

# The Prudent Energy Supplier



## Prudent Supply of the World's Energy

### Market Situation

Safe, Reliable, and Affordable

Business Priorities

SAP Innovations

Reliable access to energy sources is driving world economic growth and elevating the standard of living of the burgeoning middle classes. To maintain this growth, prudent development of oil and gas resources is key.

Prudent and cost-effective development of all available energy resources provides a foundation for economic growth and helps the world run better. This requires coordinated planning, development, and operation of complex capital-intensive programs and assets across a full range of regulators, resource owners, investors, partners, suppliers, and ultimately energy consumers.

To be effective, energy enterprises must adapt quickly to changing market and regulatory dynamics, while maintaining a long-term investment and operating outlook. So exactly how is this accomplished?

By gaining insight into opportunities and risks across the enterprise's full capital and asset portfolio to enable effective planning. And by executing capital and operating plans flexibly and flawlessly, while providing transparency and encouraging stakeholder engagement.

Find out how leading energy companies are taking advantage of SAP solutions to supply the world's energy needs prudently. Join the family and become a best-run energy company.



## Safe, Reliable, and Affordable

Market Situation

**Safe, Reliable, and Affordable**

Business Priorities

SAP Innovations

**Ensure safe, efficient, and responsive operations through:**

### **Responsible Development**

Compliance with safety and environmental regulations helps ensure public support for ongoing development of energy sources.

### **Reliability and Affordability**

Providing reliable and affordable access to energy ensures that the market continues to see oil and gas as an attractive energy supply option.

### **Ability to Sustain Investment**

Efficient operations and an ability to respond quickly to changing market pressures ensures positive cash flows for the needed sustained investments in the oil and gas industry.

### **Best-Run Oil and Gas**



The ability to develop the world's available energy resources in a prudent manner is key to managing the aboveground risks for the investments needed to supply the world's growing energy needs.

## Best-Run Oil and Gas Priorities

Market Situation

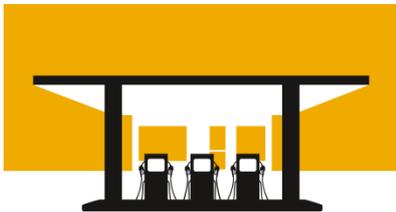
Safe, Reliable, and Affordable

**Business Priorities**

SAP Innovations

Best-run oil and gas enterprises focus on the full lifecycle of their operating assets – not only monitoring the economics of those investments, but also managing and mitigating increasingly complex aboveground risks.

- Capital and Spend Effectiveness
- Integrated Digital Oilfield Operations
- Hydrocarbon Supply Chain
- Operational Integrity
- Human Resources
- Finance
- Information Technology
- Technology and Platform



Understanding the value drivers for each of these priorities is key to executing as a best-run oil and gas company.



## SAP Innovations

Market Situation

Safe, Reliable, and Affordable

Business Priorities

**SAP Innovations**

Energy companies are transforming themselves as the lines blur between oil and gas and adjacent industries. They must integrate more closely across the value chain – with trading partners, suppliers, venture partners, governments, and communities.

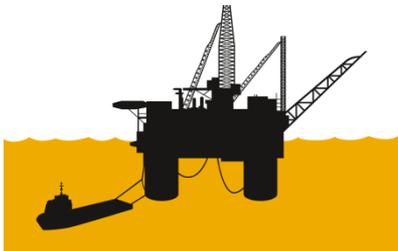
To operate effectively in a fast-paced business, oil and gas companies must provide their employees, partners, and customers with access to the information they need – anytime and anywhere.

As companies become more broadly integrated across the value chain, they are faced with a mountain of data that needs to be collected, stored, and analyzed in real time. Businesses can be managed using the same data that is used to manage primary production operations, eliminating the typical lag times associated with consolidating and rationalizing data.

Processing large volumes of operational-level data across the enterprise enables a company to spot both positive and negative performance trends, and exploit or mitigate them quickly.

With user-friendly mobile apps from SAP on secure, rugged devices, all work processes – whether involving employees or contractors – can be taken into the field. Solutions can be used online or offline.

Cloud-based applications play a key role in enabling information sharing both inside and outside the company. Low-cost and quick to deploy, this technology may be used by organizations of any size.



# Oil and Gas Value Map

## SAP Solutions

The prudent energy supplier.

