

Measuring the success of innovative technology solutions for petroleum exploration and development

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Technology has helped reduce finding and lifting costs from \$20 per barrel in the early 1980s to about \$5 in recent years (Gould, 2003). But one of the biggest challenges in oil and gas exploration is accurately measuring the financial return on investments in technology. Metrics are evolving that allow the rigorous calculation of value added and the effect on ensuring discoveries. Innovative technology solutions streamline key elements of process, tools, and data, and consist of workflow optimization, technology mastery, and data ownership initiatives. Impacts on business objectives are calculated in reduced cycle time, improved quality of strategic decisions, and the value of standardized processes. Measures are provided of barrels of oil added to proven reserves, documented cost savings, and verifiable calculations of the value of time saved for geotechnical personnel working on exploration projects. The pressure will increase as producing fields mature and require more complex processes, tools, and data to be effectively managed.

The value of innovative technology solutions can be measured and demonstrated for exploration and development operations by objectively measuring reductions in cycle time due to workflow optimization, barrels of oil added as a result of technology mastery, and cost reductions from data ownership initiatives.