

Reliance Industries Limited

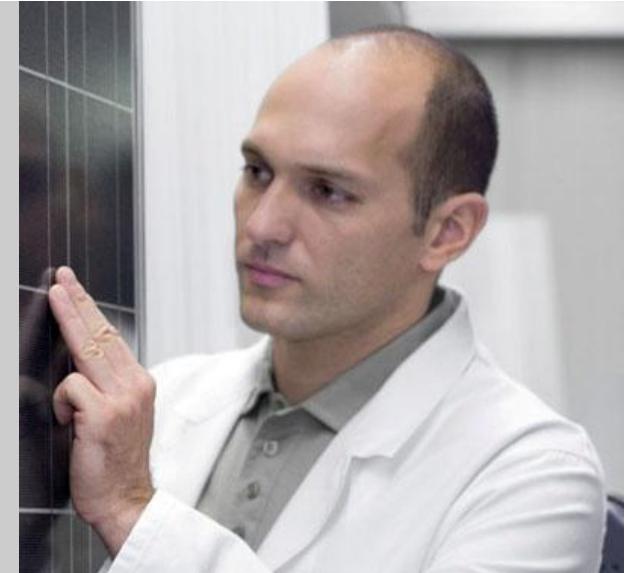
Executive Board Presentation

BEST BUSINESS PRACTICES & MEASURES



SAP INDUSTRY BLUEBOOK : Oil & Gas

APPROACH WHITE PAPER
BUSINESS TRANSFORMATION SERVICES



28th June 2010

Author .

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SAP CONSULTING

INDIA SUB-CONTINENT. BANGALORE



THE BEST-RUN BUSINESSES RUN SAP™



Agenda



 Energy Industry Highlights – & Value Drivers

 Oil & Gas - Best Business Practices

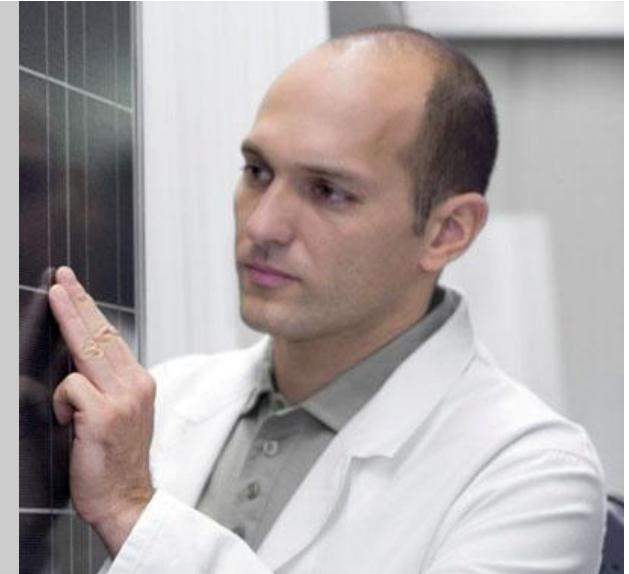
 Best Business Practice – Baseline Scenarios

SAP INDUSTRY BLUEBOOK : Oil & Gas

Volume – 1

Energy Industry Highlights & Value Drivers

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Energy Policy Changes

Volatile Prices and Margins

Increasingly Complex Assets

Shifting Demand and Supply Patterns

- Raw goods price volatility
- Geographical match of supply and demand
- Evolving energy markets, (for example, gas)
- High growth rates in emerging countries

Increased Governmental Regulation

- IFRS, OPEC, REACH
- Sarbanes-Oxley Act
- Sanction party compliance
- Hedging laws – IAS 39, FAS133
- Excise taxes
- Environmental compliance

Global Market Dynamics

- Resource and asset optimization
- National oil companies expanding
- Increased mergers and acquisitions
- Global business operation models

Maximize Reserve Recovery

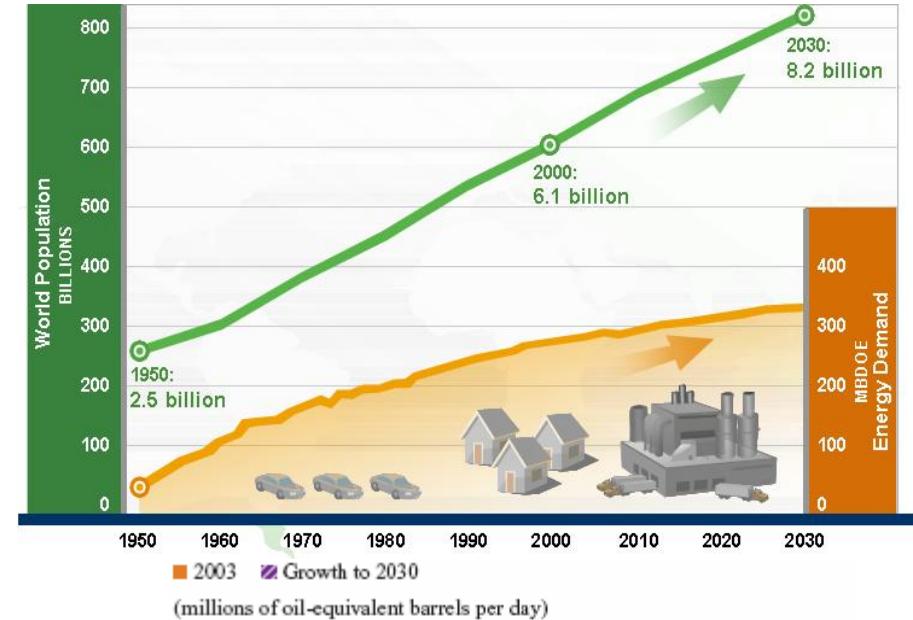
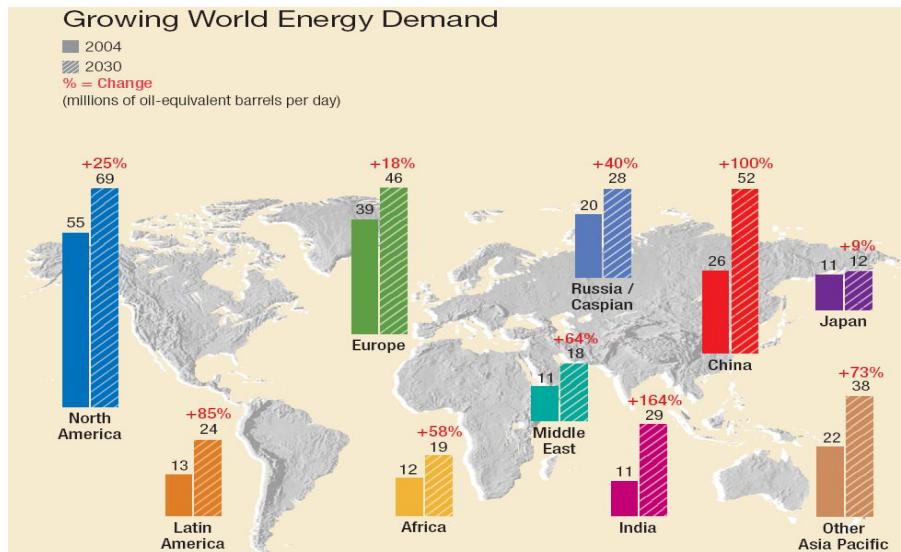
- Operational excellence
- Digital oil fields
- Asset performance
- Trend to remote and smaller discoveries
- Hazardous environments

Renewables and Energy Conservation

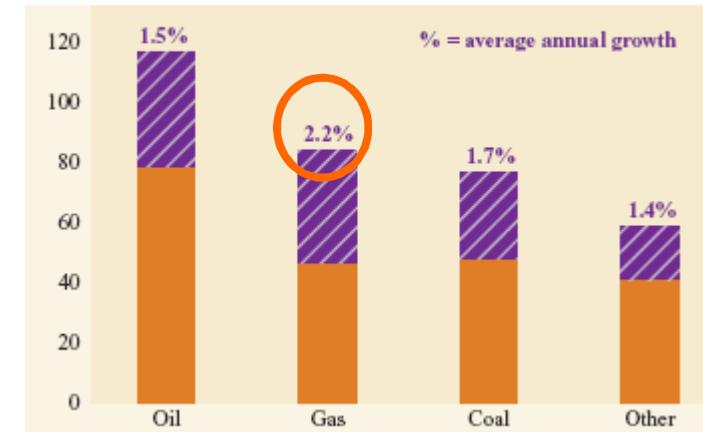
- Increasing use of biofuels
- Competition from alternative energies
- Innovation in energy efficiency

Energy Market –

... outlook to future



- By 2030, global energy demand will increase by 50%
- Oil & Gas will remain predominant energy source with increasing contribution of natural gas (2003: 95 Tcf, 2030: 182 Tcf)*
- Gas is experiencing rapid growth in demand and production as the energy source

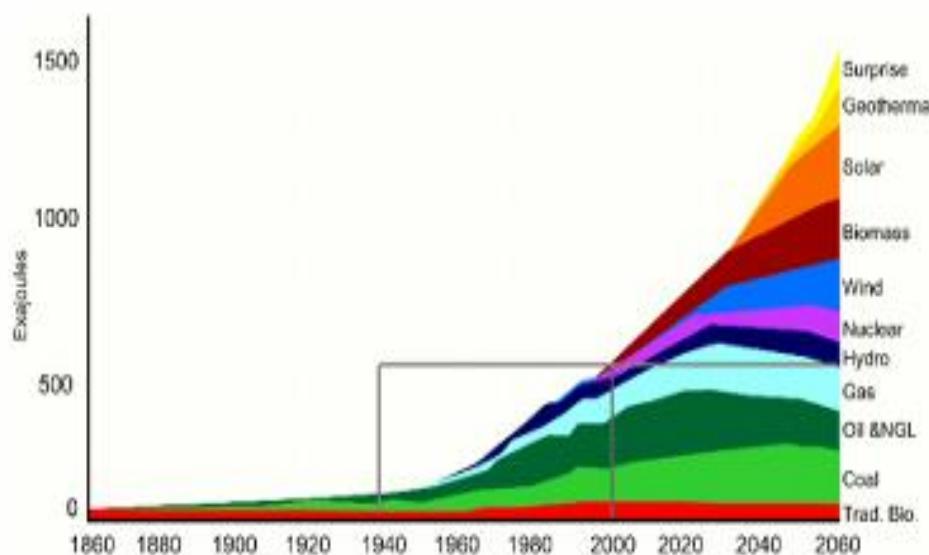


Critical will be to successfully meet the significant energy supply and demand challenges ahead

Outlook for Energy Demand – View to 2030 and Beyond



Shell Oil's "Sustainable" Growth Scenario



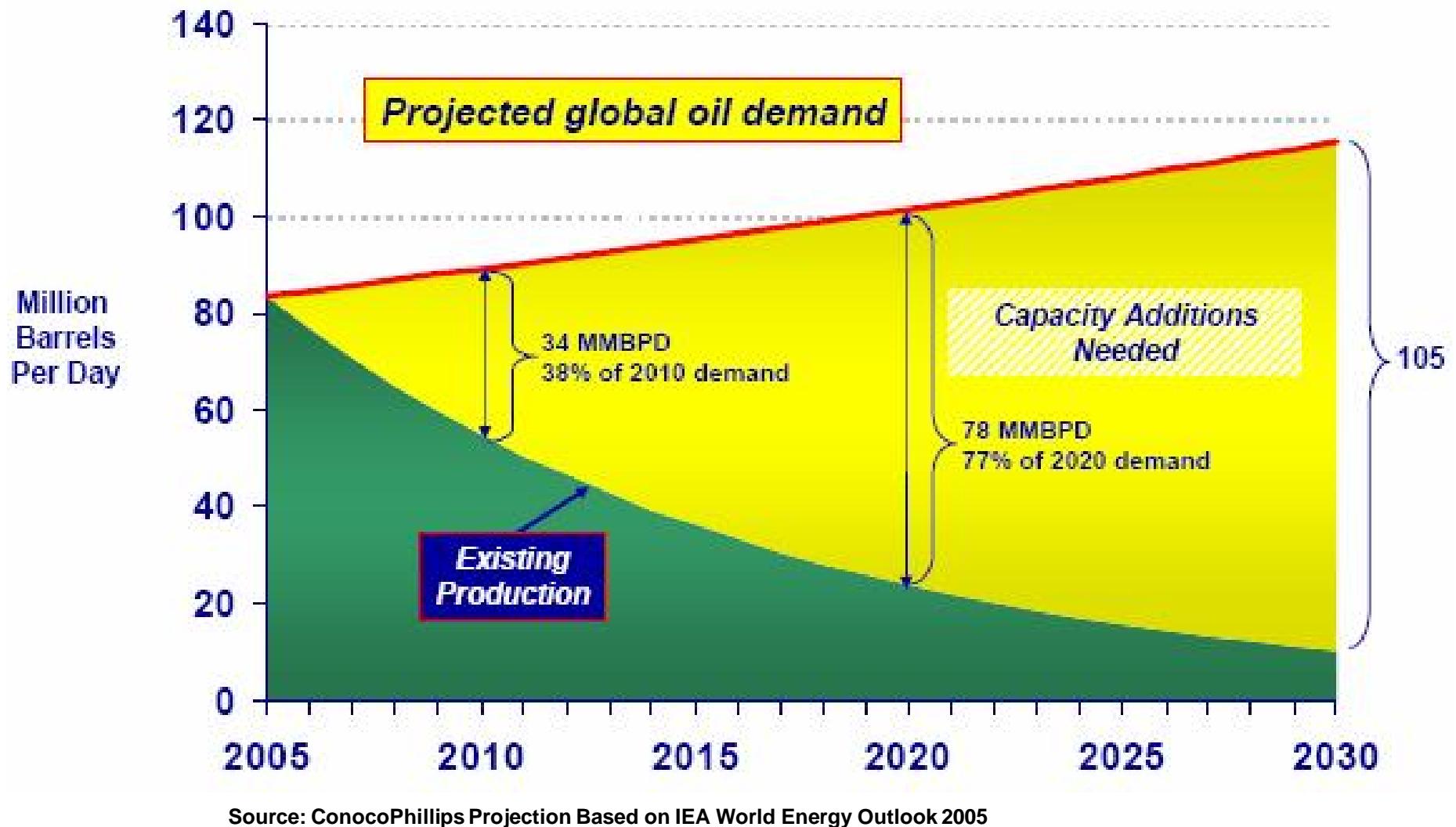
- By 2030 global energy demand will increase by 50%*
(*Source: EIA, World Energy Projections)
- Oil & Gas will remain predominant energy source for next few decades, but a tipping point has been reached

"The break point is already here. Oil is in the process of losing its almost total domination in ground transport. It is not going to fade away soon—such is the scale of its use and convenience that it will retain a dominant position for many years."

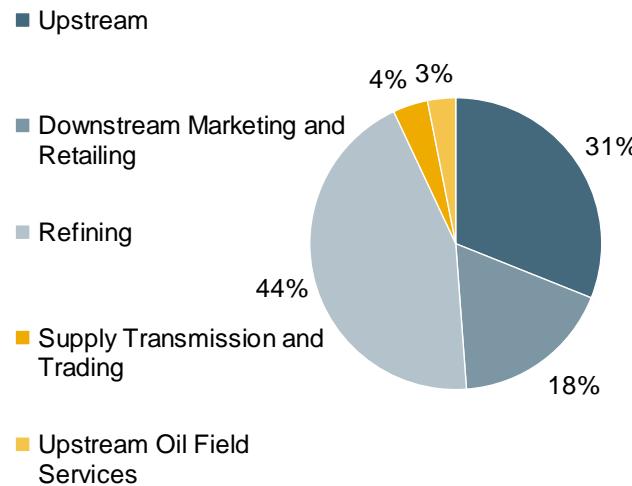
*Daniel Yergin, Chairman of Cambridge Energy Research Associates
"Oil Has Reached a Turning Point", Reprinted from The Financial Times, May 27, 2008*

The balance of future supply and demand remains challenging

Extensive Capital Investment Required to Bring on New Sources of Supply

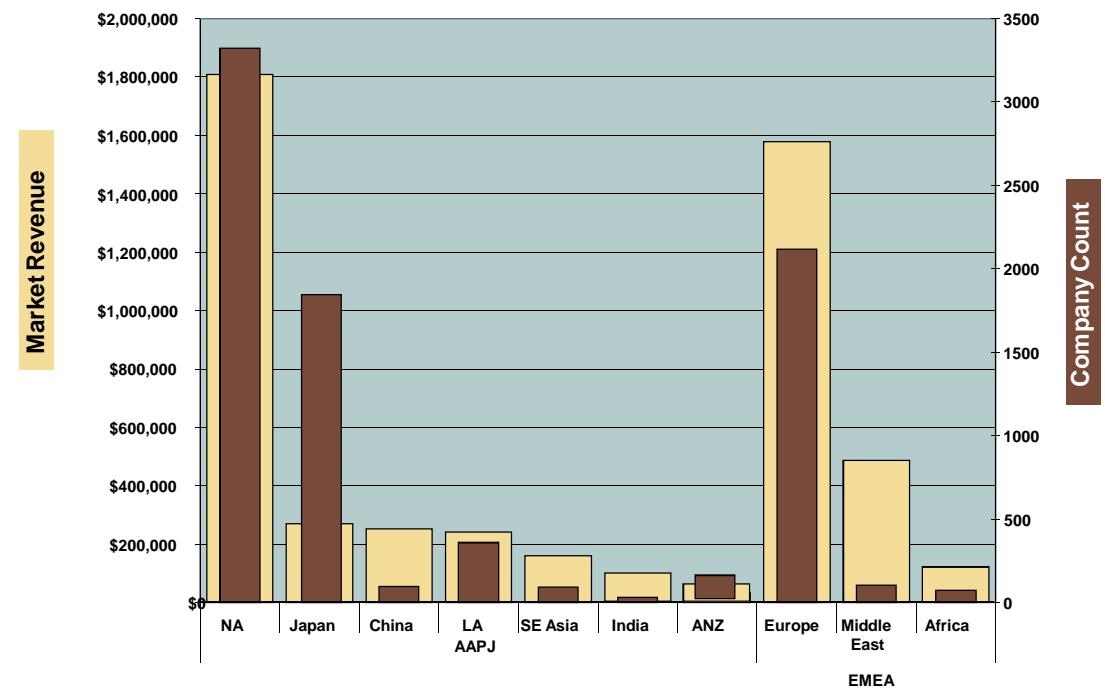


Diverse, but concentrated \$5T annual turnover industry



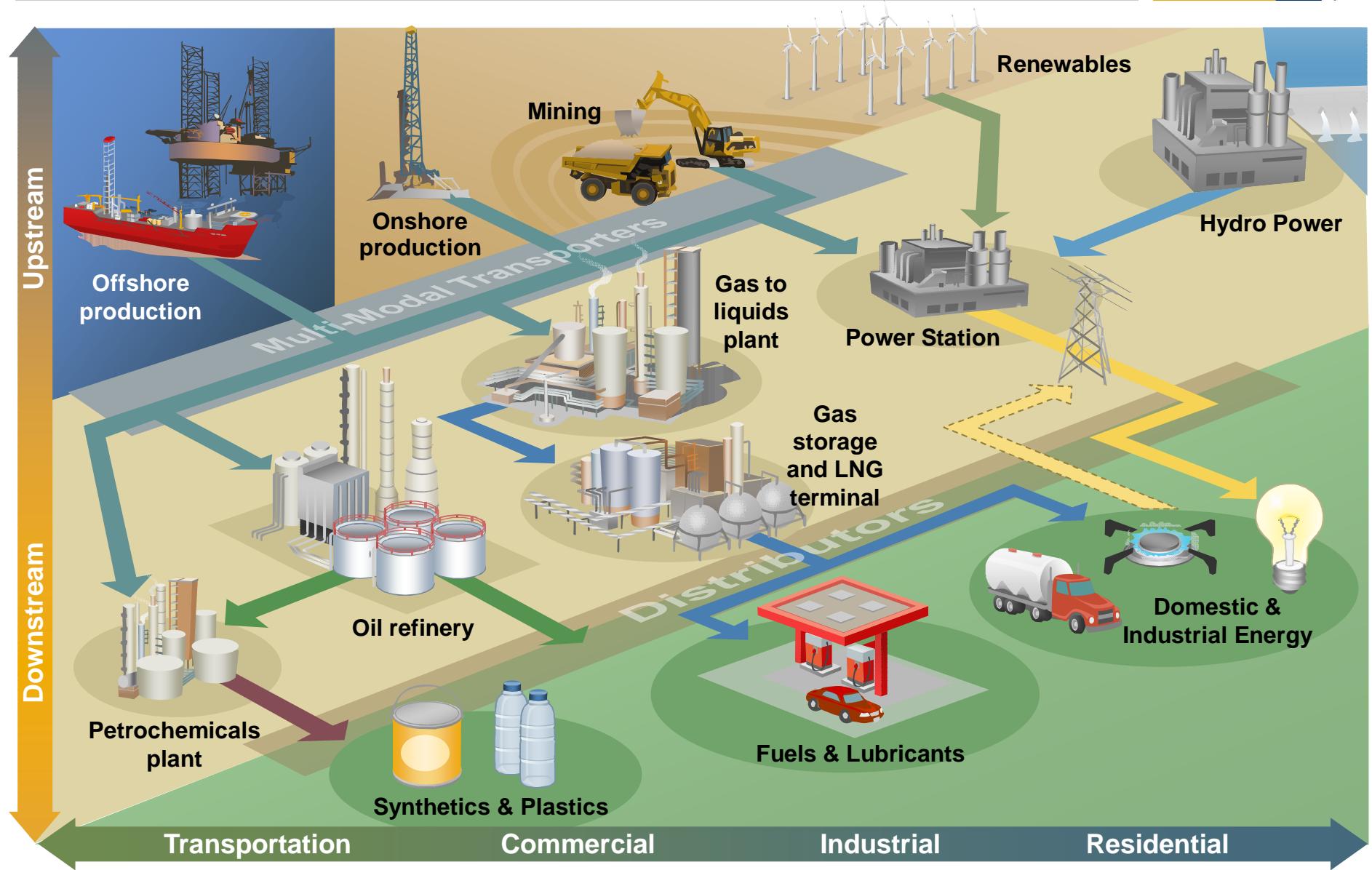
Source: SAP Analysis from various external sources, 2007

