HITTING YOUR NUMBERS IN OIL AND GAS

4 ways to maximize assets.
According to the EIA’s International Energy Outlook 2013, global energy demand is expected to increase by 56 percent by 2040, with China, India and the Middle East accounting for 60 percent of the growth, and more than outweighing reduced demand in developed economies.

The recent resurgence in US oil and gas production is radically reshaping the global energy market. North America is set to overtake Saudi Arabia as the world’s largest oil producer by 2020 and become a net oil exporter by 2030.

As markets change, so does the technology, with exploration and production venturing further and further out to sea. At the same time, increasing supplies of unconventional oil and natural gas drive organizations to new land fields.

With this constantly changing backdrop, you need to maximize uptime, increase recovery from new and existing fields, and consistently drive innovation from new production technologies.
Natural gas demand will be **5 trillion m$^3$** in 2035:*

*how will you find it?*

Optimizing production in oil and gas.

Nearly half of the massive increase in production required is set to come from unconventional resources, particularly in the US, Australia and China, says the IEA.

Wherever the location, advancing technologies and the need to explore new production environments such as subsea and unconventional resources mean that producers constantly have to balance existing assets, plant, information and control systems with evolving operational conditions.

Genuine operational excellence and maximum facility performance cannot be realized without the integration of all aspects of the production process. In the oil and gas industry, this means providing an integrated platform for all automation from exploration and production through to processing, storage, and distribution.

**Process automation systems** give you an open, integrated architecture that can address your organization’s individual needs, helping you achieve faster time to first oil, lower operational costs and improved operational efficiency.

*Source: IEA World Energy Outlook 2012*
Increased efficiency and productivity via a single, integrated platform.

China, India, and the Middle East is set to account for 60 percent of a 30 percent increase in global energy demand between now and 2035 by which time almost 90 percent of Middle Eastern oil will be flowing to Asia.

As the industry adapts to new market dynamics, identifies new reserves, builds new capacity, and upgrades existing infrastructure, extraction and production facilities need to be able to react quickly to changing market and process conditions.

The key to success is optimizing efficiency, reliability and safety via the use of automation systems and available data, which combine to significantly reduce operating expenditures while simultaneously delivering enhanced levels of performance.

**Best in class companies** enable customers to implement and maintain automation processes that allow them to respond promptly and proactively to change, increasing profitability and reducing engineering time. They help you to ensure the repetitiveness of best practices and to focus on managing the exceptions while the system manages the routine. And they support you in putting processes in place to better monitor, measure and manage assets and resources.

*Source: IEA World Energy Outlook 2012*
Asset management and condition monitoring.

Capital-intensive industries like oil and gas are continually challenged to increase production while keeping down the cost of sustaining operations.

Mass quantities of precious fossil fuel require large, critical assets that need to run continually. Pumps, compressors, and associated control systems and instrumentation need to be in top condition at all times to maintain desired levels of throughput and uptime. Any disruption of the supply chain creates a strain in the market and lost opportunities.

When heavy industry firms are viewed on a global basis, world-class operations achieve an equipment performance (OEE) score of 91 percent. Historically, the oil and gas industry has been ten or more percentage points behind this score.

Asset management strategies can help you to get more from ageing equipment without compromising performance or safety, providing:

- A facility- and enterprise-wide view into the performance of your assets
- Avoidance of unplanned shut-downs
- Optimization of your maintenance resources

Ensure your organization implements operations management solutions to provide real-time access to role-based visualization, reporting and analysis across your entire supply chain. Customizable dashboards can pull data from disparate sources and contextualize it for specific tasks and workflows, while predictive control software can help to achieve optimal control performance while maximizing production and minimizing energy consumption.

*Source: Aberdeen Group, Operational Risk Management, October 2011

www.oilandgas.rockwellautomation.com/demand
Skills gap and remote operations.

Oil and gas industry producers are under more pressure than ever to perform, but at the same time they face an unprecedented shortage in skilled labor and the pool is continuing to drain fast. In a recent industry survey, the shortage of skilled workers is the single largest concern expressed by employers, at 30.6 percent, higher than world economic instability with 29 percent.

Many of the leading end users in the oil and gas industry are building facilities specifically to operate with a minimum core crew, reducing logistics and support while minimizing the exposure to industry hazards. And as subject matter expertise retires, the concept of placing experts in hubs located regionally is gaining pace. These experts can be shared across many assets utilizing internet-based tools and cloud computing to manage data.

The efficient and secure operation of increasingly remote resources requires close monitoring. An open control architecture helps to meet these demands at three capability levels: remote automation, monitoring and safety, and connectivity to enterprise information systems, with specific solutions to meet remote operation challenges.

*Source: Hays Oil and Gas Salary Guide 2012
The oil and gas industry in focus.

This is one of six Rockwell Automation guides focusing on key industry challenges.

1. The future of world energy: adapting to meet the challenges. [www.oilandgas.rockwellautomation.com/challenges](http://www.oilandgas.rockwellautomation.com/challenges)

2. 4 ways to maximize assets. Ensuring operational excellence. [www.oilandgas.rockwellautomation.com/demand](http://www.oilandgas.rockwellautomation.com/demand)

3. 4 ways to reduce operational costs. Balancing operations and maintaining profitability. [www.oilandgas.rockwellautomation.com/minimize](http://www.oilandgas.rockwellautomation.com/minimize)

4. How to hit your numbers in critical control and safety. The costs and complexities of industry safety issues. [www.oilandgas.rockwellautomation.com/critical](http://www.oilandgas.rockwellautomation.com/critical)

5. How to hit your numbers when there is a skills gap. Overcoming staff shortages worldwide. [www.oilandgas.rockwellautomation.com/skills](http://www.oilandgas.rockwellautomation.com/skills)


For more details about the comprehensive solutions we offer in oil and gas, visit [www.oilandgas.rockwellautomation.com](http://www.oilandgas.rockwellautomation.com)