Q&A

Cerba Research

Leveraging the power of automation to boost research

Transforming clinical trial logistics through smart automation and RFID technology

by Lukasz Wulnikowski

Manager Production & Supplies Clinical Trial Services & Logistic Excellence, Cerba Research

In this interview, NewsMedical talks to Cerba's **Lukasz Wulnikowski** about the power of automation and how it has drastically changed the way they approach kit building lines.

Q NM: What motivated the automation of your kit building process, and how has it increased efficiency and accuracy?

A LW: We recognized the importance of thinking outside the box to advance our operations and determined that leveraging current technological advancements would be highly beneficial. At the same time, we remain committed to ensuring the highest quality in our products.

Thanks to the implementation of RFID tags, we have achieved 100% accuracy, effectively eliminating human error. Additionally, by dividing production into discrete steps at each workstation, we have doubled our efficiency. This streamlined process reduces complexity for our team, making tasks simpler and smoother to execute.

Q NM: How has automation impacted your kit building operations? Could you please provide some examples that demonstrate this impact?

A LW: Production planning has become much easier and more accurate. Quality issues have been mitigated by using advanced technology and reducing the number of assembly activities compared to the previous process, resulting in increased satisfaction among all team members.

Previously, the quality control process involved visually inspecting all components in a kit box and scanning labeled components with a hand barcode scanner to populate an Excel file that indicated whether the correct labels were scanned.

A kit box containing pre-labeled RFID components is now scanned automatically within 1-3 seconds after passing through two antennas. If all components are present, the kit will be sealed; otherwise, the kit will be rejected, and the line will stop to force users to remove the faulty kit.

Q NM: How does automation raise the bar for kit quality, and what challenges did you face during implementation?

A LW: The quality of our kit products has reached an impressive 100% correctness, consistency, and accuracy. This achievement is made possible by integrating advanced software with a conveyor belt system featuring three workstations, each dedicated to a specific task. RFID labels and a monitoring station (troubleshooter) provide a comprehensive overview of the entire process, effectively eliminating human error.

Our process is designed to halt production whenever a discrepancy is detected, requiring immediate operator intervention to remove and correct any faulty kits. This ensures that only compliant kits continue through the production line.

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To meet quality standards and ensure compliance with GxP (Good Practice) regulations, we undertook a rigorous validation process. Due to the complexity of the system, we established a dedicated team to meticulously document and record every piece of equipment and each step of the process, ensuring complete traceability.

Despite the numerous challenges and time-consuming nature of this project, the dedication of all involved parties enabled us to successfully complete and deliver this highly effective production line.

Q NM: How do you handle technical issues with automated equipment to ensure smooth operation?

A LW: We have daily and weekly check-ins scheduled. Our team members are trained to clean and maintain each piece of equipment. We also have SLAs (Service Level Agreements) with our vendors, which provide very quick response times ranging from 8 to 24 hours.

Q NM: Are there any upcoming innovations or advancements that you are particularly excited about?

One of our key ongoing projects is directly related to the kit line and aims to provide both us and our customers with a comprehensive overview of all orders, kits, samples, and storage. This system will offer real-time visibility 24/7.

At the same time, we are exploring ideas to double our kit line production capabilities through further improvements. With these advancements, 2025 promises to be an exciting year full of opportunities for growth and innovation.

“Personnel have reported a more organized and systematized workflow with improved task division.”

Q NM: How has automation reshaped your workforce? What training and development programs are in place to empower employees?

A LW: Personnel have reported a more organized and systematized workflow with improved task division. Despite the increased production capacity, employees have not felt the need to work harder or faster, as their workloads remain unchanged due to the efficient process design.

To integrate everyone into the new process, we created new roles and added some small tasks to the team's responsibilities. This helped connect all team members to the updated workflow.

We developed detailed work instructions covering both the processes and the equipment. Each employee received comprehensive theoretical and practical training on these documents, including hands-on training for each workstation. Additionally, we highly value all feedback received and will use it to guide future process improvements.

Q NM: In what ways does automation help to reduce waste and maximize resource utilization?

A LW: Going paperless is the way to go, and our upcoming dashboard will remove the need for physical document creation. Everything will be digitized, so after each production run, we will generate a file that is automatically and digitally managed, removing the need for printing or signing.

We have also upgraded one of our kit labels to a sealing label

that includes comprehensive information and a barcode. In many cases, even the requisition form for a kit will be replaced by a digital version. However, due to the global distribution of our products, some kits will still require a paper requisition form.

Q NM: What distinguishes your automated processes from other organizations? How do you work with clients to create tailored automated solutions?

A LW: We are the only company (as far as I know) that offers automation in kit production and guarantees 100% quality on each kit. RFID labels are important in this case, as they are an innovation that is not commonly used.

We have encoded an entrepreneurial approach into our DNA. We already offer a customized solution called "white glove logistic services."

Our line allows you to easily design kits, labels, and information that appears on the kit itself (or a customized sealing label). Outside of the kit line, we offer various types of custom-made boxes.

Q NM: How do you stay on top of the latest automation trends and technologies so that you can drive innovation in your role?

A LW: I am a strong advocate of continuous improvement. After implementing the line, my team and I have already identified further enhancements to optimize it while maintaining the highest quality standards.

I am also excited about the potential of future AI developments. The possibilities that AI can offer, both for enhancing the kit line and for streamlining daily tasks and stock control, are incredibly promising. We are living in exciting times where innovation knows no bounds.

About the speaker

Lukasz Wulnikowski is Production & Supplies Manager for Cerba Research Netherlands. His robust knack for taking responsibility, not only for his own tasks but also for the people he collaborates with, coupled with his analytical capabilities, have driven him to find structured and organized solutions, easily identifying and addressing mistakes or areas for improvement.

About Cerba Research

Cerba Research is a leading laboratory services provider across all clinical development phases, to the life science industry (or pharmaceutical, biotechnology, medical device, government, and public health organisations). It combines the deep scientific expertise of specialist services with the capacity and breadth of a global central laboratory network

Cerba Research develops innovative solutions to unique challenges in research and drives operational agility at scale for multiple therapeutic areas, with world recognised expertise in virology and oncology. It is part of the Cerba HealthCare Group with 15,000 employees on five continents, driven to advance health diagnosis.

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