



ZEBRA







Contents

03	Fetch Cloud Robotics Platform	The Foundation For a Completely Connected Warehouse
04	Fulfillment & Beyond	Automate Virtually Any Workflow in Any Facility
05	CartConnect AMR	The Industry's First Rolling Cart Autonomous Mobile Robot Solution
07	Freight500 / Freight 1500 AMRs	Large and Palletized Payload Transport
09	HMIShelf AMR	All-In-One Transport & Operator Interface
11	RollerTop AMR	Flexible Automation Addition to Fixed Conveyors
13	TagSurveyor AMR	Mobile RFID Asset Tracker



ZEBRA



About **fetch**robotics

Fetch Robotics is an award-winning intralogistics automation company headquartered in Silicon Valley. We provide innovative, on-demand automation solutions for material handling and inventory management by combining mobile robotics with the power of the cloud to find, track, and move almost anything in any facility. Fetch Robotics' solutions and services are deployed in leading distribution, fulfillment, and manufacturing centers around the world, augmenting workforces to drive increased efficiency and productivity.

Copyright © 2019 by Fetch Robotics, Inc. All rights reserved.

freight, **fetchcore**, **virtualconveyor** and **datasurvey** are trademarks of Fetch Robotics, Inc. Specifications subject to change without notice.



ZEBRA



cartconnect

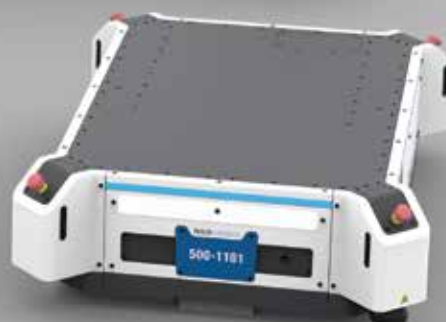
hmishelf

rollertop

tagsurveyor



freight1500



freight500



ZEBRA



Fetch Cloud Robotics Platform

The Fetch Cloud Robotics Platform integrates a comprehensive suite of software and services with the industry's broadest range of autonomous mobile robots (AMRs) to deliver a powerful combination of on-demand warehouse automation, next generation data collection, and unified controls and data across the entire intralogistics ecosystem.

FetchCore Enterprise Software and Services

FetchCore Enterprise Software and Services is the foundational platform for deploying and fully integrating a broad range of automated workflows into warehouse operations. FetchCare support is included to provide 24/7 global coverage.

Fetch Autonomous Mobile Robots (AMRs)

Fetch has the broadest range of AMRs to find, track, and move just about anything. With on-demand automation, Fetch robots can be deployed into almost any facility in just hours, with no additional warehouse or IT infrastructure changes.

Fulfillment and *Beyond*

The Fetch Cloud Robotics Platform goes beyond just fulfillment, delivering a broad range of automated capabilities in warehouse and manufacturing environments. Transport mixed payloads up to 1500kgs (3300lbs), enhance existing manual cart based workflows, automate asset tracking with RFID technology, and more. Easily integrate controls and data from other warehouse and manufacturing systems and devices to create fully optimized facilities.



Each / Case / Pallet
Picking



JIT & Line Replenishment



Receiving & Putaway



ASRS / VLM



Staging & Consolidation



Cross-docking & Long Haul



Raw Material & WIP Movements



Returns Disposition



Packaging & Material Recycling



Cycle Counting & Physical Inventory



ZEBRA



cartconnect

The Industry's First Rolling Cart Autonomous Mobile Robot Solution

Key Benefits

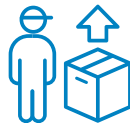
- True collaborative autonomous mobile robot (AMR) solution that integrates into existing manual cart workflows
- Flexible FetchCart options support a wide range of workflows
- Maximum robot utilization by decoupling robots from carts
- Simple setup and control for associates through handheld devices or automation through fully configured schedules
- Recognized for safety (CE mark)



KEY WORKFLOWS



Case Picking



Replenishment /
Putaway



Raw Material
Delivery



ASRS Induction



E-Commerce
Fulfillment



Staging /
Consolidation

CartConnect is part of the Fetch Cloud Robotics Platform, a flexible automation solution that maximizes productivity with the widest range of payload capacities for a diverse set of warehouse and manufacturing workflows. Leading 3PLs, manufacturers, and retailers rely on the Fetch Cloud Robotics Platform to enable on-demand automation, instantly deploying, modifying, and scaling unmanned travel as needed.

