LT GEN DR S P KOCHHAR

PAVE THE PATH FOR
INDIAN TELECOM EQUIPMENT

India must take steps to urgently overcome testing and certification challenges to ensure the safety and security of 5G infrastructure in the country

Recent years have seen a massive geo-political shift in the global ICT manufacturing landscape, and these developments have put India in an advantageous position in the manufacturing arena. From being a major service-sector-based economy till a few years back, India has now stepped up to become a globally leading industrial nation, especially in the important areas of ICT, from software to assembly and core manufacturing.

India's gradual progress in this domain is pretty visible, and the country is gaining in each area in a phased manner. While India's prowess in software is already established with the globally acknowledged capabilities in IT and ITeS, assembling has also become an increasingly important trait of India with the growing number of mobile devices and handset production facilities.

The Production Linked Incentive, PLI scheme announced by the government for telecom and networking products worth Rs 12,195 crore and its amendment in June 2022 to introduce a Design-led Manufacturing Scheme with additional incentives of more than USD 533.33 million indicate the government's progressive approach to core manufacturing as well. This surely resonates well

> " Rigorous testing of equipment is a vital component for ensuring seamless connectivity and robust performance for users across the country.

> The DoT modified certain important compliance requirements of Phase III and Phase IV of the MTCTE regime in January 2022 to ease compliance obligations.

with the national objectives of gaining Atmanirbharta or self-reliance and Make in India.

While innovations, designing and assembly are a crucial part of manufacturing, testing and standardisation is one of the most sensitised aspects that hold eminence to ensure the efficient and effective working and performance of any product or equipment, so that the network deployments end up being as successful as envisaged. Hence, the country needs to ascertain that the testing procedures for the equipment are competent and dynamic, to keep pace with the fast-evolving manufacturing ecosystem and digital infrastructure requirements.

India has developed its own Mandatory Testing and Certification of Telecom Equipment, MTCTE, which was introduced in September 2017 to ensure that new telecom equipment does not degrade the performance of the existing network to which it is connected while safeguarding the security and safety of the telecom network and end-users.

Therefore, any ICT-related product, manufactured locally or imported in India is required to undergo testing at TEC-designated Conformity Assessment Body or CAB test labs or recognised CAB of Mutual Recognition Agreement, MRA partner country's labs accredited by accreditation bodies under International Laboratory Accreditation Cooperation (ILAC), or Indian Accredited Labs designated by TEC.

The government has been actively working to simplify the testing procedures to achieve the objective and gain efficiencies in the product(s) to be used in the Indian telecom network by introducing several supportive measures. For example, the Department of Telecommunications (DoT) modified certain important compliance requirements of Phase III and Phase IV of the MTCTE regime in January 2022 to ease compliance obligations, while also addressing potential security concerns at the same time.

This demonstrates a reformative and progressive approach by the government to ensure the effectiveness and security of equipment through efficient testing measures. Furthermore, meeting certain industry requirements in this regard could enhance India's proficiency in producing high-quality local equipment while also utilising world-class telecom equipment from global manufacturers, further strengthening the country's position in the market. Here are a few such recommendations that can help.

#1: There is a need to increase the number of test labs to support the testing of a massive volume of products and deal with the lack of testing infrastructure in the country. The TEC has assured that there will be sufficient CABs available as it envisions building sufficient testing infrastructure within the country. The industry remains positive on these terms.

#2: The MTCTE procedure exempts TEC certification for equipment being imported for R&D or as samples for testing. However, there is a need to provide exemption on Customs duties for products that enter India for testing and certification temporarily. Currently, there is no provision under Customs law to allow duty-free imports of products for TEC testing and certification. This would help the industry to bring in products for testing processes, whereby damage to the product does not result in losses for the companies.

#3: Most of the existing notifications by relevant authorities cover the import of testing equipment for repair, calibration, reprocessing, etc. for shorter durations. Further, if the product is unfit for use after testing, the law must allow local scrapping, with the evidence of such scrapping submitted to the local Customs office to release the temporary import bond and provision. This would help the companies lessen the burden of a continuous to and fro process of transferring the product since the tested product has already served the purpose and would be unfit for any further use.

#4: To allow for additional and adequate transition time, MTCTE authorities may need to follow the global best practices and accept the international test reports and certificates wherever applicable, to ease the burden on the business.

WHAT INDIA MUST DO

- To keep pace with the fast-evolving manufacturing ecosystem, India needs to ensure that testing procedures for equipment are competent and dynamic.

- There is a need to provide exemption on Customs duties for products that enter India for testing and certification temporarily.

- If the product is unfit for use after testing, the law must allow local scrapping, with the evidence of such scrapping submitted to the local Customs office.

- MTCTE authorities may need to follow the global best practices and accept international test reports and certificates wherever applicable.

- For tests like MTCTE and ComSec, India must recognise a common criteria certification from countries that Mutual Recognition Arrangement with India.

> The TEC has assured that there will be sufficient CABs available as it envisions building sufficient testing infrastructure within the country.

#5: It may be fruitful to recognise a common criteria certification from countries that are parties to the Mutual Recognition Arrangement with India, for tests like MTCTE and ComSec where the focus is on safety and security issues. Options can be provided to the companies to either conduct in-country testing in India or submit test reports from an accredited global test lab to ensure safety and security along with various other parameters.

Given the rapid deployment of 5G that is happening in India at the moment, a few challenges must also be overcome urgently to enable appropriate testing of 5G infrastructure in the country and 5G as a whole. To ensure the safety and security of 5G networks, continuous testing and evaluation will be required to uncover vulnerabilities and devise effective mitigation techniques.

One of the primary hurdles is the lack of consistency in testing procedures which may lead to errors and conflicts in test results. 5G networks rely on a variety of technologies, such as millimetre-wave radio frequencies, huge MIMO antennas, and software-defined networking, all of which necessitate specific testing equipment and knowledge. The complexity makes it challenging to build and implement testing tools and systems that can reliably monitor and assess its performance.

Another challenge is the necessity for trustworthy and accurate data to inform the testing and development of 5G infrastructure and devices. Data is required to detect possible faults and opportunities for improvement, but gathering and evaluating this data in real-time presents huge challenges. There are also worries over the safety and security of 5G networks, particularly regarding the use of sensitive data and potential cyber threats.

These obstacles can be overcome with sustained investment in R&D, standardisation of testing methodology, and most importantly through continuous engagement and collaborative effort by the industry and government, together.

As the telecom sector in India continues to grow and evolve, rigorous testing of equipment will remain a vital component for ensuring seamless connectivity and robust performance for users across the country. By investing in state-of-the-art testing infrastructure and protocols, India's telecom industry can set a new standard for quality and reliability, setting the stage for continued growth and innovation in the years to come. 🖐

Lt Gen Dr Kochhar is the Director General of COAI.

feedbackvnd@cybermedia.co.in