



National oil companies reshape the playing field

As NOCs consolidate power, other upstream players must rethink their business models.

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The rise to prominence of national oil companies (NOCs) has shifted the balance of control over most of the world's oil and gas reserves. In the 1970s, the NOCs controlled less than 10% of the world's oil and gas reserves; today, they control more than 90%. This dramatic reversal has increased the ability of NOCs to source financial, human and technical resources directly—once the exclusive domain of the large integrated oil companies (IOCs) and independents—and to build internal capabilities. Consequently, IOCs and independents face new challenges to remain relevant to the NOCs, as well as the government resource holders they represent, in all but the most difficult projects.

As part of this trend, the NOCs are becoming increasingly comfortable and adept at procuring human and technical resources from oilfield services companies' (OSCs), which have grown dramatically in size and capability. These two dynamics—the shift in control of reserves and the redefinition of operating roles in relation to the NOCs—are leading industry participants to rethink their strategies. IOCs, as a group, are increasingly focused on bigger and more complex plays in frontier locations (Arctic drilling, for example) and in unconventional oil and gas fields. They are doing this to remain relevant to the NOCs and their parent governments, but also because they can still acquire and control reserves in these open-access fields. The large independent oil companies are following similar strategies, usually via smaller projects. OSCs, in addition to improving their technology capabilities to support unconventional and frontier plays better, are developing more end-to-end solutions and continually extending the “ends,” that is, the range of their services.

As profound as these changes have been, Bain & Company believes the transformation is far from over. As NOCs gain greater confidence in their ability to manage ever larger and more complex projects, the recognition that they no longer have to enter into production-sharing agreements with other companies will fundamentally alter the competitive landscape in the industry and force

participants to reexamine their strategies (where to play) and their business models (how to win). IOCs and independents will confront the fundamental strategic question of whether or not to embrace the contract-operator service model, giving up shared resource ownership while providing total field management services (above and below the surface). Regardless of the answer, IOCs and independents that want to maintain relationships with the NOCs will have to adopt a more customer-centric orientation in recognition of the power shift to these resource holders. OSCs will also face fundamental strategic questions about whether and how far to extend their capabilities to offer integrated services to the NOCs, above and below the surface. OSCs will also have to keep improving efficacy and delivery of their traditional unbundled services, since their customers will continue to procure oilfield services in this way in the immediate future.

The broad adoption of the contract-operator model could redefine traditional business lines that have allowed distinct groups of competitors to focus on different segments of the oilfield services market. These changes could pit relatively large and successful OSCs against one another—and even against IOCs and independents—more directly than in the past. Upstream players will want to defend against a changing business definition while capitalizing on a new and growing opportunity.

Challenges posed by the rise of the NOC

NOCs can now directly acquire the resources and capabilities that were once the exclusive domain of the IOCs and large independents. Other players in the industry will need to rethink the way they respond to their needs.

- **Capital.** NOCs raise equity and debt in the global capital markets. Three of the largest NOCs (PetroChina, Rosneft and Petrobras) raised more than \$27 billion of debt in the first half of 2012, compared with about \$10 billion for the supermajors (the five

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largest IOCs²). In addition, NOCs often raise debt capital at more favorable rates than IOCs. In the equity markets, the six largest publicly traded NOCs³ now have a price-earnings ratio of around 10 compared with about seven for the supermajors.

- **Technology.** IOCs once dominated research and development (R&D) spending, but since 2005 five of the largest NOCs⁴ have grown their research budgets at twice the rate of the supermajors. In 2011, this group of NOCs out-invested supermajors (investing \$5.3 billion compared with \$4.4 billion by the supermajors). As noted earlier, NOCs can also acquire specific expertise from OSCs, whose technical capabilities are continually deepening and broadening. For example, the Big Four integrated subsurface services providers⁵ invested more than \$2 billion in R&D in 2011.
- **Project management and other technical capabilities.** With more than 90% of the world's reserves under their control, NOCs recognize the need to improve their overall project management and technical capabilities in surface and subsurface disciplines. They rely on OSCs for specific capabilities and press IOCs and independents into contract-operator service. NOCs' hiring of mid-career professionals has doubled since 2009, and expatriates have also been brought in as employees and advisers.

This shift has created significant challenges for IOCs and independents, calling into question the sustainability of their resource-ownership business model. Among these challenges are falling production levels: Since 2006, oil production by the supermajors has decreased by 2%. Increases in gas production have offset these declines, but overall production has still fallen by 0.3%.

Closely related is the difficulty of replacing reserves in places where oil-rich nations have limited or restricted access to their reserves. Since the 1970s, the number of nations limiting or restricting foreign companies' access

to their oil and gas reserves has increased fivefold. The share of these reserves that can be accessed by IOCs via production-sharing contracts (PSCs) is dwindling.