Warehouse Carts 2.0

Carts remain one of the main tools for a variety of material handling tasks in warehouses and manufacturing environments. To optimally support the myriad of cart workflows in distribution, fulfillment, and manufacturing environments, Fetch Robotics developed the CartConnect

solution, featuring mobile robots that autonomously pickup and drop off FetchCarts to any facility location. CartConnect robots can be controlled using a variety of devices such as tablets, phones, or handheld scanners or they can run on a fixed schedule so that no device is required.

Specifications	<i>cartconnect</i>	<i>fetchcart</i>
Weight	74kg (163lbs)	27kg (60lbs)
Height	49.6cm (19.5in)	140cm (55.1in), standard 165cm (65in), tall*
Base Footprint	52.7cm (20.7in) wide, 57.3cm (22.6in) diameter	83cm (32.7in) width, 83cm (32.7in) length
Shelf Width	-	83cm (32.7in)
Shelf Depth	-	83cm (32.7in)
Maximum Payload Weight	-	Up to 77kg (170lbs)
Maximum Speed	1.5m/s (3.4mph)	-
Turning Radius	Turn in place	Turn in place
Nominal Continuous Runtime	~9hrs	-
Environment	Indoor	Indoor
Charging	Autonomous Docking	-
Charge Time	3hrs to 90%	-
2D Laser Sensor	25m (82ft), 220 degrees (x1)	-
3D Camera	Yes (x2)	-

* Requires a risk assessment



Fetch Robotics' CartConnect carries a CE mark and meets regulatory requirements for product safety.



ZEBRA

freight500/1500



Large and Palletized Payload Transport

Key Benefits

- Improves pallet pick and putaway by dramatically reducing manned travel
- Reduces forklift dependency, traffic, and incidents
- Safe, smooth movement with zero blind-spot sensor coverage
- High duty cycles enabled by fast charge capability



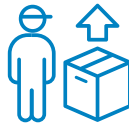
KEY WORKFLOWS



Case Picking



Pallet Movements



Putaway



Crossdocking / Consolidation



Packing & Pallet Recycling

Freight500 and Freight1500 are part of the Fetch Cloud Robotics Platform, a flexible automation solution that maximizes productivity with the widest range of payload capacities for a diverse set of warehouse and manufacturing workflows. Leading 3PLs, manufacturers, and retailers rely on the Fetch Cloud Robotics Platform to enable on-demand automation, instantly deploying, modifying, and scaling unmanned travel as needed.

Industry Leading Payload Capacities

The Freight500 and Freight1500 autonomous mobile robot (AMR) bases greatly expand the possible AMR applications in industrial facilities. Freight500 handles cases and smaller pallets while the Freight1500 handles up to US standard 40inx48in pallets.

Industry Leading Safety Features

Freight500 and Freight1500 feature Fetch Robotics' industry-leading dynamic obstacle avoidance technology as well as a certified hardware-based safety system, allowing these large AMRs to operate safely around associates and vehicles.

