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OIL & GAS

CAPITAL PROJECTS:

A Billion Dollar Growth Engine

ACHIEVE COMPETITIVE AGILITY



For decades, capital projects in the oil and gas industry have fueled the world's growth by meeting society's needs for heat, light and mobility.

Following the recent downturn, the number of capital projects oil and gas companies are undertaking across the value chain is again on the rise—larger, more complex and riskier than ever before. Finding the funding needed to support the capital project boom is tough. Generating quick and profitable returns on these investments is harder still—especially considering that nearly two-thirds of oil and gas capital projects valued at more than \$1 billion exceed their projected budgets and schedules by 35 to 50 percent.¹

Yet, winning companies are showing that these investment challenges can be overcome with new capital project operating models that balance the need for cost efficiencies with the imperative for fast execution. Underpinned by zero-based practices and digital tools, these models are enabling a new form of competitive agility. They are unlocking trapped value and, in the process, fueling the industry's next wave of growth.

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Grow fuel to fuel growth

Energy demand is expected to climb 30 percent by 2040, due largely to population and income growth, especially in the developing world.² To satisfy this growing demand, the oil and gas industry will need to make \$40 trillion in capital expenditures over the next 20 years.³ This poses a huge challenge.

The industry isn't known for generating healthy returns on investments (ROI). In fact, from 2006 to 2016, the industry came in dead last among asset-intensive industries in terms of returns.⁴ The investment community's lack of trust in the industry's ability to generate desirable returns has significant consequences. Nearly 4 percent of future revenue is at risk, according to the most recent [Accenture Strategy Competitive Agility Index](#).⁵

The low ROI is due to persistent market volatility, disruptions in supply and demand, and the fluctuating geopolitical situation. But the biggest culprit is the way capital projects have been managed.

A model for agility

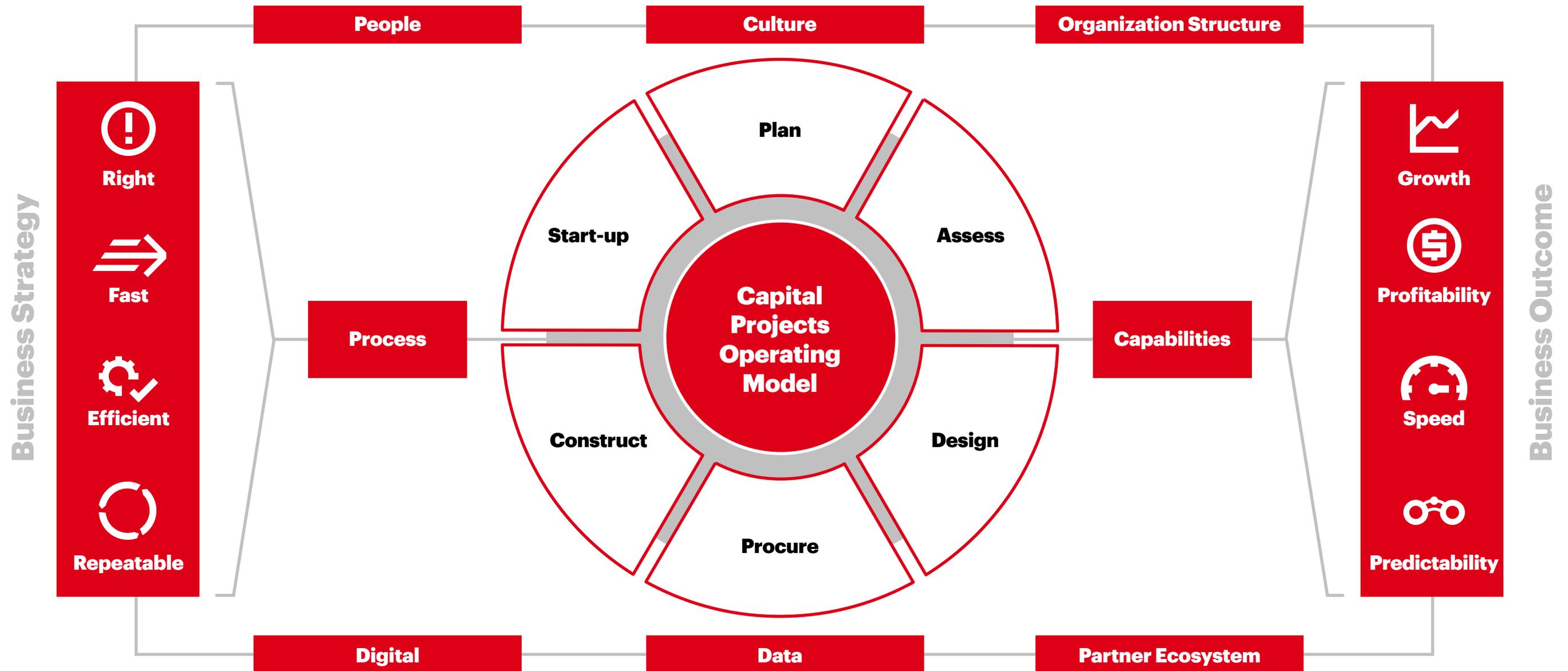
Traditionally, oil and gas companies build their portfolios of large capital-intensive projects with operating models that fail to align with corporate objectives. Project operating models have inefficient processes that follow a stage-gate process without being flexible enough to accommodate changing market conditions. They deviate from best practices to suit process rules. Communication and accountability are lacking, as is an adequate pool of engineering talent. IT spending balloons, with disparate systems creating additional complexity. As a result, assets across the portfolio are underutilized and project delays and cost overruns become the rule, rather than the exception.

