

WIRELESS HMI CHANGES EVERYTHING

Mobile tablets help optimize resources, deliver greater visibility into assets and operations and improve worker productivity by giving operators access anywhere on the plant floor to controls and data.

By June Ruby, Motorola Solutions

>> Wireless changes everything. Just as it has affected our personal lives, mobile solutions also have transformed every aspect of how businesses operate. They optimize resources, deliver greater visibility of critical functions and assets and improve worker productivity.

And with new devices designed for industrial environments and intelligent operating systems emerging, nowhere do mobile solutions have a greater opportunity to drive change than in manufacturing.

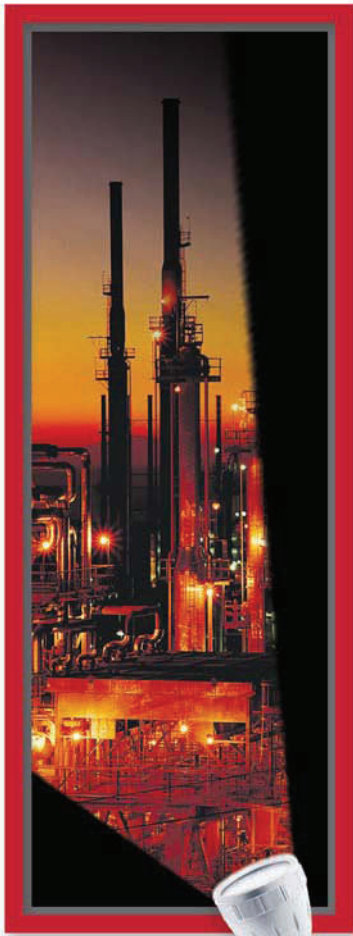
Mobilize to Optimize Plantwide Performance

With lean management principles at the core of manufacturing, resource allocation and continuous improvement in both line and plant performance remain a key focus. Getting operators out of the control room and away from wired workstations lets them handle additional tasks.

Mobile handheld computers and tablets keep operators connected to operations anywhere on the plant floor, with immediate access to critical information, alarms, alerts and automation control with mobile human-machine interfaces (HMI).

Tablet computers, built for the enterprise, provide a sophisticated and desirable form factor for the mobile operator with a large screen and the horsepower to support graphic-intensive applications and voice capabilities. The ability to capture real-time data increases its accuracy and timeliness, facilitating better analysis and identification of incident causes and correlation with quality compliance measures.

Mobile operator solutions enable faster responses to changing plant conditions and improve productivity, because they allow control over a myriad of applications to monitor and manage programmable automation controllers (PACs) and supervisory control and data acquisition (SCADA) systems as well as collect and proactively analyze performance and operational data.



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Less Time Needed for Manual Rounds

Operators perform daily rounds and inspections. They assess machinery performance, perform line-side quality tests, collect samples and even complete maintenance tasks, such as machine calibration.

Traditionally, data collected during rounds gets recorded manually then logged into workstations in the control room. Without the automation of mobility, this process requires a significant investment of time and resources, increases potential for errors and adds hours to the feedback loop.

With “go-and see” capabilities and real-time connectivity between back-end systems and mobile devices, operators can monitor and better maintain existing assets, reducing unscheduled and costly downtime. Data can be collected efficiently from noninstrumented types of production equipment and condition-based asset management performed.

Basing repairs on actual asset conditions saves maintenance costs and parts investments, and allows operators to optimize asset use. Mobile applications using barcode or RFID scanners can pull up critical equipment information immediately so new values can be entered and tasks validated. They also can analyze inputs and trigger an alert, generating an immediate work order that could potentially eliminate catastrophic downtime and related safety issues.

With the same device, operators also can collect product samples on the line. Rugged handheld computers and tablets can be networked with other devices and systems for labeling and tracking.

As an example, with a small hip-worn networked printer, barcode labels can be created automatically for a sample with date, time, line and operator reference automatically assigned. Then when the sample is delivered to the lab, they can be scanned, processed and tracked. Enabling applications to travel outside of wired workstations brings the visibility and actionable data required to drive true process transformation.

Standardizing Workflows, Driving Efficiencies

New employees often don't have the years of experience needed to streamline processes and drive efficiencies. Mobile operator applications can standardize and optimize workflows, ensuring that everyone, regardless of their role or tenure, follows the same procedures to start up or shut down a production line, for example.

As a training tool for continuous improvement, mobile solutions support knowledge transfer for all workers, increasing their effectiveness. Mobile solutions also can reduce costly downtime by shaving minutes off critical processes that translate into big savings.

Mobility also facilitates business continuity. When real-time data is

>> Video: Watch an HMI Tablet in Action

Visit <http://bit.ly/uHYEWt> to watch June Ruby and Brian Viscount from Motorola Solutions demonstrate a first-of-its-kind HMI mobile tablet for industrial applications, including mobile asset management. Go to <http://bit.ly/uHYEWt> now to watch the video.





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captured on the plant floor, operators starting a new shift have immediate visibility to the status and performance of equipment, assets and other critical data inputs, alerting them to potential issues in advance. It empowers workers with immediate access to critical information when it's needed most, so plant managers can optimize the allocation of resources, elevate production efficiencies and respond to customer demands effectively and accurately.

Benefits of Mobile HMI

Whether a manufacturer is trying to improve line or plant performance, boost profitability or achieve real-time visibility and automation control, mobile HMI can help.

Historically, operators and supervisors are on the move in process areas or on the manufacturing floor. They move back and forth from machinery to desktop computer stations located at or near their workstations or in control rooms. This is where they enter and access data, ranging from inspection information and alarm codes to key performance indicators (KPIs) and maintenance schedules. From these workstations, operators and supervisors also access email, shop orders, routing instructions or enterprise resource planning (ERP) systems.

The more time operators spend away from the floor with their eyes off machinery, the bigger opportunity for error in the management and maintenance of critical plant equipment.

Mobile HMI changes this, taking fixed workstations and placing them in the hands of operators and supervisors. With mobile computers and tablets, information can be accessed at the point of work. Everything they need to do their jobs — and do them better — is literally in the palm of their hands.

PACs create the foundation of a manufacturing automation system. On top of the PACs sits the SCADA

system. HMI ties it all together. Mobilizing HMI enables personnel to determine, in real-time, whether machines are running according to KPIs, making it easy to take immediate action in the event of an alarm or production exception. On-the-spot decision-making keeps manufacturing operations running safely, equipment operating properly and guards against unplanned downtime.

The Time for Mobility is Now

Time is money. When manufacturing enterprises transition from a wired world to wireless, good things happen. Operators who work in real time — closer to their machines and the products being manufactured — gain more control over the process. Productivity and profitability go up and costly downtime is reduced.

Today's industrial mobile solutions are designed to meet the rigorous demands of the plant floor. The time has come to put mobile operator solutions to work and bring new levels of visibility, productivity and control where they're needed most. □

Motorola Solutions is an Encompass™ Product Partner in the Rockwell Automation PartnerNetwork™. Based in Schaumburg, Ill., Motorola Solutions supplies manufacturing mobility solutions to automate manual processes, increase productivity and improve quality levels and asset utilization. The company is working closely with Rockwell Automation to mobilize HMI on the ET1 tablet. To learn more, visit www.motorolasolutions.com/ET1.

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