

# GLOBAL BUSINESS REPORTS

INDUSTRY EXPLORATIONS



## GCC ALUMINIUM

**2016**



*Aluminium - Economy - Production - Bahrain  
United Arab Emirates (UAE) - Smelters - Logistics - Localization*



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# Dear Readers,



The world has long been captivated by the Gulf Cooperation Council (GCC) countries, which have used their strategic geographic location, abundance of oil and gas resources, and self-reliant financial strength to become major industrial players in the last few decades. Aluminium has undoubtedly been a key component of this transformation.

The aluminium industry began in this region only four decades ago in Bahrain with Alba, yet now, with the addition of new smelters in the UAE, Qatar, Oman, and Saudi Arabia, the region accounts for nearly 20% of global aluminium production, excluding China. This substantial growth is partly a testament to global trends of supply and demand, but also to the steadfast focus and determination of the industry to make aluminium production in the Gulf truly great.

Today, the aluminium industry is a vibrant sector in the Gulf and a major contributor to the economies of the region. It is an important source of direct employment and a key contributor to a number of small- and medium-sized support industries. And even as the world has turned its attention to the aluminium sector in the GCC, it is not merely a story of success, but also a story of healthy competition, synergy, and collaboration between the various participants and countries for the greater good of the sector, and region as a whole.

Given aluminium's spirited pace of development in the GCC and its elevated place in the sector's world order, Global Business Reports (GBR) has come to the Gulf to evaluate the opportunities and also the challenges that the sector faces as it pushes ever forward. GCC Aluminium 2016 Industry Explorations explores the dynamics taking place in the UAE, Bahrain, Qatar, and Oman by looking at not only the primary smelters, but also the increasingly important downstream sector. GBR therefore spends significant time understanding the support industries, including engineering, equipment and service providers, legal, logistics and finance. Taken together, all of these parties tell the story of aluminium in the Gulf.

We want to thank all of those who have generously donated their time and insights to GBR's research. We hope that you find this publication interesting and informative.

Kind regards,



**Abdulla Kalban**

Chairman, Gulf Aluminium Council (GAC)

Managing Director and CEO, Emirates Global Aluminium (EGA)

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This research has been conducted by Josie Perez.

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## Exclusive Interviews

Industry leaders and public sector officials discuss their operational strategies and provide insight into all facets of the industry.



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Global Business Reports' journalists provide on-the-ground analysis of the developments that are shaping the aluminium industries in the GCC.



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## Quantitative Data and Maps

Quantitative data help readers better understand the position of the GCC, especially relative to its global competitors.



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# INTRODUCING THE ALUMINIUM INDUSTRY IN THE GCC



“Demand for aluminium in the GCC has increased drastically in the last few decades. Twenty years ago, having a presence in the Middle East was simply a smart cost strategy: cheap metal and cheap energy. Nowadays, the Middle East has become a major and interesting player in terms of demand; the GCC population including Saudi Arabia is 50 million.”

- Jean-Baptiste Lucas,  
CEO,  
Gulf Aluminium Rolling Mill Co. (GARMCO)

# THE GCC AND ITS GROWING ALUMINIUM INDUSTRY



●●● The six countries that form the Gulf Cooperation Council (GCC)—Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates—share many commonalities. They are Arab, governed as monarchies, and rich in hydrocarbons. They also share a common interest in securing the free flow of commerce in the Gulf.

The GCC was launched in 1981 as an economic union one year after the eruption of the Iran-Iraq War, and two years after the Islamic revolution in Iran had upended the politics of the entire Middle East. The British had provided security in the Gulf prior to 1971, after which the United States fostered the two most powerful states in the Gulf region, Saudi Arabia and Iran, as its regional surrogates first under the Nixon Doctrine. After the revolution, the United States slowly assumed responsibility for security, formally announcing under President Carter that it would defend the Gulf against Soviet encroachment. Reagan boosted the U.S. military presence in the region in 1983, and the first Persian Gulf War in 1990 ensconced it.

The local Sunni Arab states, however, were less concerned with the Soviets than with Shia Iran, whose revolutionary ideology was spreading across the region and whose navy was blockading Iraq's exports in the Gulf. By unifying their economies, the Arab monarchies hoped to safeguard its societies against the ideology of the Islamic

revolution in Iran. Iraq, the only Arab state that borders the Gulf but is not a member of the GCC, was often viewed as a threat to the Arab monarchies in the Gulf, but cooperation on oil and commerce in the 1980s blossomed, capped by the construction of an oil-export pipeline system from Iraq to Saudi Arabia's Red Sea coast in 1985. Saudi Arabia closed the pipeline system closed in 1990 after Iraq invaded Kuwait.

The same security imperatives that launched the GCC in 1981 persist, and the Arab uprisings that began in 2011 have prompted even closer political, economic, and military cohesion among member countries. Saudi Arabia is the natural leader of the GCC and has proposed a military alliance with troops numbered over 100,000 and the unification of GCC countries into a single state. Oman, which feels less threatened by Iran and has a long tradition of independence in foreign policy, will join a unified state.

