



On the path to Hospital 4.0: KUKA robots sort up to 3,000 blood samples per day

Augsburg/Aalborg, 8. April 2020 – LT Automation and Intelligent Systems have developed a robotic system with transport boxes for automatically checking and sorting blood samples at Aalborg University Hospital. Installed in the sorting system: two KUKA robots.

Aalborg University Hospital is the largest hospital in the North Jutland region of Denmark. Up to 3,000 blood samples arrive here in the lab every day. They must be tested and sorted – a time-consuming and monotonous process which has been done manually until now.

The university hospital has now automated the procedure: a robot-based system and intelligent transport boxes ensure the quality of the samples – and show how workflows in hospitals can be simplified by automation. This leaves specialist staff more time for patients - which can be an advantage especially in times of shortage of specialists or in times of intensive stress for hospitals.

Relieve employees and better control the quality of blood samples

The previous manual process was as follows: the lab staff opened the transport boxes on arrival, removed the blood samples and sorted them for further clinical analysis. Because of the large number of boxes, the hospital employees often suffered from tendon and muscle injuries as a result of the repetitive work.

“We wanted to automate this process to ease the burden on our employees,” explains Annebirthe Bo Hansen, Department Head at Aalborg University Hospital. “Furthermore, we were looking for a solution to improve monitoring of the quality and temperature of the blood samples.”

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Two local companies were involved in automating the sorting process for blood samples: LT Automation A/S designed and implemented the robotic solution. Two KUKA KR AGILUS series robots were installed in the sorting system.

A conveyor belt carries the transport boxes to the robots shielded by Plexiglas screens. The software developer Intelligent Systems A/S developed the software that monitors the temperature of the blood samples during transportation.

Reducing sources of error - having more time for patients

The new system was initially tested in March 2019 and went into full operation in August. The lab technicians now have more time not only to analyze the blood samples. In addition, the automated sorting and continuous temperature control in the transport box have reduced potential sources of error.

“The new system makes Aalborg University Hospital a forerunner on the path to ‘Hospital 4.0’,” says Lasse Thomsen, CEO of LT Automation. “Automation can help simplify workflows and assure high quality especially in times when there is a shortage of skilled personnel.” For this reason, he sees great potential in the robotic solution: it would be of interest to all hospitals with their own clinical biochemical lab, in this form or similar.

In this video you can see the sorting system at Aalborg University Hospital.

KUKA

KUKA is a global automation corporation with sales of around EUR 3.2 billion and around 14,000 employees. The KUKA Group is headquartered in Augsburg, Germany. As a leading global supplier of intelligent automation solutions KUKA offers its customers everything from a single source: from robots and cells to fully automated systems and their networking in markets such as automotive, electronics, general industry, consumer goods, e-commerce/retail and healthcare. (31.12.2019)