Product Overview

LiftBot 1000

Powered by 3D Vision & AI

Gideon Brothers' self-driving robots bring game-changing improvements in performance compared to robots relying on standard 2D LiDAR ('laser') sensors.

We paired stereoscopic cameras and AI to allow robots to recognize and understand what surrounds them for improved navigation, obstacle detection, workplace safety, and new value-added cases.

GIDEON BROTHERS

LiftBot 1000

Product Overview

Plug-and-play autonomous robots that transport loads of up to 1000 kg. Equipped with Gideon Brothers' breakthrough autonomy technology based on advanced visual perception.

These self-driving mobile robots are designed to work safely side-by-side with people in complex, dynamic environments.

AI infused vision

Trained on tens of thousands of images, our proprietary AI algorithms provide us with a competitive advantage and an in-depth understanding of the environment.

Load capacity of 1000 kg

The robot transports loads of up to 1000 kg on pallets or goods in containers or cages. The robot can pick up (and drop off) the load from pallet stands, or the goods can be placed on the robot.

Speed

The maximum speed of the platform is 2 m/s, but regulation in most jurisdictions limits this to 1.39 m/s (a pace close to walking speed, at 5 km/h).

Hot-swappable battery

No downtime for charging: with a hot-swappable battery system you can exchange batteries without turning off the robot. The batteries offer 8 hours of autonomy time.

Simple user interface

The robots are controlled through a browser-based Fleet Management Interface app on any device connected to a shared network. An integrated touchscreen device on a stand is optional.

Proprietary stereo-cameras

We have developed a proprietary vision module to ensure an adequate level of image quality and processing capabilities for an application on a moving platform in indoor environments.

WMS integration

The robots can be integrated into warehouse management systems using our simple API.

Blue light & turning lights

A pair of standard safety blue lights and eight yellow turning lights provide an extra level of safety.

360° sensor coverage

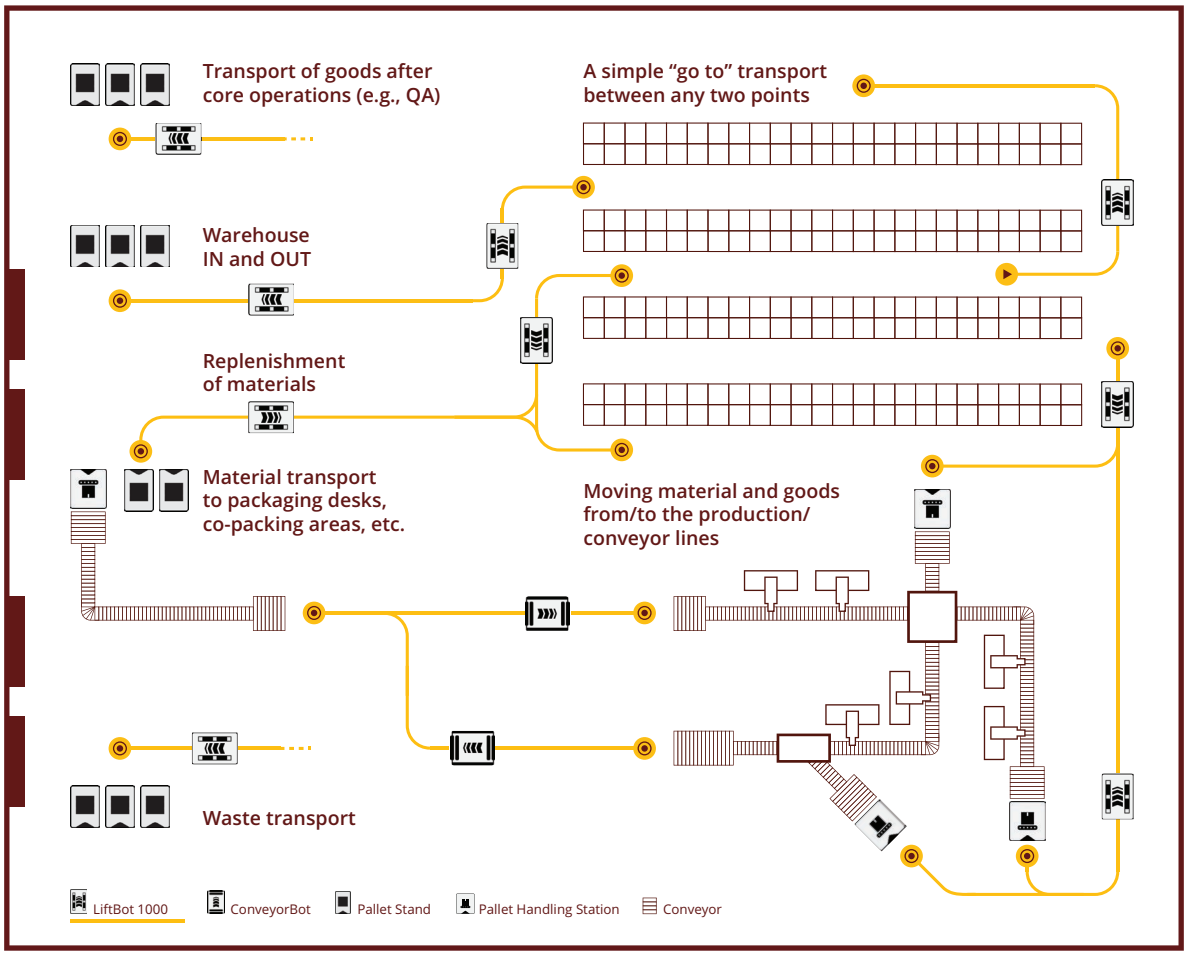
In addition to cameras, LiftBots are also equipped with the standard safety-certified LiDAR sensors.

