

Evonik in the Middle East and North Africa

The Middle East/North Africa region¹⁾ has over 500 million inhabitants and is extremely diverse. The spectrum ranges from countries with few raw materials that export labor (Egypt, Jordan, Lebanon, Morocco, Pakistan Tunisia) to those with large populations and rich resources (Algeria, Iran, Iraq, Syria) and the Gulf states that import labor (Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Oman, Bahrain and Libya). Since oil and gas reserves are finite, these countries are endeavoring to place their economies on a broader basis. For example, Saudi Arabia and the United Arab Emirates are building large chemical parks and manufacturing industries to extend the value chain. The financial markets crisis had a particularly severe impact on Dubai, which had been focusing on becoming an international financial and tourist center. The Gulf states should benefit considerably from the global rebound in demand for oil and rising oil prices in 2010. Population growth is a major challenge in the region. For example, in Iran and Saudi Arabia the population has doubled over the past 25 years and the majority of inhabitants are under 15.

Evonik's Energy Business Area has provided engineering services in the region since the mid-1990s, for example, in Egypt, Jordan, Libya, Saudi Arabia, Syria, Tunisia and Gaza. We supported the establishment of a training center in Egypt which now trains around 200 power plant mechanics a year. This training institute has acted as a model for many similar facilities in Africa, India and the Middle East. For many years, Evonik provided operational support for a gas and mazut-fired steam turbine power station in El Kureimat (Egypt) and a combined cycle gas and steam turbine power plant in Rades (Tunisia). Our activities in this region are complemented by a large number of training and engineering projects, giving the Energy Business Area extensive experience of the region, which can be used in future energy projects.

The keystone of Evonik's presence in the Middle East and North Africa is the Chemicals Business Area, which has had trading relations with countries such as Egypt and Iran for more than four decades. In view of its attractive geographical position between Europe and Asia and the plentiful supply of petrochemical feedstocks in the Gulf states, we regard this region as strategically important. We aim to participate in regional growth and expand our position considerably through significant investment.

In April 2010 we signed a heads of agreement with Saudi Acrylic Acid Co. (SACC) on a joint venture to produce superabsorbents in Jubail (Saudi Arabia). SAAC is a subsidiary of Tasnee & Sahara Olefins Co. (TSOC), which is owned by National Industrialization Company (Tasnee) and Sahara Petrochemicals. Together with SACC, we intend to build a world-scale facility with

1) Evonik defines the Middle East/North Africa region as Algeria, Bahrain, Cyprus, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, the United Arab Emirates and Yemen.

capacity of 80,000 metric tons p.a. to start operating in 2013. Evonik is the market and innovation leader in superabsorbents.

The planned joint venture will benefit from advantageous local access to raw materials and energy and will be embedded in integrated production structures. The acrylic acid required to produce the superabsorbents will be sourced from a nearby plant that is currently being erected in Jubail by Saudi Acrylic Monomer Company (SAMCo), a joint venture of SAAC and Dow Chemical. This plant is scheduled to come on stream in 2012. Propylene, which is also required for the production process, is to be sourced from a nearby cracker in Jubail, which was recently completed by Saudi Ethylene & Polyethylene Co., a subsidiary of TSOC and LyondellBasell.

The new downstream project offers growth opportunities for Evonik's superabsorbents business in the Middle East markets and parts of Africa and Asia which would be difficult to access from our European and North African facilities. Superabsorbents are crosslinked polymers produced from acrylic acid which form a gel that can absorb up to 300 times their weight in liquid and retain it even under pressure. These high-tech substances are used in diapers, incontinence products and feminine hygiene products. Evonik already markets superabsorbents in the Middle East, as well as raw materials, additives and active ingredients for skin and hair-care products, detergents and special cleaning agents.

The fast-growing feed additives business is our most important area of activity in this region at present. Evonik is a global market and technology leader in DL-methionine, an essential amino acid for healthy and environment-friendly nutrition of livestock, especially poultry. Growth drivers of this attractive market are the rapidly growing young middle-class and industrialization of local meat production. The main markets are Iran, Saudi Arabia, Egypt and Morocco.

Evonik has a strong market and technology position in C₄ products, Oxo alcohols and plasticizers in Europe. It also markets these products in Saudi Arabia. Crack C₄ is a by-product of the refining of crude oil. It is produced when naphtha is split into ethylene and propylene. The C₄ hydrocarbons in this blend are isolated and processed into products which our customers use, for example, to produce high-quality plastics and coatings for automotive, household and leisure products.

We have marketed components for the paints and coatings industry and carbon black pigments in this region many years. Evonik ranks among the global leaders and has enormous expertise in both fields. Major markets for these products include Egypt, Saudi Arabia and the United Arab Emirates. A key application in these countries is the production of plastic pipes, for example, for the supply of drinking water. Fine-particle carbon black pigments are used to protect the plastics from ultraviolet sunlight. Drinking water pipes are part of the growing global infrastructure market, which we are increasingly serving from the Middle East. VESTAGON® from Evonik was used in the aluminum cladding on the façade of Burj Chalifa, the world's highest building, which was opened in early 2010. VESTAGON® is a crosslinker for

high-quality polyurethane coatings whose properties include high light and weather resistance. Evonik has a leading edge in advanced crosslinking technologies, based on 40 years experience in isophorone chemistry.

Activities that we only introduced to this region a few years ago are also developing promisingly. For example, our business with pharmaceutical polymers which release active ingredients in the body at the right time and place is growing rapidly. Our PLEXIGLAS® business is also doing well. These products are used in Dubai in construction and architectural applications, for example, for signs and display boards in the Dubai Mall shopping center. In 2009 PLEXIGLAS® was first used in the Emirates and Saudi Arabia in large-scale greenhouses. PLEXIGLAS® has high light transmission, a high UV component and thermal insulating properties. That ensures faster crop growth and intensifies the coloring of flowers, while saving energy and reducing CO₂ emissions.

STOCKOSORB® granules, which help make the desert green, are another success story in this region. STOCKOSORB® is a potassium salt-based copolymer with enormous capacity to store water. It is worked into the soil where plants set their roots, giving them access to water and fertilizer. The granules swell to form a gel in the ground when they come into contact with water, which they store and transmit to the plants during periods of drought.

The use of hydrogen peroxide as a highly effective disinfectant is also attracting increasing attention. Demand is mainly rising in Saudi-Arabia, which has large agricultural facilities and dairies. Hydrogen peroxide is one of Evonik's oldest business activities and also one of its fastest growing and most innovative. We rank second in the world with capacity of around 600,000 metric tons p.a.

In 2009 Evonik had around 40 employees in the Middle East and North Africa region, which delivered consolidated sales of over €150 million. Around a third of sales were generated in Saudi Arabia, followed by the United Arab Emirates and Egypt. We have grown sales by a double-digit percentage in this region every year since 2005, partly by stepping up our local presence.

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