SAP 2010 / UJJAL / BTS / RIL / O&G / BBP - Page #

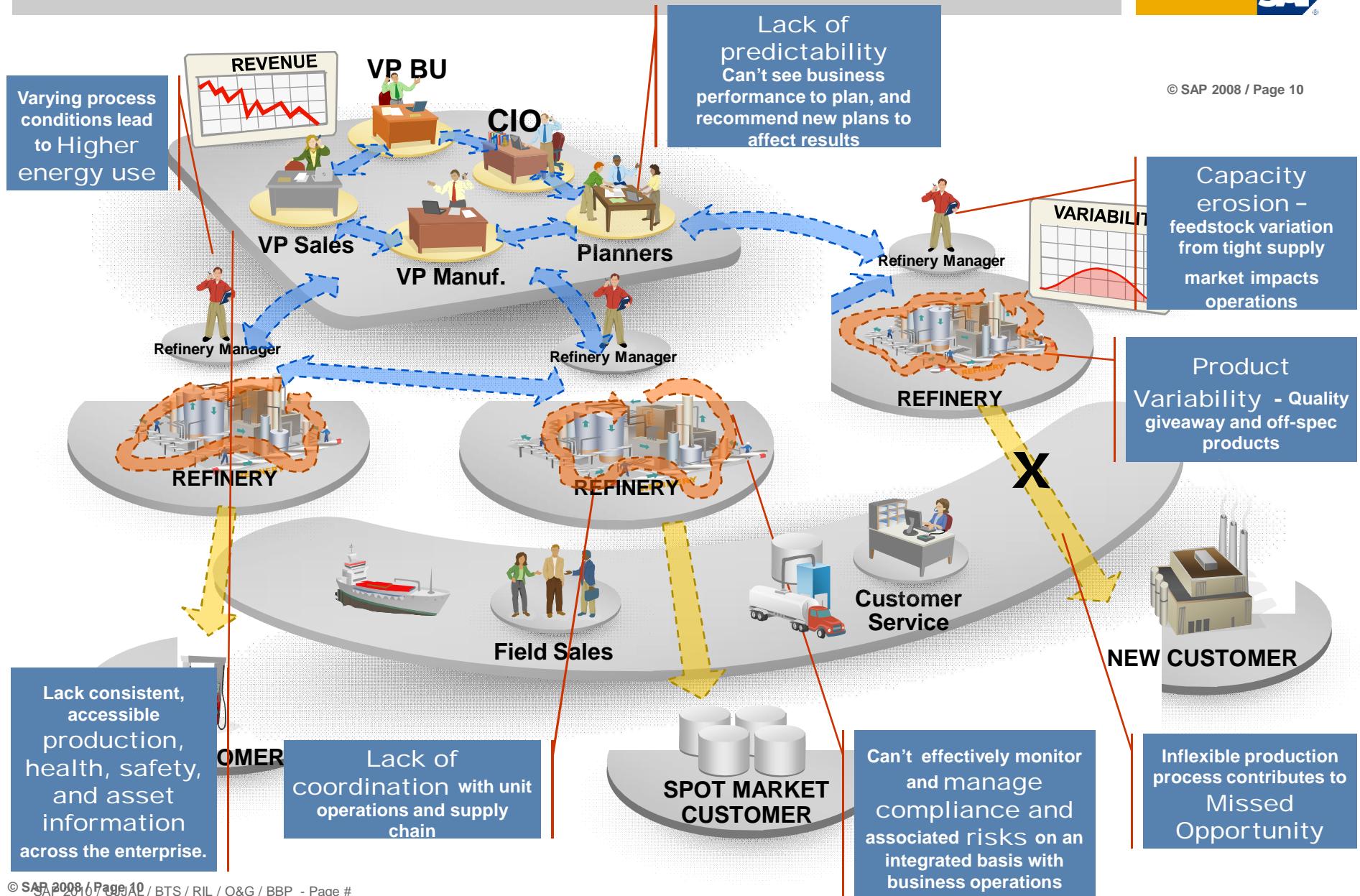


Oil & Gas

... Vital Contributor - Overall Energy Ecosystem



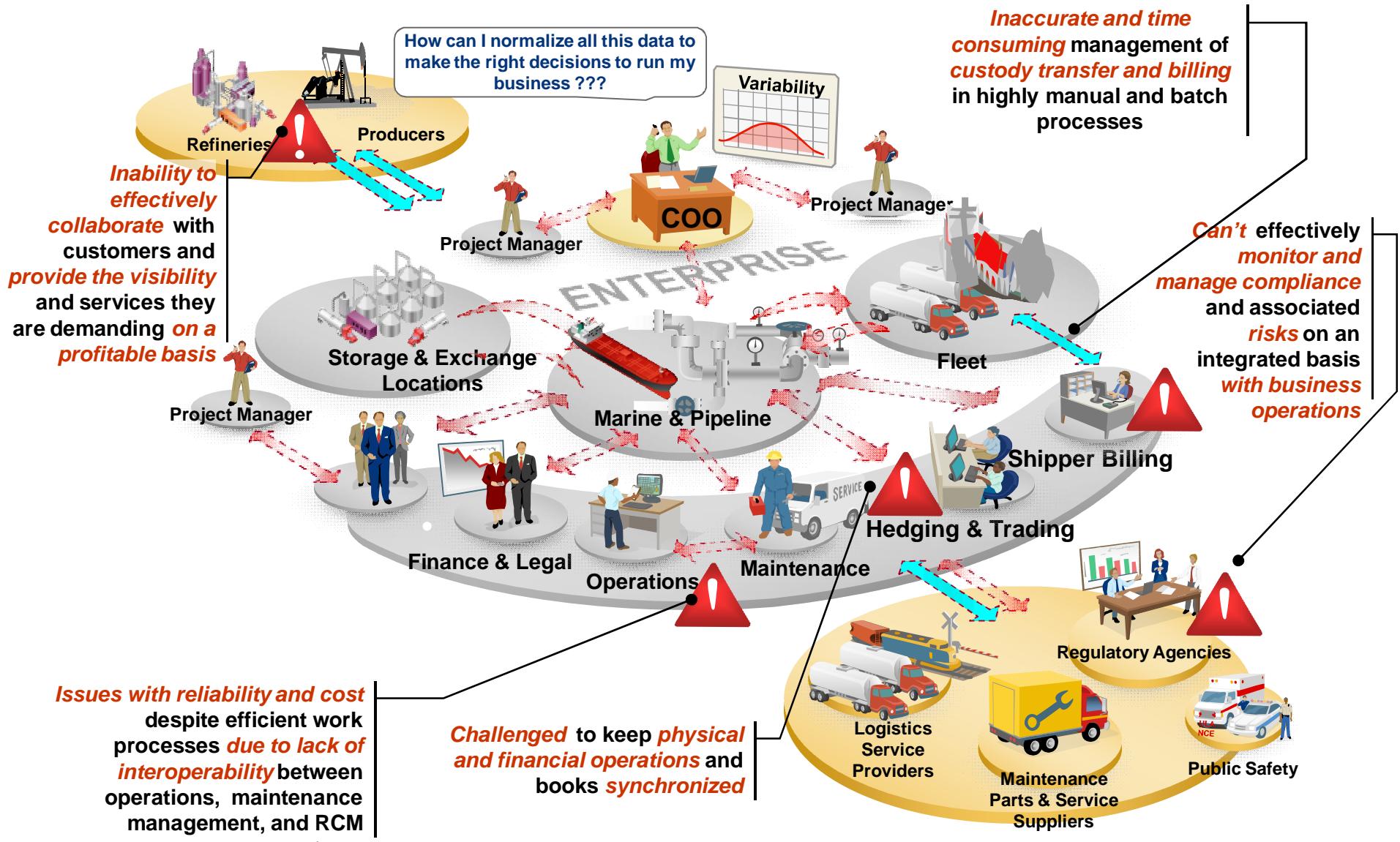
Oil & Gas - Refining

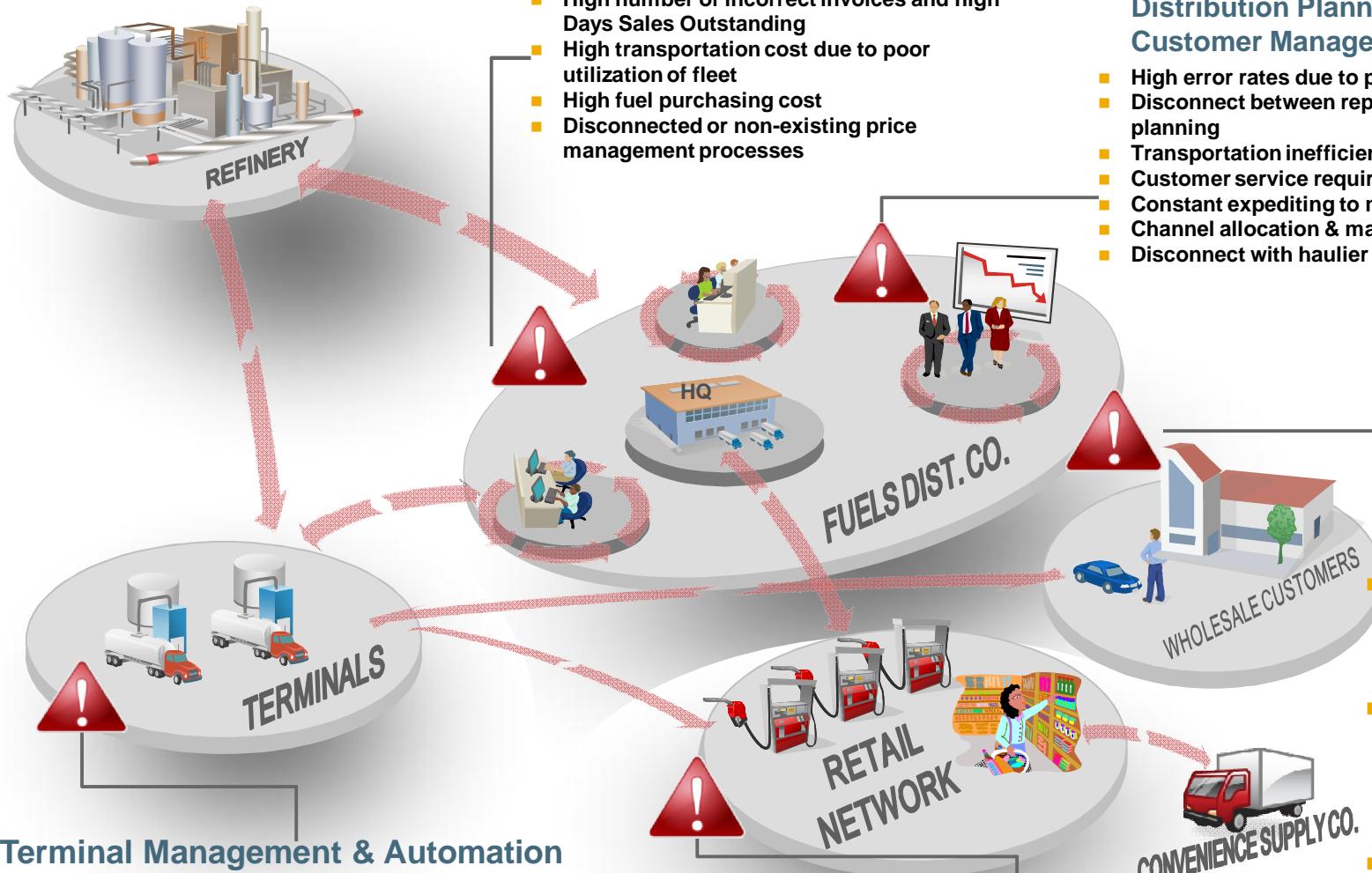


kde3 Modified Slide to remove enterprise platform
Ken Evans, 12/12/2008

Oil & Gas

... Supply & Trading



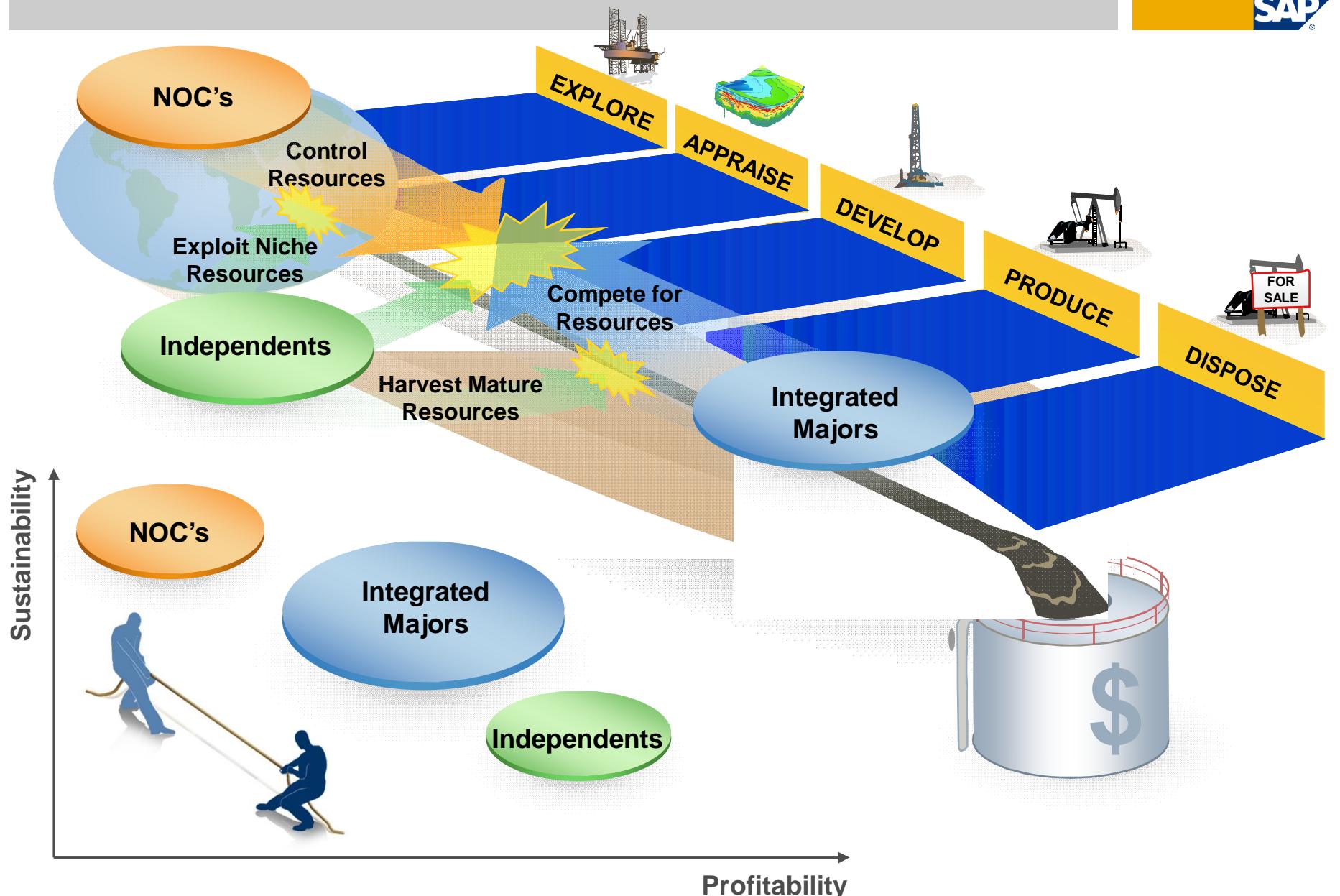


Terminal Management & Automation

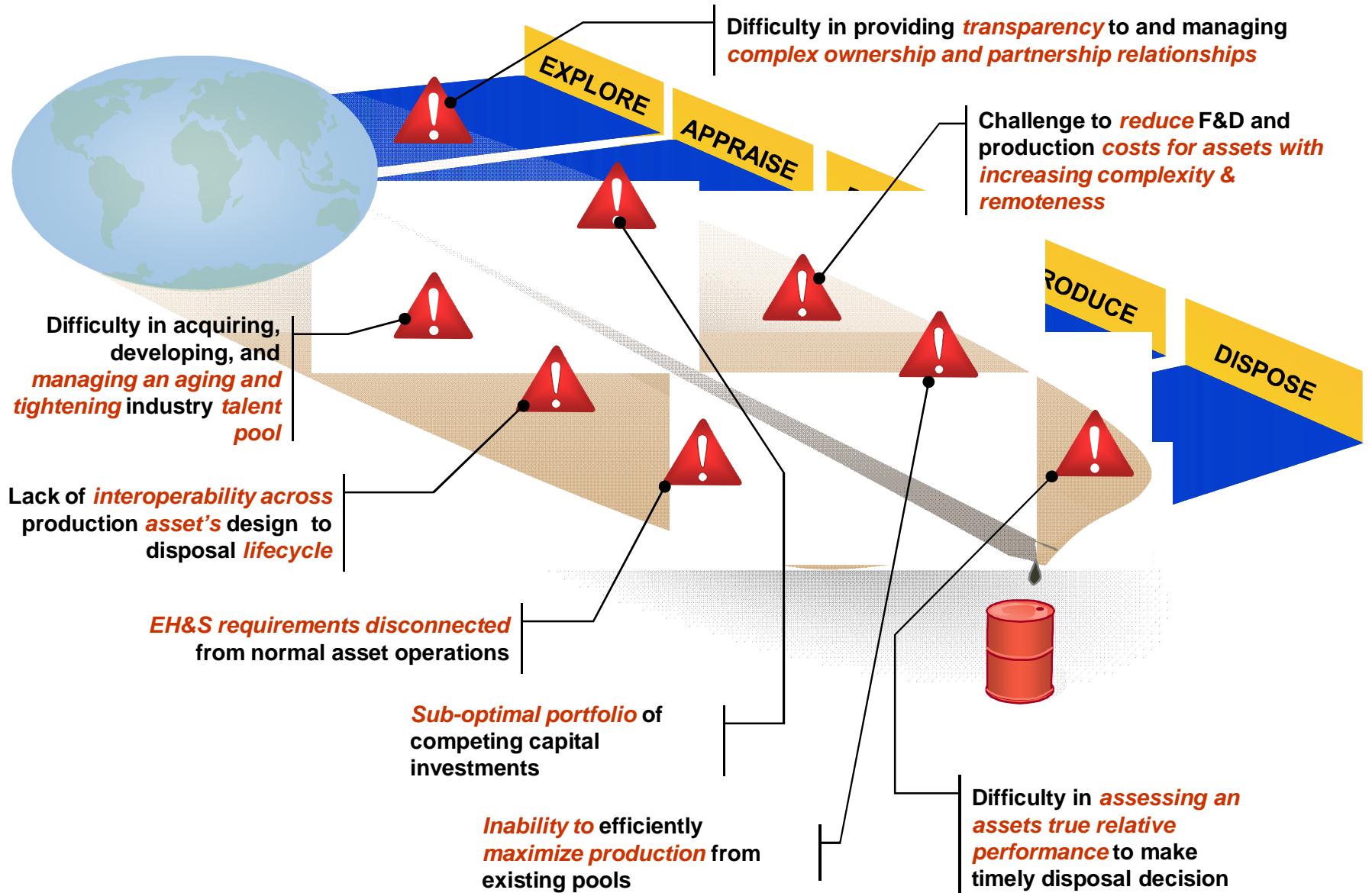
- Missing visibility into terminals
- Missing integration of existing terminal systems
- Paper based and manual processes
- Lack of supplier integration

Battle For New Resources

... Balancing Profitability against Sustainability

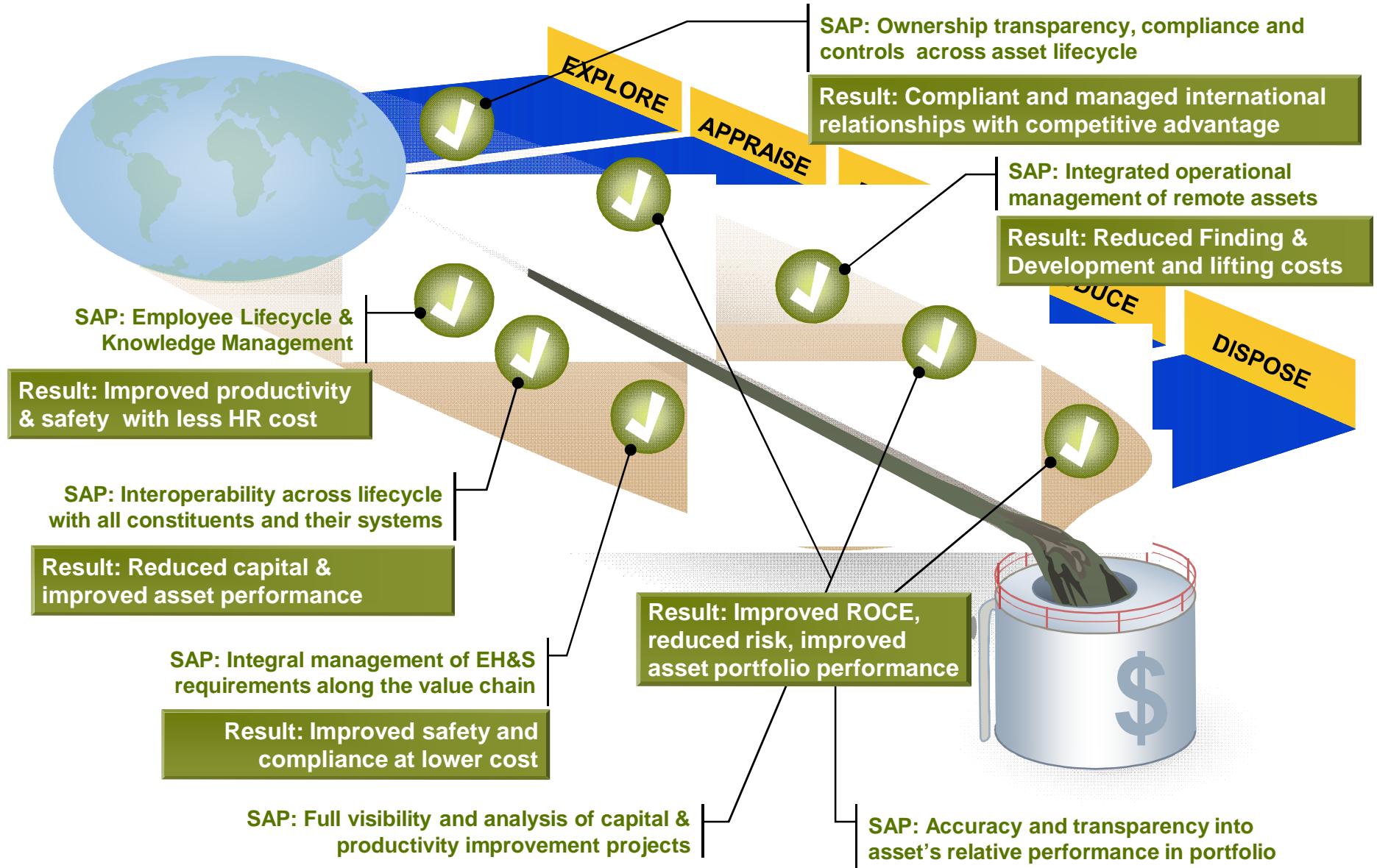


Common barriers for both profitability and sustainability ... in Upstream Oil & Gas Industry

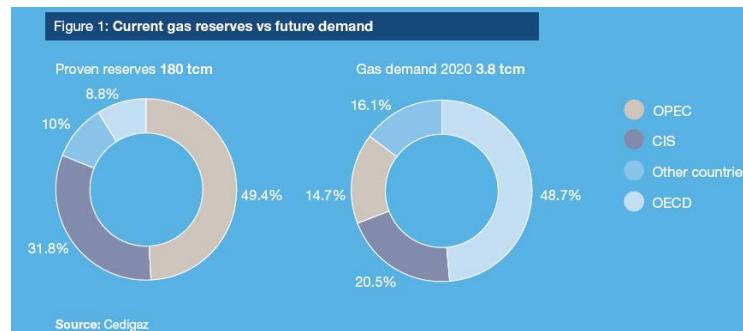


SAP – Upstream Enablers

... to balance profitability vs. sustainability



Gas Reserves, Future Demand and Volume Growth

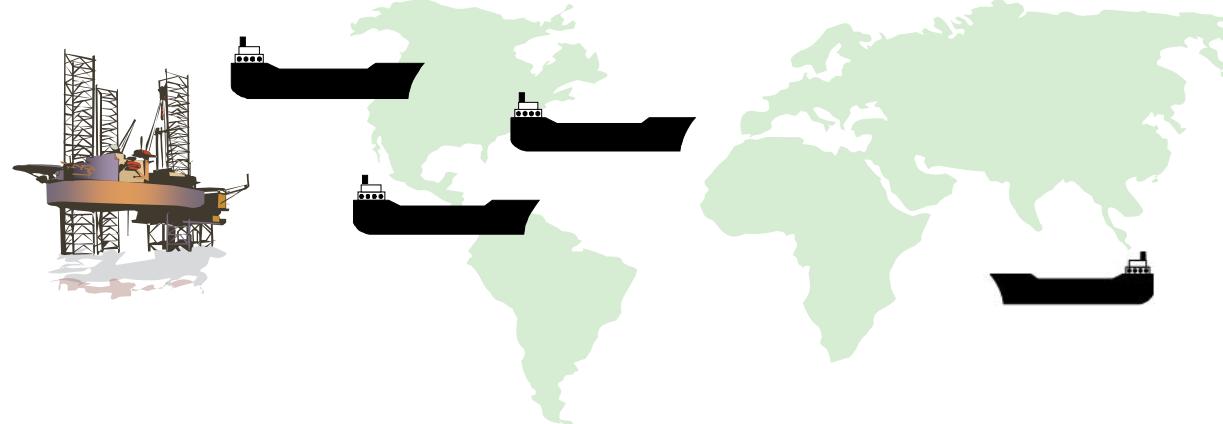


**More than 90% reserves are not
in OECD countries**

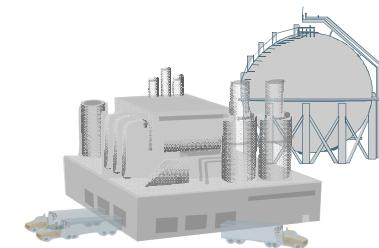


**About 70% of the future gas
demand are in OECD and other
countries**

Production



Consumption

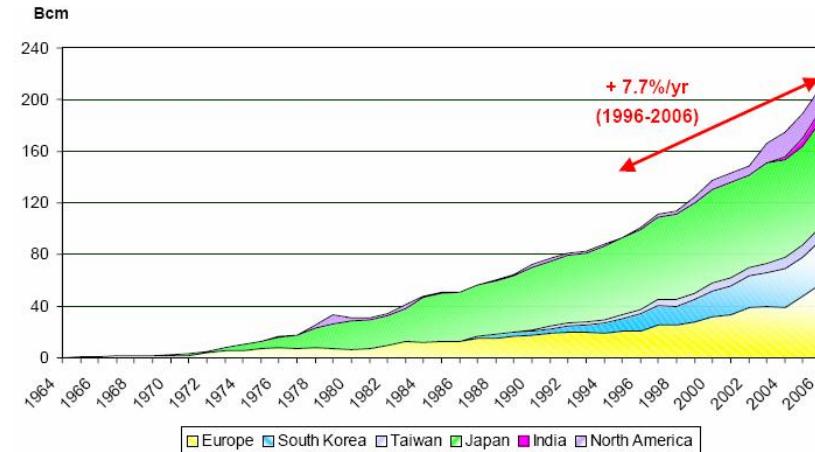


Transportation across different time zones and countries is day-to-day business

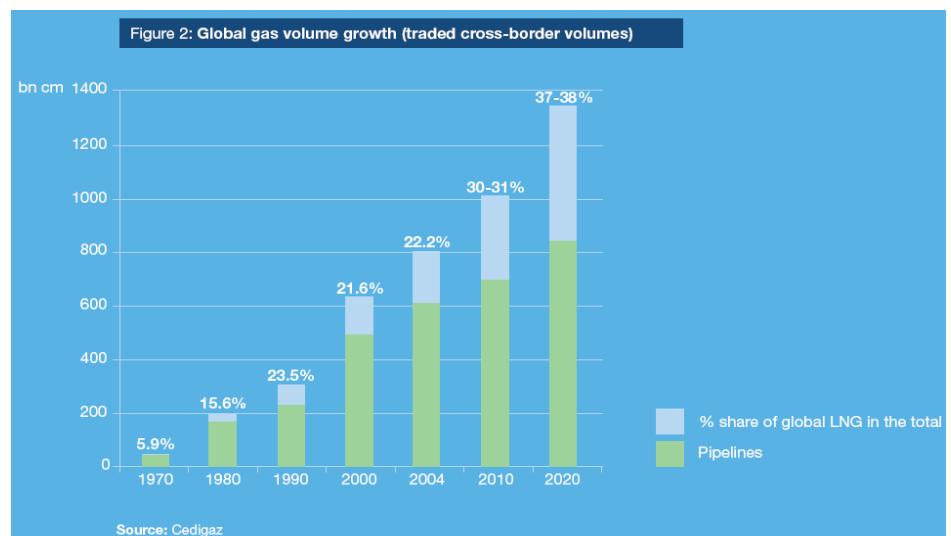
Source: Cedigaz

Rise of Liquefied Natural Gas (LNG)

- ❖ Interregional gas trade in 2030 will be nearly five times greater than today
 - In large parts due to the rapidly developing liquefied natural gas market

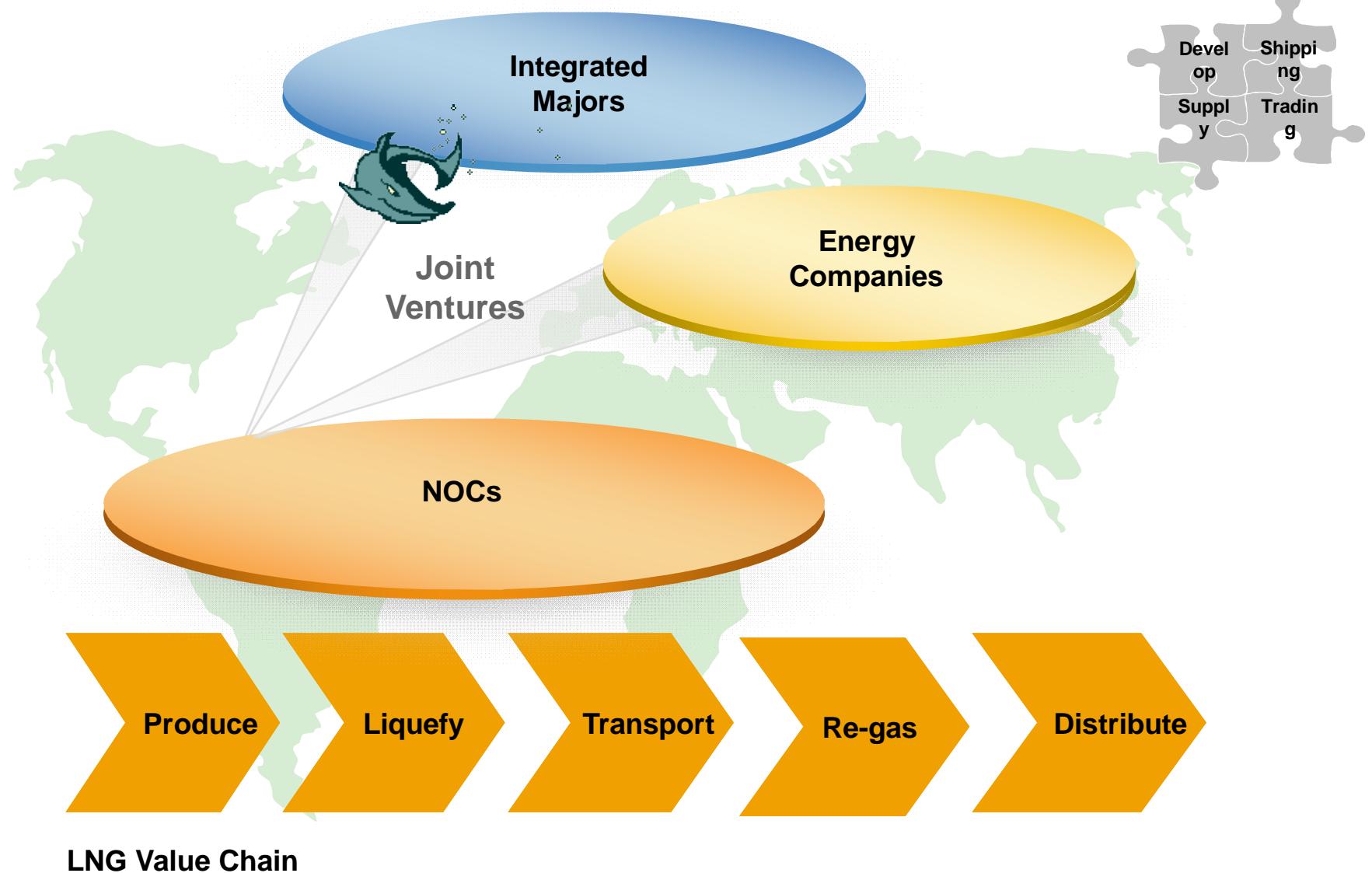


- ❖ Effective cooperation and significant investments to sustain and enhance natural gas infrastructure, are critical to achieve the growth



LNG Contributes around 40% to the total gas growth

Future LNG Markets



GAS - Key Business Observations



- Gas will continue experiencing high demand as clean source of energy.
- Liquefied Natural Gas (LNG) will be the future of global gas
- Expansion of horizon to be the main theme for LNG – Companies expanding their footprints in other segments of the value chain
- Trading and spot contracts to become the normal business in LNG
- Technology advancement and gas prices will remain critical for LNG to be a success.
- A Single ERP platform will be needed by the players to remain agile with changing face of business
- SAP will provide the platform and with current and future industry tailored solution and will continue making IT as business enabler.



The Approach ...

pure play Business



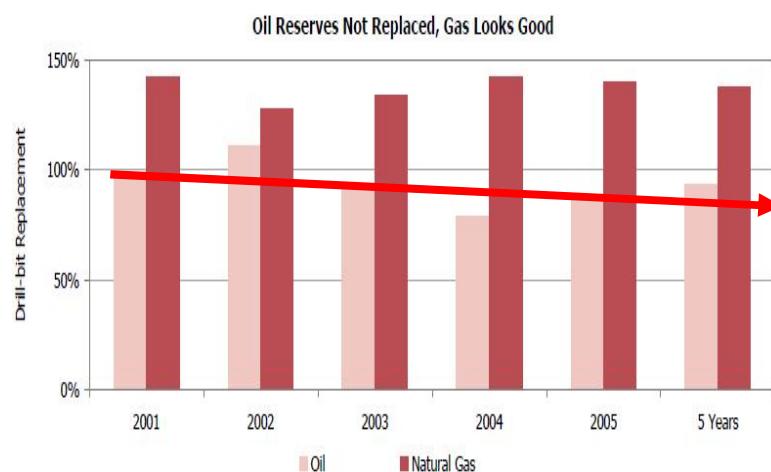
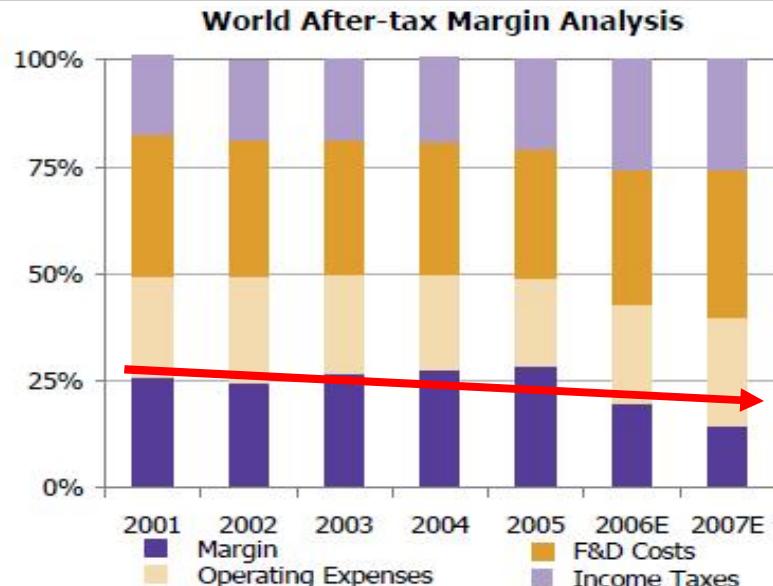
**Increase short and long-term
PROFITABILITY**

**by holistically managing
economic, social and environmental
risks and opportunities.**



Profitability and Sustainability

..... Remains Difficult



- After-tax margin % have been flat despite dramatic increases in price
- Rising reserve replacement costs and taxes are to blame
- When combined with any stagnation or retreat in prices,
...margins are forecast to decline slightly

- It is increasingly difficult to replace reserves and boost production
 - Oil Reserves Not Replaced
 - Gas Looks Good
- M&A/divestitures will be extremely active as companies enhance their development portfolio

Source: "2006 Global Upstream Performance Review,"
John S. Herold, Inc. Harrison Lovegrove & Co.

