

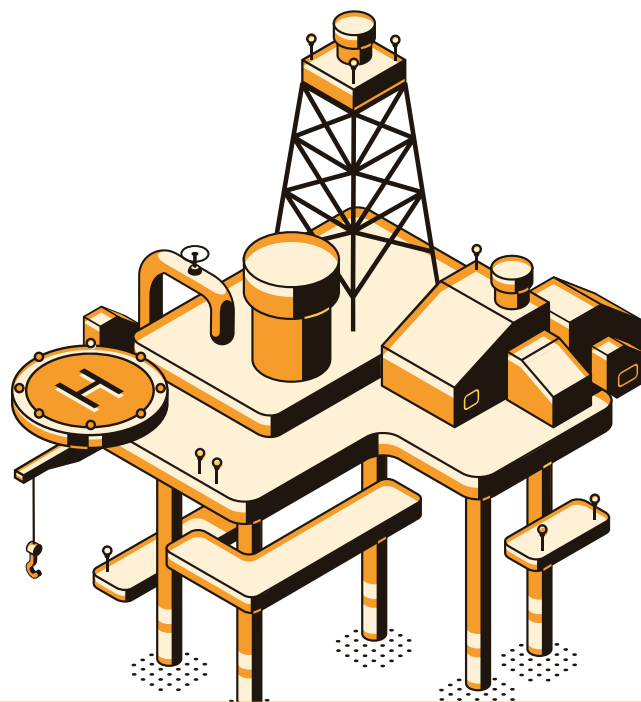
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How Real-Life Data Guides the Agility of Oil and Gas Companies

Introduction:

Oil and gas companies are regularly faced with many industry-specific issues to overcome. Such issues, including exploration and drilling, are often complex and intricate processes with many unique challenges to overcome. Data analytics can play a massive part in streamlining some of the most fundamental operations that are involved in the oil and gas industry.

All three sectors of the oil and gas industries can benefit from real-life data. The upstream, midstream, and downstream can recognize the benefits of implementing data analytics and oilfield technology. This short guide looks at the different ways each sector can perform better following the implementation of big data and analytics.



Big Data for Upstream Companies

Big data analytics is a vital part of oilfield technology for upstream companies. An automated oilfield can produce a range of benefits that would be inaccessible otherwise. Upstream companies that focus on building and implementing big data solutions can access a range of operational benefits and reduce their downtimes.



A More Efficient Use of Seismic Data

With data analytics solutions in place businesses can collect seismic data with sensors across a vast range of potential drilling areas. Once sufficient data has been gathered, a thorough analysis can be conducted which will help establish the ideal location for drilling to commence. Seismic data can be paired with business's other data to establish the possible amount of resources left in reservoirs.



An Optimized Drilling Process

With data analytics solutions in place, upstream companies can create predictive models that allow them to forecast the likelihood of future equipment failures. Data that's collected during drilling operations can be combined with data about the drilling equipment itself to identify usage patterns that are likely to cause an issue for the equipment.



Improved Reservoir Engineering

Data gathered from sensors can help to dramatically improve reservoir production. When data analytics is being used, businesses can get instant information about active reservoirs as well as any changes that occur. These insights allow for a greater degree of control over operations and an ability to drive performance and profitability.



DATA ANALYTICS FOR MIDSTREAM COMPANIES

Logistics in the oil and gas industries is an incredibly complex process that often requires considerable thought and planning. One of the main concerns in this sector revolves around the safe transportation of oil and gas products in the safest manner possible. Keeping risks as low as possible is essential and companies are often looking for ways to achieve this.

Companies take advantage of sensor analytics to help focus on the safe logistics of their products. Maintenance software can also analyze data provided by sensors to detect abnormalities in the equipment that's being used to transport products. Issues such as stress corrosion and fatigue cracks can quickly be identified and rectified which goes a long way towards preventing accidents.



BIG DATA IN THE DOWNSTREAM SECTOR

Big data can help to dramatically reduce downtime and maintenance costs of business in the oil and gas downstream sector. When predictive analytics, businesses can dramatically improve asset management in a way that they previously would have struggled to achieve.

Big data is a crucial part of increasing productivity and can be used to predict performance of equipment and help engineers establish when and why parts could need to be replaced and help prepare businesses for this rather than having to go through periods of downtime when parts need to be replaced unexpectedly.

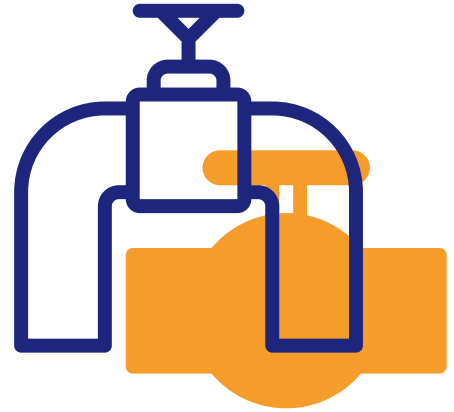


REAL-LIFE EXAMPLES OF WHAT BIG DATA COULD DO FOR YOU

In coming years, the prevalence of big data in the oil and gas industry will only increase. As such, it makes sense to embrace the changes as soon as possible rather than be left behind. There are countless ways that big data could transform your business.

