



KARDEX

BEST PRACTICE

Ford broadens the lean manufacturing concept to areas previously overlooked by other industries - at their peril!

The Ford vision is "to become the world's leading consumer company for automotive products and services". The Dagenham plant has demonstrated how the introduction of lean manufacturing processes and Integrated Supply concepts have made a major contribution to the realisation of their vision, and underline its' commitment to continuous improvement, delivering outstanding products and services.



Meeting global needs

The Ford plant at Dagenham, Essex, is responsible for body stamping and the production of 14" steel wheels. The wheels are used by most of Europe's

car manufacturers and the panels produced are exported all around the world to various other Ford and associated sister plants, including the Fiesta in Mexico and South

Africa, Mazda in Japan as well as Landrover and Jaguar.

Reinforcing its' commitment to drive down costs, improve efficiency, and boost productivity Ford turned to Kardex Systems, market leaders in automated materials

handling and storage solutions, to explore whether efficiencies could also be made in non-production areas.

With the Ford group adjusting its global manufacturing strategy this had possible costly implications for Ford at Dagenham: "It meant that the non-production stores we had were located in the wrong place, in terms of a manufacturing facility, they were at the wrong end of the plant. This combined with other inefficiencies, and meeting the requirements of the Ford Production Process (FPS), a lean manufacturing programme, dictated that it was time for change" says *Derek Saxby, Supervisor of Manufacturing Engineering Vehicle Operations at Ford Dagenham.*



■ PRODUCTIVITY BOOST

■ INCREASED EFFICIENCY

■ FLOOR SPACE SAVINGS

Need for change

The current organisation of their non production stores meant that Ford was up against a number of challenges that were hindering their goal to meet the stringent requirements of the Ford lean manufacturing

programme - FPS. Part of the FPS involves looking at the non-production stores process, and asks how readily production staff can obtain parts and how easy it is for them to retrieve these parts from the stores. "It

would take the best part of 5-10 minutes, walking to the stores and back...and often people would end up taking more than they needed to save them a second trip. This meant parts would just end up sitting in individuals toolboxes!" reports Derek. This common practice did

nothing much to support Ford's goal of improving costs and control of over issuing of parts. It was inevitable that the inventory would have to be moved to a more central area, closer to the heart of the remaining stamping and wheel production lines.

Traditional racking is not the answer

Derek explains that "The previous stores was very basic and consisted of 4 walls fitted with static racking operated by store-men on a 24-hour basis. We experienced problems with stock accuracy, as parts were going missing, and the only time we could tell that parts were not available was when stores were told 'the computer system says that there are "X" number of parts in stock, but there are none available. This was a big problem'. If a breakdown occurred, the engineer would request a spare part/tool to repair the fault only to be told that the vital part is missing! This could put an expensive halt to various major production operations".

Integrating technology with automated storage – "It's a wonderful system" Derek Saxby



"We conducted extensive research into what we should do in terms of non-production stores, especially in light of working with our lean manufacturing programme - FPS". Representatives from Ford approached Kardex at an exhibition, and it soon became apparent that the new Kardex Sentinel was the ideal solution. Sentinel is a system that uses proven technology based on the Industriever, a vertical carousel, and is designed for the storage and retrieval of all types of products including tooling, stationery, industrial and commercial consumables. Sentinel offers increased security and control through a series of 10 automatically operated doors and Cribmaster Tool Management software.

Leading industry advice

Kardex consultants worked with Ford to carry out a full materials handling audit of their non-production stores. By analysing parts to be stored, quantities, floor space issues, and working alongside Ford personnel,

Kardex was able to put forward a comprehensive proposal for an automated solution - Sentinel. This was to provide the most efficient and effective system to meet Ford's objective of cutting costs and increasing

productivity. Two Sentinels, integrated with Kardex Cribmaster inventory management software were recommended, one to be based in the Ford Wheel Plant and the other in the Press Plant.



Increased picking speeds and dramatic floor space savings

With the introduction of the two Sentinels the benefits immediately paid dividends, Derek confirms "They have dramatically reduced the floor space needed to store parts, by some 67%. The average picking speed has been reduced from 5-10 minutes to 40 seconds as Sentinel is placed closer to the point of use, on the production floor, so operatives no longer have to walk to the central stores area some distance away".

Tighter security and control

"Each user is issued with a unique password or card swipe giving absolute control and traceability over every transaction. Operators can also have pre-set limits to control access to parts over a given time period or indeed budget. The features of Cribmaster software when linked to Sentinels unique graduated door opening feature, ensure that operators can only access the exact parts they require. The on-board security available with Sentinel has eliminated the previous problem, associated with an old fashioned manual system, of missing parts and pilferage leading to discrepancies in stock levels."

Increased job satisfaction

Derek Saxby puts forward that there were some unexpected benefits from the Kardex solution. "The shopfloor people really like it, people are funny, they don't really like change, but they are very enthusiastic about the Kardex Sentinel, there has been a tremendous amount of interest".

"Kardex stood out from everybody else as their system supports photographs and images. Previously the maintenance people had problems identifying parts. A maintenance man with an old greasy broken part, doesn't know the part or system number, and cannot clearly identify the part to be replaced". This was quite understandable as Ford's non-production stores consisted of 8,000 different parts spread out across static racking and shelving. But with Kardex Cribmaster capabilities, "the selection process is so much easier as parts can be visually identified and selected further

eliminating costly mistakes."

A major benefit for Ford is that their 'scheduled maintenance' on machines is now up to date.

"Kardex Sentinel gives you the maintenance schedule, tells you what parts you will need or what you will need to order and brings

the parts to you for picking. It is just so simple. Before the introduction of Sentinel, people had to collect all the relevant parts for a scheduled maintenance before going ahead, and if some of the parts that were thought to be available were not, this further wasted time, generated delay, and was very inefficient".



The combination of Kardex's unique step-tote bins and Sentinel's graduated door system offers total control

Efficiency boost

Ford has been able to "lean out" their processes even further by reducing the personnel required in the stores function by 18 people as a result of installing Sentinel, they

can "de-man the sweetshop". Furthermore, the high security levels and additional controls offered by Sentinel make it the ideal system for Ford's

consignment stocking partner, Wyko Industrial Supplies – Automotive Division.

"The Kardex Cribmaster management software offers 190 different reports and is amazingly powerful, it talks to our Oscar Corporate System,

which orders & re-orders our non production stores items. Its reporting package provides us with continuous updates on user profiles and financial/management information which you can access on a 24/7 basis" reports Derek.

Cost Justification – less than 6 months!

The implementation of the Kardex solution, Sentinel, has boosted productivity, reduced errors, improved inventory control, saved space, and cut other costs in general as well as increased job satisfaction. "I would be very surprised if Ford doesn't see a payback within 6 months". Ford Dagenham is so impressed with the benefits of the Kardex Sentinel that they have ordered a further Sentinel

machine for their Croydon site.

"What I would say to others looking at the system, or have similar challenges to those experienced at Ford - Just do it, go for it!" says Derek confidently.

"The Kardex service is great and we have not experienced any problems with the installation support and commissioning."



Manufacturing Excellence

Since the introduction of Sentinel and Cribmaster at the Ford Dagenham operations plant, they are proud to announce they have been awarded a Grade 7 within the Industrial Material Flow (IMF) accreditation on Lean Manufacturing procedures. This grade translates as exceptionally good and underlines that Ford is on track to meet its vision for the future.



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