In addition, new conventional finds—oil that is relatively easy to access on land or in shallow water—are fewer and smaller. According to the *Petroleum Review*, conventional oil discoveries peaked in the 1960s and have declined steadily since. IHS Energy reports that 90% of all known conventional reserves are now in production. One bright spot is that while discoveries of conventional reserves may be declining, total discoveries (that is, including unconventional) have gone up from an average of 5.5 billion barrels annually between 2001 and 2006 to 7.9 billion barrels on average in the years since. Even so, of the 40 major discoveries worldwide between 2006 and 2011 with resource estimates greater than 500 million barrels of oil equivalent (MMBoe), 28 are in countries with active NOCs.

As a result, reserve replacement ratios (RRRs)—a key metric for investors and analysts because it measures the extent to which an operator replaces current production—are under pressure, especially for liquids. Liquid RRRs for the top six IOCs have averaged 75% over the last 10 years, although that number has risen in recent years. Based on these reserves, the top 10 IOCs have an average reserve life of 13 years (and declining) compared with 78 years for the top 10 NOCs, according to the US Energy Information Administration. These companies face a particularly acute challenge due to their scale, as they must find significant volumes to replenish their reserves' natural decline rate either through exploration or acquisition, both of which pose challenges.

Meanwhile, the NOCs are claiming more M&A targets, accounting for about 24% of upstream deal value in 2011. The buying spree of Chinese NOCs in particular has reshaped the landscape in North America and Africa and left them holding just under 20% of the world's shale gas resources. Thailand's state-owned oil and gas company, PTT, recently outbid Shell for Cove Energy's East African

assets, illustrating the competition for high-quality acquisition targets faced by the supermajors. In light of all this, investors are becoming skeptical of the IOCs' ability to maintain their ownership model, as evidenced by their declining market multiples and net asset values.

As IOCs and independents have been forced to retrench to the frontier, unconventional plays and other expensive resources like Canada's oil sands for reserve additions, their production costs have risen (*see Figures 1 and 2*). According to IHS CERA, capital expenditure and operating-expense costs have increased by 127% and 89%, respectively, from 2000 to the first quarter of 2012. Even taking into account cost inflation during this period, reserve additions from the top end of the supply curve are adding materially to the cost base. In 2004, heavy oil, deep-water and unconventional oil accounted for 17% of ExxonMobil's reserves; by 2011, they made up about 50%. The higher costs of extracting these resources show up in financial results—and in questions on quarterly earnings calls. Shell recently fielded several of these, responding that oil sands coming online and increased production from liquid-rich shales in North America increased production costs by about 20% to \$11 per barrel of oil equivalent in 2011. Other supermajors face the same challenge: Chevron's 2012 guidance for upstream capital expenditure of \$29 billion is about 60% higher than its 2010 budget. Given these rising costs, supermajors have experienced significant declines in profitability, with average operating profit margins falling from 15% in 2006 to below 12% in the latter half of 2011 and the first half of 2012.

The North American "shale gale" and other unconventional and frontier plays offer a respite—albeit at a lower-margin, higher capital-intensive level—but it is unclear how long this technology edge can help sustain the resource-ownership model in other regions. Most supermajors were late to the game in acquiring shale gas assets and, because they entered at the peak of the cycle, have written off some of the value of these acquisitions due to the dramatic fall in the price of natural gas. The estimated

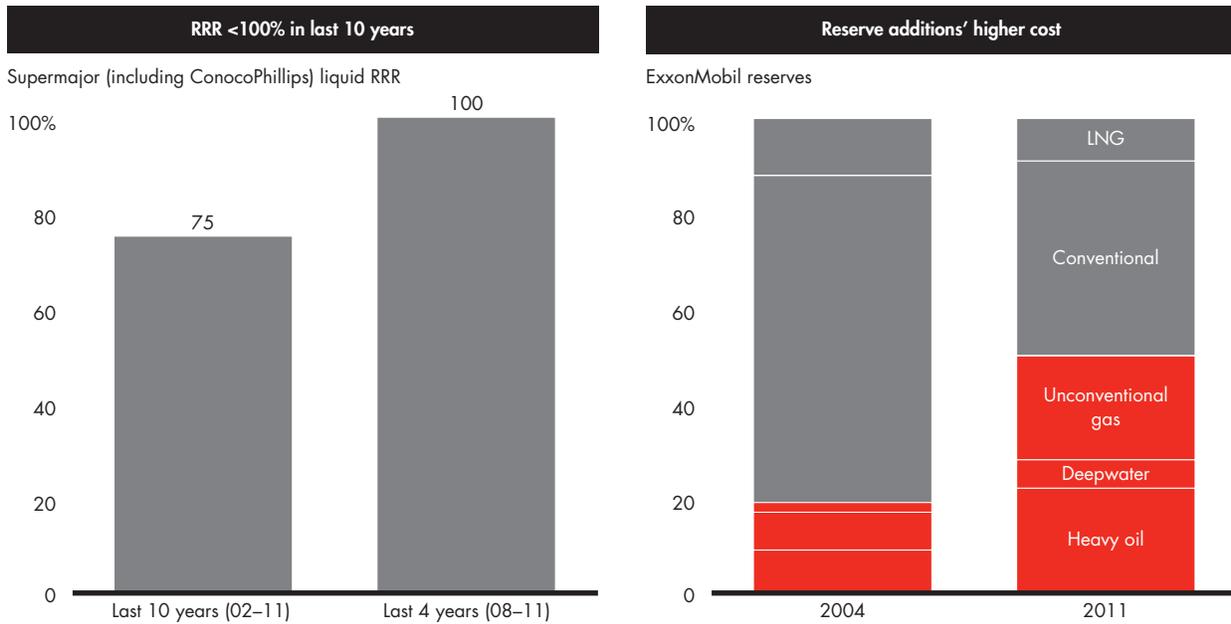
recoverable volume of shale reserves is still uncertain. In addition, the few US independents that developed the technology are being targeted aggressively by IOCs and NOCs alike to gain access to their holdings and capabilities. All this makes it harder for IOCs to create value by following their traditional strategy of globalizing new technologies—in this case, horizontal drilling, fracking and the "drilling factory" operating model.