There is a better way. By employing a new, agile operating model, oil and gas companies can plan and execute more capital projects, more quickly, for less cost. Unlike the current operating models, the new model defines the strategic and technical capabilities and management processes that are needed, by whom and where (see Figure 1). The project scope and milestones are tailored to ensure steady progress toward desired outcomes. Transparency, knowledge management and open communication are used to create a culture that values relentless improvement. Fit-for-purpose talent ecosystems—comprising contractors and suppliers, along with integrated internal teams that span business and functional areas—are equipped to drive efficiencies at every stage of the project. Critical thinking is encouraged among all parties to simplify work and drive innovation.



Figure 1:

An effective capital projects operating model defines a clear path from business strategies to business outcomes.



Source: Accenture Strategy, 2019

Gold-plate returns, not projects

Of 20 industries Accenture studied, energy is most susceptible to disruption.⁶ This suggests that oil and gas companies need to grow and transform core capabilities with more agile and efficient ways of working. To be sure, the industry is making progress with initiatives like the Joint Industry Project 33, which is standardizing dozens of procurement specifications for key items, including wellheads and low-voltage switching gear.⁷ But when it comes to capital projects, there is much more to do.

Too often, oil and gas companies typically “gold-plate” their projects—adding features, assets, systems and processes that cover every possible requirement and contingency. This approach, which reflects the risk-averse nature of the industry, does not promote agility. It produces waste.

From zero to 60

Oil and gas companies can take a zero-based approach to capital projects to disrupt themselves and unlock trapped value—before others beat them to it. This narrower and nimbler approach relies heavily on zero-based principles and practices that focus on precisely what is needed to achieve the right outcome—not on designs, budgets or operating models that might have been applied in the past. Starting each project from a blank slate has huge advantages. For one oil major, a zero-based approach freed \$1.1 billion that could be reinvested in growth.⁸

A zero-based approach is an important lever for growth because it eliminates unnecessary costs and mitigates the threat of overspending. But it is just one element of a reimagined capital projects operating model.

