

PEAKS of Interest

Thermo opens center in India

Thermo Electron Corporation (Waltham, Massachusetts) has recently announced the opening of a customer demonstration laboratory in Mumbai, India. The center will serve local pharmaceutical, petroleum/petrochemical, automobile, environmental, and agricultural market sectors and will be equipped with demonstration and training facilities.

The center will house laboratory and life sciences solutions, including ion trap and triple quadrupole mass spectrometers, centrifuges, incubators, and microplate instruments.

Thermo started operations in India eight years ago. This facility now serves as a center for Asian operations and is becoming a central point for supply chain management and logistics for Thermo worldwide.

Agilent Technologies acquires Molecular Imaging Corp.

Agilent Technologies Inc. (Palo Alto, California) recently announced its acquisition of Molecular Imaging Corp. (Tempe, Arizona), a developer and manufacturer of nanotechnology measurement tools.

Molecular Imaging is known for its atomic force microscopes (AFMs), the principal imaging and measurement instruments used by researchers in nanotechnology. AFMs are used to measure the shape and properties of materials at the nanometer scale.

Agilent already has a solid position in the laser interferometer market to precisely measure distances at the nanometer scale, and this acquisition will strengthen the company's market position by extending into imaging at the nanometer scale.

Grace acquires Indian chromatography company

W. R. Grace & Co. (Columbia, Maryland) announced recently that it has acquired Flexit Laboratories Pvt. Ltd. (Pune, India), a manufacturer and supplier of chromatography products.

Flexit is a privately held company that manufactures columns and accessories for

Chromatography Market Profile

Process Analytical Technology in the Biotech and Pharmaceutical Industries

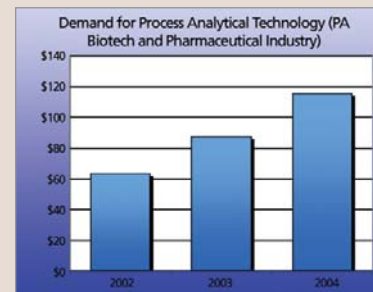
The definition of process analytical technology (PAT) is "a system for designing, analyzing, and controlling manufacturing processes through timely measurements (i.e., during processing) of critical quality and performance attributes of raw and in-process materials, to ensure final product quality." In other words, it includes not just the monitoring of any number of values or points within a manufacturing process, but the modeling of how all of the inputs to each process affect the various parameters and the resulting product and how to apply that model to monitor, analyze, and control a given process to produce a reliable product. Analytical instrumentation and software are but tools that can be used in order to pursue an overall PAT strategy.

PAT is not a new approach, but rather an extension of what is commonly known to other industries as process analytical chemistry (PAC). PAC places the emphasis on understanding the process as it relates to the final product. It is an approach that collects analytical information in real time during manufacturing via in-, at- or on-line instrumentation. PAC has been in use in the pharmaceutical industry for decades, albeit sparingly.

There are many analytical instruments used in PAT, most of which are molecular spectroscopy techniques like UV-Vis, NIR, and IR, and electrochemistry techniques like pH, conductivity, and dissolved oxygen meters. Other technologies include particle size analyzers, HPLC, mass spectrometry, total organic carbon analyzers, and thermal effusivity, among others.

For the most part, those techniques that are simple, robust, and provide instantaneous or relatively rapid analysis times with little or no sample preparation requirements are growing in popularity. Overall, the market for PAT instrumentation in the biotech and pharmaceutical industries accounted for about \$90 million in 2003 but has increased rapidly during the last two years. Some technologies have posted annual growth rates of over 30% and are expected to continue solid growth as the market for PAT in the biotech and pharmaceutical industry moves forward.

The foregoing data was extracted and adapted from SDI's Market Analysis and Perspectives report entitled, "The Pharmaceutical and Biotech Market for Process Analytical Technology (PAT)." For more information, contact Glenn Cudiamat, VP of Research Services, Strategic Directions International, Inc., 6242 Westchester Parkway, Suite 100, Los Angeles, CA 90045, tel. (310) 641-4982, fax (310) 641-8851, e-mail: cudiamat@strategic-directions.com.



high performance liquid chromatography and solid-phase extraction. Flexit will be integrated into the discovery sciences business of the company's chemicals segment.

"This acquisition reflects our commitment to growing our discovery sciences business as well as our presence in India,"

said Greg Poling, president of Grace Davison. "We are constantly evaluating opportunities in the Asia Pacific region that fit our strategy to expand our infrastructure, enhance our material science competencies, and allow us to better support our customers' needs." ■