Capital and Spend  
Effectiveness

Digital Oilfield Operations

Hydrocarbon Supply Chain

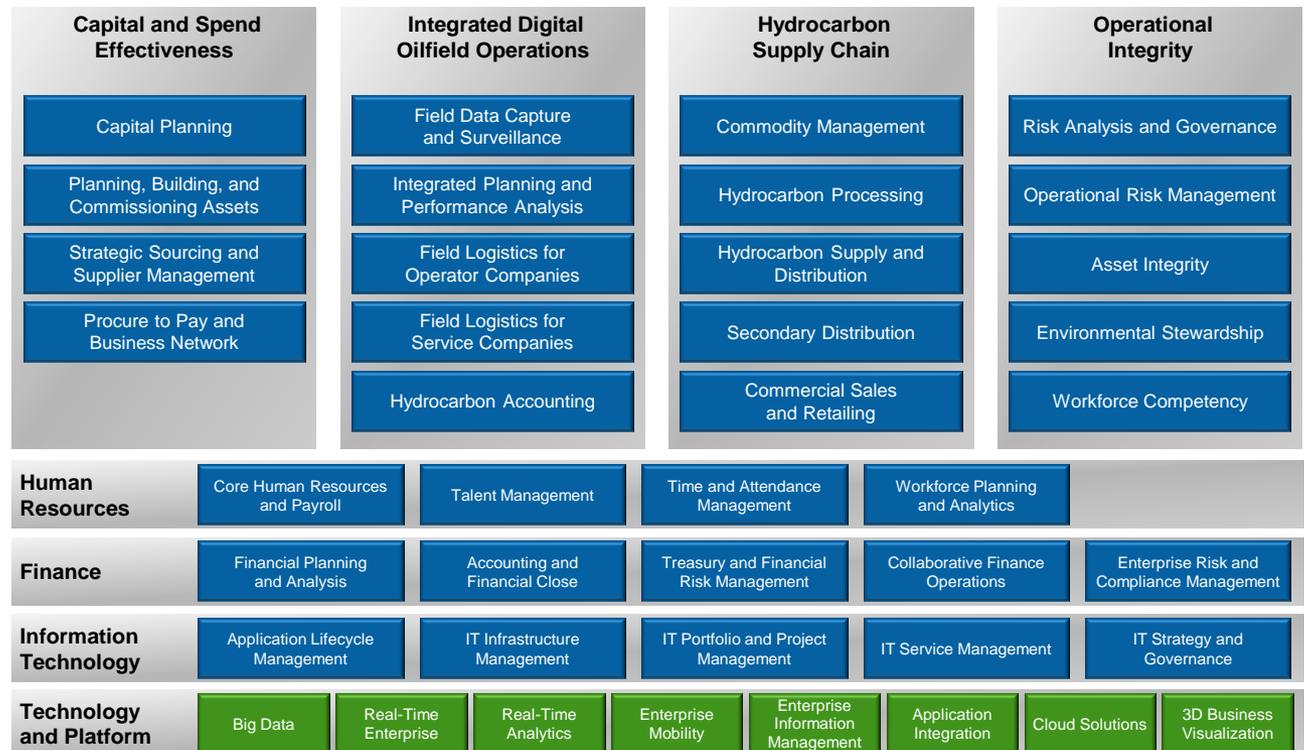
Operational Integrity

Human Resources

Finance

Information Technology

Technology and Platform



## Capital and Spend Effectiveness

SAP Solutions

### Capital and Spend Effectiveness

#### Priorities

SAP Solutions

Capital spend is growing and must exceed US\$19 trillion over the next two decades to meet world energy demand. Organizations must focus on enterprise portfolio management, effective project management, and optimization of procurement processes.



# 22%

Higher asset productivity where asset lifecycle optimized through long-term financial planning, utilization, upgrade, and replacement plans

Source: SAP Performance Benchmarking

As the extent and complexity of capital programs expand, oil and gas companies struggle with the management of their capital project portfolios and often suffer overruns in budgets and timelines. Given the size of these investments, such overruns could ultimately have catastrophic consequences on the financial well-being of an organization. Conversely, improving the management of capital investments and their associated capital and operating spend can lead to a direct and significant increase in return on capital employed, profit, and shareholder value.

Demand for more elaborate methodologies and tools in project and portfolio management, as well as procurement, is increasing. Best-in-class organizations drive integration of project portfolio planning and project execution through commissioning to meet budgets and timelines. This requires collaboration with suppliers on a global scale supported by business networks. Companies drive for 100% coverage of automated procurement processes, eliminating the human error in the supply chain.



# Capital and Spend Effectiveness

SAP Solutions

## Capital and Spend Effectiveness

Priorities

SAP Solutions

# 7%

Lower variance between budget and actual cost where asset management goals, objectives, and metrics are aligned with business metrics

Source: SAP Performance Benchmarking

**Closed-loop management and control of capital and spend mitigate financial risks and maximize return on all investments.**

Maximize capital effectiveness, improve supplier networking and collaboration, and speed time to operational readiness for any capital investments.

### Capital Planning

Define and execute investment strategies, manage capital plans and forecasts, and increase return on capital employed.

### Planning, Building, and Commissioning Assets

Plan and execute capital project portfolios across each stage gate, from appraisal to commissioning, with full transparency of project lifecycle costs. Streamline handover of projects to operations.

### Strategic Sourcing and Supplier Management

Find new suppliers through the Ariba Network, and manage these relationships through supplier management solutions. Identify and act on sourcing opportunities, and create favorable, low-risk supply contracts.

### Procure to Pay and Business Network

Realize savings with compliant, user-friendly self-service procurement, services procurement, and plan-driven procurement. Collaborating on the Ariba Network makes catalog management, purchase order collaboration, and invoice-related transactions even more efficient.

## Benefits

- Maximized return on capital employed
- Reduced cost of materials and services
- Reduced time to operational readiness
- Streamlined collaboration with suppliers



## Integrated Digital Oilfield Operations

SAP Solutions

### Digital Oilfield Operations

#### Priorities

SAP Solutions

Success in the upstream oil and gas business depends on well-orchestrated monitoring, surveillance, decision making, and execution. Companies need to reinforce and close the decision-making loop across all dimensions that impact performance to ensure that the next barrel produced is a profitable barrel.



Operating effectively means being able to respond confidently to questions by understanding the resources managed, monitoring their performance, and optimizing their output.

Understanding the interrelationships among the diverse processes at work in upstream oil and gas operations is essential. Only when a company knows what's happening and what those events mean can it tune operations to maximize asset productivity.

Profitability in upstream gas and oil operations depends on minimizing operating costs, optimizing material resources, and mitigating risk. SAP provides a framework for breaking down data silos and aggregating, analyzing, and executing on this data for production, maintenance, environmental, and financial processes. Our framework supports holistic performance management across all upstream assets.

# 17%

Higher return on assets where asset management systems are fully integrated with inventory management, MRO purchasing, engineering, and finance

Source: SAP Performance Benchmarking



# Integrated Digital Oilfield Operations

SAP Solutions

## Digital Oilfield Operations

Priorities

### SAP Solutions

# 50%

Less maintenance rework time for organizations that improve/automate asset performance data collection

Source: SAP Performance Benchmarking

## Manage the convergence of production, maintenance, engineering, and financials at all levels of the enterprise.

Increase transparency over processes and across functions, close the loop between decision making and execution, and make the next barrel profitable.