While cost reduction is critical to transform capital projects and regain investor trust, speed of execution is equally important. The faster oil and gas companies can develop capital projects, the more quickly they can generate returns. This is where digital transformation comes in. Digital capabilities enable companies to bridge strategy and execution, while accelerating project development. Digitization builds on zero-based principles by boosting CapEx utilization. Our experience shows that digitally-enabled capital projects can help oil and gas companies design and build plants 20 to 25 percent faster, at 15 to 20 percent less cost.⁹

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Digital transformation in capital projects must be linked to an organization's overarching digital strategy. That should be relatively easy to accomplish since oil and gas companies are increasingly embracing digital capabilities such as machine learning or analytics to boost performance across the organization. Two digital enablers are particularly relevant for capital project acceleration:

Digital Project Lifecycle Management (PLM)

Digital PLM allows companies to follow an integrated, linear, standardized but flexible, intelligent and automated process that serves as the single source of truth throughout the project lifecycle. It provides a number of advantages, including standardized engineering and project management processes and tools, anytime/anywhere access to data and organizational knowledge, system interoperability, and digital collaboration platforms that facilitate data handovers and support a culture of shared innovation. Seamless integration within and across the value chain enables companies to achieve true competitive agility.

Digital collaboration

Capital projects require a complex patchwork of teams. Multiple internal departments and business units are involved. Many engineering, procurement and construction contractors, as well as other service suppliers, work on key aspects of the project. The extent of collaboration across the entire value chain is a big driver of project success. Digital platforms and cloud-based collaboration tools can enable organizations to maintain seamless collaboration across all teams. Using digital tools allows everyone to systemically share data in a standard tool-agnostic format. This helps remove ambiguity, significantly increases the pace of knowledge transfer, and eliminates errors. Organizations can then maintain a clear line of sight on all activities in the value chain, across organizational and technology boundaries.

For one oil and gas company, digital PLM was coupled with zero-based strategies to generate \$1.8 billion in savings in a single year.

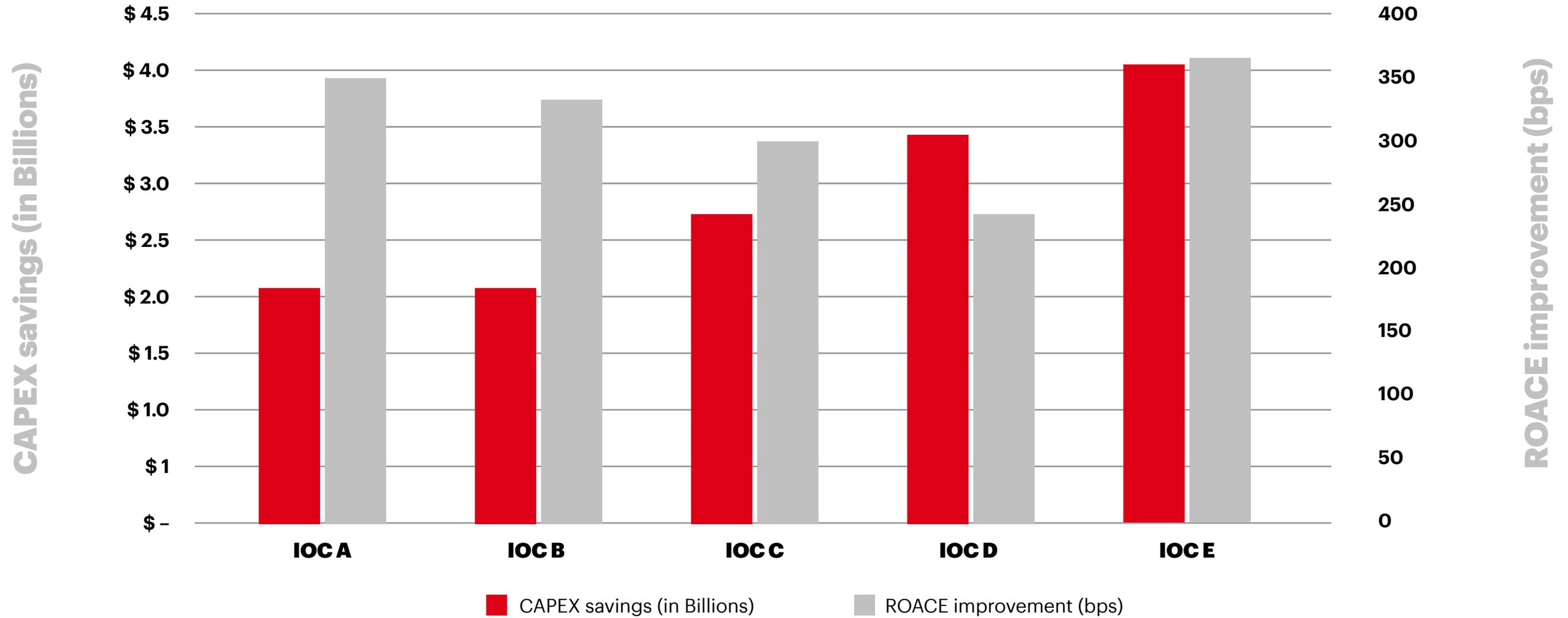
Source: Accenture Strategy client experience, 2019.

