



Test & Measurement Equipments

New technology is a challenge

Recognizing the tremendous potential of the Indian market, test and measurement industry is witnessing a significant growth.

RICHA GUPTA

India Test and Measurement industry is witnessing a good growth. The key growth driver is the largest end-user in telecommunications industry, as this sector has grown both terrestrially and via satellites.

The sophistication here is high and it covers a wide range of techniques and measurement topologies. Telecommunication networks are exceedingly dependent on the functionality of electronic test and measurement instruments, as the minutest distortion of signals can result in failure to communicate. Establishment of new networks need to upgrade existing communication infrastructure are the major demand drivers for electronic test and measurement instruments market.

The next large market is education and training. Engineering education is growing and so is the market. Fast obsolescence is another reason for market growth. T&M products are also needed in applications such as defence and industrial automation.

The Indian GP test equipment market is characterized by a mix of indigenous participants and multinationals. Agilent Technologies India Pvt. Ltd., Rhode&Schwarz, Anritsu, Tektronix, Inc., and Fluke are some of the major multinationals in the market. Indian manufacturers such as Kusam-Meco, Aplab Limited, Scientech Technologies Pvt. Ltd., Scientific Mes-Technik Pvt. Ltd. also compete in the GP market. Indian suppliers focus on low-frequency products and target educational institutes, whereas large multinational foreign suppliers focus on high-frequency products targeted at research institutes and the defence segment.

With continuous change in the communication and electronics market, buttressed by the wireless revolution, OEMs are under constant pressure to offer turnkey test solutions for the constantly evolving technologies. In order to cater to the evolving demands of the end-user companies, test and measurement majors focus on R&D to





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Projected Market Size for Test & Measurement in 2013

	INR (million)	CAGR (%) (2010-2013)
General Purpose Test Equipment Market	9500.00	12.0
Fibre Optic Test Equipment Market	800.00	9.0
Wireless Communication Test Equipment Market	860.20	26.0
Lab Analytical Instrumentation Market	25400.00	24.8

constantly develop newer and advanced test equipment.

Network Market Boost

India is set to have 2 billion networked devices by 2016 - double its current number, while broadband speeds are expected to jump three-fold and online video could dominate up to 70 percent of Internet traffic. The increasing role of the network in people's lives and the demand for bandwidth-rich applications – presents major challenges for network operators and equipment manufacturers. Across geographies, operators of communications services will need network and service enablement solutions that deliver intelligence to help them keep up with this demand and profitably manage today's networks.

According to recent report by TechNavio's analysts forecast that the Network Test and Measurement market in India to grow at a CAGR of 11.26 percent over the period 2011-2015. One of the key factors contributing to this market growth is the technological advancements. The Network Test and Measurement market in India has also been witnessing the growing popularity of WiMAX technology.

Factory Automation drives New Trends

Fully-automated factories are now approaching reality. Sophisticated machines, intelligent robots infused with future technologies will soon allow a plethora of machinery to rapidly manufacture and fabricate products on-demand, without any human intervention. The entire production line will be configured with artificial intelligence, allowing direct access and control to different machinery in the manufacturing process. To address the trends, several test and measurement vendors have taken up software-defined instrumentation, which is a significant trend in test and measurement. The end users, who are engineers, are using software-

defined instrumentation to achieve different levels of performance and lower costs by applying the latest technological advancements such as multicore processing and field-programmable gate

arrays (FPGAs) in their test systems to meet the demands of new wireless and protocol tests. The Frost & Sullivan research shows that software-defined instruments, also known as virtual instruments, consist of modular hardware and user-defined software. This gives engineers the ability and flexibility to combine standard and user-defined measurements with custom data processing using common hardware components. This important feature has become extremely critical, as electronic devices such as next-generation devices, like smart phones including 3G and 4G, adopt different communications standards. Software-defined instrumentation can enable an engineer to quickly configure and reconfigure their measurement algorithms in the software to meet testing requirements. Frost & Sullivan observes that the open, modular architecture of software-defined instruments, such as those in PXI, have proven beneficial to a wide range of industries. As a result, PXI revenue in measurement and automation is expected to grow at CAGR of 17.6 per cent through 2014. The performance delivered by the PXI platform has successfully addressed areas such as RF applications in radar testing, mobile phone testing, and other wireless applications that were previously impossible to address with other instrumentation techniques.

