

Below the surface

Capgemini's Upstream Capabilities

Today's Challenges

In the past two years oil prices have fluctuated between extreme highs and depressing lows and the rules of engagement for the oil industry have changed beyond recognition. Oil companies face a level of **volatility** that few could have anticipated a couple of years ago and it is increasingly difficult for oil companies to formulate a consistent and sustainable business strategy.

The industry is facing other significant challenges:

- **Maturing assets and high production costs**

- **Integrity management**
- **Blurring corporate and functional boundaries**
- **Stricter regulations**
- **Supply-demand imbalance**
- **Complex and remote environments**
- **Demographic crunch**
- **Reserves replacement**
- **Process control system vulnerability**
- **Real-time collaborative work environments**



Capgemini's approach

Capgemini has a global presence in the Oil & Gas industry, providing consulting, technology and outsourcing services to over 200 clients in more than 30 countries. Our services are supported by our Oil & Gas centre of excellence (CoE) – a worldwide pool of industry experts that form a global knowledge base. Our way of working is based on a collaborative business environment that includes:

- **Innovative** use of business accelerators, technology and forward-thinking methods to rapidly resolve complex business challenges.
- Research and analysis on industry trends resulting in thought leadership that provides **key market insights**. Capgemini maintains a global internal network and the CoE has conducted benchmarking studies¹ since 1992. Our **benchmarks** cover the entire value chain and result in improvement opportunities for our clients. Active participation with industry organisations ensures that we remain on the cutting edge of industry solutions.
- **A global ecosystem** that links our industry experts to regional resources who are specialists in areas such as supply chain, financial performance, information architecture, and data management. We collaborate with our Oil & Gas clients (from operators through to service companies) to focus on **operational excellence** activities. Our vendor partnerships are based on strategic global solutions as well as carefully selected Oil & Gas portfolio partners.
- In addition to global CoEs, we enhance our capabilities through national CoEs, such as the **EPiCentre**² (Exploration and Production Industry Competence). Established formally in 2007, this initiative mobilizes and leverages the unique experience, industry competence and capabilities acquired from 30 years close cooperation with key operators and services companies on the Norwegian Continental Shelf.

With the backdrop of constant change and continual focus on value drivers, we focus on leveraging technology to optimize operational excellence. Capgemini's *TechnoVision 2012 For Upstream Oil & Gas*³ represents our thought leadership framework of how a joint business and technology vision can guide the enterprise to material competitive advantage.

Capgemini's Oil & Gas locations include major oil & gas centres: Houston, Calgary, Beijing, Utrecht, Stavanger and London (c.f. figure 1).

Capgemini's Services

Capgemini helps organisations to respond to today's challenges via practical propositions that use operational, business and technology approaches. Our approach is always highly collaborative, and in many assignments we transfer the relevant skills and tools to client staff so that they can be re-used on subsequent projects.

Operational performance improvement

Oil & Gas companies are under continuous pressure to operate optimally and safely, a challenge that is magnified at times of high oil prices. Whether a company is looking at driving costs out of operations, adopting new ways of working, improving existing business processes and equipment uptimes, or utilising new

tools and applications, there are always opportunities to streamline performance. Capgemini has worked across the spectrum of Oil & Gas organisations, from operators through to suppliers, to deliver tangible improvements in operational performance.

Asset lifecycle management

If they are to increase efficiency and reduce costs, companies need to harmonise short-term scheduling and long-term planning into a truly integrated planning approach. By prioritising and aligning activities across functions, they can focus on achieving the right balance of work rather than just the right sequence of activities. Organisations can also develop a more robust long-term view of their activities, with business outcomes and risk mitigation clearly linked to the portfolio of work. Capgemini's approach helps companies address data, systems and people aspects in order to achieve integrated planning goals.

Supply chain optimisation

An important aspect of improving operational performance is optimisation of the supply chain. Capgemini has a comprehensive set of tools and approaches that have assisted Oil & Gas clients across a wide spectrum of projects. For example, we can help define new business strategies and models that lower operational costs. We can improve the effectiveness of capital

Figure 1: Capgemini is present in all major oil and gas centres



1 Read more about Capgemini's benchmarking studies in the flyer: [Energy Industry – Comparative Performance Benchmarking](#).