The O&G Challenge -

Limited Visibility, High Uncertainty



Key Challenges in the Oil & Gas Industry

... constant competitive squeeze



Energy Security Shapes Policy

Increased risks of supply disruption
Policy impacts on regulations & taxes
Unconventional resource incentives
Sustainable and responsible development

Compliance & Governance
Sarbanes Oxley
Sanction Party compliance
Hedging laws – IAS 39, FAS133
Excise taxes
Environmental controls

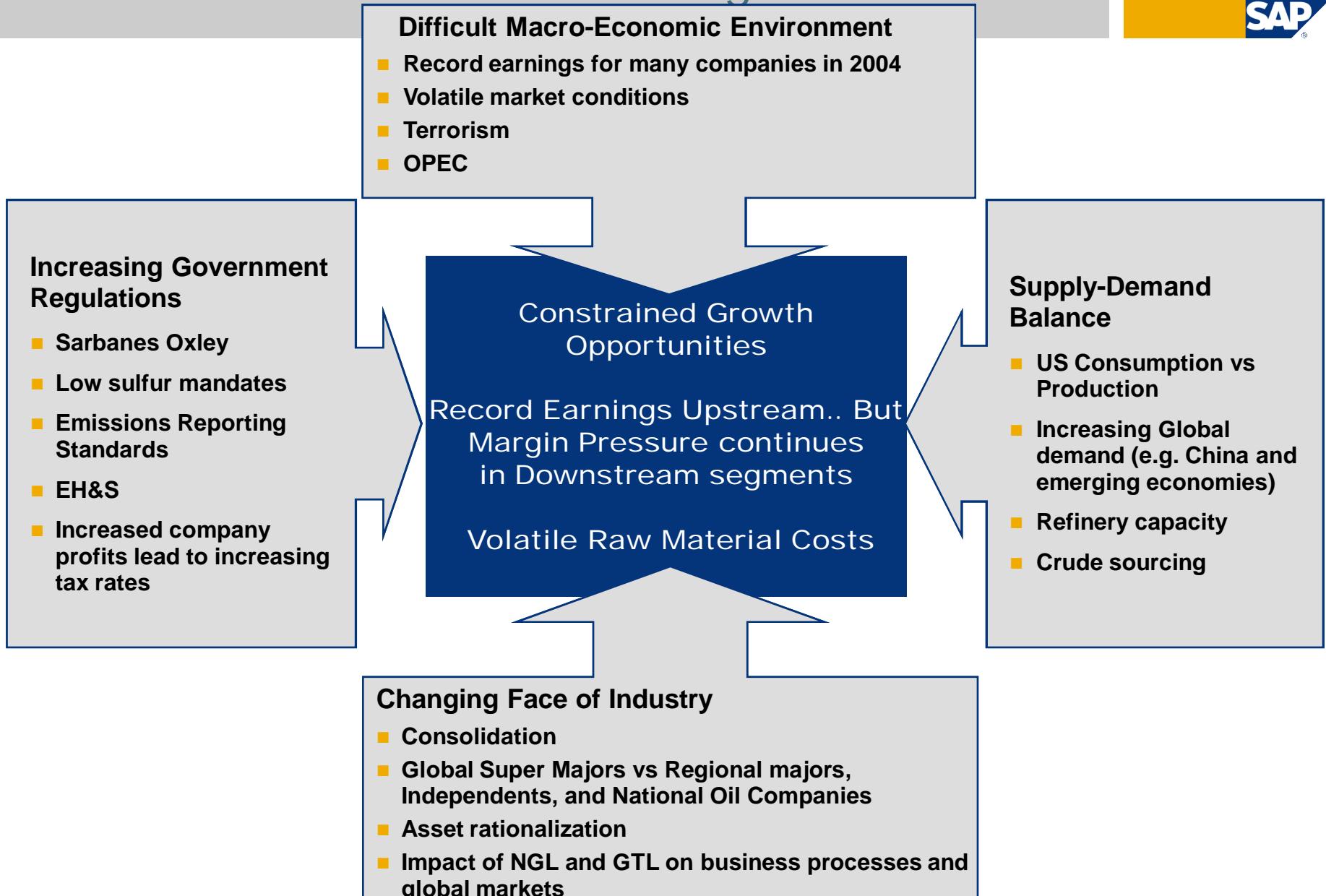
Leading to:

Fierce competition for energy reserves & supply
Fierce competition for new markets & customers
Secure Profitability & Compliance

Complex & Volatile Market
Price Volatility
Changing Supply/Demand Pattern
Competition between 'Global Majors' and 'National Giants'

Globalization

Global operating models
Concentration of portfolio into strategic plays
Resource optimization (capital assets, inventory/transport capacity, talents)



Markets and Demands

- Regional pricing
- Fuel switching
- Expanding economies
- Electricity and NG industry restructuring
- Trading Evolution
- Consolidation
- De-regulation

Gas Processing

- Asset Rationalization
- Demand for integrated value chain
- Mega Projects (capital investment)
- Reduced LNG processing and transport costs

Implications:

- Global Market Reach
- Increased Spot Trades
 - Joint Ventures
- Efficient Transportation
- Technology Advancement
- Capital Investment
- Increased competition

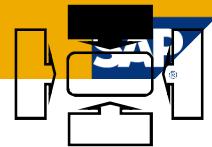
Supply

- Remote opportunities
- Increase in LNG investment
 - Cyclical markets
- Availability of skilled workers
- Gas supply in decline near larger markets
- Complicated and lengthy regulatory processes

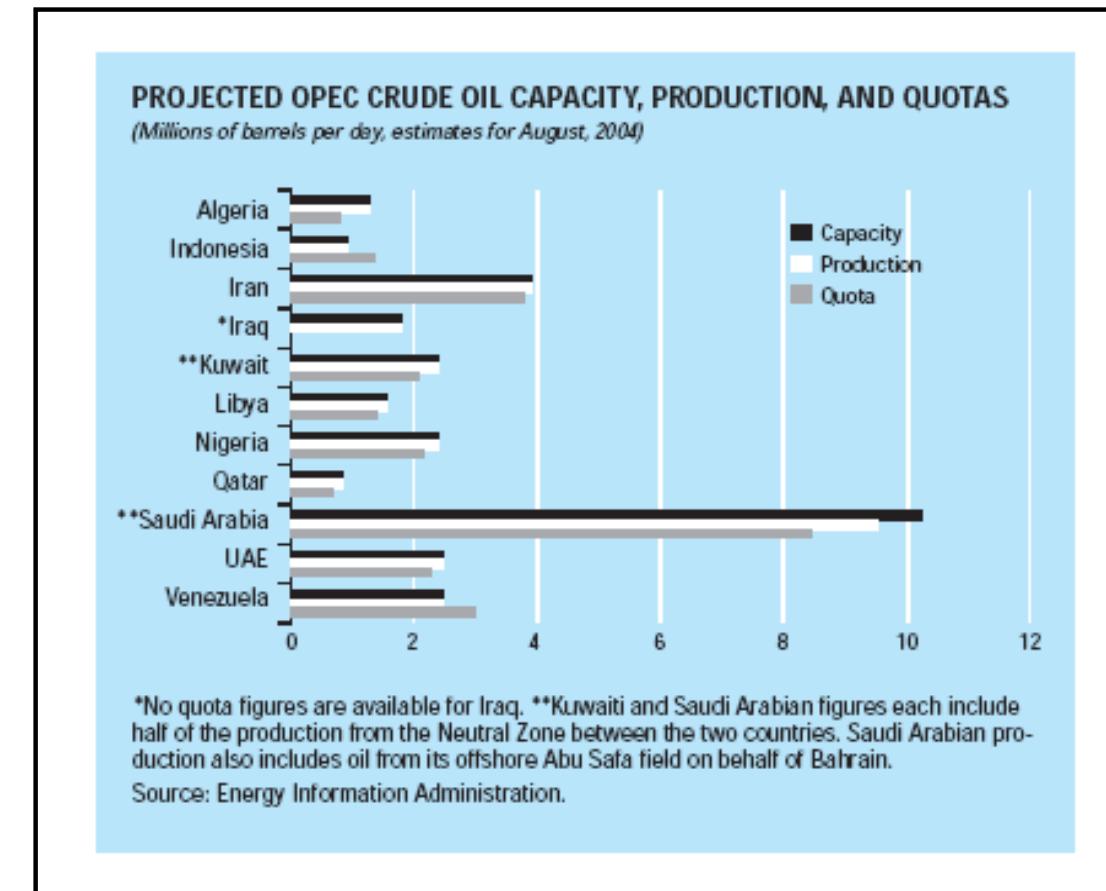
Geo Political and Globalization

- Comprehensive gas security policy
- Climate change and push to reduce CO2 emissions
- Environmental and employee safety
 - Energy efficiency regulations

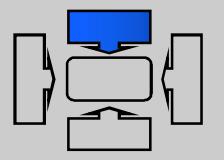
Difficult Macro-Economic Environment



- Global unrest in key producing regions has put into question the dependability of oil supplies, just as economic growth from the China, and emerging economies has led to a surge in oil demand.
- As Oil prices rise, OPEC's influence appears weak amid little spare capacity. OPEC may try to regain control by increasing spending and entering into new ventures.



Energy Security shapes policy...



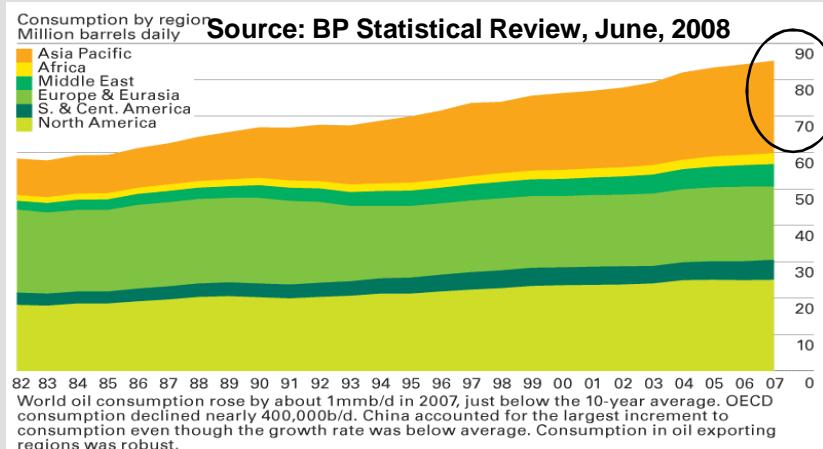
- Global unrest in key producing regions has put into question the dependability of oil supplies owing to supply disruptions.
- The emerging economies like China are leading a surge in oil demand owing to their economic growth and as Oil prices rise, OPEC's influence appears weak amid little spare capacity.
- Governments are levying heavy taxes on Oil& Gas companies. This is to encourage alternative energy sources and energy conservation by providing tax breaks.

Oil Supply Disruptions since 1951

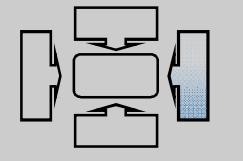
Disruption Year	Supply Disruption Months	Average Gross Supply Shortfall (Million B/D)	Reason for Oil Supply Disruption
1951-1954	44	0.7	Iranian oil fields nationalized, followed by unrest and strikes in Abadan area.
1956-1957	4	2	Suez War
1966-1967	3	0.7	Syrian Transit Fee Dispute
1967	2	2	Six Day War
1970-1971	9	1.3	Libyan price controversy; damage to Tapline
1971	5	0.6	Algerian-French nationalization struggle
1973	2	0.5	Unrest in Lebanon; damage to transit facilities
1973-1974	6	2.6	October Arab-Israeli War; Arab oil embargo
1976	2	0.3	Civil war in Lebanon; disruption to Iraqi exports
1977	1	0.7	Damage to Saudi oil field
1978-1979	6	3.5	Iranian revolution
1980	3	3.3	Outbreak of Iran-Iraq War
2002-2003	3	2.1	Venezuela strikes and unrest.
2003	6	0.3	Nigeria unrest.
2003-2004	19	1	Iraq war and continued unrest.

Source: <http://www.eia.doe.gov/emeu/security/distable.html>

Oil Consumption by Area (Asia Pacific is the highest)

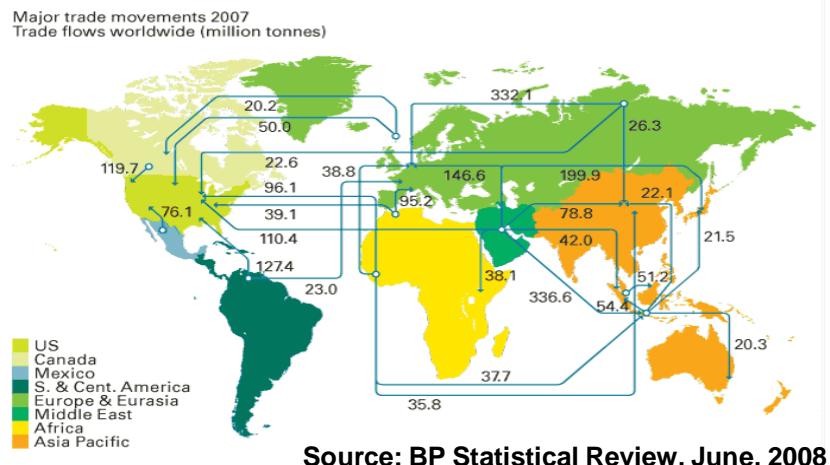


Complex and Volatile Market...

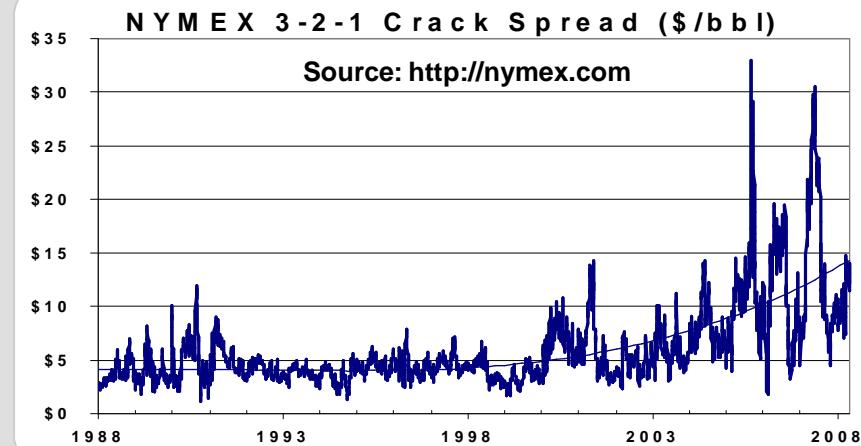


- Oil prices have always been volatile because they are affected by unpredictable yet recurrent natural disasters and political instability.
- Volatile markets also because of the high liquidity of the trading market which makes opportunistic trading a realistic venture - which drives volatility as well
- The world's thirst for oil is ever increasing, government-controlled national oil companies are challenging international firms in the global competition for oil reserves.
- Access and competition for reserves is growing ever more difficult with many new opportunities in increasingly remote or difficult areas

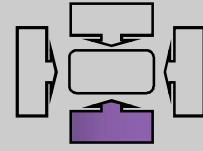
Global Trade Remains Complex and Robust



Refinery Margins are Increasingly Volatile



Globalization...



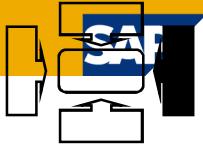
- Oil and Gas companies are adopting global operating models to allow them to effectively supply and deliver in the current environment of supply demand imbalance.
- They also have to concentrate their reserve portfolios into strategic plays where they can gain economies of scale at an acceptable level of geopolitical risk
- The merger and acquisition in downstream activity has been increasing. These M&A in Downstream are shifting assets but not increasing overall refining capacity

Portfolio Optimization and Need for Economies of Scale Continue to Drive Mergers and Acquisitions

O&G Segment	Number	Total Value (US \$ bn)	Average Value (US \$ bn)
Upstream	576	133.3	0.231
Midstream	74	29.9	0.404
Downstream	94	61.7	0.656
Services	149	67.3	0.451

Source: PricewaterhouseCoopers, O&G deals, Annual Review 2007, John S. Herold

Supply and Demand Balance



Supply & Demand Situation

- US consumes 25% of World Oil Production but only produces 15%, gap is widening
- Increasing portion of Crude shipped over long distances
- Time to first production of new fields constrains production growth
- US Refineries operate at high utilization levels – Greenfield expansions very unlikely largely driven by environmental/regulatory hurdles
- Spread between light/heavy crude prices in constant flux

Key Implications

- US Oil and Gas companies are increasingly dependent on and exposed to international challenges
- Global inventory management and management of oil movements increasingly important
- Development of concurrent exploration and development planning activities. Introduction of new, time-saving techniques (e.g., FPSO)
- Refinery up-time and safety increasingly critical to US refiners
- Refiners moving toward more operational flexibility and sophisticated yield management solutions

Changing Face of Industry



Changing face of the Industry

- The merger and acquisition activity is again increasing. Global markets are still dominated by “supermajors” but NOCs (e.g. CNOOC) and Independent Producers are now operating and competing globally
- Refiners in US and Western Europe are expanding capacity in existing facilities rather than new construction.
- Midsize Oil Companies increasingly invest in refining niche markets in US
- Business are moving towards seeing complete value chain as a single entity rather than having segregated business units (supply and trading)

Key Implications

- Adoption of “global business processes” by NOCs and Independent producers
- Mergers and Acquisitions in Downstream are shifting assets but not increasing overall refining capacity
- Organizations are focused on their core competencies. They are evaluating how to improve margins and profitability by either acquiring or divesting of assets
- Move towards integrating their Supply and Trading business units into the overall supply chain

Increasing Government Regulations



Highlights of Government Regulations

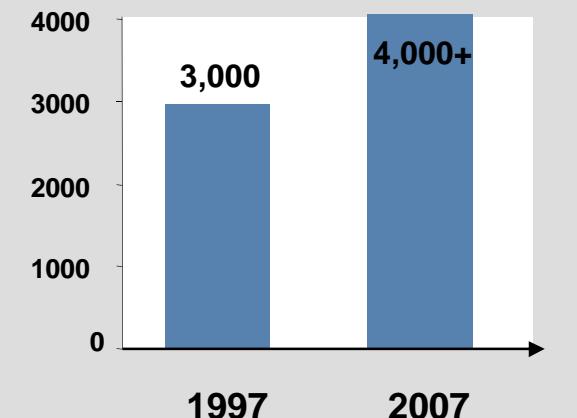
- Sarbanes Oxley: The CEO/CFO must certify quarterly and annually that the SEC report being filed has been reviewed and does not contain any untrue statements or omit any material facts. Section 301 requires that Management certify internal controls and section 404 requires that Management annually assess the internal controls and procedures for financial reporting
- Emissions Reporting – global governments are instituting tighter reporting controls and emissions controls.
- Low Sulfur Mandates – requires organizations to supply low sulfur fuels
- Increasing government share of profits through higher taxes and/or larger share of production

Key Implications

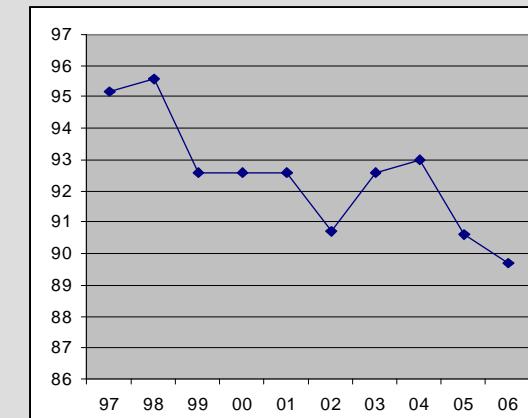
- Organizations must have reliable, accurate and swift reporting in order to close their books
- Organizations must have a system that is robust, captures all costs, contains status management and facilitates prompt reporting
- Organizations need a system to control, measure and document emissions output that will support reducing costly fines and improve productivity by aligning compliance processes with existing workflows.
- Organizations need a system that supports the management of their supply chain and distribution channel.
- Organizations must take advantage of all available deductions and must comply with changing tax regulations

Industry Dynamics & Performance Demands focus on Asset Performance & Operations

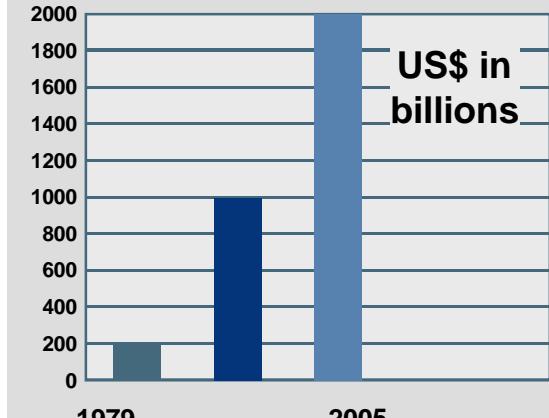
1 New Projects Commissioned



2 Refinery Utilization



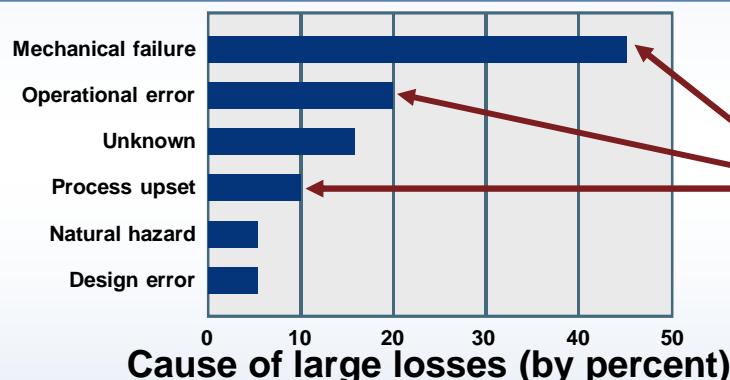
3 Maintenance Costs Rising



Increasing number of new projects commissioned

Refinery Utilization has dropped >5% over 10 yrs

Maintenance costs have risen 10%-15% per year



Safety related issues are tightly linked to utilization

Strategic Imperatives for Oil and Gas Industry



Strategic Imperatives

**Maximize ROCE
while meeting
Energy Supply
Challenge**

Key Business Requirements

- Optimize investment portfolio to meet both strategic and financial objectives with manageable risk
- Control escalating capital costs and speed project delivery from concept to on-stream
- Collaborate globally and across ecosystem to deliver superior quality projects that meet the changing demands

**Maximize
Operational
Efficiencies**

- Visibility and performance management across breadth and depth of enterprise assets
- Identify and share best practices across the enterprise
- Maximize overall asset effectiveness via improved reliability and operations
- Quickly assimilate merged or acquired entities to leverage size
- Recruit, Retain, Reequip, & redistribute available work force to minimize impact of GreY2K (aging workforce)

**Navigate Global
Energy Policy
Changes**

- Assure proactive management of sustainable operations that mitigates risks to employees, community, and environment
- Assure compliance with flexible, secure, controlled, visible and transparent global processes that satisfy the needs of all policy making stakeholders

Main Future Themes

**Capital
Excellence**

- ROCE
- Time to First Oil
- Reserve Replacement

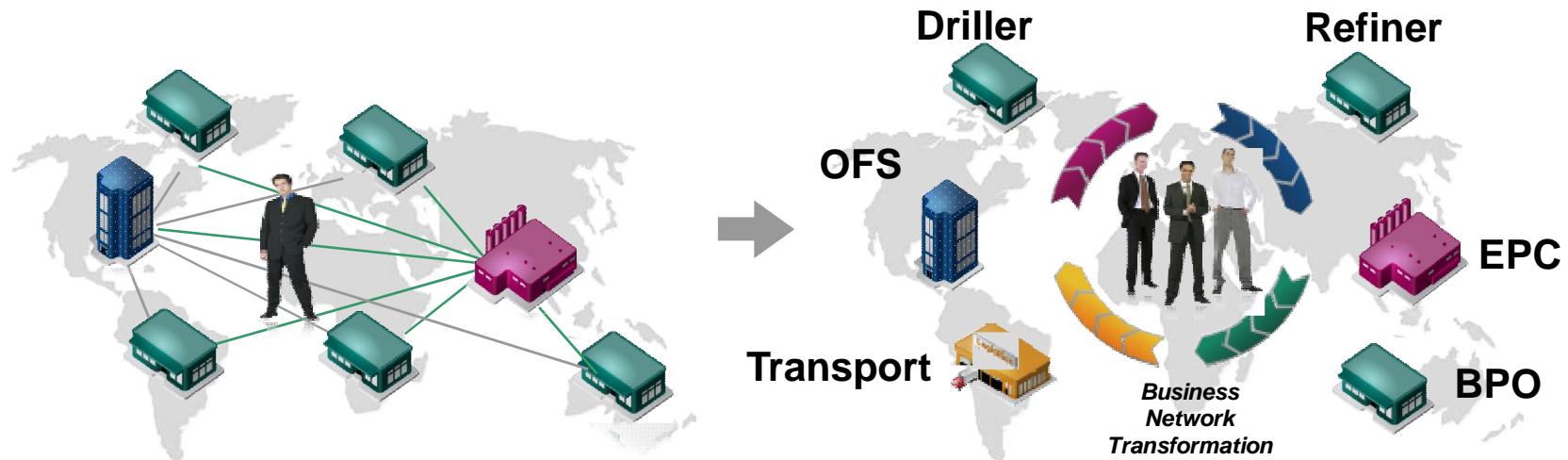
**Operational
Excellence**

- Productivity
- Overall Asset Effectiveness
- Cost of Goods Sold

**Sustainable
Operations**

- Carbon Footprint
- Brand Value
- Lost time accidents

Industry's Move from Businesses To Business Networks Continues & Accelerates



Operating Efficiency

Key Focus

Competitive Advantage

Locally Constrained

Labor Distribution

Globally Flexible

Individuals

Primary Work Center

Communities

Work Day

Time

Follow the Sun

Enterprise Systems

Technology

Business Process Platforms

Future LNG Market Challenges -

... NOCs moving downstream



Trends

- Move towards Downstream & the shipping part of the Supply Chain ("insourcing" effect)
- Develop infrastructure, technical prerequisites & invest in transportation network and vessels
- Simplicity & Stability (financing purpose) is an objective
- Participate in Hubs to be build - Strategic storage needed

Challenges

- Environmental issues
- Rising costs & delays
- Local communities have to benefit from the projects
- Political risks
- Greater flexibility with rising trading activities needed

Success Factors

- Enhanced business processes
- Enhance technical & functional skills for LNG processing & transportation
- Efficient collaboration with partners (joint ventures)
- Flexible Trading capability
- Compliance (regulatory, environmental, safety)
- Efficient usage of the expensive assets

Future LNG Market Challenges – ... Majors being 'squeezed'



Trends

- Fully integrated and complete visibility on the supply chain
- Bring added-value from field development to regasification plants
- Attract best transfer prices
- Longterm sales agreements are the foundation for major investments
- Diversification of supply sources needed

Challenges

- Technical prerequisites for Liquefaction technology
- Transportation distances increase (in a more uncertain world) - Political risks in ex- and importing countries
- Flexible, long distance supplies of LNG are the key to the future
- Regasification capacity will contribute to this
- Ability to sell gas in highly competitive markets
- Cope with a liberalized market
- Intense competition among the players for lease acquisition

Success Factors

- Collaboration with partners (joint ventures)
- Move into role of trusted advisor for NOCs
- Technical Innovation
- Strong relationships with key market players
- Quality and cohesion of investors
- Establish Global Planning
- Trading capability

Future LNG Market Challenges –

Energy companies rolling up the supply chain



Trends

- Move up the LNG value chain (Shipping & Transportation)
- JVs in E&P & Regasification
- Acquire interests e.g. in liquefaction facilities
- Secure supply
- Capable to either remove or put pressure on upstream

Challenges

- Rising costs / Facing delays
- Political risks in exporting and importing countries
- Rising competition for supplies
- Imports - Gas security is deteriorating
- Adapt to the regulatory framework
- Influence of energy mix on LNG
- Price is key – so are flexible and innovative deals that meet customer needs

Success Factors

- Technical Innovation (e.g. floating terminals)
- Strong relationships with key market players
- Balance energy sources
- Compliance (regulatory, environmental, safety)
- Trading capability
- More agility – Quickly acquire the knowledge/technology

Improved Ownership

... Transparency and Compliance



Problem Statement

- Lack of transparency and difficult management of complex lease ownership and partnership relationships
- Land solution is not integrated into ERP system leading to increase risk of non-compliance

Key Solution Capabilities

- Ability to model and execute the most complex ownership or working interest relationships
- Industry specific and leading functionality for Joint Venture Accounting, Production and Revenue Accounting, Production Sharing Accounting
- Full lifecycle land management/GIS solution via endorsed business solution from Quorum Business Solutions

Proven Benefits

- Improved productivity from exemption based, streamlined, and integrated processing
- Improved insight and decisions due to increased visibility and cross functional usage
- Reduced compliance risk from data and transactional integration with ERP

Statoil ASA

\$58B Norwegian National Oil Company

KEY BENEFITS RECOGNIZED

- Increased reporting accuracy
- Increased productivity
- Reduced compliance risk

"Our routines are undoubtedly more efficient and the accuracy of our accounting has increased since we started using SAP Joint Venture Accounting (JVA). Where previously it could take two days to produce a monthly statement of accounts, it now takes half that time and the data is of a much higher quality."

Kjell Petter Gilje, JVA Solution Manager, Statoil

Anadarko Petroleum

\$7B US Upstream Independent

KEY BENEFITS RECOGNIZED

- Increased productivity of land management resources
- Transparency across the enterprise into Land function

"We selected the Quorum Land product because of its flexibility, the fact that the product could handle all of our land related agreements for both exploration (leases, contracts, surface use agreements) and pipeline (right-of-ways, site leases, facilities)."

Susan Hollcroft, Supervisor Land Admin, Anadarko

Extended Logistics

... for Remote Assets



Problem Statement

- Increasingly remote and complex operations with scarce storage space for parts & materials
- Downtime or work delays due to not having the right materials at the right time
- Excessive inventory and onshore lay down area needed to assure parts availability

Key Solution Capabilities

- Optimized supply transport planning for remote facilities
- Coordination of all required documents for these complex movement to remote locations
- Visibility of requisition to delivery lifecycle

Benefits

- Reduced materials management costs
- Increase visibility of rotating spares
- Reduced material delivery lead times
- less production downtime
- no overstocking situations

Statoil ASA

\$58B Norwegian National Oil Company

KEY BENEFITS RECOGNIZED

- Reduced expediting costs
- Reduced material handling costs
- Reduced spare part inventory
- Reduced replenishment lead times

“To support the complex process of moving goods offshore to oil platforms in the North Sea, Statoil implemented SAP Remote Logistics Management (RLM). The international, integrated energy company can now access detailed reports and more efficiently schedule repair and maintenance”

Statoil Customer Testimonial Video

Optimize

...Capital and Operating Project Portfolio



Problem Statement

- Sub-optimal portfolio of competing capital investments
- Misalignment of investments with corporate strategy
- Inability to efficiently maximize production from existing pools

Key Solution Capabilities

- Align portfolio to organizational strategy & objectives through simulation and prioritization
- Monitor portfolio performance through increased visibility into operations and sophisticated analytics
- Phase gated project management focusing on deliverables, roles and commitments
- Tight integration into logistics and financials

Benefits

- Maximize ROI and minimize risk of projects based on marketplace constraints and demand
- Reduced Reserve Replacement Costs (\$/BOE)
- Reduce labor costs by unifying, streamlining and collaborating on project management and modification work processes
- Improve productivity of all available resources

Statoil ASA

\$58B Norwegian National Oil Company

KEY BENEFITS RECOGNIZED

- Provided common process and tools for managing project portfolio
- Improved usability
- Integration to existing project management capabilities in SAP ERP
- Improved cross project procurement with favorable pricing

Buhler Group

\$1.2B Engineering & Construction Co.

KEY BENEFITS RECOGNIZED

- Streamlined, cost efficient processes
- Improved project portfolio visibility
- Reduced unprofitable projects
- Improved productivity and agility

"In the past, we sometimes incurred heavy losses through poor quality processes or from having to provide additional services we hadn't budgeted for ... SAP xRPM saves us a significant amount of time and money."

Alfred Höllwarth, Head of IT & Processes at Bühler AG

Right talent and knowledge

... at the right time and place



Problem Statement

- Difficulty in managing talent throughout lifecycle on a global basis
- Enterprise knowledge not available at the time and point of need
- Lack of visibility into overall training activities and costs

Key Solution Capabilities

- HCM strategy creation and measurement
- Integrated talent management
- Workforce process management
- Self-services, shared services, and alternate delivery channels
- One source for employee, organizational, and competency data

Benefits

- Improved insight for better strategic planning
- Maximizing Human Capital Investment
- Cost savings through automation and self services
- Compliance with government regulations

Oil Super Major

Key Benefits

- Global HR delivery
- Reduced systems footprint to automate HR functions

This super major replaced its PeopleSoft HR system to enable standardization of global business processes and global management of its talent with a solution that is seamlessly integrated with its other SAP enabled functions

Hellenic Petroleum \$8B Integrated National Oil Company

Key Benefits

- Aligned human capital management with business needs
- Improved HR Function Productivity
- Improved compliance

"SAP helps us manage the complete employee life cycle – from hiring through to retirement – and balance business needs with the career aspirations of our people. It also ensures we manage staff in line with Greek employment law, which helps us maintain good relations with trades unions."

Vassilis Protopapas, IT Director, Hellenic Petroleum

Problem Statement

- Inability to collaboratively manage and exchange the critical capital asset related information needed across an asset's lifecycle with all relevant constituents in its management

Key Solution Capabilities

- Engineering data handover and asset lifecycle data exchange
- Create and sustain asset information foundation
- Maintenance program master data management

Benefits

- Reduce CAPEX by 1 to 2%
 - Reduce delays from design changes & handover inefficiencies
 - Eliminate/reduce efforts to reenter, gather, and analyze data
- Reduce Start-Up and Commissioning Risk
 - Asset data interoperability across entire asset lifecycle
 - Reduce capital project timeline and cost
- Increase Operating Margin and Asset Utilization
 - Reduced spare parts cost and inventory
 - Transition from reactive to proactive asset management
 - Increase compliance, knowledge retention & reduce training

" Asset-heavy companies need to chart a holistic asset management strategy and then make the necessary improvements in automation, particularly in the collection, normalization, and dissemination of asset-related data."

Aberdeen Group

"Poor communication and maintenance of as-built data culminate in downstream costs.."

