



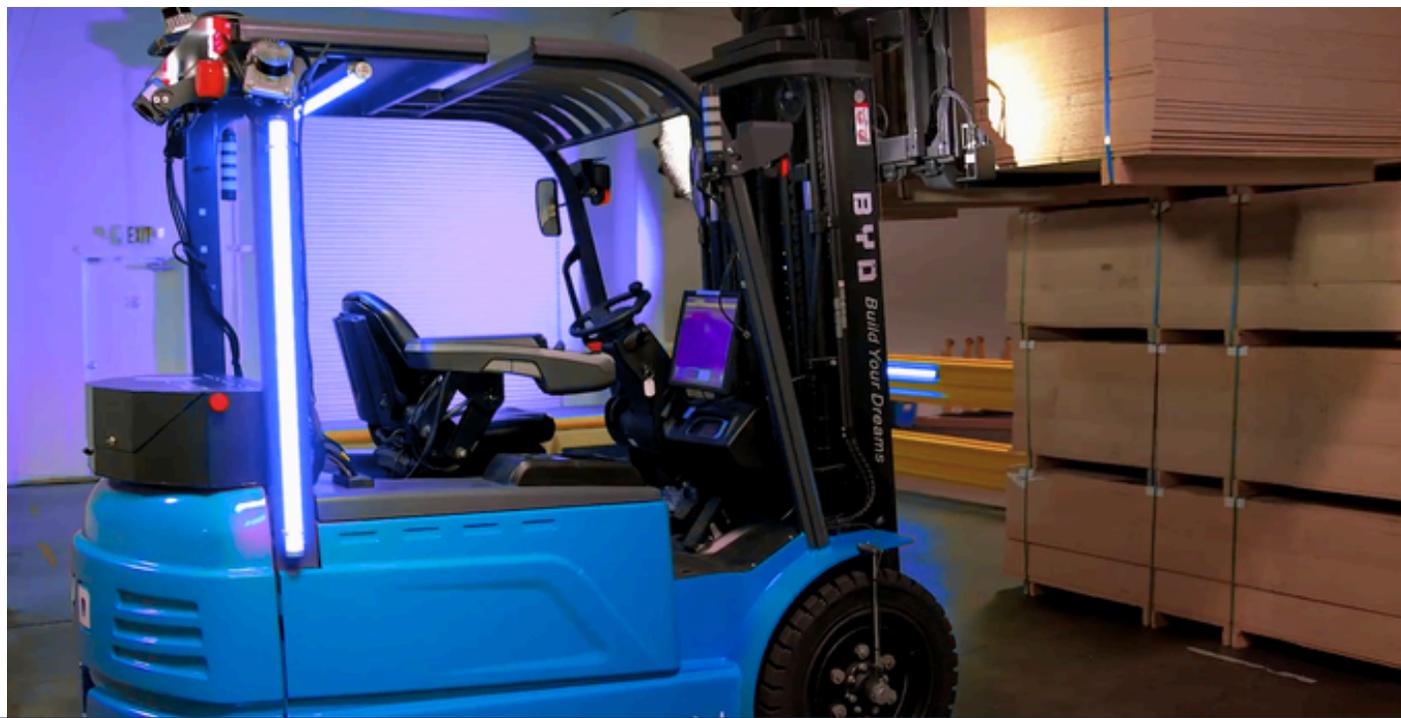
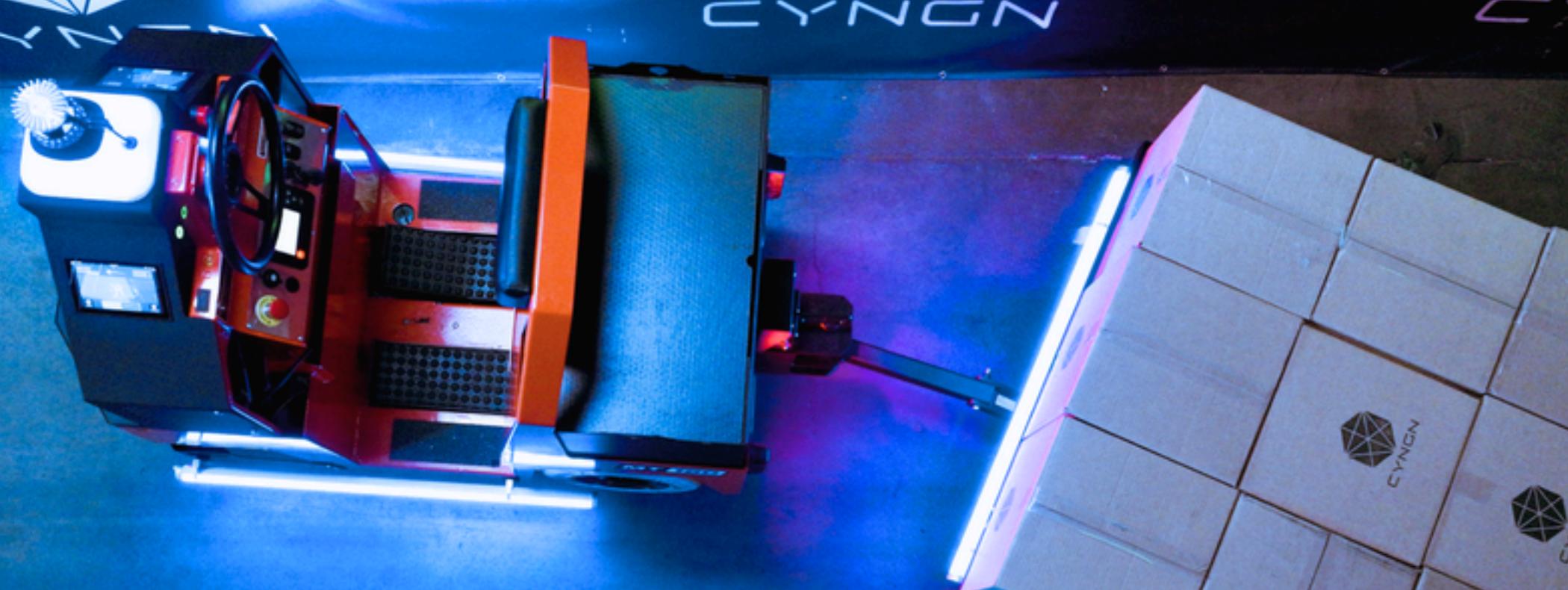
CYNGN

