

The laboratory of the future

To increase the quality of health care services, the central complex of the MEDIREX GROUP laboratories in Bratislava now includes a state-of-the-art automated line that is technologically rare not only in Slovakia, but also in global terms. The mission of the MEDIREX GROUP laboratories is to provide each and every patient with first-class health care based on prompt feedback.

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Unique to Central and Eastern Europe, the technology is the result of a 2 million euro investment made by MEDIREX. The installation of the new Aptio laboratory line was launched in November last year with the laboratories in full operation. Given the fact that the laboratories have to process tens of thousands of samples and the overall number of samples is constantly on a rise, the new line will make it possible to increase the speed and quality of sample analysis and shorten the period between the moments of sample arrival and test result delivery.

A major reason why the original LabCell line has been replaced by the Aptio line is the increasing number of biological material samples coming to the central laboratories. Another reason why the old line has been replaced with a new one is that a higher level of automation is required to cope with certain processes that were previously carried out by hand. The new line makes it possible to provide a wider spectrum of parameters by integrating analysers from various suppliers, bringing

together biochemical, immunochemical, serological, haematological, immunological, and coagulation parameters into one analytical package. The new line was supplied by Siemens Healthineers.

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What improvements does the new automated line bring?

- A shorter period between the moments of sample arrival and test result delivery.
- A single test tube can be used to test a lot more parameters, spanning the entire portfolio of laboratory diagnostics.
- If necessary, the line can automatically produce a serum sample that can be used for manual tests carried out at the same time.
- Manual operations are replaced by automated processes, reducing the risk of diagnostic errors.
- Manual sample handling is minimised, which reduces laboratory staff health hazards:
 - Automated sample centrifugation,
 - Automated test tube uncapping and closing before test tubes are stored in cooling boxes,
 - Automated sample distribution to analysers using a conveyor system,
 - Automated sample storage and disposal without manual intervention with a storage capacity of 15,000 samples per box (three boxes available).

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Technical advantages of the new method of automation:

- The Aptio line conveyor belt is 65 metres long, which is a major difference from the 19-metre conveyor belt in the original LabCell line.
- Despite the significant difference in size, the new line is characterised by a lower level of noise in the laboratory (thanks to unique pneumatic mechanisms).
- Another significant advantage of the new solution is that the line can be redesigned and extended so as to increase the capacity of samples processed.
- Analysers made by different manufacturers can be integrated in a single solution.
- If necessary, the new automated line is capable of transporting samples from one floor to another.

ABOUT MEDIREX GROUP:

MEDIREX GROUP runs state-of-the-art laboratories that represent the cutting edge of laboratory diagnostics in Europe. Since its establishment, **MEDIREX** GROUP has repeatedly made considerable investments in laboratory technology and equipment – typically tens of millions of euros.

MEDIREX GROUP laboratories (Medirex, Medicyt) are the largest providers of laboratory diagnostics in Slovakia, ensuring complex diagnostics in a variety of fields, including clinical

biochemistry, haematology, immunology, medical genetics, cytology, histology, bacteriology, mycology, parasitology, virology, serology, molecular biology, and environmental microbiology.

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