Short paper
Working with Kardex Shuttles from SAP

What is a Kardex Shuttle?

Simplistically said, a Kardex Shuttle is a large closet with many large trays. The idea is to put relatively small and medium sized parts in them. When a part is needed, the right tray is brought to the opening of the Shuttle, and the worker can pick the part.

This is a very compact way to store typically smaller quantities of a lot of different materials.

As SAPSTROOM, we quite often met those Shuttles in spare part and maintenance part environments, hospitals.....

For more info about those Kardex shuttles, see http://www.kardex.be
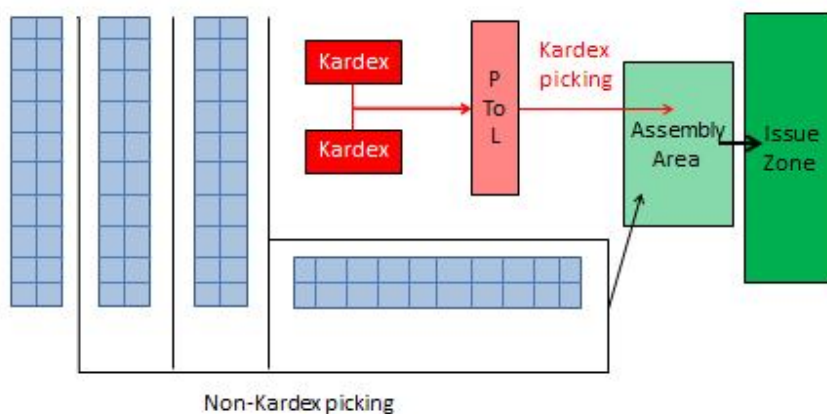
How to steer a Kardex shuttle from SAP

A. IDOC solution - Power Pick Global Solution

The typical approach is using IDOC's (based on SAP WM Transfer Orders or Inventory count documents), and optionally configuring the Kardex Shuttle as Warehouse Control Unit in SAP WM. This means that for every item to be picked from the shuttle or to be put-away in a shuttle, and IDOC is sent. Or an IDOC is sent with a series of items. NOTE: This Kardex solution is certified by SAP.

Consequences:

- The Kardex Shuttle does not need to be operated manually. The Power Pick Global Solution would typically optimize and steer the picking. It can steer f.e. pick to light systems.

- The SAP system cannot see whether the shuttle is actually available. On top of that, the Power Pick Global solution does its own optimization. Hence, it is crucial to decouple Kardex picking from the picking elsewhere in the warehouse. In order to group the Kardex materials with non-Kardex materials to be delivered to the customer together, additional packing may be required (eventually 2-step picking or VAS can be used to reach this).

- From SAP perspective, IDOC's often are sent in the background. Because this is asynchronous, this leads to some loss of time before the message is known by the shuttle.

Scheme for picking in this case

You see (black lines) picking from non-Kardex is separated from Kardex picking (red lines). Supported by the Power Pick Global solution is a P to L (Pick To Light) system. After the picking, materials from the 2 zones may need to be assembled in the assembly area before they are moved to the goods issue zone. Of course – this depends on your business environment.

B. Kardex Direct Drive® solution (*exists for SAP WM and for SAP EWM*)

Kardex developed a tool that can be plugged in directly into SAP: Kardex Drive®. This comes with SAP tables (and functions) that can be read from the RF or voice picking transactions on one hand, and that are read by the Kardex shuttle on the other side. The Kardex shuttle will automatically bring the tray that corresponds to the first entry in the table. This is typically Transfer Order based, but it could also be an inventory count item.

In the RF transactions, you typically check whether the Kardex shuttle is available. If not, the items to be picked from the Kardex shuttle can be skipped. When the Kardex shuttle is available, using Kardex Drive® functionality, the entry is appended to the table and the shuttle brings the corresponding tray. When the worker confirms his action in the RF transaction (fe by scanning the bin and the material), the entry is removed and the Kardex shuttle is free again.

To even further optimize (and depending on the exact model of the Kardex Shuttle), the next tray to be brought can already be asked to come (in order to reduce the moving time between the confirmation of the previous item and the new tray to be physically available). Eventually also alternate picking between multiple Kardexes are programmable.
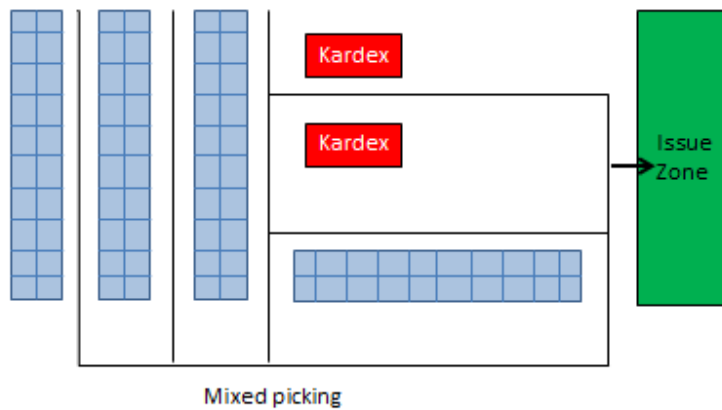
Consequences:

- No need to manually operate the Kardex shuttle

- The RF transaction has control over the sequence. Hence, it is realistic to skip items to be picked, put-away or counted when the Kardex is in use. This will reduce 'traffic jam' in front of the Kardex shuttle.

- When no other work can be done, a waiting screen can be shown in the RF transaction.

- The Kardex picking can be part of the total picking, during his 'walk through the warehouse' the worker takes some Kardex materials along with non-kardex materials

- The optimization must be programmed in SAP. This can be kept easy – but it can be very complex depending on the exact 'wishes'.

NOTE:

The Kardex Drive® solution can (like the IDOC solution) support multiple Kardexes in parallel.

Scheme for picking in this case:

Mixed picking

Here, the Kardex materials are picked in the same picking round as the other materials. Hence, there should be no need to assemble to goods after the picking and they can be directly moved to the goods issue zone. (Of course – in reality this depends on your business environment)

C. Manual Kardex manipulation / eventually combined with IDOC inferface

It is also possible to manually manipulate the Kardex in order for it to present the right tray. This can be done entirely without interface, or by scanning the transfer order number by a scanner attached to the Kardex. This way of working is cheaper in set-up – but it does not allow much optimization.

Conclusion

All solutions described here have the weaknesses and strengths.

The **Power Pick Global solution** has its own optimization logic, and would be our choice if:

- o Picking from Kardex can be decoupled from picking elsewhere
- o When logic to avoid bottle necks in from the the Kardex would become too heavy (which indeed also points to a desire to decouple the Kardex picking)

If Bottle necks if from of the Kardex are less, and decoupling Kardex picking from picking elsewhere creates more troubles, the **Kardex Drive® solution** seems a better direction.

If the Kardex is not used much, manual manipulation is sufficient.

We can assist you in both investigating as eventually bringing the solution live, in smooth and fruitful cooperation with both your team and Kardex. Just send an email to admin@sapstroom.com

About us

SAPSTROOM is a Belgian company focusing on SAP Logistics Execution. This covers mainly the modules Warehouse Management (WM), Transport, Global Trade Service (GTS) and Extended Warehouse Management (EWM).

Besides executing logistics projects, SAPSTROOM is a valued partner of SAP Belux Education where the SAPSTROOM experts teach most logistic training courses.

See http://www.sapstroom.be .