



SPECIAL POINTS OF INTEREST:

- ?? Laser navigation updates vehicle position 20 times per second
- ?? Opportunity battery charging requires no battery exchange
- ?? 24/7 operation with no manual interaction
- ?? 20-25,000kg vehicles available. Over 40 models to choose from.

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Laser Guided Vehicles

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NDC TECHNOLOGY

8500mm high lift vehicle now operating

The introduction of the first high lift vehicle in Australia is now installed in Sydney. This vehicle has a capacity of 1500kg and is designed for standard *chep* pallets. It also has an additional feature of fork tine extensions which makes it ideal for deep stacking two pallets. This is a first in Australia and it has been a big success. With the proven reliability of the NDC navigation and controls equipment this is now a completely un manned operation working 24 hours per day 5 days per week.

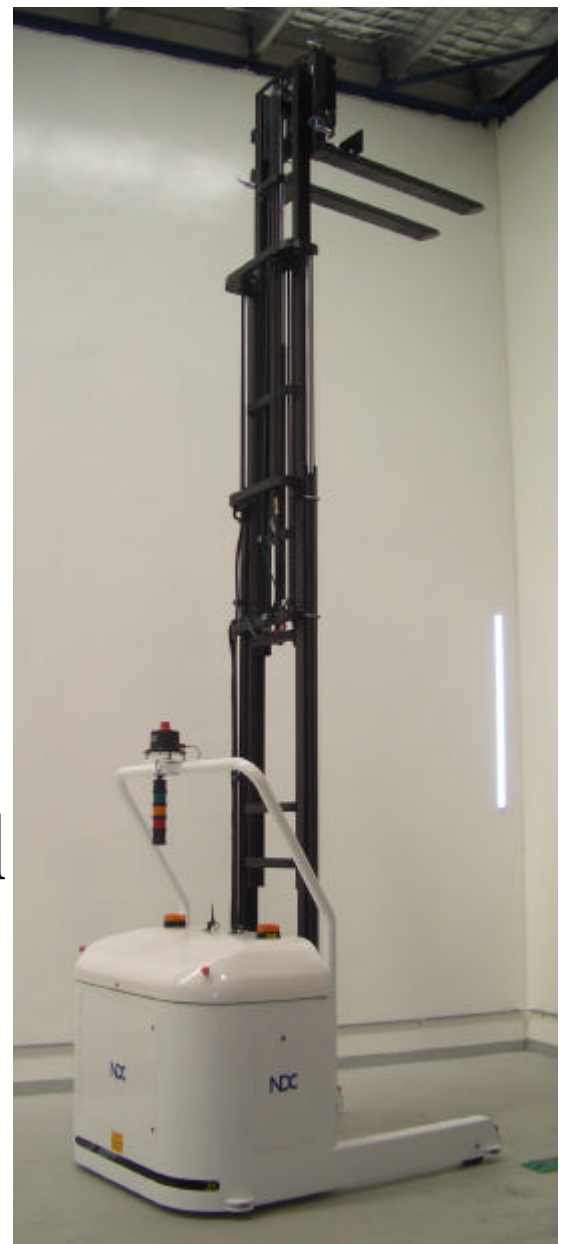
Warehouse Management System

NDC simple warehouse management system keeps track of all pallets in the racks at all time and makes sure the vehicle picks up and drops off the correct pallet.

For more information on this new vehicle contact NDC sales directly on 02 9417 1766 or email us at sales@ndcta.com.au

Software and control

The stationary system consists of a PC operating under Windows XP which by using a wireless LAN constantly maintains contact between the central control unit and the vehicles. The most important activities are: Order execution, traffic management, communication with the vehicles and optimization of the vehicles time and functions.



Duel Pallet Vehicles



Dual pallet vehicles are designed to transport two standard *chep* pallets at a time. This is used in applications where

there is a high throughput of pallets and long distances to travel. These vehicles navigate using the NDC laser scanner and VMC500 vehicle controller. It communicates using standard wireless LAN and

stationary system is run on a standard PC running on Windows XP professional.

