

Design checklist for yard automation

Distribution yards operate today much like they have for decades – manual, repetitive tasks performed oftentimes under inhospitable working conditions. And the explosion of ecommerce and multi-channel fulfillment has only exacerbated these chronic problems. For enterprises looking to innovate for market and competitive gains, it’s time to automate yard operations to be more efficient, safe, and sustainable.

Supporting autonomous yard operations requires forward-thinking design. Properly configured yard layouts, dock door designs, and engaged personnel position you to reap the benefits of yard automation. Whether you’re updating existing facilities or breaking ground on new ones, consider some of these checklist items to help you get ready for yard automation.



Yard layout

- Situated on private property with restricted access from public roads
- Fully paved with very limited to no grade
- Configured with standard parking that accommodates peak trailer throughput (e.g., yard does not utilize brick loading or other non-standard parking patterns for overflow)
- 70-feet or wider of drive apron preferred
- Utilizes check-in, check-out, or bypass process for over-the-road trucks
- Minimize overhead obstructions that can interfere with IT communications signals, such as leveraging tunnels instead of overhead pedestrian walkways



Dock door design

- 10-feet wide at minimum
- On-center distance measures 13-feet at minimum, translating to 3 feet between each dock door
- Includes dock seals
- Features vertical dock levelers with a continuous pit design, allowing both swing and roll door trailers to be opened from inside the facility
- Dock lights are used as the standard safety mechanisms



Electrical and communications

- Electrical infrastructure supports DC fast charging for multiple electric yard trucks²
- Communications infrastructure supports adequate public LTE coverage throughout all operating areas³
- Accommodates the installation of RTK antennas, LTE antennas, and additional positioning systems⁴



Personnel

- Executive sponsorship for the responsible deployment of yard automation
- Site leadership actively engaged in the planning, deployment, and on-going management of yard automation
- Dispatchers trained to manage yard automation and related software systems
- Manual operations, such as wheel chocking and jack stands, are eliminated or minimized

Integration maximizes impact

As more supply chain logistics are digitized and automated, it becomes increasingly important to integrate those systems. Yard automation alone delivers great benefits, yet when tied to other logistics systems like Yard Management Systems (YMS), Warehouse Management Systems (WMS), and Transportation Management Systems (TMS), your efficiency gains are exponential. By taking an integrated systems level approach, you'll achieve end-to-end visibility of your freight soon followed by predictive freight logistics powered by the business intelligence gathered along its path.

Start planning for yard automation

For more details about how to prepare your distribution yards for automation, please visit www.outrider.ai.

¹ Number of dock doors requiring Drive-Through design is based on the proportion of swing door trailers in your trailer pool and your facility's throughput requirements.

² Specifications for electrical infrastructure: DC fast chargers require 220+ amp, 480V 3-phase power (Note: amperage requirements will need to scale with facility size)

³ Public LTE supplied by service providers like AT&T, T-Mobile, Verizon, has throughput of 15 mbps down / 5 mbps up

⁴ Antennas and positioning systems typically installed on the exterior of the distribution warehouse building. They can extend anywhere from 10-50 feet above the roofline.

About Outrider™

Outrider, the pioneer in autonomous yard operations for logistics hubs, helps large enterprises improve safety and increase efficiency. The only company exclusively focused on automating all aspects of yard operations, Outrider eliminates manual tasks that are hazardous and repetitive. Outrider's mission is to drive the rapid adoption of sustainable freight transportation by deploying zero-emission systems. Outrider is a private company backed by NEA, 8VC, Koch Disruptive Technologies, and other top-tier investors. For more information, visit www.outrider.ai