Monarchical rule in the GCC has been effective in providing political stability in a region that undergoes ceaseless political volatility. Top-down decision-making, moreover, has allowed GCC countries to channel oil rents into government-directed projects. Investments in infrastructure, health, and education have massively improved the economic and social welfare of the people. The dependence on oil exports, however, presents is a long-term

concern. In the short term, low prices are forcing budgets cuts across the GCC and threaten to slow momentum in building large infrastructure projects. Many analysts believe that oil prices will remain low for medium term, as there is plenty of supply on the market and no indication that majors productions like Saudi Arabia will cut back production, as they want to maintain market share. In the longer term, demand for oil has flat lined in the United States and Europe, and China, the motor for global energy demand in recent years, is slowing down and shifting away from energy-intensive manufacturing industries. Moreover, there is serious concern within the global community about carbon emissions. Oil will remain inextricable from the transportation sector, but the Paris Climate Conference in December 2015 revealed that the world intends to reduce its consumption of fossil fuels. To be fair, the reduction of carbon emissions will depend mostly on the reduction in the consumption of coal, not oil.

The GCC countries have already taken serious steps to diversify their economies away from oil exports, and have achieved stable, low-inflation economies that continue to attract foreign direct investment. Trade has also been expanded, and the financial sector strengthened. Robust chemical and, as this report describes, aluminium industries have been nurtured that have





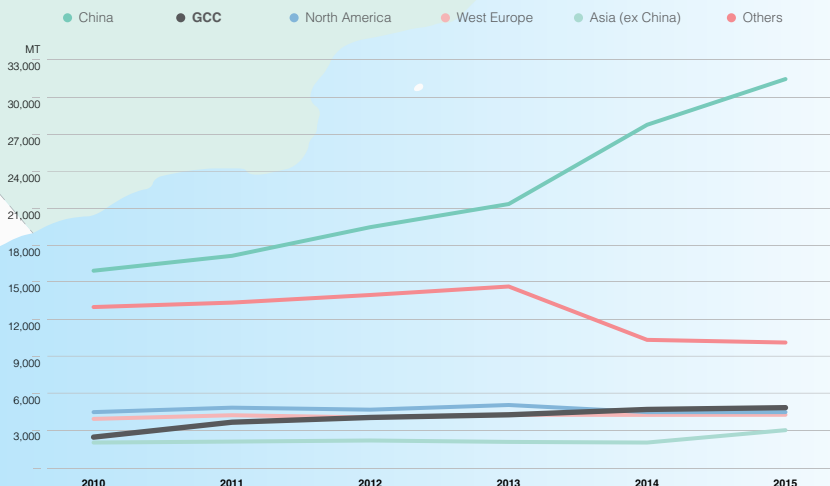
created local jobs and the share of non-hydrocarbon output in GDP has risen. Yet many of these industries are highly correlated with oil prices. Diversification away from commodities is also easier said than done, and the success stories (Malaysia and Mexico in oil, Chile in copper) are few. Still, the GCC's commitment to diversification cannot be questioned and its political and economic unity and top-down decision-making raise the odds of success.

**All Roads Lead to the GCC**

Within the aluminium community the world over, the hot topic is the current low price of the commodity. From aluminium's peak price on the London Metal Exchange (LME) of \$2,678.11 per metric ton (mt) in April 2011, it has plunged to \$1,589.60/mt as of September 2015, a 40% drop in less than five years. Though its decline has neither been as sharp nor as drastic as that of oil, aluminium producers worldwide have felt the tangible effects of the LME price reduction, not necessarily in sales, but in marginal profit. Separate from this short-term trend, within the last few decades, primary aluminium production has seen tectonic shifts. As the metal has gained popularity as an alternative to steel and iron in many applications, new production is taking place outside traditional markets.

**GLOBAL PRIMARY ALUMINIUM PRODUCTION BY REGION, 2010-2015 (MT)**

Source: International Aluminium Institute



# Mahmood Daylami



Secretary General  
**GULF ALUMINIUM COUNCIL**

●●●  
**The Gulf Aluminium Council (GAC), which became operational in 2010, is a coordinating body that represents, promotes and protects the interests of the aluminium industry within the Gulf. How did this organization first come to be established?**

Until 2008, there were two smelters, Alba and DUBAL, which were cooperating in all fields. By 2010, Saudi Arabia, Oman, Qatar, and Abu Dhabi had built new smelters, not only increasing the overall production in the GCC region but also turning the region into a regional hub for the international aluminium market.

Accordingly, the chief executives of the six smelters decided to establish a body that would coordinate common strategies and strengthen the cooperation between them. After all, they are only one hour from each other, and there are synergies that exist among them. They also face the same challenges, including environmental issues, human resources (HR), spare parts, and international policies that have impacted the producers in the Gulf. This made the Gulf Aluminium Council (GAC) the official body to represent the aluminium industry in the Gulf, both locally and internationally.

**How does the GAC's operations differ from other regional aluminium associations?**

Most, if not all, the aluminium associations in different parts of the world deal mainly with legislative issues and have direct contact with policymakers to ensure that rules and regulation that are introduced to protect the industry. While the Gulf Aluminium Council maintains contact with appropriate authorities, its activities are mainly directed at improving productivity, reducing cost, and sharing best practices through various committees with specialized members from the industry, such as in the power industry, which aims to reduce gas consumption, share best practices, and reduce down time. There are similar activities going on in the plant maintenance committee, as well as in the HR committee, which discusses shared HR and employment challenges and employee development. The health safety and environmental committee carries out informal auditing, compares best practices, and shares lessons about accidents that can be learned from each other. Recently, the health committee was established to examine all aspects of health issues, especially considering that the Gulf is extremely hot and humid during summer and the potential of heat stroke is always a major concern.

