

State-of-the-Art Real-Time Warehouse Analytics

By Hassan Mahdavi

Some of the best new product ideas come from customers, and at times even without them realizing it. During our annual visit to one of the major electronics distributors located in the Boston area, we were impressed with the efficiency of their warehouse operation. While on the tour of their facility we happened to notice how they were monitoring daily activities during each shift. We were surprised to see that in the middle of the warehouse, they were using a manually-updated white board to display progress to activities and goals achieved. It included things like the number open tasks, completed tasks per function, performance against the previous day's activity, and distribution center issues. Obviously, since this was a manual process, someone would have been keeping track of activities in the warehouse management system (WMS), pulling the relevant data, and updating the white board.

While the data would certainly be available via reporting within the WMS, making it visible to all stakeholders was necessary to keep everyone aware of what was going on, both to help inspire performance improvement as well as identify problem areas for management action. As a company involved in helping companies innovate the way they do business, we recognized we could potentially eliminate this manual process and replace it with an automated solution.

Using connectivity through something like PTC's Industrial IoT Platform, ThingWorx, data could easily be pulled from the WMS, and presented graphically in real-time on a big screen monitor, effectively eliminating the manual update happening during each shift. And with ThingWorx's easy-to-use design dashboard creation tools the customer's operations and IT departments could quickly change or add information without hard-coded changes to the WMS system. For instance, in addition to what they were already manually updating on the white board, we could also encapsulate things like their order status for example in the same dashboard view. The shift supervisor could then see not only their operational activity but order status as well.

This dashboard mock-up exemplifies the kind of real-time, actionable data enabled by digitally transforming the raw WMS data to a digital display.

Visits with our customers are always welcome and usually insightful. In this case, we came up with some future enhancement ideas for the PTC MOVE WMS. [Get more information about PTC MOVE here.](#)





Hassan Mahdavi is Director of Software Development at PTC for the MOVE warehouse management system (WMS) and WebShip automated manifesting system products. An employee of PTC since 2015, he has been helping customers implement and manage efficient warehouses and distribution centers for over 20 years.