

Smooth out the technology path

Focus and reward are keys to technology growth.

While the oil and gas industry has a technological basis and has continued to benefit from technology development there is less spending in research and development (R&D) activity than in the past. One major reason for this decreased spending is the merger of a number of large oil companies to mega-operators. These merged companies have also merged R&D staffs with a resulting overall reduction in industry spending on new technology. The reduction in new technology development is becoming a more serious concern each year.

In addition to the consolidation of the major cooperating companies and the general reduction in technology development by these operators, there are a number of other reasons for this reduction in new technology development. Service companies are struggling to be profitable and have limited R&D funding. Manufacturers are interested in finding products that generate quick profitability and, therefore, have little interest in technology that will take longer to bring to market and recoup the costs. Twenty years ago, the operators not only had large R&D staffs but they also gave clear direction to their suppliers as to what types of technologies they needed. Now, most of these large oil company R&D staffs no longer exist and there is less direction being given to suppliers. This means that even if a manufacturer wanted to develop new technology, he may not know which products or processes are most valuable to the operators. This vicious cycle continues as the market does not accept new products offered by the manufacturers, so manufacturers are even less interested in carrying out new R&D. While there are some joint industry initiatives, such as Deepstar and Demo 2000, that provide technical input and funding to the suppliers, these cannot possibly cover all new technologies and do not represent all of the operators. One final limitation to developing new technology is a desire by the operators to commoditize their purchases. This results in lower supplier margins, which equates to lower available funds for new technology development.

Most companies have large purchasing staffs that are tasked with minimizing costs. These purchasing staffs are usually not competent to evaluate new technology and will often exclude bids that offer new technology because it does not allow them to compare the bids on an "apples to apples" basis. Therefore, the bidder is motivated to offer exactly what is specified at the lowest price as opposed to a better solution that is more expensive. This is becoming more apparent as bids are awarded to low bidders for major projects, such as large

engineering, procurement and construction (EPC) contracts. While this equipment does meet the operators' spec, the lower initial cost may result in a higher operating cost due to failure in the field well after warranty periods expire. A simple example would be using a less expensive material with a shorter life that will have to be replaced sooner during field life. The replacement cost may significantly exceed any savings in the original part.

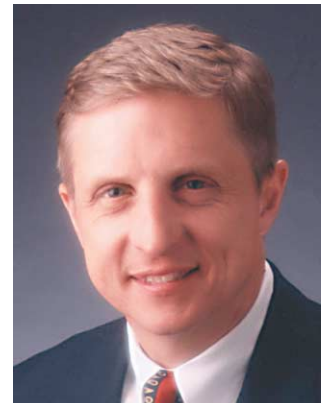
Solutions

I have always been of the opinion that anyone identifying problems should also offer solutions.

With that in mind, I offer the following:

- Suppliers need to become more market focused. There is always a tendency for sales personnel to offer what their company currently manufactures or services that company currently provides. Sales people need to be trained to listen to customer needs, bring these needs back into the organization, and to act as internal champions for these new products and services. While this is often related to technical issues, it may also be related to different commercial strategies.
- Operators and suppliers need to look for pilot programs where new technology can be tried and proven. This includes a number of issues related to costs, intellectual property, etc., but the key is to find the application where the new technology may have real benefits and put it in the field.
- Those operators that are willing to develop pilot programs and help develop technology should benefit. Examples would be a royalty free usage of patents or discounts on future use of technology for a given period of time or on a preset number of projects.
- Suppliers that are willing to develop new technologies and services should be compensated so that they are encouraged to continue this process and benefit from the added value they bring their customers. Examples can include sharing in the upside benefits such as equipment that will achieve a better up-time than industry standard or equipment that results in lower operating costs over time.

In summary, it is important that both operators and suppliers look for opportunities to develop technology and find applications where these technologies can be proven. It is also important that operators realize the ongoing costs to develop technology cannot be borne by just the suppliers. Suppliers need some type of cost recovery in order to continue developing new technology. This new technology is needed by our industry to reduce costs, improve safety and increase reliability. **E&P**



BRUCE CRAGER,
can be reached at
brucecrager@yahoo.com