**What are the competitive advantages that have led to the strong growth of the aluminium industry within GCC countries?**

There are three main elements needed to build aluminium smelters. The first element is energy, and the Gulf is rich in this regard. The second element is capital, which is also available locally and through international banks and financial institutions. The third

element is market. The local industry for aluminium is increasing in the Gulf and world demand for the metal is increasing at a rate of 5% annually. In addition, all the Gulf States have built modern infrastructure and ports, and have excellent location to supply the world market in Europe, Asia, or United States.

The current focus is to increase local consumption of aluminium by expanding the existing downstream aluminium industry. During the last five years, total consumption downstream has increased from 1 million metric tons (mt) a year to 2 million mt.

**For over 30 years, the EU has enforced a tariff on aluminium imports from the Gulf. How has this impacted the aluminium industry globally and specifically the sector within the GCC?**

Currently, the EU produces 30% of its need, yet continues to maintain the tariff that shows the influence of the multinational aluminium producers, which are mainly from outside the EU, on European policymakers. The reason for strong resistance is because these producers charge duties regardless of the origin of production, according to a recent study carried out by LUISSE University in Rome. These companies are making hundreds of millions of Euros at additional cost to the consumers, while the small downstream industry in Europe, which employs 90% of the people in the aluminium industry, are losing competitiveness in the international market. The ineffectiveness of the tariff is evident in the fact that it did not stop GCC aluminium production growth, or European aluminium product decline, but allowed the primary producers of Europe take advantage of the consumers in Europe. •

Describing some of the global trends, Pete Forakis, regional director of STAS Middle East, of the Quebec-based high tech equipment specialist company, stated: "The aluminium sector in North America is in decline, in Western Europe it is virtually decimated due to energy prices, China is a challenge as they have their own domestic supply, there is no expansion in Australia and, while India has potential, it is not without its own challenges."

Considering the short- and long-term dynamics taking place, the GCC region has the perfect formula to attract future investment in aluminium. Recognizing the energy-intensive nature of the industry, the leadership of the Gulf Cooperation Council (GCC) countries (of which the UAE, Qatar, Bahrain and Oman are members) saw an opportunity: "The countries of the region have taken wise steps to benefit from their resources and diversify their economies.

The aluminium sector represented a logical path for such countries to industrialize their economies," explained Joseph Kirikian, head of industrials & services at Bahrain Mumtalakat Holding Company (Mumtalakat), the investment arm of the Kingdom of Bahrain.

There are three main elements needed to build successful aluminium smelters according to Mahmood Daylami, secretary general of the Gulf Aluminium Council (GAC). The first is energy, and the Gulf is rich in this regard. The availability of cheap energy translates into lower costs. The chairman of the GAC and managing director and CEO of Emirates Global Aluminium (EGA), Abdulla Kalban, noted: "According to an October 2013 report produced by the Centre for European Policy Studies on behalf of the European Commission, Middle East smelters boasted the lowest conversion

*The countries of the region have taken wise steps to benefit from their resources and diversify their economies. The aluminium sector represented a logical path for such countries to industrialize their economies.*

*- Joseph Kirikian, Head, Industrials Group, Bahrain Mumtalakat Holding Company (Mumtalakat)*

cost, business cost, and economic cost per mt of aluminium in 2012. The region also ranked among the lowest in terms of power costs per mt of aluminium.”

The second factor is financial strength, which in the GCC region was built on energy resources, as it is home to 56% of the world’s proven reserves of oil and 40% of the world’s proven reserves of gas, and also the capital made available through local and international banks. Furthermore, according to Kalban: “At the industry level, the primary aluminium producers in the GCC enjoy financial backing from their respective national governments, who are, without exception, major shareholders if not outright owners. Substantial investments of finance and industry know-how by major global players, notably Rio Tinto Alcan, Alcoa and Hydro, have been made in several of the newer players in the region. What is more, the GCC region is inherently stable from a political perspective, and the financial risk to investors is minimal.”

The third component is markets. “The local industry for aluminium in the Gulf is increasing and world demand for the metal enjoys an annual increase of 5%,” stated Daylami.

