



Oil and Natural Gas Big Data Use Case in Big Data

The Oil and Natural Gas is one of the highest revenue generating platforms of the world. It is often said that the last world war would be fought over oil like resources! However, keeping such speculations aside, let us focus on the core objective of the role of Big Data in alleviating the common problems in oil and natural gas exploration. The central idea was to map the available mining equipment data to demarcate points where the machines would be operating at optimal efficiency level. This whole idea was to reduce the burden of the accumulating cost of oil and natural gas exploration services. The machines would also get the opportunity to take a breather when it comes to the extensive wear and tear they undergo during offshore oil exploration offers.

Challenge

Our client a reputed oil and exploration support engineering company sought assistance from Big Data to manage their devices with extreme efficiency. Big Data can provide insights about the performance level of the machinery, check for servicing requirements, identify loopholes and functional errors along with a host of other surveillance like activities. We understood that by mapping the functional parameters of the machinery with the available data sets and triggering responses for variations which would require attention; we would be able to assist our clients through big data. The data coming from the machine logs come in different formats. Some data comes in digital format while the others do not come in direct digital formats. Converting the data sets and filtering the data for analysis is one of the biggest challenges from our end.



Solution

The client sought efficient management of its machines so that they could be micro managed to enhance the end user flexibility of the machines by minimizing damage and maximize the life of the machines.

Some of the back end activities undertaken were:

- ❖ Mapping data with the machine's operating parameters to identify, peak, moderate and downtime to measure the efficiency of the instruments
- ❖ Map data sets of machinery which recorded a relatively higher amount of oil yield to mark the biggest resources
- ❖ Map data sets to optimize oil production and minimize overproduction in select locations

The whole objective was to convert data into actual business insights which would offer the biggest hauls for the petroleum and natural gas exploration companies. These insights have helped our clients in achieving operational efficiency, minimize production costs, optimize oil production and minimize the risk of accidents.