Autonomous Vehicle Solutions for Industrial Organizations



DriveMod Tugger and
DriveMod Forklift

cyngn.com



Cyngn Transforms Material Handling Vehicles Into Autonomous Fleets

Meet **DriveMod**, the autonomous driving system that transforms industrial vehicles into a smart, self-operating fleet.

We integrate AI-powered technology into heavy-duty tuggers and forklifts from trusted OEMs like Motrec and BYD. This enables them to handle your most demanding material handling tasks autonomously.

When your vehicles operate as a unified autonomous fleet, the impact is measurable: **increased productivity** through continuous operations, **improved safety** by removing workers from repetitive tasks, and **reduced labor costs** that free up your team for higher-value work.

- ✗ No safety issues or injuries
- ✗ No damaged goods or facilities
- ✗ No forklift or tugger leases
- ✗ No sick days or vacations
- ✓ Always gets the job done





Tailored Solutions Across Industries, Deployed in Days

We work across **manufacturing, logistics, agriculture, and automotive**, customizing DriveMod's capabilities for each unique deployment. Best of all, our DriveMod AMRs can be up and running in your facility within 10 business days.

Once deployed, fleet managers can generate order pick lists, set up work queues, and keep operations running continuously – all from a single interface.

DriveMod integrates seamlessly with your existing workflows, improving team coordination and efficiency from day one.



"We just completed a 77,000 sq foot warehouse expansion and by integrating Cyngn's DriveMod Tugger into our material handling processes, we're addressing today's labor challenges and positioning our business to meet the growing demands of tomorrow."

– Jeff Erwin | VP, Manufacturing & Quality, G&J Pepsi

Autonomous Material Handling, Indoors & Out

Both the **DriveMod Tugger** and the **DriveMod Forklift** have autonomous material handling capabilities, multiple layers of intelligent safety systems, and the flexibility to operate in both manual and autonomous modes.



Autonomously haul/lift **1000s of pounds** of heavy goods – indoors or out.



Leverage multiple, **redundant, and intelligent layers of safety.**



Safely navigate sites **without the need for special infrastructure.**



Remotely manage and monitor your fleet via the on-vehicle display or FMS.



Execute missions based on layers of **flexible, programmable skills.**

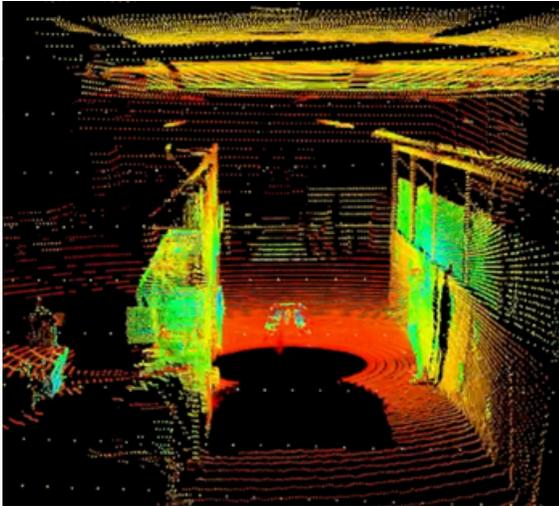


Switch into manual mode and let a human driver take over.