Light & sound indicators

A light band around the robot indicates direction and mode of operation, and audio signals are fully customizable.

Use Cases

Examples



Use Case examples

Warehouse IN and OUT – transport from the inbound area to the facility and from the facility to the outbound area

Material transport to points of interest – supplying packaging desks, co-packing areas, and custom zones in the facility

Moving material and goods – from/to the production line and into a warehouse or between two conveyor lines

Transport of goods after core operations – for example, moving the goods to the QA area after the picking process

Replenishment of materials – transport between two facility zones

Waste transport – from various points in the facility to the central waste disposal zone

Custom “on-demand” – transport missions designed for client – specific requirement

Simple “go-to” – transport between any two points in the facility

Technical Specifications

LiftBot 1000

Mechanical 	Length	1345 mm
	Width	902 mm
	Height	310 mm
	Weight	300 kg
	Load surface	1200 mm x 800 mm
	Load type	EPAL 1, EPAL 3 (other pallet types and add-ons possible)
Powertrain system 	Max inclination	1 - 3%
	Max speed	2 m/s (depending on the customer's facility and use case)
Pallet-lifting system 	Lifting speed	0-100% in 9 s
	Lifting capacity	1000 kg
	Lifting height	188 mm (optional adapters raise the height by another 50 mm)
	Sensing	Load estimation, speed, position
Power system 	Type	Swappable external battery with backup internal battery (Li-Ion)
Sensor system 	Wheel encoders	2 x 16-bit incremental encoders (speed control & odometry)
	Safety encoders	2 x SICK DFS60S Pro encoders (safety)
	Laser scanners	Safety, localization, mapping, navigation
	Inertial measurement unit	1 x (odometry)
	Depth cameras	1 x Proprietary Gideon Brothers Vision Module (3D awareness and object detection)
Interaction 	Wireless connection	Wi-Fi AC/G/N/B
	Local connection	Ethernet 10/100/1000, USB
	Light indication	360º indication of current operating mode
	Audio interface	Speakers (indication of current operating state), High volume safety buzzer
	RF interface	Link to external hardware (elevator call, safety light, remote switch)
Safety 	Drive system	Mechanical brakes
	Battery system	Electronically protected Li-Ion cells
	Sensor system	Safety-certified Sick LIDAR sensors and redundant Sick encoder sensors
	Control	Safety certified Sick PLC in dynamic ranging mode
	General	4 x safety switches and remote power kill
	Temperature	5º - 40ºC
	Humidity	10 - 95% non-condensing

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