



US\$0.50/bbl boost to refinery margins as Shell & DEA Oil GmbH exploit profit opportunities

“When you work in the same refinery for a long time you are somewhat blinkered, but the HMR team approached it with a fresh pair of eyes and used its experience to point out possible improvements,” operations manager, Heide refinery

Situation

The refining industry is under constant pressure to comply with new legislation and controls on product quality while at the same time maintain profitability. In 2001 the joint venture company Shell & DEA Oil GmbH was established in order to consolidate assets and transform Germany's market leader in oil products into a global player.

The management believed that optimisation and alignment of business processes would achieve increased financial performance prior to further investment. However, they realised that a difficult challenge lay ahead as success depended upon the integration of multiple refineries and facilities. Consequently, Shell Global Solutions was commissioned to provide an integrated approach to investigate new opportunities to improve profitability.



Benefits

The Shell hydrocarbon management review programme (Shell HMR) exceeded all expectations by **identifying cumulative financial margin improvements worth over US\$0.5/bbl**. This equates to a substantial part of the US\$150 million per year profit opportunities that the client expected to achieve from the joint venture.

Within the first year of the implementation phase, the client has **successfully realised a significant part of the quick win margin improvements** that required either zero or minimal capital expenditure.





Client Verdict:

Ulrich Kessler, refinery manager, Rheinland refinery, Wesseling site: *“Top management strongly supported the HMR and urged everyone to openly submit and discuss proposals. One HMR generated some 930 proposals for improvement from staff across the entire refinery – that’s a lot of ideas. A refinery has a lot of potential improvements, you just need to know where to look for them. Shell Global Solutions has conducted HMRs all around the world and has many tricks up it’s sleeves. Above all, they know where to look.”*

Hans Kuehn, operations manager, Heide refinery: *“It is valuable to have external people involved in such an examination because they have a different view on your refinery operation and they challenge your way of thinking. The HMR process proved to be a well-structured, systematic and creative examination of our operations. It provoked intense discussion. There were challenging sessions in which plant managers were questioned about the way they operate the equipment. This made them think about what they are doing and, as a result, their operations improved. It was exciting for everyone involved, and they learned a lot.”*



Solution

The Shell hydrocarbon management review is a structured methodology used to assist refineries in maximising their financial margins. The review seeks short-term profit enhancement by improving planning procedures, optimising the use of existing assets and exploiting untapped opportunities. While in the long-term it can act as a powerful technique in developing a future investment strategy for the client.

Using a diverse range of skills and experience, the programme also offers the flexibility to expand the scope beyond the refinery fence to satisfy a client’s specific needs. For example, to include aspects of the refinery’s supply chain:

- hydrocarbon sourcing and trading;
- supply interfaces between the refinery and the final customer;
- opportunities across the synergy between oil refining and chemical plants.

Shell Global Solutions worked together with the client to review refinery operations and co-develop an improvement strategy. Examples of the programme’s recommendations include the installation of a new hydrodesulphurisation unit to produce low-sulphur diesel fuel and the upgrading of lower-value industrial gasoil and light cycle oil to produce higher-value automotive diesel oil. These improvements would satisfy new product quality legislation and fully utilize capacity of the new units while removing the need to upgrade existing units and thus, reduce capital expenditure.

Currently in the three-year implementation phase of the programme, Shell Global Solutions is providing technical expertise, regular reviews and is monitoring progress. By investing time and energy, we hope to ensure a continuing focus on delivering the programme’s identified benefits.

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