Competitiveness with a capital "P"rojects

As the oil and gas industry grapples with the need for significant capital project investments (and returns), new zero-based and digitally-enabled operating models are emerging to transform the speed and cost at which large projects are delivered. These models have the potential to improve a company's return on average capital employed (ROACE) (see Figure 2).

Figure 2:

Accenture Strategy analysis has identified the potential ROACE impact of capital projects transformation for 5 major oil and gas companies



Source: Accenture Strategy Energy analysis, 2019

An operating model for **growth**

Winners will seize the new operating model opportunity, shifting:

From customized, linear and function-driven design and execution processes to a standardized, agile, cross-functional and integrated approach.

Developing a centralized projects organization that focuses on continuous value generation for all stakeholders throughout the projects lifecycle will enable the transition.

From a network of suppliers that delivers what is asked to an ecosystem of partners that delivers exponential value.

Digital technologies and collaboration platforms promote innovation and a joint commitment to growth across the entire value chain.

From a design process that plays it safe to a zero-based process that plays it smart.

Leading oil and gas companies will challenge existing norms of how they scope and budget projects. They will eliminate anything that does not directly contribute to achieving project objectives.

From traditional skills and skill-development practices to new skills, supported by a constantly evolving, sustainable pool of talent and knowledge.

Winners will develop a new digitally-enabled talent strategy that proactively identifies the advanced skillsets that are needed, develops the existing talent pool with new forms of training, and transforms the organizational culture to attract new workers.

Those that successfully make these transitions will execute capital projects more quickly and economically. Their actions will no longer be driven by schedules or costs, but by the desire to achieve value and competitive agility.



To meet their own growth objectives, as well as the world's growing demand for energy, oil and gas companies need to deliver capital projects faster and more cost effectively than ever before. A new, agile capital projects operating model can help them build the competitive agility to achieve both goals. Equally important, the new model can help rebuild trust with investors, thereby fueling the growth the industry needs.

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⁶ Accenture Digital, “Disruption need not be an enigma,” 2017.

⁷ S&P Global, “Oil majors must target costs to face energy transition: BP’s Dudley,” February 26, 2019.

⁸ Accenture Strategy client experience, 2019.

⁹ Ibid.

About Accenture

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About Accenture Strategy

Accenture Strategy combines deep industry expertise, advanced analytics capabilities and human-led design methodologies that enable clients to act with speed and confidence. By identifying clear, actionable paths to accelerate competitive agility, Accenture Strategy helps leaders in the C-suite envision and execute strategies that drive growth in the face of digital transformation. For more information, follow [@AccentureStrat](https://twitter.com/AccentureStrat) or visit www.accenture.com/strategy.

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