

SA Laboratory Leads Way in Automation

PathCare has opened a world-class reference laboratory in Goodwood that places South African pathology at the forefront of automation technology worldwide. Dr Johan Kock, business partner of PathCare's new reference laboratory, said that the main driver



Dr Bruce Dietrich (left), with Dr Pierre Uys, the Western Cape Minister of Health who officially opened the laboratory

for installing the multi-million rand system was the worldwide medical technology skills shortage that also affects South Africa. "This laboratory is unique in that it is the most automated lab in South Africa, and one of the most automated in the southern hemisphere. It enables us to free up both pathologists' and technologists' time for value added functions rather than mechanical tasks," said Dr Kock.

Other benefits of automation include increased safety for staff and turn around speed for clients. The system improves accuracy by eliminating the small but significant human error rate associated with manual procedures. It also improves the consistency of turn around time, enabling PathCare to provide a more predictable service to clients.



In addition, the line enhances the safety of working conditions for laboratory technologists and technicians. For example, the decapper automatically separates stoppers and tubes within a consumption of shell eggs," says Will-

automation and decreased turn around time, results are available more rapidly. This means patients can be diagnosed, treated, and discharged from hospital earlier, providing all-round cost savings that benefit both patients and medical aids," said Dr Kock.

Dr Tjaart Erasmus, president of the National Pathology Group (NPG) which represents by far the majority of pathologists and pathology groups in private practice in South Africa, said that most NPG labs were accredited by South African Accreditation System (SANAS), using ISO / IEC 17025 standard. "Our laboratories work with international ingredients and analytical equipment, but use local processes tailored to our conditions. Pathology services are available much cheaper in South Africa than anywhere else in the first world," said Dr Erasmus.

He added that internationally, pathology led the medical community in the quest for accurate, quality scientific diagnoses. "Pathology is able to accurately analyse one drop of blood in the equivalent of an Olympic-size pool of liquid," he said.

At the automated line in the Goodwood laboratory 85% - 87% of the tests are done on line, freeing up 80% of the staff employed to work offline and focus on special, manual tests required for unusual circumstances.

"Automated tests subsidise special manual tests such as those required to detect heavy metal poisoning. Without automation, these tests would be much

lytical line as the test menu was largely focussed on one test, the full blood count which can be analysed on a single instrument.

Instruments on automated lines can be used to run the same or different diagnostic tests and can work in parallel or in series. Set up configuration affects accuracy, repro-

ducibility and costings. Working in series takes a fraction longer but is more cost effective, because it avoids splitting the specimen. However, according to Dr Kock, speed is not the only determining factor. The quality of analyses is of paramount importance. "We always err on the side of safety," he said.



The system includes a control room that monitors the system, tracking all specimens to identify potential problems and rectify them online. In addition, the system includes a unique cold storage facility that provides interim storage for up to six days for specimens on which analysis has been completed. This online stockyard allows automatic retrieval of specimens and subsequent repeat or additional testing without any human intervention. It guarantees the integrity of positive patient identification and ensures that the right test is always done on the right specimen.

The laboratory runs 24 hours, seven days a week. At the outset, urgent requests are separated from manual and routine requests, although most