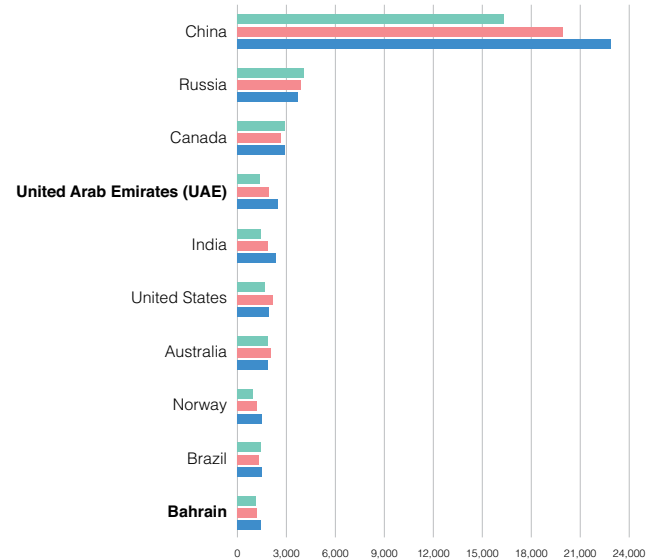
Demand for aluminium in the GCC has grown drastically in the last few decades. “Twenty years ago, having a presence in the Middle East was simply a smart-cost strategy: Cheap metal and cheap energy,” according to Jean-Baptiste Lucas, CEO of the Gulf Aluminium Rolling Mill Co. (GARMCO), the oldest aluminium rolling mill in the Middle East. Lucas continued: “Nowadays, the Middle East has become a major and interesting player in terms of demand; the GCC population including Saudi Arabia is 50 million. Demand for aluminium is driven by the highly aluminium-dependent construction in Dubai, Doha, and Riyadh, a growing middle class that consumes many products that require aluminium packaging, and downstream demand in automotive or transportation applications to produce ever-lighter vehicles, achieved through the increased substitution of steel parts for aluminium ones.”

In 2008, there were only two smelters in the region, Alba and DUBAL, with a total hot-metal production capacity of 1.92 million mt/y, of which DUBAL accounted for the lion’s share.

Today, there are six smelters in the region: Alba, DUBAL, EMAL, Sohar, Qatalum, and Ma’aden, whose combined production capacity is approaching five million mt/y. The world has turned its eyes to the GCC region for upstream production and the growing downstream. Each country is uniquely poised to respond to the local, regional and global demand and in turn the GCC will become an even more significant player on the aluminium sector’s world stage. •

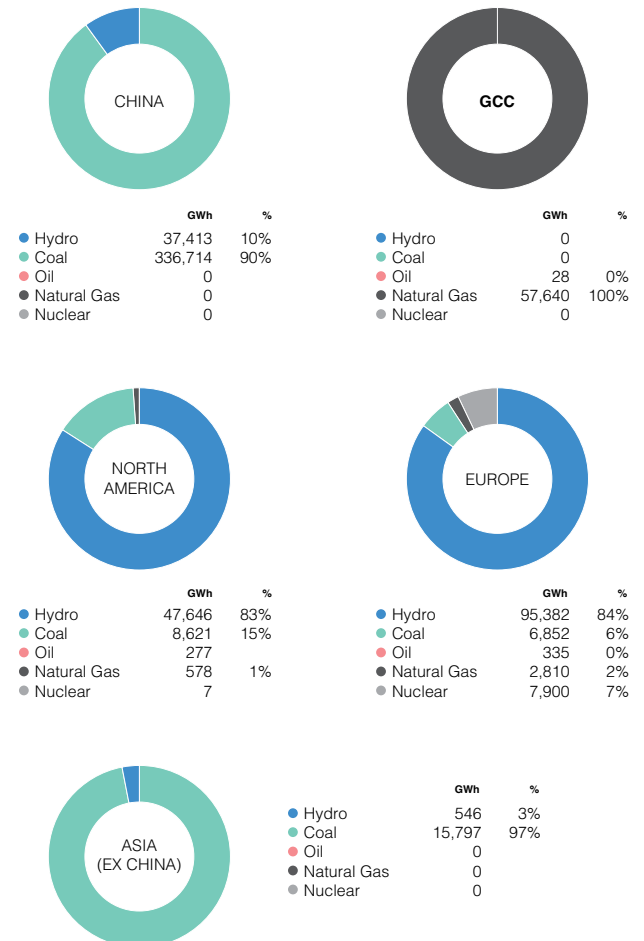
**TOP TEN ALUMINIUM PRODUCERS BY COUNTRY (mt)**

Source: Statistica



**GLOBAL PRIMARY ALUMINIUM REFINING POWER MIX, 2014 (GWh)**

Source: International Aluminium Institute







# SMALL BUT FORMIDABLE: ALUMINIUM IN BAHRAIN



“Alba’s expansion is a brownfield expansion, which means capitalizing on existing infrastructure and systems already in place for cost efficiency. The aluminium LME price had already come down a bit when the project was approved in June, so the economics still work. The lower aluminium LME price has affected the project, but, nevertheless, Line 6 is still viable.”

- Tim Murray,  
CEO,  
Aluminium Bahrain (Alba)

# BAHRAIN

## The Birth of Aluminium in the GCC



Bahrain may be the smallest GCC country by population, landmass and GDP, but it has played a leading role in the development of an aluminium industry in the Gulf. Today, 10% of Bahrain’s GDP is derived from the aluminium sector. So important is this industry to the country that it was a major focus of the United States-Bahrain Free Trade Agreement, which came into force in 2006. Steven Brown, managing attorney of ASAR Al-Ruwayeh & Partners’ Bahrain office, explained: “The agreement allowed Alcoa to ship inputs, such as alumina, to Bahrain without duties and facilitates aluminium being exported back to the United States without excise taxes and duties.”

When Aluminium Bahrain (Alba) launched production in 1971, it essentially heralded the birth of the aluminium sector in the region; today, the company is considered a significant national asset. It is majority-owned by Mumtalakat (69.38%), SABIC Investment Company (20.62%), and is partially listed on the Bahrain Bourse. “From a small start in an effort to make use of the trapped gas resources through smelting, and as an endeavor to diversify the economy away from oil and gas by exporting billets, Alba has now grown to produce roughly 932,000 metric tons per year (mt/y), making Alba the fifth largest single-site smelter in the world,” declared Tim Murray, Alba’s CEO.