### Field Data Capture and Surveillance

Streamline data collection, validation, surveillance, and notification processes from field systems and engineering applications in an automated and mobile manner.

### Integrated Planning and Performance Analysis

Integrate production, maintenance, and engineering to ensure the right data gets to the right people for accurate planning, optimum decision making, and timely execution.

### Field Logistics for Operator Companies

Close the loop in integrated operations. Order oilfield services, coordinate and confirm delivery, and process and pay invoices while ensuring proper training and certification.

### Field Logistics for Service Companies

Close the loop with operator companies through streamlined interactions and logistics. Coordinate supply chain planning, manage and schedule resources, and invoice operators while ensuring proper training and certification of field personnel.

### Hydrocarbon Accounting

Streamline processes for revenue, ventures, and financial functions. Deliver on production-sharing and revenue agreements, royalty reporting, and invoice handling.

## Benefits

- Increased operational insight
- More accurate production planning
- Better visibility of profitability
- Improved production uptime
- Reliable day-by-day planning
- Reduced time and cost for procurement



## Hydrocarbon Supply Chain

SAP Solutions

### Hydrocarbon Supply Chain

#### Priorities

SAP Solutions

The hydrocarbon supply chain is affected by dynamic variables such as price, demand, and delays. Business success can be achieved only by perfecting management and execution at every stage across the supply chain.



When driving efficiency improvements within the hydrocarbon supply chain, companies need to take into account a number of internal and external factors. These factors include logistics, inventory, partners and service providers, and market volatility.

Depth and accuracy of insight into each and every aspect of the supply chain operation is critical to success. Information such as refinery outputs, real-time inventory levels, ship movements, and delivery updates must be monitored. Companies also need to capture custody transfer details, online point-of-sale information, and market price data.

These inputs feed into an integrated business process planning and execution platform, extending across supply, refining, trading, distribution, and retailing operations. In addition, deep integration into financials supports full awareness of commodity risk exposures and enables effective hedging.

# 40%

Lower supply chain planning cost where what-if scenarios are used extensively to evaluate different problem resolution approaches

Source: SAP Performance Benchmarking



# Hydrocarbon Supply Chain

SAP Solutions

## Hydrocarbon Supply Chain

Priorities

SAP Solutions

**Perfect the management and execution of every single step across the end-to-end supply chain.**

SAP software enables companies to manage the entire hydrocarbon supply chain – centrally and seamlessly. By bringing together disparate sources of data in powerful analytics tools and connecting business silos with an integrated solution using common information, they can optimize their business at every stage.

Commodity Management

Optimize commodity procurement, sales, and risk management to react quickly to market changes.

Hydrocarbon Processing

Improve refinery and plant operations through better coordination and visibility of operational and support activities.

Hydrocarbon Supply and Distribution

Orchestrate entire supply chain from planning to settlement – in a consistent and coherent manner.

Secondary Distribution

Orchestrate distribution from the terminal to end-user locations, from planning to settlement – in a consistent and coherent manner.

Commercial Sales and Retailing

Manage sales planning and execution of key processes for all hydrocarbon sales channels, such as bulk, wholesale, and retail.

# 32%

Lower expedited transportation spend (% of revenue) where allocated or available quantities are calculated for each location based on the latest master supply plan and are used to drive distribution planning

Source: SAP Performance Benchmarking

## Benefits

- Reduce commodity risk
- Increase productivity
- Reduce transport and distribution costs
- Maximize on-time, in-full deliveries
- Improve customer satisfaction
- Optimize and accelerate inventory processes



## Operational Integrity

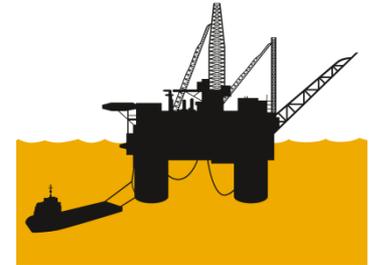
SAP Solutions

### Operational Integrity

#### Priorities

SAP Solutions

Companies are rationalizing operational systems to improve consistency and process safety. This is decreasing complexity, risks, and costs and helping them deliver “one version of the truth.” Integrating sources of data with business processes enables the sharing of information across operations.



As the world population increases, so does the demand for energy. Meeting this demand requires continuous improvement of operational processes and assets in order to safely and efficiently maximize energy production.

Prudent operators make sure that workers have full situational awareness, including all process safety and regulatory requirements along with needed work procedures. They must also deal with any changes to these aspects, including compliance, and enable consistent and sustainable operations.

The key to maximizing asset utilization is ready access to the processes and procedures used by operations personnel to manage assets. Standard operating and process-safety procedures are used to ensure safe work habits. Maintaining proper training and certification for asset operations contributes to overall safety.

Operational integrity is achieved when systems, work processes, and assets combine to produce maximum yield with minimal downtime. Having a consistent version of the truth improves planning, scheduling, and trust in the data, which leads to more informed decisions and higher levels of integrity in operations.

# 49%

Lower unplanned downtime reported by organizations that monitor and maintain internal and external personnel skills and certifications for regulatory requirements, safety, and efficiency

Source: SAP Performance Benchmarking



# Operational Integrity

SAP Solutions

## Operational Integrity

Priorities

### SAP Solutions

# 79%

Lower accident frequency rate reported by organizations that establish and monitor strong safety measures for people and asset

Source: SAP Performance Benchmarking

## Improve process safety while reducing enterprise operating risk.

Drive greater situational awareness, improve process safety, analyze asset performance, monitor policy and guideline usage, reduce environmental impact, and go beyond compliance in operations.

### Risk Analysis and Governance

Monitor facility access; administer policies, procedures, and guidelines; evaluate risks; detect and mitigate fraud; and perform audits to improve governance.