Multi-Layer Advanced Safety Suite

DriveMod interprets millions of data points per second **to deliver real-time, 360° obstacle detection**. Our autonomous robots also follow speed limits, safety precautions, and the same rules of the road that your team follows.



Advanced Pedestrian Tracking

DriveMod safely navigates around obstacles while protecting workers and pedestrians through an next-generation 3D lidar that predicts movement patterns.



Virtual Bumper

Cyngn's collision avoidance system brings redundancy, assurance, and peace of mind. This is our base-layer of safety, on which we build much more intelligent decision-making.



Safety Lights & Horn Honks

Color-coded LEDs communicate vehicle status and intent, while beeps and audio cues indicate when the vehicle is turning, departing, or arriving at a stop.



Emergency Stop & Manual Override

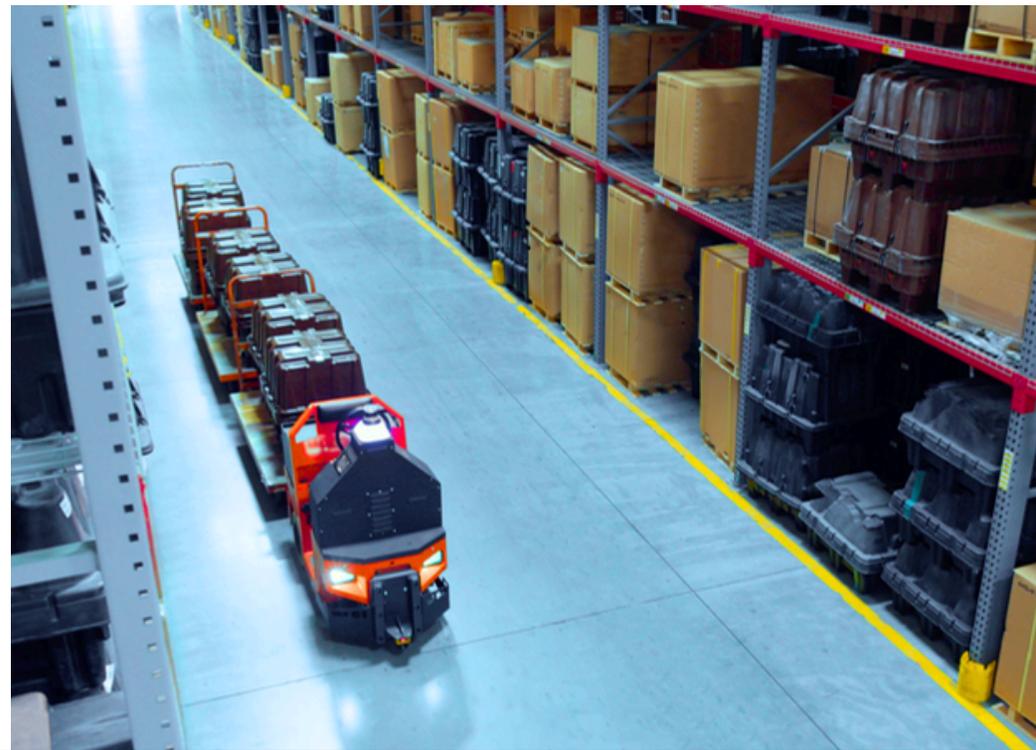
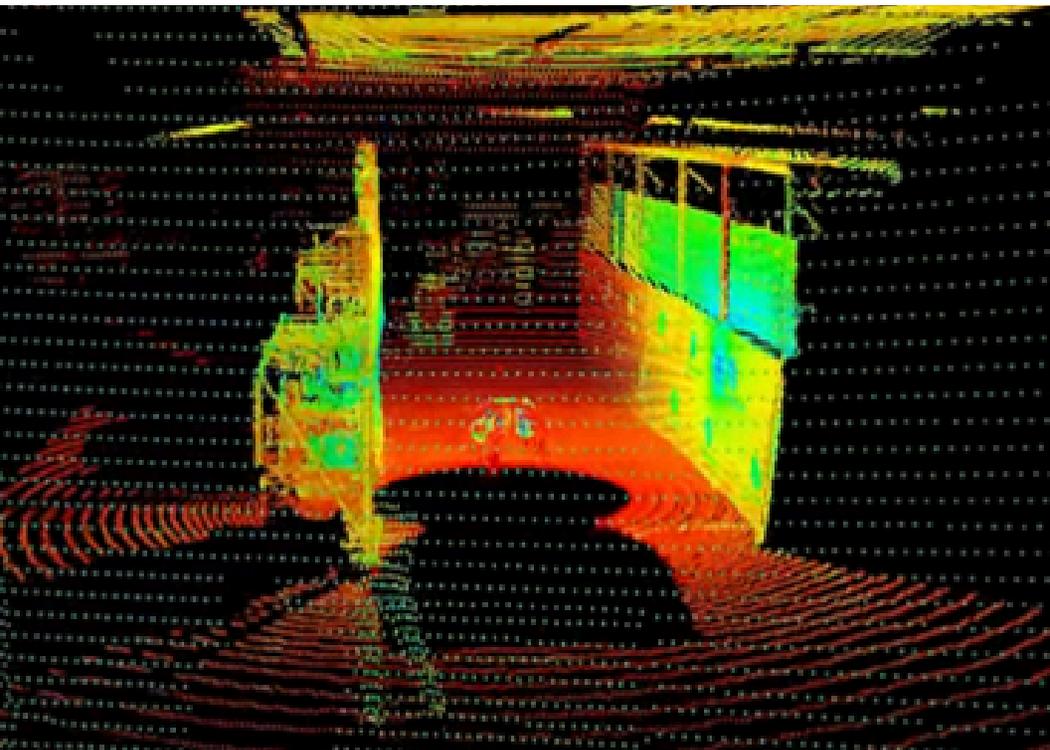
Our AMRs are equipped with e-stop buttons for immediate shutdown. You can also switch to manual mode for total flexibility when needed.



