CYNGN

AUTONOMY IN ACTION
U.S. CONTINENTAL

EXECUTIVE SUMMARY

- **Efficiency gains: 4x faster than a forklift driver.**
- **Reallocation of labor and a job promotion.**
- **Increased organizational precision.**

With a sprawling 100,000-square-foot factory, U.S. Continental stands as a leading private label leather and fabric care company globally. With an unwavering commitment to providing complete care solutions, U.S. Continental has become the trusted partner for leading franchise brands seeking top-tier commercial packaging and private label care product services. The company has enjoyed tremendous growth over the three decades it's been in business. In that time, the company has become familiar with the hurdles intrinsic to manufacturing: supply chain disruptions, soaring labor costs, and the relentless pursuit of streamlined operations and heightened productivity.

Enter Cyngn's Autonomous DriveMod Stockchaser. After a brief integration period, the DriveMod Stockchaser began transporting pallets around U.S. Continental's Corona, California facility, doing supply runs between two buildings. Over several months of operation, Cyngn's self-driving vehicle enhanced operational speed, fostered organizational precision, and delivered substantial labor savings. The vehicle is 4x more efficient than a human driver and even enabled a former forklift driver's promotion.

U.S. CONTINENTAL

COMPANY INFORMATION

- Leading private label leather and fabric care company
- Corona, California facility
- 100,000 square feet

COMPANY CHALLENGES

- Supply chain disruptions
- Labor costs
- Productivity

KEY RESULTS

- **4x gains in efficiency**
- **Reallocation of labor – including a job promotion**
- **Increased organizational precision**

APPROACH

Deploying Cyngn's DriveMod Autonomous Vehicle technology at U.S. Continental, involved a simple, yet robust set of steps:

1   **Conduct a site assessment**. First, Cyngn interviewed U.S. Continental's operations managers to obtain a thorough understanding of U.S. Continental's process flows. Then, Cyngn's field engineers surveyed U.S. Continental's facility to document the operational design domain ("ODD") including the lighting, lane widths, and types of obstacles the vehicle could encounter. From this, Cyngn was able to identify transporting pallets from their inventory warehouse to their production facility as the optimal use case for the deployment.

2   **Map the facility.** In order for an AV to operate, it must know where it is within its environment. First, Cyngn scanned the entirety of U.S. Continental's facility to create a detailed digital representation of the physical world. The Autonomous DriveMod Stockchaser uses this map to localize and safely operate within the environment.

3   **Bring-up the vehicle.** Once the map was created, Cyngn worked with management to define the vehicle's operating rules, which included the routes the vehicle would take, the stops where pallets would be loaded and unloaded onto the vehicle, and permissible driving zones.

4   **Train key personnel.** Finally, before the vehicle was brought into full autonomous operation, Cyngn trained U.S. Continental employees on safe use of the vehicle. Then, the vehicle was seamlessly integrated into their daily workflow.

Throughout the deployment period, the vehicle continuously collected data on vehicle usage and labor productivity in real-time. This data was used both to effectively monitor the vehicle's performance as well as to eventually calculate cost savings

Curious to see our bring-up process in action? Watch it here.

4X FASTER THAN A FORKLIFT DRIVER.
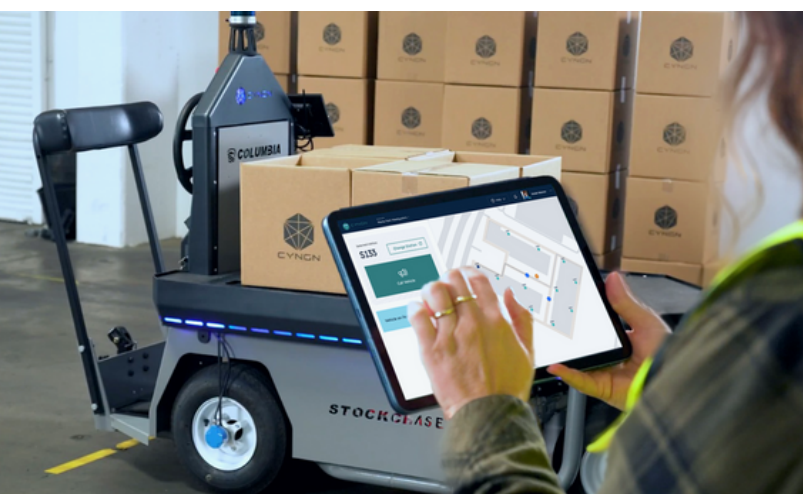
RESULTS

Since kicking off its deployment in March of 2023, the Autonomous DriveMod Autonomous Stockchaser produced:

📈 4X GAINS IN EFFICIENCY

Previously, a substantial human effort of 200 trips per week was required to fulfill pallet delivery between the two buildings at U.S. Continental. However, after the introduction of our autonomous vehicle, this workload has been seamlessly absorbed.

Our vehicles surpass traditional manual labor, as they can transport four pallets in a single trip, as opposed to one pallet at a time that can be accomplished with a forklift. This not only multiplies efficiency, but also allows for labor to be reallocated to other more valuable tasks, such as order picking and pulling.

4 PALLETS AUTOMATICALLY TRANSFERRED IN A SINGLE TRIP VS. 1 PALLET WITH A FORKLIFT.

🔀 REALLOCATION OF LABOR

Beyond operational enhancements, the integration of our autonomous vehicles has sparked positive developments in their workforce. Opportunities for employee growth within the company have emerged, leading to promotions and role reallocations. Employees are now empowered to take on different responsibilities, contributing to a more versatile and skilled workforce. Importantly, this evolution in job roles has translated into increased pay for individuals, highlighting that autonomy is more about task reallocation and the creation of new opportunities than job displacement.

🔷 INCREASED ORGANIZATIONAL PRECISION

Teams working directly with the autonomous robot revised their workflows to better align with the vehicle's predictable schedule. This simple change made a big difference – reducing variability, boosting overall efficiency, and making it easier to train new employees.

Interested in an autonomy project of your own?

Cyngn is capable of integrating its DriveMod technology within a wide variety of environments tailored to your use case specifications. Have a project in mind? Reach out to us here.

Learn more about our autonomous vehicle solutions.