How Making Your Manufacturing Operation More Mobile Improves Productivity

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According to 2022 research by Siemens, the average large manufacturing facility loses $129 million per year in downtime costs – a 65% increase over the previous two years. With costs that high, it's critical that the technology you employ can stand up to the demanding conditions in your factory.

From moving raw materials and finished products throughout the facility to inspecting your production equipment, technology can help you increase productivity. But the key is finding the right technology – devices that allow your workers the mobility and flexibility to do their job without breaking down in challenging environments.

Safety is also a key concern when you're adding mobile devices to a factory environment. Any technology you employ has to allow for hands-free usage and other safety procedures to make sure it doesn't cause more problems than it solves.

In this playbook, we'll discuss how rugged mobile devices help you keep your facility running smoothly and meet production demands – without adding safety risks for your employees.

Manufacturing Challenges Going Into 2024

The United States Census Bureau reported in September, 2023 that the number of unfulfilled jobs due to a lack of skilled labor will hit more than two million by 2030.

That's why the number one challenge for manufacturing organizations as we head into 2024 is maintaining skilled workers – and meeting heavier workloads with the same (or even a shrinking) workforce.

At the same time, today's workforce has changed, expecting more from the companies they work for, especially when it comes to worker health and safety. The strongest companies post-pandemic recognize the need for stronger action in this area.

Meeting the needs of workers is crucial in today's labor market. The shortage of skilled workers means more competition for a shrinking pool of employees that can enter the workplace able to do their job efficiently without long, expensive training programs. Workers are also putting a heavier value on feeling successful at their jobs. Not every job is glamorous – but an employee who feels accomplished in their position tends to stick with their employer far longer than someone who lacks the tools to do their job effectively.

Technology can help boost that efficiency for workers – but they also need to be able to use that technology with a minimum of stress and downtime.

> "As you add technology in the factory, your workers need the skillset to use it. Currently there's a gap between what rugged mobile devices can do for employees and their comfort with those devices. If they're not comfortable with a device, they probably won't use it." – Sam Barall, Director of Enterprise Sales, Havis, Inc.

Labor isn't the only challenge manufacturers face in 2024 and beyond. The pace of production also keeps speeding up, with supplier relationships constantly shifting due to supply chain uncertainties. All of this makes asset management more complex than ever. Real-time insights are crucial, both for keeping up with production and for answering inquiries from customers whose expectations are at an all-time high.

> "Whether it's keeping a production line moving or getting parts from point A to point B, the biggest challenge is keeping that operation going as efficiently as possible." – Sam Barall, Director of Enterprise Sales, Havis, Inc.

To keep things running efficiently, everyone needs access to real-time data shared between different teams. Mobile devices that can live at the point where you're doing the work in these environments and that can feed data to a centralized location is essential to productivity in this space.

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How Rugged Mobility Enables Manufacturing Efficiency

Think about a typical factory: it's at least the size of a football field, and often far larger. If you're using paper tickets for picking up and moving materials, your forklift driver has to travel around the facility to get and drop off that order. Then, they have to go back to the office to get the next ticket. All of that driving adds up to a lot of wasted employee time.

But with mobile technology, you eliminate much of that running back and forth. Instead of returning to the office or a computer terminal, the mobile device can give your employee a list of orders/materials to pick up and move, eliminating a trip back to base between each one.

Extrapolated to all drivers on your floor, that adds up to huge time savings, which translates to huge cost savings. And the issue is even more pronounced if your worker runs into an issue, such as a product missing from a location the terminal or device says it should be in. Instead of a lot of back and forth with multiple employees hunting down that part or material, a mobile device allows immediate identification of the issue and communication with team members. Easier communication allows workers to solve the problem faster.

