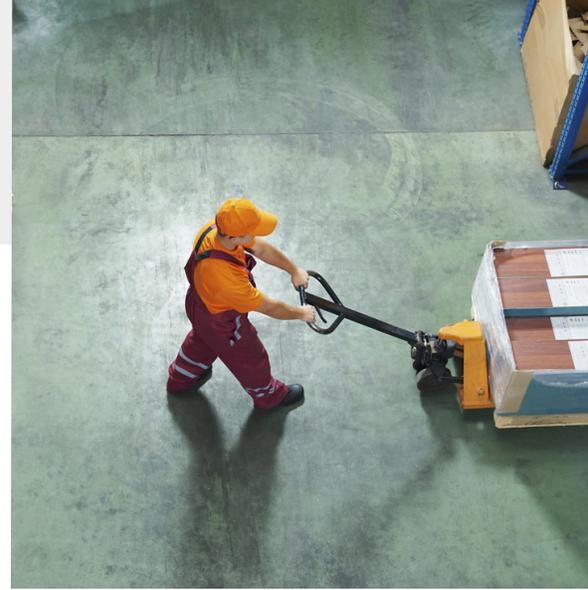




# Mueller® Co. partners with Dell and Havis to increase productivity and shipping speeds in a rugged warehouse



Distribution

United States

## Business needs

- To improve operational efficiency and quality of service for data transportation
- Provide better connectivity to WiFi and between employees and their applications
- Deliver enhanced inventory management
- Obtain cost-effective and safe dockable hardware solution for harsh work environments where extreme temperatures and moisture are present

## Solutions at a glance

- [Client Solutions](#)
  - [Dell Latitude Rugged Tablets](#)

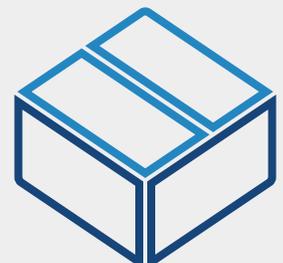
## Business results

- Enhanced hardware reliability through rugged systems that withstand vibrations, shocks, drops and extreme temperatures

Increased employee productivity through **better accessibility** to devices and applications



Improved **shipping speeds** and inventory management



Mobile computing problems in the warehouse can place undue stress on employees and operations. Whether it's connectivity or ergonomic issues, mobile technology in the warehouse can quickly hinder productivity rather than help employees work more efficiently when not strategically planned out.

Mueller® Co. — North America's largest supplier of products used in the distribution of potable water — was experiencing some of those issues with the existing computing system in its Chattanooga plant and warehouse. Employees reported problems in transporting data, WiFi connectivity and updating inventory.

A supplier of potable water distribution products from brass fittings to fire hydrants, Mueller is known for superior product quality and service that reduce costs for their customers, helping them operate their businesses more efficiently. To uphold this reputation, Mueller set a goal to improve its own operational efficiency in its Chattanooga location.

Brad Harvey, IT services manager at Mueller, began researching solutions to address the business problems that the warehouse team were experiencing. They needed cost-effective hardware rugged enough to withstand and adapt to a variety of harsh environments, from the extreme heat of its iron foundry to the excessive moisture of an environment that manufactures water products. This needed to be coupled with software that was intuitive for employees to use. On top of all that, they needed a solution to dock and mount the hardware in a secure manner that ensured both worker safety and comfort, enabling them to get the job done more efficiently and effectively.

“We really wanted to get to the point where our employees were not driving around with a 10 pound scanner on their hip,” Harvey says. “We needed something mountable to reduce the weight and to reduce the work that they had to do.” Harvey was searching for a scalable, customizable solution that he could build and adapt in different areas of the warehouse.

Another important factor in his search was ensuring that all products were test-fit, so that there was no need to work with multiple vendors in order to have a complete solution.

He wanted to find a solution from a company that aligned with the Mueller commitment to quality and service. And it needed to fit his budget to ensure a positive ROI.

In his research, Harvey connected with Dell. Based on the company's needs, Dell recommended a customized solution that included compatible products designed to work together to maximize comfort, safety and security in rugged warehouse conditions.

Dell recommended the Dell Latitude 12 Rugged Tablet, which is designed to work in environments prone to high vibrations, shocks and drops. The tablet is sealed against water and dust, and the tablet's anti-glare, multi-touch display is designed to respond even while wet or an employee is when wearing protective gloves. Its thermal management system combines passive and active cooling to sustain full functionality in high temperatures. These are all critical features to ensure dependability in a plant and warehouse environment.