As for OSCs, the evolving needs of the NOCs will continue to present significant opportunities. These opportunities will come with some major challenges. Managing the risk associated with integrated service contracts (ISCs) will be foremost among those. Two types of these contracts—in particular, risk-service contracts⁶ (RSCs) and production-enhancement contracts⁷ (PECs)—carry significant development and operational risks that can severely affect financial performance in ways and in magnitude not inherent in fee-for-service contracts. OSCs whose businesses have been based on engineering, procurement and construction (EPC), like AMEC, Wood Group, Aker Solutions and Petrofac, already have experience dealing with these risks for surface-based services—especially for development services. But they will have to build their risk management capabilities to operations and subsurface services, where they have little or no experience. Subsurface OSCs, like the Big Four, have had little opportunity to develop robust operating and risk management systems because they have worked mostly on fee-for-service contracts. They will have to develop risk management capabilities to work effectively as the lead contractor under ISCs (*see Figure 3*).

A related challenge for OSCs is to set the optimal mix of ISCs in their portfolios, not only to manage their risks but also to make sure they keep investing in stand-alone services. IOCs and independents will remain important customers to OSCs and will continue to select providers based on best-in-class standalone services. OSCs will have to continue to invest in technology and build capabilities to address a large and diverse customer base.

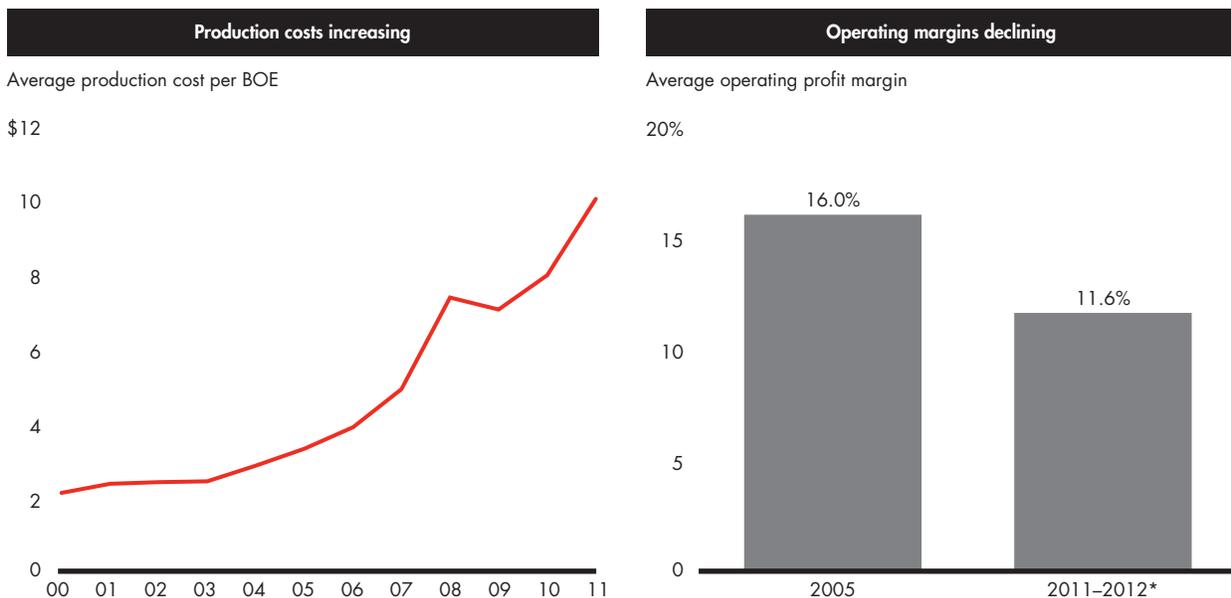
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Figure 1: Reserve ratios for IOCs are declining. New reserves are more likely to be found in challenging environments such as the Arctic, in deep water or lying within complex geology



