

# ENVIRONMENTAL HEALTH AND SAFETY IN THE OIL PRODUCTION AND DISTRIBUTION SECTOR: MANAGING DYNAMIC CHANGES AND BUILDING TRUST

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## INDUSTRY CHALLENGES

While challenges may vary by location, expertise or process, the primary pain points in the energy sector now and certainly in the future include but are not limited to:

1. **Safety:** Major accidents have the potential to cause danger to people and to the built our natural environment.
2. **Pricing:** Pricing can have a significant effect on the industry's development. For example, persistently higher oil pricing has allowed technological investment that resulted in the growth of the unconventional shale oil industry, using new techniques such as horizontal drilling and multi-fracturing.
3. **Use:** As 72% of oil is consumed by the transportation sector (80% of which is consumed by road transport), any revolution in the auto industry has a direct impact on global oil demand.<sup>1</sup>

4. **Economic growth:** Electricity demand is an indicator of economic growth and, as the economy grows, it is important to know how electricity will be produced, especially if growth in competing technologies is expected.

Presently, safety remains the number-one risk for this sector. Risk identification and management is an important part of any business strategy, and few industries are as risk aware as those in the energy sector, given the dangerous and often remote operational conditions involved.

The health and safety implications are obvious and apply to all process steps, from resource extraction and refining to processing and the supply chain. Generally considered a shining example of health and safety management, the oil and gas industry's competence in this area has reduced accidents and incidents by paying attention to elements such as data capture, personal protective equipment (PPE), company culture and training. Now they are looking at software to reduce asset and process risks, which further reduces environmental risks, employee injuries and fatalities, and brand disasters.

## CAPTURING DATA ON PROCESS RISKS

A series of recent risk events in the industry, for example the Deep Water Horizon incident, has caused all players to consider what a similar incident might mean for their operations. In general, it has highlighted vulnerabilities to a major incident and the need to make process safety management a priority.

Oil production requires high levels of plant reliability. Unplanned production and failing to meet contractual obligations have an immediate and detrimental impact on business. The need to stay 'producing' is crucial.

Further, oil and gas companies need to maintain their ability to generate revenue by protecting their licenses to operate. A stark reality is that a loss in production or damage to their brand can be more costly than a fine. How does data support the risk versus competitive edge calculation? An example is in selecting a contractor. All businesses have the choice to change contractor based solely on price, but that decision may change if you have permit, quality and incident data available.

<sup>1</sup> Ghouri, S 2016, 'The oil industry needs to change its strategy and fast', OilPrice.com, 26 June.

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Companies need to balance financial performance against the risks (and potential consequences) they are willing to take.

Environmental health and safety (EHS) software is playing a big part in capturing process risk. For example, software can align actions with competency; a change in standard is identified, then the subject matter expert is allocated to analyze the risk, report the evaluation and treat of the risk through a new management process. Software is therefore linking employee roles and multifunctional tasks to process safety. Other examples include maintenance checks conducted as scheduled, shift handover or production start-up.

## ENVIRONMENT: MANAGEMENT OF CHANGE (MOC)

If the cost of competing technologies, such as wind and solar power, continue to decline, how will the industry be impacted? Process risk data capture will extend to MOC as the oil industry will have to adapt to new and cleaner technology.

None of these future changes in technology, new energy, environmental pressures and safety requirements are insurmountable. It simply means that companies need to take advantage of the latest technology for risk management. They should use it intelligently, to identify and manage risk across the board – from environmental health and safety to risk management process improvement – which in turn increases efficiency and productivity.

Patrick Pouyanné, Chairman and CEO Total said at IP Week 2017 that 'we have been dealing with energy markets and problems for a long time, and our industry has the technical skills and the financial resources to do so. Addressing the climate change issue will create new business opportunities in improving energy consumption and reducing environmental footprints.'

## SOLVE FOR X, IF X IS AN IDENTIFIED RISK

Managing EHS, whether onshore or offshore, has its difficulties. By breaking it down into its component parts, namely environmental, incident, quality, occupational and community (in onshore locations), we can see the complexity of managing all EHS issues. This is especially true when you consider that any successful EHS program or policy will include all processes, from initial site construction to decommissioning.

Sophisticated risk management technology can best be deployed in a phased or modular way. Businesses can focus on quick wins and addressing major pain points first, then over time enjoy the benefits of their integrated EHS platform.

