

INNOVATION IN OIL AND GAS EXPLORATION

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Despite major technological breakthroughs in all phases and areas of the oil and gas (O&G) industry, exploratory activities continue to represent the gateway for the remaining phases of the industry. Development and production phases depend on a successful exploration phase, and better performance, such as more effective hydrocarbon finding methods and less expensive, faster exploration campaigns that drive more industry activity. In light of the impact of the efficacy and efficiency of exploration activities on the other phases of the O&G industry, a review of the most promising new technological innovations in geophysical exploration technologies was undertaken. The O&G industry is just beginning to deal with the change in the paradigm of the exploration model that it has long been employing, so that it can benefit from new technologies available for conducting its exploration activities. However, recent success cases point to the adoption of a new paradigm in the exploration model of the industry. Major technological advances that may impact the O&G industry positively, with step changes in competitiveness in identifying new hydrocarbon accumulations, are centered on new, direct confined fluid sensing methods. Better operational performance, both in exploration and production phases, will continue to be provided by incremental seismic performance.

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