

Mapping the growth

With the expected growth of GSM base stations and 3G base stations there will be huge demand for base station testers



Ripples caused due to the volatility in the global economy resulted in the Indian test and measurement (T&M) industry facing some fluctuations in late 2008 and early 2009. Surging demand from sectors such as telecommunications, defence, electronics, etc, helped iron these out. In this article, we trace some of the evolving trends and opportunity areas for the T&M industry in India..

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Steady growth in all sectors ranging from telecommunications to automotive backed by incremental increase in spending across industries has resulted in the growth story for India. It is heartening to note that while most industry segments witnessed a cease in capex spending across the globe, companies in India continue to loosen their capex purse strings. This has helped

in retaining the buoyancy of feeding industries such as test and measurement (T&M), whose prospects are closely tied to end-user capex trends.

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penetration. Continuous increase in subscriber base has warranted expansion of existing infrastructure by current operators as well as ushered the entry of new operators. As the country is poised to reach 700 million mobile subscribers by end of 2010, almost all network operators have ambitious network expansion plans.

After much speculation, the auction for 3G spectrum just concluded whilst the auction for spectrum for broadband wireless access (BWA) is still on. Winning operators should roll out their 3G services by early 2011, if not earlier. The advent of data-heavy 3G services is expected to turn the focus of network operators onto value added services (VAS) as a key differentiator for success. As operators try to differentiate their offerings by providing subscribers a unique mobile experience through the convergence of voice, video, and data services, requirement for test equipment that enables high quality of service is expected to increase. Similarly, as networks are loaded with services, optimisation of networks is likely to be a crucial focus area for operators, which is expected to heighten the demand for test equipment.

WiMAX is heralded to be the panacea for India's rural broadband connectivity challenges and the ongoing auction bears out the promise it holds for India. Starting from the state service provider BSNL, all service providers are gearing up their networks for WiMAX service offerings. With the completion of the BWA auction, the number of new WiMAX base stations installed in 2010 is expected to double to 30,000 units this year from 15,000 in 2009. This increase in network infrastructure is expected to add to the demand for WiMAX test solutions.

Ethernet testing – growing by terabits!

Data hungry enterprise customers are in constant need for high speed networks for faster data traffic, which augments the need for network upgrades. Growth in IP traffic in excess of 50-60 per cent year-on-year is expected to continue creating a huge demand for the next generation Ethernet testers from both network equipment manufacturers of the likes of Cisco, Juniper Networks, etc, as well as the service providers. The era of virtualisation and cloud computing paves the way for creation of virtual servers. This in turn creates the need for virtual test equipment for evaluating the performance of virtual servers and other network gear.

Automated test equipment

Promotion and encouragement of indigenous manufacturing of high growth products like set-top boxes, LCD TVs, mobile handsets, etc, to meet growing demand is improving the country's electronics manufacturing scenario. The government on its part has been influencing local manufacturing by reducing excise duties and imports of raw materials for high growth products. While further impetus is needed for ecosystem development, nonetheless, there is progressive improvement in indigenous electronics manufacturing, which augurs well for the automated test equipment market. Electronic test equipment demand is also expected to grow as there is a trend of increased outsourcing of product design and development to India.

Aerospace and defence (A&D) test equipment

India is one of the most dynamic and fast growing A&D markets in the world. Continually increasing defence spending and a steadily growing commercial aviation sector make India attractive to many foreign OEMs as well as local players looking at making significant contribution to these sectors. With the proposed defence expenditure of around \$ 100 billion over the next 5-8 years, and nearly 40 per cent of this for new products and systems, it translates into huge potential. On the aviation front, there are proposed investments for MRO facilities in the country by the likes of Airbus and Boeing as well as local firms seeking to cash in on this growing business. Ultra advanced communication equipment forms a major chunk of defence and aerospace sector needs. The increase in local manufacturing of these translates to increasing demand for RF test equipment such as RF spectrum analysers, RF network analysers, RF power meters, etc, which are predominantly used in A&D applications.

Trend towards synthetic instrumentation

The move from traditional box type test equipment to software defined instrumentation or synthetic instrumentation is the ongoing transition in test equipment. Requirements for smaller form factors as well as the need to integrate multiple test functionality into a single device are critical for this transition. Some advantages of synthetic instrumentation include: lower costs compared to box equipment, reduced test times, excellent throughput and accuracy of measurements and inclusion of software defined advanced features.

The increasing popularity of PXI extensions for instrumentation (PXI) based test equipment for applications ranging from communication, A&D, electronics, and automotive is seen as a major propellant for synthetic instrumentation. Despite its benefits, synthetic instrumentation penetration is still limited due to the lack of awareness and cautious approach by T&M vendors who are more attuned to traditional test equipment. However, the changing dynamics in the application segments are expected to influence increased adoption of synthetic instrumentation in the next decade.

Buoyant days ahead

The positive atmosphere in all end-user segments shows promising days ahead for the Indian T&M equipment industry. Challenges of dollar fluctuations and rental market invasion are likely to continue, but their impact is expected to wither in the face of the high volume demands anticipated. Time appears ripe for T&M vendors to explore opportunities for local manufacturing of their equipment to expand their footprint in the country. Technology tie-ups with existing local manufacturers are also an effective strategy for enhancing mind share. In conclusion, the less glamorous T&M industry is poised for its tenure under the spotlight! ■

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