SAVOYE

KWEST®

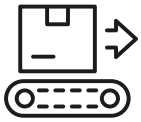
MORE INTELLIGENCE FOR BETTER PERFORMANCE

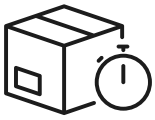
When you are responsible for the performance of logistics operations, you have the challenging task of continuously improving the process and setting up the most appropriate order fulfillment system for your current and future business. And naturally your aim is to improve the overall productivity of your warehouse while keeping costs under control.

If your processes are 100% manual, a complete and modular WMS can synchronize your activity perfectly. When your processes are mechanized, the system must be based on an application totally dedicated to controlling your automation. This is a WCS (Warehouse Control System), capable of controlling conveyors, high-speed sorters, automated storage systems, etc. and creating at least a minimum amount of synchronization between these various machines.

The traditional WCS performs relatively well when controlling a simple system, but its limitations become apparent in a much more complex order fulfillment context. When several automated order fulfillment processes are combined or run in parallel, a common scenario in omnichannel Supply Chain organizations, the level of synchronization necessary for a system to apply the right control at the right time becomes much higher.

In such contexts, the capabilities of a traditional WCS expands to a **WES** (Warehouse Execution System), integrating smarter features to synchronize the flow of orders and optimize the automation in real time. What can this do for you? Improving the utilization of automation by redirecting tasks according to resource availability, and above all, providing additional capacity and flow.





The WMS will orchestrate the overall warehouse activity according to the volume of orders to be picked, available labor, and carrier departures, but it does not have detailed knowledge of the status of the robots and automated devices. That is where the WES contributes via continuous real-time communication with the control units (Controls/PLCs) and scanning devices (camera, barcode scanner).

Based on the order profiles sent by the WMS, the WES will use built in algorithms to select the best sequence of boxes, bins, or pallets. This optimized selection is not only based on the priority level of each order, but also on the operating mode and the actual availability status of the devices that will perform the work. Operation with or without waving, calling a product category with affinity to several orders being picked, detection of saturation conditions in a zone, etc. These key performance indicators, technical as well as logistical, are integrated into the algorithms of the WES to achieve maximum fluidity of system operation. The launch mechanism is optimum, allowing dynamic rescheduling of the activity.

WHAT IS A WES?

- The WES balances the overall workload according to the different zones and picking options, automated and non-automated that are available. Whether for manual order preparation, a goods-to-person system fed by shuttles or robots, etc., the WES adapts to the context and processes that are most relevant to the present operational conditions.

- The WES also adapts according to the load on the system for reliable performance during peak activity times, providing a continuous flow of products to the resources: picking stations, goods-to-person stations, picking and palletization robots. The system accounts for when workstations are opened, paused, or closed, and it adapts to the present and average speed of each operator. Finally, much greater fluidity is able to manage surges in activity, and overall to process a greater number of orders in a much shorter time.

- The WES also leverages slower periods to optimize the inventory: stock defragmentation, updated product storage according to the changes in their rotation class, automatic replenishment of one zone to another, etc. The aim is to preempt the system for the next peak period by reducing the equipment and operator movements during these critical windows. This all contributes to optimizing the next peak period, with busy times often occurring just a few hours apart!

Finally, the WES adapts to unexpected events such as an labor shortage, maintenance issues, etc., to better reorganize and redirect the product and order fulfillment flows.

CONCLUSION

These real-time optimizations are no coincidence: all of KwesT's algorithms are the result of extensive operational research work in partnership with universities and laboratories. This has resulted in several patents related to system optimization, in connection with continuous flow sequencing and scheduling. The next goal is to begin to introduce the benefits of machine learning and artificial intelligence providing WES with real predictive capabilities in addition to its already responsive behavior.

To summarize: KwesT is an essential tool in your supply chain stack providing unparalleled performance for management of complex systems, and operational and tactical assistance to orchestration of these activities. As you continue on this journey to increase your level of automation and system intelligence, KwesT is the WES product that will be there to meet your every demand.

SAVOYE
SUPPLY CHAIN SOLUTIONS

SAVOYE:
BEST IN CLASS AUTOMATION FOR YOUR LOGISTICS AND SUPPLY CHAIN NEEDS

ADVANCED TECHNOLOGIES

Order preparation of light loads
X-PTS Goods-to-Person solution, smart conveyors, high-speed sorting systems, robotics

Automation of shipping packaging
JIVARO, e-JIVARO, PAC 600, lidding, cardboard wedging

Automated storage of heavy loads

ADVANCED SOFTWARE

Warehouse management and flows control
OMS, WMS, WES, WCS, TMS, EDI