2 Find out more about Capgemini's [Epicentre](#).

3 ©2009, Read more about our TechnoVision approach in the Point of View: [TechnoVision 2012 For Upstream Oil and Gas](#).

programmes and projects. We can increase business flexibility and agility, perhaps by implementing Lean processes. We also help organisations to understand how their value chains will evolve as they move away from basing their activities on products and assets, and start to become integrated service- and solutions-based businesses.

Integrated operations services

Integrated Operations (IO)⁴ is about creating value by bringing together the organisation's people, process, and technology to deliver and act on frequently-captured data in real time. IO improves production, drives recovery, reduces cost, and optimises work processes and hence productivity. IO is now a well-established approach for large operators, but we are also finding it highly relevant to the problems of the new breed of leaner operators that are emerging in mature basins such as the North Sea. Oil Field Service companies, too, are expected to bring IO concepts, support models and capabilities to partnerships.

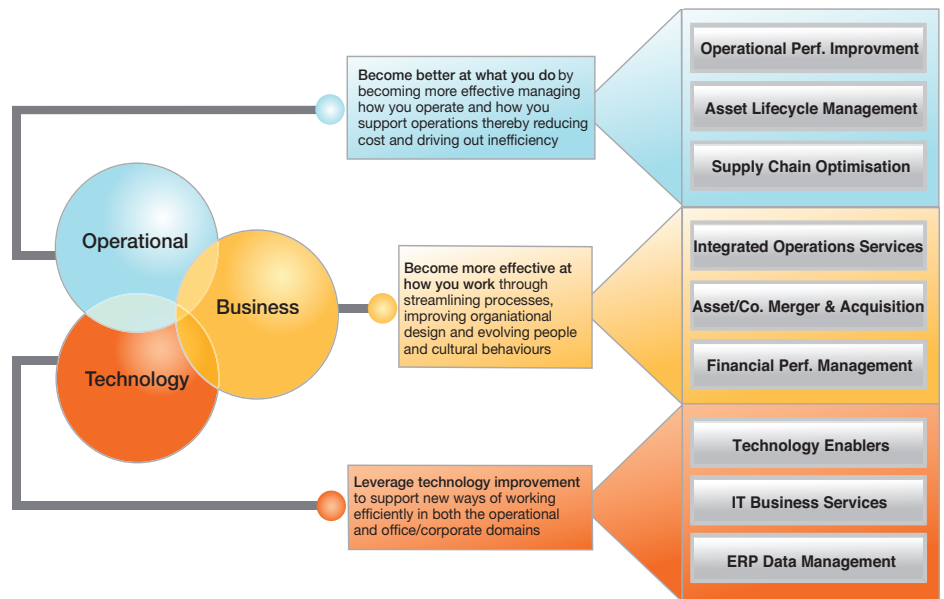
Asset/company merger and acquisition

The Oil & Gas sector has seen significant business growth and consolidation through the merger and acquisition of companies and assets. However, it is significant that only a few companies have successfully realised the benefits anticipated from post merger integration. Being able to reconcile anticipated versus actual value is important, and Capgemini has extensive experience assisting organisations to achieve this goal.

Financial performance management

Oil Field Service companies and other suppliers are often troubled by credit management issues with their customers. Capgemini has an established methodology that looks at the end-to-end process for credit management, achieving material benefits through process improvement, independent of any IT systems and technology changes. Our 'Month in the Life Of' cycle approach is used to build

Figure 2: Capgemini's Propositions for Upstream Oil & Gas



the capability and skills to drive the right activities at the right time, directing effort where it is needed to actively manage credit.

Technology enablers

Technology is often central to unlocking value and improving performance. Capgemini has partnered with a number of operators to deliver innovative solutions ranging from disconnected mobility solutions for Field Services, mobile computing devices for operator rounds, RFID for asset tracking and agent technologies for intelligent operations systems. In addition to developing these technologies we have provided the technical implementation and business change management required to deploy and sustain them successfully.

A new solution concerns *Virtual Collaborative Environments (VCEs)*⁵: VCEs are realistic, immersive 3D spaces where people interact with the environment and each other in real-time, irrespective of their physical location. The oil industry can benefit from exploiting both the technology and people comfortable in these environments. This will help companies to achieve remote asset management.

