

South India Textiles Research Association, SITRA

Kriti LIMS Textiles Version

INDUSTRY:

Textiles

LOCATION:

SITRA, Coimbatore, South India

DATABASE:

MS SQL

Kriti LIMS:

Kriti LIMS Version 2.6

Background

SITRA is one amongst the chain of laboratories in the country. It is sponsored by the Textile industry and supported by the Ministry of Textiles, Government of India. It is an autonomous scientific research organisation registered in May 1951 under the Societies Registration Act (XXI) of 1860. It is governed by a Council of Administration consisting of twenty-six members who include representatives of the Industry, the Central and State Governments and the scientists from reputed Institutions.

The testing laboratory of the Textile Physics Division comprises Fibre, Yarn and Fabric testing sections. The laboratory has received ISO/IEC 17025 Accreditation from the National Accreditation Board for Testing and Calibration Laboratories (NABL).

NABL, a Government of India body under the Department of Science and Technology, is a part of an international arrangement known as International Laboratory Accreditation Cooperation (ILAC). With this accreditation, SITRA's test reports are valid in all countries which are signatories to ILAC arrangement, thereby eliminating re-testing of textiles by the foreign buyers. All the fibre, yarn and fabric tests are carried out as per ASTM, IS, BS, BIS, BISFA and in-house standards

Fibre Testing

The important characteristics of cotton and man-made fibres are tested for various end-use requirements. Cotton fibre properties such as length, strength, fineness, maturity and trash content are tested by both conventional and high volume instruments. In the case of man-made fibres, the characteristics such as staple length, crimp interms of number of arcs per inch, tenacity, elongation and force elongation curves are analysed. Some of the state-of-the-art instruments used in the laboratory are High Volume Instrument (HVI), Advanced Fibre Information System (AFIS), Lenzing Vibromat and Vibrodyne, Fibroglow and Instran Tester.

Yarn Testing

The laboratory is equipped with modern sophisticated instruments such as Uster Tester 3 and 4, Uster Tensorapid and Tensojet, Zweigle Yarn Hairiness G 565 & G 566, Uster Classimat System III and quantum, Constant Tension Transport (CTT) and Electronic Inspection Board.

Fabric Testing

Fabric testing laboratory is equipped with all necessary instruments for testing cloth and garment. The physical laboratory of SITRA is also equipped with instruments for micro level analysis such as Image Analyser and Scanning Electron Microscope (SEM).

Challenges

The Analytical Chemistry Section at the SITRA Technical Center in SITRA Center needed a modern LIMS that met the standards for hardware and software, and was flexible enough to meet the diverse needs of the testing laboratories. The in-house-developed LIMS has its own limitations in deploying at Rural and remote regional laboratories. Therefore looking for a LIMS that is modern, extensible, and flexible workflow-oriented LIMS for deployment at comparatively smaller Labs.

System Sought

The Analytical Laboratory division processes a large number of samples. The LIMS needed to be robust enough to handle the large sample load, and require little maintenance from the inhouse staff.

In addition, a large proprietary analysis package needed to be rewritten and integrated into the LIMS, along with interfaces to standard analysis instrumentation, which is not typical of modern analytical laboratories.

System Selected

Several companies have been contacted for the solution, and Kriti LIMS was selected after a test run in the Textile testing laboratory (physical & chemical properties testing). The selection was based on the developmental capabilities of the LIMS, and the inherent extensibility of Kriti LIMS, which would allow for implementation of the proprietary analysis package.

For more information on Kriti products and services, contact us at www.kritilims.com

System Delivered

The Kriti LIMS went live in July 2006, with the analysis module. The system currently has 10 users and is processing 28,000 samples per year, yielding in excess of 450,000 determinations on these samples. This is the result of more than 8000 internal jobs at one site with multiple laboratories. Implementation utilized LIMS Link, as well as custom Visual BASIC Tasks for instrument interfacing, and includes the following interfaces:

Key Benefits

Once the LIMS was implemented, the staff experienced and appreciated the flexibility of Kriti LIMS as a multi-faceted laboratory development tool. Since the initial successful implementation, in fact, SITRA has implemented functionality that was not originally in the scope of work. They include:

A Business Metric and Tracking System, which is not typically a LIMS function

A Non Conformance Reports Database used to track products or processes which do not meet conformance requirements.

The Delivery of Test Reports in Electronic Format further reduced the distribution cost and time.

The integrated LIMS had given the benefit of Sample Tracking, Work Allocation, Report Printing, Invoice Printing, Revenue Accounting and all other functions from the solution that has saved substantial Time and Effort of Laboratory Managers, Scientist and Customers.