### Operational Risk Management

Proactively reduce operational risk to people, the environment, and assets by performing risk assessments, capturing near misses, recording incidents, prioritizing change requests, tracking work permitting, and monitoring process safety.

### Asset Integrity

Measure asset performance, manage maintenance, ensure spare parts availability, align and collaborate with service suppliers, and use enterprise mobility to monitor operations.

### Environmental Stewardship

Manage energy consumption, facility and asset emissions, product and regulatory compliance, hazardous substances, dangerous goods, and sustainability performance to align with enterprise performance goals and objectives.

### Workforce Competency

Develop operational competencies to train, certify, and retain personnel to enhance availability for projects. Use analytic solutions to reduce project ramp-up cycle time.

## Benefits

- Supports safer, more efficient operations
- Reduces risks, incidents, and accidents
- Enables greater operational efficiency
- Improves visibility of operational risks
- Increases retention and certifications to reduce project downtime
- Increases enterprise situational awareness



## Human Resources

SAP Solutions

### Human Resources

#### Priorities

SAP Solutions

Talent is a true competitive advantage today and critical when aligning business strategy and execution. Best-run organizations achieve profitable growth by leveraging their talent and out-innovating the competition.



For organizational growth and an agile response to business change, organizations must give people the knowledge and technology to facilitate innovation.

Organizations that quickly respond with the right talent in the right places will have a unique advantage in the marketplace.

# 32%

Less employee turnover by using analysis of workforce data to design, implement, and monitor workforce optimization strategies

They must also move into new markets, adapting to local practices and tapping the right local talent. In addition, they must identify and retain new talent acquired through mergers and acquisitions.

Source: SAP Performance Benchmarking



# Human Resources

SAP Solutions

## Human Resources

Priorities

### SAP Solutions

38%

Lower costs for HR organizations with a high degree of internal integration compared to organizations with a fragmented HR environment

Source: SAP Performance Benchmarking

## The new world of work.

Enable growth and sustainability by coupling global capabilities, integration, and real-time insight with choice in the way HR processes and services are delivered.

### Core Human Resources and Payroll

Consolidate HR and payroll processes on a common global platform for better workforce data and legal compliance.

### Talent Management

Improve strategic alignment, increase productivity, and accelerate results by identifying, developing, motivating, and retaining talent.

### Time and Attendance Management

Streamline time management processes to enhance resource effectiveness and visibility into, and control over, labor costs.

### Workforce Planning and Analytics

Identify and analyze talent gaps and streamline workforce planning for efficient and effective management of workforce demand and supply.

## Benefits

- Align people to organizational strategies
- Support global expansion into new markets
- Improve productivity and engagement
- Provide real-time insight into business needs



## Finance

SAP Solutions

**Finance**

**Priorities**

SAP Solutions

CFOs implement best practices to strike a balance between sound stewardship and value creation, while walking the fine line between entrepreneurship and caution. At the same time, they need to view the right information, whether it's the big picture, exacting detail, or somewhere in between.



During one of the most difficult and volatile economies of modern times, financial organizations are struggling to achieve excellence.

On a daily basis, they encounter persistent challenges, such as ongoing market instability, ever-changing regulations, and increasing pressure on margins. Plus, the speed of financial operations is accelerating, requiring access to insight on the go – anytime and anywhere.

Finance executives are tasked with cutting costs and providing insight into the financial impact of decisions. To achieve these goals in this high-pressure environment, finance organizations must rely on best practices that help them achieve excellence and drive business results.

With the right solutions, finance organizations can excel and become a strategic advisor to the entire business. They can help ensure regulatory compliance and effective risk management, outperform financial objectives, create sustainable value, and deliver superior service at reduced cost.

**3x**

Lower finance cost as a percentage of revenue for top-quartile organizations versus bottom-quartile organizations

Source: SAP Performance Benchmarking



# Finance

SAP Solutions

## Finance

Priorities

### SAP Solutions

# 76%

Higher operating margins, where financial systems provide historical and forward-looking views into financial and operational performance

Source: SAP Performance Benchmarking

## Excel with best practices that facilitate 360-degree processes.

In the face of sustained market volatility, increasingly complex regulatory requirements, and growing pressure on margins, financial organizations must enable their staff to collaborate more efficiently and use business insight more effectively.

### Financial Planning and Analysis

Define and execute organizational strategies, manage financial plans and forecasts, and increase profitability.

### Accounting and Financial Close

Deliver a fast, accurate, compliant close and regulatory disclosures with less cost and effort.

### Treasury and Financial Risk Management

Achieve greater insight and control over complex processes for managing cash, liquidity, and risk.

### Collaborative Finance Operations

Automate transactional processes to improve efficiency, effectiveness, collaboration, and service at lower costs.

### Enterprise Risk and Compliance Management

Protect revenue and optimize financial performance with risk and compliance management.

## Benefits

- Provide forward-looking insights
- Deliver accurate financial data
- Enhance efficiency at lower cost
- Help ensure regulatory compliance



## Information Technology

SAP Solutions

**Information Technology**

**Priorities**

SAP Solutions

Businesses enterprises should forge strategic business partnerships with their IT organizations by aligning goals. And business-oriented IT should maximize efficiency and responsiveness by running IT like a business.



Research shows that lines of business want to ascertain the value of their IT investments, which means that IT organizations no longer decide alone which IT projects to fund.

The challenge is that IT management is often seen as just running the technical landscape. To become more relevant to an enterprise, IT needs to reposition itself to run like a business.

SAP offers an integrated portfolio of solutions to do just that. New technologies like mobile, in-memory, and cloud computing generate value to a business in an unprecedented way.

However, these new technologies also make IT landscapes more complex, requiring more tools to manage them. By leveraging SAP solutions – along with following best practices – CIOs, CEOs, other executives, management, and employees can tap into and help ensure efficiency, continuity, and responsiveness, making IT more strategic to the business.