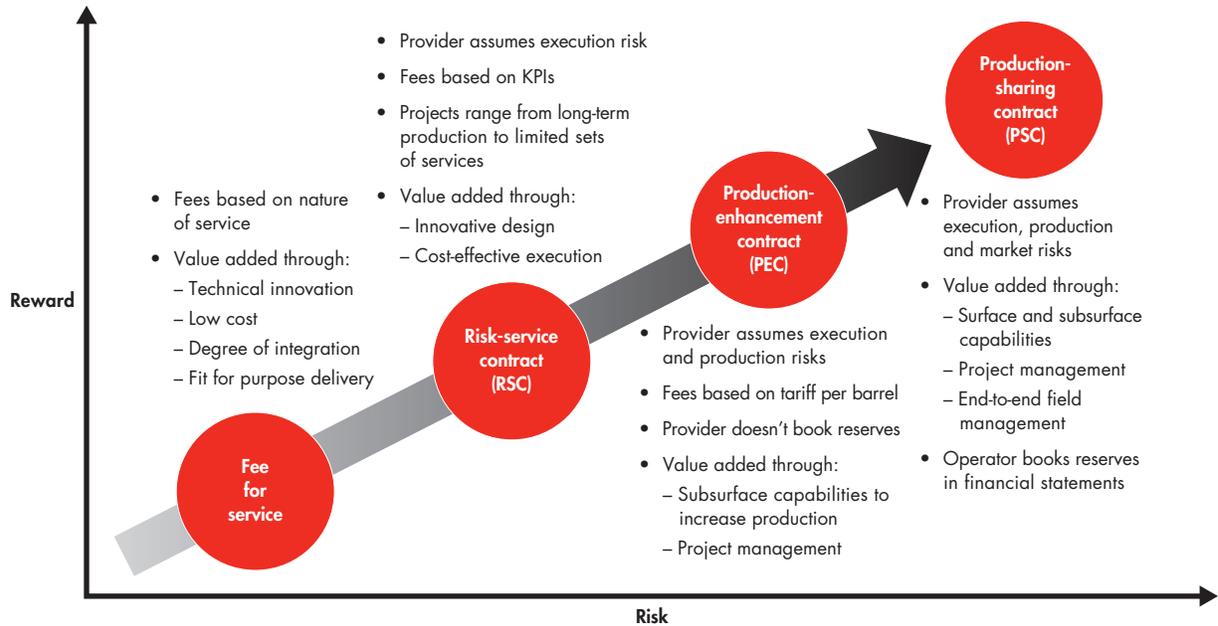
Source: Bain & Company

Figure 2: As more of the IOCs' reserves are drawn from challenging environments, their production costs rise, pressuring margins



*July 1, 2011 to June 30, 2012
Source: Company reports; Bain analysis

Figure 3: Four contracting models have emerged with different risk-reward profiles



Source: Bain & Company

Working with NOCs also requires meeting country-specific, local-content requirements. That can mean substantial investments in the NOC's home country in operational facilities (as in Nigeria), research (as in Brazil) or education and training programs (as in some Middle Eastern countries). Finally, working in a NOC's home country has recently introduced a more direct competitive threat: the rise in domestic competition from low-cost service providers that are wholly or partly owned by the NOC. These national oilfield *services* companies (NOSCs) supply mature technologies at lower cost, and they have stronger relationships with the national operators. Collectively, they own about 65% of the oilfield services market in China and about 60% in Russia. As they grow, they are moving into international markets: China Oilfield Services Limited (COSL), which is majority owned by China National Offshore Oil Corporation (CNOOC), is pursuing an aggressive expansion strategy to raise its international revenue from approximately 20% in 2010 to 40% by 2015. NOSCs like COSL often

follow their NOC parent internationally and then target other operators once operational bases are established.

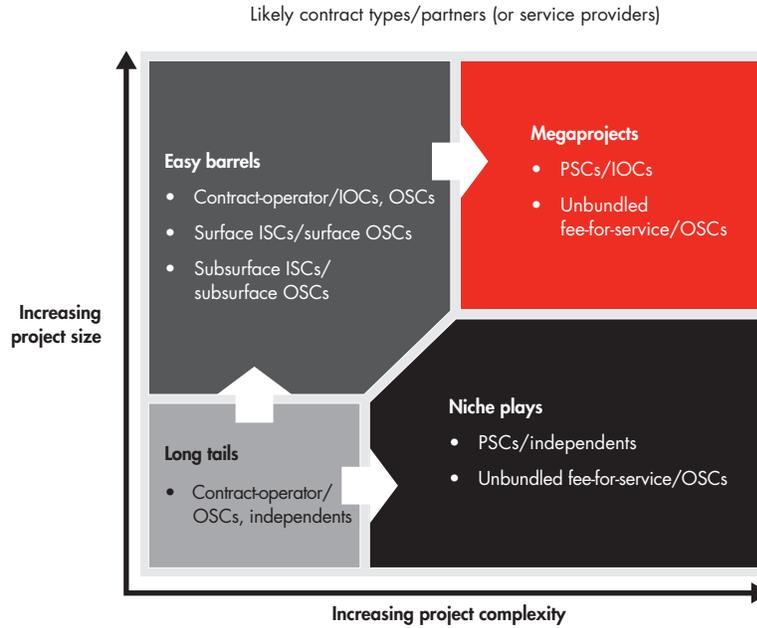
Staking out upstream positions

To understand better the strategic options available to IOCs, independents and OSCs, these companies must recognize the needs of the NOCs and assess where to place their current offering and where to evolve their value proposition to meet those needs. Our analysis of the upstream marketplace describes the different types of oil and gas reserves by size and complexity, then considers the most likely partners and contract types (see Figure 4).

