



Innovation Case Study

Process Innovation

Client – Petrochemicals Major



Reinventing Naphtha Cracker Operations

Business Requirement & Innovation Challenge: Naphtha cracker business was run at minimum throughput as this was most energy efficient. However, this was impacting profitability of other downstream units. Also, to manage costs pricing was high – for most products price was more than international prices.

There was need to “reinvent” the Cracker Operations to make it sustainable & profitable.

Delivering Substantial Process Innovation: The stimulus for the solutions came from the **innovation tools and techniques** applied through a **structured process – D4** (Define opportunity, Discover ideas, Develop solutions and Demonstrate results).

The key was to establish the “Job-to-be-done (JTBD)” and associated underserved Outcome Expectations

JTBD: Produce High Value Products from the Cracker Unit

Key Outcome Expectations: Minimize Feed Stock Cost, Minimize Energy Cost, Minimize Specific cons of Utility, Maximize Throughput, Maximize HVP Yield, Minimize Physical loss, Maximize Heater Run length



Overall Impact

- Savings in energy consumption, feed stock / product mix optimization and reduction in physical losses – worth Rs 30 Crs/annum.
- Two patents.