# Information Technology

SAP Solutions

**Information Technology**

Priorities

**SAP Solutions**

**Evaluate and control risk, enable flexibility and scale, control and optimize costs, and maximize strategic value.**

Promote business continuity, drive efficiency, and increase IT responsiveness to business objectives – with IT solutions designed for any size business.

Application Lifecycle  
Management

Use application lifecycle management (ALM) best practices, methods, and services based on the Information Technology Infrastructure Library (ITIL).

IT Infrastructure  
Management

Monitor all network assets to drive integrated infrastructure and application lifecycles.

IT Portfolio and  
Project Management

Manage projects and align the portfolio to drive innovation efficiency.

IT Service  
Management

Align service-desk operations with service-level agreements (SLAs), resolve SLA incidents fast, and adopt ITIL best practices to meet evolving business goals.

IT Strategy and  
Governance

Track IT costs and risk and map risks and compliance activities to business impact.

## Benefits

- Better align IT to business strategy
- Shorten IT delivery and business cycles
- Maximize return on IT
- Reduce system upgrade and operation costs
- Lower risk mitigation cost and revenue loss
- Reduce critical business system downtime



## Technology and Platform

SAP Solutions

### Technology and Platform

#### Priorities

SAP Solutions

Technology solutions can make the difference between surviving and thriving. And businesses know that they need to innovate to drive transformation. Technology and platform solutions from SAP enable quick adoption of cutting-edge technology to run the business better and faster with agility and innovation.



Users expect to run a real-time business with collective insights from real-time analytics for better decision making, prioritization, forecasting and modeling of outcomes, and access to applications from the latest mobile devices. They demand that these capabilities seamlessly integrate with their favorite social platforms, allowing cross-stakeholder collaboration.

At the same time, data volumes are exploding while the window for capitalizing on opportunities is shrinking. Users must be empowered with information from real-time applications available securely on any device. And developers need a platform to innovate faster.

SAP enables the real-time enterprise with an innovative data platform to power a new class of real-time analytics and applications that give businesses a true competitive advantage. Companies can harness the value of Big Data, while improving governance with timely, trusted, and consistent information.

Plus, SAP provides a comprehensive set of cloud solutions, including line-of-business applications as well as social and business network collaboration. The SAP HANA Cloud Platform enables customers to build new apps or extend and customize existing ones with managed and subscription-based services.

## Technology and Platform

SAP Solutions

### Technology and Platform

Priorities

#### SAP Solutions

### Drive transformation and help business thrive with technology.

Technology and platform solutions from SAP enable the real-time enterprise by unleashing the power of collective insights.

#### Big Data

Achieve tangible results on every business priority by accelerating how users acquire, analyze, act on, and apply insights continuously.

#### Real-Time Enterprise

Power a new class of real-time analytics and applications with an innovative data platform to give businesses a true competitive advantage.

#### Real-Time Analytics

Unleash collective insight through enterprise business intelligence, agile visualizations, and advanced analytics on any device and platform.

#### Enterprise Mobility

Deliver a platform for mobile development and security to innovate employee and consumer apps for any mobile device.

#### Enterprise Information Management

Maximize the value of business data across the organization.

#### Application Integration

Integrate application delivery to maximize agility across people, processes, and systems – within and beyond the SAP software landscape.

#### Cloud Solutions

Extend existing on-premise applications and infrastructure to enable new innovative business processes, gain greater insights, and unlock new business value.

#### 3D Business Visualization

Visualize the operations and maintenance of your assets in 3D, and leverage data interoperability from spatial referencing.

### Benefits

- Turn data into an enterprise asset
- Innovate customer engagement
- Enable real-time operations
- Lower time to value



## SAP Innovations

### SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

8

Out of 10 decision makers think access to the right information at the right time is critical to their business

Source: SAP Performance Benchmarking

The lines between the oil and gas industry and adjacent industries are blurring as companies engage in activities across the value chain. In an integrated global market, energy companies need to work more closely with trading partners, suppliers, venture partners, governments, and communities.



To operate effectively in a fast-paced business, oil and gas companies must provide their employees, partners, and customers with access to the information they need – anytime and anywhere.

As companies become more broadly integrated across the value chain, they are faced with a mountain of data that needs to be collected, stored, and analyzed in real time. Businesses can be managed by using the same data that is used to manage primary production operations, eliminating the typical lag times associated with consolidating and rationalizing data. Processing large volumes of operational-level data across the enterprise enables companies to spot both positive and negative performance trends to exploit or mitigate them quickly.

With user-friendly mobile applications from SAP on secure, rugged devices, all work processes – whether involving employees or contractors – can be taken into the field. Solutions can be used online or offline.

Cloud-based applications play a key role in enabling information sharing both inside and outside the company. Low-cost and quick to deploy, this technology may be used by organizations of any size.



## SAP Business Suite powered by SAP HANA

SAP Innovations

### Applications

The SAP HANA Platform

Mobile

Analytics

Cloud

# 48%

Of organizations foresee a need for having predictive modeling and complex optimization techniques on Big Data analysis

Source: SAP Performance Benchmarking

With SAP Business Suite powered by SAP HANA , SAP combines a proven suite of applications with the next-generation platform to drive an entire business in real time. Core applications – including all oil and gas solutions – can now use SAP HANA as their primary database and innovation platform.



### Capital and Spend Effectiveness

Plan and execute complex projects with high transparency and controlled risk by eliminating batch processes, provide information in real time, and consolidate distributed processes with state-of-the-art user experiences. Increased procurement process efficiency offers new ways to navigate and analyze procurement information with fact sheets and real-time analytics.

### Operational Integrity

Simplify planning activities and deadline monitoring, and support maintenance planning in “near-time.”