No Special Infrastructure Required

Getting set up is easy. We create a digital map of your environment to localize and operate. Unlike many competitors, **this map is three-dimensional and uses millions of data points**, enabling advanced perception and high performance in dynamic environments.

- ✗ No stickers
- ✗ No laser or wire guidance
- ✗ No reflectors
- ✗ No magnetic strips or tape



The DriveMod Tugger

25% CHEAPER
than a forklift driver.

**4X MORE
PRODUCTIVE**
than a forklift.

**33% MORE
EFFICIENT**
than a pallet jack.



Heavy-Duty Autonomous Hauling

We've partnered with **Motrec**, a trusted industrial vehicle manufacturer, to integrate DriveMod into their fleet of heavy-duty tuggers, transforming them into intelligent self-driving robots.

Our fully autonomous tugger train comes **with a 12,000 lb. hauling capacity**, capable of executing missions using flexible, programmable capabilities such as **auto-unhitch**.





Streamline Your Operations

Most drivers spend their days hauling goods back and forth, over and over again. From delivering supplies to transferring finished goods, the DriveMod Tugger can automate these repetitive workflows, freeing your team to focus on other responsibilities.



Drive Efficiency

The DriveMod Tugger can take on the most demanding industrial jobs. With a load capacity of 12,000 pounds, your autonomous tugger will transform how you get work done. Plus, with our automatic unhitching feature, your organization can eliminate the need for human intervention when releasing towed carts.



Ensure Safe Handling of Loads

With its all-steel unibody chassis, steel body panels, and standard dual-tire front fork, the DriveMod Tugger delivers ruggedness, stability, and agility. Smooth driving and precise movements ensure efficient and safe handling of heavy loads.

Technical Specs: Motrec MT-160

Vehicle Information		Chassis	
Dimensions	65" L x 30" W x 55" H	Body	All-steel unibody construction
Deck Dimensions	18" L x 30" W	Steering	Automotive steering wheel
Weight	1,250 ± 100 lbs depending on options	Brakes	Self-adjusting H.D. drum brake, regenerative braking, electromagnetic parking brake
		Wheels	4.8x8 LRC pneumatic tires
Performance		Energy System	
Autonomous Speed (Max)	4 mph	Battery Type	12.4 kWh Lithium-ion
Manual Speed (Max)	6 mph	Battery Voltage	48V
Towing Capacity (Max)	12,000 lbs.	Runtime	up to 12 hrs.
Load Capacity (Max)	500 lbs.	Charge Time	5 hrs.
Turning Radius	53"		
Minimum Aisle Width	59"		
Slope (Max)	2.5%		
		<i>*Runtimes are based on manufacturer recommendations. Times may vary based on speed, load weight, and usage.</i>	
Safety Features		Sensor Suite	
Emergency Stop Buttons		360° 3D LiDAR	
Virtual Bumper (B56.5-compliant)		2D Safety LiDAR	
LED Visual Communication System		Inertial Measurement Unit	
Programmable Audio Cues (Honks, Beeps)		High-Accuracy Wheel Encoders	
Automation Interface		Connectivity	
Two On-Vehicle Touch Screens		Wifi 5 (802.11 ac)	
Web-based Fleet Management Software		Optional LTE Modem	
Additional Features			
Auto-Unhitch Attachment			
Blue Safety Light			



The DriveMod Forklift

75% CHEAPER
than a forklift driver.

