

# The Technology Solution

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As much as ever, diverse segments across the industry are facing the same concerns. Changing demographics, aging infrastructure, personnel shortages, rising demand, and training issues are posing challenges as the industry is trying to do more, faster, with less experienced people. Drillers see tougher operating conditions, pressure to produce more, and a less-experienced staff forced to handle huge amounts of new equipment coming on line. At the other end of the business spectrum, health, safety, and environment (HSE) professionals see safety improvement rates plateauing, louder calls

from host countries that the industry operate “sustainably,” and the danger of cutting corners to keep up with global consumption. Management wonders about capturing lessons learned when so many of its future staff will not have lived through the oil embargoes, price collapses, restructurings, major accidents, and other seminal events that have marked the past 3 decades. Many of these themes were sounded again and again during recent SPE conferences covering drilling, offshore technology, HSE, and “intelligent energy.”

Technology is touted as a solution to many of these problems. Automated drilling rigs, for example, could improve safety while using fewer people and not sacrificing productivity. Others see improvements in information technology (IT) and high-performance computing as the key. A recent survey concluded that although most of the industry has immediate access to the computer power it needs, there is room for improvement as computing needs grow more complex. In addition, many respondents to this survey said that additional access to high-performance computing could lead to increased production, enhanced decision making, reduced drilling delays, and diminished project risk. The survey of 212 oil and gas industry experts at major companies worldwide was conducted by Microsoft and released at its Global Energy Forum 2008 in Houston.

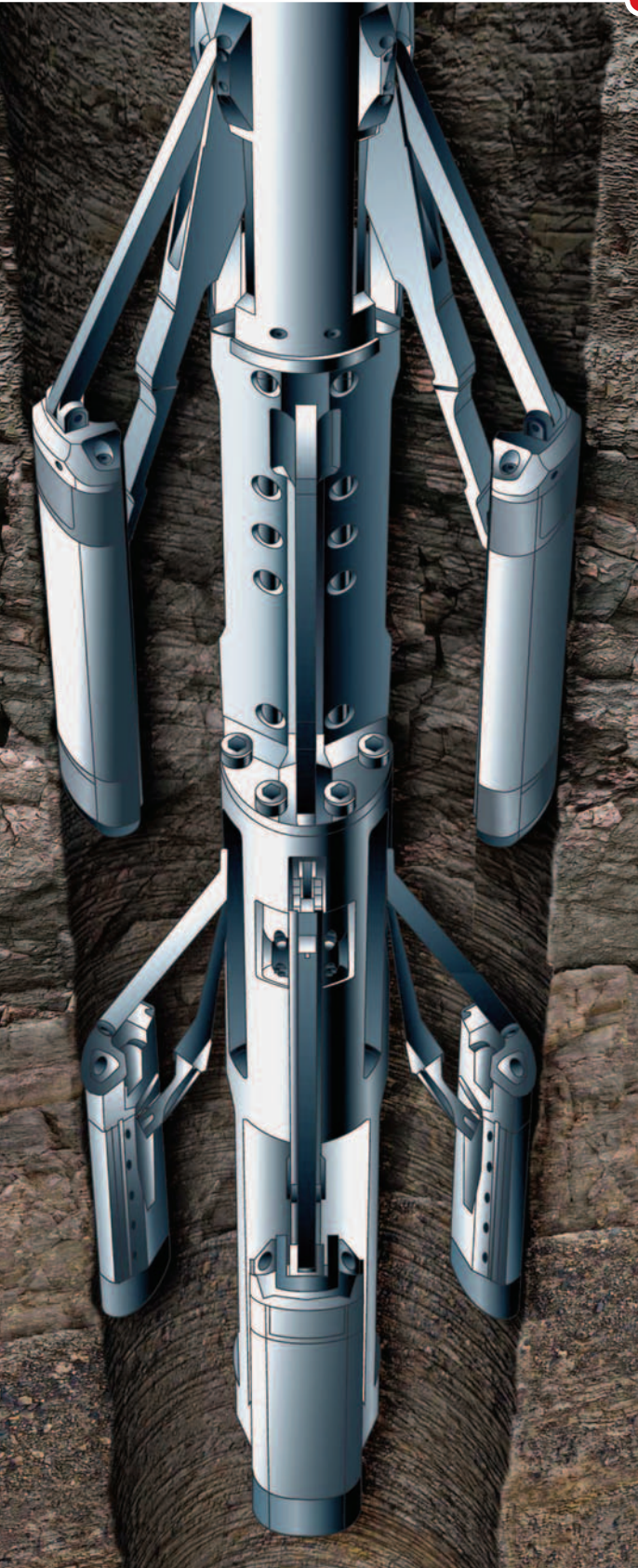
The survey touched on many of the issues cited earlier. Almost 90% of respondents believe the diminishing work force and necessity to increase production make high-performance computing capabilities more critical than ever, and the same percentage believes that such capabilities could increase hydrocarbons output. Almost half said they do not have the desktop processing power to finish computer-intensive workloads expeditiously, and 44% admit they sometimes make business decisions before completing sufficient data analysis.

The industry is certainly expecting more from IT capabilities and improvements going forward, with a goal of improving the speed and quality of decision making that will lead to increased productivity and safer operations. The trend is toward using “intelligent” technologies to improve prospect generation, lessen the possibility of dry holes, and speed up production through enhanced visualization and modeling, real-time drilling, “smart” wells, remote monitoring, and integrated operations that promote collaboration among drilling, well, and subsurface. The bar now is to attempt to optimize fields continuously. The industry seems to have concluded that efficiency, through technology, is the solution to meeting these demographic and other challenges over which it has less control.

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JPT is always eager to hear from its readers. If you have any comments or suggestions, please contact me at [jdonnelly@spe.org](mailto:jdonnelly@spe.org) or by phone at +1.713.779.9595 ext. 616.

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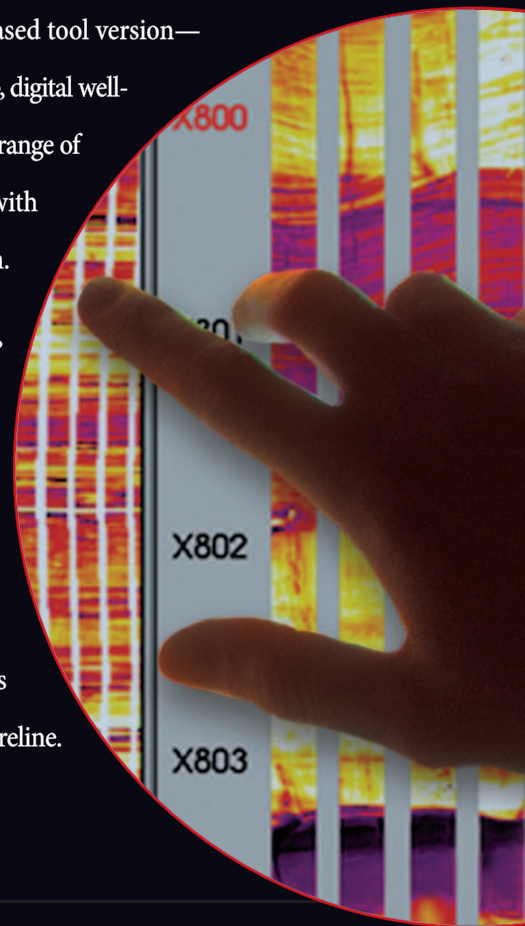


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