I.T. Business services

The Information Technology function is often regarded as a business-critical part of an organisation, but one that does not add value. However, in the world of real-time (or right-time) data and business intelligence, IT's role is shifting from operations support and assurance to value creation and true business partnership. Capgemini holds a knowledge base of trends and leading practices, built up through benchmarking and CIO surveys, plus more than 15 years' experience working with many of the world's leading Oil & Gas companies, from supermajors to leading independents. We help organisations set and implement their IT business services agendas through a variety of approaches, both bespoke and universal.



⁴ Read more about Integrated Operations in Capgemini's Points of View: [10 Security Principles for Integrated Operations](#) and [Integrated Operations – Generation 2 and Beyond \(IO@anywhere\)](#).

⁵ Read more about VCE in our Point of View

Exploration and production (E&P) data management

Data management is a perennial headache for E&P companies, especially with today's flood of real-time data and wide choice of applications. Capgemini has a strong track record assisting E&P companies with data management strategies and architectures, and resolving the associated processes and change management issues. We have been engaged by international companies to provide support for the implementation of E&P data management applications. Our E&P IT Centre of Excellence based in Stavanger offers application development and support across the Oil & Gas value chain.⁶

Capgemini's references

Capgemini's experience in the upstream business covers the operational, business and technology approach throughout the globe, as illustrated by the following sample of references.

A supermajor's integrated operations programme

Capgemini helped a supermajor to implement an IO programme in one of its flagship operating units, improving operational efficiency across all its assets. A Collaborative Environment (CE) acts as a hub for real-time support and monitoring of wells and equipment, production optimisation and always-on audio visual connectivity between office and asset. This supermajor has recorded significant operational improvements, notably the ability to recover from an unplanned shutdown a day faster than before the introduction of IO.

Exploration and production data management for Petrom

Capgemini enabled Petrom to confirm that Schlumberger's software products met its requirements for data management and retrieval of upstream data types like seismic, logs, well header, deviations and production volumes. In collaboration with Schlumberger, we then installed and tested these products, migrating data from legacy systems and providing training workshops for data managers.

Capgemini also developed an approach for introducing a Master Data Store, ensuring that any interruptions to daily business during the transformation period would be kept to a minimum.

Operational performance improvement for StatoilHydro

StatoilHydro faced the challenge of improving cost efficiency and extending the economical field life of two oil fields – Statfjord and Gullfaks – which produce almost 50 percent of the company's crude oil volumes. Together Capgemini and StatoilHydro developed a large-scale transformation programme that has helped create sustainable, tangible improvements in the operations of the two fields. StatoilHydro has realised benefits in the form of

improved efficiencies, reduced costs, increased oil production, and energy savings resulting in both cost reduction and environmental improvements.

Shell's I.T. Business services

Working with the Shell Group CIO Office, Capgemini has helped to define a single IT Delivery Model and to develop the roadmap to top quartile performance. The Delivery Model scope covers every aspect of IT within Shell, from strategic activities such as Portfolio Management, Supplier Relationship Management and Innovation, through to operational activities such as Application and Infrastructure Support. The project has allowed Shell to establish a collaborative, outcome based culture of functional improvement.



About Capgemini and the Collaborative Business Experience®

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working – the Collaborative Business Experience™ - and through a global delivery model called Rightshore®, which aims to offer the right resources in the right location at competitive cost. Present in over 30 countries, Capgemini reported 2008 global revenues of EUR 8.7 billion and employs over 90,000 people worldwide.

With 1.2 billion euros revenue in 2008 and 12,000+ dedicated consultants engaged in Energy, Utilities and Chemicals projects across Europe, North America and Asia Pacific, Capgemini's Energy, Utilities & Chemicals Global Sector serves the business consulting and information technology needs of many of the world's largest players of this industry.

More information about our services, offices and research is available at www.capgemini.com/energy

For further information, please contact:

Pat Quinlan
Global Lead Oil & Gas Centre of Excellence
pat.quinlan@capgemini.com

Ian Moore
Oil&Gas Centre of Excellence - Europe
ian.moore@capgemini.com

David Knox
Oil&Gas Centre of Excellence – North America
david.a.knox@capgemini.com

⁶ Read more about E&P content management in the digital oilfield.