**4X MORE
PRODUCTIVE**
than a manual
forklift.

**33% MORE
EFFICIENT**
than a pallet jack.



Heavy-Duty Autonomous Hauling Capability

Cyngn has partnered with **BYD**, a renowned global EV brand, to integrate DriveMod into their fleet of forklifts, transforming them into intelligent self-driving robots with an industry-leading **11,000-pound load capacity**.

Say goodbye to manual pallet transport workflows and hello to our enterprise-grade autonomous forklift that will literally do the heavy lifting for you.





Works with Pallets of All Sizes

Proprietary AI and computer vision detect and analyze pallet dimensions in real-time, enabling you to handle materials of any size with ease. Whether you work with standard, non-standard, or custom pallet sizes, the DriveMod Forklift streamlines your operations and ensures a smooth, efficient workflow.



Intelligent Load Bearing Features

The DriveMod Forklift is equipped with intelligent load-bearing features that maintain balance and stability during operation. Smooth driving and precise movements enable it to handle heavy or asymmetrical loads safely and efficiently, without sudden jerks that could compromise stability.



Collision Avoidance System

3D lidar delivers 360° visibility and real-time obstruction awareness. Our advanced decision engine makes safety decisions 3x faster than human operators, enabling confident navigation through any warehouse environment.



Cyngn Insight: Eagle-Eye Visibility

Cyngn Insight, our Autonomous Fleet Management System (AFMS), gives you total control of your DriveMod fleet and visibility into its performance.

With real-time analytics, fleet managers can optimize operations and enhance efficiency.



Access Cyngn Insight from anywhere – your laptop, a tablet, or your phone.



Ditch the cloud and go **"on prem"** for high security or remote use cases.



Surface **operational insights and key vehicle metrics** with customizable dashboards.



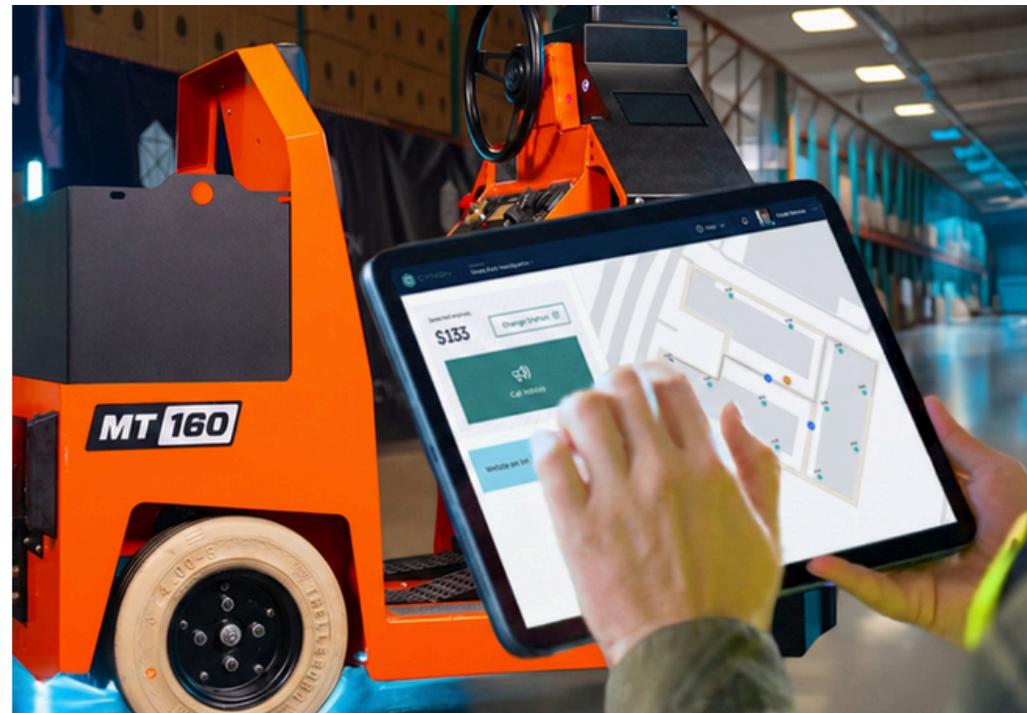
Trigger automatic workflows like "return to charge" when battery is low or "return to home" when connectivity is lost.



Batch upload dozens of workflows in advance or plan one-off missions on the fly.



Stack skills like "auto-unhitch" for even more powerful operation.



Complete Control

Whether planning a day's work all at once or sending individual vehicles on ad hoc missions, Cyngn Insight adapts to your existing workflows and improves the coordination and efficiency of your team.

We've also built in thoughtful automatic workflows. For instance, if your facility loses connectivity, our vehicles will complete their current missions and automatically return home.

Tap Into Valuable Data

Dashboards give you a complete overview of your fleet's performance and utilization – in real time.

You can track key metrics such as location, battery life, and cycle time to understand how much work your autonomous vehicles are completing. Monitor throughput and productivity metrics to identify optimization opportunities and unlock cost savings.



