

# LXE Reliability Helps Maher Terminals Expand Ports & Productivity.

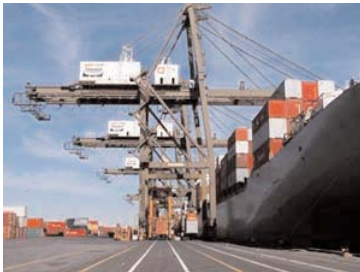
## CASE STUDY

**MAHER TERMINALS.** Maher Terminals, LLC is one of the world's largest independent multi-user container terminal operators. The company is headquartered in Port Elizabeth, NJ, which is a top port serving the New York/New Jersey area and much of the eastern U.S. Maher Terminals opened its second facility at the Prince Rupert Port in British Columbia, Canada, a fast-growing West Coast port.



*Maher Terminals was an early innovator in container port management, installing a proprietary wireless network to cover the Port Elizabeth facility and equipping the straddle carriers used there with mobile computers. The system initially provided many productivity benefits, but became less effective as it aged. Maher Terminals needed to refresh its technology infrastructure, and set a goal to find a system that could also serve as the foundation for the major new facility it was constructing in Canada.*

"Reliability and ruggedness were our most important requirements for the new wireless computer system," said Steve Rummel, Vice President of Data Services at Maher Terminals. "We operate 183 straddle carriers in our Port Elizabeth facility, and they're each worth over a half a million dollars. We can't afford one of these assets to be out of service because the computer failed."



Straddle carrier operators utilize the mounted computers for picking and decking instructions, which are relayed over the wireless network from Maher Terminal's in-house developed TOS (Terminal Operating System). Working conditions are challenging for operators, computers and wireless communication. The metal from containers, cranes and vessels create interference and the fact that none are in permanent locations makes it difficult to optimize the wireless network.

## Real Ruggedness & Reliability Required

Maher Terminals originally replaced its aging computers on the straddle carriers with ruggedized notebooks, and installed an IEEE 802.11b-standard wireless infrastructure from Aruba Networks to replace its proprietary 800MHz radio network. The new network decreased transaction times and helped increase productivity, but the carrier-mounted notebook computers proved less than ideal. It was somewhat awkward to mount the notebooks on the straddle carriers, and the notebooks themselves were not as rugged as Maher Terminals had expected. The keyboards were a particular problem, because they were not completely sealed. The result was a frequent need to service and troubleshoot computers, which required a technician to unbolt them from the carrier.



The problems and inefficiencies led Maher Terminals to evaluate purpose-built vehicle-mounted computers. The company installed models from competing vendors for a head-to-head evaluation. LXE's VX5 vehicle-mounted computers emerged as the top choice of users and IT support staff alike.

"After the side-by-side comparison our guys thought the LXEs were clearly better," said Rummel. "The screen was easier to read, the sealed keyboard was a real advantage, and the VX5s mounted easily and securely to the straddle carriers."

The VX5 vehicle-mount computer is a full-screen color mobile computer with two antennas that provide outstanding RF reception. Users can easily adjust the



12.1-inch screen brightness, and there is a low-temperature option that prevents fogging and condensation even at -22°F. The VX5 keyboard is waterproof and the entire computer carries an IP66 rating, designating it as sealed against water and dust. Mounts and padding also protect against the vibration and shock that comes with day-to-day use on a straddle carrier.

The VX5 computer runs on the Intel® Mobile Pentium III processor and is available in Microsoft Windows® Professional and Windows XP Professional versions, which was particularly important to Maher Terminals.

"We needed a full Windows operating system for our mobile computers -- not Windows Mobile or Windows CE," said Rummel. "Those operating systems restrict our application development. We create our own software, and need them to run the same whether they're running on a desktop or a mobile device. Developing and supporting applications specifically for mobile computers is not an option."

## Results

The VX5's hardware and software features make the computers much easier for Maher Terminals to use and maintain. After first using the VX5s at Port Elizabeth and seeing immediate benefits, Maher Terminals equipped all the straddle carriers at its new Canadian facility with VX5s before it opened.

"The manpower needed to support the computers has decreased very much," said Rummel. "The old network really limited our ability to upload code. So instead of doing it wirelessly, we'd have to have a technician climb 40 feet up a straddle carrier to insert a Flash card to update the computer software. With the VX5s running Windows XP, we can use any remote management software to update, configure and troubleshoot the computers."

Straddle carrier operator productivity has also improved because of the faster wireless response provided by the dual-antenna VX5 computers.

"Operators used to get 'out-of-range' messages and had to use their voice radios to get instructions, but that rarely happens anymore," said Rummel. "Operators also used to complain about how slow the wireless computers were, but we don't hear that anymore either."

Improved mobile computer reliability has helped Maher Terminals get more productivity from its staff, and more utilization of its important cargo handling assets. There have been improvements in the IT department as well as in the yard.

"Before, we were always troubleshooting some component of the system, either the modem or the terminal or the software," said Rummel. "With the LXE units in place, wireless computing has become a low-maintenance operation. It's no longer something we have to tinker with every day."



**About LXE Inc.** LXE Inc. improves supply chain performance by applying over 37 years' experience developing wireless products and solutions. From wireless computers, advanced auto-ID technologies, and wireless network infrastructure, to our award-winning customer support - LXE's easy-to-use products are as reliable as the people who install and support them.

Based in Norcross, Georgia, LXE also offers a full range of turnkey services, including radio integration, project and installation management, network design, technical support, and repair services. LXE is a wholly-owned subsidiary of EMS Technologies, Inc. (NASDAQ: ELMG), and has offices worldwide. For more information, visit [www.lxe.com](http://www.lxe.com).