

# STRATEGIC ISSUES AND TRENDS

July 2009

Published bi-monthly by  
ASME Strategic Issues  
Committee

ASME  
1828 L Street, N.W.  
Suite 906  
Washington, DC 20036  
Phone: 202-785-7382  
Fax: 202-429-9417  
E-mail: [pratta@asme.org](mailto:pratta@asme.org)

## Middle East Emerges as an Engineering Hub

The return of economic growth could see the Middle East emerge as a new hub for engineering services for the developing world. The Gulf States spent much of their oil windfall in the 1970s and 1980s on investments of dubious long-term value. They spent little to improve their education systems, reform their markets and diversify their economies. The Gulf States have been much more conscientious on spending the fruits of the latest oil boom and the region is expected to reap large amounts of oil revenues over the next decade even if the oil price does not return to its previous lofty heights. The countries of the Gulf Cooperation Council (GCC) — Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates — are expected to earn \$4.7 trillion-\$8.8 trillion in oil sales by 2020 (based on an oil price of \$50-\$100 a barrel).

The Gulf States have tapped into global pools of engineering talent on some of the most ambitious development projects in the world. Saudi Arabia plans to build six complete cities to attract foreign investment and global talent. The largest city, King Abdullah Economic City (KAEC), will cost \$27 billion dollars to build, and will be a fully functional city with one of the world's largest sea-ports, industrial zones, multi-university campuses, resort areas and a central business district. Other Gulf States are building cities based around industries. For example, Masdar, Abu Dhabi's new city, was designed to be the world's most sustainable, carbon neutral city.

Qatar and Dubai are using the economic city concept to develop world class clusters of higher education. The government of Qatar has spent billions of dollars building Education City as the most technologically advanced centers for higher education in the world. Students have the latest in education technology such as online libraries, distance learning and streaming video to connect the branch campuses to the home campuses in the U.S. Dubai has built the world's first 'free-trade zone' dedicated to higher education in the 25 million square foot Dubai International Academic City (DIAC). The thirty-two international universities at DIAC retain 100% control over operations as well as tax-free status and 100% repatriation of profits. The goal of these cities is to create innovation clusters for higher education, which can drive the diversification of the Middle East economy into new areas of the knowledge economy.

The combinations of ambitious plans for economic development and higher education have attracted a number of international leaders in engineering services to invest in the region. In 2006, Schlumberger opened an oilfield research center in Saudi Arabia. Part of the attraction for Schlumberger was Saudi Arabian support for local universities and research at King Abdullah Science Park in Dhahran. Other international construction and engineering firms setting up international offices, partnering on major projects or acquiring local talent in the Middle East during the last five years include CH2M Hill, Fluor, Jacobs Engineering Group, Navayuga Engineering Company and Thornton Tomasetti.

The recent economic downturn and decline in the price of oil have created challenges for the ambitious development plans of the Gulf States. A number of experts have doubts that the Saudi government can complete all six economic cities although the Saudi government insists the ambitious six cities project will continue. The lead developer, Emaar Properties, has indicated the cities may be delayed due to difficulty securing foreign investment and financing. Back in Dubai, Emaar itself, like most property developers, is suffering from the popping of a large real estate bubble. Abu Dhabi, the richest of the United Arab Emirates, recently bailed out the resource poor, and heavily-indebted Dubai with \$10 billion in bond purchases. The tiny country of Dubai took on significant leverage to build opulent manmade islands, indoor ski slopes, and the world's tallest building. However, the Gulf States remain in a good fiscal position to continue their ambitious development and diversification projects when the global economy recovers.

The resurgence of the global economy will increase demand in the Middle East for a wide variety of mechanical devices from construction equipment to climate control systems to water treatment plants. A number of the investments in the new economic cities are focused on petro-chemical, plastics and other heavy industry that will require new mechanical systems. The GCC, particularly Dubai, will expand as a transportation hub requiring new airplanes, trains, ships and port facilities. The Gulf States and other oil rich nations in the Middle East will need new and better technologies for oil and gas exploration, production and refining. In all these areas, mechanical engineers will be challenged to build greater energy efficiency into the design and integration of these systems.

### **ASME Implications**

The Middle East may emerge as a strategic area for global growth in engineering as engineering firms continue to invest in the region. A number of global engineering firms have set up shops or made investments in the Middle East as demand for their services has grown. Recent efforts by the Gulf States to promote foreign investment, improve higher education and loosen lifestyle restrictions will further encourage investment by global engineering firms. Developing close ties with these firms and ASME members working for them could provide new opportunities for ASME codes, standards, certification and other products and services.

ASME should also keep an eye on the engineering education and research programs in the Middle East. If the Gulf States should succeed in transforming their education systems, universities in the Middle East could become leaders in engineering research and technology development. ASME should explore partnerships with these centers of innovation in order to keep abreast of the latest advances and keep their membership informed. This will be particularly relevant in energy technologies of all kinds.

Lastly, ASME can play an important role in keeping their membership and the broader public informed of developments in the Middle East related to mechanical engineering. By taking a lead in this area, ASME can help meet the following strategic objectives:

- Better serve our core customers (C1)
- Secure, serve and incorporate emerging markets and technologies (C2)
- Develop new and expanded market relevant content (I2)