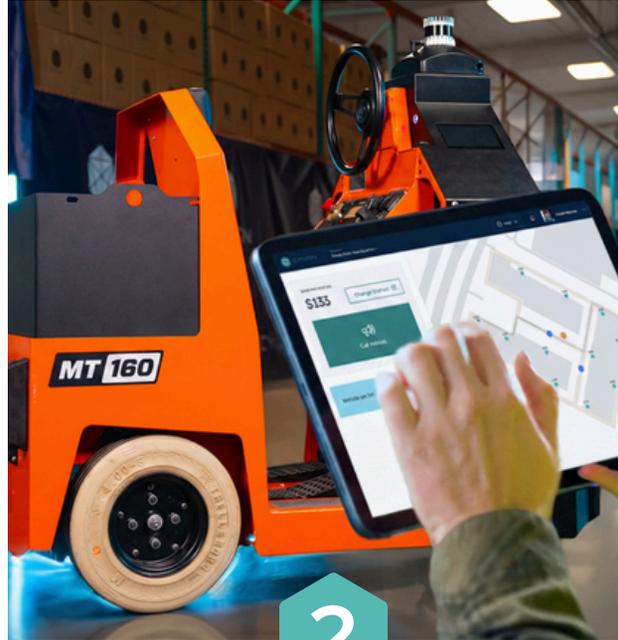
Multiple Ways to Control the Vehicle

Cyngn Insight makes it simple to direct your autonomous fleet from wherever you work.



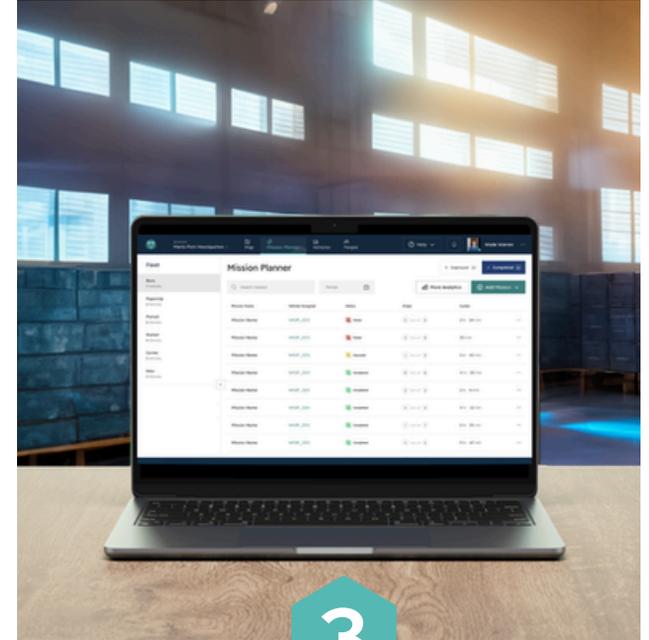
On the Vehicle

Save missions locally on the vehicle for your team to easily execute from the touchscreen displays.



In Your Facility

Carry around or mount tablets at pick-up stations and call the vehicle to you. It's as simple as pressing an elevator button.



Everywhere Your Laptop Goes

Create, edit, and deploy missions remotely. Our FMS gives you complete orchestration capabilities and deep data analytics.

Operations Reimagined: Multi-Enterprise Success with Autonomous Material Handling

With swift payback periods, our customers typically recoup their investment within two years, unlocking substantial savings and strong ROI.

Building Materials Manufacturer

\$4M

Total Loss Avoidance

12 Months

Payback Period

HVAC Manufacturer

\$1.2M

Total Loss Avoidance

16 Months

Payback Period

Consumer Packaged Goods

\$4M

Total Loss Avoidance

12 Months

Payback Period

OEM Parts Distributor

\$1.2M

Total Loss Avoidance

12 Months

Payback Period

Trusted by:

JOHN DEERE



COATS

ARAUCO



Real Results From Real Customers

COATS

La Vergne, TN | 150K+ Sq. Ft. Facility

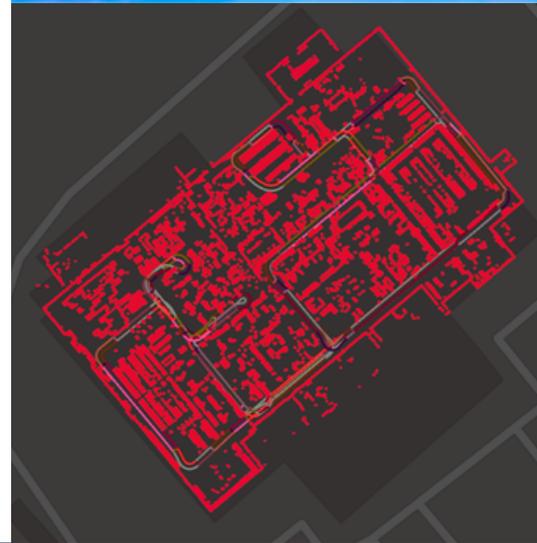
- 1 Coats deployed our autonomous tuggers to bring greater consistency and reliability to their supply runs.
- 2 By automating the movement of wheel service components from production lines, Coats gained greater consistency across operations, enabling workers to plan and execute tasks more effectively.

