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Don't wait for disaster to spark your reaction

Ensure proper HSSE management cascades across all levels of your oil and gas supply chain

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HSE compliance will remain critical in the oil, gas and petrochemicals industry, with HSE spending among global E&P companies to climb roughly

60% in the next 12 years—
from **\$35 billion** in 2011 to
\$56 billion in 2030.

Lux Research Inc.

Maintaining sustainable oil and gas supply chain operations, improving working conditions, creating better safety procedures—the list of challenges which reign top of mind for many oil and gas stakeholders specifically tasked with health, safety, security and environment (HSSE) responsibility is endless. Energy demands continue to shift due to changing global market conditions which in turn impacts differentiating risk ratings levels, making the job of a corporate Chief of Sustainability Officer or onsite sustainability manager ever-challenging.

This makes it even more critical not just to understand the varying levels of risk, but be able to account for them as part of a long-term HSSE strategy or sustainability plan.

*Regardless of the various risks present in your oil and gas supply chain, one thing is clear. Unsafe working conditions can no longer be viewed as a system component failure problem. "Success in managing hazards is not measured by the Occupational Health and Safety Statistics but by measuring the performance of critical systems used to control risks to ensure they are operating as intended."*¹

Such risks can include:

- Workplace safety risks
- Risks that need to be mitigated to prevent interruption to oil and gas supply and demand
- Corporate governance risks

Yet, while risk analysis and emergency plans are key components of HSSE management—especially as it relates to workplace safety—there remains inadequate understanding of risk assessment and contingency plans, and insufficient accountability to ensure proper employee safety measures are taken. Road accidents due to driver fatigue, slips and falls, increasing hand and finger injuries, falls—all such scenarios continue to occur across oil and gas areas.



Market cases

In one scenario, an oil and gas company continued to experience more frequent requests for oil and gas processing technology to offer better services to the production process.² What they experienced throughout their growth and transformation were a multitude of safety problems, which exposed flaws in consistency of HSSE management down to the construction and operational level. Further analysis at the oil and gas processing plant site found that “human’s unsafe behavior accounted for 76.41% in all direct causes of serious accidents,” according to the report.

To address the problems, the oil and gas company ensured that HSSE management was properly implemented at the production site. By properly monitoring and analyzing the efforts for three years, the rate of safety hazards elimination was enhanced while the accident rate was greatly reduced.

Imagine how much more risk-adverse you could be across all levels of your oil and gas supply chain with proper analysis of risk and safety incidents, and greater KPI accountability?

Addressing hidden threats before they cause damage

Ever-changing environmental conditions in the oil and gas industry mean greater demands and increased risk for HSSE stakeholders to mitigate before disaster strikes. Through preventive HSSE management and risk analysis, you can gain a greater understanding of your risks to reduce probability of occurrence and enforce HSSE responsibility to all oil and gas areas.

Our experience and network expertise help to increase efficiency and can facilitate the reduction of capital and operational expenditures (CAPEX and OPEX), while also fulfilling HSSE requirements. Additionally, our offering safeguards the smooth flow of your data.

In addition, Siemens complies with a broad spectrum of approvals to ensure health, safety, security and environmental considerations (HSSE) as required in the global oil and gas industry. Examples of these standards include the ATEX, FM, IECEx and UL HazLoc approvals for use in hazardous areas.

We provide a comprehensive portfolio that can be applied independently whether it is an upstream, midstream or downstream application. This means, Siemens can help you to optimize the entire value-added chain, from production to distribution and the refining of hydrocarbons – today as well as tomorrow.

Market drivers

Numerous changing market conditions will reign top of mind for stakeholders tasked with HSSE planning, risk prevention and sustainability strategy development, including:

- Increasing energy demands due to shifts to newer energy sources in globally developing countries
- An aging oil and gas work force
- Price volatility
- Risks due to shortage of new, properly-trained talent
- Demand for greater carbon emission reduction strategies
- Unforeseeable climate issues and natural disasters
- Impacts of digitalization and continued innovation on oil and gas operating models and production efficiency
- Changing supply and demand models
- New industry policies and regulations
- Evolving external physical and data security concerns

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References

1. “Safety and risk management in oil and gas industry,” iMechanica, Harvard John A. Paulson School of Engineering and Applied Sciences, Oct. 2, 2012.
2. “Study on the HSSE management at construction site of oil and gas processing area,” 2012 International Symposium on Safety Science and Technology, Elsevier Ltd.

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