BROCHURE

The final maintenance mile

Digitizing operator rounds and routine duties

What are operator rounds?

Many critical industrial assets are not continuously monitored by SCADA or distributed control systems (DCS), making regular field inspections essential to maintaining production targets. During operator rounds, skilled personnel inspect equipment and assets, record observations and document asset conditions. Traditionally, this information is captured on paper and later entered into spreadsheets or digital systems, creating a manual and time-consuming process.

Disadvantages of paper-based operator rounds

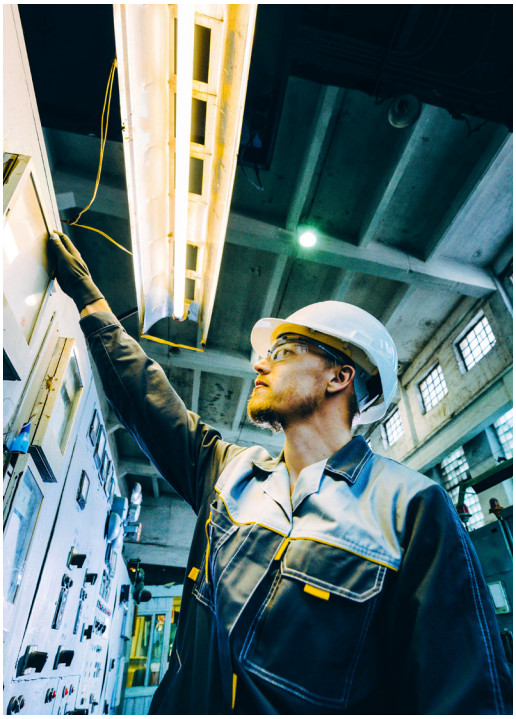
There are many disadvantages of using paper and clipboards to record operator rounds data. Consistent information collection is difficult, and transcribing the data to a spreadsheet is error-prone and tedious (and a daily frustration for operators). When recorded on paper or spreadsheets, data is seldom analyzed and often remains unviewed. These issues are well-recognized in industry processes.

Paper-based operator rounds have a negative effect on the maintenance of assets. Key readings are not routed to the relevant maintenance people or are missed because they are hidden in reams of numbers. The data collected at the point of measurement is insufficient because paper forms only require a number without background information.

Digitizing operator rounds

There are advantages to digitalizing operator rounds. In particular, the collection process is supported by digital prompts and collected data is automatically routed to a database and made available to all the software applications and stakeholders that need it. This new data visibility is a major step forward.

The impact of digital operator rounds on maintenance



With digital operator rounds, the maintenance procedures can be connected tightly. The result is more accurate data, faster problem diagnosis and reduced equipment repair time.

The following steps show a typical maintenance procedure that can be part of digital operator rounds:

1. The functional locations are synchronized with the computerized maintenance management system (CMMS), meaning that any information entered during the operator rounds is connected to the assets defined by the CMMS.

2. The operator records the information using a mobile device and creates a work request notification to the CMMS. This process can be optimized when using digital technology, for example:

    a. Key assets or assets that are approaching a repair milestone can be measured more often.

    b. When an out-of-specification reading is taken, the operator can be prompted to enter additional background information.

    c. The operator can be better informed about the specific issue by providing trends and background information from the engineering data.

    d. In cases where Wi-Fi is present, the operator can see additional real-time information coming in from the DCS or data historian.

    e. Digital operator rounds can automatically correlate the values collected from the data historian with the operator-entered values. Inconsistencies can be automatically routed to the instrument or maintenance engineers.

3. The work request notification is validated by a responsible person and routed to maintenance personnel through the CMMS. The supervisor receives this data automatically when the operator returns to areas covered by Wi-Fi. The data also appears automatically in the shift handover report, which is typically escalated to area controllers. At this stage, the supervisor validates the work request notification by checking for duplicates, adding relevant data such as urgency details and sends the validated work request to the maintenance department.

4. The maintenance department creates the work order and permit to work (PTW) requirements and sends this back to the operations team. This process is simplified because the diagnostic data can be copied from the work request into the work order. The work order is tied to the work request, providing continuity of flow. The PTW and associated isolation certificates can often be created with digital PTW software.

5. The work order is processed and the completion status is sent back to the maintenance department.

Benefits of digital maintenance work requests

Digital operator rounds provide significant benefits and essentially add the last mile of digitalization to the maintenance cycle. There are benefits in each step of the maintenance cycle, as shown below.

Field collection of asset data	
Benefits	**Outcomes**
The operator is guided so that they only record asset data when it is necessary	More efficient labor usage
The frequency of asset value recording can be dynamically controlled to view assets that are close to maintenance milestones more often	Reduction in unplanned breakdown maintenance
The operator receives prompts to ensure they follow procedures. An operator is alerted to out-of-specification readings and must follow the prompted procedure	Consistent procedure execution ensures out-of-specification readings are acted upon
Trend visibility and real-time data visibility under Wi-Fi coverage	Difficult to diagnose issues become apparent, reducing unplanned breakdown maintenance
Ability to record photographs, sound recordings and videos	Clearer diagnostic information results in better actions
GPS information, time of recording and operator data recorded	Improved auditing and compliance
Ability to write notes that appear in the operations logbook and shift handover records	Important context information is available to everyone who needs it
Automatic routing of work requests that contain key field data to the relevant person on the site	Fast access to maintenance issues sent automatically to the relevant person

Validation of work requests	
Benefits	**Outcomes**
Comprehensive data including images and other media received automatically in the control room as soon as the mobile devices connects back to the Wi-Fi	Fast comprehensive information available to the authorized person
No requirement to transcribe information from paper to a digital format	Fewer errors and no tedious double entry
Ability to easily check historical data both from previous operator rounds and from the real-time sources such as data historians and the DCS	Improved information context means improved decisions
Access to previous work requests and work orders	Avoids work order duplication
Simple, consistent routing of the validated work requests to the maintenance department	Fast processing means shorter time to repair

Creation of work orders		
Benefits	→	**Outcomes**
Comprehensive information related to the work request delivered faster to the maintenance team	→	Better context enables a more confident execution of the work order
Context information can be automatically attached to the work order	→	Context will help the contractors carry out the job more effectively

Carrying out the work orders		
Benefits	→	**Outcomes**
Faster, more comprehensive information received by the work order processor	→	Faster time to repair
Automatic association with digital PTW software is possible	→	Safer work environment
Maintenance and operations staff receive status updates as the work progresses	→	Maintenance and operations teams are aware of the jobs being undertaken

Digitization summary

This document has explored the challenges associated with paper-based operator rounds and how digital operator rounds can help address them. By replacing paper processes with mobile-enabled workflows, organizations can improve efficiency, data quality and operational visibility.

In conclusion, the move from paper-based to digital operator rounds delivers rapid value and supports safer, more reliable operations. Digitizing critical processes can help strengthen maintenance performance while advancing broader operational goals.

Ready to modernize operator rounds and improve frontline execution?

Learn how digital operator rounds can help your organization drive greater efficiency, reliability and operational excellence. →

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets– for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.