HOW TO DRIVE FASTER ADOPTION OF WEARABLE TECHNOLOGY

Over the years, manufacturers have implemented consecutive waves of connected worker technology as a part of digital transformation efforts. Ruggedized tablets, immersive virtual reality (VR) and augmented reality (AR) solutions were widely accepted by manufacturers.

While the hype around wearables and remote connectivity has surged with the onset of COVID-19 pandemic, only a few businesses have fully transformed. Manufacturers reconsidering AR and VR technologies for remote connectivity still experience adoption challenges in five key areas.



01 NON-HANDS-FREE BACKLASH

Though ruggedized tablets typically use platforms familiar to workers and can be easy to use, the reality is that the majority of manufacturing employees work with their hands. Whether they're working on a production line, fixing a piece of equipment or inspecting product, the ability to work with their hands is integral to their job. To use ruggedized tablets in industrial environments, workers must take their hands and attention away from whatever they're doing.

In turn, this:

a) decreases worker productivity, because they have to pause an activity to look at the device (with lower productivity affecting the bottom line) and

b) decreases situational awareness, which is critical to being able to identify and respond to life-threatening safety hazards (which can also affect the bottom line).

Many immersive solutions that cover the face reduce peripheral vision and add to the digital distraction that workers, who already carry smartphones, have on the job. These solutions are simply better suited to the needs of architects and designers, who don't have the same rugged, hands-free needs as factory workers.

02 FRAGILITY BACKLASH

Many of the devices that have launched over the past several years weren't originally conceived and designed for a harsh industrial environment, where they may be banged up, dropped, exposed to dust, extreme temperatures, or used in other harsh conditions. They're consumer devices that have been marketed to manufacturing, but they weren't built from the ground up for use on a factory floor. Just look at the iPad: Though the consumer version was launched in 2010, ruggedized iPads and other tablets weren't adopted at scale by more than 1,000 workers in a single manufacturing business until 2014. Consequently, enterprise and worker frustration alike has grown with the cost and ineffectiveness of device replacement and frequent repair.

03 SUNKEN COST BACKLASH

Even with ruggedized mobile devices, the cost of device failure and malfunction in rough conditions contributes to the Total Cost of Ownership (TCO), which is not prioritized as much as the initial investment. On average, each incidence of device failure costs productivity loss of up to 70 minutes for each frontline worker.[1] In a post-pandemic economic climate of constrained budgets, finding the right mobile solution for the target application is vital.



04 APP & CONTENT INVESTMENT BACKLASH

Most companies don't have the large quantities of immersive and interactive content needed to deliver Internet of Things (IoT) data visualization, maintenance instructions, training and reference materials on these devices. Creating libraries of this content or developing apps for thousands of pieces of equipment represents a large investment, and certain types of content, such as 3D, isn't really needed to enable remote coaching, knowledge transfer and viewing of documents and checklists.

Content is also not standardized between different devices – what works on one device typically doesn't work on another due to aspect ratio, frame rate, image quality and other factors, so unique content must be created for each device. That means manufacturers have had to go all-in on a particular device and, with new, unproven technology, that investment can be hard to justify.

05 PROTECTIVE EQUIPMENT BACKLASH

Immersive solutions such as helmets or headsets that partially cover the face aren't compatible with safety glasses and other safety gear, and ruggedized tablets are hard to use or cannot be used with safety gloves. This makes the devices difficult or impossible to roll out to all workers.

THE SOLUTION: A NEW APPROACH

What's needed is a pragmatic approach to connected worker programs that's tailored to manufacturing and can deliver the digital transformation results the industry needs, instead of a futurist, technology-trying-to-find-a-problem approach.

A technological steppingstone can help manufacturers achieve their digital transformation goals and realize massive ROI, productivity, safety and knowledge transfer benefits from their connected worker devices. This begins with identifying the right device for your job. The qualification process requires an understanding of the following:



Environment

What is the environment that the device will be used for?

Does it require ATEX certification; is it outside, cold or loud?



User

What are the requirements of the user?

Do they wear PPE or prescription glasses? Is safety a concern?



Job task & software

What does the job task require and is there software available to support this?

Does the worker need to conduct a remote audit, or do they require remoteassistance to troubleshoot in the field?



REALWEAR INDUSTRIAL STRENGTH ASSISTED REALITY SOLUTIONS

RealWear is enabling the factory of the future by creating solutions that are purpose built for industrial use. Our assisted reality wearable solutions engage, empower, and elevate the modern industrial worker to be more efficient and perform tasks safely and with precision.

HANDS-FREE OPERATION

RealWear's 100% hands-free solutions allow industrial workers to intuitively navigate applications, documentation, and functions using simple voice commands, even in high-noise environments. The head-mounted device is fully compatible with PPE and provides a high-resolution micro display that sits just below the line of sight and can be moved out of the way when not needed.

RUGGEDIZED DESIGN

Our solutions can be deployed in wet, dusty, hot, dangerous and loud environments with minimal risk of failure. They can withstand a fall of up to 2m without any damage or loss of functionality. With a failure rate of less than 2%, RealWear products are 4X less likely to fail than a rugged mobile computer and almost 13X than a non-rugged mobile computer [2].

ANYTIME, ANYWHERE ACCESS

RealWear assisted reality solutions enable instant real-time video collaboration for remote expert guidance. They save costs, reduce operational errors and equipment downtime by allowing frontline workers to easily verify and document tasks through high-resolution photos and videos even in hard-to-reach places.

ENTERPRISE READY

Our solutions fully integrate with enterprise-class software, security protocols, and with a variety of device management solutions. Over 200 leading software providers have optimized solutions for the micro display and completely voice controlled navigation. With device commands and controls supported in 15 languages, RealWear solutions can be easily deployed using our global channel partner network.

Sources
1 https://realwear.com/total-cost-ownership-whitepaper/
2 https://realwear.com/wp-content/uploads/RealWear_VDC_Flyer.pdf

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