Specifications	<i>freight500</i>	<i>freight1500</i>
Weight	267kg (589lbs)	469kg (1034lbs)
Height	35.6cm (14in)	35.6cm (14in)
Base Footprint	101.4cm (40in) wide, 144.1cm (56.7in) long	132.4cm (52in) wide, 167.7cm (66in) long
Maximum Payload Weight	500kg (1100lbs)	1500kg (3300lbs)
Maximum Speed	1.5m/s (3.4mph)	1.5m/s (3.4mph)
Turning Radius	Turn in place	Turn in place
Battery	Lithium Iron Magnesium Phosphate	Lithium Iron Magnesium Phosphate
Nominal Continuous Runtime	~9hrs	~9hrs
Charging	Autonomous Docking	Autonomous Docking
Charge Time	1hr to 90%	1hr to 90%
2D Laser Sensor	40m (131ft), 360 degree coverage	40m (131ft), 360 degree coverage
3D Camera	360 degree coverage (x8 cameras)	360 degree coverage (x8 cameras)
Audio	100dB	100dB
Top plate mounting points	56	58
Environment	Indoor	Indoor



ZEBRA



hmishelf

All-In-One Transport & Operator Interface

Key Benefits

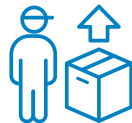
- Quickest deployment solution
- Set up and use in hours, redeploy easily
- Ideal for small and medium payloads
- Configurable shelving for various bin, tote, and package sizes
- Reduce associate travel time, increase productivity in low dwell time and high volume environments
- Simple operation with built-in, easily configured touchscreen



KEY WORKFLOWS



Order Picking



Assembly & QA



ASRS Induction



Rush Orders



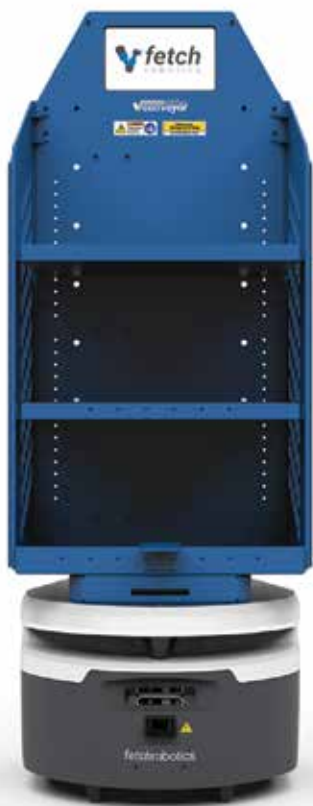
Returns Processing

HMIShelf is part of the Fetch Cloud Robotics Platform, a flexible automation solution that maximizes productivity with the widest range of payload capacities for a diverse set of warehouse and manufacturing workflows. Leading 3PLs, manufacturers, and retailers rely on the Fetch Cloud Robotics Platform to enable on-demand automation, instantly deploying, modifying, and scaling unmanned travel as needed.

Transport for Packages, Totes, and Bins

HMIShelf robots set the standard for commercial ready autonomous mobile robots (AMRs) transporting material in busy warehouse and manufacturing environments. The most advanced collaborative AMRs, like the Fetch HMIShelf robots, have the ability to plan optimal point-to-point travel

while navigating around obstacles. HMIShelf robots have numerous additional enhancements to safely avoid moving obstacles such as forklifts and carts. Integrated touch screens and adjustable shelving make HMIShelf robots an easy and flexible way to offload material transport tasks.



Specifications	<i>hmishelf</i>
Weight	90kg (198.5lbs)
Height	129.9cm (51in)
Base Footprint	57.3cm (22.6in) diameter
Shelf Width	51.5cm (20.3in)
Shelf Depth	41.8cm (16.5in)
Maximum Payload Weight	78kg (172lbs)
Maximum Payload Volume	0.2m ³ (7.15ft ³)
Maximum Speed	1.5m/s (3.4mph)
Turning Radius	Turn in place
Nominal Continuous Runtime	~9hrs
Environment	Indoor
Charging	Autonomous Docking
Charge Time	3hrs to 90%
2D Laser Sensor	25m (82ft), 220 degrees (x1)
3D Camera	Yes (x2)

CE Fetch Robotics' HMIShelf carries a CE mark and meets regulatory requirements for product safety.