Larger, less complex fields represent about 15% of the total number of fields and about one-third of the reserve base globally. NOCs control the vast majority of these “easy barrels,” which include conventional land and continental shelf fields, where mature processes and technology are effective. A small but growing portion of

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Figure 4: The dominance of the NOCs shifts the playing field



Source: Bain & Company

the oilfield services market for these reserves is being captured by the NOCs. However, there are still opportunities for both IOCs and traditional private OSCs to offer new techniques to improve production. Shell's 2011 agreement with PETRONAS for long-term enhanced oil recovery (EOR) in the mature Sarawak fields via a production-sharing contract is just one recent example of technology expertise enabling an IOC to deploy the resource-ownership model in these types of fields. But increasingly, NOCs are exploring ways to rely less on IOCs and independents and to work directly with OSCs while maintaining overall project management and procurement strategy responsibilities, reducing the need for production-sharing contracts. NOCs rely on their experience in these fields to build their own capabilities, which they can then use to manage increasingly more complex fields.

Recent tenders in Iraq and Iran show the NOCs' preference for ISCs in this segment even with supermajors

like Shell and BP. Meanwhile, BP and others have shown in Iraq that RSCs can be as profitable as PECs, especially compared with PECs for reserves at the top end of the production cost curve (ultra deepwater, oil sands, Arctic). The vendor's success depends on adopting a whole-field perspective (surface and subsurface) across the life of a field and on delivering against key performance or production targets. This requires careful planning and project management, innovative development and production techniques, operational excellence and cost efficiency. Recognizing the relatively low complexity of developing and operating these fields, NOCs want contractors to deliver at low cost and use local content but do so in a way that contributes to their own capability-building objectives. The OSCs have not yet developed the capabilities to deliver contract-operator services, but they are beginning to develop them in their respective areas of focus (surface or subsurface). The Big Four integrated subsurface service providers, for example, are investing heavily in the development of end-to-end

subsurface services and delivering them as integrated operations (see the sidebar, “Integrated operations in demand”). In places where NOCs want to retain overall project management and greater control over surface activity, they are increasingly testing out this contract model. Iraq, Russia and Mexico are already hot spots for integrated operations, and Saudi Aramco, Sonatrach and publicly traded Statoil are field-testing this procurement strategy. Meanwhile, NOCs still rely heavily on OSCs in their traditional capacity, providing standalone services for fees when integrated services are not warranted.

Larger, more complex fields represent about 10% of fields but account for half of the world’s reserves. These reserves are often remote, with complex geology and challenging conditions, which means a higher-risk investment for operators, requiring novel technology and scarce capabilities to extract. Investment commitments are often in the tens of billions of US dollars. These “mega-projects” are rapidly becoming the main places where sophisticated NOCs still consider sharing the molecule with IOCs, partnering with them to share the risk (financial, development and operational) and tapping their technical expertise and experience. Saudi Arabia’s deal with Chevron to develop heavy oil fields and Rosneft’s deal with ExxonMobil in the Arctic are two examples. The Rosneft-ExxonMobil Strategic Cooperation Agreement demonstrates another benefit to scale: portfolio size and breadth. Rosneft and ExxonMobil will invest \$3.2 billion for exploration, and Rosneft will receive equity stakes in three ExxonMobil projects in diverse geographies and geologies, which will help it build experience for its future development of tight oil in western Siberia. Even in this segment, as NOCs improve their skills, they will demand greater control over more complex projects, further marginalizing the IOCs’ historical offering.

For “megaprojects,” NOCs and IOCs purchase few bundled services, preferring best-in-class, standalone technologies and services. These selection criteria require OSCs to invest in state-of-the-art technologies and world-class capabilities.

NOCs also look to the supermajors for their leadership positions in some areas of midstream (LNG) and downstream (refining) to provide expertise and access to markets and technology. In some cases, this will allow IOCs to deploy their traditional upstream business model via production-sharing contracts. Large IOCs bring world-class management skills to gas conversion projects that signal to the international energy and finance community that a supply country is opening up, as with Shell’s Pearl GTL project in Qatar.

Downstream, IOCs can help the NOCs monetize production by developing domestic refining facilities, thus ensuring access to end markets and helping NOCs capture a greater share of the economics of oil and gas production. Total’s joint venture with Saudi Aramco to build the Jubail refinery to process heavy oil is an example. Another example is Shell’s plan to build a \$12.6 billion refinery and petrochemical complex in eastern China, making it the single largest foreign investment in China. This project is tied to an upstream project—via an alliance with China National Petroleum—in which Shell is planning to spend at least \$1 billion per year to exploit China’s potentially vast resources of shale gas.