Results include safer assets, more engaged users, no need for parameter restrictions, and lower cost of operations. Real-time spare parts planning allows faster reaction to demand changes and reduces the risk of stock-outs, reducing safety stocks and required working capital. Monitor spare parts inventory levels and value in real time. Gain real-time insight into plant maintenance data, such as breakdown, damage, and cost.



# The SAP HANA Platform

SAP Innovations

Applications

**The SAP HANA Platform**

Mobile

Analytics

Cloud

Today, businesses must collect, store, and analyze unprecedentedly high volumes of data. With the SAP HANA platform, best-run oil and gas companies can benefit from Big Data to drive real-time performance management across the enterprise and beyond.

## **Capital and Spend Effectiveness**

Improve liquidity and cash management to help manage an uncertain business cycle. Plan better and act faster with instant insight into all relevant data and real-time planning capabilities.

## **Integrated Digital Oilfield Operations**

Ensure optimal performance through integrated and timely insight into production, maintenance, and costs. Optimize operational efficiency and production. Integrate disparate data sources into a single version of the truth – in seconds.

## **Hydrocarbon Supply Chain**

Respond immediately to changes in supply and demand. Reduce inventory carrying costs, and gain critical insight into customer buying patterns and behavior. Gain an integrated and real-time view on inventory and sales data.

## **Operational Integrity**

Analyze historic data to forecast future asset performance and manage assets proactively through optimized strategies, resulting in reduced unplanned outages. Effectively benchmark, analyze, and manage energy consumption and environmental impacts across the enterprise, reducing costs and emissions.



SAP Innovations

Applications

The SAP HANA Platform

**Mobile**

Analytics

Cloud

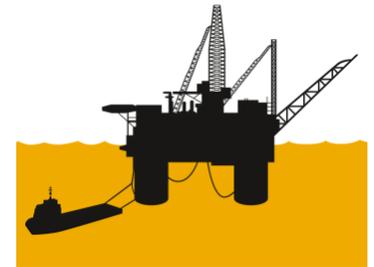
**81%**

Higher margin reported by process manufacturing companies that have higher % of asset management employees with mobile access

Source: SAP Performance Benchmarking

## Mobile

Many oil and gas companies have widely dispersed assets, often in remote locations. Mobile technology connects each employee and contractor working in such locations with the business, providing access to the vital information that they need to do their jobs safely and effectively.



### Capital and Spend Effectiveness

Assess the company's financial performance on a strategic level using dashboards. Monitor the effectiveness of procurement on an operational level. Analyze the complete project lifecycle to ensure that targets are met.

### Integrated Digital Oilfield Operations

Reduce operational costs by avoiding paperwork and unnecessary travel activities.

### Hydrocarbon Supply Chain

Lower transportation costs through remote and real-time access to supply chain status, scheduling systems, and dispatch plans. Improve consumer proximity through integration of mobile payment and loyalty programs.

### Operational Integrity

Reduce equipment downtime through timely reporting of malfunctions. Improve safety with easy safety observation/incident reporting and the ability to immediately push safe work instructions and safety-related content to workers, at the right time.



## Analytics

SAP Innovations

Applications

The SAP HANA Platform

Mobile

**Analytics**

Cloud

# 20%

Higher availability of real-time, predictive insights if higher % of strategic KPIs are tracked using BI tools

Source: SAP Performance Benchmarking

Improve physical asset utilization and track performance with analytics solutions from SAP. Functionality includes operational visibility and performance, asset analytics, and sustainability performance management. Packaged applications are extensible and work with any data source.



### Capital and Spend Effectiveness

Assess the company's financial performance on a strategic level using dashboards to monitor the effectiveness of procurement on an operational level. Analyze the complete project lifecycle to help meet targets.

### Integrated Digital Oilfield Operations

Analyze production loss to determine the most common causes and implement programs to reduce the most costly failures first. Perform cost-benefit analysis to determine work-over profitability.

### Hydrocarbon Supply Chain

Improve leverage on raw material costs through global insight and the rationalization of stock-keeping units. Monitor supply chain performance against key performance indicators and identify discrepancies. Analyze customer and market information to evaluate customer needs, trends, and market opportunities.

### Operational Integrity

Improve safety performance and substance volume tracking by complying with the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) regulation. Reduce risk exposure with improved regulatory reporting and compliance.



## Cloud

SAP Innovations

Applications

The SAP HANA Platform

Mobile

Analytics

**Cloud**

# 85%

Believe the cloud will have a major impact on their organization, through efficiencies, innovation, or competitive differentiation

Source: SAP Performance Benchmarking

The speed and flexibility offered by cloud applications let companies build differentiating solutions at the point of engagement – establishing global business networks or connecting directly with customers. SAP’s hybrid cloud lets companies complement and extend on-premise applications at their own pace.



### **Collaborative Sourcing, Buying, and Production**

Automate and streamline the strategic source-to-pay process fully networked with suppliers. Manage travel expenses more effectively from a tablet or smartphone with integration with the SAP ERP application, helping to reduce cost.

### **Finance**

Improve margins and respond to rapidly changing market conditions with the SAP Cloud for Financials solution.

### **Sales and Servicing**

Collaborate more easily with oilfield sales and service teams to solve problems and close deals quickly.

### **Operational Integrity**

Manage product sustainability information collaboratively across a network, and deliver product safety documentation across products and regions. Extend learning to employees and contractors that combines formal, social, and extended learning channels with unprecedented content management, reporting, and analytics. Use workforce planning to ensure having the right people with the right skills, at the right time, and at the right price.



## Best-Run Customers

### Best-Run Customers

Apex Fuels

Bharat Petroleum

Kuwait Petroleum

Lukoil

Numaligarh Refinery Limited

Shiv-Vani Oil and Gas

SK Energy

Surgutneftegas

Thai Oil

Why SAP?

Our customers produce more than 70 million barrels of oil each day.

Our customers represent 100% of oil and gas companies in the Global Fortune 500.

