



Speed Demo Short-Script Demo Scenario:

Labor Demand Planning with Forecasting

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External Speed Demo URL: <http://demo.tdc.sap.com/SpeedDemo/fb4ae02e861ae0ef>

One paragraph story-line Summary:

Learn how warehouse shift manager Tim Richards plans his teams to the warehouse activity areas based on the given workload.

What are the key messages your audience needs to take from this demo?

SAP Extended Warehouse Management helps customers to:

1. Reduce labor cost by workload based labor demand planning
2. Avoid bottlenecks by real-time visibility on the workload in the warehouse at the pick and pack activity areas
3. Solid labor demand planning by forecasting mid-term workload in the warehouse
4. Quickly setup Labor Demand Planning without the need of elaborate configuration

Chapter Overviews:

Business context

In a huge warehouse (from a throughput point of view) typically several hundred worker are busy with all kind of warehouse activities in different activity areas. The planner knows about the knowledge/performance of his workers and the absence (e.g. vacation, illness).

Most important are the activities related to the good issue process. The warehouse has to prepare the goods for pickup in time and in quality. The scheduling is typically given by sales or transportation and mustn't be violated by the warehouse. In general the warehouse is expected to be as flexible that it can fulfill whatever sales or transportation promises.

The flexibility reserve of the warehouse are less urgent activities like inventory counting or putaway as well as picking of 'soft committed' deliveries. In case there is not enough work less important activities can be started (e.g. proactive replenishment, inventory counting or rearrangement).

Normally the workers are assigned to certain activity areas. In case a worker is assigned to another activity area then for a complete shift and only in exceptional cases for single hours. More common than changing the assignment is to plan overtime for the workers of a shift (or shorter shifts if less work is to be done). It's also possible for some warehouses to plan additional/less resources for the next shift. Hiring of completely new workers (or firing on short notice) is a seldom case and could need a lead time of several days.

An additional challenge is that the complete demand for the day is not given in the morning in the EWM system and thus available as planned workload. Forecast based on historical data is needed to get additional information.

Demo context

Tim Richards (Selast AG), responsible for the planning of the picking teams wants to check the relevant workload.

He performs a rough planning every day in the morning together with his team leads. To prepare the meeting he needs an overview of the expected workload. He checks the information in the 10 minutes coffee break just before the meeting.

Background of Selast AG:

Several areas exist at Selast. For the planning relevant are the areas for Picking for the 3 teams (Team 1: T010 and T051, Team 2: T020 and Team 3: T050).

Team 3 works mainly in picking heavy parts and the other two teams in the small parts area. But the team members can basically work in all areas. All teams have a capacity of 10 FTE (FTE = full time equivalents i.e. equals a worker working 100% in the shift) and are able to pick roughly 1000 items per day. They work for 8 hours with a lunch break in between that is not fixed meaning that at lunch time there are 2 hours with half the capacity.

The workload for the actual day is defined to a small amount by the tasks already known to EWM (warehouse orders, tasks) and mainly due to existing deliveries.

Check Workload

Tim opens the UI and displays the actual day. He checks the workload for the 3 teams, each having a capacity of 10 FTE.

The chart displays for the selected day for each of the selected teams the workload in the selected measure, e.g. FTE.

The displayed information shows that team 1 needs more capacity (1 FTE) and team 3 seems to have free capacity.

Tim checks the total needed capacity for the day by either using the view for ‚All Picking Teams‘ or switching the chart type to a stacked column chart.

The total needed capacity seems to fit the available capacity. So it should be possible to solve the issue by moving one FTE from team 3 to team 1. An additional external person is not needed. The small amount of overwork can be handled.

To be really sure about when to move an employee between the teams Tim checks the hourly distribution. Going back to the column chart and selecting the ‚Hour‘ distribution.

The distribution of teams 1 and 3 is fine; spread equally over the complete day with the exception of the lunch time. So it is possible to solve the issue with moving one employee the whole day from one team to the other. Tim will bring this point up in the meeting with his team leads. This is normal business.

On the other hand team 2 could have a peak after lunch time. Tim checks this team in detail. There's a peak from 1:00 to 2:00. This could be solved by pushing some workload one hour earlier by changing the wave planning. For this the information is needed of the number of items that need to be planned earlier.

So Tim changes the measure to ‚Number of Items‘. Tim checks the number of items of a normal hour, the peak and the hour with overcapacity. By releasing a wave with 20 items one hour earlier the workload peak at 1 pm in team 2 can be removed and therefore workload and available team 2 capacity brought back into balance.

Change Wave

Tim calls his wave planner to check the solution. He tells him about the number of items that need to be planned and the time.

The wave planner finds a fitting wave and plans it one hour earlier. He asks Tim to recheck the situation.

Check Result

Tim refreshes the chart. All is fine right now.

Tim tells the wave planner that everything is fine and ends the call.

Check Details

Tim is interested in some details. He wants to know if already enough tasks are available for the first hour of the day.

Normally the outbound process in a warehouse starts with getting the deliveries in the system which are assigned to waves. When releasing waves the deliveries are transformed into warehouse orders / tasks for the warehouse workers.

As Tim is aware that waves will be released every 30 minutes it is enough to have a workload for the first hour of >50% assigned to tasks. He selects the details for the first hour and checks the Accuracy Level Details. Everything is fine. 60% of the workload is assigned to tasks and only 40% to deliveries.

Check Forecast of next week

Tim has some time left before the planning meeting starts. He takes the time to roughly check the upcoming workload for the remaining and next week. Therefore he selects the View for all teams and adjusts the Date selection.

He checks the details regarding the accuracy of the data.

He sees that for the actual day workload is completely dependent on EWM documents (tasks, deliveries). But already at the second day there's not enough workload filling the capacity of his teams by EWM documents. In his business this is a normal situation as orders have to be finalized on short notice.

Additionally to the planned workload the expected workload based on Forecasting is displayed. With the help of Forecasting he can check the expected workload of next week. He sees that in his warehouse the workload on Mondays and Fridays is lower than in the middle of the week. Besides this information Forecasting is able to detect trends and non working days.



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