Alba has created an ecosystem around itself, feeding 50% of its total production, including billets, foundry alloys, rolling slabs and liquid metal, to the local downstream, which offers a better value proposition. “Alba’s strategy is two-fold,” continued Murray: “Maximize value-added products, which provide leniency for price fluctuations and market buffers, and keep our base load downstream liquid.”



### Alba’s Line 6 Expansion

In June 2015, Alba’s board of directors approved the brownfield expansion of Line 6, which, according to Murray: “Will mean capitalizing on existing infrastructure and systems already in place for cost efficiency, that will bring Alba’s production up to roughly 1.5 million mt/y, making Alba the largest single-site smelter in the world.”

Furthermore, according to a 2015 press release from Alba, “[The] Board of Directors looked at various options from the Line 6 Bankable Feasibility Study and ultimately finally opted for the largest expansion option of 514,000 mt/y which will significantly improve Alba’s overall cost position. The Line 6 potline will utilize DUB-

### BAHRAIN AT A GLANCE

Source: CIA World Factbook

**Population:** 1,346,613  
**Land Area:** 760 sq km  
**Official Languages:** Arabic  
**Capital:** Manama  
**Chief of State:** King Hamad bin Isa Al-Khalifa (since 1999)  
**Head of Government:** Prime Minister Khalifa bin Salman Al-Khalifa (since 1971)  
**Growth Domestic Product:** \$62.17 billion (2014 est.)  
**Growth Rate:** 4.5% (2014 est.)  
**GDP per Capita:** \$49,000 (2014 est.)  
**Economic Sector Breakdown:** agriculture: 0.3%, industry: 47.1%, services: 52.6% (2014 est.)  
**Exports:** \$20.75 billion (2014 est.): petroleum and petroleum products, aluminum, textiles  
**Imports:** \$13.32 billion (2014 est.): crude oil, machinery, chemicals  
**Major International Trade Partners:** Saudia Arabia, Algeria, China, United States, Japan

AL’s DX+ Technology which will bring state-of-the-art technology to optimize cost performance and reduce energy consumption.”

However, this expansion is not only strategic for Alba, but also for Bahrain, as Jarmo Kotilaine, chief economist of the Bahrain Economic Development Board explained: “Part of the Line 6 expansion is reengineering Alba as a whole; but more importantly for Bahrain, however, is that the expansion is about utilizing human capital in downstream production.”

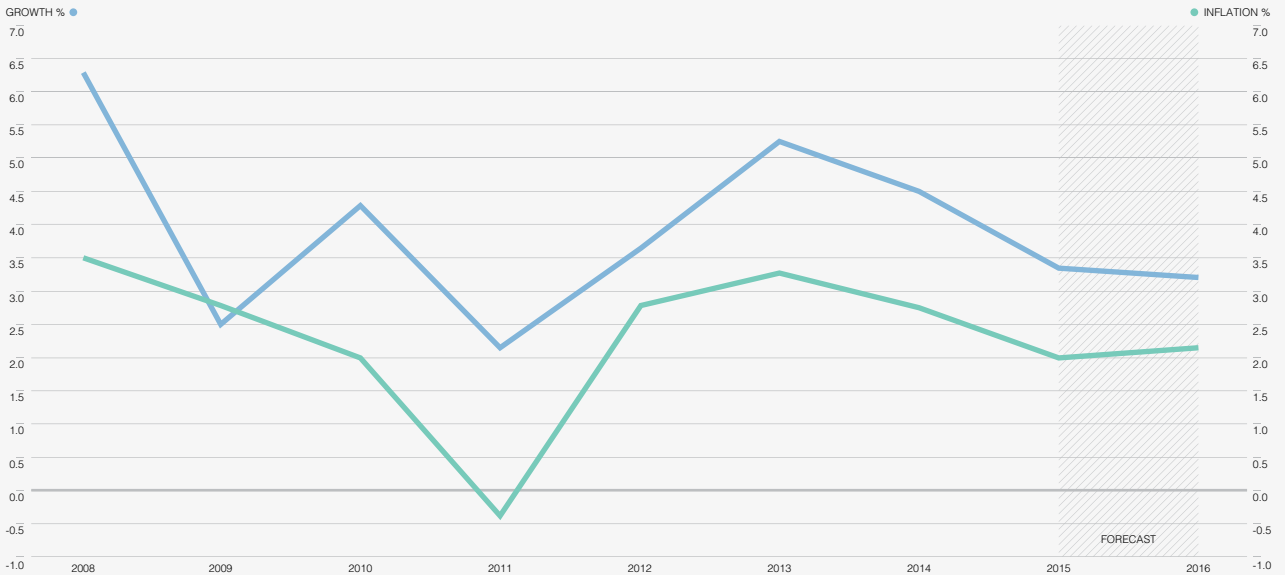
Though the aluminium LME price is currently in a trough, Murray maintains confidence going forward about the expansion: “Alba’s expansion is a brownfield expansion, which means capitalizing on existing infrastructure and systems already in place for cost efficiency. The aluminium LME price had already come down a bit when the project was approved in June, so the economics still work. The lower aluminium LME price has affected the project, but, nevertheless, Line 6 is still viable.”