2004 NIST Cost Analysis of Inadequate Interoperability Study

Integral management

... of HSE requirements



Problem Statement

- Difficulty in managing the health, safety, and environmental risks on a proactive and comprehensive basis

Key Solution Capabilities

- Occupational Health, Industrial Hygiene & Safety Management
- Integrated Incident Management
- Hazardous Substance Management
- Regulatory Reporting
- Emissions Management & Reporting

Benefits

- Ensures the safety of employees, customers, and the community
- Reduced cost and risk of compliance
- Faster and more accurate responses to inquiries and incidents
- Enhance your company's image

E.ON BENELUX

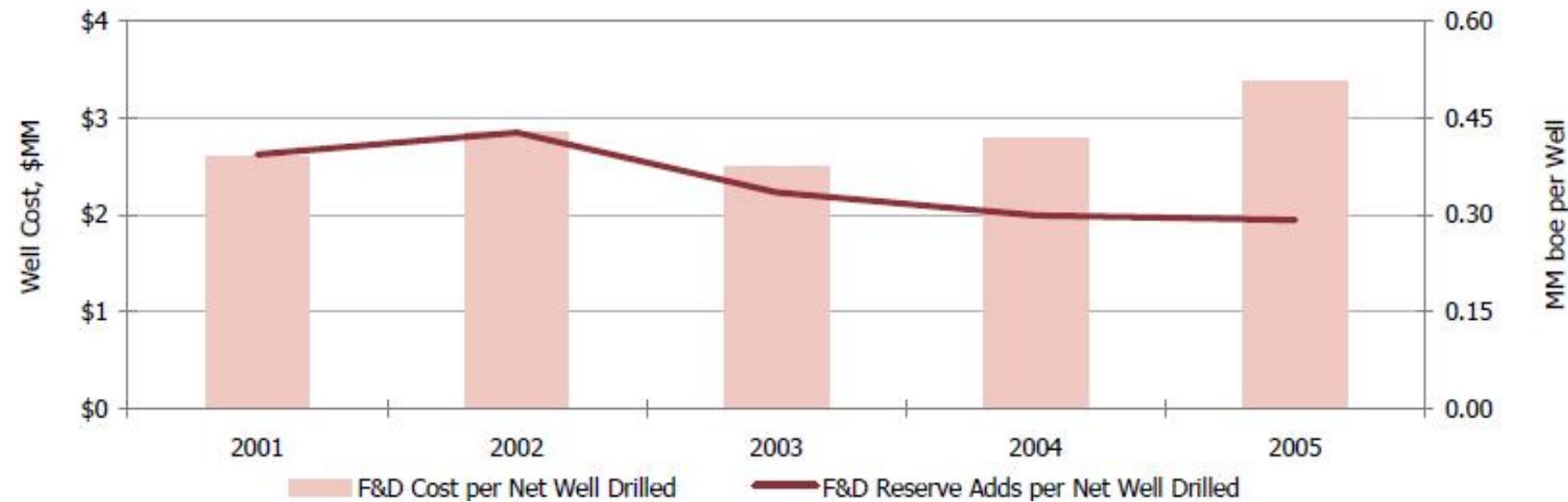
KEY BENEFITS RECOGNIZED

- Greater efficiency and productivity through automated emissions management processes
- Increased integration and improved information visibility for exception and incident management
- Reduced risk of noncompliance
- Simplified reporting
- Improved audit transparency, building goodwill with regulatory authorities

"[SAP xEM] saves us time and money, helps us stay flexible enough to respond to changed market conditions, and prevents legal sanctions. But the best thing about SAP xEM is that it brings us much closer to our goal of being a sustainable, environmentally friendly operation."

Herman Poortinga, CIO, E.ON Benelux

Challenge to *reduce* F&D and production *costs for assets with increasing complexity & remoteness*

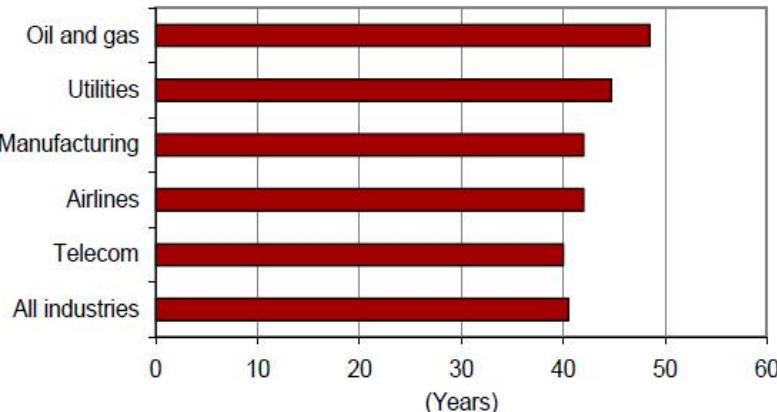


Cost per Well Rising Steeply, But Reserves per Well Steady ...

- Since 2001, worldwide production volumes have gained 12% while the cost of production (lease operating expenses, severance, royalties, etc.) has doubled from \$96 billion to \$201 billion
- Soaring costs are a topic of major concern in every boardroom

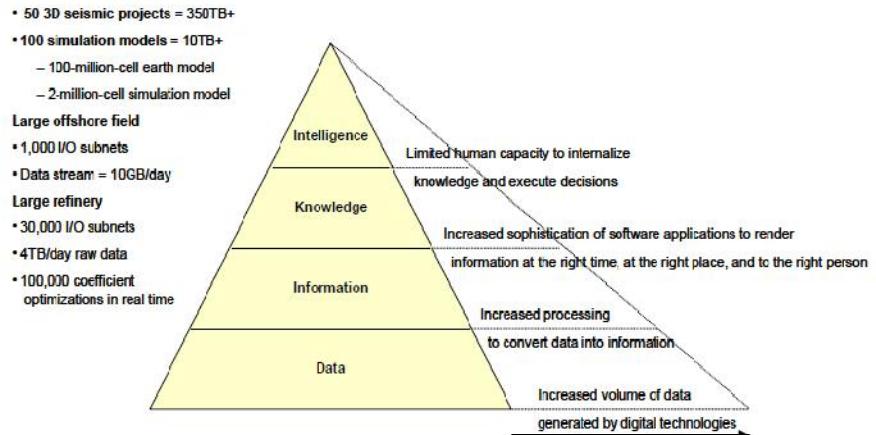
Difficulty in acquiring, developing, and *managing an aging and tightening* industry *talent pool*

Median Age of U.S. Employees by Industry

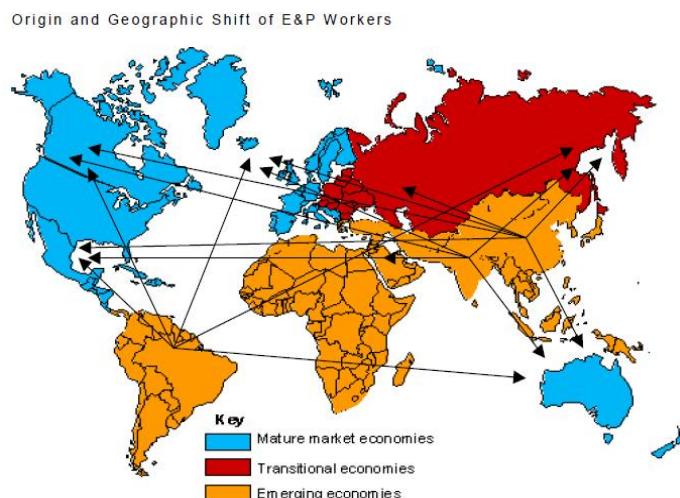


Source: U.S. Bureau of Labor Statistics, 2005

Human Ability to Deal with Increased Volumes of Data



Source: Energy Insights, 2006



Source: Energy Insights, 2006

- The systematic reduction in the E&P workforce due to volatility in prices and M&A activity has resulted in workers moving out of the oil and gas (O&G) industry and created a stigma that discourages young people from joining the industry
- From a global standpoint, E&P workers are being hired in large numbers from South America, India, and China for operations in North America, Russia, Southeast Asia, the North Sea, and the Middle East.
- Many E&P companies are going beyond labor replacement and knowledge retention and have started developing plans for technology-enabled process improvement and business innovation

Source: Energy Insights

Lack of *interoperability across* production *asset's* design to disposal *lifecycle*



Industry Pain

- Inability to collaboratively manage and exchange the critical capital asset information needed to manage across an assets' entire lifecycle

Complication/Business Impact

- Per U.S. Department of Commerce's National Institute of Standards and Technology, direct quantifiable impact is **1- 2 % of CAPEX** due to:
 - Increased project cost from design changes, handover inefficiencies, and associated delays
 - Unproductive efforts to gather necessary to re-enter, gather, and analyze data used in both operating and decision making processes
- The indirect impact during an asset's operation phase includes
 - **Suboptimal asset portfolio performance** from inaccurate asset performance analysis, management, maintenance and reporting
 - **Increased cost and inventory of spare equipment and materials** that results from erroneous sourcing analysis and management

EH&S requirements disconnected from normal asset operations



“the Health & Safety Executive (HSE) damned ConocoPhillips for ‘potentially catastrophic’ lapses that caused a fire and explosion at its Humberside refinery”

The Guardian
December 13, 2009

“Safety regulators have proposed fines of \$384,000 on BP for a string of infringements at an Indiana oil refinery, adding to a long list of woes to hit the company's American operations”

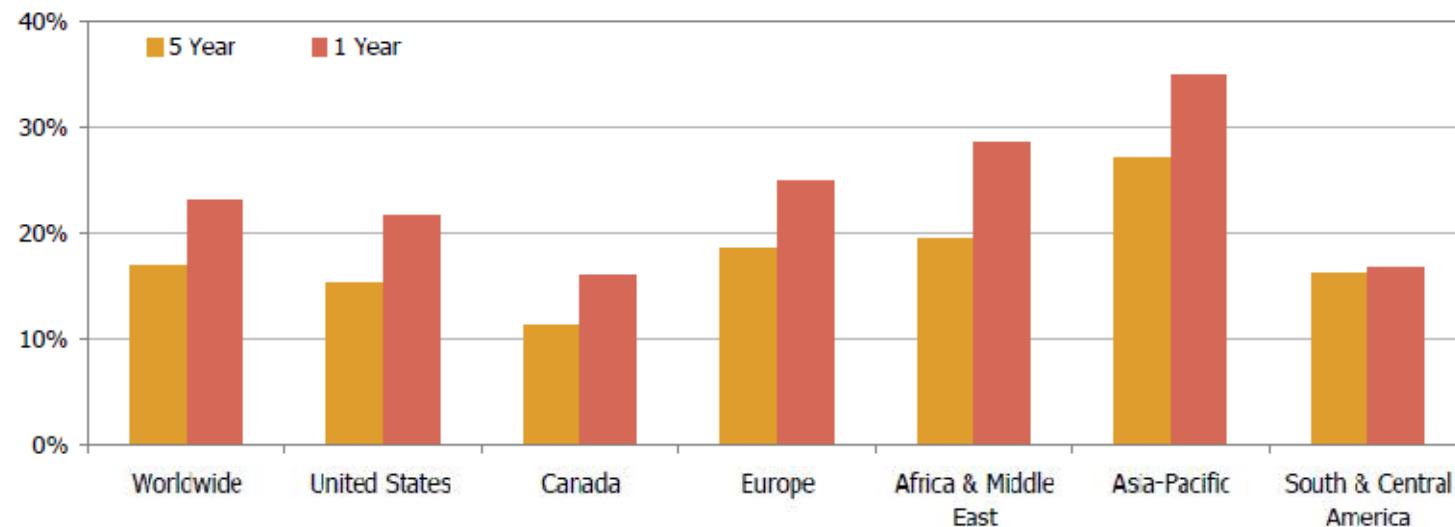
The Guardian
November 29, 2008

“BP Plc's global management team knew of safety concerns at the company's Texas City, Texas, oil refinery before a deadly explosion last year, U.S. safety investigators said.”

Bloomberg
October 30th, 2009

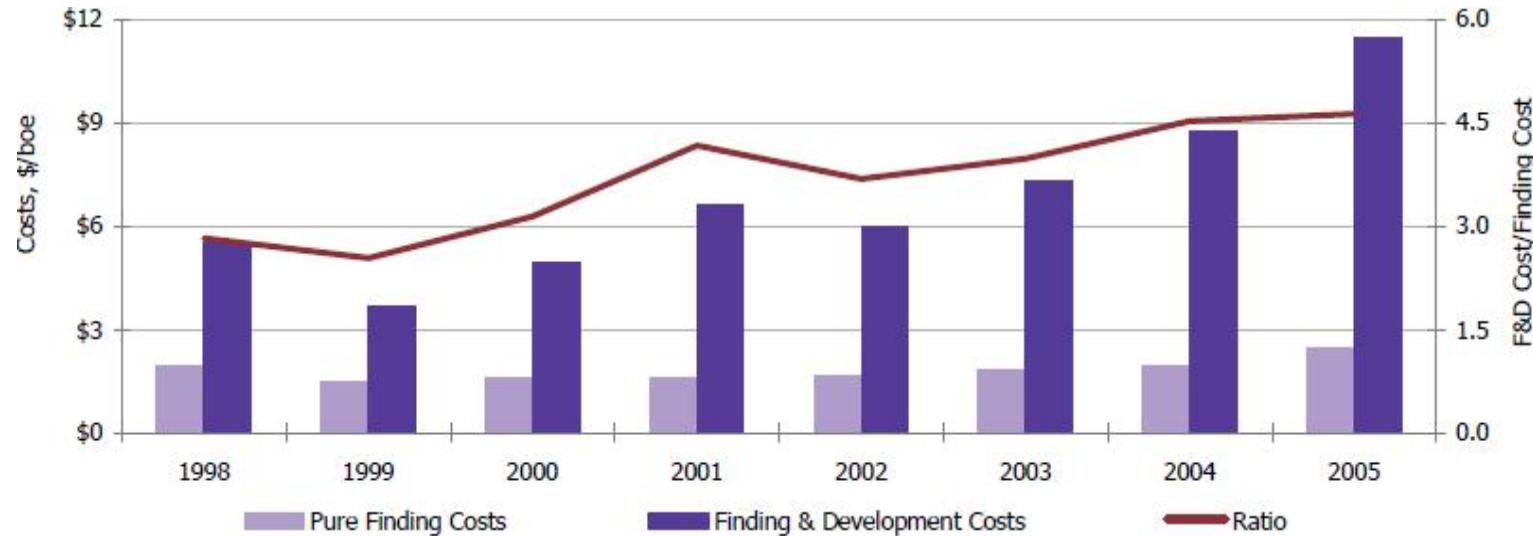
Sub-optimal portfolio

... of competing capital investments



Return on Capital Employed can vary widely across a portfolio

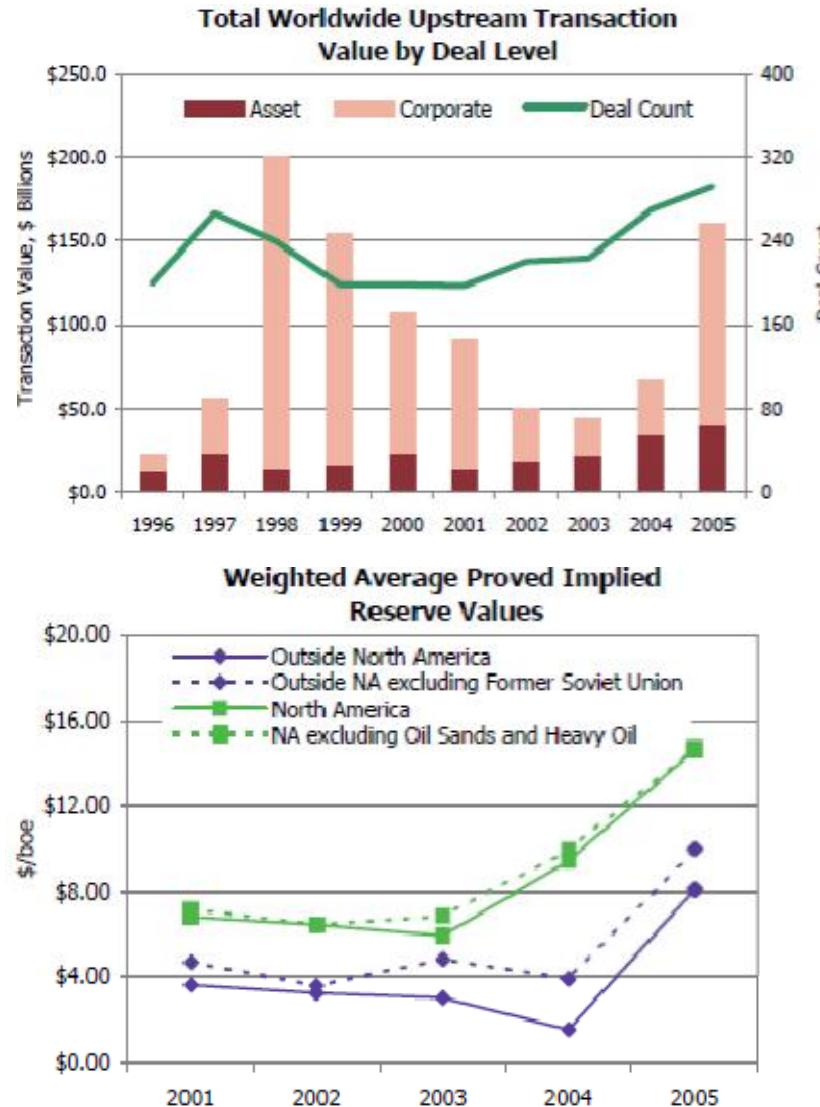
Inability to efficiently ... maximize production from existing pools



Cost Pressures Are on the Completion Side

- Restricted access to new resource-rich areas increases the importance of maximizing production from existing basins
- Development costs have been on the rise as recent discoveries have been smaller than in prior years, or they have been in hostile environments, which has boosted costs.

Difficulty in *assessing an assets true relative performance* to make timely disposal decision



Speed and accuracy is needed

- Global upstream M&A transaction value more than doubled to nearly \$160 billion from '04 to '05
- Deal pricing per proved boe soared to record highs in 2005
- *International competition* for sizeable asset packages has become increasingly intense, with state-owned or controlled companies (NOCs) continuing to emerge as major buyers of assets

SAP for Oil & Gas improves both profitability and sustainability

Improving capital and operating cost management across full asset lifecycle



KEY BENEFITS

PEMEX Reduced prices on one-year contracts by 6% on average and lowered bidding process costs by 13% through electronic collaboration with SAP SRM

Statoil takes half the time to produce its monthly statement of accounts and the data is of a much higher quality with SAP Joint Venture Accounting

Mitigating Governance and compliance risk



KEY BENEFITS

PacifiCorp reduced response times to non-compliance events with SAP xEM Emissions Management

ONGC improved legal compliance, reduced bid cycle times and lower prices with SAP SRM

Providing a Business Platform for profitable and sustainable growth



KEY BENEFITS

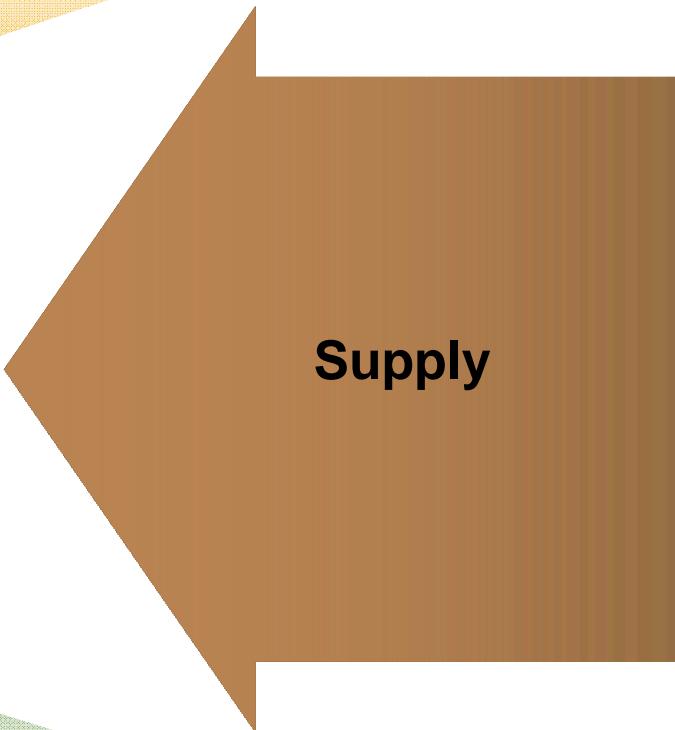
BG Group reduced TCO by 43% and improved organizational agility and employee productivity

Statoil integrated its heterogeneous systems landscape, improved the quality of information and decision making for its 24,000 employees across the 28 different countries it operates in

Gas Processing



Markets and Demands



Supply

IT implications:

- Value Chain Integration Drives Cost Efficiency
- Integration of Business Execution for Business Decision Support
- End-to-End Supply Chain Efficiency Requires Best in Class Technology Proposition
- Compliance Management



Geo Political and Globalization

Key common Needs

- Robust and Integrated supply chain handling and optimization with complete visibility
- Optimized Asset Management
- Compliance with Regulatory Procedures to minimize environmental hazards
- Full Visibility into Project & Portfolio Management to maximize profits
- Human Capital Management
- Knowledge Management and Collaboration
- Management Dashboards and Analytics for efficient and quick decision support
- Management of Joint Ventures
- Flexible infrastructure allows quick integration of new business processes
- Minimize exposure to political risks



One ERP Platform for all players

O&G Market Players -

... key IT needs



NOC

- Understand and adapt to new business processes (Supply, Transportation, Trading and Storage)
- Mass Allocation, balancing & Yield Accounting
- Integration of "Top floor to shop floor,, - Liquefaction plant to Enterprise
- Trading integrated to logistics and accounting
- Cross business integration (Upstream with Supply)
- Mobile Liquefaction facility

Majors

- Excel and improve existing business processes
- Integrated midstream and downstream business
- Diligent management of projects
- Strong pricing and trading capabilities
- Efficient management of longterm sales contracts

Energy Companies

- Integrated midstream and downstream
- Enter upstream areas
- Integration of "Top floor to shop floor,, - Regasification terminal to Enterprise
- Pricing and trading capabilities
- Quick adoption of new technology is key to success
- Mobile regasification facility



One ERP Platform for all players

Robust IT Platform

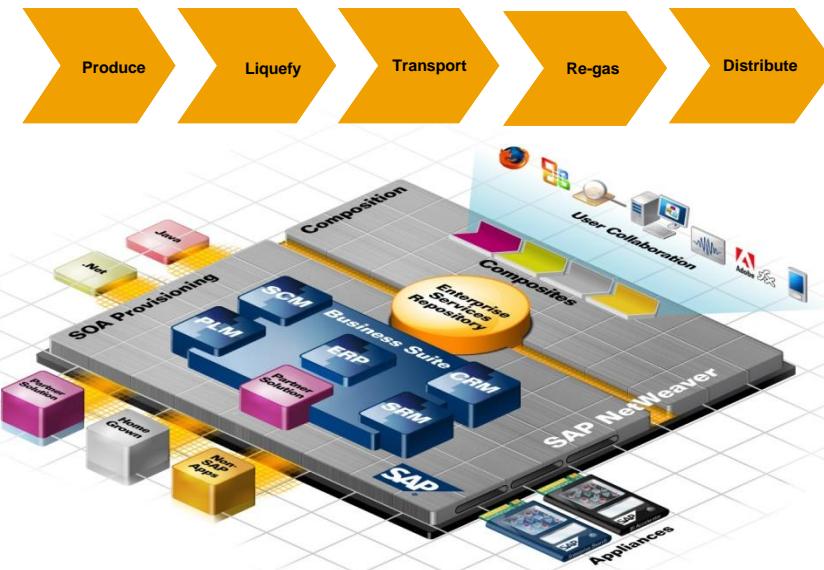
... Need to support internal network



Establish a stable Business Process platform with the ability to maximize fast paced innovation and minimize disruption through the enterprise for the players

NOC Integrated Supply

- Enable a flexible IT environment that supports Broad User Adoption for greater collaboration across innovative processes and best industry practices
- Continuous IT innovation and future expansion into new technologies
- Optimized value chain with realtime communication and tracking



Energy Companies – Secure the Flow

Future growth into new business horizons with improved data quality and complete insight and visibility

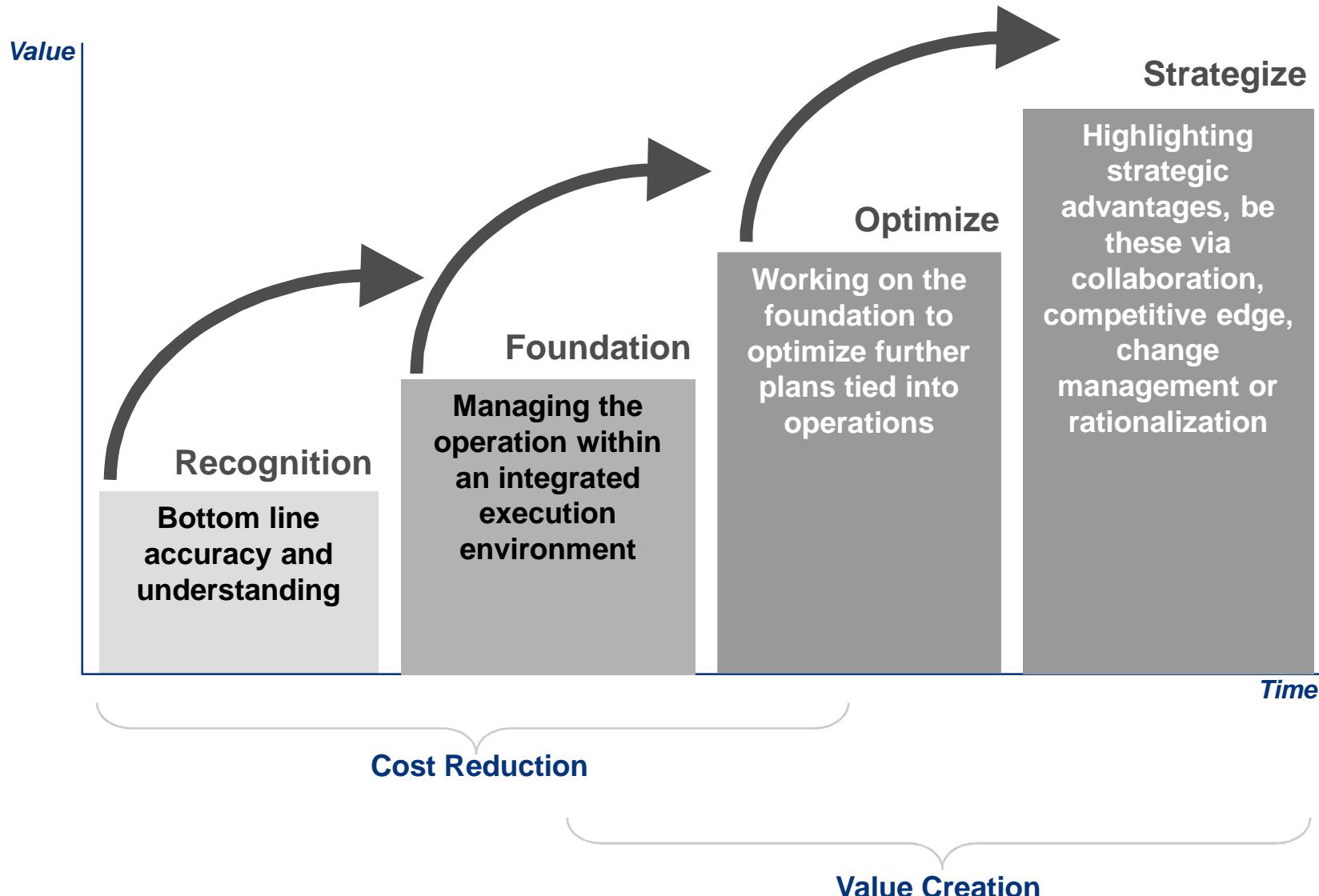
New demand driven business processes to optimize the demand with supply

Optimal IT landscape by enabling enterprise SOA to safeguard IT investment

Majors Trusted Advisor

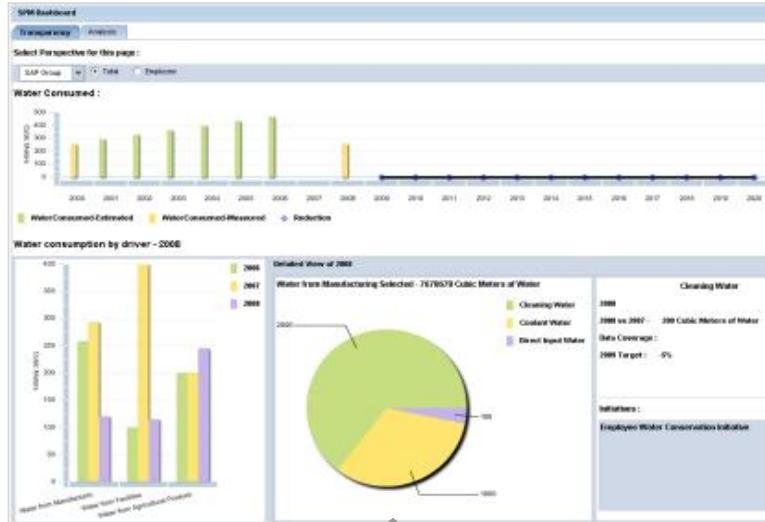
- Greater ability and flexibility to develop and deploy adaptable business processes using enterprise SOA to handle changing business requirements and priorities
- Event driven architecture to resolve business exceptions quickly and react to ever changing business conditions
 - Integrated project management

Building the foundation for value creation



Drive Business Objectives

SAP Performance Management



**Sustainability
Performance
Mgmt**

**Assured
Reporting**

**Benchmarking
& Analytics**

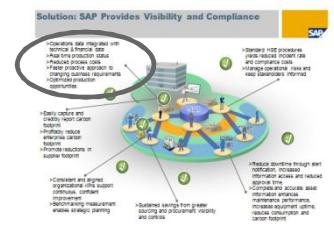
Strategy & Risk

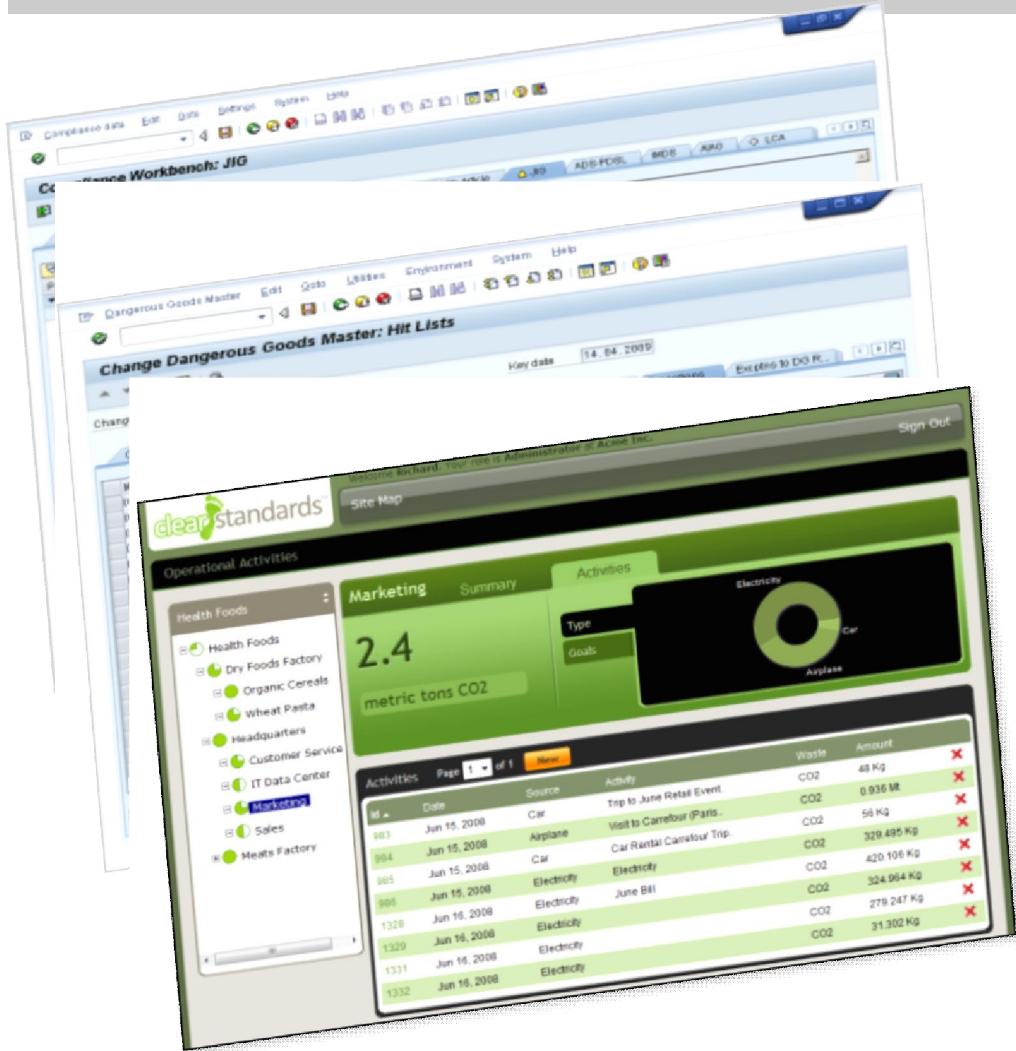
**Financial
Performance**

Companies spend excessive time and money tracking and reporting sustainability objectives.

