



Laerdal Medical



Laerdal Error-Proofs Medical Kit Assembly with Vision Verifications

Industry: Medical Devices

Website: www.laerdal.com



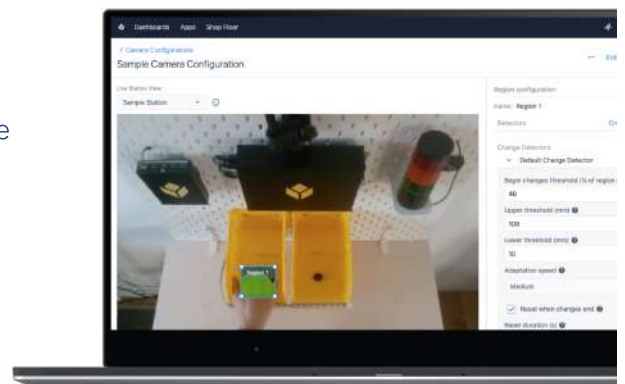
About Laerdal Medical

Laerdal Medical, a world-leading provider of training, educational, and therapy products for lifesaving and emergency medical care, built a unique and powerful solution with Tulip vision to ensure all parts of assembled kits are complete before shipping to customer sites.

Problem

As a global manufacturer, Laerdal Medical often shifts value streams across its facilities around the world to meet customer demands. After two decades of manufacturing a facsimile of a human bust at one location, the Laerdal team needed to move the production new facility. At this new facility, Laerdal needed a solution to kit the medical busts with an array of other auxiliary equipment, and collect production data for optimizing their new line of operations.

At the original facility, the team had reliably sent the kit to customers without any omitted parts. However, as with any new processes, the Laerdal team faced a steep learning curve to get the team members on the frontline at their new facility up to speed.



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Quality is at the core of Laerdal products. As such, it is critical that when manufacturing and assembly is transferred from one facility to another quality is not hindered in any way. The guiding factors when transferring manufacturing across the value-stream are:

- Ensuring each kit is assembled with the correct products
- The kits are complete with all required products

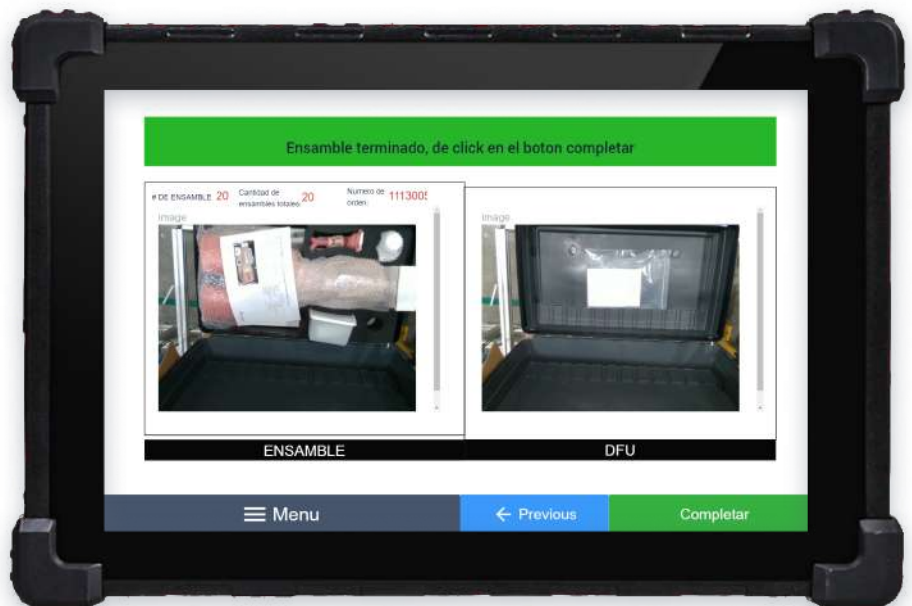
Finally, as part of Laerdal's digitalization overhaul, one of the requirements is to surface productivity and quality data (in real time and historically) as to drive process improvements.

Solution

The solution built by the Laerdal team works behind the scenes, continuously monitoring the kits as they are assembled by team members. As the team members pick parts and place them in the crate, Tulip Vision automatically recognizes the parts and checks them off the bill of materials. Once all parts have been placed, a photograph of the kit is captured for future reference and remote visual inspection, and the technician is allowed to continue to ship the kit.

This simple solution ensures the kits are complete, provides a digital reference for potential warranty claims, and allows the team to identify and drive improvements within the process.

Tulip Vision is an extremely versatile yet powerful tool that lets operations teams build custom computer vision-enabled apps without writing a single line of code. As a solution to their challenge at the new facility, the Laerdal team purchased one of the recommended off-the-shelf cameras available from many retailers and built an app to guide technicians through kit assembly.



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The team set up their camera face down at each assembly station, and hooked them up to Tulip Vision. This allowed technicians to pick parts without having to adhere to a particular order, or manually check off parts from their long list of bill of materials. It also served as a visual aid during production, and as a future reference for process improvements.

The Laerdal team was also able to expand visibility into the processes' cycle times and quality defects. Using Tulip's built-in analytics capabilities, the engineering team at Laerdal is now able to analyze and visualize real-time data and make process improvement decisions based on data.

Results

Since Laerdal incorporated Tulip Vision into their solution, the operation line they have seen zero defects or parts omitted out of hundreds of kits assembled. This saved Laerdal from shipping customers missing parts and processing return claims and shaved down cost and time in overall production.

Conclusion

Tulip Vision provides manufacturing and process engineers with tools that are typically reserved for software engineers with expertise in machine learning. With Tulip, individuals and teams closest to the operations can leverage simple off-the-shelf cameras to address immediate business needs.