Moreover, as Julian Clark, the regional director for MENA of Hatch, a global project-delivery company, explained, there are significant cost advantages to expanding now: “When prices are depressed, any major project needs to procure a significant amount of metals, parts and services, all of which at present can be procured more cheaply than in a bull market, meaning it is also the perfect time for investment in new facilities. The smelters are in a strategic position to expand; however, making the decision to do so right now is a difficult one, but those who do will likely reap the rewards in the medium term as the global supply and demand rebalances and prices rise again.”

Considering the long-term outlook for aluminium, Murray is less concerned about the current low price of aluminium: “The advantage of Line 6 being a three-and-a-half year project is that it is not coming onto the market tomorrow; the aluminium forecasts are still fairly positive in the long run, in line with our 2019 target for completion. In terms of cost-per-mt to build, Line 6 will probably be the best project in the world.”

**BAHRAIN GROWTH VS. INFLATION (2008 TO 2016)**

Source: International Monetary Fund

**Bahrain's Buoyant Downstream**

At present, Bahrain has the most developed downstream sector in the GCC, largely due to its longevity. Referring to the historical model in Bahrain, Garry Martin, plant executive manager at Bahrain Aluminium Extrusion Co, (BALEXCO), pointed out: “This basic model of having the smelter with the downstream industries directly adjacent or in close proximity started in Bahrain with Alba supplying liquid metal in crucibles to Midal Cables, BAMCO, and Bahrain Atomizers. Gulf Aluminium Rolling Mill Co. (GARMCO) and BALEXCO do not take supply in liquid metal form but being in the close proximity to Alba allows the efficient supply of the required cast products from Alba for the production of semi-fabricated rolled and extruded products respectively.”

Though not all downstream endeavors have been successful, it is this integration and ecosystem that Bahrain has built around Alba that has allowed aluminium to contribute 10% of the country's GDP. A case in point is that of Midal Cables, a significant player in the aluminium and electrical transmission industry in Bahrain and abroad. “Midal Cables and Alba have grown as a daughter and as a mother,” said Hamid Rashid Al Zayani, managing director of Midal Cables. “When Alba started, it produced 120,000 mt/y, while Midal Cables produced 12,000 mt/y. Today, Alba stands at around 900,000 mt/y, while Midal Cables stands at 300,000 mt/y. In other words, Midal Cables takes roughly 25% to 30% of Alba's product.” While Alba and the downstream have grown together in near proximity, service providers, have also taken advantage of the opportunity to be near their clients to ensure efficiency of service. One such company is Pyrotek, a recognized world leader for equipment, consumables and consulting related to the refining, melting, processing and casting of molten aluminium. In 2012, Pyrotek built its brand new 5,000 square meter plant at the Askar industrial area

near Alba. Faisal Majeed, managing director of the Arabic region for Pyrotek, explained: “This move is part of the company's global strategy to purposefully situate operations very near to those of our clients so that the company can operate as a local supplier that offers immediate support. Pyrotek has the technology and resources and our own developed materials, so the main areas of service include after-sales and technical support to casthouses.”

The presence of such a warehouse facility relieves plants of considerations that are non-core to their business. Majeed added: “Pyrotek is able to encourage customers to reduce their inventory by offering the opportunity to stock all of their products in our compound under a consignment stock agreement. Smelters have tens of thousands of numbered parts and would need a smelter-sized facility in order to store them all. Smelters depend heavily on cast house suppliers, with quick, local and specialized distribution. This responsive service becomes key, since the lead-time for material can sometimes take between eight-to-ten weeks.”

With nearby service providers and a well-established downstream sector, aluminium in Bahrain is continuing to move forward as existing companies further develop their operations and also as the sector prepares for the entrance of new players. Balancing current trends and expectations for the long term, GARMCO announced in 2015 its partnership with Fives Solios, the aluminium branch of the international industrial engineering group, to build a new casthouse in Bahrain. Lucas outlines the goals of this new facility: “One of the main objectives of this project is to reduce GARMCO's operational costs by internalizing our slab casting. A second objective is asset protection integrity through risk diversification. Currently, 100% of our external supply comes from Alba's casting pit, and given that GARMCO's own capacity is currently limited, we could not survive if anything were to happen to Alba. Overreliance on one source for material is dangerous for any business, so this new cast house will provide GARMCO with security of supply. Additionally, another main objective of the casthouse project is to

achieve sustainability by adopting recycling best practices. Recycling is a growing global trend and even though in the Middle East it has not gained the same popularity as in Europe or the United States, it is guaranteed to come in the near future, perhaps within the next five to 10 years.”

Fives was a logical choice for this project said François Pahmer, chief representative, Fives Middle East: “We have provided around 75% of all the casthouse furnaces that were built by the different smelters in the Gulf region.”

Moreover, Fives’ involvement shows how this service provider is moving into new areas just as its clients are, as Pahmer explained: “The Fives Group has identified aluminium as a key sector for growth and is constantly looking for new opportunities in this space. The group’s experience with casthouse furnaces provided to smelters is very extensive and we are looking to build a bigger footprint in the downstream area. It is a competitive environment, with many players capable of providing partial solutions for casthouses. However, what is much less common, and where Fives excels, is its capability of providing customized turnkey solutions for our customers, from civil works and building, to the process equipment and the plant utilities, in an EPC contract. This is how we can best combine the strengths and resources of the different Fives Solios companies and provide the most valuable solutions for our customers looking for integrated solutions.”

