

Case Study

Toyota.

Delivered... massive parts distribution centre to Toyota distributor.





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In April 2008 FAMCO (AI-Futtaim Auto & Machinery Company), a member of AI-Futtaim Group, and the distributor for Dexion in the United Arab Emirates, announced the successful installation and delivery of shelving and racking systems for AI-Futtaim Motors Parts Distribution Centre (PDC), one of the largest Toyota PDC's in the world.

The new distribution centre is situated in Dubai Investment Park, 20km inland from Jebel Ali Port and opposite the new Airport, and will manage Toyota, Lexus, Hino and BT Service Parts and Tyres, Batteries and Workshop Equipment.

It's one of Toyota's largest parts distribution centres seen anywhere in the world and a massive project. At a total build cost of US\$45m, the site consists of two warehouses, which provide purpose-built, state-of-the-art warehousing and distribution facilities with storage space of more than 45,000sqm for parts and over 9,000sqm for tyres.

For many years, Toyota Motor Corporation

has a preferred supplier for warehouse fit outs. However Famco, being an AI Futtaim company and the sole distributor of Dexion products in UAE, were also given the opportunity to tender for the storage solution.

The Famco/Dexion proposal for product design, build program and pricing was competitive and the project was awarded strictly on merit.

Toyota Motor Corporation was heavily involved in the operational layout planning, with all processes adopting the Toyota Production System philosophy.

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There are two areas of storage in the main warehouse – an over rack platform with Dexion A-Line Longspan Shelving for the storage of small parts and the remainder of the warehouse is racked out with Dexion Speedlock Pallet Racking along



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with accessories to store a wide and varied range of large parts from body panels to windshields.

The racking and shelving solution will be used for storage of over 75,000 line items.

In addition to the 75,000 lines there is another depot on the site for tyres, batteries and workshop equipment.

This facility is 9,000sqm in size, managing approximately 20,000 tyres and 30,000 batteries. It is quite similar to the parts warehouse in design except the mezzanine is Speedlock two-tier.

According to Paul Shewan, Operations and Development Manager, National Parts Division, Al Futtaim Motors, the new parts distribution centre will play a critical role in the supporting UAE customers.

“Al Futtaim Motors Parts Division strives to be amongst the Top 10 Toyota Parts Distributors in the world and the Top Toyota Parts Distributor in the GCC. This new PDC is the catalyst for making that vision a reality,” he said.

Shewan also confirmed that the PDC has performed to expectations since going live.

“Currently there are 200 people employed at the PDC. Consisting mainly of warehouse staff operating two shifts, PDC is able to perform a stable flow of work activity, day and night, ensuring that the customer is provided with the best possible service.

Since go-live, over 1700 Parts Containers have been successfully processed and a very high availability success rate has been recorded, with published service rate results in excess of 98%. Consignments are distributed to AFM branches throughout the day utilising the AFM Parts Just-in-time Delivery Fleet, delivering both prioritised emergency requests and automatic stock replenishment,” he said.

With such a major project detailed planning was required.

By the end of 2004 the feasibility study had been completed and land secured.

The architect and main contractor were appointed in early 2005 and the building

design and program finalised later that year. Intensive operational planning with Toyota Motor Corporation began shortly thereafter and by September 2006 the layout design was finalised with Famco and Dexion.

The first delivery of Dexion material took place in December that year and the five month racking/shelving installation program successfully concluded in May 2007 and the facility went live in August 2007.

“In the end there were seven revisions to the master layout drawings however the basic concept did not significantly change. From the beginning AFM decided to adopt the Toyota Production System philosophy as an integral part of the storage and operational flow strategy – that objective was never deviated from,” said Shewan.

“By and large the revisions became necessary through final detail decisions regarding issues such as product type location assignment, operational kaizen and minor building design alterations.” Dexion Asia’s Project Sales Manager, Ng Boon Wah confirmed that the design criteria included

a high degree of complexities.

“We had to redesign the A-Line Longspan shelving system using shelf and clips to meet AFM requirement and we also had to ensure the design of A-Line met the required loading and would integrate seamlessly with a Stordex platform,” said Ng.

“We also had to cater for different shelf levels, requirements for accessories such as full height dividers, back and side mesh panels and frame depths and there were also vast variations in bay types of different beam levels, requirement for Manta Mesh decking and full height dividers,” he said.

“The vast variation in bay types for both A-Line Longspan shelves and Speedlock heavy duty racking complicated the project considerably and demanded strict project management,” he said. “The installation of such a major project also required detailed planning. With the project requiring so many modifications to products the installation of the A-Line Longspan shelf for example, required some trial and error before we found the most efficient

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installation process. In fact, the Dexion Asia team came up with the concept of locating a copy of an elevation drawing on every frame that corresponded to the bay type this ensured there would be no error,” said Ng.

“Project managing 100 men on site, working seven days a week on multiple shifts to meet the very tight build time of five months meant we required a full time site manager, it was quite a commitment all round,” he said.

Tee Kiat Foo was Dexion Asia’s designer on the project. “My team and I had the task of redesigning products to meet the customers’ requirement which included the preparation of over 200 individual design drawings, almost 500 manufacturing drawings and nearly 300 installation drawings, with such a major project we really needed to make sure we covered all the bases,” said Tee.

“Al Futtain Motors is very happy with the storage solution for the PDC,” said Shewan. “The material is of a high standard, it’s

durable and compatible with our TPS operation flow planning. Dexion’s A-Line Shelving and Speedlock provide excellent flexibility for our ongoing kaizen activities. A-Line provides a greater storage area, with fewer uprights, which also brings about a cost-saving in the amount of steel required. With Dexion modifying the A-Line to a bolt free adjustable shelving system, we have greater flexibility, increased shelf aperture and again less steel usage and we were also given colour options, making it possible to give the facility our own brand image.

As a result the facility has a very crisp and well-kept appearance, in-keeping with AFM and Toyota standards. It’s a world class facility that we can all be proud of,” he said.

