CASE STUDY #0222



REFINERY PROCESS UNIT COST AND PRICE ANALYSIS



ABOUT THE CLIENT

Industry	Oil and Gas
Revenues	$100 billion
Employees	140,000
Location	Latin America
BSI Service or Solution	Cost Estimation

Key Challenges

- Potential investments included a wide range of process units and end product possibilities
- Price and cost varied with complexity and size, but "rules of thumb" were too inaccurate for the size of investment under consideration

Why BSI was Selected

- Cost modeling and benchmarking expertise
- Deep technical knowledge of refineries and processing routes
- Cost engineering expertise
- Proven supply chain cost reduction capability

Project Scope

- Distillation Capacity
- Vacuum Distillation
- Thermal Processes
- Coking,
- Catalytic Cracking
- Catalytic Reforming
- Catalytic Hydrocracking
- Catalytic Hydrorefining
- Catalytic Hydrotreating
- Alkylation
- Polymerization
- Aromatics
- Isomerization
- Lubes
- Asphalt
- Hydrogen (MCFD)
- Oxygenates
- Sulfur Extraction

Project Approach

- Developed a database of projects
- Analyzed and normalized actual completed cost
- Developed an accurate model for forecasting project cost by improving on a "Nelson Complexity Index" concept
- Provided a framework for a model that would select the optimal project based on accurate revenue and capital cost

Financial Benefits Realized

- Maximum ROA

Operational Benefits Realized

- This analysis helped the client decide on the most cost-effective type of processing units to build

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