ZEBRA



rollertop

Flexible Automation Addition to Fixed Conveyors

Key Benefits

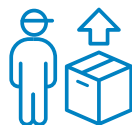
- Automate loading and unloading of totes and bins from conveyors or ASRSs
- Flexibly extend existing conveyor workflows
- Automatically trigger induction or deduction via Fetch Robotics' FetchCore™ software
- Integrate existing conveyor controls with FetchCore using optional IoT-style FetchLink smart interface



KEY WORKFLOWS



Order Picking



Assembly & QA



ASRS Induction



Rush Orders

RollerTop is part of the Fetch Cloud Robotics Platform, a flexible automation solution that maximizes productivity with the widest range of payload capacities for a diverse set of warehouse and manufacturing workflows. Leading 3PLs, manufacturers, and retailers rely on the Fetch Cloud Robotics Platform to enable on-demand automation, instantly deploying, modifying, and scaling unmanned travel as needed.

Coexist with Current Conveyor Infrastructure

Conveyor systems have dramatically increased industrial efficiency for many years. However, these fixed assets are hard to adapt to today's ever-changing material transport requirements. Fetch Robotics' RollerTop solution brings adaptability and increased levels of automation in these conveyor environments.

FetchLink Smart IoT Interface

FetchLink (optional, sold separately) is a networked industrial I/O device that serves as a bridge between the Fetch Cloud Robotics Platform and other industrial equipment such as conveyors, doors, and air showers. Automate hand-offs between RollerTop robots and active powered conveyors by connecting a FetchLink device to any conveyor controller.

Specifications

rollertop

Weight	85kg (187lbs)
Top of Roller Height	45.7cm (18in) - 91.4cm (36in), adjustable in 0.25in increments
Maximum Payload (height dependent)	80kg (176.4lbs)
Base Footprint	72.5cm (28.5in) diameter
Cargo Dimensions	40.6cm (16in) width, 60.9cm (24in) depth, 35.6cm (14in) height
Maximum Speed	1.5m/s (3.4mph)
Turning Radius	Turn in place
Nominal Continuous Runtime	~9hrs
Environment	Indoor
Charging	Autonomous Docking
Charge Time	3hrs to 90%
2D Laser Sensor	25m (82ft), 220 degrees (x1)
3D Camera	Yes (x2)



Fetch Robotics' RollerTop carries a CE mark and meets regulatory requirements for product safety.



ZEBRA



tagsurveyor

Mobile RFID Asset Tracker

Key Benefits

- Automated, accurate, frequent, cost-efficient cycle counting and inventory tracking
- Powerful data visualization to locate misplaced inventory
- Reporting tools to help take action on discrepant inventory counts



KEY WORKFLOWS



Cycle Counting



Physical Inventory Check



Find Inventory



Asset Tag Tracking

TagSurveyor is part of the Fetch Cloud Robotics Platform, a flexible automation solution that maximizes productivity for a diverse set of warehouse and manufacturing workflows. Leading 3PLs, manufacturers, and retailers rely on the Fetch Cloud Robotics Platform to enable on-demand automation, instantly deploying, modifying, and scaling unmanned travel as needed.

Pinpoint Your Inventory Multiple Times Per Day

Lost or misplaced inventory can cost millions of dollars in expedites, re-orders, and write-offs, as well as wasted hours searching for inventory. Manual counts are time consuming and error-prone. Tagging assets with RFID immediately improves inventory tracking, increases accuracy, and saves time.

