



Operational Planning Services

Planning forms a solid foundation for business decisions at the strategic, business planning, and operational levels across the supply chain. Improving and sustaining competitive position and return-on-investment demands effective planning work processes, performance measurement systems, planning tools, and a motivated, integrated team. Our team examines the overall picture of current effectiveness through a Planning Effectiveness Review, which identifies gaps between actual and Best Practice performance, develops the business case for improvement, and delivers improvements and benefits.

BENEFITS

KBC aims to implement Operational Excellence (OpX) in Planning Optimisation methodologies for our clients by working with each company's or site's unique set of circumstances. Typical benefits from a planning and supply chain upgrade include:

- Reduction in Feedstock Costs
- Increased Product Values
- Lower Inventory
- Maximisation of Asset Utilisation
- Improved Trading Performance
- Lower Shipping or Distribution Costs
- Improved Agility to Respond to Market Conditions

Implementing Best Practice solutions is our strength; this is proven in our track record. The KBC Planning Services team has helped refineries achieve 10-30¢ per bbl (or 75¢-\$2.25 per tonne) improvement from their planning projects. The direct benefit equates to USD\$5.5-16.5 million annually. In petrochemical facilities, we have achieved benefits of USD\$8-16 per tonne (or \$1.07-\$2.13 per bbl) of ethylene or aromatics. Our technology has been used to review, update, and successfully improve over 300 process unit LP sub-models in more than 60 refineries and 10 petrochemical complexes around the world in the last few years.

OPERATIONS WORK PROCESSES

Combining our broad expertise in refining, petrochemicals, and the world energy market specialists from our Market Services division, KBC is uniquely positioned to provide Best Practice Operations Work Processes in the areas of Feedstock Evaluation and Selection, Supply Plans, and Operating Plans (Weekly/Monthly for Production, Scheduling, and Performance Monitoring).



PERFORMANCE MEASUREMENT

The KBC Planning Services team provides Best Practice performance evaluation tools through the use of proven techniques such as Backcasting, Gap Analysis, and Opportunity Analysis. In addition, we provide Training in these areas to help clients achieve and sustain Operational Excellence.

TOOLS

In addition to assisting clients with KBC Planning Applications and providing support for third-party packages, we have created a Performance Monitoring and LP Model Updating technology. KBC ties together unit performance monitoring and kinetic model validation along with LP process sub-model vector generation into one system for a consistent, flexible, and easy-to-maintain platform over a sophisticated analysis system. The main benefit of this technology is to keep process unit LP sub-model data properly calibrated, and, thus, enable better plant optimisation. This means that the LP model better represents the actual plant, and it ensures that accurate value is captured.

