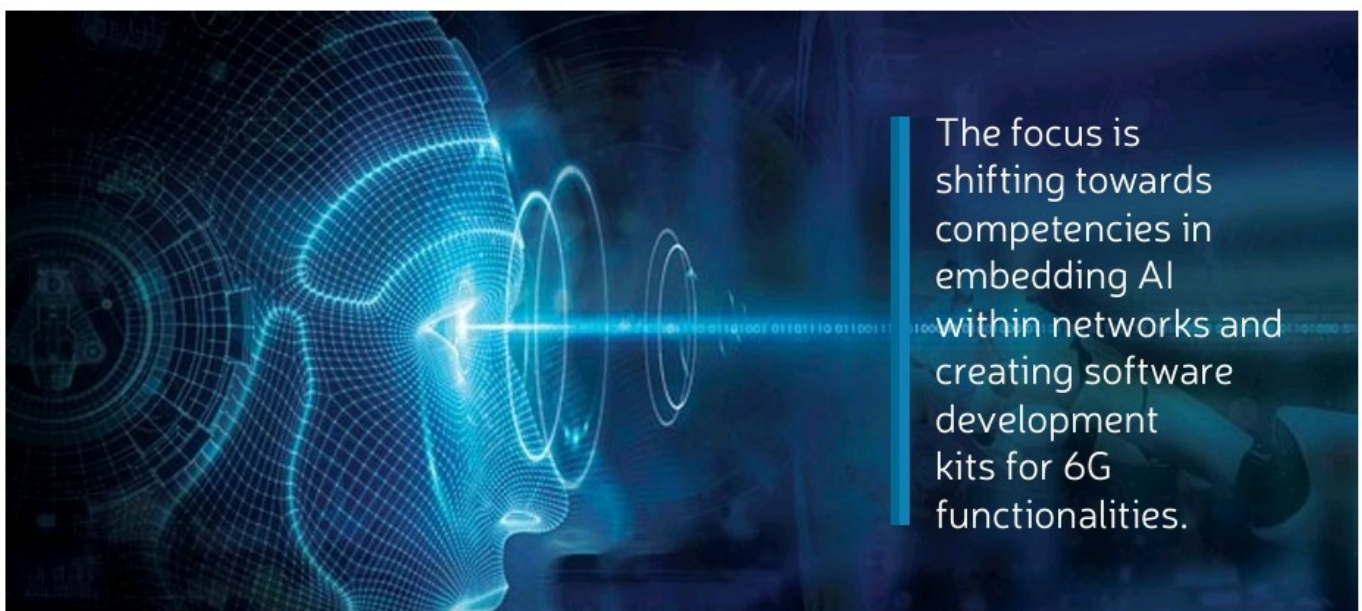
India's telecom industry is a vital engine of the nation's economy, powering roughly 6.5% of the country's GDP. It ranks among the top sectors for job creation, making it a significant driver of employment. However, the industry is undergoing a dynamic transformation fuelled by the arrival of 5G-centric, next-generation technologies like data science, Artificial Intelligence (AI), Internet of Things (IoT), Blockchain, Robotics and Cloud Computing. These advancements generate a high

demand for a well-skilled workforce equipped to handle these cutting-edge developments.

OPPORTUNITIES FOR TALENT GROWTH IN THE 5G ERA

A recent report by TeamLease highlights an important opportunity for the telecom sector in India: the need for a skilled workforce. The telecom industry is poised to address a shortfall of 2.5 million skilled workers, and this demand is expected to grow significantly by 2030. This trend coincides with a moderated pace of workforce growth in FY23-24 compared to the previous year.

This scenario underscores a pivotal point: as a key driver of India's economic growth, the telecom industry has a unique chance to attract and develop talent. The



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rapid technological advancements in 5G demand a highly trained workforce essential for efficient network operations. Mastering 5G will pave the way for 6G innovation, enabling India to unlock the full potential of next-generation technologies. By investing in skill development now, the industry can ensure sustained growth and technological leadership in the future.

NURTURING TELECOM TALENT FOR ECONOMIC GROWTH

The leading telecom players are investing heavily in training programmes to upskill their workforce on emerging technologies to address the current shortfall in telecom talent. They also collaborate with universities and technological institutes to set up centres of excellence and research labs, ensuring job-ready graduates acquire the necessary skill sets. Several online platforms also offer telecom-related courses and certifications, providing flexibility for working professionals to upskill or reskill at their own pace.