Adding extra technology to a factory setting comes with a risk, of course: the vast majority of mobile devices are just not built to withstand challenging environments. Environmental factors such as extreme dust, cold, heat or moisture can turn your mobile computer into an expensive, inefficient brick. For your new technology to solve more problems than it creates, it has to be purpose-built for these and other rough conditions. Paired with a rugged dock, the purpose-built rugged mobile device can stand up to just about anything your factory can throw at it.
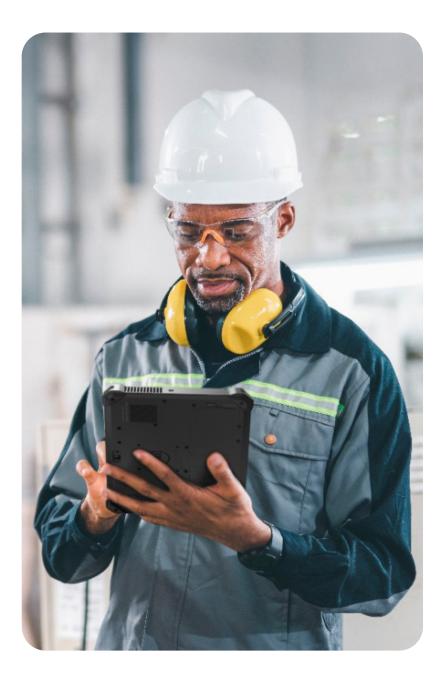
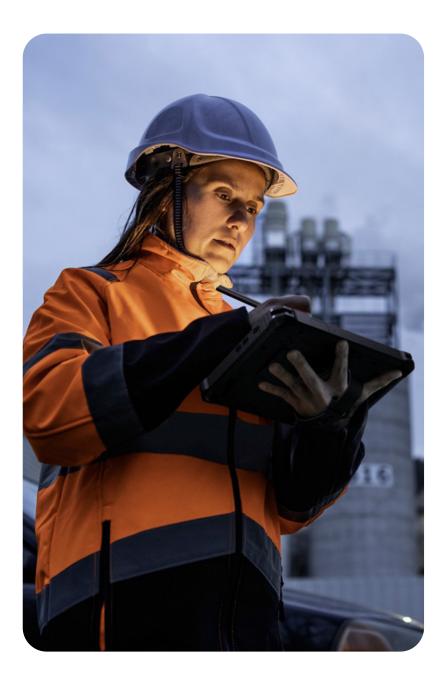## Rugged Mobility and Factory Safety

Rugged mobile devices offer several safety benefits as your employees go about their jobs.

First, with access to accurate data about equipment maintenance, employees can tell at a glance whether a machine needs routine or preventative service. Keeping up with equipment conditions both improves safety and reduces downtime.

Having a rugged mobile device that can feed your employee detailed procedures and cautionary notes as they perform their manufacturing or maintenance tasks can also make their job safer. Tools like checklists and on-device manuals ensure your workers don't miss a step while performing these vital tasks.

But using rugged mobile devices in this setting can also come with some risks – particularly for devices mounted on a moving piece of equipment, such as a forklift or stock picker.

"The forklift's the most dangerous piece of equipment in a factory. It's got a human driving, it can kill you and people are measured by how fast they can do their job. A device that reduces their situational awareness needs safeguards to keep everyone safe while the forklift moves through the plant." – Sam Barall, Director of Enterprise Sales, Havis, Inc.

One way to reduce the risk for rugged mounted devices is to employ software that can blank the screen while the vehicle's in motion to avoid distraction. You also need to place the dock where it won't compromise the operator's line of sight – and of course, ongoing safety training should emphasize proper mobile device usage while workers are on the floor.

Rugged Devices Need Rugged Docks

Mobile devices offer many advantages in manufacturing – but carrying the device at all times isn't practical for several reasons. First, as mentioned in the previous section, having a device in their hand can impact worker safety. You don't want employees carrying a tablet while driving a forklift, for example.

Going without a rugged dock has another big disadvantage: less flexibility when moving from one task to another. With accessories connected to facilitate picking and moving materials, it's time-consuming to remove the device when switching to maintenance or other tasks.

Docking allows your worker to leave accessories connected and just remove the device from the dock as needed, saving time between tasks. Over the course of a day, this can add up to a lot of recovered employee time.

Another big benefit to rugged devices paired with rugged docks is the ability to add user-friendly features, such as a magnet to attach the tablet to a metal surface. This allows the worker to see maintenance details and instructions while performing the job – without having to constantly pick the device back up.