SAP allows executives to focus on strategic execution instead of data collection...

...Because it is the only solution that ties key business information from SAP operational systems to sustainability reporting





**Product Safety
and
Stewardship**

**Product
Compliance**

**Matl. &
Prod.
Safety**

**Recycling
& Re-Use**

**Recall
Manage-
ment**

**Product
Footprint**

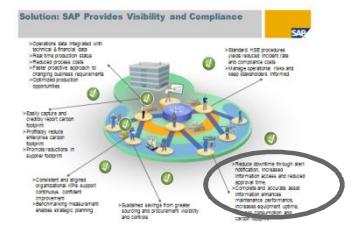
**Sustainabil-
e
Design**

Embedded Compliance controls and hydrocarbon master data management for your sustainable enterprise

Document compliance actions with workflows and central data

Manage MSDS, labeling from master data, Hazardous Substance Mgmt

SAP Recycling Administration manages recycling and reuse

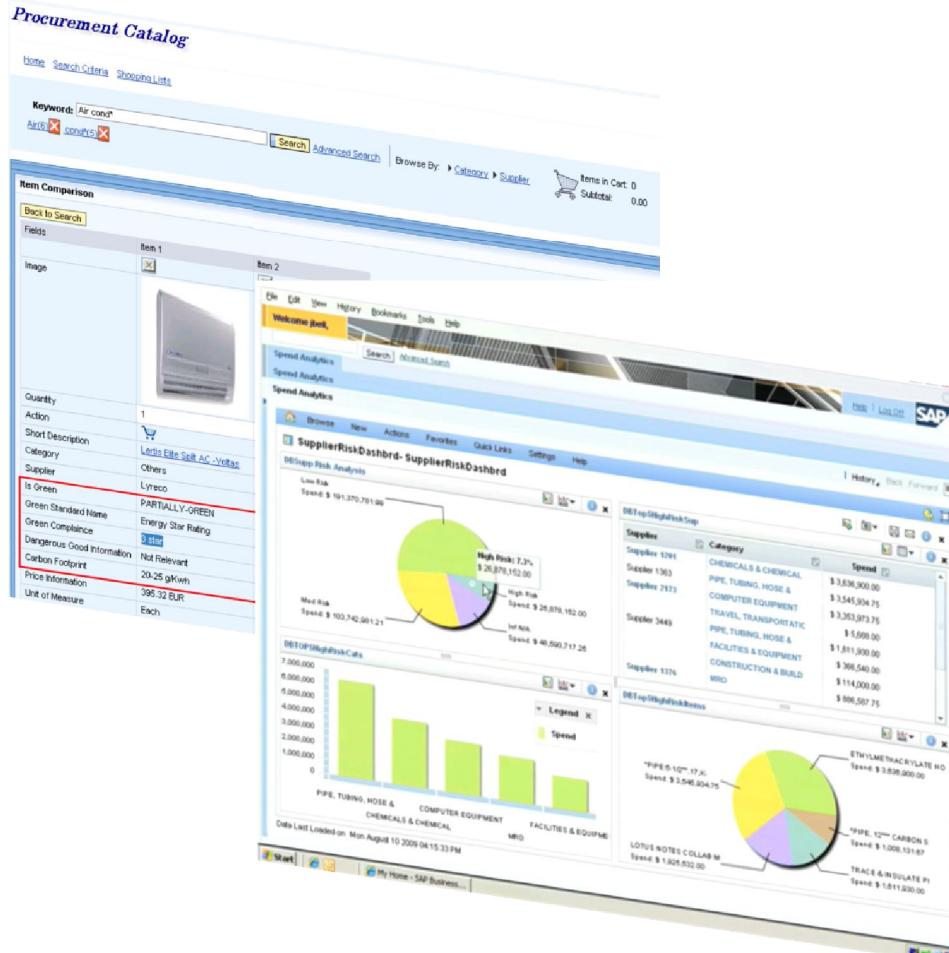


Solution - SAP Provides Visibility and Compliance



Achieve Supplier Goals

Sustainable Sourcing & Procurement



Sustainable Supply Chain

Procurement

Traceability

Commodity Trade & Risk Management

Resource Optimization

Supply Chain Optimization

**Reduce Capital Project costs:
Supplier Life-Cycle View
with vendor master data**

Specify Sustainable Purchasing needs

Supply and demand matching for inventory optimization and increased margins

Gather Carbon and Footprint Impacts

Demand Driven Supply Chain



Manage Risk & Cost



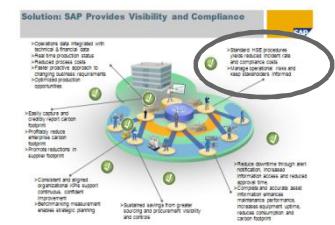
SAP EHS Management



...SAP enables EH&S managers to minimize losses by rapidly identifying risks needing corrective actions...

Air Emissions Management
Water Compliance
Permits, Incident Handling
Environmental Reporting
Occupational Health
Industrial Hygiene
Incident Mgmt

... Because only SAP's analytics automatically imports operational data from SAP and non-SAP systems for better decision support



**Environment,
Health and Safety**

Environmental Compliance

Occupational Health

Industrial Hygiene & Safety

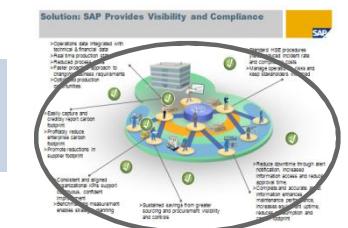
Emergency Management

IT Infrastructure Roadmap

... just not an Integration Problem



- **Close the loop between strategy and execution**
SAP sustainability apps are pre-integrated with SAP Business Suite.
- **Analyze, optimize and co-innovate your value chain**
SAP Business Suite is fully SOA enabled.
- **Holistically manage sustainability**
Always understand the financial impact of your activities.



Scenario:**Allocation and Settlement****Business Objectives:****Improving Regulatory Compliance**

- Improved transparency and auditability of activities
- Reduce risks of fines and penalties

Increase Speed & Efficiency

- Automate - eliminate errors due to manual processes

Increasing Transparency & Accountability

- Increase data transparency

Reducing Operating Costs & Increasing Efficiency

- Reduce administration, improve business processes

Bulk Supply Chain Execution and Settlement**Improving Service Delivery**

- Faster access to relevant information

Increase Speed & Efficiency

- Automate - eliminate errors due to manual processes

Increasing Transparency & Accountability

- Improve transparency and auditability of activities

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Reduce transaction costs

Scenario:**Bulk Supply Chain Operations and Scheduling****Business Objectives:****Increasing Revenue**

- Improve capacity utilization

Increasing Transparency & Accountability

- Increase data transparency
- Provide decision support

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Lower logistics costs

Bulk Supply Chain Planning and Optimization**Increase Speed & Efficiency**

- Increase collaboration (internally & externally)

Increasing Revenue

- Improve capacity utilization

Lowering Working Capital

- Shorten order-to-cash cycle

Reducing Operating Costs & Increasing Efficiency

- Lower logistics costs
- Reduce inventory levels

Bulk Supply Chain Reporting and Analytics**Improving Corporate Strategy**

- Definition and monitoring of a set of targets for business activities

Increasing Transparency & Accountability

- Provide decision support

Scenario:**Capital Portfolio Management, Design & Construction****Business Objectives:****Managing Fixed Assets & Resources**

- Minimize investment in operating facilities
- Improve physical inventory process
- Improve return-on-investment (ROI) of fixed assets
- Optimize capital equipment and asset utilization

Reducing Operating Costs & Increasing Efficiency

- Reduce transaction costs
- Lower communications expenses
- Reduce administration, improve business processes

Convenience Retailing**Improving Customer Service**

- Improve service quality

Increasing Revenue

- Efficient campaign planning and management
- Improve customer retention and loyalty

Lowering Working Capital

- Reduce out-of-stock situation

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes

Customer Service**Improving Customer Service**

- 24x7 customer self-service
- Better service levels
- Complaint management and tracking
- Improve service quality
- Provide a single face to the customer

Scenario:**E&P Contract Management****Business Objectives:****Improving Customer Service**

- Collaborate with business partners

Improving Regulatory Compliance

- Comply with future accounting and regulatory reporting requirements

Increase Speed & Efficiency

- Automate - eliminate errors due to manual processes

Increasing Security

- Improve document control, integrity and retention

Reducing Operating Costs & Increasing Efficiency

- Improve accounting processes

Exploration and Appraisal**Improving Corporate Strategy**

- Capital budgeting and allocation process
- Support for the strategic planning process

Increase Speed & Efficiency

- Increase collaboration (internally & externally)

Increasing Revenue

- Develop new markets

Increasing Transparency & Accountability

- Accurately calculate project risks

Scenario:**Business Objectives:****Hydrocarbon Products Transportation****Improving Service Delivery**

- Faster access to relevant information

Increasing Transparency & Accountability

- Increase data transparency

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Lower logistics costs
- Integrate processes across divisions and functions

Liquid and Gas Production**Improving Corporate Strategy**

- Production Growth

Improving Regulatory Compliance

- New business opportunities - participate in cutting edge "green tags" or "carbon credits" market

Increasing Transparency & Accountability

- Improvement of regulatory compliance

Lowering Working Capital

- Improve capacity utilization

Reducing Operating Costs & Increasing Efficiency

- Improve asset and maintenance management

Scenario:**Lubes Manufacturing Operations****Business Objectives:****Increase Speed & Efficiency**

- Speed innovative products / designs to market

Increasing Revenue

- Improve capacity utilization
- Maximize profitability by product

Lowering Working Capital

- Increase inventory turns

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes

Maintenance Management**Managing Fixed Assets & Resources**

- Optimize capital equipment and asset utilization
- Reduce down-time

Reducing Operating Costs & Increasing Efficiency

- Improve procurement processes

Marketing Planning and Execution**Increasing Revenue**

- Efficient campaign planning and management
- Extend market share
- Improve customer retention and loyalty
- Maximize profitability by customer
- Develop new markets

Scenario:

Oil and Gas Paper Trading and Risk Management

Business Objectives:**Improving Regulatory Compliance**

- Comply with future accounting and regulatory reporting requirements
- Reduce risks by permanent compliance tracking with internal and external regulations

Increasing Transparency & Accountability

- Improve transparency and auditability of activities
- Support risk management

Reducing Operating Costs & Increasing Efficiency

- Removing maintenance of interfaces (Financial Accounting, Cash Management and Risk Management)

Opportunity to Cash**Improving Customer Service**

- Increase multi-channel delivery of services

Increasing Revenue

- Enable cross-sell/up-sell capability

Lowering Working Capital

- Shorten order-to-cash cycle

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Re-deploy labor to higher value-added activities
- Reduce order processing costs

Scenario:**Physical Oil and Gas Commodity Trading****Business Objectives:****Improving Corporate Strategy**

- Support for the strategic planning process

Increasing Revenue

- Maximize profitability by customer
- Maximize profitability by product

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Improve inventory visibility

Refining Operations**Improving Regulatory Compliance**

- Improve manufacturing plant operations by optimizing operating conditions against permit constraints

Increasing Revenue

- Improve capacity utilization

Managing Fixed Assets & Resources

- Reduce down-time

Reducing Operating Costs & Increasing Efficiency

- Improve inventory visibility
- Reduction of costs for integration with Accounting and Finance Management

Remote Site Logistics**Reducing Operating Costs & Increasing Efficiency**

- Improve procurement processes
- Automation and standardization of business processes
- Minimize manual processes

Scenario:**Business Objectives:****Sales Planning and Account Management****Improving Customer Service**

- Strengthen partnerships and account management
- Improve forecast accuracy

Increasing Revenue

- Efficient sales planning and management
- Improve customer retention and loyalty
- Maximize profitability by customer

Service Station Fuel Management**Improving Regulatory Compliance**

- Reduce risks of fines and penalties
- Comply with future regulatory reporting requirements

Lowering Working Capital

- Reduce out-of-stock situation

Managing Fixed Assets & Resources

- Improve physical inventory process

Reducing Operating Costs & Increasing Efficiency

- Automation and standardization of business processes
- Reduction of costs for integration with Accounting and Finance Management

Sourcing & Procurement**Improving Service Delivery**

- Reduce administration, improve business processes

Increasing Revenue

- Improve customer retention and loyalty

Reducing Operating Costs & Increasing Efficiency

- Reduce transaction costs
- Reduce inventory levels

Scenario:

Terminal Management

Business Objectives:

Improving Service Delivery

- Collaborate with business partners
- Improved quality and accuracy

Increase Speed & Efficiency

- Automate - eliminate errors due to manual processes

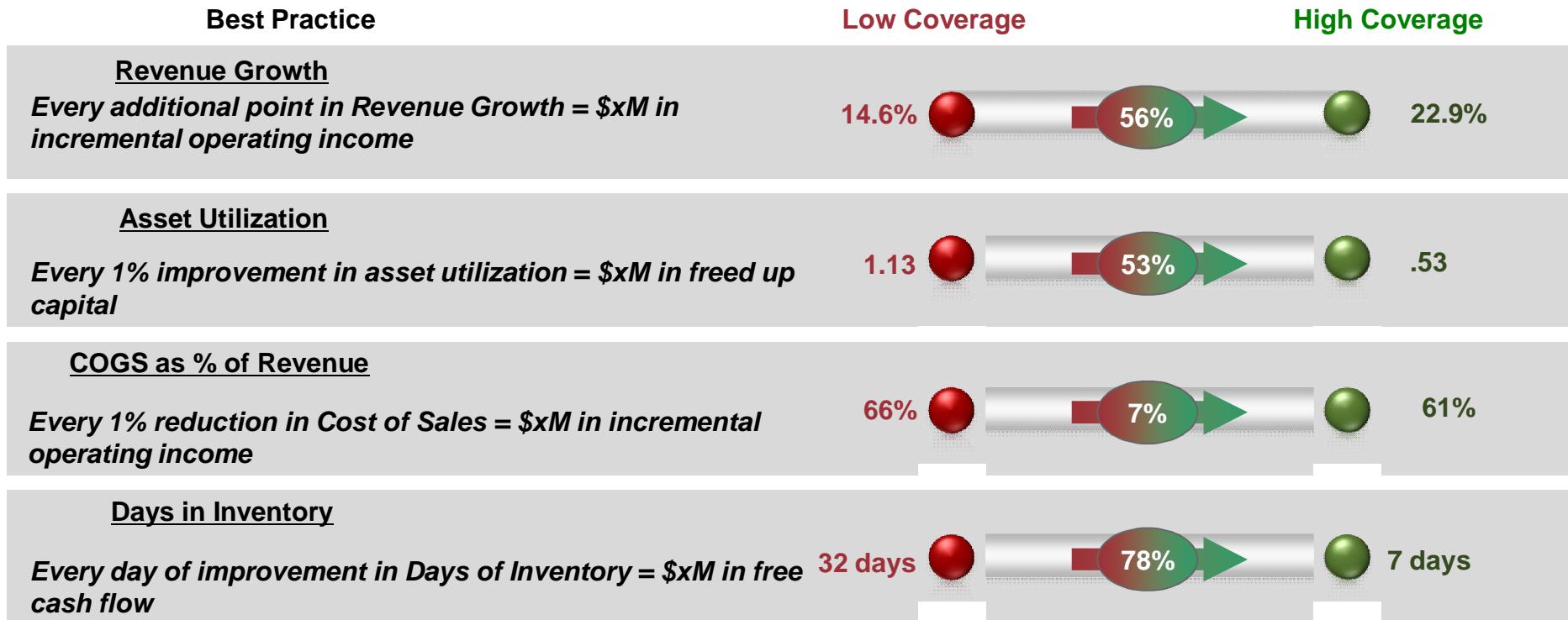
Lowering Working Capital

- Reduce out-of-stock situation

Reducing Operating Costs & Increasing Efficiency

- Improve inventory visibility

Influence of Best Practice Coverage on Key KPIs for Oil & Gas Companies



Performance Improvement Opportunity 

Scenario:**Key Performance Indicators:**

Allocation and Settlement	<ul style="list-style-type: none">• Earnings Before Depreciation, Interest, And Tax• Capacity Utilization• Netback value
Bulk Supply Chain Execution and Settlement	<ul style="list-style-type: none">• Number of Orders without Complete and Accurate Documentation• Operating Cash Flow• Days Of Sales In Backlog• Customer Invoicing, Accounting Costs• Inventory Carrying Costs
Bulk Supply Chain Operations and Scheduling	<ul style="list-style-type: none">• Delivery Performance to Scheduled Commit Date• Cost of Goods Sold• Detailed Schedule Creation Time• Distribution Costs• Inventory accuracy
Bulk Supply Chain Planning and Optimization	<ul style="list-style-type: none">• Delivery Performance to Scheduled Commit Date• Cost of Goods Sold• Capacity Utilization• Inventory Carrying Costs• Total Supply Chain Costs
Bulk Supply Chain Reporting and Analytics	<ul style="list-style-type: none">• Distribution Costs• Forecast Accuracy• Inventory accuracy
Capital Portfolio Management, Design & Construction	<ul style="list-style-type: none">• Rate Of Return On Capital• Return On Assets

Scenario:**Convenience Retailing****Key Performance Indicators:**

- Customer Satisfaction Index
- Operating Expenses
- Headcount
- Supplier on time Delivery Performance
- Inventory accuracy

Customer Service

- Number of Callbacks as % of total inquiries
- Percentage of Customer Complaints
- Percentage of Customers getting served via Internet Protocol
- Percentage of Service Requests
- Customer Satisfaction Index

E&P Contract Management

- Administration Costs Reductions
- Customer Invoicing, Accounting Costs
- Cycle Time: Inquiry to Contract
- Fast close support
- Faultless Invoices

Exploration and Appraisal

- Cash Flow
- Economic Profit - Capital Charge
- Internal Rate Of Return
- Finding & Development costs
- Reserves replacement ratio

Scenario:**Key Performance Indicators:****Hydrocarbon Products Transportation**

- Delivery Date Accuracy
- Delivery Performance to Customer Request Date
- Distribution Costs
- Order Fulfillment Costs
- Perfect Order Fulfillment

Liquid and Gas Production

- Return On Capital Employed
- Lost Time Incident Ratio
- Lifting Costs
- Production Stoppage
- Hazardous Materials Emissions

Lubes Manufacturing Operations

- Average Development Cost per New Product
- Number of End Products, SKUs
- Time to Market

Maintenance Management

- Return On Capital Employed
- Incidence Rate (Per 100 FTEs)
- Overtime Rate
- Percentage of Planned Maintenance Work
- Productivity
- Production Stoppage
- Capacity Utilization

Scenario:**Key Performance Indicators:****Marketing Planning and Execution**

- Campaign/Event Cost Revenue Ratio
- Contact Efficiency
- Percent of New Customers per Year
- Percent Revenue Growth – Existing Customers

Oil and Gas Paper Trading and Risk Management

- Operating Cash Flow
- Inventory Carrying Costs

Opportunity to Cash

- Customer Satisfaction Index
- Sales Cycle Time (Orders)
- Cycle Time: Inquiry to Contract
- Order Fulfillment Costs
- Invoice Accuracy Rate
- Order Receipt to Order Entry Complete Time

Physical Oil and Gas Commodity Trading

- Cost of Goods Sold
- Operating Cash Flow
- Operating Revenue Margin

Refining Operations

- Operating Revenue Margin
- Average Inventory
- Return On Capital Employed
- Material Stock shortfalls

Remote Site Logistics

- Delivery Performance to Scheduled Commit Date
- Material Management and Planning Costs
- Inventory

Scenario:**Key Performance Indicators:****Sales Planning and Account Management**

- Revenue
- Revenue Per Full-Time Equivalent Employee
- Sales
- Selling Expenses
- Contract Negotiation Time

Service Station Fuel Management

- Contribution Margin Rate
- Gross Profit
- Inventory Turnover

Sourcing & Procurement

- Supplier on time Delivery Performance
- Supplier Service Level
- Contract Negotiation Time

Terminal Management

- Inventory
- Inventory accuracy
- Inventory Days of Supply (Quantity)
- Shrinkage

SAP Drives Oil & Gas Industry



550+ Oil & Gas Customers Worldwide

Broad global adoption of SAP by Oil & Gas Companies with 1.1 + Million Business Users

>30 years of industry expertise

The only complete and integrated solution that meets the needs of the oil and gas business lifecycle

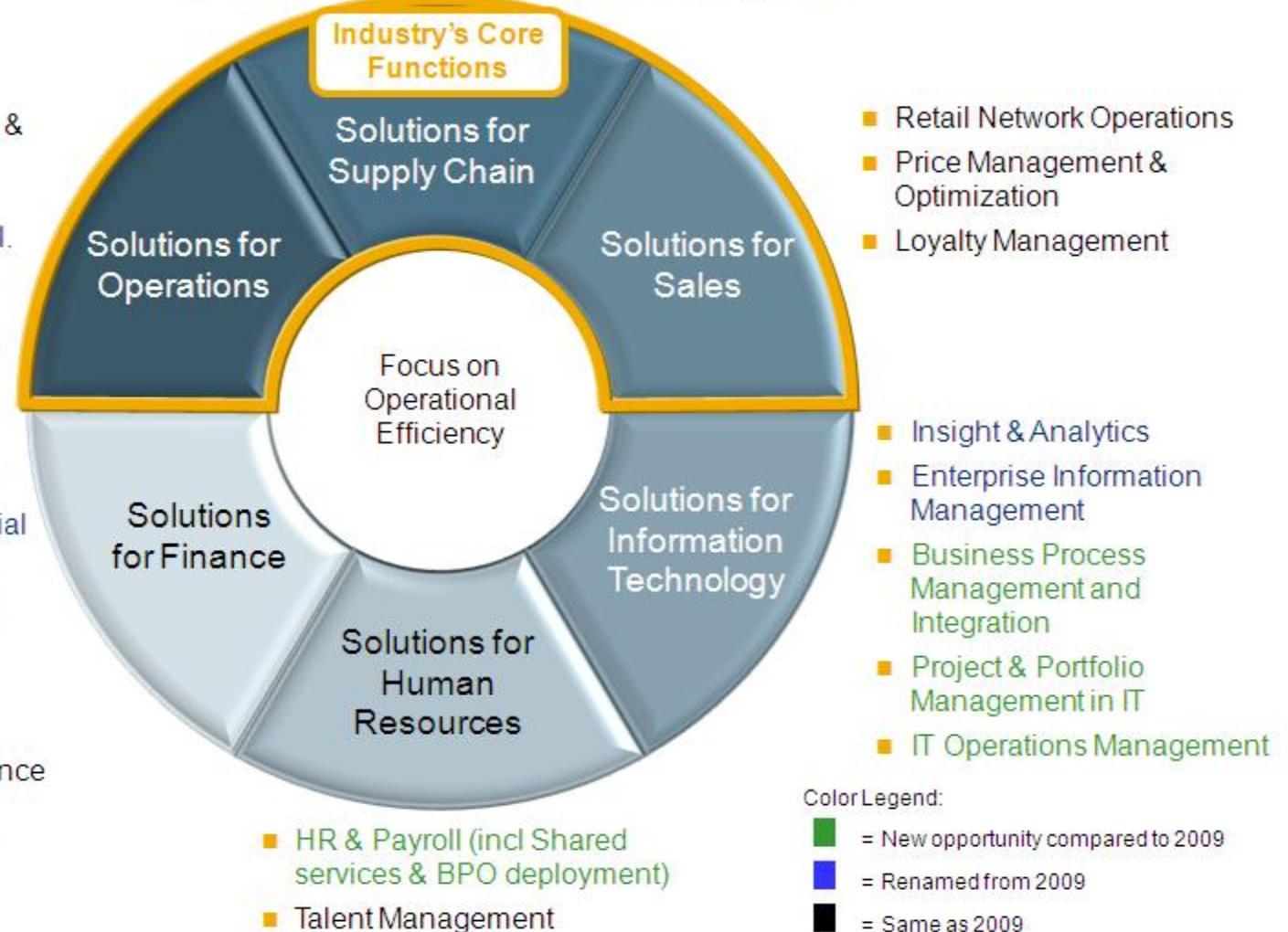
Global use of SAP extends from super-majors and majors to national oil companies, independent producers, pipelines, refiners, and retailers as well as to oilfield mfg., supply, and services companies.



Oil & Gas SAP Business Portfolio

- Planning, Building, and Commissioning Assets
- Asset Visibility and Performance
- Operational Risk Management
- Optimized Asset Operation & Maintenance
- Centralized Sourcing and Contract Management (incl. SRM)
- *Operations Performance Management (selling ramp ups in 2010)*
- Manage Financial & Operational Performance
- Accelerated Global Financial Close
- Financial Shared Services
- Financial Value Chain
- Cash and Treasury Management
- Manage Risk and Compliance in Commodity Industries
- Manage Effective Venture Partnerships

- Integrated Trading and Scheduling
- Primary Distribution
- Secondary Distribution & Terminal Management

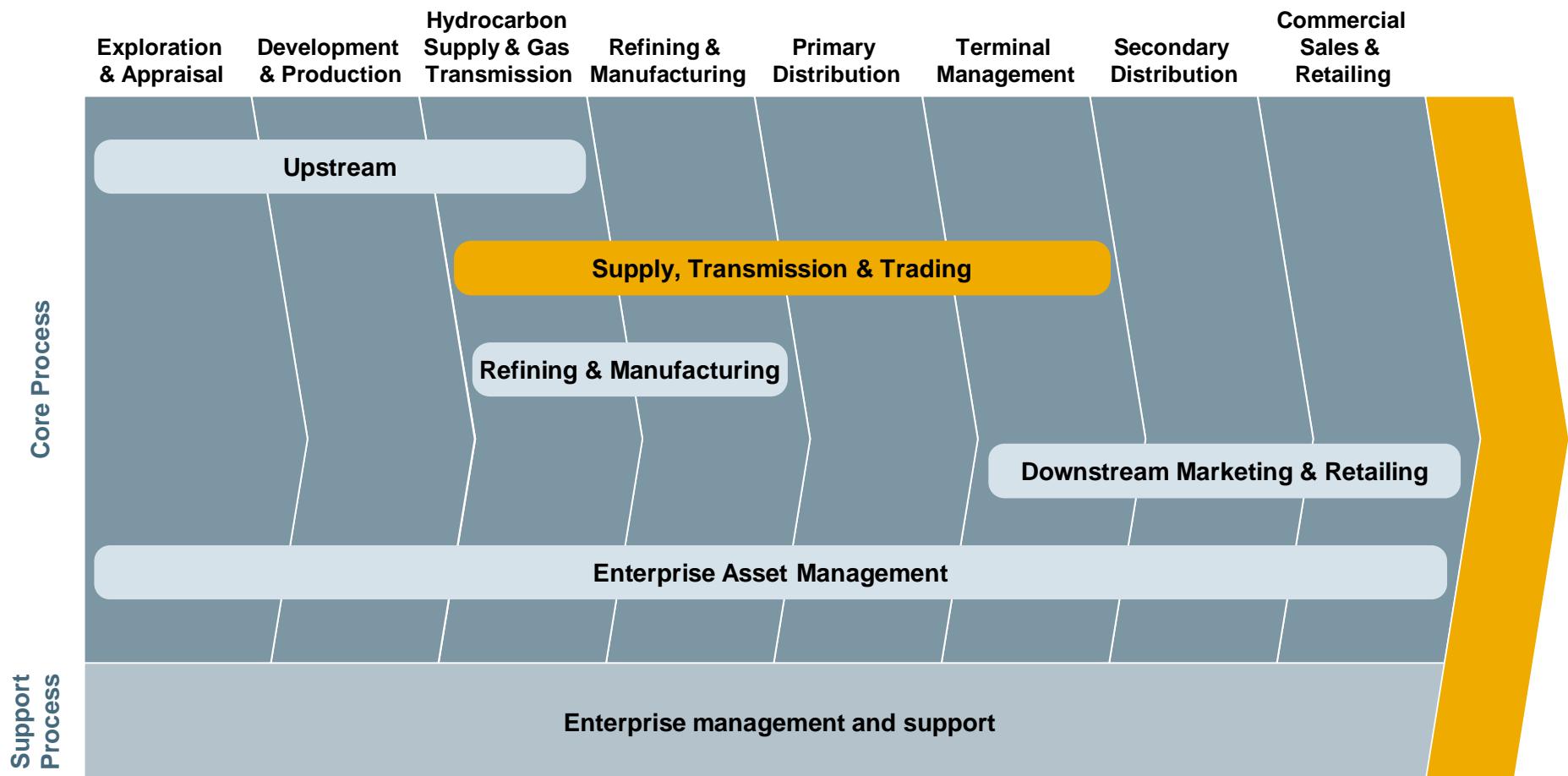


SAP Oil & Gas Best Practices

comprehensive , integrated solutions



SAP is the only software solution provider with a complete solution from wellhead to pump



Upstream Solution Portfolio



Upstream



Supply



Refining &
Gas Plants



Primary
Distribution



Secondary
Distribution

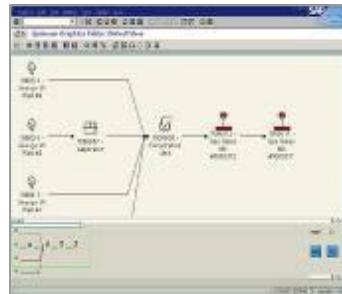


Retail

Joint Venture
Accounting



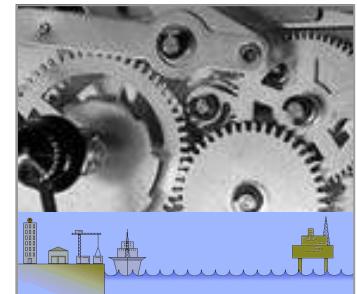
Production &
Revenue
Accounting



Production
Sharing
Accounting



Remote
Logistics
Management



Upstream



Business challenges for Upstream Oil & Gas

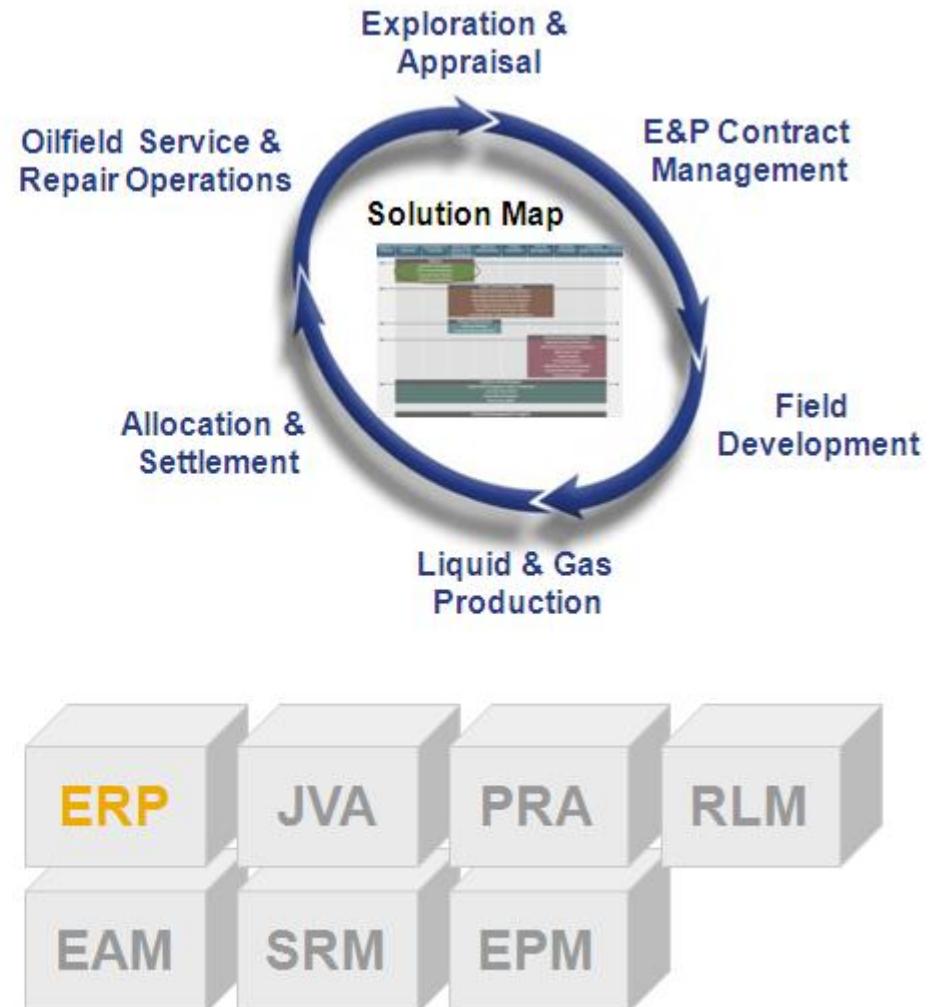
- Increasing general and administrative costs
- Complex ownership structures
- Maintenance and scheduled downtime
- Simulations of asset acquisitions / divestitures

SAP Solution

- ERP
- Joint Venture Accounting
- Production and Revenue Accounting
- Production and Sharing Accounting
- Remote Logistics Management
- Enterprise Asset Mgmt.
- Supplier Relationship Management
- Enterprise Performance Management

Business benefits

- Eliminate manual tasks, duplicate data entry, and manual reconciliations efforts
- Increase efficiency of reporting, consolidations and analytics
- Reduce maverick spend through compliance to contracts
- Increase supplier collaboration
- Increase asset uptime through optimized maintenance and scheduling
- Reduced capital expenditures



Refining / Manufacturing Portfolio



Upstream

Supply

Refining & Gas Plants

Primary Distribution

Secondary Distribution

Retail

Enterprise Asset Management



Plant Maintenance
Mobile Asset Management
Supplier Relationship Management

SAP Environmental Compliance



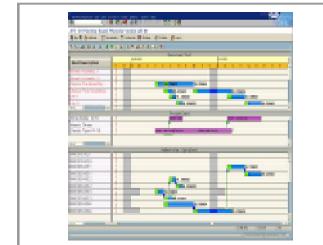
Compliance Mgmt.
Permit Management
Emissions Mgmt.
Greenhouse Gas Mgmt.

