

# Policy initiatives essential to boost instrumentation sector

A Raju, Hyderabad & other bureaus

THE government should come out with policy initiatives to encourage more entrepreneurs to design, build and manufacture analytical and need-based industrial instruments indigenously in the country in order to give a boost to the analytical instrumentation sector in India, aver experts in the field.

Though there has been a growing realization regarding the importance of industrial and analytical instrumentation in the research and development of pharma and biotechnological products, not much has been done to uplift the industry on par with other industries like the IT or the biotechnology industries in the country, they point out.

In fact, the analytical industry requirements for the pharmaceuticals and biotechnology and for other chemical industries in the country are more dependent on exports rather than indigenous manufacture.

"Though there are a few companies who are making available the latest technological laboratory products, they are not fully catering to the demands of the industry. India needs more research labs in the fields of life sciences, biotechnology, pharmaceutical sciences, chemical sciences, environmental sciences, clinical,

diagnostics and its allied segments. And the country should make itself to the global clients to tap the projects and utilize the talent pool to tap the potential in this sector," said Mr. Balaganesh, VP-Discovery, AstraZeneca, Bangalore.

High-value laboratory equipment is needed for intricate and complex long term and short term research especially in the drug discover. The analytical products will accelerate the drug discovery process aid in the advancement of life science research.

Earlier and of course even today the Indian pharma and biotech industry is more depending on countries like South Korea, Japan, Hungary, Belgium and Newzealand for obtaining high end analytical instruments.

Indian analytical instrument industry is still heavily dependent on imports except for very few segments in simple laboratory instruments. The required R&D investment leading to innovation is surprisingly low compared to western countries. Lack of proper and relevant interface between the industry, R&D institutions and academia can be attributed to this poor growth in indigenous instrument development. Many of the technologies developed do not have much commercial relevance, said Dr. K V Krishnan, Practice Head, Life Sciences, Mindteck which is a global product engineering and IT



solutions major provides consultative services to chromatography instrument manufacturers.

During the past three decades, the pharmaceutical and biotechnology is the major industry where these analytical instruments are more in demand. The analytical instrument industry requires more interdisciplinary research between physicists, other scientists and engineers etc.

"The government should come out with policy initiatives to encourage more entrepreneurs to design, build, and manufacture analytical and need based fine industrial instruments indigenously in the country," says Mr. Surendar Nair a spokesperson from Con-tech Instruments Ltd, Mumbai.

To encourage entrepreneurship right at the school and college level both the academia and industry should exploit the newer trends to convert older instruments and concepts to more software and MEMS/NEMS oriented ones. A mission mode approach may

be adopted for some sectors like medical instrumentation, where there is a huge demand in the country.

The science departments in universities should function in "Science Parks" mode for this. Like some foreign companies, the national labs /universities can also outsource contract to industry the development and fabrication of an instrument needed by them, as it will be beneficial to both parties.

To increase the quality and quantity of innovations, which are essential for development of new instruments, a general improvement in the state of science and technology in India is imperative. Therefore a substantial increase in R&D expenditure both by government and industry is needed to improve and compete with the global analytical industries that are far more advanced comparatively. The R&D expenditure should be raised to at least to two per cent of GDP in near future, if we need to compete with some of the developed nations in the world.

Government should create a separate fund that would provide an incentive or tax credits to the industry that purchases indigenous instrumentation technology and brings it to the market. It can also be used to help companies in creating a brand for their instruments by enabling them to exhibit their instruments abroad etc.

In all instrument related projects, industry-academia partnership should be ensured right at the proposal formation. IP (Intellectual Property) rights will then have to be shared.

Sharing IP rights by funding agencies with the developers of instruments will help marketing of instruments. Funding agencies should put in place a practical mechanism to serve this purpose.

For a technology transfer to be successful there should be continued association between the technology developer and technology buyer. While recommending procurement of an instrument the government should ensure that specifics are drawn-up to include those of the locally made ones.

In the next decade, advances in electronics, computer software, using of new materials will highly influence the laboratory and laboratory equipment. According to researches, by 2020, laboratories and laboratory equipment will have greater instrument capabilities, simplified operation, and

# analytical instruments, an essential part of pharma industry

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more automated operations. Some of the major changes that would be seen by 2020 would be lab designs based on biosafety and energy use, right sizing of the lab to take care of space and cost constraints, said

KV Venugopalan, president, Waters India Pvt. Ltd

Laboratory analytical instruments are an essential part of the pharmaceutical industry. The pharmaceuticals industry which is a major end-user of the laboratory analytical instruments market has almost 40 percent share of the total revenues of this industry.

Analytical instruments are defined as lab equipment for sample analysis and also for providing information on samples. The laboratory analytical instruments industry is a thriving international business.

This group covers establishments primarily engaged in manufacturing laboratory instruments and instrumentation systems for chemical or physical analysis of the composition or concentration of samples of solid, fluid, gaseous, or composite material.

Laboratory analytical instruments manufactured by this industry were used to conduct physical and chemical analyses. Major product groups included clinical laboratory, chromatographic, and spectrophotometric instruments, and mass spectrometers.

Devices used to measure the purity of gold date back to the fourth century B.C. The term "analysis," in the chemical sense, was first posited in the 1660s. A series of

breakthroughs in chemical measuring methods occurred during the 1800s that preceded the development of more advanced analytic instruments later in the nineteenth century. But not until the twentieth century did the

industry begin to resemble the state it achieved in the 1990s.

The last few years have been particularly eventful for instrument companies as the prior prospects were hampered by the global recession, which affected

some of the analytical and life science instrument sectors more than the others. Nevertheless, the overall market is on its path to recovery driven by continued business collaborations, acquisitions, new product

innovations, and other key variables playing a positive role on the global analytical and life science instrumentation market. Regions such as China and Asia-Pacific are expected to be the forefront of growth and prosperity. ◆