



Your Supply Chain – make it the vital link to production

Your Supply Chain – make it the vital link to production

Optimising your supply chain is critical to maximising production in tough conditions. It is a challenge. Overcoming it can deliver surprising results.

Supply Chain – a major factor in consistent and efficient productivity

The supply chain in the energy sector has finally graduated to being a lot more than a necessary but mundane process. It is recognised as a strategic tool to achieve and sustain high productivity. In 2006, 83% of energy sector management teams believed the supply chain to be **strategically important** to their business. Only **57%** believed this to be the case 12 months earlier.¹

Remote and difficult asset locations make efficient oil and gas extraction as tough as it is imperative. Seasonality, extremes of temperature and inaccessibility of reserves are the reality in an energy-hungry global market constantly looking to maximise asset efficiency. But they needn't inevitably mean diminished production or excessive costs. There are solutions. And you can find them at the heart of your existing operation - within the supply chain.

Are the barriers to maximum efficiency purely physical?

'Non physical' barriers represent as much of a challenge as any extremes of heat, cold and remote location. They include:

- Inaccurate data
- Misaligned planning systems
- Poor communication between individuals and departments

To remove these barriers, you have to go back to your supply chain and understand its operational role and business impact in greater detail.

How do you know when your supply chain is optimised for maximum efficiency?

There are **six key signs** that your supply chain has been successfully tuned for maximum performance:

1. It is demand driven – operational needs 'pull' instead of supply 'pushing'
2. It is a flexible and robust supply network – not a rigid point-to-point process
3. It is based on integrated planning of all key operations
4. It is fully aligned to the strategy of the business
5. It focuses on total acquisition cost – and reduces cost appreciably
6. It is collaborative and relationship-based – constantly enabling closer communication and measurably more productive relationships

In this paper we look at specific and practical routes to maximising asset efficiency and productivity through a highly tuned supply chain. The prize is worth having, with achievable improvements of up to 60% in productivity and cost reduction.

The economic argument for maximum asset efficiency

‘Sweating the asset’ is the universal imperative in the energy sector in times of high oil prices and scarce reserves.

Assets have to function at maximum efficiency – combining lowest cost with highest productivity. New assets have to be developed – often in remote deepwater or inaccessible and physically hostile onshore environments - and brought into productivity as quickly as possible. And spent assets have to be decommissioned quickly and safely.

All these challenges have to be met in a commercial climate that is often as severe as the physical conditions. The cost of borrowing is high. In fact, funds may not be available because lenders don’t like the industry’s cyclical nature - even in a boom market. Assets in challenging locations continue in production because of ownership and release issues related to new reserves.² Labour rates in specialist areas are high because of skills shortages. And even basic commodity costs are driven up by demand spikes and the need to buy at short notice on the spot market.

But...

You don’t have to accept that these conditions make unpredictable and/or sub-optimal production inevitable.

Recent and successful work focusing on the role and optimisation of the supply chain clearly illustrates that sustained levels of increased productivity are possible, at the same time as reducing costs. And improvements can be achieved without major new capital expenditure. The benefits come from improved understanding and better deployment of the human capital and the information that you already have.

² Majority of global oil reserves now held by government-controlled oil companies (~ 90% compared with 30% in 1978) Source: SPX, February 2008

Getting the supply chain right – it's all about getting the right things in the right place at the right time, and in the right quantity

Success is achieving a situation where even the toughest conditions are not a 'surprise'. They are considered in advance and their operational and economic impact is minimised through accurate and timely planning and preparation.

Key materials and personnel are in place when and where they need to be and in the right numbers (no more, no less).

Materials are not stockpiled. They are no longer tying down capital and wasting valuable space in cramped environments. And there are no shortfalls – avoiding the need for expensive last minute ordering in a climate of limited supply, long lead times and high prices.

How is success achieved?

The flow of information is as important – more important arguably – than the flow of materials and personnel. Without accurate information, fed to the right areas in the right sequence and at the right time, the optimum flow of people and materials cannot be achieved.

Three core areas hold the key to overcoming complex operational challenges:

1. Data integrity
2. Operational planning and scheduling
3. Information flow

Data integrity

Accurate and relevant data is the cornerstone of an efficient supply chain. But most oil and gas companies suffer from excess data, not a lack of it. You need to understand what data is needed by whom, over what timeframe, to make what decisions. Taking the time to clarify this will save unnecessary data collection effort, as well as helping your people to manage the business based on facts rather than gut feel.

Operational planning and scheduling

Planning systems typically suffer from constant changes, conflicting priorities and poor integration between different departments. An effective planning system depends on a consistent, well-understood basis for all prioritisation decisions. A simple risk-based matrix will usually suffice.

But even more important is ensuring that key stakeholders meet at an appropriate frequency to agree together on a common plan. Delivery against the agreed plan must be measured and reviewed regularly, and reasons for any changes understood and actioned. Only when this happens consistently will your plans become stable, with a dramatic effect on the efficiency of your supply chain.

It helps to think of three distinct timescales:

The long-term – from three to five years out. What are the cyclical Big Issues? How can you schedule for them with maximum efficiency, so that cost-effective provision can be made for key items, from transportation to materials? The beneficial result is that even the extremes, such as 40 degrees of frost or 50 degrees in the shade, are planned for.

