

Automated Truck & Container Loading

Executive Summary

For Logistics Executives, there has been a long-standing argument over the last two decades about the value of capital spending for automating the loading process for truck trailers and containers. With labor rates in the US being relatively low for fork truck operations and the efficiency of truck loading and scheduling software being very high, comparisons between manual and automated operations in the past have limited investments in this area.

Recently, technical advances in motion control, sensing and detection, logic and controls and safety devices have allowed cost and performance to improve for manufacturers supplying automated loading technologies. Previous limitations for this automation requiring dedicated conveyORIZED cargo beds have been eliminated; today standard trailers and containers can be automatically loaded safely and without cargo damage.

The primary measure or key performance indicator (KPI) has been dock turns and on-time deliveries. With an increase in more tightly controlled dock management, that is to say “appointments”, these measures have been under considerable pressure.



Key Pressures Influencing the Opinions about Automated Loading (CSCMP Report 2014)

“Freight volume in tonnage rose in 2013 more than the number of shipments and revenue figures suggest.... Rising costs for drivers, equipment and maintenance have pushed marginal trucking companies over the edge....”

“The truck driver shortage is having a dampening effect on freight movement.”

“The capacity issue is becoming more severe as Federal Motor Carrier Safety Administration (FMCSA) Hours of Service (HOS) Rules and other safety regulations take a bigger bite out of productivity.”

“The truck driver shortage is the number one concern of trucking executives and very close to the top for other industry leaders as

Automation Benefits

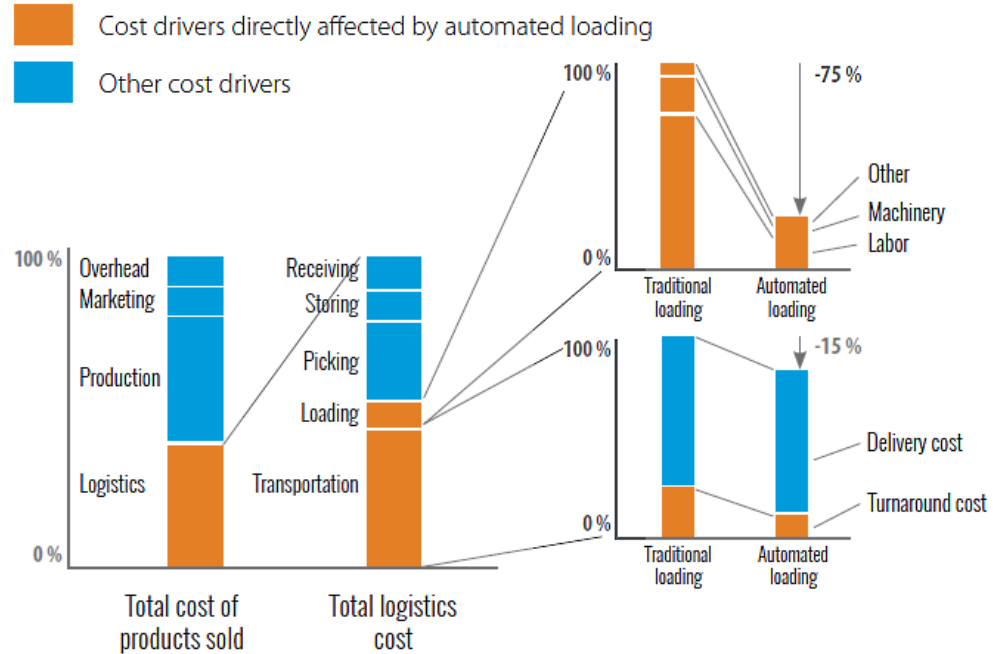
- Four dock turns an hour
- Labor reduction
- Loading damage reduction
- Reduced staging requirement
- Optimal appointment control
- Smaller drop lots

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While different pressures exist in Europe and other parts of the world, in general, cost-cutting remains the primary focus throughout supply chains. In looking at the future, a 2012 DHL (Deutsche Post AG) study, “Delivering Tomorrow, Logistics 2050”, said “China is no longer a low labor cost country. Automation is coming fast to Asia.”

Comparing typical costs for manual and automated loading operations shows how incremental savings can develop positive ROI for loading automation.

Effect of truck & container loading automation on total cost of products sold:



Let's load!



Summary:

In 2014 and beyond, Supply Chain Management in the United States and North America generally is facing significant pressures that will move the debate over automated truck trailer and container loading for Supply Chain Executives from ROI to Strategic Value. While competition for capital is always part of corporate life, overlaying strategic value when reviewing automation projects in capital budgets is necessary to ensure that fundamental customer service metrics can be met.

With pressures that exist across intermodal networks, eliminating bottlenecks by using the new generation of automated truck trailer and container loading systems provides a low-hanging fruit to improve KPI's and provide a reasonable return on investment. With technology having reduced the risk for automating and supporting warehousing and logistics processes, there remains little barrier for companies when considering such projects.