**Molten Metal Park**

Having pioneered the model of locating the downstream near a smelter, Bahrain is looking to expand it further in anticipation of the new tonnage that Alba’s Line 6 will produce because, as Tim McLaughlin, general manager of Bahrain Atomisers International, explained: “Currently, the downstream in Bahrain could possibly take another 20% of their current aluminium capacity leaving about 40% to 50% to stay in Bahrain.”

To encourage new downstream industries, Bahrain is attracting new investment into the Molten Metal Park. “The biggest government incentive for the aluminium industry today is the Molten

Metal Park which is a combined initiative between the EDB and Mumtalakat,” stated Kotilaine

The land has been secured for this purpose and is being administered by Mumtalakat’s sister company, Edamah, which is obtaining all the necessary approvals to establish the infrastructure and connectivity required for any operation to be set up in the park. “In parallel to Alba’s line 6 expansion,” explained Kirikian, “Mumtalakat is working on establishing joint ventures with world class companies in various aluminium downstream subsectors that can benefit from liquid aluminium supply such as high performance conductors, castings (specialty automotive wheels), extrusions and rolling (continuous casting FRP). The unique aspect of this project is that Mumtalakat is willing to invest and acquire a stake in these various downstream companies operating inside the Molten Metal Park.”

This last point adds an extra layer of comfort to the foreign investors looking at the opportunities in Bahrain, even though Bahrain is already considered a favorable investment destination. FDI Intelligence’s Middle East & African Countries of the Future 2015-2016 ranking named Bahrain as number one in Foreign Direct Investment Strategy for the Middle East region and with good reason. Describing the attractiveness of Bahrain as an investment destination, Hassan Radhi, senior partner of the Bahraini law firm Hassan Radhi & Associates, said: “Bahrain is a very open country; it is the most open country in the region in terms of investment. Bahrain has one of the largest free zones in the world to the extent that there is no need for a sectioned off area; the whole country is an economic free zone. The recent amendment of the Commercial Companies Law is creating an even more favorable environment for foreign direct investment, as it no longer requires for Bahraini shareholders. So, in terms of investing and setting up a business in Bahrain, there are almost no restrictions at all.”

**Logistics: Moving Material**

While Bahrain enjoys strong production and an accommodating infrastructural setup, the outbound supply chain is of critical importance. A product’s timely delivery or its delay can make or break a



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client relationship, especially in this more difficult economic environment. An island, Bahrain has natural obstacles to moving products via roads. Qays Zu'bi, senior partner at the Bahrain based law firm, Zu'bi & Partners, said: "One of impediments at the moment for the aluminium industry is the King Fahd Causeway that links Bahrain to Saudi Arabia. Trucking delays are a major issue for the aluminium industry because of alternative cost. The delays have improved, but not to the extent that they are no longer an issue."

While Bahrain delivers a significant amount of aluminium products to Saudi Arabia, the better part goes out to international markets, via the ports, which are a much more reliable method of transport. As Zu'bi noted: "Bahrain's ports are superior to many other ports in the region. For example, in other ports freight can sometimes take six months to clear. Despite the problems with the causeway, it is still faster to ship and clear goods in Bahrain rather than directly to neighboring ports."

Inefficiencies within ports can be caused by under-capacity, resulting in congestion and thus making it difficult to maintain high productivity. "The Khalifa Bin Salman Port has been built for the future," said Mark Hardiman, managing director of APM Terminals Bahrain, "and as a result we have more than sufficient space for current market demands, meaning we can also easily maintain a very high level of productivity and efficiency. We can also supplement the KSA market. For example, whereas some nearby ports have a deficit of containers, APM Terminals has surplus capacity meaning cargo can be sent to Bahrain for consolidation and transshipment, thereby making use of the surplus equipment at the same time as reducing costs of evacuation for the carriers. In terms of APM Terminals' infrastructure, we have state-of-the-art equipment, employing the leading container terminal operating system in the world and offering frontline warehouses."

While the infrastructure is indeed important to a smooth operation, just as important to the aluminium industry are the differentiated services that APM Terminals Bahrain can provide such as container stripping stuffing and product storage, including warehousing to local downstream companies in the aluminium industry with the facilities already in place.

**The Human Capital Factor**

Unmatched by the other GCC countries is Bahrain's competitive edge when it comes to human capital. Bahrain contains a well-educated and skilled national labor force. Radhi explained: "The Kingdom started investing in formal education more than a century ago, which was very much a pioneering venture in the regional context. Developing excellence in human capital is a long-term strategic project that the government has undertaken and is actively pursuing, as seen through the establishment of Tamkeen, the special labor fund, that provides training solutions for companies needing qualified technicians or engineers by paying for the training and development of available local talent." While expatriates can still be found within many of Bahrain's aluminium companies, particularly in the senior managerial roles, there is no scramble to find experienced technicians or engineers. With an aluminium industry that was founded nearly four decades ago, industrial work is understood and respected and many argue that this is where Bahrain's true strength lies. •