Supporting Quotes

Madhukar Tripathi, Manager – Telecom Segment, Anritsu India Pvt Ltd



Madhukar Tripathi

We see nominal growth for T&M industry in coming year. Telecom market has been slow for last 2-3 years and now we see some movement. Government's new policy (NTP 2012) will create new opportunities.



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Anritsu: MS2720T

Educational market is also expanding. Expansion of Defence communication system is other opportunity.

Roll our new technology LTE-4G, educational market, Defence communication, broadcast industry, government plan to have India as manufacturing hub will keep T&M growth live.

The challenge is Indian operators are not investing for tools and renting trend is increasing. Customer looking for only cheaper options and not ready to pay some premium for better performances /specs product.

Anritsu is focusing on Indian market and taking some definitive steps. Firstly in October 2012, Anritsu started operations as 100% subsidiary of Anritsu Corporation, Japan. This status change from being a Branch Office to Subsidiary will help to serve the Indian Customers in a better way. Secondly, we are expanding our Geographic reach through Channel Partner programs. We recently appointed Scientech Technologies Pvt Ltd as channel partner specifically for educational market to augment the Indirect Channel sales. Anritsu is also increasing its headcount to provide best product support services to Indian customers.

We see our India business is expected to grow more than 20% annually in the coming few years.

Anritsu recently launched New Analog Signal Generator MG3740A. This is dual channel Signal Generator. All GSM, W-CDMA and LTE conformance tests according to GCF/PTCRB defined standards can now be performed using a test platform with one single network simulator, the Anritsu MD8475A.

Anritsu is also delighted to announce the 7th Generation Spectrum Master model MS2720T.

There are five frequency options for this product based on one model number. The new T series builds on the ground breaking performance of the MS272xC family with improved sweep speed, broadband preamplifiers over the entire frequency range from 0 to 43 GHz, significantly improved phase noise, GPS tagging for every spectrogram trace, increased battery life, 3.5 mm headset jack, Burst Detect™, and tracking generators to 20 GHz.

Sumit Sharma, Marketing Manager – India, Good Will Instrument Co., Ltd.



Sumit Sharma

The Indian test & measurement industry has been experiencing a consistent and steady growth since its inception. Growing India as a highly potential market assures the promising future for T&M companies. The growth of T&M industry in terms of revenue, new market & applications, new technologies has been the all-time trend and we hope the same to continue in



GWInstek: GDS 3000 Series DSO



GWInstek: GSP 930 (3GHz Spectrum Analyzer)



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future as well.

We have witnessed various changes in T&M industry in terms of technology upgradation, price competency and new products over the last few years. Increasingly complex testing requirements drives the T&M manufacturers to improve and incorporate features like multi-channel testing, higher bandwidth, smoother PC interface with user friendly software etc. From standalone instrument to a total test solution and development of application specific test instruments are the primary transitions. Modular instrumentation and improved software driven hardware has been the major trends of this market.

GW Instek has been continuously experiencing remarkable business growth in India for last many years. Year 2012 has been exciting for us and we witnessed substantially increased business revenues from enhanced customer-base with improved services. Consistent investment in R&D followed by new product innovation has resulted in to some technology break-through and five new/upgraded products we introduced in year 2012.

GW Instek is primarily known as a general purpose test & measurement instrument manufacturer and accordingly its products & services go to various markets like education, defense, aerospace, semiconductor, telecommunication, consumer electronics and automotive etc. So far, education market has been contributing significantly to our business revenues and we look forward to cater other Indian markets adequately in near future as well.

Mr. Chandmal Goliya, Managing Director, Kusam Electrical Industries Ltd

India being a developing country is growing fast in the field of Electronic Industry & we believe it will keep growing in this field so as to enter among the



Chandmal Goliya

list of developed countries. The Electronics Testing & Measurement Industry will never see shortfall in the next coming years as there is industrial revival all over the world, and day-by-day the need for testing & measuring instruments is growing everywhere. As



Kusam-Meco: Clamp-On Multimeter

compared to the year 2011 the growth rate figures are much better in 2012 (approx 30%). It will grow, but may be slightly less than previous year. I feel the main challenge is the new development in the IC & Microprocessors due to which the products become obsolete. KUSAM-MECO always believes in introducing new & advanced products to the customers. In India our products are widely used among Power Stations, Power Houses, Electronic Industry, Polytechnics, Engineering Colleges, Defence, Railways, Research Institutes, etc.

Conclusion

With all of the above trends and development and approach setting in, the test and measurement market in India is all set to boom. There are areas of interest for every player in the market, and the global as well as domestic demand for test, measurement, and instrumentation is set to grow significantly in coming years.