SAP software enables more than 1 million users in the oil and gas industry.

9 of the top 10 oil and gas companies in the United States run SAP.

15 of the top 20 global upstream companies run SAP.

19 of the top 20 global downstream companies run SAP.



## Customer Co-Innovation

### Best-Run Customers

Apex Fuels

Bharat Petroleum

Kuwait Petroleum

Lukoil

Numaligarh Refinery Limited

Shiv-Vani Oil and Gas

SK Energy

Surgutneftegas

Thai Oil

Why SAP?

SAP co-innovates with dozens of leading oil and gas companies in its global advisory council structure. Through communities and work streams, its member companies lead co-innovation, definition of best practices, and continuous incremental enhancements across the SAP solution portfolio.

### Oil and Gas Advisory Council

CIOs, together with other leaders of top oil and gas companies, come together in multiple communities to discuss new business innovation, technology requirements, and share best practices on how to drive more value from SAP solutions.

### Co-Innovation Partners

SAP is working with a number of system integrators and complementary solution providers to drive innovation into the operations and supply chain across the entire oil and gas value chain.



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Why SAP?

**Apex Fuels serves the energy and fuel requirements of a broad spectrum of commercial, industrial, and government operations throughout the United States.**

OrchestratedFUEL, a partner solution built on the SAP Business One application, helped a growing petroleum marketer reduce workload, streamline processes, and increase profitability when it moved sales support functionality to employees' mobile devices and extended order placement and payment to the Web for customers.

**Key Benefits**

- Reduced invoice delivery time by 50%
- Shortened order-to-cash time by 2 days
- Increased online ordering and payments from 1% of customers to 30%

**50%**

Reduced inventory  
delivery time

**2**

Days shorter  
order-to-cash  
time

**30x**

Increase in online  
ordering and  
payments

“SAP Business One has helped our organization streamline business processes while providing total transparency into our operations, resulting in reduced workloads and increased profitability.”

Greg Cunningham, CEO, Apex Fuels





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Why SAP?

**Bharat Petroleum Corporation Limited is a nationally owned oil company that's been fueling the lives of Indians for almost a century.**

Oil companies across India are using a collaborative B2B solution built with SAP NetWeaver Process Integration (SAP NetWeaver PI) technology to process 45 million liters of fuel a day, totaling more than US\$20 billion annually. Now supply and demand signals from each firm are shared instantly to enable timely delivery and meet the latest fluctuations in demand.

### Key Benefits

- Fast, automated transaction processing
- Reduction in costs and manpower
- Foundation for future B2B processing scenarios

**45**

Million liters of  
fuel traded daily

**80%**

Reduction in  
required FTEs

**100%**

Data accuracy

“SAP NetWeaver PI gives us one less thing to worry about. We can process 45 million liters of fuel every day without any of the paperwork.”

S. Prakash, Deputy General Manager for Enterprise Resource Planning,  
Bharat Petroleum Corporation Limited





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Why SAP?

**Kuwait Petroleum International Lubricants is a division of Kuwait Petroleum International – the international marketing and refining arm of the Kuwait-based Kuwait Petroleum Corporation. Operating under the Q8Oils banner, it manufactures and sells high quality lubricants, base oils, waxes, bitumen, and aerosol propellant.**

Kuwait Petroleum International Lubricants wanted to increase the amount of detail provided by the financial reports on which managers based their decisions.

### Key Benefits

- Dramatic cut in time spent on invoice approvals – a reduction from 5 days down to 1 hour
- Support for cost-saving and profit improvement initiatives
- Enhanced visibility of information to enable strategic decision making

**15%**

Faster purchasing process

**50%**

More suppliers

**€1**

Million saved in efficiency improvements from enhanced visibility

“With the assistance of SAP Profitability and Cost Management, we have achieved savings of more than €2 million within an 18-month period.”

Philip Young, Finance Manager, Kuwait Petroleum International Lubricants





**LUKOIL**

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Why SAP?

**Lukoil is one of the world's biggest vertically integrated companies for production of crude oil and gas, and their refining into petroleum products and petrochemicals. It is a leader on Russian and international markets in its core business.**

LUKOIL MID-EAST turned successfully to the SAP Supplier Relationship Management (SAP SRM) application to manage a large number of operational routines and procurement processes, as well as a new market of Iraqi suppliers.

### Key Benefits

- More transparent, manageable procurement for confidential and unified processes and supplier-buyer audit trails
- Larger supplier database, enabling strategic procurement initiatives by cutting time spent on smaller purchases
- Wider supplier base and equal opportunities, increasing supplier competition

“The SAP SRM application helped us optimize our procurement processes and establish transparency. It also helped us increase our supplier base and sped up the purchasing process by eliminating paperwork.”

Beltiukov Ivan Vsevolodovich, Director of Procurement and Contracts, LUKOIL MID-EAST LTD.

**400%**

Return on investment within 18 months

**120x**

Reduction in time spent on invoice approvals

**20%**

Fewer mistakes in purchasing documents





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Why SAP?

**Close to 2 million metric tons of crude oil are shipped via pipeline each year from Oil India Limited to Numaligarh Refinery Limited.**

The companies needed a business-to-business (B2B) solution that would eliminate duplicate record keeping, reduce errors, and improve transparency. With SAP for Oil and Gas solutions, the process of dispatching transactions and securing payment release for Numaligarh Refinery Limited has been fully automated.

**Key Benefits**

- Synchronized master data with standards from ASTM International
- Reduced costs by eliminating the need for quantity and price reconciliation
- Reduced process cycle time by automating transactions
- Consolidated transaction data under one source

“This is the first implementation of a B2B solution in the country to automate crude oil procurement between upstream and downstream oil companies using electronic data interchange. The solution helps ensure accuracy and transparency for both Numaligarh Refinery Limited and Oil India Limited.”