4x

Increase Pallets Moved

75%

Fewer Runs



“I wish we would have found it sooner.”

Steven Finley
VP of Operations, Coats North America

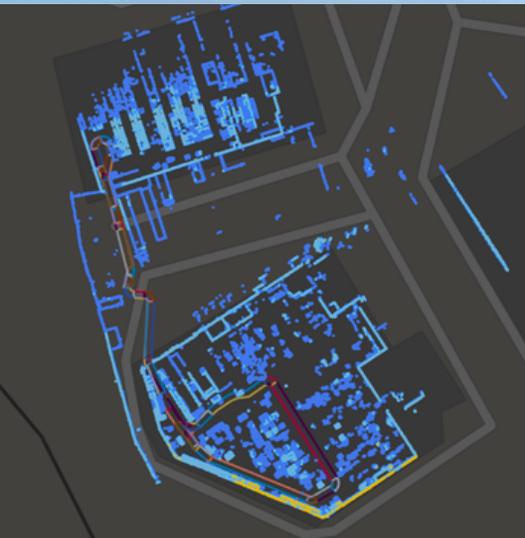


Real Results From Real Customers



Corona, CA | 100K+ Sq. Ft. Facility

- 1 USC deployed our autonomous tuggers to eliminate time lost moving materials across the facility and ultimately boost efficiency.
- 2 By automating supply runs between two buildings, USC eliminated 200 manual trips per week, significantly increasing both throughput and efficiency.



“Every trip the autonomous vehicles make eliminates three additional trips for our forklifts.”