Heavy duty twin tine vehicle.

The heavy duty model is design to carry up to 4400kg and can transport either two very large pallets one on top of the other or 2 standard *chep* pallets one on top of the other. It has the capacity to store pallets in racks with a reach of 3800mm. It is fitted as all NDC vehicles

are with an opportunity charging system giving it 24 / 7 operation without manual intervention



Dual pallet vehicle shown. Used at Fonterra on several sites.

Pictures to the right shows 3 different sites from Master Foods operation in Ballarat and Perfection Dairies operation in Sydney.

The 3 different vehicles shown are used where loads do not require to be lifted more than 500mm



Single Pallet Vehicles

These single pallet vehicles are the most common in Australia and new Zealand with more than 80% of all vehicles sold. They are extremely flexible,



reliable and are designed to operate 24 / 7 without manual

intervention. The lift height can vary between 1500 –8500mm depending on the application.



Low lift Vehicles

The low lift vehicles are an economical way of transporting product. They can be designed for normal pallet movement or specialized vehicles for carrying reels of cable. Due to their cost and quick instal-



lation time they are even a viable proposition for a one shift operation.



Duel Pallet Conveyor Vehicles

The duel pallet conveyor vehicle is a very efficient vehicle for transporting pallets between conveyor lines. It replaces the need for expensive conveyor systems and



makes multiple pick up and drop off locations possible and frees up space and makes access to machines much easier. The conveyor vehicles shown are used in both the food, beverage and car industry in

Australia. The capacity of the vehicles vary from 600kg to 4000kg. They can be front and rear loading or side loading. Most of these vehicles are quad steer and therefore can drive in all four directions.



500Kg capacity vehicle shown below.



Heavy Capacity Vehicles

The specialized heavy capacity vehicles are purpose built for customers with special requirements. The loads normally exceed 10,000kg and



can be as high as 55,000kg. Most of the design of these vehicles are performed in Europe. The most popular vehicle in this range is now the



steel coil carrier where the vehicles can perform lifts from floor or reel stands with loads varying from 10,000kg to 25,000kg.



Paper Reel Vehicles

Paper reel vehicles come in all different sizes and are designed to



carry paper reels either in a vertical or horizontal manner. These vehicles are very well proven and have been used in this industry for more than 20 years. They are extremely safe and with guidance and pick up tolerances of +/- 5mm



there is virtually 0% damage to the reels. Payback in these industries are normally under 12 months.



Unit Load Vehicles under 500kg



These unit load vehicles are normally special purpose designed. The vehicle shown above is used at Fisher & Paykel assembly line for their two draw dishwasher production. 32 vehicles in the system

The vehicle shown below is used to carry car seats from an indexing conveyor system and the vehicle then automatically stop in 3 different locations where the seats are removed manually. Once the operator has com-



pleted the removal of the seats the vehicle automatically moves to the next location. This system is designed to deliver a new seat every 70 seconds. 5 vehicles in the system



High Reach Vehicle-Technical data

Length	2774 mm
Width	1510 mm
Clearance	3200 mm
Weight, including battery	2150 Kg
Battery Weight	220 Kg
Max lift load	1500 Kg
Max lift height	8500 mm
Battery Voltage	48V DC
Electrical board Voltage	24V DC
Battery Capacity	140 Ah
Battery type	Sealed lead gel
Drive Motor	2000 W DC
Max vehicle speed	1.5 m/s
Max acceleration	0.8 m/s ²
Guidance accuracy	+/- 5 mm
Stopping Accuracy	+/- 5 mm
Turning radius	1350 mm
Drive wheel diameter	320 mm
Caster wheel diameter	200 mm
Brake	Electromagnetic
Hydraulic Oil	Ultramax 32
Hydraulic oil	20 liters
Pump motor	3000 W DC



8500 mm
high reach
vehicle