These benefits include streamlined data collection; using mobile applications to capture more real-time data; and creating a workflow of automated and prompted tasks, actions and escalations. A well-thought-through system allows your company to be flexible in the data it collects, helping you to respond rapidly to new standards and regulations. Improving and automating the data collection process leads to more accurate, higher quality data.

To overcome the energy sector challenges mentioned above, organizations are focused on:

- Safety indicators that are obtained from accident and incident reports, behavioral-based safety programs, case management and medical surveillance, all of which reduce incidents in the oil and gas industry.
- Using process safety to drive efficiencies and increase productivity, which can include audits, risk assessments, inspections, permit and contractor management as well as logs on lives saved and production rates.
- Leading indicators, which can include near miss, audit non-compliance dashboards, emotional risk intelligence and environmental monitoring.
- Competency management linked to occupational health surveillance, with an ageing workforce by simply ensuring that employees can perform assigned tasks without risk to themselves or others.
- Mandatory training, competency and scheduling for hazardous environments.
- Environmental data for standards and regulations, and also for addressing stakeholder pressure – for example, the ability to quickly adopt new standards can provide a competitive edge, whether these relate to the existing sector or involve investment in new technologies.
- MOC and the creation of a flexible methodology that allows process or procedure alteration based on a continuous improvement approach.

Even this summary demonstrates the complexity involved in managing such a system. Clearly, paper-based record keeping or reliance on multiple spreadsheets isn't practical. Businesses need a purpose-built data management system that is centralized and that all stakeholders can interact with in real-time.

## DATA MANAGEMENT ALONE IS NOT ENOUGH

Whatever stage your business is at, software is available to provide business intelligence and drive strategy and business improvement. It can also provide a sound basis for capitalizing on opportunities and beating the competition to innovations in the industry.

However, software by itself will not help an organization. There are many other considerations, including but not limited to: buy-in from all users; a standards and compliance process that follows best practice; a robust health and safety policy; and an operational methodology where continuous improvement is always the aim.

Of course, all software is not created equal. Your solution must support your business (across multiple sites, if necessary) and be flexible enough to incorporate any forthcoming legislation and communicate it to the workforce.

With differences in new standards demonstrated, can the solution provide an EHS overview or generate model employee fact sheets? Can it increase the profile of your health and safety department and produce model risk-assessment forms and policies?

The ideal solution captures the data and offers new insight into the information. Extremely user-friendly software (ideally just a click on a single icon) reduces user training and encourages user interaction, where incidents and near misses are all captured.

Integrating historical data and drawing on reliable, centralized information helps to produce more consistent reports and drive environmental health and safety performance. This also improves reporting efficiency: corrective and preventive actions ensure your business processes are improved and risks mitigated.

Perhaps the most important consideration for any data management system is that it can be used online and offline. In this way, all data goes to one central system, whether internal or external audits are involved.

Companies need to invest in software to ensure they do not fall behind in industrial best practice, especially with upcoming regulatory and international standard changes (from OHSAS 18001 to ISO 45001, for example). Efficient data management generates cost savings. Everyone can input their own data according to their roles and responsibilities. Operational risk is also reduced, as the software facilitates root cause analysis by checking preventative maintenance logs and other scheduled processes. Employee replacement is smoother, as a new employee can assume another's role and immediately identify the checks and processes in place.

Most importantly, businesses should choose a modular approach that allows them to achieve their long-term goals. A business journey to put all data into one software platform will allow greater interrogation of the risks and opportunities your business will face in the future. Focus initially on your main pain points and get some quick wins, and benefit over time from your integrated EHS platform. Financial justification is essential, but lead your business from a micro budget mindset to an interrogated enterprise solution road map.

Is EHS proving difficult to manage in your company? Is your process flexible enough to incorporate all necessary lead indicators to capture a visual view of problem areas? Are you unsure of current regulatory and compliance requirements?

Contact SAI Global to learn more.

## ABOUT SAI GLOBAL

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Our integrated risk management solutions are a combination of world-class tech platforms, services

and advisory capabilities that operate across the entire lifecycle allowing businesses to focus on opportunities presented by uncertainty. Together, these tools and knowledge enable customers to develop a holistic, integrated view of risk. In Australia, we are also a leading provider of settlement related services; company, personal and property information.

SAI Global's head office is located in Sydney, Australia. We employ more than 2,000 people across 28 countries and 51 locations across Europe, the Middle East, Africa, the Americas, Asia and the Pacific.

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