



MICHAEL SARNA

SENIOR CONSULTANT

QUALIFICATIONS

- B.S. Chemical Engineering, Michigan from Technological University (1976)
- UOP Design Engineering School (1986)

CAREER PROFILE

- 43 years of experience in the oil refining and petrochemical industries and has participated in assignments in over 250 oil refineries, terminals, petrochemical plants, gas plants, gasification plants and GTL plants in 30 countries.
- Started his career with UOP in 1976 after graduation from engineering school and held positions primarily in the Technical Service Department over a 15-year period and advised clients regarding engineering, construction, plant commissioning, optimizing and troubleshooting operations, inspection, maintenance, and provided operator and engineer training.
- Resided and worked a considerable amount of time in Russia and China

AREAS OF EXPERTISE

- Project Development
- Processing Configurations
- Technology Evaluations
- Plant Construction
- Plant Operations Reviews
- Cost Estimation
- Risk analysis
- Owner's and Lender's Engineer
- Expert Witness in Arbitrations
- Dispute Mediation
- Accident Investigations
- Training

PROFESSIONAL EXPERIENCE

2015 – Present

Independent Consultant in the oil, gas and petrochemical industries.

2011– 2015

IHS

Vice President leading the downstream oil and gas group in the Middle East.

1991– 2011

Purvin & Gertz (acquired by IHS in 2011)

Joined as a consultant in 1991 and was elected Vice President in 2006 and Senior Vice President in 2010.

CONSULTING ACHIEVEMENTS

- **Authored paper on Licensing of Process Technology**
Wrote an article published in Hydrocarbon Asia and also the Russian Refining Journal on the licensing of process technology.
- **Authored paper on Managing Technology Risks**
Wrote an article in for the Commercial Lending Review that describes project failure owing to problems associated with the technologies.
 - Egypt Refinery Project Technical Assistance
 - UNCITRAL Arbitration Refinery Construction
 - Arbitration Refinery and Power Plant Construction
 - China Refining, Petrochemical and Power Project Development
 - Middle East Refinery Expansion Project and Grassroots Refinery Project
 - Asia Refinery Check Cost Estimate
 - Russian Refinery Modernization
 - Russian Refinery and Petrochemical Modernization
 - Eastern Europe Refinery Modernization
 - Saudi Arabia Grassroots Refinery and Petrochemical Development
 - Malaysia Petroleum Terminal and Fertilizer Complex
 - Gasification Plant Operations Review
 - China Gasification and Ammonia Plant Due Diligence
 - Coke Gasification Operations
 - Refinery Construction Dispute Mediation