Surveying Oil Exploration Areas

A seismic survey could help to indicate nearby oil and gas deposits. The more sophisticated analyses can even present accurate data regarding the nuances of individual drilling sites including helping you to determine whether drilling in that area would be beneficial.



Forecast Your Production Accurately

With sensors installed inside wells seismic data can be measured. This data can then be used in conjunction with artificial intelligence technologies to create detailed maps that can provide a good idea of how much oil or gas is left in the reservoir. This insight can help you to determine whether or not production in this area is worthy of having time and resources dedicated to it.



Extend Equipment Lifespan

Sensor data can help you to dramatically improve your equipment's lifespan and efficiency. By decreasing the amount of downtime that's required, businesses can improve productivity and reduce expenditure on maintenance and new equipment.



Increased Logistics Efficiency and Reduced Costs

Data analysis can help to establish ways in which transportation and production costs can be reduced. Economic factors can be analysed to help establish how and where refined products should be distributed to and how prices should be set.



A Reduction in Carbon Footprint

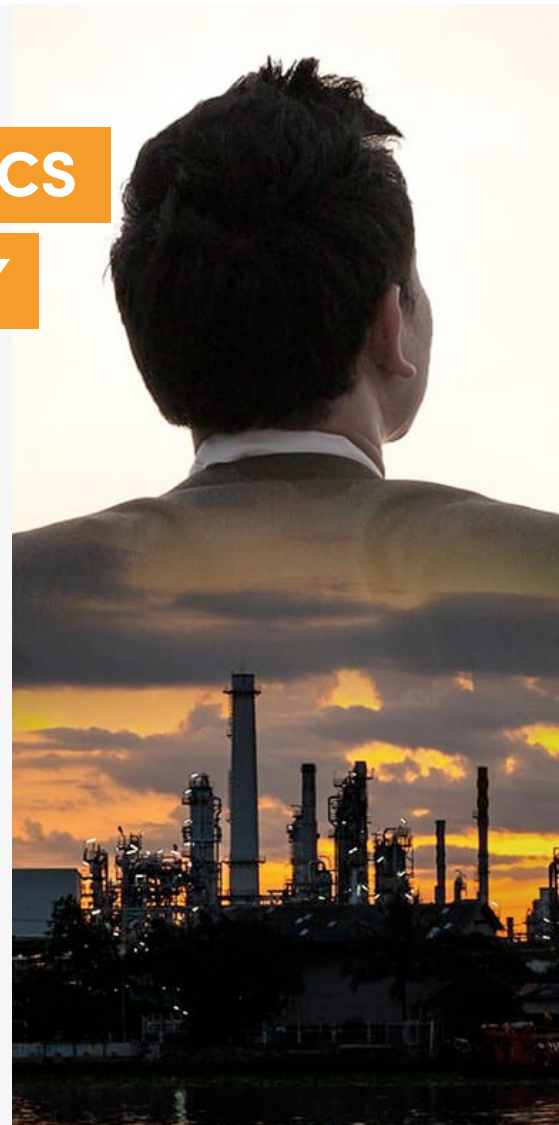
Technology that's empowered by big data software can help companies make the eventual transition to a low emissions energy system. Reducing emissions is an important part of the future for the oil and gas industry and businesses should be considering this at the forefront of their future strategies.



THE FUTURE OF DATA ANALYTICS IN THE OIL AND GAS INDUSTRY

Analytics techniques are constantly evolving and even in their present form can help unlock the true production potential of companies in the oil and gas industry. When applied correctly, big data can have an incredible impact on the operations of companies in all areas of the industry.

The return on investment can be massive and usually will happen within mere months following the full implementation. Business that are looking to streamline operations should look no further than data analytics software.



As businesses in the oil and gas industry become more open to the idea of implementing data science, the industry as a whole will continue to progress. When data is unused and undervalued, it may as well not exist at all.

For data to truly be a worthwhile asset, it must be stored, analyzed, and utilized. For many businesses, this is a truly monumental task. However, there are countless ways for this to become a natural part of a business's operations. There are many oilfield technology solutions that are available and can be seamlessly integrated into a business's operations.

A digital oilfield that's embedded with meaningful analytics can help businesses overcome the limitations of today's systems. With a modernized infrastructure in place, businesses can introduce new ways of thinking that help them to process the myriad of information that they now possess.

Analytics programs that are designed and deployed with the future in mind can help struggling businesses achieve so much in so little time. Businesses that are keen to embrace change should do so now, for what is unusual at present will be the norm in a matter of years.

