Yale® Lift Trucks

Driven by Balyo

Transform into an efficiency machine
with robotic lift trucks.

You experience the pain every day, increasing demand and the desire for faster delivery times. As these issues continue to escalate, you feel the need to increase your labor force to maintain peak efficiency. This can result in significantly greater overhead, chipping away at your bottom line.

What if you could automate repetitive picking tasks and free up workers to take on more valuable roles?

Yale® lift trucks Driven by Balyo can help you get there. When equipped with Driven by Balyo technology, Yale lift trucks are transformed into robotic solutions, allowing you to

- Reduce operating costs
- Increase operational efficiency
- Minimize damaged goods and accidents

DRIVEN
BY BALYO

How
does it work?

It's simple. With Driven by Balyo technology the Yale® MPE080-VG end rider, MO70T tow tractor and MC10-15 counterbalanced stacker become robotic lift trucks, with smooth movement and controlled acceleration and speed. Relying on structural features such as walls, building columns or racks, the Driven by Balyo technology self-locates and navigates loads throughout your operation with ease, optimizing workflow.

Whether you want to manage a single truck or an entire fleet, the Balyo architecture has the flexibility to meet your operational demands, as well as the ability to interface with a range of operating systems providing greater visibility to load movement for increased accuracy.

The
Driven by Balyo technology.

1 **Navigation laser** – Maps routes and guides truck throughout the facility

2 **Curtain laser** – Detects above ground level obstacles and stops the truck when interrupted

3 **Bar code reader (optional)** – Scans bar codes and interacts with operating system

4 **User interface touch screen** – When necessary, allows workers to dispatch the truck or assist in locating virtual paths

5 **Visual and audio warning indicators** – Alerts workers and pedestrians that the truck is coming or if an issue has arises

6 **Emergency stop buttons** – When activated the truck stops

7 **Tiller** – Used for manual operator mode

8 **Forks-first laser scanner** – Recognizes ground level obstacles during pallet entry/exit; truck will stop until obstacle is removed

9 **Chassis-first laser scanner** – Detects ground level obstacles in front of the chassis; truck will slow or stop depending on distance away from obstacle

10 **Blue point LED spotlight** – Provides added visual notification that the truck is in motion

Other sensors –
Single or double pallet detection sensor notifies robot if pallet was left on fork during manual mode.

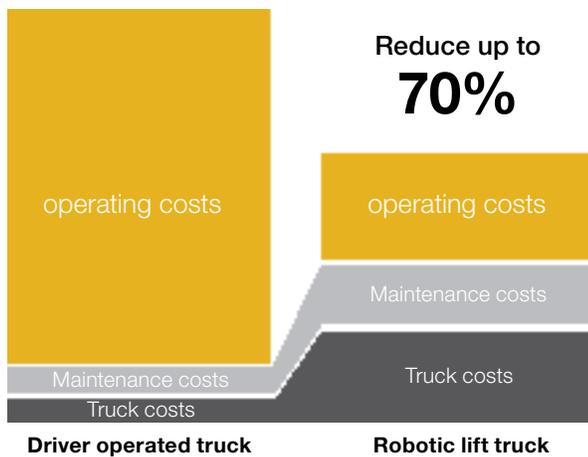Floor pad sensor used to put robot in manual mode if human steps on floor pad

Realize
the benefits.

While logistics tasks will always be directed by people, robotic lift trucks can perform repetitive, low value added tasks. Utilizing vertical or horizontal placement, robotic lift trucks can pick up, transport and drop off pallets independently and reliably, improving your bottom line.

Reduce operating costs up to 70%

Not only can robotic lift trucks help lower operating costs by improving labor productivity and reducing product damages and accidents, but will enhance the flow of your materials handling operation, ultimately increasing customer satisfaction.