SAP MII Manufacturing Integration & Intelligence



Real-time Analytics,
KPI's
Role-based Dashboards
Real-time connectivity,
alerts

Lubes Manufacturing



Production Planning
Detailed Scheduling
Manufacturing Operations

Refining & Manufacturing



Business challenges for Oil & Gas Refining & Manufacturing

Capacity Constraints

Availability of Materials

Plant Downtime

Compliance

SAP Solution

ERP

IS/Oil Downstream

Enterprise Asset Management

Supplier Relationship Management

EH&S

MII

Business benefits

Consistent Raw Material at controlled price

Reduced Plant Outages and Downtime

Reduced Risk of Liability and Compliance

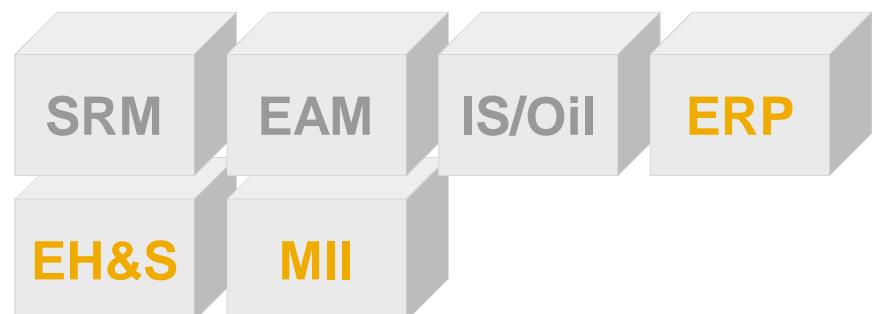
Fines

Refining Operations

Solution Map



Lubes Manufacturing Operations



Downstream Solution Portfolio



Trader's &
Scheduler's
Workbench



Commodity
Trading and
Risk
Management



IS-Oil
Downstream



Oil & Gas
Secondary
Distribution



Supply, Transmission & Trading



Business challenges for Oil & Gas Supply, Transmission & Trading

- Market Volatility
- Capacity
- Supply & Demand Balance

Solution

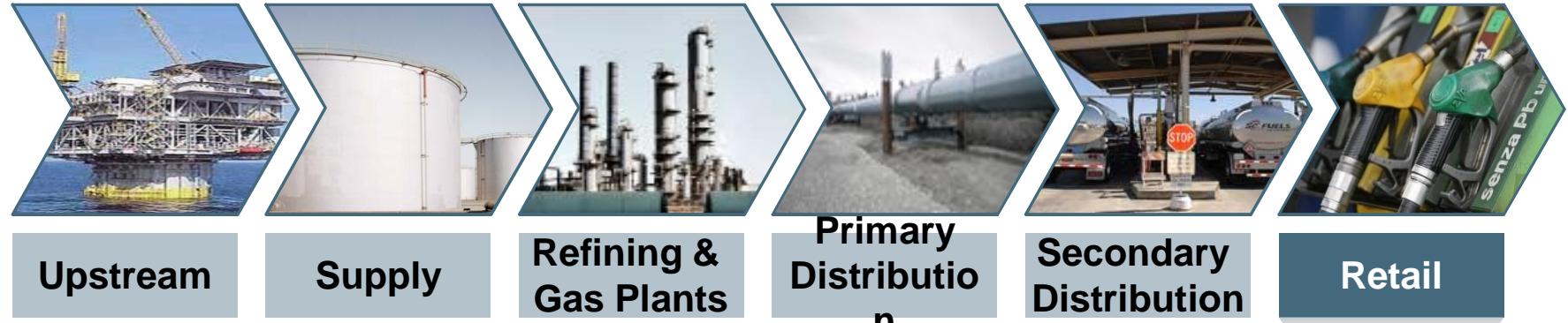
- ERP
- Supply Chain Management
 - Advanced Planning & Optimization
 - Supply Chain Event Management
 - Lean Inventory Management
 - Railcar Management
- Enterprise Asset Management
- Traders & Schedulers Workbench
- Trading Risk Management
- Global Trade Management

Business benefits

- Level Management of Materials
- Financial Risk Mitigation
- Ability to project and meet demands



Service Station and Convenience Retailing Portfolio



Convenience
Retailing
(incl. Store
Management)



Assortment Planning
Merchandising
Retail Pricing
Promotions

Fuels
Management



Fuel inventory
Fuel Pricing
Payment Card Handling
Dealer Settlement

Site and
Headquarter
Accounting



Rebate Management
Payment Card
Processing
Site Settlement
Site Expense Invoice

Business
Analysis and
Reporting



Sales Analysis
Vendor Performance
Loyalty Card
Processing
Franchisee Support

Business challenges for Oil & Gas Marketing & Retail

- Support the trade promotion spending and volume-planning processes
- Plan, sell, deliver, execute, validate, track, monitor, pay, reconcile, and evaluate the promotion and volume plans.

Solution

- ERP
- Enterprise Asset Management
- Supply Chain Management
 - Advanced Planning & Optimization
- Terminal Automation System
- Oil & Gas Secondary Distribution
- Service Station & Convenience Retailing

Business benefits

- Increased trade efficiency
- Increase return on investment
- Reduce capital expenditures
- Single source of sales planning data
- Remote and online sales planning function



Business challenges for OFS Oilfield Mfg., Supply, & Services

- Ineffective capital expenditure management
- Extensive delays in time to repair
- Containment of operating expenses
- Optimizing asset utilization
- High risk of Health, Safety and Environmental (HS&E) issues

Solution

- ERP
- Enterprise Asset Management
- Supplier Relationship Management
- Environmental Health and Safety

Business benefits

- Increased Production
- Improved schedule attainment
- Increase maintenance productivity
- Reduce overtime
- Reduce emergency purchases
- Increase planning/budgeting efficiency
- Improve equipment availability
- Reduce excess inventory
- Faster repair cycles



O&G Business Challenge

... Supply Chain & Detail Scheduling

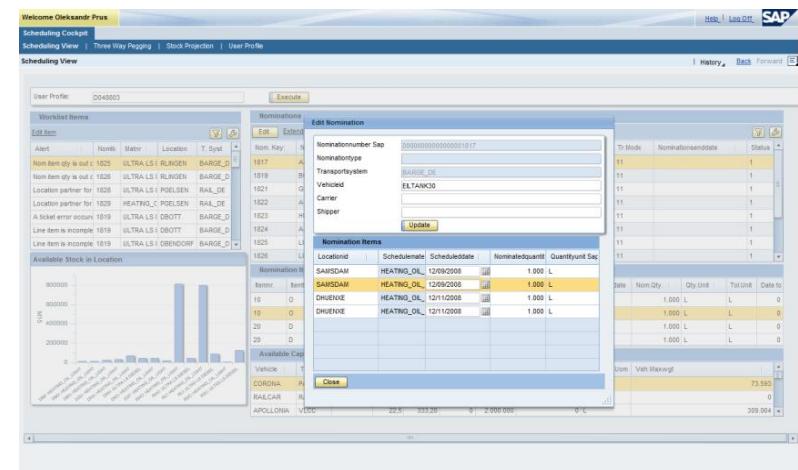


- Managing the bulk supply chain can represent as much as 80% or more of your business, Analysts and companies believe a 50 cents per barrel saving can be achieved with SCM – that's \$35 million per day for the industry!
- The “glue” that cements the whole process together is the Operations and Scheduling stage – dealing with the Real World and performing the business there.
- Currently the daily work of a scheduler is spread over several instance and screens - or even worse: different systems.
- Since scheduling is a complex task, multiple transactions need to be supervised and executed.



The Scheduling Cockpit offers tailor-made portal access for a Scheduler of an Company that has to plan bulk movements; the screen covers the daily business requirements that a scheduler is facing

- The Design and Implementation Service for Scheduling Cockpit as a tool will help your schedulers to do their work more efficiently.
- Access scheduling functions via a tailor-made Portal makes the daily work for a scheduler much easier - faster decision making, tracking and avoid mistakes!
- Our service utilizes the capabilities of SAP NetWeaver and the functional strength of the Traders and Schedulers Workbench to create a single platform to manage scheduling activities.
- From designing, to prototyping and up to a full-scale implementation: this service is scalable.
- Does not compete with any functionality in the SAP Standard releases.



Design and Implementation for Scheduling Cockpit – Approach and Deliverables



Approach/Activities

- Define Scope and Responsibilities
- On-site workshops ("As-Is analysis")
- Analysis of scheduler's requirements
- Adapt design template, mapping to back-end scheduling solution (TSW)
- Set-up Composition Environment
- This Service is Scalable :
 - "Net new" (in parallel w/ TSW)
 - "On top" of existing TSW



Results/Deliverables

- Defined scenarios with clear objectives, mapped to TSW and other applications ("To-Be" processes)
- Implementation approach; Project Plan (separated implementation in parallel with overall SCM approach)
- Set-up CE 7.x (or other release)
- Tailor-made Portal for a scheduler (incl. Documentation); fully integrated with TSW and ERP

TSW Business Benefits and Value Proposition



- SAP TSW is the world's No. 1 scheduling application for Oil & Gas
- Access scheduling functions via a tailor-made Scheduling cockpit makes the daily work for a scheduler much easier
- This service can be combined with a TSW implementation which enables integration among Operative and Commercial areas
- TSW will already give you a unique source information – the scheduling cockpit simplifies it!
- It can be adapted / enhanced for various business processes, e.g. marine scheduling, laytime & demurrage handling, Vetting; Event handling; etc.
- Upcoming TSW functions (e.g. Dynamic Scheduling) can be incorporated)

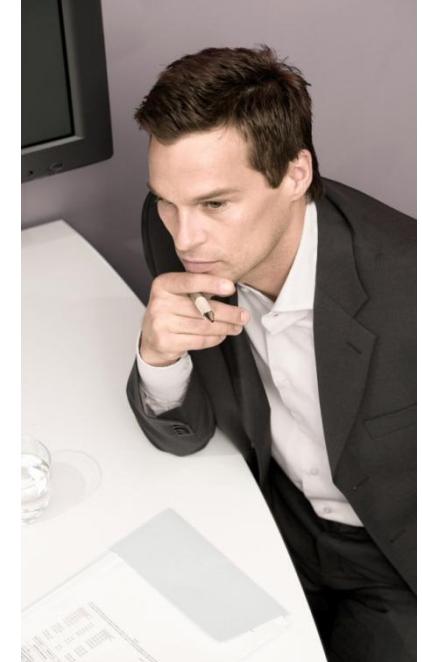


■ Pain Points

- Since scheduling is a complex task, multiple transactions need to be supervised and executed in real time.
- Complex nomination processes put a huge data and workload on a scheduler's desk.
- Pipeline networks require sophisticated allocation processes and up-to-date inventory information – batches needed to be located time, quality and quantity wise.

■ Goals/Needs

- Managing the bulk supply chain can represent as much as 80% or more of your business, Analysts and companies believe that up to 50 cents per barrel of savings can be achieved with efficient Supply Chain Management – that's \$35 million per day for the industry!
- Front end scheduling functions should have an intuitive GUI allowing easy access to data and functionality to optimize that data.
- Scheduling functions should be tightly coupled with back end realizations to enable a fast and error free translation of plans to actions.



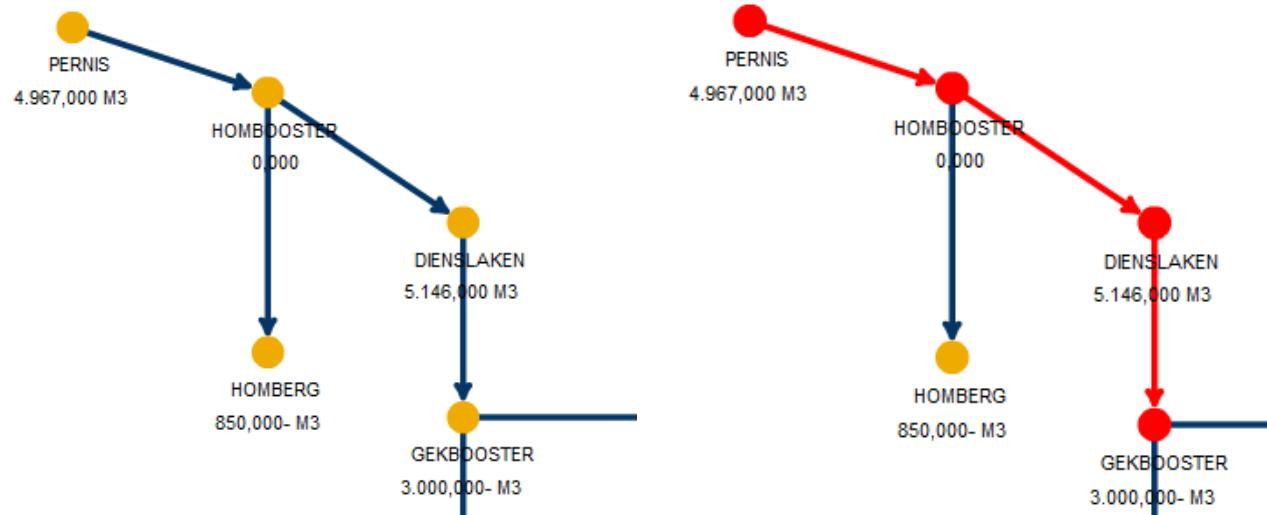
Pipeline Visualization Solution:

... Design and Implementation Tool



The Pipeline visualization tool designed and implemented by our service is a tailor-made "add-on" that takes the usability and comfort within the nomination process to a higher level

- Seamless integration in existing SAP for Oil & Gas solution
- The graphical display of transportation scheduling documents (nominations) in the pipeline network supports the scheduler with his daily work
- A range of functionalities including viewing pipeline batches, switching batches between nodes to achieve operational optimization, and validations and plausibility checks on operations based on capacities and physical constraints are delivered.
- Easier and faster hands-on experience for new colleagues



Design and Implementation Pipeline Visualization Tool – Approach and Deliverables



Approach/Activities

Define Scope and Responsibilities
On-site workshops ("As-Is analysis")
Analysis of nomination requirements
Adapt design template, model TSW master data concept
Set-up Adobe Flex Development environment



Results/Deliverables

Project Plan with defined scope
Design of prototype
Implementation result: Graphical visualization of the pipeline network and the nomination(s)
A flexible add-on which prepares and displays specific information on nomination/pipeline network basis
Advanced capabilities for working with pipeline batches is built as per business requirements.

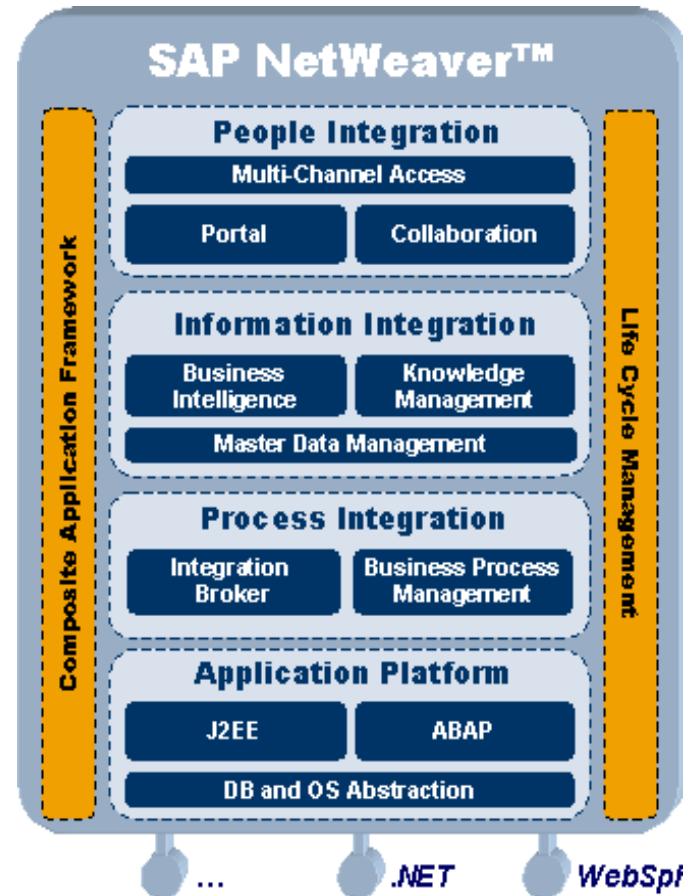
Architecture – components

SAP for Oil & Gas - Pipeline Visualization



The Pipeline Visualization is based on:

- SAP NetWeaver technology
- Data preparation in the SAP ERP Backend
- Elements of the graph theory (algorithms, data model)
- Processing in the SAP NetWeaver J2EE Engine
- Developed with the Adobe Flex development infrastructure



Architecture – components

SAP for Oil & Gas - Pipeline Visualization



SAP ERP 6.0

SAP NetWeaver2004s (J2EE 7.0)

SAP NetWeaver (2004s)

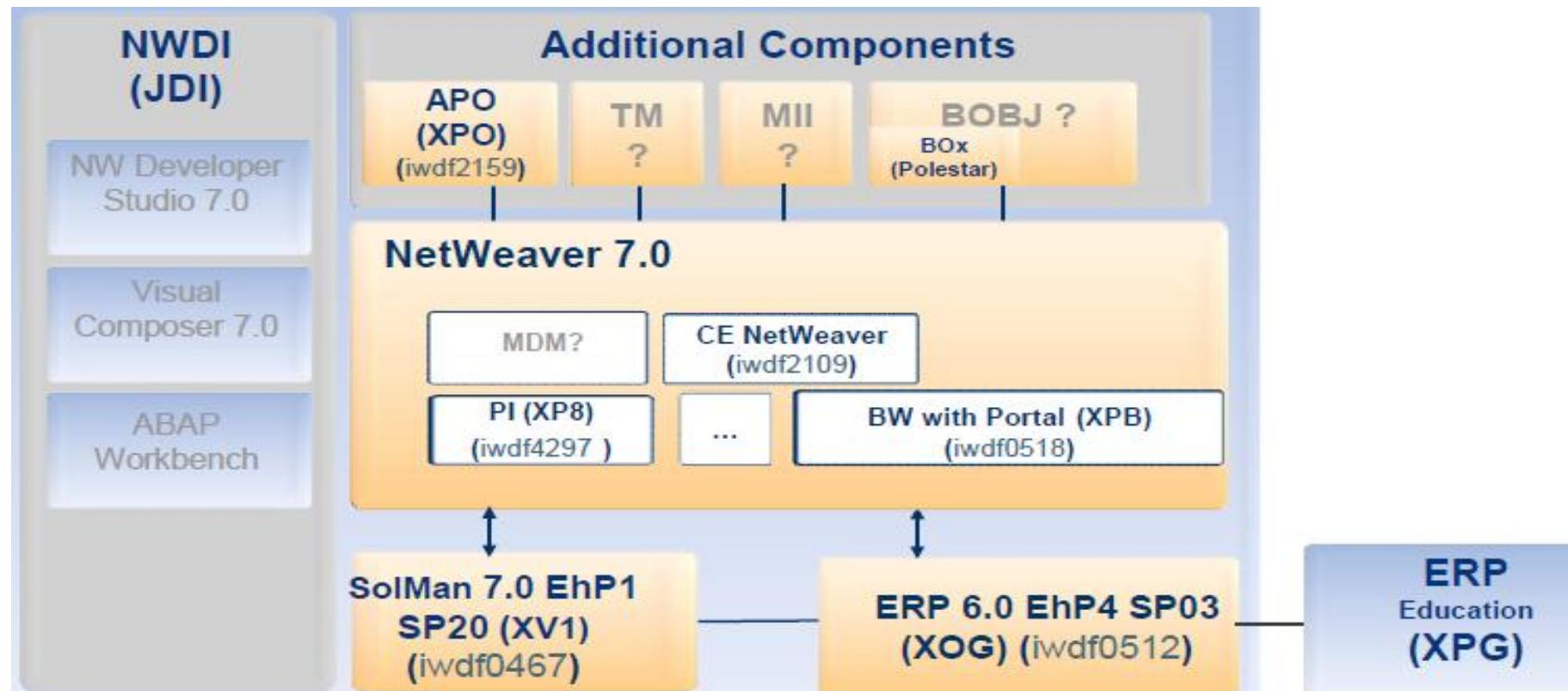
Functional Enhancements

Scalable Vector Graphics (SVG)

JSP (view)

EJB, Servlets (business logic)

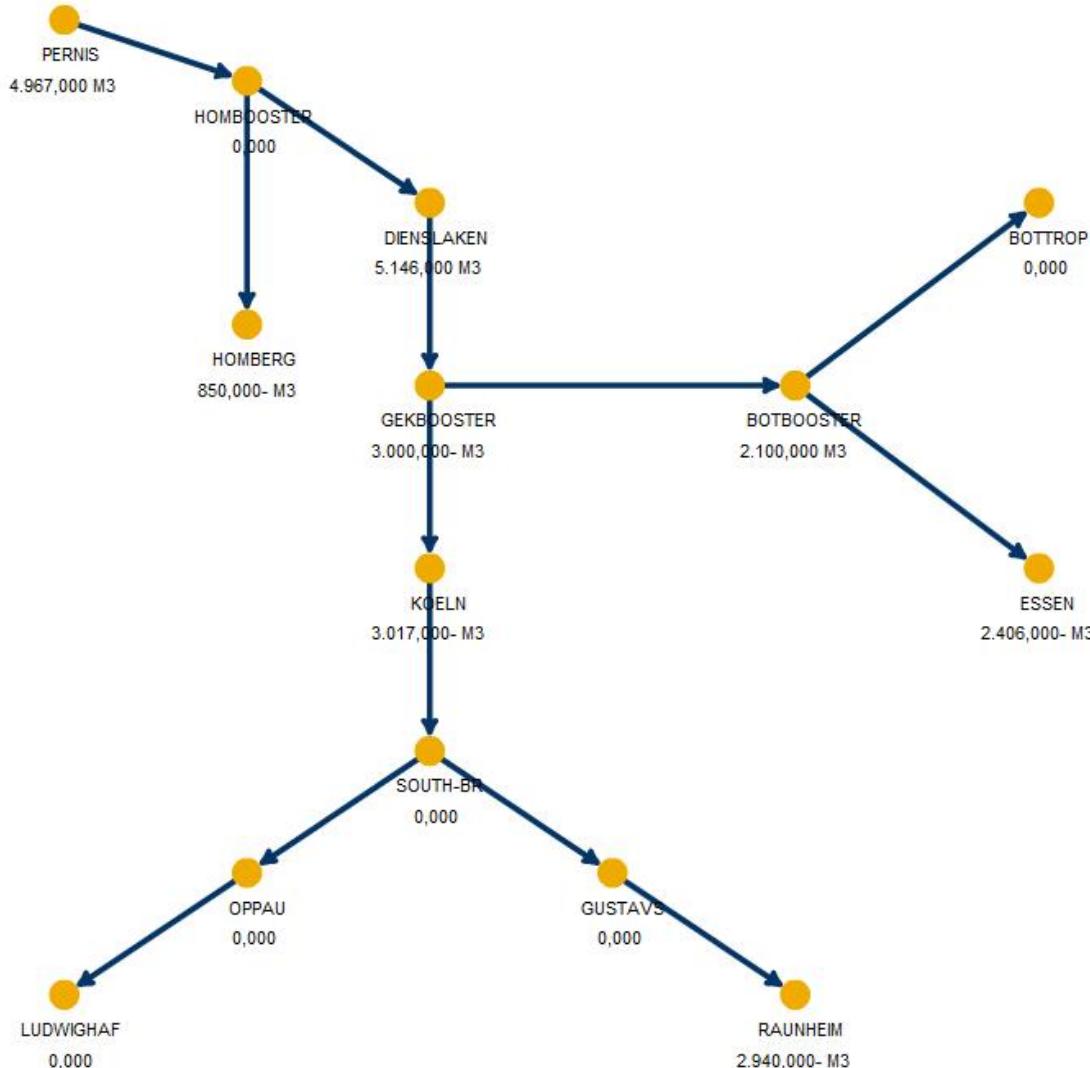
ABAP (function blocks, data model)



Example ...

How the network looks like

SAP for Oil & Gas - Pipeline Visualization



Graph control bar

Graph: RMR pipeline Germany

Properties

Key	Value
WERK	RMR

1. Select starting node:

2. Select nomination:

Key	Value

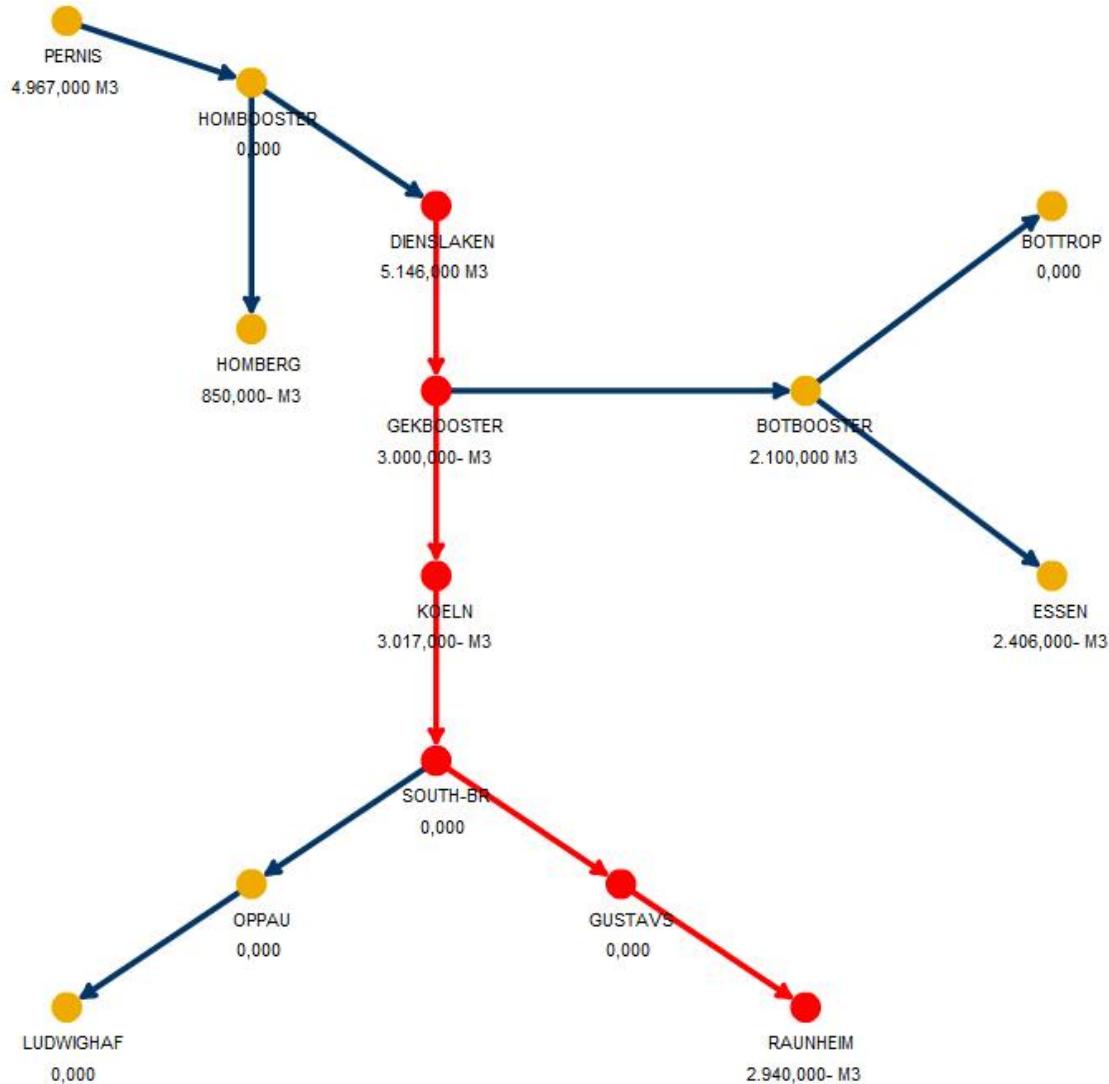
3. Select target node:

Assign Cancel

Example ...

