

# Concert

## Well testing live performance

### APPLICATIONS

- Land and offshore well testing, cleanup, and production testing
- Exploration wells, flowback tests, and producing wells
- Real-time wellsite monitoring and continuous process monitoring

### BENEFITS

- Greater wellsite efficiency through real-time data sharing
- Timely, informed communication for operational support and decision making
- Consistent data quality and confirmation whether test objectives are being met through real-time data diagnostics
- Safer handling of fluids at surface
- Minimized manual measurements by replacement with inline continuous monitoring
- Decreased environmental impact through continuous process monitoring

### FEATURES

- Test design augmented with real-time contextual data, diagnostics, and efficiency metrics
- Flexible wireless sensor network based on the job requirements
- Connected digital data acquisition, display, and analysis
  - Encrypted and password-protected local WiFi network
  - Ruggedized tablets and wearable technology
  - Four video cameras with 20 days of high-definition (HD) video storage for monitoring burning operations
- ATEX Zone 1 rating (Ex II 2 G IIB T4,  $-20 \text{ degC} < \text{ambient temperature } [T_a] < 50 \text{ degC}$ ) and CE marking
- Web-based dashboard providing the same data and video display and voice communications for all, with focus customization
- Advanced diagnostics for the well testing crew to predict operational events

### The collaborative, information-centric well testing system

Conducting well tests is critical for informing evaluation to confirm a reservoir's capacity to produce oil and gas. The results affect the accuracy of reserve bookings and hydrocarbon recovery efficiency. However, conventional well tests pose numerous challenges, ranging from environmental and safety considerations to data quantity and quality, especially in ensuring that test objectives have been achieved.

Concert\* well testing live performance digitally integrates all aspects of well testing to introduce information transparency through new levels of collaboration and accessibility. Sensors and cameras are deployed across all surface test operations for data acquisition, monitoring, and analysis via tablets and wearable technology. Robust software drives web dashboards and video displays to the tablets and wherever customers specify, with everyone viewing the same data, diagnostics, and analysis. Perception and comprehension are advanced for the wellsite team, remote operations center (ROC), and customers in conjunction with real-time communication to significantly support achieving successful test completion.

### Heightened vigilance and awareness

Concert performance makes process data available everywhere at the wellsite. Personnel can see and monitor all process data and trends and are instantly notified when an alarm is raised or an event is predicted by the system.

Wireless sensors and cameras continually acquire data without human intervention across the operation. At the separator, specific gravity, pressure, and temperature are recorded without any personnel exposure to gas and potentially  $\text{H}_2\text{S}$  and  $\text{CO}_2$ . Water cut is determined as a fullbore measurement that is immune to the formation of emulsions. Concert performance also introduces a new sensor integrated with the emergency shutdown system for measuring the liquid level, pressure, and temperature in the surge tank by using radar. The cameras monitor burner combustion to provide video surveillance for fallout and emissions.



#### ATEX Zone 1

Wearable communication system

#### ATEX Zone 1

Tablet with chest holder

*Concert performance equips wellsite personnel for real-time data access and communication.*

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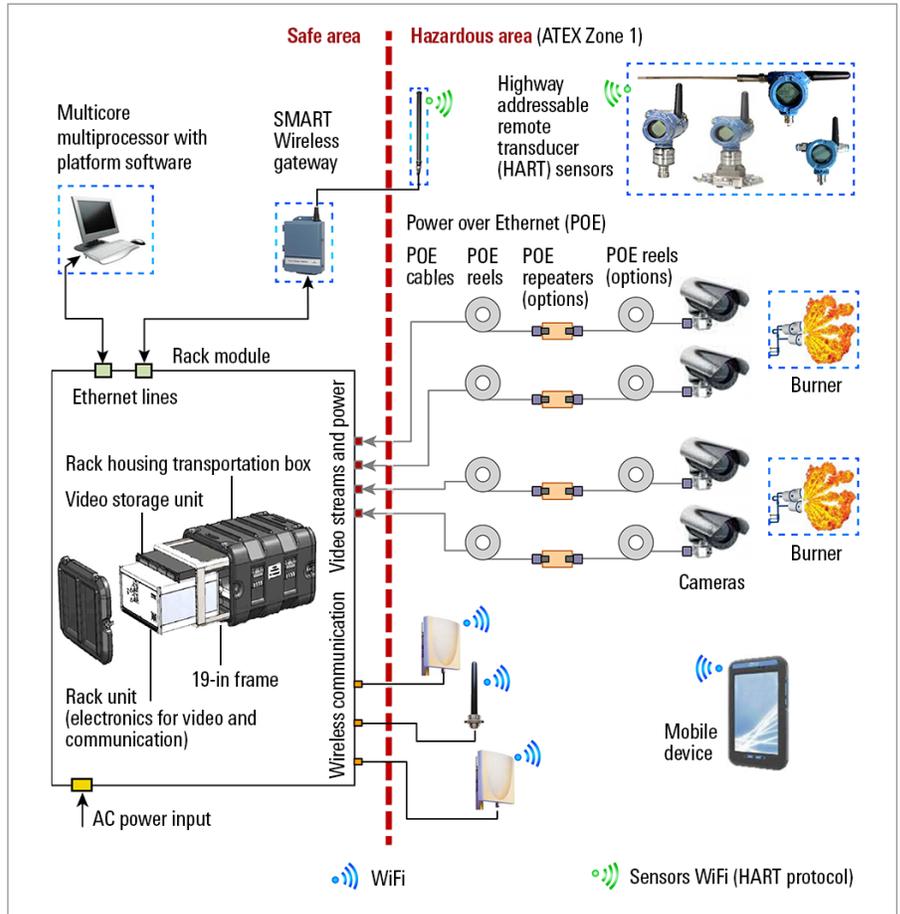
## Improved communication

A well test is a complex process that requires a wide variety of equipment and a large crew to operate. The collaborative work environment enabled by Concert live well testing performance for the well testing team, ROC, and customers significantly supports operational safety and efficiency. Data shared in real time drives concurrent analysis and furthers understanding to shape the scope of work as necessary. Advanced diagnostics help in predicting operational events.

## Focus on the process

Concert performance outfits well test operators for instant access to process data, support while performing manual fluid processing, and efficient team communications, all while the system is directly fed data, events, and information.

The amount of time spent by personnel walking around the well test site to read sensors or request data from the central acquisition cabin is significantly reduced—along with their exposure. Essential real-time data about the status of the ongoing process is immediately available on the tablets and shared from the wellsite to support taking the right decision in a timely manner. Confidence in process control and the test results is raised as tasks are appropriately prioritized and actions taken.



Sensors and cameras are comprehensively employed for the automatic collection of testing data.



Concert performance transparently shares data, video, diagnostics, and analysis for informed decision making.

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