Rugged mobile device docks employed on a factory floor have to deal with the same challenges as the device itself. Heat, cold, soot and dust, condensation and moisture, travel between environments (outside vs. inside) – all can take their toll on a dock not built for the environment.
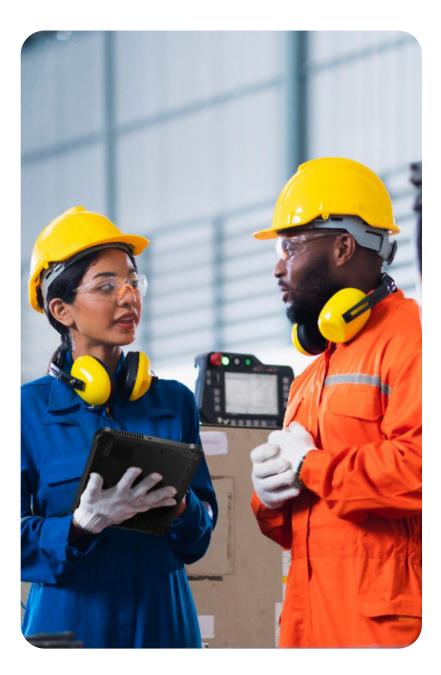
That's why it's crucial to find a dock as tough as the rugged device you're pairing with it. Most fully rugged mobile devices are IP65 rated, but not all docking stations are. If adding rugged mobile technology to your factory, make sure the docks you choose offer the same durability and reliability as your tablets.
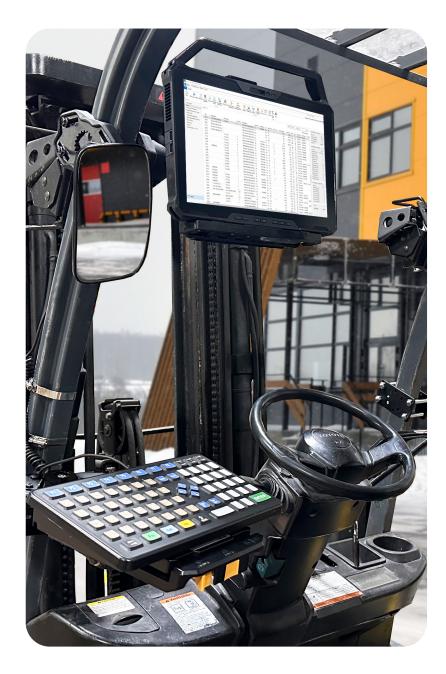
Considerations for Adding Mobility in Manufacturing

As discussed throughout this playbook, the factory environment is not suitable for regular, consumer-grade mobile devices. Investing in cheaper technology will cost you more in the long run – from obvious costs of replacing failed devices and soft costs of managing these replacements that can't stand up to wear and tear. You'll save far more over time by investing up-front in IP65-rated rugged mobile devices paired with IP65-rated docks.

Rugged tablets and laptops in manufacturing have to be reliable – and they need an ecosystem surrounding them that is ergonomic (not a 10-lb. computer), allows hands-free usage and doesn't block line of sight when using equipment, operating a moving order picker or running a forklift.

You also need a software environment that's familiar and user-friendly enough for your workforce to use it effectively. Basing your system on Windows, for example, ensures its interface is clear enough that your workers won't be too frustrated to use it.
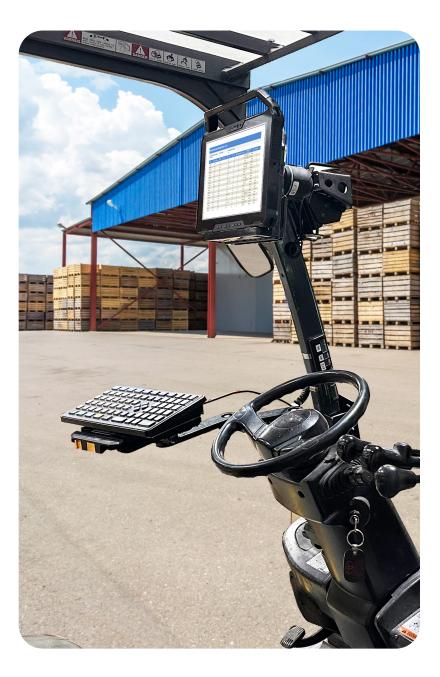
> "The last thing you want to do with the device in these environments is slow the work down." – Jason Franz, Global Product Planning Manager, Rugged Products, Dell.

