



FASTER AND MORE EFFICIENT LABORATORY RESULTS WITH AUTOMATION SYSTEMS

Imagine that after a car accident, several injured persons have to be treated. Many blood samples have to be analyzed at the same time. Automation systems are able to prioritize: They recognize which samples are time-critical and which ones can wait - this also benefits the doctor.

Fast, automatic & low-error

Automation is regarded as one of the greatest achievements in modern laboratory diagnostics.⁶ Automation systems are a kind of laboratory line in which several diagnostic test procedures are coupled. This makes it possible to carry out a wide variety of laboratory tests with a wide variety of sample material on site, regardless of whether a large blood count, coagulation diagnostics or immunohistochemistry is required. Many pre- and post-analytical steps such as sample receipt, centrifugation and aliquoting run automatically. The advantages:⁶

- > higher efficiency due to shorter throughput times
- > Higher test quality through automatic identification of inferior or faulty samples
- > Standardization
- > More efficient process flows for repeated sample runs, add-on testing and reflex testing
- > Prioritization

Advantages for the doctor

Such optimized laboratory diagnostics also benefit the physician: the diagnosis is accelerated so that a targeted therapy can be initiated earlier. Fewer diagnostic errors are made because automation systems detect faulty or inferior sample material.

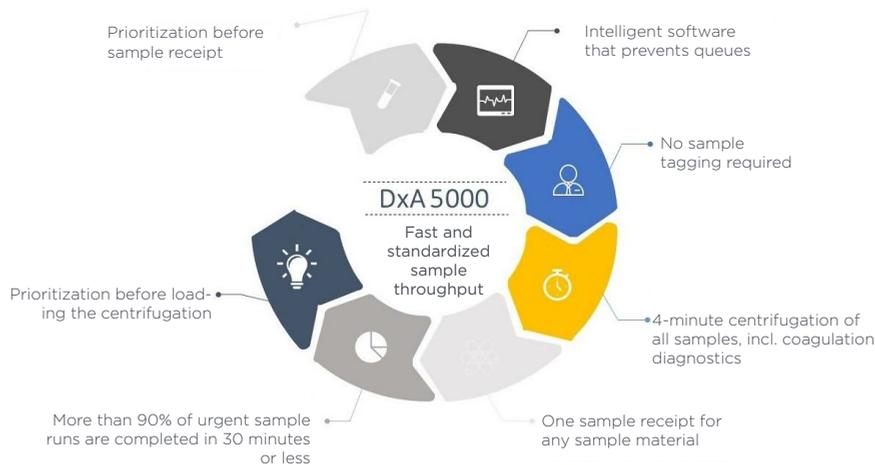


Fig.1: The advantages of the DxA 5000 automation system, modified according to [7].

Time-critical samples are preferred

In addition, automation systems are able to prioritize. This advantage is particularly useful when many samples have to be analyzed at the same time, e.g. in the event of an accident, when multiple people are injured. The systems recognize which sample belongs to the life-threateningly injured patient and prioritize their analysis.

The DxA 5000 automation system ensures prioritization at even four points in the analysis process (see also Fig. 1).⁷ If a critical result is detected during the analytical process, e.g. a drop in hemoglobin, the sample would be labelled accordingly.

Sources

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