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## TOTAL ASSET MANAGEMENT TO MAXIMISE ROI

Recording every detail of every asset and proactively managing the activities around each asset, is the only way to maintain optimum performance and overall site productivity. Asset management solutions ensure oil and gas companies maintain productivity and maximise return on investment - Critical during exploration to ensure expensive rigs don't sit idle, while parts are sourced and corrective maintenance is performed. And, critical during production to minimise costly operational interruptions, reducing downtime and keeping oil pumping.

'Asset' is a very generic term describing anything that a company owns (or rents) and operates, from a piece of equipment to an entire building or production site. A well, a rig, a pipe, a reservoir, even a storage or transformation facility. Whether commodity assets or strategic assets, they all have to be purchased or rented and properly maintained to deliver optimum productivity and to achieve production objectives.

As oil and gas companies start exploration, materials and services are purchased and expenditure increases. Exploration can last years and, before any oil is even produced, there will be a requirement to monitor expenses, manage purchases, maintain existing equipment and comply with health and environmental regulations. It's important to effectively manage purchasing contracts for materials or services and describe new assets at the very moment they are being purchased. Building this depth of knowledge early becomes enormously beneficial during the transition from exploration to production - when this level of detail is critical to maintaining and increasing operational efficiency.

Asset management systems are used by most employees of oil and gas companies, with each department having their specific areas of interest. Finance teams will have an interest in the procurement capabilities and reporting due to their tight integration with the finance function. Operational teams will have a keen interest in the inventory, maintenance and safety functions, as these will affect their day-to-day operations. It's important that the users of

any asset management system are comfortable populating information and performing their specific tasks.

To provide the necessary control and to support efficient operations, systems should be customised to suit working practices and, where possible, be automated to eliminate double entry of data. Operators should be automatically notified when it's time to replace parts and those parts should be ready and waiting in stock, having been automatically procured by the system when stocks fall below particular levels. With work-orders being issued automatically to the individual responsible for completing the work, the part can be replaced, a job completion log recorded and equipment can continue to run as planned. Providing support and training is paramount to the continued success of such an integral system.

By categorising assets, describing them technically and organising them in a logical way, they can be found amongst the tens-of-thousands of assets throughout a company and their costs can be properly analysed. A building can be divided into floors, into rooms and then everything in the room can be described, including the equipment, the furniture and everything else in that room. Within a facility you should be able to see the cost of a single pump, the cost of that pump within the production line it belongs to, and so forth, right up to the full cost of the facility in which the pump is operating.

Drilling an oil or gas well is very complicated, requiring the employment of expertise and the purchase of specific equipment. The ability to monitor budgets is critical. A finance system will cover the management of accounts and the paying of suppliers, but everything that happens prior to the accounting requirement should happen in asset management. A drilling engineer might need to raise a requisition for materials and services. That requisition may go to several services suppliers for each of them to bid, before selecting the most appropriate supplier, then negotiating contracts and raising a purchase order. Orders need to be received, verified, parts inspected upon receipt and delivered services acknowledged, before an invoice is accepted and it's agreed to pay. All these agreements that happen before

making payment should be managed in an asset management system, adhering to pre-determined approvals, based on responsibilities and individual spending limits. This process ensures that anything committed to a supplier is linked to a budget and budgets are monitored to know exactly what's committed now and in the coming months. Having sight of all expenses and commitments, being the only way to plan and maintain effective cash management.

Properly managing stock is essential; maintaining the right ratio between stock value and the availability of parts, and purchasing and storing the right number of spare parts at precisely the right moment. Parts for oil and gas can be very expensive, difficult to purchase and even more difficult to receive on-site. Some complex parts might even have to be built on-site, requiring several other parts. They might be stored in one country and required in another, complicated by customs and the logistics of getting parts to a rig. The whole process can take considerable time and having millions of dollars worth of parts sitting in a warehouse, often in less than ideal conditions can be detrimental to the materials. Having sight of information enables better planning for the effective management of stock in order to minimise downtime and maximise productivity.

However, the management of spare parts in oil and gas is usually more complicated than taking a part from a warehouse, installing it into a production line and expensing it until it breaks. A spare part can often be used more than one time, each time being returned to the warehouse and undergoing necessary maintenance and reconditioning. Parts can be used a certain number of times, but each time they're used, their condition can deteriorate, which needs to be recorded and monitored in order to effectively plan further use. Part condition management ensures companies receive the maximum return on their investment for every single expensive part.

Equipment failure and corrective maintenance can be five or ten times more costly than pro-active maintenance. An asset management system provides an aggregated view of the maintenance schedules and the life-expectancy of all the parts that comprise a production line. Access to this information is necessary for determining the least disruptive time to perform inspections and pro-active maintenance, also minimising production downtime and maximising equipment efficiency.

Asset management should be a multi-organisation solution, enabling the easy deployment across multiple sites with

little requirement for additional configuration - providing a global view of assets and being the ideal tool for ambitious companies hoping to grow by acquisition. Purchasing contracts should consolidate the requirements of multiple sites as often as possible. Equipment should be easily transferrable between sites without the risk of losing legacy data. Having this global view gives companies access to their entire portfolio of assets, as well as the ability to drill-down to see specific equipment at the very moment information is required.

Investors and joint venture partners want to be provided with information relating to expenses, current investments and site productivity. Grouping financial data from a finance system and the operational data from an asset management system, can provide a consolidated view of mixed data within a single tool. This makes it easier to analyse expenses and commitments within a single dashboard, and enables the generation of common reporting that details the broader view of a site's productivity.

Operating an exploration or production facility without having some form of asset management is nearly impossible and, unfortunately, it's common for companies to implement tools to perform basic functions, without the customisation that addresses specific working practices and the real-world requirements of operational teams. Managing assets properly ensures; employees and suppliers can provide the very best service, information is always accessible, equipment is maintained for optimum performance, productivity is kept high and ultimately, profits are maximised. A well implemented asset management system is the only way to gain asset control, and ensure the greatest return on investment for every single piece of equipment, no matter how large and expensive or small and critical.

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Laurent heads-up EAM at Progressive - a finance, procurement and asset management systems consultancy - dedicated to working with ambitious oil and gas companies throughout the world.

Passionate about the effective utilisation of enterprise asset management systems, Laurent has more than 10 years experience working with oil and gas companies to improve their operational efficiencies through the design and implementation of systems and processes.

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