Smaller, less complex fields represent more than half of the world’s fields but only about 10% of global reserves. These fields represent the “long tails” of operators’ portfolios and tend to be the more mature and aging assets. Nonetheless, these fields are vital to national interests. Governments in many countries rely on oil and gas revenues to meet their fiscal needs, and with oil prices forecast to remain well above production costs, activity in these fields is receiving much attention as players bring in new technologies that reverse production declines. With NOCs focusing on larger fields, being short of skilled labor and looking to generate revenues for their governments, the benefits of contract-operator services are compelling. These fields are too small to attract IOCs. Large independents and OSCs see an opportunity to capitalize on their expertise. To do that, they must be able to deliver the full contract-operator

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model (surface and subsurface) on production-enhancement contracts and do so in a way that demonstrates geological and geophysical expertise, innovative production techniques and superior project management capabilities—all while effectively managing the associated risks of ISCs that deliver incremental volumes from depleted or undermanaged fields.

Examples of contract-operator services being offered by OSCs that encompass both surface and subsurface activities are few in this segment but noteworthy: Schlumberger and Petrofac recently signed an agreement

to provide contract-operator services to NOCs. The alliance combines Schlumberger's subsurface capabilities with Petrofac's surface capabilities, enabling them to redevelop and manage larger fields than each could do individually. Contract-operator ISCs require the service providers to deploy their own capital to a specified schedule. Pemex recently awarded five such contracts, and PetroEcuador has awarded similar contracts covering about 40% of its current oil and gas production.

With NOCs looking to exert more control over their reserves and extend that control into ever-more complex

Integrated operations in demand

NOCs increasingly want OSCs to provide whole solutions—drilling a set number of wells, for example—rather than discrete services, especially where the technology is easy. OSCs do not typically have all these capabilities inhouse, so integrated operations (IO) contracts usually involve subcontracts with third parties, providing specialized services (leasing rigs, for example), though the OSC remains the single point of contact for the field's operator. Many of these contracts are also based on performance and are structured as risk-service contracts (RSCs) or production-enhancement contracts (PECs).

The benefits to the NOCs are clear. Since the OSC manages the project, the NOC can focus on more strategic activities. Because the contracts typically require the contractor to accept some level of risk, it mitigates the NOC's risk. It can also cost less to buy services bundled together rather than procuring them separately. For these reasons, IO services are gaining traction, having grown to more than \$12 billion in 2012 (excluding third-party pass-through revenues).

Most integrated operations to date have been in well construction in conventional fields for NOCs, like Baker Hughes's three-year \$640 million contract to drill 60 wells in Iraq. Other opportunities include "well factories" in shale fields, where operators drill hundreds of wells in a manufacturing-like process, applying lean principles to reduce costs over time. OSCs can support the independents or other operators in achieving cost reductions by integrating drilling rigs, well-site services and streamlined well construction (see figure on next page).

A related opportunity for OSCs or operators is integrated field development. In shale extraction, operators typically use a "brute force" approach to field development, particularly in the hydraulic fracturing process. They have not invested in understanding the reservoir, so only about 10% of shale wells today have been logged. They could develop better reservoir characterization capabilities and identify the natural fractures in the shale along with the optimal number of artificial fractures and the distance between them. Operators could then hit the reservoir's sweet spot and realize better production with

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fields, and as OSCs build a track record of delivering contract-operator services, these services will be deployed in larger and more complex fields, in essence, exploding the applicability of the contract-operator service model.

Smaller, more complex fields account for about 20% of the world’s fields and about 5% of global reserves. This segment contains a wide variety of “niche plays” controlled by IOCs, large and small independents, NOCs or a combination of these players. Where NOCs control access, they tend to partner with independents, since the smaller size of these fields makes them less

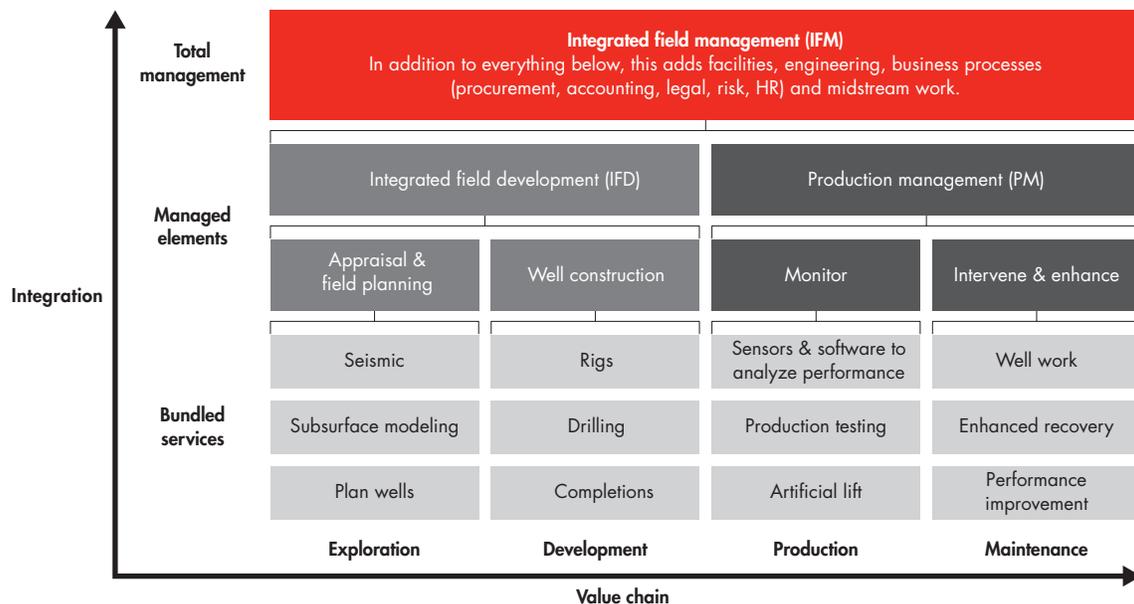
attractive to the larger integrated oil companies. New finds are decreasing while the cost of extracting these reserves continues to rise due to increased technical complexity, remote locations and relatively pronounced inflationary pressures on operations due to the resource draw from larger fields.

