



**THISTLE SYSTEMS**  
**MAX THE CUBE™**

## **SHUTTLE RACKING** ∨ **PALLET RACKING**

Discover the *major operational advantages* from  
*Semi-Automated Storage*



## THE **BENEFITS** OF **SHUTTLE RACKING** EXPLAINED

Shuttle racking is enabling companies across the UK to gain a real competitive advantage by delivering significant cost savings and operational benefits.

As companies look for new ways to maximise the efficiency and outputs in their warehouse whilst reducing operational costs, many are looking at the benefits shuttle racking can offer.

The automated shuttle racking technology will change your entire view of your warehouse from a static structure to a dynamic solution which drives your business forward.

By using a combination of deep lanes of ultra high density racking combined with semi-automated shuttles which can lift and carry pallets into and out of the system, shuttle racking can offer major opportunities for warehouses.

***We look at each of the key advantages offered by shuttle racking and what they could bring to your warehouse.***





## INCREASED PALLET CAPACITY

- ◆ The concept is simple; by using a semi-automated shuttle, which enters the racking to stow and retrieve pallets, allows you to reduce the number of aisles required for forklifts. This, in turn, allows the depth of the racking blocks to be virtually unlimited, allowing you to maximise every inch of space for storage capacity.

However, careful consideration will need to be given to the number of picking faces required and the velocity of stock movement in order to design the optimum system and layout.

## REDUCED EXTERNAL STORAGE REQUIREMENT

- ◆ External storage can be a highly valuable and flexible part of a business to help cope with peak periods, however, when your business starts to rely on external storage, you can become frustrated at the ongoing costs and logistical issues that come with it.

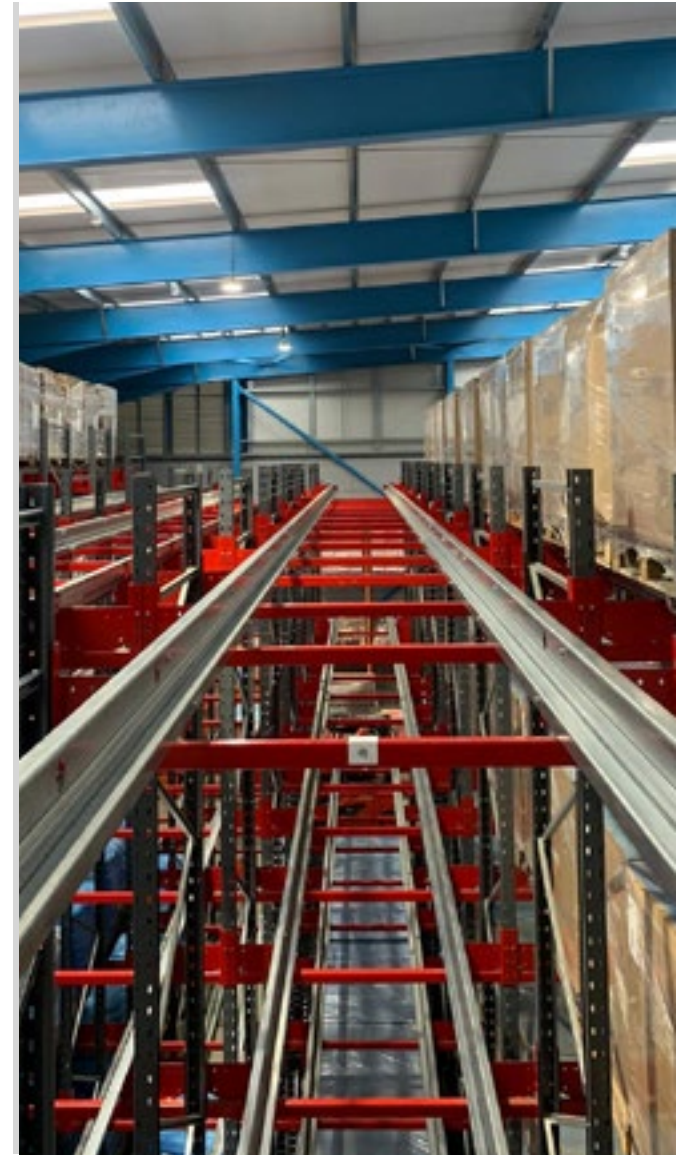
By creating significant additional capacity within your existing warehouse, you can look to eliminate or minimise your reliance on external storage providers.

## FLT TRAVEL TIMES

- ◆ Whether it's the time taken to travel to the correct pallet location in a static racking system or the careful manoeuvring required to access the drive-in racking, the amount of time it is taking to stow and retrieve pallets to and from your existing storage solution can be frustrating.

