



New Study: Terminal Automation at the Ports of Los Angeles and Long Beach Delivers Broad Benefits to Business, Labor, and the Environment

Automation boosts cargo throughput, generates longshore work faster than conventional terminals, and preserves competitiveness of West Coast ports, researchers find

LOS ANGELES (May 2, 2022) — Terminal automation has helped to relieve severe supply chain congestion at the Ports of Los Angeles and Long Beach by substantially accelerating cargo handling and expanding terminal capacity while generating longshore work significantly faster than conventional terminals, according to a groundbreaking new study on port automation.

Led by Dr. Michael Nacht, a Professor of Public Policy at the University of California, Berkeley, and former Assistant U.S. Secretary of Defense, the study analyzes public and previously unpublished data on terminal operations from the two container terminals that have introduced automation at the nation’s largest port complex.

The study, commissioned by the Pacific Maritime Association, finds that automation has delivered meaningful benefits for shippers and consumers, members of the International Longshore and Warehouse Union (ILWU), as well as the environment. Critically, the study found that automation has not reduced job opportunities for dockworkers, as many workers have traditionally feared.

“Automation is offering early proof of a win-win strategy: work gains for ILWU members and productivity and efficiency gains that will drive up growth, drive down cargo-handling costs, and help restore the San Pedro Bay ports’ competitive advantage,” wrote Nacht and his co-author, Larry Henry, Founder of ContainerTrac, Inc.

The study was undertaken amid a surge of Asian imports beginning in 2020, which caused historic cargo congestion at the two ports and exposed grave shortcomings throughout the national supply chain. With physical growth limited and the complex nearing capacity, automation is enabling the expansion of cargo capacity through densification of port terminals.

Throughput of Twenty-Foot Equivalent Units (TEUs, the standard measure of cargo volume) per acre is 44% higher at San Pedro Bay’s automated terminals than at conventional terminals, thanks to autonomous vehicles and cranes that stack containers higher, closer together, and more efficiently for transferring to trains and trucks. Since 2019, the two automated terminals have processed containers faster than conventional terminals – at times more than twice as fast.

The gains in output in Los Angeles and Long Beach mean that contrary to fears of job losses, automation has increased, not reduced, ILWU jobs and work opportunities, including training and upskilling. Between 2015, the last year before the transition to automated operations, and 2021, paid ILWU hours at the two automated terminals rose 31.5%, more than twice the 13.9% growth rate at the non-automated terminals. More broadly, the registered ILWU workforce in Los Angeles and Long Beach grew 11.2%, compared to 8.4% for the other 27 West Coast ports.

“Rather than reducing work for ILWU members, automation has raised demand for their services,” the study says. This finding aligns with the history of modernization on the waterfront. As technology has

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taken hold over the last two decades at West Coast terminals, cargo volumes and work opportunities have grown significantly. The authors include a timeline of labor agreements detailing the progressive introduction of technology at West Coast ports, including the landmark 2002 agreement that ushered in new technology, and the 2008 agreement that provides employers the right to automate.

As previous research by Nacht and Henry has shown, automation also helps reduce greenhouse-gas emissions, bringing environmental and health benefits for workers and residents of neighboring communities. Because of the broad gains for business, labor and the environment, automation is the hallmark of the world's most advanced ports and is vital to growth at the ports of Los Angeles and Long Beach, the anchors of 29 West Coast ports that support 12.5 million jobs nationwide and generate nearly 9% of the country's Gross Domestic Product.

The study notes that severe congestion due to record Asian imports during the Covid-19 pandemic underscored the need to enhance operations in Southern California ports to stanch the loss of market share to rivals on the East and Gulf Coasts.

"Automation is critical to boosting the capacity and preserving the competitiveness of West Coast ports. Higher cargo throughput will create port-related jobs and add employment throughout the supply chain," the study concludes. "Conversely, failing to adapt threatens to drive cargo to other ports, with a cascading loss of jobs on the docks and throughout the regional economy."

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