As with “megaprojects,” NOCs accept the need to offer production-sharing contracts in “niche plays” to procure the required capabilities and mitigate risks. For example, Occidental Petroleum’s expertise in heavy oil allowed it to enter Bahrain’s oil fields. As with “megaprojects,”

fewer inputs. Schlumberger’s acquisition of ThruBit, a shale wireline-logging company, is one example of a subsurface OSC pursuing this opportunity.

Integrated field management may involve other subsurface and surface activities, such as asset integrity and flow assurance. The market for this contract-operator model is small but gaining traction as NOCs deal with production declines in aging fields, shortages of skilled labor and governments that still depend on their expected tax revenues.

OSCs are expanding far beyond their traditional base of well construction, offering increasingly IO to NOCs



Source: Bain & Company

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operators in “niche plays” prefer to contract unbundled oilfield services since these complex fields require best-in-class services.

The boundaries of these segments are shifting. For “easy barrels,” NOCs will increasingly rely on ISCs, avoiding production-sharing contracts whenever possible. IOCs and large independents are best positioned to provide the full suite of surface and subsurface services, but OSCs are building the capabilities to compete. “Long tails” are serving as the test beds for oilfield services providers to perfect the contract-operator model. As they do, they will be able to compete with IOCs and the larger independents for ISCs in the “easy barrels” fields and to push the applicability of the contract-operator model into “niche plays.” These two dynamics (pushing “up” and “to the right” from the lower left-hand segment in the figure), coupled with the strategic intent of NOCs to exert greater control in “megaprojects,” will put increasing pressure on the resource-ownership model of IOCs and independents that will continue to pursue production-sharing contracts in “megaprojects” and “niche plays” as long as practical.

Where to play, how to win

In light of these dynamics, all industry participants (IOCs, independents and OSCs) must reassess the two key elements of corporate strategy: where to play (in which of the four segments will they seek to compete?) and how to win (leveraging their competitive advantages to deliver). As executives choose their strategy, they must consider how their business models should change to repurpose their existing capabilities or acquire new ones.

For **IOCs and independents**, the strategic options include charting a course independent of the NOCs, investing in becoming the partner of choice for NOCs in order to retain production-sharing rights and embracing the contract-operator service model.

- **Go it alone.** Despite their traditional advantages of larger portfolios, deeper pockets and superior

technical firepower, supermajors will find it harder to operate independently due to the huge challenge of replacing their reserves, regardless of which segments they focus on. Larger independents will also find it increasingly difficult as open-access finds become too small to meet their production and reserve-replacement targets. While smaller independents have less daunting production and reserve replacement needs, limited access to the “long tails” and the technical challenges of the “niche plays” represent significant obstacles. While all three classes of competitors certainly have the option of extending the life of the resource-ownership model by deploying a thoughtful acquisition strategy, we believe that such a strategy is unsustainable, except perhaps for the smaller independents that focus on the “long tails” being divested by IOCs and larger independents.

- **Partner of choice.** IOCs and large independents will continue to pursue “partner of choice” strategies to secure production-sharing contracts into the foreseeable future. They can only accomplish this if they maintain their competitive edge of technological expertise and world-class project management. NOCs are racing to catch up, so they will need to decide the best way to maintain that edge, whether it’s by recruiting the best and brightest scientists and engineers and giving them the resources to thrive, or by acquiring expertise through a well-planned M&A strategy. Since they cannot know which technologies will be most important in 10 to 15 years, they will have to demonstrate an ongoing capability to recognize critical opportunities and technologies as they emerge and invest in them early and over a sustained period. The effectiveness of these strategies, and the relative competitiveness of the players, differs by segment. As we saw above, technological know-how in enhanced oil recovery, for example, is especially applicable in the “easy barrels” fields and can sustain the resource-ownership model in this segment—but not indefinitely. The advantages of scale—not only in terms of

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size and diversity of upstream portfolios but also by participation in the entire value chain—are so pronounced⁸ that independents will be further competitively disadvantaged vis-à-vis IOCs for “megaprojects,” as midstream and downstream capabilities play more important roles in partner selection for many NOCs. Independents would be better served to focus their resources on building deep pockets of expertise in technologies and management techniques applicable to “niche plays.” And both IOCs and independents would be well served to develop capability-based strategies aimed at securing production-sharing contracts in countries with interesting potential, such as Indonesia, Vietnam, China and India. Regardless of their strategies, IOCs and independents will have to shift from a mindset that seeks maximum control to one that balances mutual interests and, above all, is about serving the customer.