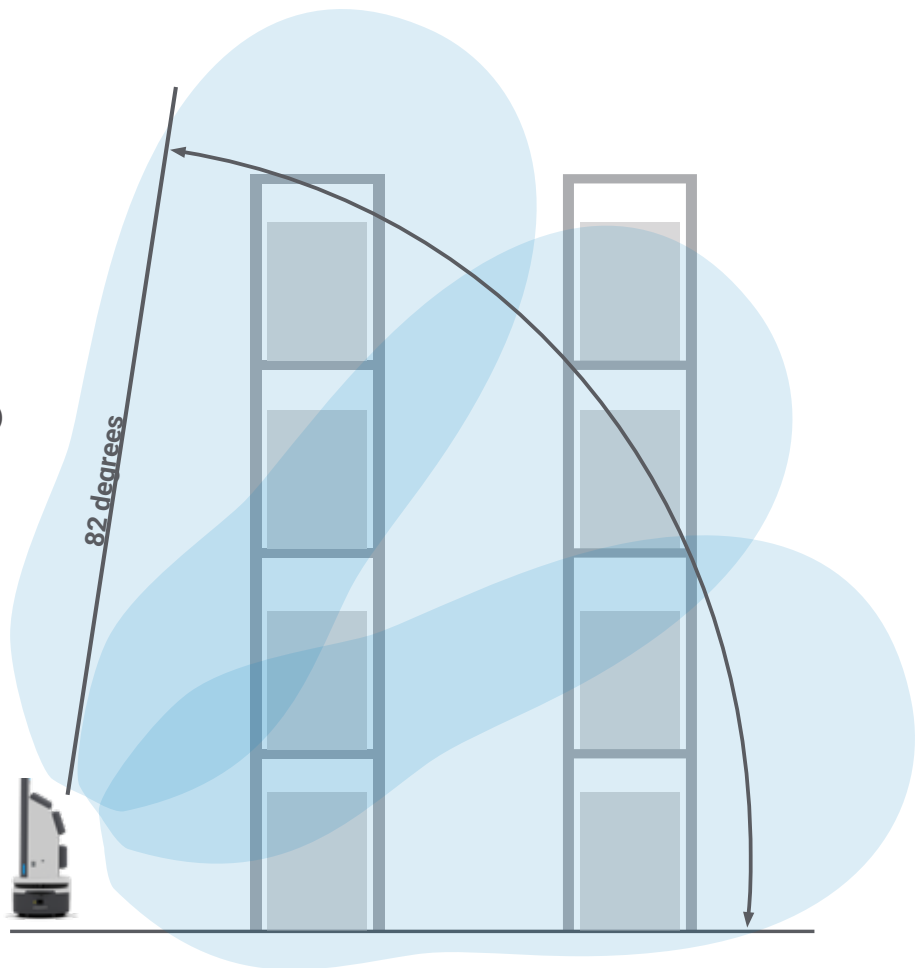
With the TagSurveyor solution, warehouses and manufacturing facilities can increase the frequency of inventory counts from once a month to multiple times a day, even with the largest operations. Facilities across both the private and public sector use TagSurveyor to keep track of assets.

Robot Specifications

Weight	91kg (200lbs)
Height	1.3m (4ft 5in)
Footprint	57.3cm (22.6in) diameter
Maximum Speed	1.5m/s (3.4mph)
Turning Radius	Turn in place
Runtime	~9hrs
Environment	Indoor
Charging	Autonomous
Charge Time	3hrs to 90%
2D Laser Sensor	25m (82ft), 220 degrees (x1)
3D Camera	Yes (x2)

RFID Specifications

Output Power	Up to 4W EIRP (Equivalent Isotropic Radiated Power)
Antennas	Circular Polarized Antennas (x3)
Antennas Gain	4.4dB (+/- 1dB)
Carrier	902.75-927.25 MHz
Frequency	EPC UHF Class 1 Gen
RFID Protocol	2, ISO 18000-C
Read Range	Up to 7.6m (25ft)*



*Read range, coverage, and sensitivity will vary based on environment, tag placement, and tag density.



Fetch Robotics' TagSurveyor carries a CE mark and meets regulatory requirements for product safety.



Discover how cloud robotics can work for you.

For more information visit: www.zetes.com



ZEBRA