Nilmoni Bhakta, Director, Finance, Numaligarh Refinery Limited

**99%**

Improvement in data integrity

**98%**

Faster procurement transaction cycle

**100%**

Transparency between businesses





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Why SAP?

**Shiv-Vani Industries is a premier service provider catering to the upstream segment of the oil and gas industry, globally recognized for proven expertise in exploration, production, and allied services.**

Shiv-Vani implemented the SAP ERP Human Capital Management (SAP ERP HCM) solution for its NTT data functionality in order to streamline and automate core processes, create a single system of record, reduce the time to process payroll, and enable employees at all levels to participate in business processes with ease.

### Key Benefits

- Integration of HR processes across subsidiaries
- Less administration time and more time for core business tasks
- Faster payroll processing and better regulatory compliance
- Less paperwork and lower costs per transaction with workflow-driven processes

**45%**

Faster payroll processing

**40%**

Cost reduction per transaction

**40%**

Increase in customer satisfaction

“With SAP ERP HCM, Shiv-Vani now has a better HR system to serve employees. Employee satisfaction is up, and employee partnerships are stronger than ever before.”

Rajeev Singhania, General Manager for IT, Shiv-Vani Oil and Gas Exploration Services Ltd.





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Why SAP?

**SK Energy Co. Ltd. is Korea's leading energy and petrochemical company, with global operations.**

This Korean energy company uses the SAP Customer Relationship Management application to strengthen its dealer and customer relationships, maximize profits, improve competitiveness, and build company value.

**Key Benefits**

- Improved visibility into critical areas such as sales activity and revenue per customer
- Increased customer satisfaction through an integrated, enterprise-wide support operation
- Timely decision support with real-time access to customer and dealer information

**33%**

Reduction in service request response time

**50%**

Increase in user satisfaction

**80%**

Reduction in analysis lead time

“To grow in the Asia-Pacific market, SK Energy needed to work more effectively with our network of dealers. The SAP Customer Relationship Management application is helping us execute on that objective.”

Sung Joon Park, Senior Manager, IT Management Team, SK Energy Co. Ltd.





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Why SAP?

**Surgutneftegas is one of the Russian oil majors involved in oil and gas production and exploration, gas processing, power generation, output, and marketing of petroleum products, petrochemicals, and gas products.**

One of the largest oil and gas producers in Russia, Surgutneftegas facilitated its transition to service-oriented architecture by deploying SAP NetWeaver technology platform components and technology, enabling the company to improve the quality of master data, optimize inventory, reduce purchasing costs, and achieve a dramatic return on investment of 229%.

### Key Benefits

- Enhanced data governance by deploying transparent, end-to-end, change-approval processes for master data
- Improved quality of master data
- Eliminated data attribution conflicts between material procurement and financial departments

“SAP Consulting professionals helped us build a solution that supports our key business processes with current, consistent master data. This project is the first step in building our new, service-oriented IT architecture.”

Rinat Gimranov, CIO, Surgutneftegas

**229%**

Return on investment

**10%**

Reduction of master data maintenance cost

**10%**

Reduction in duplicate material requests





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**Thai Oil**

Why SAP?

**Thai Oil primarily engages in the oil refining and distribution business in Thailand.**

SAP first conducted a collaborative value assessment to identify key improvement areas and design a strategic IT road map. Thai Oil replaced an obsolete plant maintenance system with SAP software for plant maintenance and upgraded to a newer version of the SAP ERP application with enhanced functionalities.

**Key Benefits**

- Improved visibility into contract purchases
- Reduced efforts in generating financial reports that are compliant with International Financial Reporting Standards
- Improved spare part utilization by sharing spare part information among subsidiaries

**-85%**

Lead time for shutdown planning

**-83%**

Lead time for purchase request verification and approval

**-90%**

Number of in-house applications

“SAP supports Thai Oil with best practices on an integrated platform. Thai Oil has leveraged these to design business processes that can drive efficiency and effectiveness for its employees.”

Somboon Chuaykoblaph, ICT Strategy Manager, Thai Oil Public Company Limited



## Why SAP?

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### Why SAP?

SAP for Oil and Gas solutions help companies maximize capital and spend effectiveness, integrate digital oilfield operations, perfect the hydrocarbon supply chain, and ensure operational integrity, all while leveraging the latest technology innovations.

### **Tightly Integrated, Comprehensive Business Solutions**

SAP offers the most comprehensive portfolio of solutions for the oil and gas industry, enabling companies to focus on their key business processes and prudently deliver the world's energy supply.

### **Leveraging Key Breakthrough Innovations**

The SAP solution portfolio is based on the industry's most innovative technology foundation, including the SAP HANA platform, mobile solutions, and analytics and cloud solutions, to enable business process optimization and efficiency at the lowest possible cost.

### **40 Years of Delivering Value to Oil and Gas**

The world's leading oil and gas companies, across every major segment of the industry throughout the world, continue to rely on SAP software to enable every aspect of their business.



## Why SAP?

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### Why SAP?

### The best-run oil and gas organizations rely on SAP:

Our customers produce more than 70 million barrels of oil each day.

Our customers represent 100% of oil and gas companies in the Global Fortune 500.

SAP enables more than 1 million users in the oil and gas industry.

9 of the top 10 oil and gas companies in the United States are SAP customers.

15 of the top 20 global upstream companies are SAP customers.

19 of the top 20 global downstream companies are SAP customers.

More than 50% of the world's oil movements are managed with SAP software.

# Find Out More About How Your Organization Can Become Best-Run

## Benchmark Your Performance

Position your organization for dominance in this new economy with the business performance benchmarking program from SAP – available free to SAP customers and select prospects. The SAP benchmarking program has helped more than 3,000 organizations assess their strengths, uncover areas for improvement, and identify best practices and IT strategies that generate clear, tangible value – not someday, but today.

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