Total Looks to RealWear for Its Digital Transformation

RealWear HMT-1 hands-free headsets running Microsoft Teams allowed Total to connect onsite workers to expert colleagues anywhere in the world for faster equipment diagnoses and repairs.

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Total S.A. is an energy company that produces and markets fuels, natural gas and low-carbon electricity. Active in more than 130 countries, Total is committed to bringing safer, cleaner and more affordable and accessible energy to as many people as possible.

The Challenge

When complex refinery equipment needs maintenance or repairs, Total must slow — or even halt — production and bring in experts with specialized knowledge. This is a time-consuming and costly process.

The Solution

RealWear HMT-1Z1 hands-free headsets running Microsoft Teams allowed Total to connect onsite workers to expert colleagues anywhere in the world for faster equipment diagnoses and repairs.

The Results

- Eliminated travel and housing costs of visiting experts
- Improved collaboration of multiple teams across different time zones
- Reduced equipment maintenance and repair downtime
- Strengthened safety practices with hands-free controls

Core Use Case: Connect with offsite experts

Total S.A. is a broad-energy multinational company and is one of the seven Big Oil organizations. It has businesses and divisions that span the entirety of the oil and gas chain, from natural resource exploration to refining to distribution.

The Total Refining and Chemicals division oversees multiple refineries and chemical manufacturing plants all over the world. Its La Porte, Texas plant is the largest single-site polypropylene plant in North America and produces 2.7 billion pounds of polypropylene per year. Like its other facilities, La Porte uses complex tools and systems to drive large scale production. However, maintaining the specialized equipment requires specialized knowledge.

"Normally when there is a problem, operators start by collecting data," Eric Duchesne, Total Refining and Chemicals' Senior Vice President of Manufacturing and Project Division, tells *IndustryWeek*. "Then they work to answer subject matter experts' questions so the experts know exactly what is occurring."[1]

With more than 100,000 employees spanning 130 countries, it can be complicated, costly and slow to get the required experts to the site of an issue. Even if traveling is unnecessary or impractical, the onsite operator and remote experts need to pay special attention to their communications. A single missed detail can derail a diagnosis and lengthen the maintenance or repair process and further extend equipment downtime.

[1] "Accelerating a Total Transformation," ***IndustryWeek***.

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Creating a Better Process with RealWear and Microsoft Teams

Total turned to RealWear hands-free headsets and Microsoft Teams to completely redesign its collaboration process.

The RealWear HMT-1Z1 device is purposely built for safety in dangerous working conditions. Its rugged design can be worn with personal protection equipment such as attaching to a hardhat. The HMT-1Z1 enables the wearer to access and view digital reference materials on a high-resolution micro-display without hindering the wearer's environmental awareness. If the display isn't needed, it can be flipped out of the user's line of sight. The HMT-1Z1 is completely hands free with voice-activated controls.

"You put the HMT-1Z1 on your head, and you go handsfree," says Adam Hale, Superintendent of Maintenance Execution. "I can actually check vibrations and temperatures with my hands. I can turn wrenches or open up a book. I can work. The potential is high."

Story continues on following page.

hazardex

Hazardex Awards 2020: PPTex Innovation Category

RealWear is a nominee and runner up in the Hazardex 2020's PPTex Innovation category. This category looks for personal protection technologies (PPT) equipment that can be worn, held or used to improve safety within the process and high-hazard industries. Learn more at **www.hazardex-event.co.uk**.

> "You put the HMT-1Z1 on your head, and you go handsfree. I can actually check vibrations and temperatures with my hands. I can turn wrenches or open up a book. I can work."

"The ability to react to the facts and interact with people in the field is crucial," says Duchesne. "The solution brings subject matter experts to the location of the issue and enables everyone involved to leverage images, videos and documents to make decisions. Experts can ask questions as well — making it extremely effective when helping diagnosis issues and providing support whenever people are struggling with problems."

The out-of-the-box integration with Microsoft Teams also solves the collaboration challenge. Frontline workers can contact systems experts to more efficiently and effectively diagnose equipment failures or concerns. With a high-resolution camera, experts from anywhere in the world can see exactly what the frontline worker is seeing in real time.

Why is RealWear ideal for the oil and gas industry?

Oil rigs, chemical plants and refineries have some of the most dangerous working environments in the world. Equipment and devices used in these worksites must be purpose-built to improve safety and productivity while reducing risks.

Here's why the RealWear HMT-1Z1 is an ideal tool for the oil and gas industrial worker.

- **Approved to be used in hazardous zones:** The HMT-1Z1 is the only voice-operated intrinsically safe computer approved for ATEX Zone 1, IECEx Zone 1 and CSA C1-D1.
- **Does not strain the eye:** In a recent study,* the HMT-1 (RealWear's flagship device for non-restricted zones) did not reduce blink rate among industrial field workers.
- **Used by industry leaders:** Total eliminated travel costs, Shell has deployed RealWear HMT-1Z1s to 24 operational sites, and Schlumberger saw a 33% improvement in maintenance efficiency.
- **Reliable on long shifts:** The HMT-1Z1 has a long-lasting battery that can last 10-12 hours on a single charge.
- **Connects frontline workers with expertise:** Onsite workers can analyze machine health with IIoT visualization, get real-time guidance from remote experts and access digital equipment manuals.
- **Lightweight with rugged and practical design:** The HMT-1Z1 is light and can be worn comfortably for an entire shift. It's there when workers need it, and can be flipped out of their field of vision when they don't.

* "**Ergonomics Study of a Helmet-Mounted Augmented Reality System for Coal Power Plant Workers**," Ashley M. Toll, Marquette University.

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Digital Transformation Sets A New Tone for Safety and Collaboration

While RealWear was originally deployed to reduce travel costs and improve efficiency, the COVID-19 pandemic proved how they are crucial collaboration tools for business continuity — particularly for industrial frontline workers.

"Connecting our field operators to Total's experts and vendors, down the street or on the other side of the world, is particularly topical at a time when traveling is restricted," Duchesne tells the *Houston Chronicle*.[2]

However, the Total Refining and Chemicals division is looking forward to using RealWear and Teams on a daily basis in a post-pandemic era, especially when there's such positive feedback from users.

"When using Teams, people in the plant trying to solve an issue can connect with people throughout Total, as well as vendors and other external experts," says Duschesne. "In the past, these individuals would have to come to the plant. People are supportive because they see the savings in their time. They do not need to travel, yet the opportunity still exists to be very accurate in their advice."

Solution Highlight

Microsoft Teams on RealWear empowers first line workers with situational awareness when using Microsoft Teams in loud and hazardous environments.

Get Teams at RealWear.com.

Microsoft Teams

[2] "Total to deploy high-tech helmets for COVID-19 safety," ***Houston Chronicle***.