ME-TECH 2026

ADVISORY MEETING TAKEAWAYS

Held on the 4th December 2025

Market Overview

The refining and petrochemicals sector in the Middle East is operating in a period of significant structural and competitive pressure. Despite the region's traditional advantages—integrated value chains, access to advantaged feedstock, and economies of scale—companies are facing an increasingly complex global environment. Oversupply in both refining and petrochemicals markets, driven particularly by significant capacity additions in China, is eroding margins and driving down global operating rates to historic lows.

Mature markets such as Europe and North America continue to shut down higher-cost, less complex refineries, reinforcing the trend towards consolidation and survival of only the most efficient, integrated, and technologically advanced assets.

At the same time, Middle East producers must navigate intensifying expectations around decarbonisation, sustainable operations, and responsible growth. While fossil fuels will remain central to global energy systems for the foreseeable future, operators face rising scrutiny over emissions, increasing pressure from financiers, and the need for pragmatic energy-transition strategies that match the regional context.

Compounding these shifts is the rapid emergence of digitalisation and AI. While industry sentiment urges realism over hype, there is broad recognition that digital tools—when grounded in operational realities—can significantly enhance reliability, uptime, maintenance, optimisation, and overall profitability.

The Middle East's refining and petrochemical operators now find themselves at a crossroads: compelled to improve competitiveness through operational excellence, technology deployment, energy-efficiency gains, and greater feedstock and product flexibility—all while charting a feasible pathway through energy transition and asset modernisation.

With this in mind, the ME-TECH 2026 Advisory Meeting brought together senior regional and international leaders to examine the sector's challenges, opportunities, and priorities. Participants overwhelmingly emphasised pragmatism, operational discipline, and technology deployment as the core levers for resilience and competitiveness.

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Market Dynamics & Structural Challenges

- Severe oversupply in petrochemicals—primarily from China—continues to depress global margins and operating rates.
- Smaller or less complex refineries globally are shutting down; only large, highly integrated, and flexible complexes remain competitive.
- Refiners must develop feedstock flexibility and product diversification to sustain profitability over the long term.

Operational Excellence as a Priority

- Reliability and asset integrity are now central drivers of competitiveness.
- Incremental improvements, 2–3% uptime improvement and 5–8% energy-intensity reductions, can deliver 1-–2% EBITDA growth within existing assets.
- There is increasing adoption of high-performance metallurgy, coatings, and improved equipment design to reduce fouling, corrosion, and unplanned downtime.

Technology Advancement & Practical Innovation

- Advisors highlighted the need for concrete, real-world technology use cases—not speculative concepts.
- Examples suggested include:
  - Deeper refining and petrochemical integration and increasing conversion ratios
  - Sonic-induced cavitation for catalytic cracking and hydrogenation
  - Novel cryogenic carbon-capture pilots
  - Advanced catalyst systems and extended hydroprocessing cycle technologies.
- Operators stressed the importance of solutions that deliver immediate profitability and sustainability gains.

Digitalisation & AI

- AI's value lies in targeted, operational applications—avoiding overhyped "black box" solutions.
- Effective use cases include:
  - Advanced predictive and prescriptive maintenance, and reliability optimisation
  - Intelligent crude-basket selection
  - Advanced Process Control (APC) enhancements and self-correcting control systems
  - Data-driven bottleneck identification and throughput optimisation.
- Participants noted that while AI is inevitable, adoption must be grounded in industrial engineering and economic feasibility.

Energy Transition, Sustainability & Carbon Strategy

- "Energy transition" increasingly seen as "energy addition"—building fossil capacity while integrating renewables, CCS, chemical recycling, and hydrogen technologies where feasible.
- Carbon-intensity reduction is becoming essential for securing future financing, as lenders seek demonstrable sustainability commitments.
- Asset age and capital-raising challenges pose significant obstacles to achieving long-term decarbonisation targets.

Feedstock & Product Strategy

- Increased flexibility in crude sourcing and cracking feedstocks presents major value potential for GCC operators.
- Movement toward specialised, higher-value petrochemical and polymer products is seen as essential as commodity margins decline.

Human Capital & Future Skills

- Automation and AI raise concerns about workforce redundancy, reskilling needs, and long-term talent attraction.
- Dependency on human decision-making in engineering and operations remains high, suggesting a transitional rather than immediate shift to fully unmanned facilities.

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