



“It’s difficult to meet demand efficiently, cost-effectively, and responsibly.”

World-class manufacturers achieve high reliability at lower cost. These companies recognize the value of reliable operations and focus on failure elimination. These best performers build reliability into their corporate strategy and compete effectively in the global marketplace.

Al Poling, HSB Solomon Associates, “Reliability and maintenance: The path to world-class performance” 2012

What if...

- You could **keep your employees safe and maintain compliance** with environmental regulations?
- You could **reduce maintenance-driven downtime** to meet production volume targets?
- You could **minimize the costs from energy inefficiency, undiagnosed refinery loss, and unnecessary maintenance?**

Do you have the control you need to run your refinery efficiently and responsibly?

Worldwide energy consumption is increasing, presenting refineries like yours with a tremendous opportunity—along with significant risk: Not only are you expected to meet this rising demand, you’re expected to do so as efficiently and cost-effectively as possible.

But the growing complexity of your operation makes it difficult for you to meet your production targets, let alone at an acceptable cost. Maintenance is an ongoing concern, with the risk of an unplanned shutdown a constant threat. Meanwhile, production costs—particularly the cost of energy—are consuming an ever-increasing portion of your budget, placing further pressure on your margins. And, due to the public nature of your role, the whole world is watching how responsibly you manage the plant with which you are entrusted.

Refinery managers we talk to tell us about challenges like these:

“I’m challenged to uphold my environmental, health, and safety responsibilities.”

Meeting your environmental, health, and safety obligations is vital to your success. You strive to operate responsibly, but maintaining this level of responsibility in the face of constantly changing global environmental regulations and the everyday hazards inherent in the petroleum industry is more difficult than ever. To meet this challenge, you need to navigate an increasingly complex regulatory environment while minimizing the risk to your employees, your company, and the community at large.

“I’m not meeting my production volume targets.”

You’re under pressure to meet production volume targets- and given the social and financial consequences of failure, the stakes have never been higher. Unscheduled shutdowns pose the greatest threat to your production targets, and you know preventing these in the first place is the best way to avoid lost production time. Product that doesn’t meet specification can also put your production schedule at risk. You need to minimize these risks to ensure you meet your volume targets.

“My production costs are too high.”

You have targets to meet and a budget to adhere to—and you’re evaluated based on how well you meet these mandates. As your refinery ages, it becomes more difficult to keep costs down. Equipment deteriorates and must be replaced. Instruments fail, creating costly downtime. And the cost of energy required to run your plant continues to rise. You’re challenged to meet your production targets at an acceptable cost, but excess maintenance expenses and the rising price of fuel are putting your margins at risk.

REFINING

KEEP EMPLOYEES OUT OF THE FIELD AND MEET COMPLIANCE STANDARDS

Many processes call for manual sampling of process streams, exposing employees to process fluids and providing an opportunity for leaks. Clean fuels requirements place increased importance on management of your hydrogen molecules to ensure impurity removal, and meeting sulfur content requirements. Emissions standards are becoming more and more stringent. Micro Motion Coriolis meters accurately measure both liquids and gases, even hydrogen, through a wide range of flows. These meters also have both flow and density outputs, and the density can be used as a quality check, reducing the need for manual sampling and keeping your employees safer.



MAXIMIZE THROUGHPUT

Traditional flow measurement devices all have inherent limitations that affect meter performance, and can even cause outright failure and process shutdown. In addition, these meters are affected by changes in process fluid properties, and need to be compensated to maintain accuracy. Micro Motion Coriolis meters have no moving parts to wear, or impulse lines to plug, and are unaffected by process changes. In addition, in-situ Smart Meter Verification gives you confidence in your meter's operation, freeing your team to find the root cause of a shutdown.

MINIMIZE LOSS AND UNCERTAINTY

Many boilers and fired heaters operate below capacity to allow for sudden changes in fuel heating value. Your fuel is constantly changing, whether from the inherent composition changes in refinery fuel gas, or from supplementing with natural gas. Micro Motion flow and density meters provide more stable control in these conditions. This allows your heaters to operate more efficiently, maximizing energy use.

Identifying and reducing loss in your refinery depends on accurate flow measurement. Micro Motion flow and density meters are immune to changing process conditions, eliminating apparent losses due to measurement uncertainty, and leaving you with real losses that you can address and minimize.

A refinery installed Micro Motion Coriolis flowmeters on incoming crude oil and all products leaving the refinery. They were able to improve their refinery-wide mass balance from 95% to 99.2%.

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