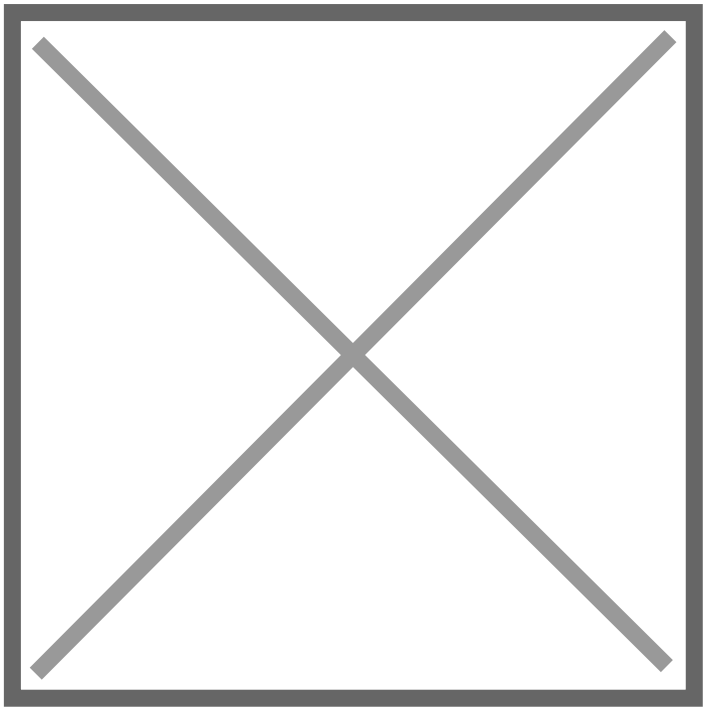


Expert Opinion - Manoj Kantak

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SPECTROSCOPY

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Catering diverse market requisites

The demand for UV-Vis-NIR Spectroscopy instruments in India is estimated at 2,000 units per annum and is valued around $18 million

Spectroscopy is the study of interaction between matter and radiated energy. Ultraviolet-Visible (UV-Vis) spectroscopy is routinely used in analytical chemistry for the quantitative determination of different analytes such as transition metal ions, highly conjugated organic compounds and biological macromolecules. Near InfraRed (NIR) Spectroscopy is a spectroscopic method that uses the near infra red region of the electromagnetic spectrum (from around 800 nm - 2500 nm). Typical applications include pharmaceuticals, medical diagnostics, food and agrochemical quality control etc.

Today UV-Vis and UV-Vis-NIR spectrometers are used for a variety of applications. It can range from a simple purity or assay measurement to more complex applications related to biological research and material science applications. The leading manufacturers of UV-Vis and UV-Vis-NIR spectrophotometers have models ranging for the micro volume (single drop) models to the large sample size spectrophotometers for silicon wafers and flat panel displays.

UV market dynamics

The current demand for UV-Vis-NIR spectroscopy instruments in India is estimated at 2,000 units per annum and valued at $18 million. This includes a full range, from low-end visible spectrophotometers, spectrophotometers for water analysis to the high-end research based UV-Vis-NIR spectrohotometers and suppied by the Indian and imported brands. The UV spectroscopy market is expected to grow at 10 percent annually.

The application demands clearly divide the UV markets for the local and international brands from the local brands catering to the routine colorimetric requirements and the imported brands to the regulatory and research requirements. The leading names in imported category include Agilent (formerly Varian); Jasco, Perkin Elmer, Shimadzu, and Thermo Fischer Scientific, and in the local brands the names include Chemito (now part of Thermo Fischer), Elico, Labindia, and Systronics.

Over the years, a UV spectrophotometer has become a commodity item in any lab and is currently considered one of the start-up instruments. UV finds a place in laboratories across market segments including colleges

and universities, diagnostic labs, industry segments such as pharma, chemicals, sugar industry, distilleries, testing labs, government labs, and research institutes. The application requirements too are quite varied from basic colorimetric analysis to highly regulatory pharmaceutical needs to advanced research in new avenues of solar energy research, and micro-volume life science requirements.

Analytical instrumentation is growing steadily mainly because of increased R&D focus and quality consciousness. This momentum in growth is a direct result of demands from a fast progressing pharmaceutical and life science sectors coupled with demands from chemical, petrochemical, environmental and food industries to name a few.

UV spectroscopy market to grow at 10%

- Manoj Kantak, executive director, Toshvin Analytical
Manoj started his career in Toshniwal Group as a service engineer and continued in analytical instruments servicing for 8 years before shifting to sales. With total experience of over 22 years in analytical instruments industry he has been closely involved in developing the Shimadzu business in India.