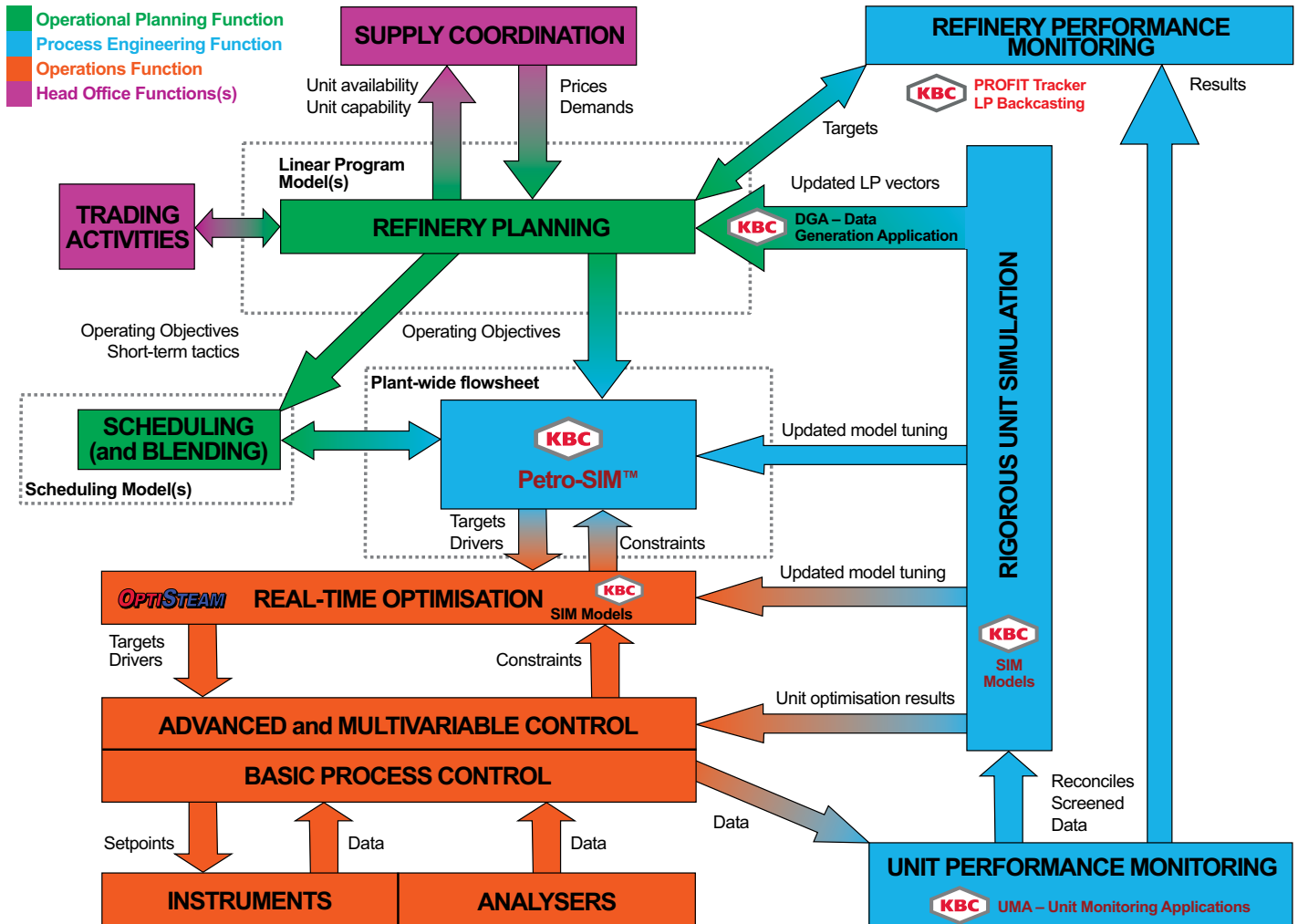
The Performance Monitoring and LP Model Updating infrastructure is maintained within Petro-SIM™, the KBC facility-wide simulation software package. The structure for screening and evaluating plant data, "Key Process Indicator" calculations, and LP sub-model and kinetic model calculations is built into Petro-SIM models. Through a semi-automated work process, unit engineers can easily reconcile,

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mass balance, and compare actual process data to the LP predicted and simulator predicted data. This visual, graphical comparison of the latest and historical data points clearly signals a requirement to recalibrate a process unit simulation and/or update a process unit LP sub-model.

ORGANISATIONAL CULTURE

Lastly, an essential requirement for achieving Operational Excellence in Planning is to have a motivated, integrated team of technical, operational, planning, and trading and marketing professionals empowered to make decisions and to introduce and execute new strategies and operations. KBC can and has assisted organisations in creating this type of operating environment and culture.



Example of an Operationally Excellent Planning and Performance Monitoring System to Improve Refining Profitability

™ Petro-SIM is a trademark of KBC Advanced Technologies plc, and it is registered in various territories.

KBC offers a comprehensive range of consulting, implementation, and training solutions to provide sustainable competitive advantage to our process industry clients worldwide.



DRIVING EXCELLENCE

OUR SERVICES INCLUDE:

CapX – Capital Excellence

- Market Analysis & Forecasting
- Business Strategy Review
- Merger, Acquisition, & Integration Studies
- Feasibility Studies
- Capital Project Support

OpX – Operational Excellence

- Operational Planning
- Process Optimisation
- Energy
- HSE
- Reliability, Availability, & Maintenance
- Human Performance Improvement
- Software Solutions

For more information, please visit www.kbc.com,
contact us at salesinfo@kbc.com, or call

AMERICAS +1 281 293 8200 • EMEA +44 1932 242424 • ASIA +65 6735 5488