- **Contract operator.** For IOCs and independents, the fundamental strategic question is whether they should embrace the contract-operator model. IOCs are entering ISCs in the “easy barrels” fields as a way to gain access to the NOCs’ larger, more complex projects. They can use this strategy on a limited and targeted basis without jeopardizing the resource-ownership model—especially if it leads to substantial production-sharing contracts. But they will be well served to double down on “megaprojects”⁹ or develop a plan to achieve leadership in contract-operator services (primarily in “easy barrels”). To do this, they will have to assess their capabilities to execute ever-more stringent contracts and to devise a plan to fill any capability gaps, including acquiring OSCs, to bring the full spectrum of necessary skills under their direct control. Independents face the same set of options, but their strategies will unfold primarily across the “long tails” and “niche plays” due to their scale. IOCs and independents that embrace the contract-operator model will have to find ways to signal the value of these contracts

to capital markets, which have traditionally valued these companies based on owned reserves and production volumes.

NOCs are already asking **oilfield services companies** to extend the range of their solutions, and the OSCs have responded by working together and separately to deliver surface-based, subsurface-based and contract-operator-based services. The fundamental strategic questions for OSCs will be whether and how far to extend their services across surface or subsurface activities. The applicability of the answers varies by segment. Regardless of their answers, OSCs will have to continually improve the efficacy and delivery of unbundled services, because this will continue to be the most common form of procuring oilfield services in the immediate future. Even here, the strategies used to drive unbundled services vary by segment. Bain sees three strategic options:

- **Leading-edge technology.** Operators are continuing to push the limits of technology by moving into deeper waters, harsher environments, higher temperatures and pressures, and more remote locations in “megaprojects” and “niche plays.” To remain competitive in these segments, leading OSCs will develop world-class R&D organizations, complete with an integrated product and service portfolio strategy, rigorous new product pipeline management, effective commercialization (including the right pricing strategy) and optimized infrastructure. They will learn and apply best practices from industries like high technology and pharmaceuticals, and will tap talent from around the globe, conducting research not only in North America and Europe, but also in emerging markets. They will seek to understand their customers’ technological requirements and enter into partnerships with IOCs, NOCs, academic institutions and even other OSCs. The question customers and investors will ask in this regard is not whether they have the right technological capabilities, but whether they can maintain the ability to recognize important technologies as they emerge and to act on them.

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- **Low-end offering.** Since 2005, Schlumberger, Halliburton and Baker Hughes—three subsurface OSC leaders that typically compete on their superior technology—have lost nine points of market share to low-end competitors. These low-cost service providers use mature processes and technology to win contracts, primarily in the “easy barrels” segment. Other OSCs can meet this threat by developing their own lower-tier offerings where the NOCs have a large share of the market, thanks to their low overhead and operational separation from the parent company. In other markets like the United States, OSCs should explore where they can change the basis of competition from price to value.
- **Contract operator.** With NOCs constrained on resources and capabilities, and intent on capturing more value from “easy barrels” and their “long tails,” the benefits of contract-operator services are clear and compelling. OSCs are responding by expanding their portfolio of products and services and developing true integration capabilities within their areas of focus (surface and subsurface, respectively) and partnering with other OSCs to complete the offering. Options for strategic partnering include combinations

of surface OSCs, subsurface OSCs, equipment providers and even independents. The challenge for this subset of industry participants goes far beyond identifying the combination that delivers the most competitive contract-operator service package. New battlefields are emerging as new partnerships are being forged, introducing competitive dynamics that are new to the industry. The winners will have a clear strategy and path for delivering a superior value proposition—at acceptable risk along each step of the journey.

By virtue of the sheer magnitude of their reserves and the desire to exert increasing control over their development, NOCs and their governments are placing increasing demands on the industry and redefining traditional roles to better suit their needs. Like shifting sands on a landscape, a new set of competitive dynamics is reshaping the industry. Industry participants will be well served to anticipate and prepare for likely competitive outcomes—and combinations. For all these players, the question is no longer whether they should reexamine their strategies and business models, but whether they have the foresight, resources, capabilities and cultural nimbleness to adapt to the changes at hand. 

¹ In this brief, we classify oilfield services companies into two broad categories: Surface OSCs provide primarily facilities-related services, and subsurface OSCs provide primarily reservoir-related services.

² ExxonMobil, Shell, Total, BP and Chevron

³ Gazprom, Rosneft, PetroChina, Petrobras, Lukoil and PETRONAS

⁴ PetroChina, Petrobras, Sinopec, Lukoil and Statoil

⁵ Schlumberger, Halliburton, Baker Hughes and Weatherford

⁶ In RSCs, fees are based on achieving specific KPIs often associated with rapid developments.

⁷ In PECs, fees are based on achieving production improvements and typically paid out on a tariff-per-barrel basis.

⁸ In fact, these scale advantages may drive a new wave of consolidation, creating “elite supermajors.”

⁹ Perhaps they can do so by leading the “final wave” of industry consolidation.

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