Viewing nominations and paths

SAP for Oil & Gas - Pipeline Visualization



Graph control bar

Graph: 00000000000000006607

Properties

Key	Value

1. Select starting node: RAUNHEIM

2. Select nomination:

Key	Value
0000006609	05.03.2010 O 1.050,000 M3
0000006606	05.03.2010 D 2.100,000 M3
0000006607	06.03.2010 D 1.890,000 M3

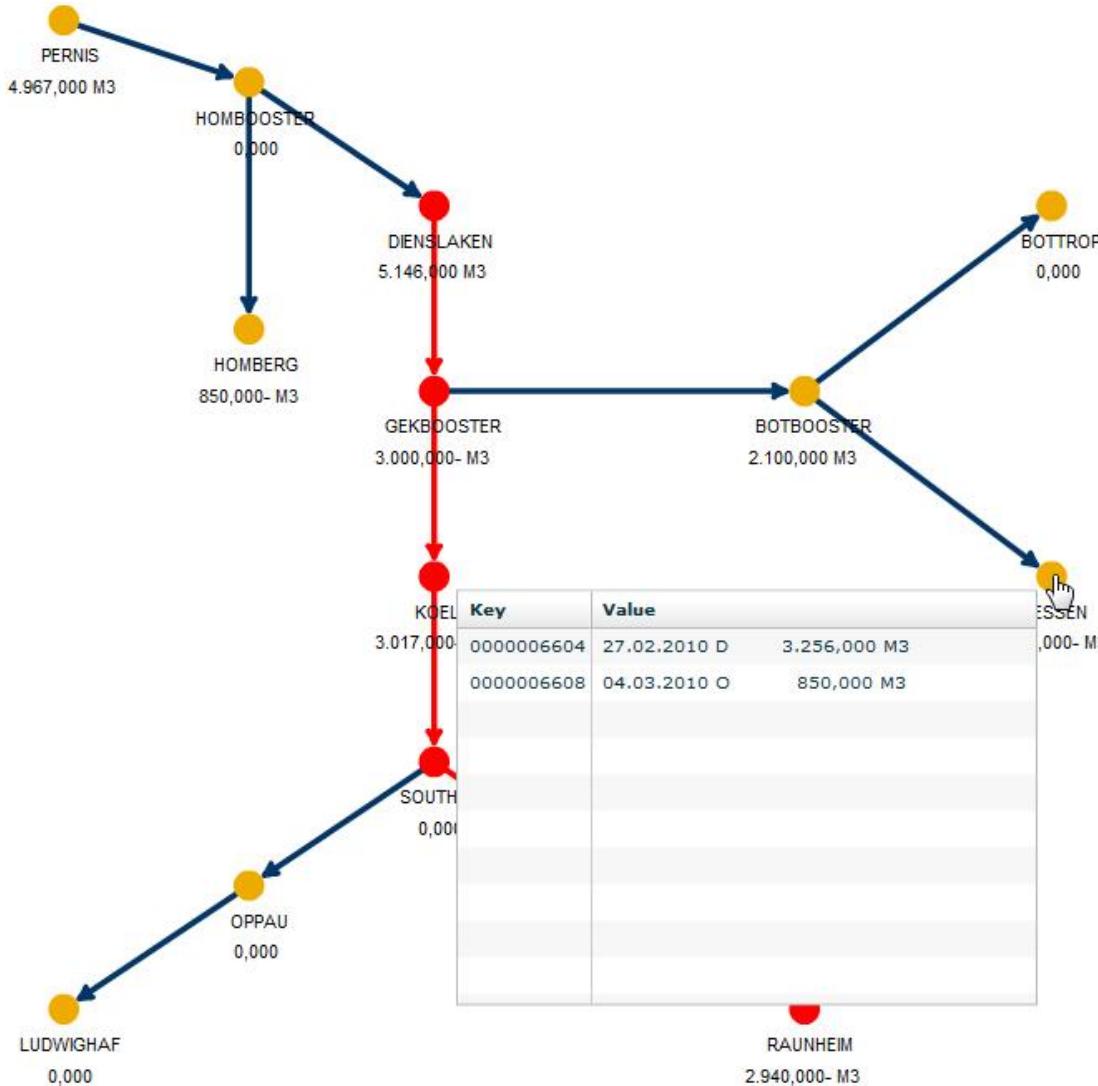
3. Select target node:

Assign **Cancel**

Example ...

Mouse overs and node switch selection

SAP for Oil & Gas - Pipeline Visualization



Graph control bar

Graph
000000000000000006607

Properties

Key	Value
-----	-------

1. Select starting node: RAUNHEIM

2. Select nomination:

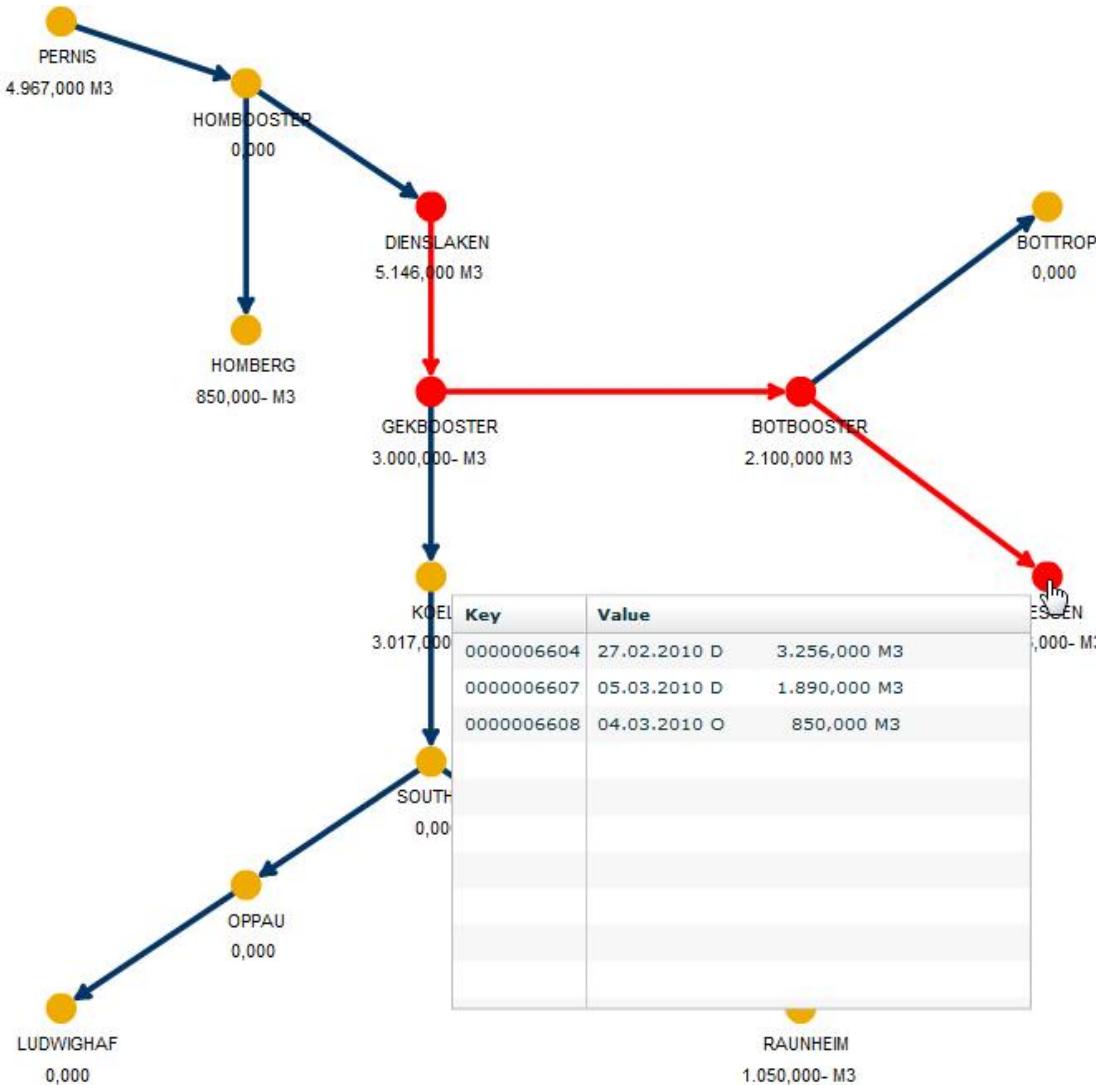
Key	Value
0000006609	05.03.2010 O 1.050,000 M3
0000006606	05.03.2010 D 2.100,000 M3
0000006607	06.03.2010 D 1.890,000 M3

3. Select target node: ESSEN

Assign **Cancel**

Example ... the switch after , and the new path

SAP for Oil & Gas - Pipeline Visualization



Graph control bar

Graph: 000000000000000000006607

Properties

Key	Value

1. Select starting node: ESSEN

2. Select nomination:

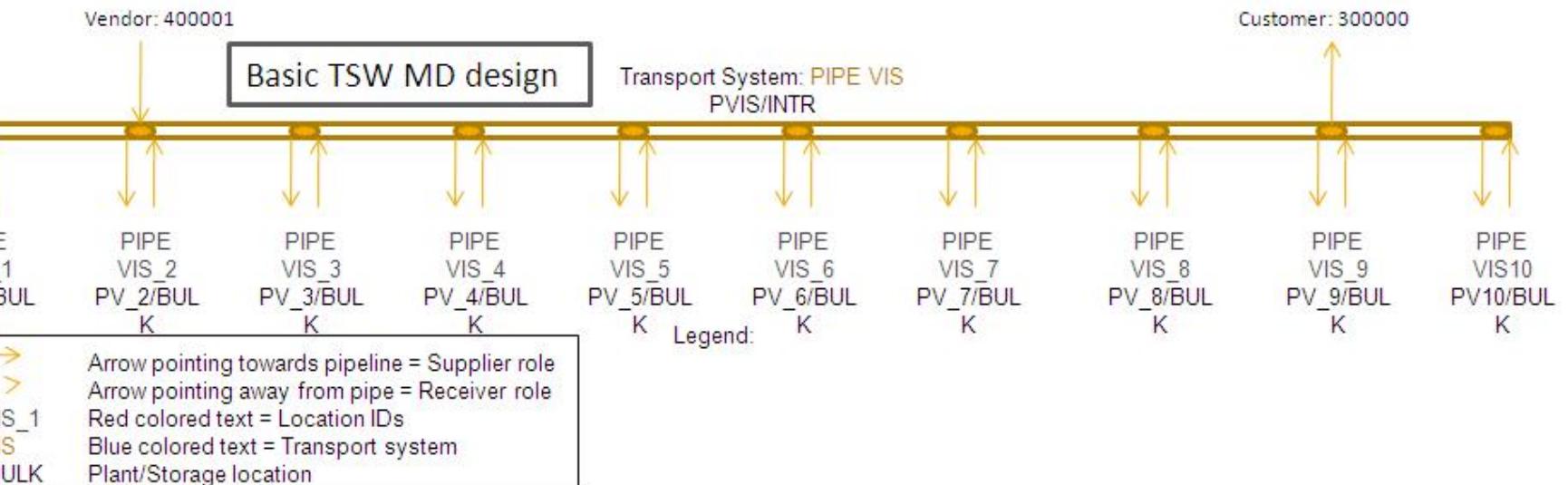
Key	Value
0000006604	27.02.2010 D 3.256,000 M3
0000006607	05.03.2010 D 1.890,000 M3
0000006608	04.03.2010 O 850,000 M3

3. Select target node:

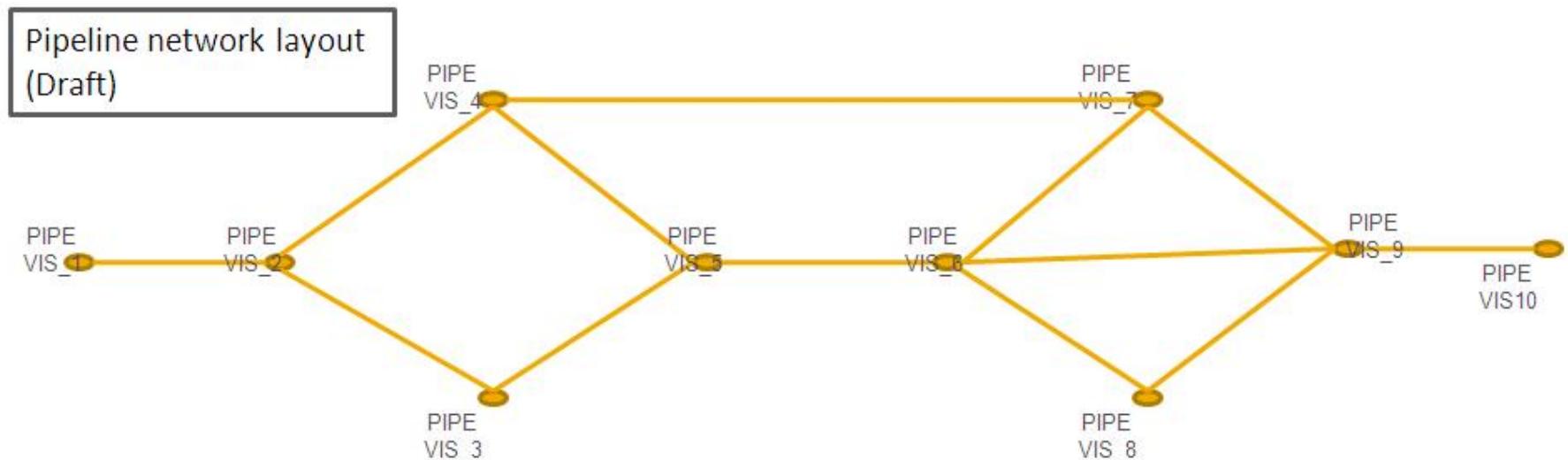
Assign **Cancel**

TSW MD definitions

.....pipeline network layout



Note: The pipeline above does not represent a real physical pipeline, but only a representation of TSW master data object, Transport System. The physical pipeline is represented in the picture below.

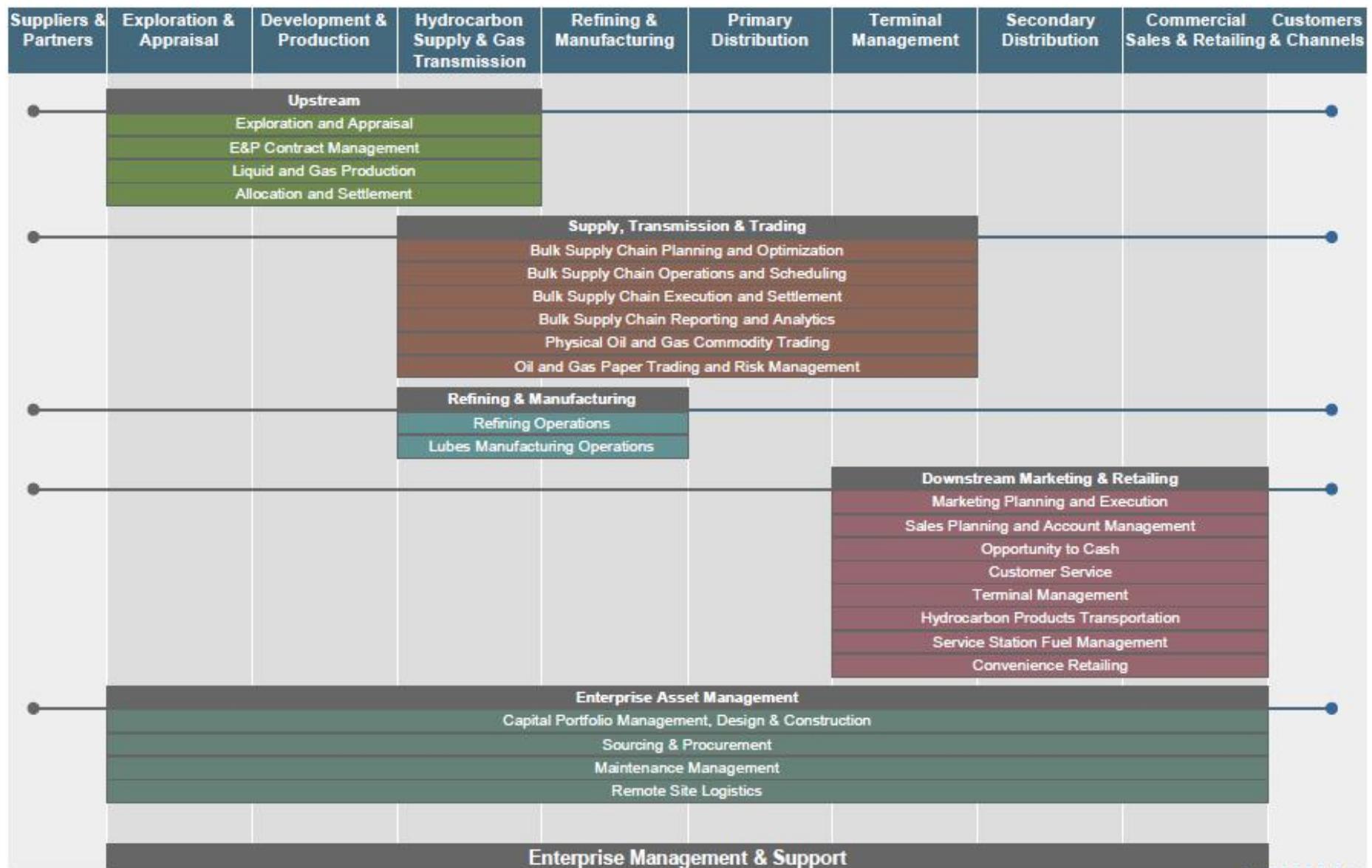




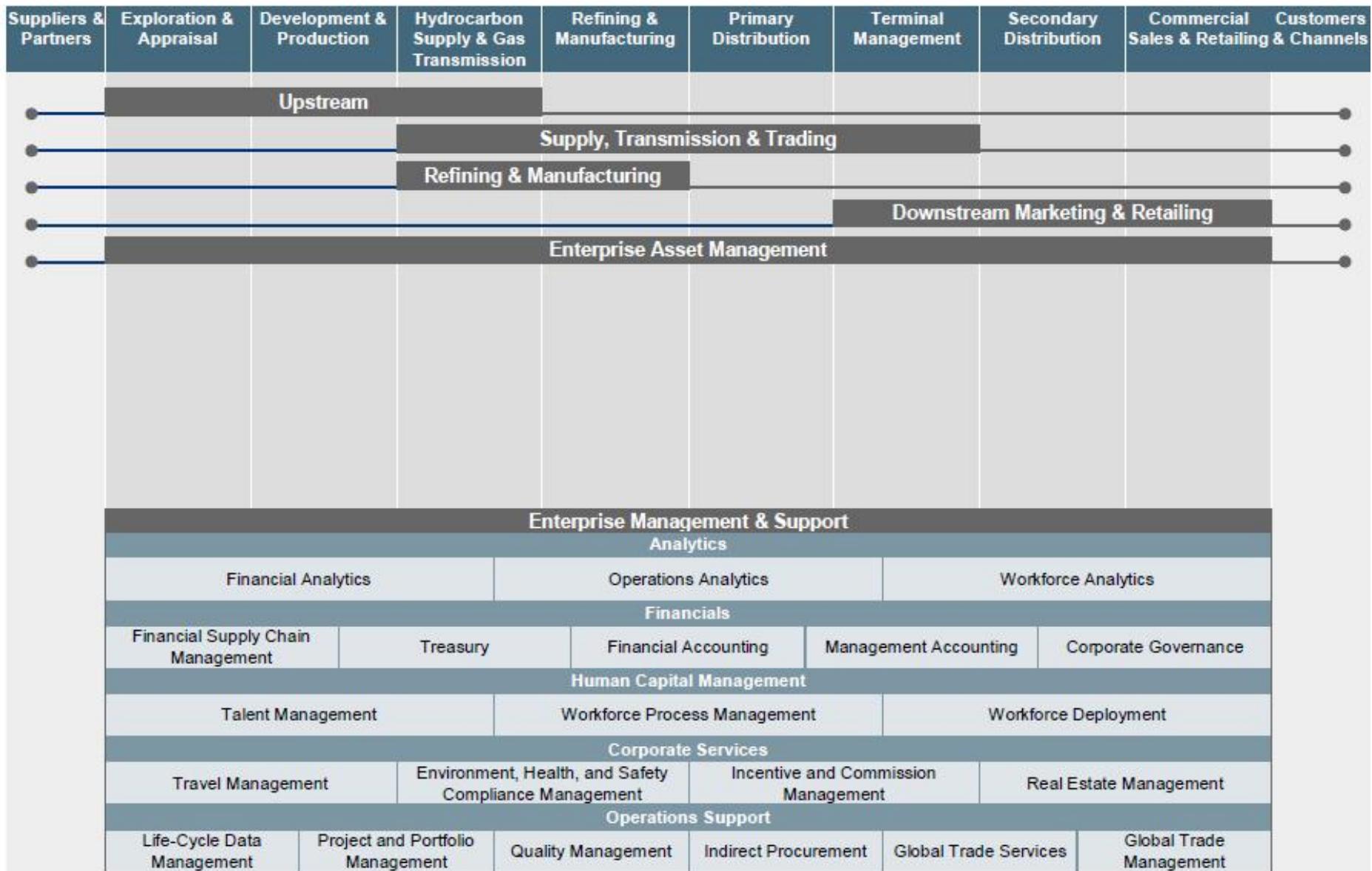
SAP SOLUTION MAPs !



OIL & GAS Industry Solution Maps



OIL & GAS Industry Solution Maps



OIL & GAS - UPSTREAM

Industry Solution Maps



Exploration and Appraisal	E&P Contract Management	Liquid and Gas Production	Allocation and Settlement
<ul style="list-style-type: none"> ● Portfolio and Risk Analysis (SAP S6,S28,S34,S38) ○ Identify Potential Exploration Targets ● Acquire Leases and Licenses (SAP S6 P P6) ● Surveying, Positioning & Evaluation ► Exploration and Appraisal Drilling for Boundary Determination (SAP S25) ● Build Reservoir Models 	<ul style="list-style-type: none"> ● JOA/PSC Strategic Planning (SAP S6,S30,S38) ● JOA/PSC Opportunity Analysis (SAP S38) ● JOA/PSC Development (SAP S6,S38) ● Venture Equity Trading (SAP S6,S38) ● Joint Venture Management (SAP S6,S38) ● PSC Management (SAP S6,S38) ● Third Party Drilling Contract Management (SAP S6) ● Third Party Drilling Contract Development (SAP S25) 	<ul style="list-style-type: none"> ● Well Mapping (SAP S39) ● Capacity Management (SAP S39 P3) ● Production Execution (SAP S29,S39 P3) ● Capture Field Data (SAP S29,S39 P3) ● Volume Determination (SAP S39 P3) ○ Monitor Reservoir Model ● Environmental Compliance Health and Safety (SAP S7) ● Emissions Management (SAP S5,S7) ○ Secondary and Tertiary Recovery ○ Depletion Planning ● Well Abandonment & Site Restoration (SAP S6,S7) 	<ul style="list-style-type: none"> ● Contractual Allocation (SAP S6,S39 P P3) ● Ownership Allocation (SAP S6,S39 P P3) ● Lease Fuel Valuation (SAP S39) ● Revenue Accounting (SAP S39) ► Gas Plant Accounting ● Regulatory Reporting (SAP S39) ● Reserves Accounting and Reporting

● SAP Product Available

► SAP Product Available with Future Releases

○ Future Focus

P Partner Product Available

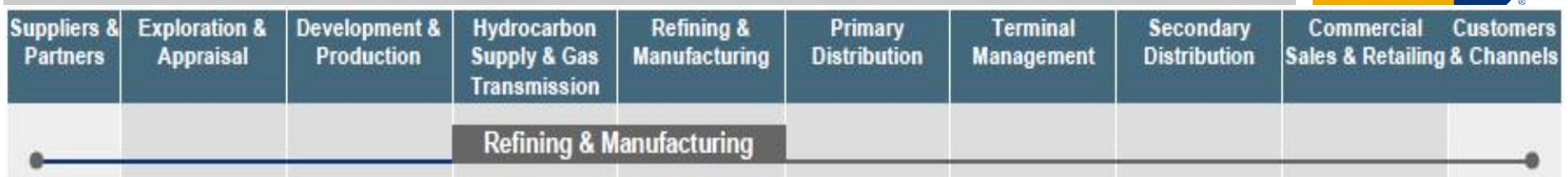
► Partner Product Available with Future Releases

OIL & GAS - Supply, Transmission & Trading Industry Solution Maps



Suppliers & Partners	Exploration & Appraisal	Development & Production	Hydrocarbon Supply & Gas Transmission	Refining & Manufacturing	Primary Distribution	Terminal Management	Secondary Distribution	Commercial Sales & Retailing & Channels	Customers
Supply, Transmission & Trading									
Bulk Supply Chain Planning and Optimization		Bulk Supply Chain Operations and Scheduling		Bulk Supply Chain Execution and Settlement		Bulk Supply Chain Reporting and Analytics		Physical Oil and Gas Commodity Trading	
Demand Planning & Forecasting (SAP S6, S37)		Bulk Marine Voyage Scheduling (SAP S37)		Custody Transfer Management (SAP S37 P4)		Bulk Movement Planned / Actual Analyses (SAP S6,S37)		Deal Capture Management (SAP S6 S37 P2)	Risk Assessment and Evaluation (SAP S6,S14 P2)
Supply Planning & Sourcing (SAP S6,S37)		Bulk Batched Pipeline Scheduling (SAP S37)		Inventory Update & Management (SAP S37 P4)		Bulk Movement Profit / Loss Analyses (SAP S6,S37 P2)		Trade Contract Management (SAP S6,S37 P2)	Deal Capture Management (paper) (SAP S6,S14 P2)
Trade Planning (SAP S6,S37)	P	Bulk Operational Inventory Management (SAP S37 P4)		Bulk Movement Invoicing & Settlement (SAP S37)		Planning Forecast & Actuals Analyses (SAP S6,S37)		Position Management (Long/Short, MtM etc) (SAP S6 P2)	Paper Contract Management (SAP S6,S14 P2)
Allocation Planning (SAP S6,S37)		Contract Operations Management (SAP S37)		Inventory Valuation Update & Management (SAP S37)		Exchange Balance Reporting (SAP S6,S37)		Portfolio & Strategy Mgmt (SAP S6 P2)	Portfolio & Strategy Management (SAP S6,S14 P2)
Exchanges & Terminalling Planning (SAP S6,S37)		Bulk Supply Chain Monitoring & Control (SAP S37)		Allocation Processing (SAP S37)		Inventory Analyses (SAP S6,S37)		Trading Commodity Pricing (SAP S6,S37 P2)	Treasury & Financial Management (SAP S6,S14)
Bulk Schedule / Program Planning (SAP S6,S37)		Export / Import Compliance Management (SAP S19,S20,S37)		Exchanges & Terminalling Execution and Settlement (SAP S37 P4)		Trading Analyses (SAP S6,S37 P2)		Contract Performance Analyses (SAP S6,S37)	
Inventory Planning (SAP S6,S37)		Bulk Schedule Management (SAP S37)		Hydrocarbon Quantity Conversion (SAP S37)		Transportation Performance Analyses (SAP S6,S37)		Transporation Performance Analyses (SAP S6,S37)	
Bulk Transportation Planning (SAP S6,S37)		Bulk Rail Scheduling (SAP S37)		Inventory Reconciliation (SAP S37 P4)	(continued...)	Bulk Supply Chain Tax Reporting (SAP S6,S37)		Bulk Supply Chain Tax Reporting (SAP S6,S37)	
Strategic Planning (SAP S6,S37 P2)		Bulk Continuous (non-Batched) Pipeline Scheduling (SAP S37)		(continued...)		Asset Utilization Analyses (SAP S6,S37)		Asset Utilization Analyses (SAP S6,S37)	
		Exchanges & Terminalling Operations Management (SAP S37)		Exchanges & Terminalling Reconciliation (SAP S37 P4)					
		Freight Management (SAP S37)							
		Allocation Management		Customs Execution Management (SAP					

OIL & GAS – Refining & Manufacturing Industry Solution Maps



Refining Operations

- Demand Planning ([SAP S6](#))
- Crude & Feedstock Inbound Processing ([SAP S6](#))
- ▶ Refinery Production Planning & Scheduling
- Refined Product Outbound Processing ([SAP S6](#))
- Semi-finished Products Blending ([SAP S6](#))
- Emissions Management ([SAP S5](#))
- P

Lubes Manufacturing Operations

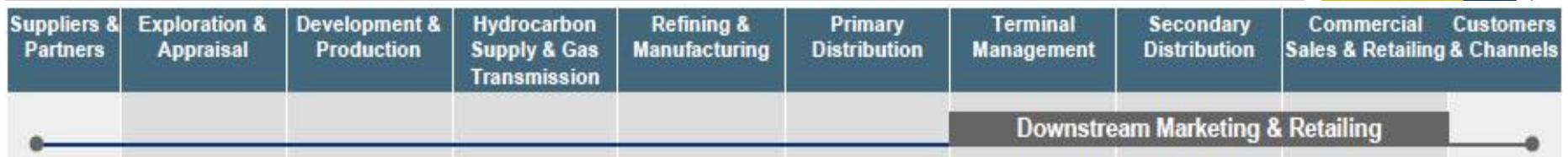
- Supply Plan & Sourcing ([SAP S16](#))
- Supply Chain Monitoring and Control ([SAP S16,S30](#))
- Inbound Processing for Base Oils and Additives ([SAP S6,S16](#))
- Lubes Production Planning ([SAP S6,S16](#))
- Lubes Production Scheduling ([SAP S6,S16](#))
- Lubes Blending & Packaging ([SAP S6,S16](#))
- Warehousing and Storage ([SAP S6,S16](#))
- Outbound Processing of Finished Products ([SAP S6,S16](#))
- Quality Assurance and Control ([SAP S6,S16](#))

OIL & GAS – Downstream Marketing & Retailing Industry Solution Maps



Marketing Planning and Execution	Sales Planning and Account Management	Opportunity to Cash	Customer Service	Terminal Management	Hydrocarbon Products Transportation	Service Station Fuel Management	Convenience Retailing
Customer Profitability Analysis (SAP S4,S6)	Sales Planning and Forecasting (SAP S4)	Activity Processing (SAP S4)	Customer Service Interaction Center (SAP S4)	Physical Stock Monitoring (SAP S4,S6 P4)	Bulk Transportation Planning (SAP S4,S36 P4)	Station Fuel Pricing (SAP S4 P5)	Category Planning and Analytics
Marketing Planning and Budgeting (SAP S4)	Sales Pipeline and Funnel Analysis (SAP S4)	Opportunity Processing (SAP S4)	Information Help Desk (SAP S4)	Physical Stock and Book Stock Reconciliation (SAP S4 P4)	Bulk Transportation Execution (SAP S4 S36 P4)	Fuel Book Stock Management (SAP S4)	Assortment Management
Campaign Planning and Execution (SAP S4)	Sales Performance Analysis (SAP S4)	Inquiry Processing (SAP S6,S36)	Live Web Collaboration (SAP S4)	Shared Depot Handling (SAP S4 P4)	Packaged Products Transportation Planning (SAP S6 S36 P4)	Fuel Tank Management and Inventory Reconciliation (SAP S4)	Physical Inventory
Customer Segmentation (SAP S4)	Account Processing (SAP S4)	Quotation Processing (SAP S4,S6)	Self-Service Support through FAQ and Solution Search (SAP S4)	Replenishment Planning (SAP S36 P4)	Packaged Products Transportation Execution (SAP S6)	Payment Card Settlement (SAP S4)	Store Replenishment
Surveying Customers with Interaction Center (SAP S4)	Activity Processing (SAP S4)	Contract Processing (SAP S4,S6,S33,S36)	Complaints Processing (SAP S4,S6)	Supplier Managed Inventory Processing (P4)	Freight Cost Handling (SAP S4,S6)	Station Dealer Settlement (SAP S4)	Supply Chain Visibility & Tracking
Campaign Monitoring and Analysis (SAP S4)	Account Analysis (SAP S4)	Sales Order Processing (SAP S4,S6,S36)	Complaints and Returns Analysis (SAP S4)	Hydrocarbon Quantity Conversion (SAP S4)	Bulk Shipment Reporting (SAP S4)		Retail Pricing
Lead Processing (SAP S4)	Analytics for Field Sales Force (SAP S4)	In- and Outbound Telesales (SAP S4,S36)	Service Performance Analysis (SAP S4)	Terminal Automation (SAP S4 P4)	(continued...)		Promotion Management
(continued...)		E-Commerce Sales Order Processing (SAP S4,S6)					Store Promotion Management

