

## Expert Opinion - Vivek Dhyani

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GC & GC-MS

Vivek Dhyani, product manager

### Analytical industry growing at rate of 10%

India is one of the fastest growing economies and the demand for sophisticated instrument has been increasing

Analytical Industry in India is pegged at more than 6,000 crore and is growing at a healthy rate of approximately 10 percent annually. The driver for this growth rate is the growing Indian economy and stringent hygiene standards, rapid economic growth and the competitive environment, stringent government regulations for environment, food safety and drugs and overseas market regulations in pharma, food and materials.

The growth is in all the sectors including life science sector, government institutes, research and academia, environment (various pollution control boards), forensic (forensic science laboratories, homeland security), commercial testing labs, food, flavor and fragrance industry, infrastructure industry and defense.

The major chunk of analytical business is contributed by chromatography and spectroscopy instruments. Chromatography accounts for more than 20 percent share in the analytical instrumentation market and this trend is almost similar to the worldwide market. Liquid chromatography (LC) and gas chromatography (GC) are the most popular analytical technique and both accounts for almost 4,200 crore of business in India. The

chromatography field has witnessed an excellent growth rate of more than 25 percent.

The GC-MS market is dominated by single quadrupole mass spectrometer and the reason for that is its simple operation, strong library support added with sensitivity and selectivity. The market of single quadrupole GC-MS systems is around 75 percent followed by ion trap and triple quadrupole systems.

#### **Market share**

India is one of the fastest growing economies in the world and the demand for sophisticated instrument has been increasing. The total GC-MS instrument sold in FY 2011 is expected to be around 230 and the market is growing at an annual rate of 15 percent. The major players in GC-MS market are Agilent, Perkin Elmer, Shimadzu, and Thermo.

Agilent with GC-Single quadrupole, Ion trap, Triple quadrupole and Q-ToF is the market leader followed by Shimadzu having GC single quadrupole and Thermo having GC -Single quadrupole, Ion trap, Triple quadrupole (QQQ) and HRMS. Waters is having presence in GC-QQQ, ToF and HRMS market and Leco in GC-ToF and HRMS market.

In pharma sector, the demand is more for single quadrupole MS as the matrix effect is minimum because of the use of headspace sampler. In non-pharma sector, especially in the field of residual analysis, like pesticides in food, the inclination is more towards the Ion trap and QQQ because of selectivity, high sensitivity and speed.

The demand for QQQ is expected to grow strongly in the future because of more stringent laws being implemented in food, drugs and nutrition by government of India for domestic consumption. Similarly, the importing countries are also putting more stringent regulations to regulate import and there is requirement of testing samples for more numbers of analytes. The detection level desired is also at very trace level. All these factors are fuelling the growth of GC-QQQ market in India.

The TOF and HRMS are the other technologies which are slowly gaining popularity and have their own niche market. Continued investment in the R & D sector by industries and a good support by the government and better funding for research and academia is going to help the growth of Mass spectrometry market in India.

#### **Future trends**

India has come a long way from a primitive market for analytical industry to one of the biggest and fastest growing one. Government of India is also giving lot of impetus on growth of technologies and there is healthy flow of funding for setting up state-of-the-art laboratory in academic and research field.

Today, gas chromatography and mass spectrometry are not limited to just few labs but have become a routine tool for various analyses. More and more labs are turning toward the high end GC mass spectrometry and this trend will continue in the near future.

#### **GC MS Market share**

<b>Company</b>	<b>% share</b>
Agilent Technologies	45
Shimadzu	29
Thermo Fischer	14
Perkin Elmer	7
Others	5

#### **Next Generation Sequencing market has a value of \$16million**

**- Vivek Dhyani**, product manager, GCMS, Agilent Technologies

*Vivek Dhyani is also the lead manager for thermal desorption system at Agilent Technologies in India. He has more than 11 years of experience in the chromatography field and before joining Agilent has worked with Perkin Elmer, Labindia, Zydus Nycomed and Searle India in various positions. He is a regular guest lecturer in reputed institute such as NIPER, Chandigarh.*

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