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Director, Rugged Solutions,  
Dell Americas Client Solutions Group



*“This solution has revolutionized Mueller’s operations and has solved a lot of issues. They found so many different applications for the Havis solution with the Dell rugged tablet.”*

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“They needed a device rugged enough to withstand the environment, but also the same models and user experience their employees and IT team were used to in a regular notebook line,” says Patrick Seidensticker, director of Rugged Solutions, Dell Americas Client Solutions Group.

To dock and mount the tablet, Dell worked with Havis Inc. of Warminster, Pa. — a partner of Dell’s and a leading designer and manufacturer of mobile office solutions — to build a solution that Dell could recommend for Mueller.

To dock the tablet, Havis recommended its DS-Dell-601 Docking Station, a compact design engineered specifically for Dell’s Latitude 12 Rugged Tablet, with full port replication and integrated strain relieving to provide simple and secure connectivity to essential peripherals like scanners and printers. To mount the tablet and dock on the forklifts, Havis recommended its Forklift Height Adjustable Overhead Mount, which positions the tablet in the upper corner to maintain an unobstructed view for operators. The mount’s adjustable length and tilt/swivel functionality are designed to improve operator comfort and visibility. A 90-Watt Power Supply was the final recommendation, to ensure that the tablet could be operated remotely for an extended period of time.

Just over two weeks after Mueller received a quote for the mobile solution, 10 rugged Dell tablets, Havis docks and Havis mounts arrived for a three-month test period.

Harvey followed Dell’s advice for making sure that the solution was a good fit for Mueller: “Try to break it.” Over the next few months, Harvey put the tablet, dock and mount through a series of tests at the Chattanooga plant and warehouse. He dropped the tablet in a water-filled trough. Another time, it was drop-tested and, at another, the tablet was covered in mud. To test the solution’s functionality, Harvey popped the tablet in and out of the dock about 500 times for a continuous hour. During daily calls with Dell, Harvey reported on the results of every test — that the functionality never diminished.

Lift trucks at Mueller are exposed to extreme heat and dust in the iron foundry, where metal is melted. Harvey put the powered-on, plugged-in tablet and mount in the foundry next to a furnace exceeding 120 degrees. For two weeks,



he checked on the tablet — after wiping away all the soot — and never saw a heat warning.

When a forklift was mistakenly left outside, the docked and mounted tablet was exposed to heavy rain for more than an hour. The rain did not impact the functionality of the tablet and mount.

“If you can survive an environment that melts steel and shoots soot, and a torrential rain, it’s a well-built product. Both of them are,” Harvey says.

Harvey shared the photo of the rain-soaked forklift and mobile solution with Dell and Havis. Because the mount was initially installed upside down, water did not run into the ports as it normally would. Havis used the feedback to develop new waterproof models of the docking station.

After six months of extreme moisture, heat and vibration, Harvey reported that the tablet had not come loose from the dock, the power supply had not faltered, and the versatility of the forklift mount was already positively impacting operations.

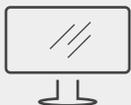
The tablet, through port replicators, could be mounted on a desk, kiosk or forklift and used with or without keyboards and wires tying employees to one location. The solution, coupled with hand straps and a light weight, Bluetooth scanner, helped employees stay mobile during inventory. The tablet’s standard Windows operating system can be used across operations and by employees at every levels without the need for extensive software training for employees or in the IT department.

“This solution has revolutionized Mueller’s operations and has solved a lot of issues,” Seidensticker says. “They found so many different applications for the Havis solution with the Dell rugged tablet.

“Havis was there for Dell and Mueller through the entire process — answering questions, jumping on sales calls and guiding the customer on deploying the initial solution,” Seidensticker says. “They were not only a resource for this solution, but also for technical power supply questions.”

Mueller has already observed an initial effect of increased shipping speeds and productivity. Mueller set a goal to increase shipping speeds in one year, and has so far measured an increase even before every available solution has been installed. The process of locating parts should be cut in half once the Dell and Havis solution is fully implemented. The time it took to load a truck for shipping was reduced by 20 percent. According to Harvey, one Mueller employee saved 1.5 hours daily as a result.

Other departments within Mueller and locations across the country have expressed interest in adapting the solution to improve operations. Mueller is planning to expand the solution throughout its Chattanooga location and to shipping operations in Albertville, Ala. and Cleveland, Tenn., on its mission to improve operations companywide.



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Dell Latitude Rugged Tablets



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