OIL & GAS – Downstream Marketing & Retailing Industry Solution Maps



- | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Lead Analysis (SAP S4) Analyzing local data with Mobile Client (SAP S4) | <ul style="list-style-type: none"> Delivery Processing (SAP S4,S6) Billing (SAP S4,S6) Opportunity Analysis (SAP S4) Contract Analysis (SAP S4) Sales Quotation and Order Analysis (SAP S4) Managing Catalog Content (SAP S4) | <ul style="list-style-type: none"> Fleet Management (SAP S6) Tour Planning (SAP S36) Data Collation (SAP S36) Export Control (SAP S19,S19) | <ul style="list-style-type: none"> Data Upload Category Planning & Analytics |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

OIL & GAS – Enterprise Asset Management Industry Solution Maps



Capital Portfolio Management, Design & Construction		Sourcing & Procurement		Maintenance Management		Remote Site Logistics	
● Capital Portfolio Management (SAP S6,S34)		● Requirement Processing (SAP S6,S17,S18)		● Technical Assets Management (SAP P S6,S40)		● Requirement Processing (SAP S6,S15)	
● Project Planning and Scoping (SAP S6)		● Source of Supply Management (SAP S6,S17,S18)		● Document Management (SAP S6)		● Processing Purchase Orders (SAP S6,S15)	
● Project Execution (SAP S6)		● Processing Purchase Orders (SAP S6,S17,S18)		● Preventive & Predictive Maintenance (SAP S6,S29)		● Service Entry (SAP S6,S15)	
● Document Management (SAP S6)		● Service Entry (SAP S6,S17)		● Quality Management (SAP S6)		● Outbound Processing from Base/Remote Locations (SAP S15)	
● Collaborative Specification & Design (SAP S6)		● Inbound Processing and Receipt Confirmation (SAP S6,S17)		● Reliability-Centred Maintenance (SAP P S6 ♦ P8)		● Inbound Processing at Base/Remote Locations (SAP S15)	
● Collaborative Construction (SAP P S6,S31,S40 ♦ P1)		● Invoicing (SAP S6,S17)		● Maintenance Cost Budgeting (SAP S6)		● Material Tracking (SAP S15)	
● Data Handover (SAP S6,S31,S40 P ♦ P1)		● Supplier Order Collaboration (SAP S6,S17,S18)		● Work Clearance Management (SAP S11)		● Returns Management (SAP S15)	
				● Shutdown/Turnaround Management (SAP P S6 ♦ P1)		Voyage Management and Information System (SAP S15)	
				● Inspection Management (SAP S6)			
				● Rotables Management (SAP S6)			
				● Mobile Asset Management (SAP S6)			
				● Planning, Scheduling and Dispatching (P (People/Tools) SAP S6 ♦ P1)			
				● Asset Transfer & Disposal (SAP S6)			
				● Analytics and Reporting (SAP S6,S30)			

OIL & GAS – Enterprise Management & Support Industry Solution Maps



Analytics

Financial Analytics	Operations Analytics	Workforce Analytics
<ul style="list-style-type: none">● Financial and Management Reporting (SAP S6)● Financial Planning, Budgeting and Forecasting (SAP S2,S6)● Profitability Analytics (SAP S2,S6)● Product and Service Cost Analytics (SAP S6)● Overhead Cost and ABC/M Analytics (SAP S2,S6)● Payment Behavior Analytics (SAP S6)● Legal and Management Consolidation (SAP S2,S6)● Balanced Scorecard (SAP S6)● Risk Management (SAP S6,S24)● Management Cockpit (SAP S6)P Corporate Investment Management (◆ P9)	<ul style="list-style-type: none">● Sales Planning (SAP S6)● Procurement Analytics (SAP S6)● Inventory and Warehouse Management Analytics (SAP S6)● Manufacturing Analytics (SAP S6)● Transportation Analytics (SAP S6)● Sales Analytics (SAP S6)● Customer Service Analytics (SAP S6)● Program and Project Management Analytics (SAP S6)● Quality Management Analytics (SAP S6)● Asset Analytics & Performance Optimization (SAP S6)	<ul style="list-style-type: none">● Workforce Planning (SAP S6)● Workforce Cost Planning & Simulation (SAP S6)● Workforce Benchmarking (SAP S6)● Workforce Process Analytics & Measurement (SAP S6)● Talent Management Analytics & Measurement (SAP S6)● Strategic Alignment (SAP S6)

OIL & GAS - Enterprise Management & Support Industry Solution Maps



Financials

Financial Supply Chain Management	Treasury	Financial Accounting	Management Accounting	Corporate Governance
● Electronic Bill Presentment and Payment (SAP S6,S8)	● Treasury and Risk Management (SAP S6,S12,S14)	● General Ledger (SAP S6)	● Profit Center Accounting (SAP S6)	● Audit Information System (SAP S6)
● Collections Management (SAP S6,S8)	● Cash and Liquidity Management (SAP S6,S12,S14,S30)	● Accounts Receivable (SAP S6)	● Cost Center and Internal Order Accounting (SAP S6)	● Management of Internal Controls (SAP S6,S23)
● Credit Management (SAP S6,S8)	● In-House Cash (SAP S6,S12,S13,S14)	● Accounts Payable (SAP S6)	● Project Accounting (SAP S6)	● Risk Management (SAP S6,S24)
● Dispute Management (SAP S6,S8)	● Bank Communication Management (SAP S6,S8,S14,S26)	● Contract Accounting	● Investment Management (SAP S6)	● Whistle Blower Complaints (SAP S6)
		● Fixed Assets Accounting (SAP S6)	● Product Cost Accounting (SAP S6)	● Segregation of Duties (SAP S22)
		● Bank Accounting (SAP S6)	● Profitability Accounting (SAP S6)	
		● Cash Journal Accounting (SAP S6)	● Transfer Pricing (SAP S6)	
		● Inventory Accounting (SAP S6)		
		● Tax Accounting (SAP S6)		
		● Accrual Accounting (SAP S6)		
		● Local Close (SAP S3,S6)		
		● Financial Statements (SAP S6)		

OIL & GAS - Enterprise Management & Support Industry Solution Maps



Human Capital Management

Talent Management	Workforce Process Management	Workforce Deployment
<ul style="list-style-type: none"> ● Recruiting (SAP S1,S6) ● Career Management (SAP S6) ● Succession Management (SAP S6) P Enterprise Learning (SAP S6) ● Employee Performance Management (SAP S6) ● Compensation Management (SAP S6) 	<ul style="list-style-type: none"> ● Employee Administration (SAP S6) ● Organizational Management (SAP S1,S6) ● Global Employment (SAP S6) ● Benefits Management (SAP S6) P Healthcare Cost Management (SAP S6 P3) ● Time and Attendance (SAP S1,S6) ● Payroll and Legal Reporting (SAP S6) ● HCM Processes & Forms (SAP S6,S27,S32) 	<ul style="list-style-type: none"> ● Project Resource Planning (SAP S6,S35,S41) ● Resource and Program Management (SAP S6,S34,S35,S41) ● Retail Scheduling (SAP S6,S35,S41)

Corporate Services

Travel Management	Environment, Health, and Safety Compliance Management	Incentive and Commission Management	Real Estate Management
<ul style="list-style-type: none"> ● Travel Request and Pre-trip approval (SAP S1,S6) ● Travel Planning - Online Booking (SAP S6) ● Travel and Expense Management (SAP S6) ● Global Travel Policy Compliance (SAP S6) ● Travel and Expense Analytics (SAP S6) 	<ul style="list-style-type: none"> ● Environment, Health & Safety (EH&S) (SAP S6,S7) ● Environmental Compliance (SAP S5,S6,S7) P Compliance for Products (SAP S6,S7) 	<ul style="list-style-type: none"> ● Incentive Business Configuration (SAP S6) ● Incentive Plan Maintenance (SAP S6) ● Incentive Processing (SAP S6) 	<ul style="list-style-type: none"> P Portfolio Management (SAP S6,S10) ● Commercial Real Estate Management (SAP S6,S10) ► Corporate Real Estate Management (SAP S6,S10) ● Facilities Management (SAP S6,S7,S9,S10) ● Support Processes (SAP S6,S8,S10,S14)

OIL & GAS - Enterprise Management & Support Industry Solution Maps



Operations Support

Life-Cycle Data Management	Project and Portfolio Management	Quality Management	Indirect Procurement	Global Trade Services	Global Trade Management
● Document Management (SAP S6)	● Project Planning (SAP S6,S34)	● Quality Engineering (SAP S6)	● Requisitioning (SAP S6)	● Export Management (SAP S19)	● Trading Contract Management (SAP S6)
● Product Structure Management (SAP S6)	● Resource and Time Management (SAP S6,S34)	● Quality Assurance / Control (SAP S6)	● Purchase Order Management (SAP S6)	● Import Management (SAP S20)	● Expense Management (SAP S6)
● Recipe Management (SAP S6)	● Project Execution (SAP S6)	● Quality Improvement (SAP S6)	● Receiving (SAP S6)	● Trade Preference Management (SAP S21)	● Trading Execution Management (SAP S6)
● Specification Management (SAP S6)	● Project Accounting (SAP S6,S34)	● Audit Management (SAP S6,S6)	● Financial Settlement (SAP S6)	● Restitution Management (SAP S20)	● Position Management (SAP S6)
● Change and Configuration Management (SAP S6)	● Prototyping and Ramp-Up (SAP S6)				● Risk Management (SAP S6)
	● Development Collaboration (SAP S6)				

O&G Applications –

UpGraded & Enhanced



Component	July 2009	September 2009	February 2010
SAP ERP	ERP 6.0 EhP3 SP03, 32 bit	ERP 6.0 EhP4 SP03, 64 bit	
APO	SCM 5.1	SCM 7.0	
NW	NetWeaver 7.0 32 bits CE 7.1		NetWeaver 7.2 64 bits CE 7.1 SP08
BW(BI) / Portal	v. 7.0 SP13, 32 bit	v. 7.0 EhP1 SP04, 64 bit	
PI	v. 7.0 SP06, 32 bit		v. 7.11 EhP1, 64 bit
CE iwdf2109	v. 7.1		v. 7.1 SP08, 64 bit
Sol Man			SolMan 7.0 EhP1 SP20
new			BOBJ MII 11.5 BOx (Polestar)

OIL & GAS – SAP Solution Ecosystem & Landscape



Key	Description
S1	DUET
S2	SAP Business Planning and Consolidation
S3	SAP Central Process Scheduling by Redwood
S4	SAP Downstream Marketing & Logistics for Oil & Gas
S5	SAP Environmental Compliance
S6	SAP ERP
S7	SAP ERP: Environment, Health and Safety
S8	SAP ERP: Financial Supply Chain Management - Biller Direct, Dispute, Credit and Collections Mgmt.
S9	SAP ERP: Sales/Service Order Processing
S10	SAP ERP: SAP Real Estate Management
S11	SAP ERP: SAP Work Clearance Management
S12	SAP ERP: Treasury - SAP Bank Communication Management
S13	SAP ERP: Treasury - SAP In-house Cash
S14	SAP ERP: Treasury - SAP Treasury and Risk Management
S15	SAP Extended Asset Logistics for Oil & Gas
S16	SAP Extended Manufacturing for Oil & Gas
S17	SAP Extended Procurement for Oil & Gas
S18	SAP Extended Sourcing for Oil & Gas
S19	SAP Global Trade Services - Export
S20	SAP Global Trade Services - Import
S21	SAP Global Trade Services - Trade Preference
S22	SAP GRC Access Control

OIL & GAS – SAP Solution Ecosystem & Landscape



Key	Description
S23	SAP GRC Process Control
S24	SAP GRC Risk Management
S25	SAP Integrated Exploration and Production (SAP IEP)
S26	SAP Integration Package for SWIFT
S27	SAP Interactive Forms by Adobe
S28	SAP Knowledge Warehouse
S29	SAP Manufacturing Integration and Intelligence (SAP MII)
S30	SAP NetWeaver
S31	SAP NetWeaver Master Data Management
S32	SAP NetWeaver Records Management
S33	SAP Price and Margin Management by Vendavo
S34	SAP Resource and Portfolio Management (SAP RPM)
S35	SAP Resource Management for Professional Services
S36	SAP Secondary Distribution for Oil & Gas
S37	SAP Supply Chain Management for Oil & Gas
S38	SAP Upstream Contracts Management for Oil & Gas
S39	SAP Upstream Production Management for Oil & Gas
S40	SAP Visual Information for Plants by NRX (SAP VIP)
S41	SAP Workforce Management for Retail and Wholesale Distribution

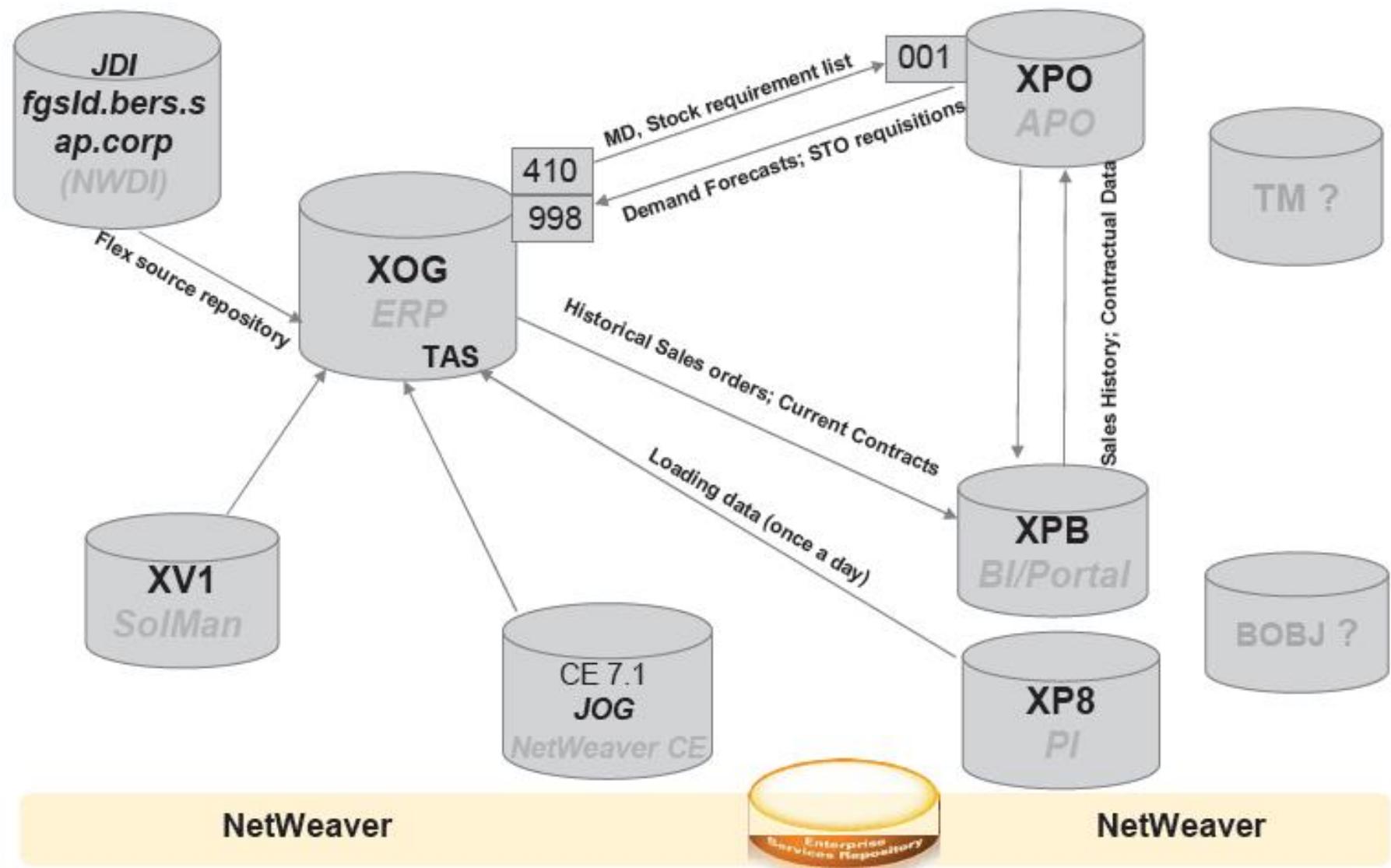
SAP Partner Products Powered by SAP NetWeaver

Key	Description
P1	External Scheduling
P2	LogicNet Plus by Logic Tools
P3	Prodis PbNW by LogicaCMG (for gas production)

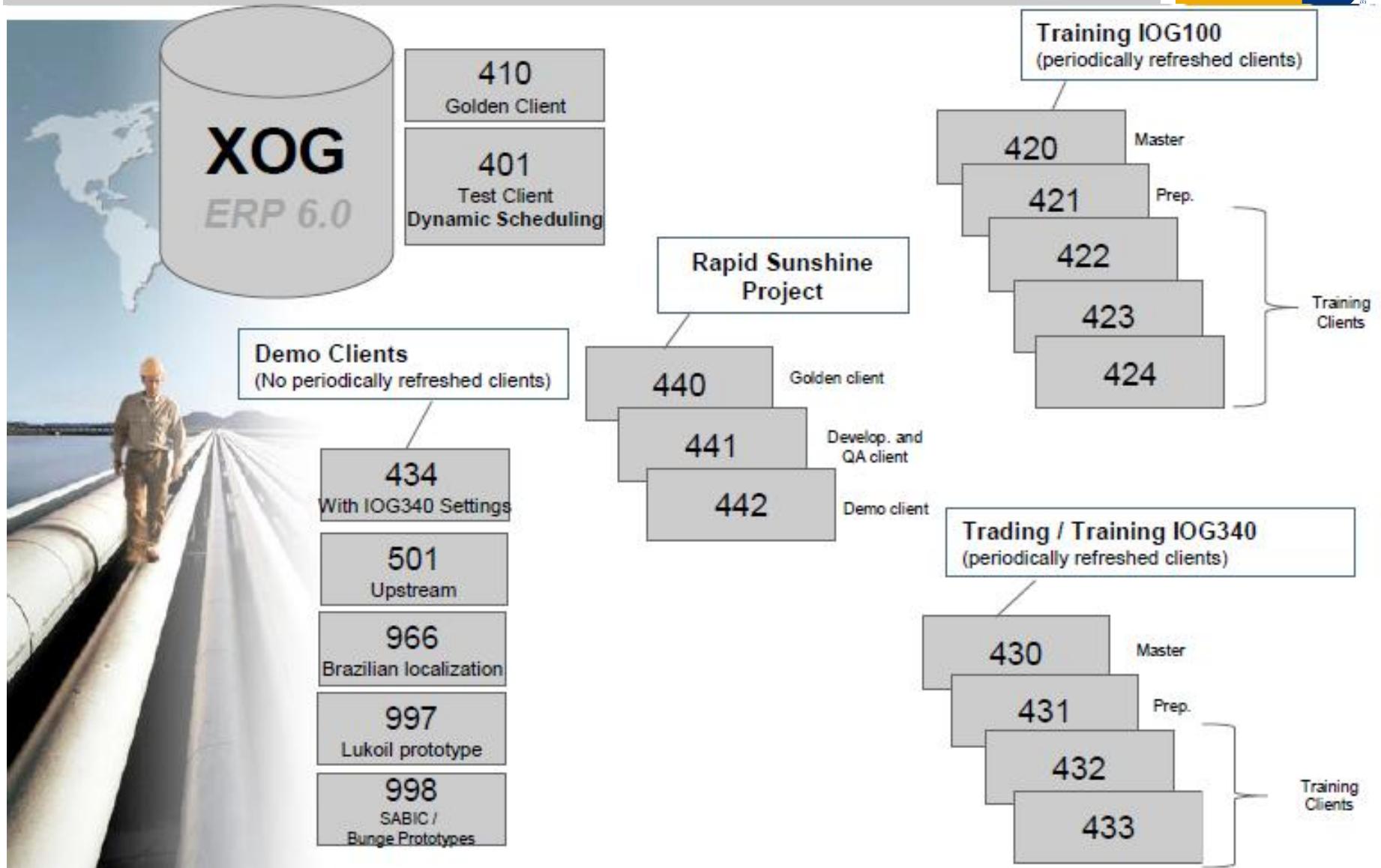
SAP Endorsed Business Solutions

Key	Description
P1	AssetHub 4.5 by NRX
P2	Commodity SL 5.6 by Triple Point Technology
P3	Health Benefits Management for ERP v.2.0 by VitalSpring
P4	OpenTas 4.0 by Implico
P5	PriceNet 4.5 by KSS
P6	Quorum Land System 5.0 by Quorum
P7	Rackprice 1.1 by KSS
P8	RCMO - Reliability Centered Maintenance and Optimization for SAP Service and Asset Management by Meridium
P9	zetControl Corporate Investment Management (CIM) 1.5. by zetVisions

Architecture - System landscape ...Communication Structure



Architecture - System landscape ... ERP Client Strategy



SAP BTS Value Discovery Offer

Help You Identify and Prioritize Quick Wins

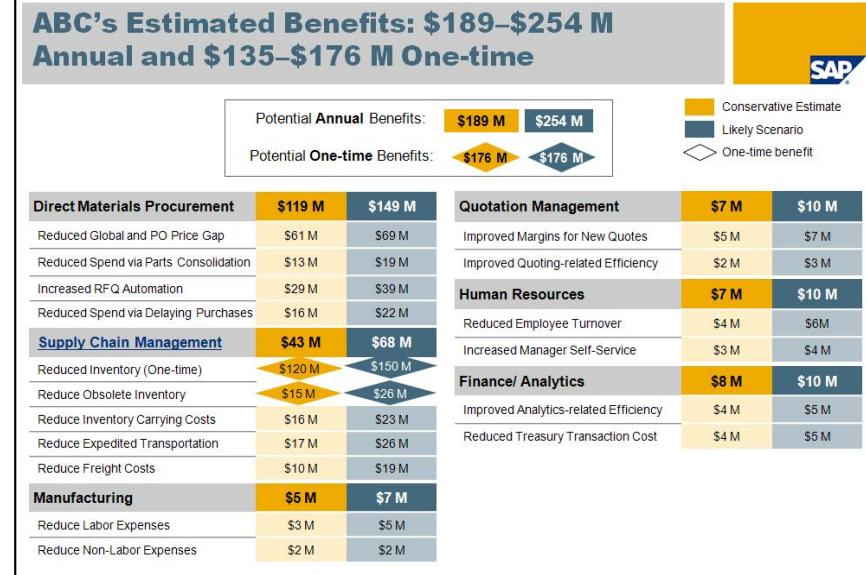


Extensive Repository of Benchmarks and Best Practice based on 2000+ customer engagements

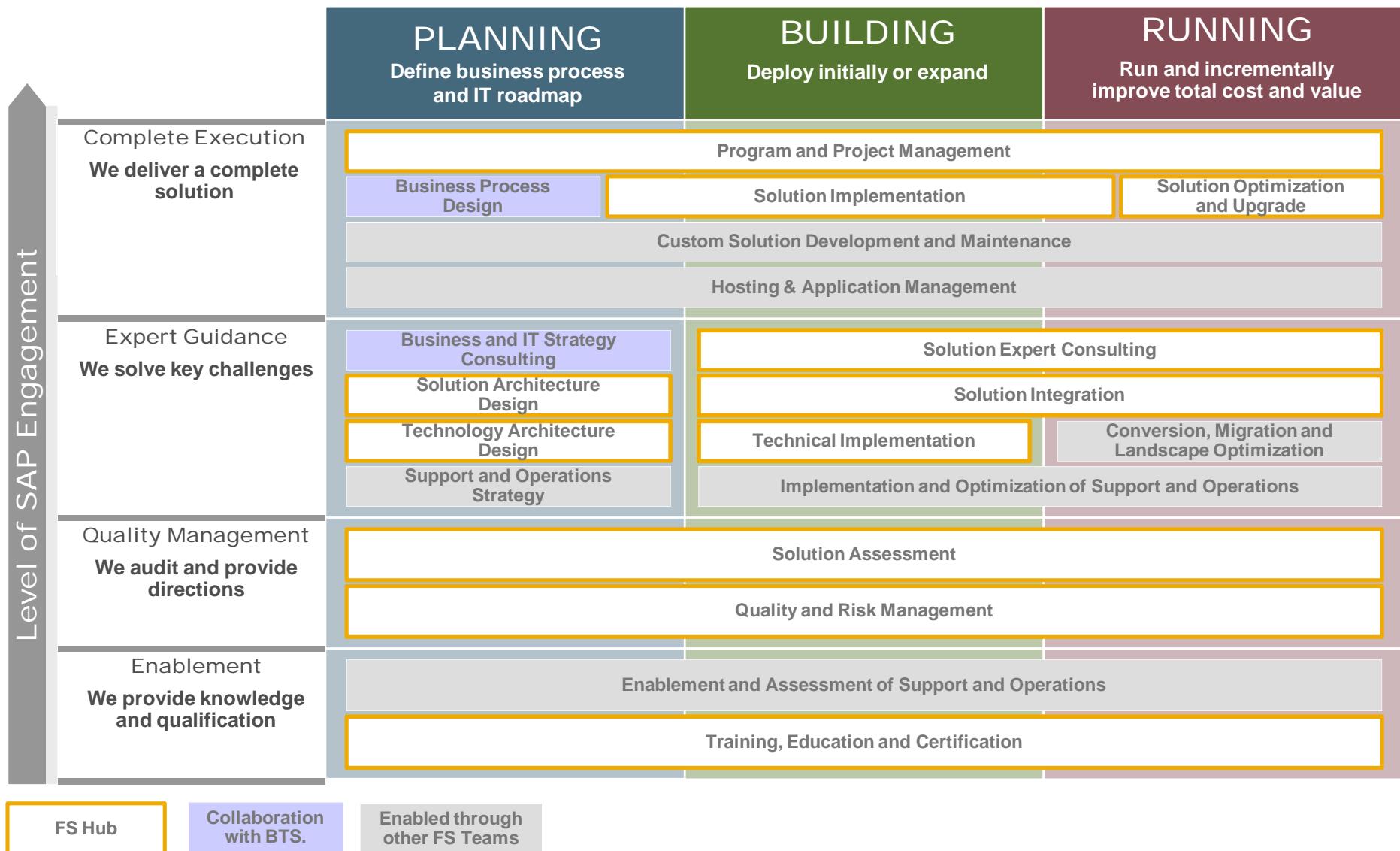
Rapid & Efficient Business Processes Health Check



Collaborative Prioritization of Quick Wins



Oil & Gas Service Portfolio



OGMPM Portfolio

Innovation Areas

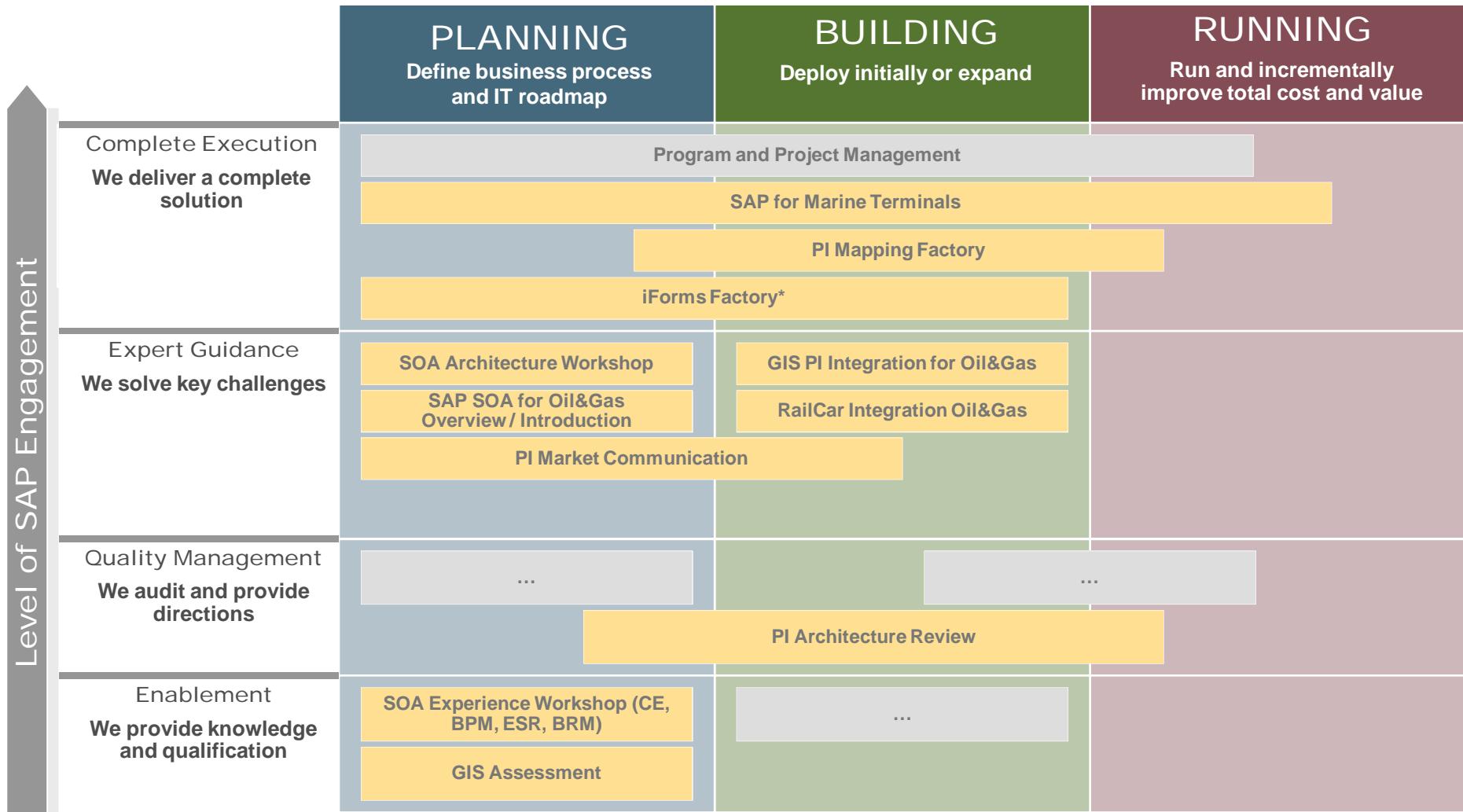


Services

- Implementation for SAP Trader's and Scheduler's Workbench (TSW)
- Prototyping Service for SAP Trader's and Scheduler's Workbench
- Design & Implementation Service for a Scheduling cockpit
- Design and Implementation Service for a Pipeline Visualization Tool
- Design and Implementation Service for Upstream Accounting
- Implementation Service for SAP for Oil & Gas (IS Oil Downstream, includes BBP and IS-Oil modules, e.g. QCI)
- Implementation Service for Oil Terminal Automation
- Industry Analytics (BI) for O&G
- Industry specific training delivery (customer workshops)
- Expert consulting / Implementation Services for Secondary Distribution (OGSD)/ (Ramp-up 6.1)
- Implementation service for Best Practices for Mining

Innovation Areas / Service Potential

- Industry Value Packs & Value accelerators for Oil & Gas - using SBO tools (2010+) (joint efforts with IBU and SBO Hub)
- Design and Implementation SAP for Marine Terminals (2010+)
- Design & Implementation Service for Gas Operations (2011+)
- Utilization of APO Optimization capabilities for Upstream (Production) & Downstream (Transport networks) – POC, Design, & Implementation Service (2010+)
- Design and Implementation Service for *Operational Performance Management for Upstream* incl. RPM, MII, MDM et. al. (2010+)
- Design and Implementation Service for *Refinery Performance Management* (2011+)
- GeoTracking / GIS visualization - Visualization around SCM and SCEM (joint efforts with IBU, CD, SCM Solution management)
- Functional integration service for Commodity Trading & Risk Management



Thank you !



Q E D : Volume-1

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Agenda



Energy Industry Highlights – & Value Drivers

 Oil & Gas - Best Business Practices

Best Business Practice – Baseline Scenarios