You may have tried to improve the situation with a warehouse management system or increase the number of forklift trucks, however the savings cannot compare to those delivered by shuttle racking.

With the minimal travel distance between wagon and racking structure, and the shuttle automatically retrieving and dispatching the pallet to and from the system, the shuttle racking solution could reduce the number of forklift trucks you require and enable operators to be re-deployed into more productive areas.





## REDUCED VEHICLE LOADING TIMES

- ◆ One of the hidden costs in your warehouse is the time it takes to load and unload pallets to and from your wagons. Loading wagons directly from traditional pallet racking is directly influenced by the average travel distances between the loading bay and the pallet positions – this is why many companies will create dedicated lay-down or marshalling areas.

However, unless you are using some form of dynamic racking, such as push back racking or pallet live racking, these marshalling areas can be an incredibly poor use of space.

By switching to a shuttle racking solution, the number of aisles is reduced therefore reducing traveling times between the racking and the wagon. Also, the automation of the shuttle means that the pallet will have been retrieved and will be ready to be picked by the forklift when required.

## INCREASED LOADS PER DAY PER PERSON

- ◆ Many warehouses are using Warehouse Management Systems to improve picking processes and track the productivity of their operatives.

The improvement in operations delivered by the shuttle racking system through its ability to automatically present pallets ready for picking dramatically increases the key metric which measures the loads per day per person.

This can enable companies to handle significantly large stock movements with the same level of operatives which can be critical during peak periods.

## REDUCED COSTS OF DAMAGE TO RACKING

- ◆ Racking damage is almost inevitable in every warehouse where forklifts are being used to load and unload pallets. The more contact points that a forklift truck is likely to have with the racking system, the more damage you are likely to sustain.

Traditional pallet racking systems with 100% accessibility is therefore likely to experience more damage than systems such as pallet live and push back racking.

Drive-in racking is even more susceptible to damage as it requires the forklift truck to actually enter the racking system, often operating with the loaded pallet raised at height on the forks. Industry guidelines tend to estimate drive-in racking systems will see 10% of uprights damaged on an annual basis.

With the shuttle automatically entering the system on pre-constructed rails, shuttle racking dramatically reduces the potential contact points of the forklift, which reduces the risk of potential racking damage. The risk can be reduced further with upright protectors and floor stops.

## PRODUCTION BENEFITS

- ◆ Some clients have reported they have also been able to enjoy major benefits within their production operations thanks to the increased capacity the shuttle racking has been able to offer.

By being able to store more within a specific lane, clients have been able to increase production runs and as a result, move from batch productions of, for example, every 4 weeks to every 12 weeks.

This delivers major economies of scale by avoiding the significant costs involved in set up times, production down times, changing production parts, organising the relevant labelling and dry goods etc.





## REDUCED COSTS OF DAMAGE TO STOCK

- ◆ Damage to stock can be caused by the mishandling of pallets, damaged racking or block stacking of pallets.

Shuttle racking dramatically reduces the risk of damage to stock by reducing the handling times associated with pallets. In addition, we have developed our Maxi-Cube Shuttle Racking solution to feature guide rails to make the loading of pallets onto the racking, easier and virtually risk free.

And by minimising the level of racking damage, shuttle racking also minimises the risk of damage to stock caused by dangerous racking.

Block stacking of pallets has been traditionally used to maximise capacity, however this can often result in damage to products and packaging, not to mention the growing health and safety challenges that warehouse managers are facing. Whilst reducing the number of pallets stacked high may reduce damage, it is inevitably at the expense of capacity.

Shuttle racking is one of the most effective solutions at maximising capacity, whilst protecting the products.

## REDUCED OPERATIONAL COSTS

- ◆ One of the major benefits that shuttle racking offers is the dramatic reduction in operational costs it can bring to an organisation. The costs savings shuttle racking can deliver within a warehouse are summarised below:
  - ◆ avoid additional costs of rent and rates required from storing same number of pallets in larger warehouse
  - ◆ reduce energy consumption, for example, reducing the lighting costs by reducing size of warehouse requirement
  - ◆ reduce FLT requirements with regards to leasing costs
  - ◆ reduce FLT running costs due to reduced travel times
  - ◆ reduce costs of standing times for wagons
  - ◆ reduce external storage costs (storage and shunting pallets)
  - ◆ reduce carbon emissions of transportation to external storage
  - ◆ reduce wage bill by re-deploying staff to other potentially more productive areas of the business
  - ◆ reduce cost of racking damage
  - ◆ reduce cost of damage to stock
  - ◆ reduce annual racking inspection costs for total pallets stored (only 20% of system is required to be inspected annually)
  - ◆ improved productivity per person