Reduce up to
70%

operating costs

operating costs

Maintenance costs

Truck costs

Maintenance costs

Truck costs

Driver operated truck   **Robotic lift truck**

Achieve cobotics

With people and machines working side-by-side you can achieve a "cobotics" environment. Equipped with smart features, Yale® lift trucks Driven by Balyo, seamlessly allow people to focus on value added tasks and robotic lift trucks on repetitive, low value added tasks.

Improve your cost structure

When compared to automatic guided vehicles and laser navigated trucks, robotic lift trucks just make sense. You not only start off with a standard truck, which costs less, but navigational infrastructure and commissioning/start-up costs are much lower. See for yourself.

Commissioning

Commissioning

Navagational infrastructure

Commissioning

Navagational infrastructure

Navagational infrastructure

Custom truck

Standard truck

Standard truck

Automatic guided vehicles   **Laser navigated trucks**   **Robotic lift trucks**
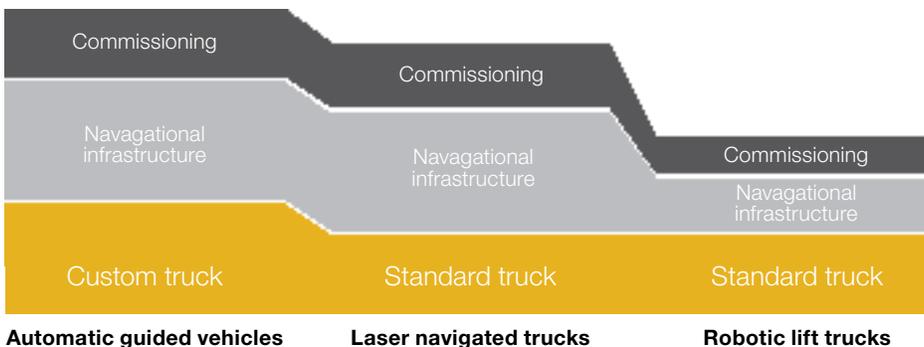
D R I V E N
BY BALYO

Flexibility
at its finest.

With robotic lift trucks you can achieve scalable automation, offering the flexibility required to accommodate peak demand and the constantly shifting traffic patterns in your operations.

Navigation without infrastructure - The Driven by Balyo navigation system integrates easily into existing operations by mapping the physical structures and quickly accommodating changes in the environment. Creating and modifying driving paths is fast and simple.

Real-time interaction - By using a map of the environment, robotic lift trucks can locate themselves in real-time by comparing what the navigation laser detects with the reference map. This allows it to perceive and interact in real-time with its environment, making decisions autonomously.

Automatic or manual control - If you need to switch from automatic to manual control, you can. With the touch of a button, or by moving the tiller, the truck goes into manual mode, allowing an operator to can take control and perform other tasks as needed.

Robot management and interface - The robotic lift truck manager software provides overall management of robotic lift trucks in real-time. It controls traffic, assigns transport orders to individual robotic lift trucks and interfaces with systems such as ERP (Enterprise Resource Planning) and WMS (Warehouse Management System), or equipment such as automatic doors, conveyors and production machines using COMBOX modules.

HMI - Human Machine Interface

Intuitive user interface with touch screen shows ongoing missions, communications and safety modules. Can be used to trigger missions manually by operator, or checkup hardware status.

Yale
robotic lift truck choices.

End rider
Yale® MPE080-VG Driven by Balyo

- Transport single or double pallets
- Handle loads to marshaling/staging areas
- Easily transfer over long distances
- Bar code scanner confirms appropriate pallet

Tow tractor
Yale® MO70T Driven by Balyo

- Standard trailer handling configurations
- Sequencing in assembly operations
- Kitting separate items to be supplied as one unit
- Stock replenishment and material hauling

Counterbalanced stacker
Yale® MC10-15 Driven by Balyo

- Deposit or remove pallets from 2nd or 3rd level
- Handle smaller width pallets
- Stack or unstack loads
- Deposit or remove pallet from shrink wrap station

For more information, or to find your nearest Yale® dealer, go to Yale.com.

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2545f   1/2018   *All trucks shown with optional equipment.*