Dave Hoover
VP of Technical Services,
U.S Continental



**Total
Autonomous
Driving**



**Total Loss
Avoidance**



**Outdoor
Operation**

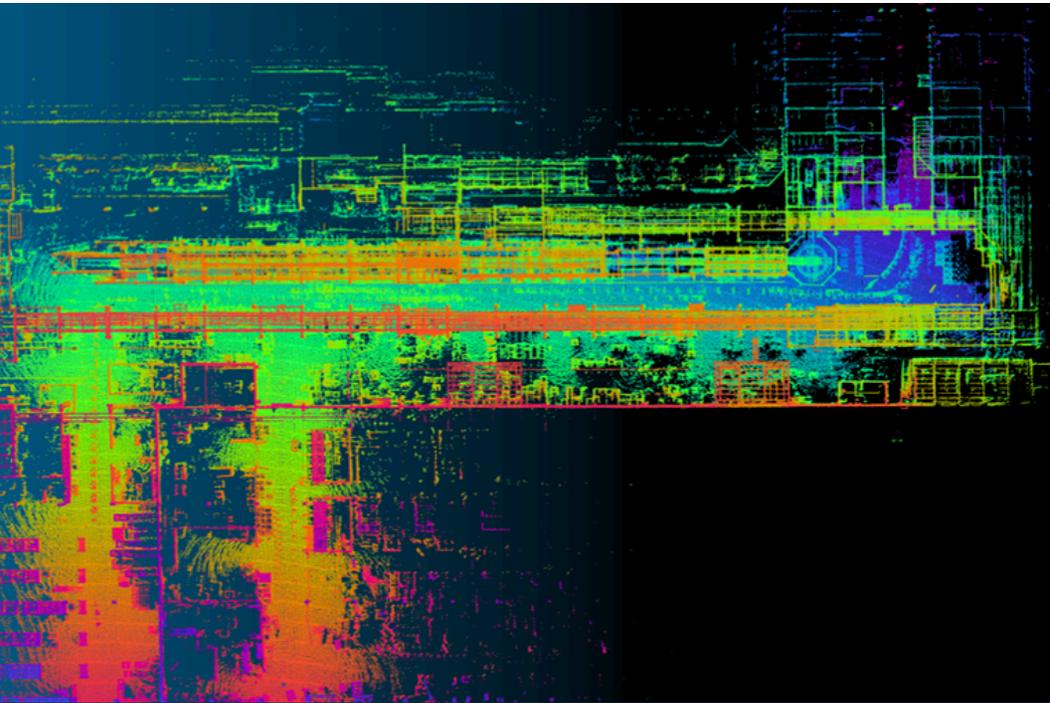


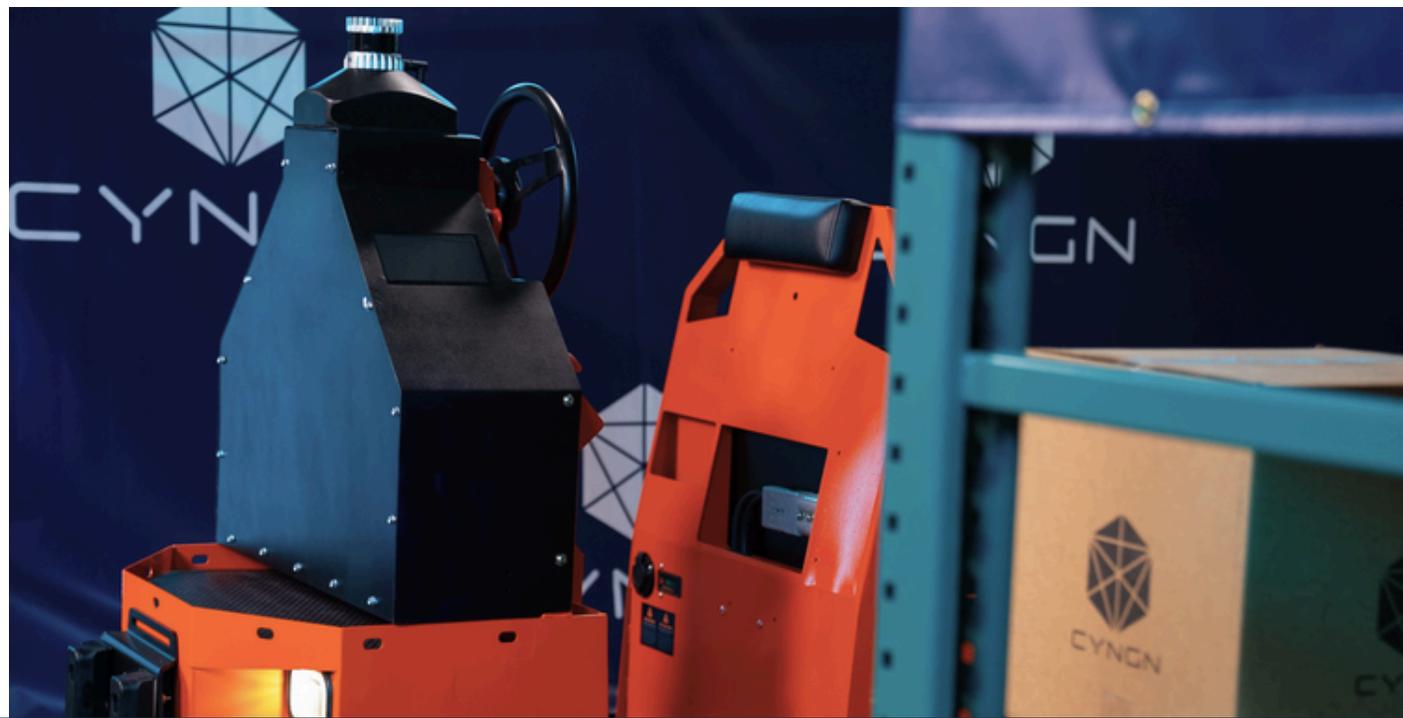
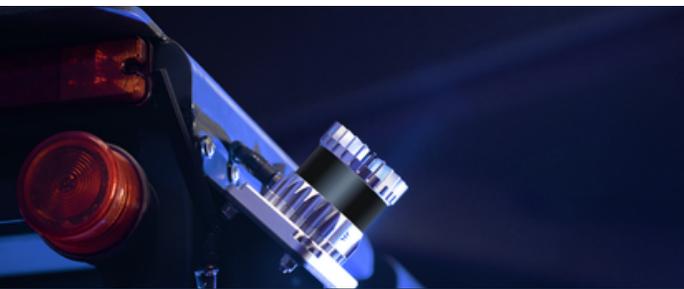
Our AVs Come Ready To Work

Because our AMRs don't require you to install specialized navigation infrastructure, **our streamlined integration process gets you up and running with an autonomous vehicle in a matter of days.**

And because we bring autonomous capabilities to vehicles that you are already familiar with, your entire team can get trained before lunch.

- 1 Step 1: Visit Site**
We come on-site to gain a deep technical understanding of your use case and craft the scope for your deployment.
- 2 Step 2: Map Your Facility**
We create a detailed map of your facility and work with you to carefully design the vehicle's route, stop points, and rules of the road.
- 3 Step 3: Train Your Staff**
After your vehicles are readied for autonomous operation, we train your staff on safe operation.
- 4 Step 4: Deploy Your Vehicle**
We provide robust support services to ensure you maximize the value of your investment.







CYNGN

INTERESTED IN LEARNING MORE?

VISIT US AT CYNGN.COM

