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Inpeco Automating and Streamlining Clinical Workflow

n just a year and a half, the world has completely changed. The global healthcare sector is still grappling with stopping the spread of the virus. To assist in this effort, pharma leaders are accelerating the production of essential drugs and vaccines to aid the frontline healthcare providers. However, the fact is pharma and life science organizations can no longer rely on traditional workflow processes when catering to the rising needs of patients across the world.

At this juncture, the looming question for these pharma organizations is, "How to promptly obtain the necessary data for trials to ensure no time is wasted on future treatment releases?"

For many leading players in the pharmaceutical sector and healthcare systems worldwide, the answer is Inpeco—a global leader in total laboratory automation. The company has cemented its cornerstone around stateof-the-art advanced robotic automated systems to help clinicians perform more tasks and achieve better outcomes in less time. Today, hospitals and clinical laboratories around the world leverage Inpeco's technology to integrate laboratory data and eliminate human errors from their processes. Moreover, Inpeco's systems guarantee exceptional traceability within a rigorous process control of the specimen sample. "The primary purpose behind our workflow solutions is to facilitate the highest quality processes to enable favorable outcomes for the patients," says Maricel Roberts, President, and Head of Business Development, Inpeco, Americas.

Interestingly, Inpeco's origin dates back to the 90s, rooted in founder Gian Andrea Pedrazzini's laboratory solution—robotic arms and track systems for moving tubes in and out of analyzers. Pedrazzini sought to automate the manual steps of routing and preparing specimens in the laboratory with the hope of eliminating potential human errors. Today, his dream has come true, with Inpeco relentlessly empowering organizations around the world to automate and streamline their clinical laboratory workflows.



"Although organizations seek to automate their laboratory workflows, most of the time, they won't have the expertise or knowledge of seamlessly implementing automation systems without affecting the integrity of their workflow," mentions Ludovico Donegani, Innovation and Workflow Director, Inpeco, North America. Even if they try to outsource the implementation, they find it difficult to identify the right partner that can meet their exact requirements.

For this very reason, Inpeco begins its onboarding processing by first understanding each need of the client. Donegani and his group of mechatronics engineers meet with every team at the client site and analyze their current workflow before collecting relevant data to design the future state of the automation roadmap. Once the future state roadmap is defined, Inpeco proceeds to the simulation phase, where it uses the laboratory's informatics



systems data to validate its design and develop a robust solution within the design of the laboratory layout as well as the informatics backbone of the automation software to enable the future state. Additionally, Inpeco teams customize needed changes in the lab design to fully maximize the customer's input to their exact requirements.

Notably, the company offers solutions for both the outside (ProTube) and inside (FlexLab) of the clinical laboratories. ProTube is a compact automation and sample traceability solution for collection centers that guides the phlebotomist to ensure the blood sample is labeled with the correct patient label, tests, and tubes. Along with automated tube labeling, ProTube also performs sample volume checks for a controlled process in compliance with quality regulations and patient safety requirements. Phlebotomists can also leverage the smart data analytics offered by the solution to continuously optimize their sampling process.

On the other hand, FlexLab is a family of versatile automation solutions that can integrate with over 26 vendors and 50 different analyzers. Suitable for laboratories of any size and complexity, FlexLab offers numerous pre-and post-analytical modules, on top of an ever-growing, open suite of analyzers among ten clinical disciplines. FlexLab is modular and scalable, delivering a throughput of up to 10,000 tubes/hour. When combined with ProTube, the solution facilitates full sample traceability from the collection point to the final test results in the lab.

These robust functionalities are bolstering the foundation of Inpeco's clients in the laboratory automation landscape. A case in point is a laboratory client who recently sought to resolve their lab space and workflow complexity. Their path to an efficient workflow was hindered by multi-floor construction barriers, fire escape routes, and so on. Unable to expand within their horizontal spaces, the client decided to leverage the expertise and technology offered by Inpeco. The company was able to redesign and enhance its entire workflow from arrival of the samples on the ground floor to testing on the floors above. Inpeco's innovation was realized via a vertical transportation module to automatically elevated the tubes from the ground floor to the first floor. "We were not only able to overcome the challenges by creating a 'vertical' workflow but also facilitated a seamless design to suit their needs and overcome the physical constraints of limited spaces within each floor of the lab," mentions Donegani.

This is but one of the many success stories that Inpeco has penned over

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the years. With offices in Switzerland (headquarters), Italy (production and testing), Belgium, and the U.S., the company seeks to further expand its client base. To address a growing market, Inpeco recently extended its portfolio into anatomical pathology where their focus has been automating workflows of biospecimens from the point of collection until their storage in the biorepository, to improve standardization and eliminate variables that may affect diagnosis. Automation within anatomical pathology and biorepositories enables traceability, complete efficient retrieval and ideal preservation of tissues molecular sets whose data may be the key to unlocking personalized treatments. "For us, the primary objective is always to remain proactive when it comes to workflow automation, effectively innovating the opportunities within any new challenge in order to usher clinical laboratories into the future," concludes Roberts. Ħ 🏾