The government is also working actively on skilling new entrants, upskilling existing workers and reskilling those with outdated skills. One such initiative is the Pradhan Mantri Kaushal Vikas Yojana, which provides financial assistance to individuals and training providers for courses relevant to the telecom sector, making them more accessible. The government's 'Skill India Mission' is another national initiative that provides vocational training to millions of youths across various sectors, including telecom, with skill development programmes in network engineering, mobile communications and fibre optic technology.

By addressing the talent gap through strategic workforce development and collaboration, the telecom sector can navigate the current economic climate while maintaining its long-term trajectory of innovation and growth. While major players are nearing completion of their 5G deployments in urban centres, a significant opportunity remains in rural India, where many villages still lack basic mobile connectivity. This creates a broader need for a robust mobile network foundation to support 5G expansion.

Expanding mobile and 5G coverage to rural India presents a significant opportunity for job creation. Skilled engineers, technicians and project managers will be crucial for building and maintaining the necessary infrastructure. Staffing firm Qess Corp. estimates this rural 5G push will generate an additional 50,000 jobs over the next two to three years.

Achieving pan-India 5G coverage is crucial for successfully launching and adopting 6G technology. A widespread 5G infrastructure will act as the foundation upon which 6G advancements will flourish, creating more jobs and opportunities for the youth. Thus, the 6G race hinges on a skilled 5G workforce.

SKILLING FOR A 6G-READY WORKFORCE

6G's arrival promises a revolution. It is expected to create a surge in IoT, mind-blowing Augmented and Virtual Reality experiences and sophisticated AI automation. To navigate this new landscape, employees will need to undergo a metamorphosis. Mastery of 6G principles, novel networking protocols, advanced cybersecurity measures and sophisticated data analytics will become essential skills for managing and securing the future of connectivity.

With 6G clearly on the horizon, India has a unique opportunity to establish itself as a global leader and a key player in shaping global standards. The Department of Telecom (DoT) spearheads this initiative through the Technology Innovation Group on 6G (TIG6) and the visionary 'Bharat 6G Vision' document. This strategic initiative fosters collaboration between domestic companies, agile Indian startups, esteemed academic institutions and R&D powerhouses, aiming to develop cutting-edge 6G technology and cultivate a future-proof workforce adept at leveraging its full potential.

The introduction of 6G offers telecommunications companies a unique chance to disrupt the existing landscape. Thoughtful development of 6G technology could attract substantial cross-sector investment, foster innovation, boost adoption and ignite future waves of disruptive technologies. As new network technologies

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IN BRIEF

- India leads the global digital revolution with rapid 5G rollout and aims for 6G by 2030.
- The telecom sector powers 6.5% of India's GDP and is a top job creator.
- 5G advancements drive demand for skilled workforce in data science, AI, IoT, and more.
- According to a TeamLease report, the sector needs 2.5 million skilled workers by 2030.
- Government and telecom players invest heavily in upskilling and reskilling initiatives.
- Rural 5G expansion will generate 50,000 jobs, crucial for future 6G development.

emerge, there will be a corresponding need for new competencies and skills. Developing the necessary talent for 6G will allow operators to leverage new value-creation opportunities effectively.

Beyond enhancing wireless capabilities, the 6G era will be integral to a larger connectivity ecosystem influenced by advancements in AI, Edge Computing and

autonomous driving. Mobile Network Operators must adapt their talent mix and upskilling strategies to develop a new range of technical skills.

According to a recent report by McKinsey, the focus is shifting towards competencies in embedding AI within networks and creating software development kits for 6G functionalities. Additionally, the industry will require talent to navigate connectivity and application layers as these elements become increasingly interconnected in the 6G era.

FUTURE-READY WORKFORCE: ADAPTING TO 6G DEMANDS

The government's initiatives and the industry's recognition of the critical need for a skilled workforce are fuelling positive growth in the telecom industry. The sector is projected to employ a staggering 6.79 million individuals in the current fiscal year. This surge is driven by a shift in required skills, with companies actively recruiting field personnel like sales executives, customer relationship specialists and network infrastructure technicians.

However, the evolution does not stop there. As we move towards 6G technology, the demand for specific skill sets will continue to shift, highlighting the need for upskilling and reskilling initiatives. The concept of 'survival of the fittest' is particularly relevant here. Those who can adapt and acquire the skills relevant to the industry's evolving landscape will remain valuable assets.

It is interesting to note that as automation and AI become more prominent, human-centric skills like creativity, critical thinking and emotional intelligence will become increasingly indispensable. 🌟

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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