Honeywell’s Elster Precision Solutions for the Intelligent Gas Value Chain

By Tim Shea

Although most headlines over the last two years have focused on the impact of falling oil prices, the natural gas market has been struggling to operate profitably in a low-price environment for several years. Natural gas businesses operate within a broad, yet tightly integrated value chain comprised of gas production, gathering, processing, gas-to-liquid (GTL), liquefied natural gas (LNG), storage, pipelines, and gas distribution. This requires precision solutions that reduce total cost of ownership, capex, opex, and financial risk over the life of assets.

In this demanding environment, ARC believes that owner-operators and EPCs alike could benefit from partnering with automation suppliers that can combine a comprehensive, pre-integrated portfolio of products and solutions with appropriate domain knowledge. These solutions can include precision instrumentation solutions to provide data up through and to the enterprise level for actionable decision-making.

Honeywell recently briefed ARC Advisory Group on the company’s portfolio of Elster Precision Solutions for the intelligent gas value chain. Honeywell has significantly increased its portfolio of products and services for natural gas operators over the past several years, most recently with the acquisition of Elster, a well-respected company focused on developing precision instrumentation solutions and skids and station solutions that can help reduce both costs and project completion times. Honeywell’s current portfolio includes pressure reduction; metering; wireless measurement; DCS; SCADA; simulation, optimization, and ERP software; fire & gas (F&G) systems; security, surveillance and access control; and SIS.

This broad portfolio enables the company to service a wide array of applications including: FPSO & offshore, conventional gas, tight oil & gas, shale oil & gas, coal bed methane, GTL, oil treatment/gas processing/LNG lique-
faction, LNG terminal/down-loading storage/re-gasification, underground storage, pipeline transmission, power plants and industrial plants, city gate station, and gas distribution to industrial users, commercial users, residential users, and power plants.

**Elster Precision Solutions**

Honeywell’s “Elster Precision Solutions” includes skids and stations for both metering and control for both gas and liquids. Honeywell claims to offer full and easy access to all available data and goes beyond metering in offering the highest level of safety, efficiency, and precision.

The main applications Honeywell serves through it’s over 4,000 skid and stations solutions include:

- Custody transfer measurement
- Gas distribution metering & regulating (M&R) stations
- City gate stations
- Transmission pipeline systems
- Power plant flow and quality metering systems
- Bio methane grid injection
- LNG metering (gas phase), and
- Meter calibration facilities/ systems
Elster GasLab Q2

Elster’s acquisition provides Honeywell with new precision instruments, such as the GasLab Q2 analyzer, which can help its customers improve measurement speed, accuracy, reliability, performance, and confidence and reduce risk in critical applications such as fiscal metering, gas turbine control for power plants, burner control, biogas, and gas blending.

The Elster GasLab Q2 gas quality analyzer provides fast, accurate, continuous measurements of main gas parameters, including calorific value, Wobbe index, density, CO2 concentration, and methane. Significantly, unlike standard gas chromatographs (GCs), measurement speed is fast enough to enable the automation system to react to changes in gas quality before they can affect process or turbine performance. What’s more, with the analyzer’s flameless operation, no air or carrier gas is needed.

According to Honeywell, the GasLab Q2 delivers the following benefits:

- Reduced footprint and cost of gas metering system
- Reduced service trips with capability of health care monitoring from office (through enSuite software)
- Reduced gas consumption for calibrations – typically one gas bottle every five years (vs. more than one bottle per year for a typical GC)
- Increased maintenance periods through less visits per site

According to the company, documented lifecycle savings for customers using the using GasLab Q2 in lieu of a standard GC exceed $60,000.

Ultrasonic Gas Meter Elster TwinSonicplus

The Elster TwinSonicplus ultrasonic gas meter combines the fiscal and verification capabilities of two separate meters (Q.Sonicplus 6-path and CheckSonic VX 2-path) in a single ultrasonic flow meter housing with one communications protocol. According to the company, this “two-in-one” meter fully complies with North American market needs. Unique benefits include improved performance through dynamic meter body correction
and path geometry, improved accuracy of measurement under non-ideal flow conditions with the patented 6-path configuration, and improved measurement confidence by combining two measurements in one meter housing.

Honeywell claims TwinSonicplus users will realize the following benefits:

- Reduced footprint and cost of gas metering system
- Remote connectivity using SonicExplorer software reduces service trips with capability of health care monitoring from office
- Potential loss due to mismeasurement of unaccounted for gas limited to 0.5 percent over one-year period
- Pipe wall condition monitoring and additional independent measurement in the same meter body.

Honeywell has documented lifecycle savings in excess of $180,000 using the TwinSonicplus compared to more conventional approaches.

**Meascon**

Honeywell Elster’s newest solution, Meascon (scheduled for release in Q1 2017), will offer users the ability for remote condition-based maintenance. It will provide a diagnostic dashboard that offers a real-time overall view of gas metering stations (ultrasonic and gas quality meters) and automates 24/7 condition-based monitoring of the measurement system. Meascon will continuously validate the customer’s metering system, enabling remote diagnostics and condition-based monitoring using predictive maintenance.
According to Honeywell, our large industry end user organizations are currently testing Meascon in the field. The solution will be made available as a subscription service for gas-metering solution customers beginning early next year.

Honeywell believes its Meascon solution will add value for users through:

- Predictive, condition-based maintenance of ultrasonic gas meters by monitoring drift via constant data gathering
- Regulatory compliance through auditable evidence to support extended periods between recalibrations
- Reducing operational expenses and minimizing risks

**Conclusion**

Companies operating within the natural gas value chain face constant price pressures, increasing focus on capital and operating costs, the “Great Crew Change,” increasing global demand for affordable energy, and increasingly stringent regulatory oversight. It appears that, with its expanded portfolio and significant domain knowledge, Honeywell is well-positioned to help its customers in the challenging natural gas business improve operator effectiveness, reduce TCO, and realize operational excellence.

You may also view the online version of this blog on [ARCweb.com](http://ARCweb.com).

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