Wipro's Digital Field Worker
Solution for Mining





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In mining, manufacturing and process industries, field workers often find it challenging to communicate with colleagues and access required information or data in a convenient manner. In hazardous areas, the workers' health status assessment and monitoring is a cumbersome exercise and employees are not always able to have real-time notification of hazardous work conditions.

Solution

Wipro's digital field worker solution is a voice-activated hands free platform integrated with environmental sensors to enhance safety, productivity, and collaboration. The platform

supports Wi-Fi, bluetooth and real time location sensing via GPS. It can be used in wet, dusty, hot, dangerous and loud industrial environments. The fully rugged head-mounted device snaps into safety helmets or attaches to bump caps and can be used with safety glasses or corrective eyewear.

The solution is purpose built for the industry and deploys an accelerometer functionality to enhance safety, productivity and collaboration. It enhances the productivity and connectivity of workers in the field by automating sign-in/out, delivering data, documents and applications to a worker in real-time while simultaneously improving worker safety via work-fatigue gas detection, hazardous zone alerts, helmet removal notification in hazardous areas, man-down alerts, and notifications.

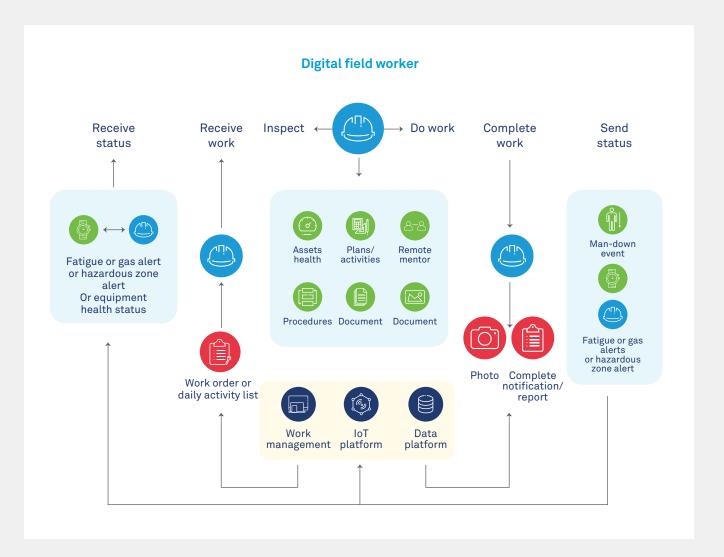


Figure 1: Solution overview

Benefits

- Integrated safety monitoring and reporting applications to monitor workers
- Guided procedures for safety and maintenance help ensure consistency, compliance, higher quality execution of tasks, and avoidance of rework
- Remote collaboration and mentoring solution enables real-time support using voice and video collaboration
- Accelerated delivery of outcomes through improved and faster decisions
- Ready access to information in the field, without having to carry a tablet or laptop

Features

- Enhance safety, efficiency and collaboration by providing improved access to information while working
- Fully integrated with customer systems to align with and support workflows, visualize operational data, connect with remote mentors and support the ability to view detailed documents and plans
- Compatible with most PPE (personal protective equipment) and allows workers to operate device hands-free
- Can be managed in similar manner to desktops, laptops, mobile tablets and other hands free devices

- Enhanced access to decision-critical information through an intuitive mobile device
- Ability to take photos/videos and incorporate into reports and notifications
- Increased ability to collaborate and capture job information (including photographs and video) in the field, including intrinsically safe zones
- Automated voice to text translation to capture input of free form comments
- Built-in GPS /location functionality enables real-time alerts to the wearer if they are in areas which are non-compliant (e.g. in a hazardous off-limits zone or if they do not have the compliance certificates)
- Safety attributes applied to the mine site and mine design model could be used to feed this information or allow the application to query a spatial database on a regular basis
- Safety feature to monitor work-fatigue, gas detection, hazardous zone alerts, helmet removal notification in hazardous areas, man-down alert and notification

 Real-time notification of hazardous work conditions

Potential use cases



Complete checklists, data entry and inspection including image and video capture Two-way video call with documents and annotations for specialist assistance

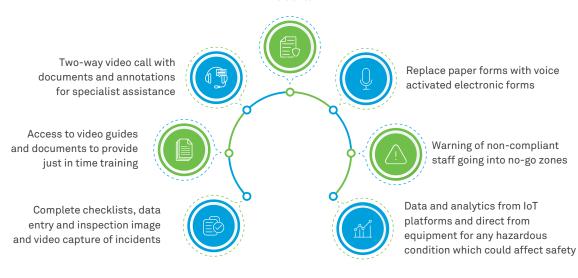
Data and analytics from IoT platforms and direct from equipment



Stepwise visual and verbal instructions for assembly or maintenance Access to video guides and documents to provide just in time training Can be integrated with maintenance management system to view, create and execute work orders Replace paper forms with voice activated electronic forms

Health and safety

Stepwise visual instructions for safety incidents



Environment

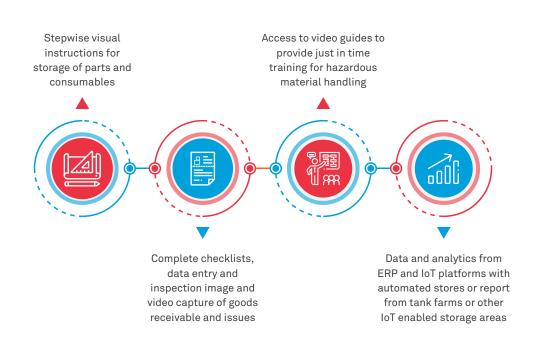
Stepwise visual instructions for environmental incidents



Data and analytics from IoT platforms and direct from environmental sensors for any hazardous condition which could affect the environment (e.g. spills, leaking tanks, dam wall leakages)

Replace paper forms with voice activated electronic forms

Warehouse / logistics



Geology / Drill & blast / Geotechnical

Use in core and rock chip logging in hand free approach

Potential use in rock fragmentation analysis utilizing in-built camera linked to fragmentation analysis application

Inspection and checking actual
vs planned against mine
designs for potential
geotechnical hazards (pit wall
movement, drive wall spalling)

Inspection vs planned overlaying actuals ex confirming and LHD o

Inspection and checking actual vs planned extraction via overlaying grade models with actuals extraction and confirming with senior geologist and LHD operations

Logging of geotechnical features and incorporating camera for image capture

Wipro Limited

Doddakannelli, Sarjapur Road, Bangalore-560 035, India

Tel: +91 (80) 2844 0011 Fax: +91 (80) 2844 0256

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For more information, please write to us at info@wipro.com