The mid-term – for periods between 2 months and 2 years, how can you schedule demand to achieve best fit with available resources and operating constraints? The benefit here is that materials are not ordered reactively, on the spot. Regular materials requirements are met on a structured ordering and delivery cycle – reducing inventory and saving space and money. Specialist items with longer lead times can be ordered in advance.

The short-term – from 14 to 30 days – short-term yes, but always in a structured context so that last minute issues are not allowed to dominate. The benefit is that the operation quickly migrates from being purely reactive to working on a clearly planned basis.

Optimising the flow of information along the supply chain

The key is a structured approach.

Baseline with accurate metrics what is really happening in the operation and measure your improvements – so that planning and supply chain decisions are grounded in facts not assumptions.

Align the supply chain to support your operation through its key phases, from development through to abandonment.

Communicate needs and opportunities effectively throughout the relevant parts of the operation.

Coordinate the activities of multiple parties **including sub-contractors and material suppliers.**

Re-evaluate the operational role and potential positive impact of key areas of the business.

Structure your **equipment family lines** to better co-ordinate plant maintenance by 'families' - so that consistent runs of work on related equipment can be planned. This means a whole run of tasks can be carried out on a 'blitz' basis and interruptions to production are minimised.

Use your supply chain to do more with what you already have

Think laterally to drive more value out of the infrastructure already in place. For example, use Operations Centres with their advanced communications links not just to communicate with remote locations, but to gather data from them for performance analysis, prediction and optimisation. They can and should be more than video conference rooms.

New economic pressures demand new approaches. Across the whole business, with local and global supplies – and even with competitors if advantageous – opportunities need to be found to share and leverage resources and equipment to ensure timely availability. This presents tactical difficulties in getting different stakeholders with different agendas to share their resources for the common good of the business. But it invariably offers handsome savings to those who are prepared to put the effort in up front.

What's the impact on the bottom line?

Putting the approaches described above into practice will deliver a major shift in operational culture, helping you to get off the back foot and achieve the optimum balance between working capital and production.

It is possible, quickly, to benchmark real **results**. Below, we detail some typical percentage improvements in key areas:

Typical quantified benefits from Celerant projects

Delivery performance	16 - 28% improvement
Inventory reduction	25 - 60% improvement
Overall productivity	10 - 16% improvement
Supply chain costs	25 - 40% improvement
Process improvement	25 - 50% improvement
Procurement cost	10 - 40% improvement
Quality	2 - 17% improvement
Day payable outstanding	10 - 25% improvement
Day sales outstanding	15 - 30% improvement

Source: Supply Chain Council Benchmarking and Celerant project realisation

Conclusion

The energy sector is in a period of immense opportunity. It also faces very significant long-term challenges – from skilled labour shortages to increasing materials costs and lengthening lead times for delivery.

Sustainably increasing the labour pool in the immediate short-term is near impossible. It's also challenging – if not impossible – to reduce the price of essential materials that are in scarce supply. Given the continued increase in the global appetite for energy, you can't ignore the need to make every asset, even the most remote and challenging, work to maximum production capacity.

Understanding your supply chain - and aligning it with the real and accurately understood needs of your operation - will enable you to increase production and reduce costs, whatever the conditions.



About the Author

David Smith, Vice-President, Energy Sector, EMEA

Over his thirty years in business development in professional services, David has led the development of a significant number of client relationships across the globe – from the North Sea to the North Slope – and across the full span of energy industry operations. David’s relationships with clients – at super majors and independents alike – have been the platform for the delivery of significant, measurable value to Celerant’s clients in the industry over the past two decades totalling in excess of \$1 billion.



About the Author

Micael Morvik, Operations Manager

Micael is a Vice-President of Operations with Celerant, and also leads our Supply Chain capability in Europe. Micael has worked with leading companies across several industries with a variety of Supply Chain related business issues, including industries as diverse as Oil and Gas, Automotive, Steel and FMCG. Prior to Celerant Consulting, Micael worked in Motorola’s Integrated Supply Chain, where he held a number of positions over a career that spanned almost two decades. Micael’s position immediately prior to leaving Motorola was that of international operations director for the firm’s Connected Home Solutions business in the Asia/Pacific (A/P) and Europe, Middle East and Africa (EMEA) regions.

In this capacity, Micael was primarily responsible for providing supply-chain solutions encompassing planning, order management, customisation/localisation and aftermarket support. Key deliverables of the role included: on-time delivery of high-quality product with efficient aftermarket support, enabling the best possible total supply chain cost for Motorola and its customers.

Micael is an associate member of the Ashridge Alumni, a network formed around Ashridge, one of the U.K.’s leading business schools, where Micael completed finance and management training.

We have offices in 10 different countries and we will always go where our clients need us to be.

If you want a conversation about the ways we can help your business achieve results, every time, you can call us on:

Americas	+ 1 781 674 0400	Germany	+ 49 (0) 211 58 33 00 33
Belgium	+ 32 (0) 2 762 52 38	The Netherlands	+ 31 (0) 20 570 5400
Denmark	+ 45 35 45 90 01	Norway	+ 47 22 43 29 23
Finland	+ 358 10 396 8800	Sweden	+ 46 (0) 8 670 6579
France	+ 33 (0) 1 56 69 53 00	United Kingdom	+ 44 (0) 20 8338 5000

www.celerantconsulting.com