One final consideration when considering the addition of rugged mobile technology to your factory: the screen size of each device and the tasks your team needs to perform with it. You may need different screen sizes and capabilities to accommodate inspection, assembly, diagnostics and repair, materials handling and more. While you're planning your tech purchase, keep the screen sizes and capabilities (such as glove-enabled touch screens or super bright displays for use in direct sunlight) in mind. Also consider looking for an IP-rated dock that can securely hold and provide all-day power to the rugged mobile device.

Conclusion

Rugged mobility is a powerful tool for meeting the most demanding, fast-paced manufacturing schedules in a tightening labor environment. Rugged mobile technology helps your team get more done with the same or fewer workers because it can stand up to tough conditions without causing its own downtime issues.

To enjoy the full benefits of rugged mobile technology in your manufacturing operation, you need rugged tested and IP-rated devices paired with rugged tested and IP-rated docking stations. With that powerful combination, you can ensure greater efficiency and productivity without sacrificing durability.

About Dell

Dell Latitude Rugged laptops and tablets are built to bring powerful productivity into the field. Dell Rugged devices feature bright, outdoor-viewable and glove-touch capable screens, powerful performance, Wi-Fi, optional mobile broadband, dedicated GPS as well as built-in security. The portfolio is complemented with a robust ecosystem of purpose-built, versatile accessories that further enhance productivity.

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Prevent and detect foundational attacks with the security of Rugged. Deep defenses at the BIOS, firmware and hardware levels keep the device protected in-use. Streamline how you deploy drivers, configure BIOS, monitor devices, and manage updates, with Dell Manageability Solutions. And with Dell Trusted Update Experience, simplify how you update your endpoints with the latest drivers.

Ultimate field productivity

You need to stay productive and work efficiently even when the elements are working against you. Dell Rugged laptops and tablets are designed for the way you work with features like outdoor-readable, glove-touch capable displays, legacy IO capability and advanced connectivity options.

About Havis

Havis revolutionizes industries by unlocking the full potential of technology to drive productivity and enhance safety through innovative mobility solutions. We take pride in being the trusted partner of choice for technology providers, enabling them to move business forward in a wide range of industries, such as Warehouse & Distribution, Retail & Hospitality, Transportation & Logistics, Public Sector, Energy & Utilities, Field Operations, Healthcare, Military, Defense, & Aerospace, and more.

Our engineering and product development centers serve as the backbone of our commitment to excellence. With a team of highly skilled engineers who have a deep understanding of design, manufacturing processes, and cutting-edge technologies, Havis consistently delivers products that set our market and industry standards and exceed customer expectations. Our state-of-the-art manufacturing facilities complement our engineering capabilities, allowing us to bring our design concepts to life with precision and efficiency. With a focus on quality and rigorous testing protocols, we ensure that our products are built to withstand the demands of real-world applications.

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In today's work-at-home world, the office is everywhere. With PCs running on Intel vPro®, IT can be everywhere too. The Intel vPro® platform comes with Intel® Active Management Technology and Intel® Endpoint Management Assistant (Intel® EMA) to help you remotely discover, repair, and protect PCs across your entire organization—adding simplicity to the support process and helping reduce disruption for employees.

Reliable Stability

Intel vPro® Enterprise Windows OS-based PCs undergo rigorous testing to help ensure a stable foundation for smooth fleet management. Plus, the Intel® Stable IT Platform Program (Intel® SIPP), provides platform validation that aims for zero hardware changes throughout the buying cycle, for at least 15 months or until the next generational release. Fewer hardware changes mean fewer hassles, especially when it comes to PC image deployment.

Delivering What Mobile Users Want

Intel vPro® is built for what IT needs. And Intel® Evo™ laptops deliver what mobile users want. Together, they create a new class of stylish, thin-and-light laptops that combines key features for IT—multilayer security and complete manageability—with a premium user experience that includes remarkable responsiveness, instant wake, intelligent collaboration, and longer real-world battery life.

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