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 Shaikh Jaber Al Ahmed Al Sabah Highway  
 Nuwaidrat 643, Kingdom of Bahrain  
 Tel: +973 17700166 Fax: +973 17701492  
 E-mail: tminfo@turk.bh  
 Website: www.turkgroup.biz



## Joseph Kirikian

Head, Industrials Group  
**BAHRAIN MUMTALAKAT HOLDING COMPANY (MUMTALAKAT)**

●●● **Can you provide us with a brief introduction and history into Mumtalakat?**

Bahrain Mumtalakat Holding Company (“Mumtalakat”) was established in June 2006 as an independent Holding company to actively manage and grow its portfolio. Mumtalakat manages its portfolio of companies with the objective of enhancing their performance and returns. Furthermore, it actively seeks to invest in commercially sound and sustainable opportunities locally, regionally and internationally. Mumtalakat’s portfolio spans a variety of sectors, including industrial manufacturing, financial services, telecommunications, real estate, tourism, transportation, ICT, TMT and education.

**Mumtalakat owns 69.38% of Alba. How significant is aluminium to your portfolio? What other investments does Mumtalakat have in the aluminium industry at present?**

Aluminium is a very important sector to Bah-

rain and to Mumtalakat. Alba represents the largest single investment for Mumtalakat. It is a \$2-billion-revenue company that employs over 3,000 people, of whom around 90% are Bahrainis. It is an important part of our portfolio and we are very proud of the evolution that the business has undergone in recent years that has seen it become more successful than ever.

The strength of Alba has also helped to underpin the downstream sector in Bahrain, which has flourished as a result of the high levels of local expertise and a range of reforms made as part of the government’s focus on economic diversification. We hold a stake in Gulf Aluminium Rolling Mill Company (Garmco), the largest aluminium rolling mill in the GCC and an important part of the downstream sector, which is in addition to many others in the country.

**How do you expect this to evolve?**

In parallel to Alba’s line 6 expansion, Mumtalakat is working on establishing joint ventures with world class companies in various aluminium downstream subsectors that can benefit from liquid aluminium supply such as high performance conductors, castings (specialty automotive wheels), extrusions and rolling (continuous casting FRP). Bahrain is home to a highly skilled local workforce, so firms looking to set up in the Kingdom can benefit from being able to staff their operations locally, rather than having to import a workforce.

Given our expertise in aluminium, we would always be interested in broadening our exposure to the sector, and can really add value to partners who are looking to invest in the region.

**Many of our interviewees have mentioned the prospective molten metal park and how this area will further enhance the downstream. Can you please tell us about Mumtalakat’s involvement and the specifics of this plan?**

The molten metal park is planned to be in the vicinity of Alba. The facilities to be located in the park will make use of liquid aluminium capacity made available by the newly proposed Line 6. The land has been secured for this purpose and is being administered by Mumtalakat’s sister company, Edamah, which is obtaining all necessary approvals to establish the infrastructure and connectivity required for any operation to be set up in the park.

**When is it expected to come on stream?**

Necessary work on the development of the land housing the molten metal park is expected to be shortly underway. Some of the operations are already coming on stream, though of course it depends on the level of liquid metal that the operations require. For some of those with larger requirements, the construction of the downstream facilities will be done in conjunction with construction of Alba’s Line 6.

**What steps is Bahrain taking to remain the go-to country for aluminium projects considering the significant investment that neighboring countries are making?**

In supporting Alba’s Line 6 expansion, enabling the company to become the largest single site smelter globally and amongst operators with the lowest production cost, the country has underlined its commitment to developing the sector locally. Similarly, by making land available around the smelter for the downstream industry, the country confirms its intention to similarly translate such cost advantage to all local aluminium downstream players. Mumtalakat is investing alongside international companies looking to establish operations in Bahrain, given our strategic knowledge of the local market and expertise. Established in 1971, Alba is the pioneer smelter in the region. Many local downstream operations date back to that time. In Bahrain, the local know-how and skilled workforce provides a good foundation for foreign established companies to expand into the region.

**Can you please provide us with a final message for our readers?**

The aluminium sector is energy-intensive and countries in the region have taken wise steps to benefit from their resources and diversify their economies. The aluminium sector represented a logical path to industrialize their economies.

However, since the establishment of Alba forty years ago, the sector has evolved and the growth and success of the local aluminium downstream market in Bahrain reflects the changes that have taken place. The sector in Bahrain is booming because of competitive energy costs, high efficiency, a high level of human capital, and the ever-growing downstream. The modern aluminium industry is robust, sustainable, and globally competitive. Mumtalakat wishes to build on previous efforts and contribute to the local and regional aluminium downstream sector by partnering with world-class operators. •



JTK



RS

## Dr. Jarmo T. Kotilaine & Ryaan Sharif



JTK: Chief Economist  
RS: Manager, Manufacturing,  
Transport & Logistic

### BAHRAIN ECONOMIC DEVELOPMENT BOARD (EDB)

- Established in 2000, the Economic Development Board is responsible for formulating the future economic development strategy of Bahrain. Could you please tell us about EDB's mission and objectives?

**JTK:** The Economic Development Board (EDB) is an autonomous public sector entity dedicated to fostering economic development in Bahrain and is led by a board of directors chaired by His Royal Highness the Crown Prince. The practical implementation of the EDB's mission has evolved with time. In the past the EDB was active in initiating various reforms and setting up different agencies, while today the main areas of responsibility for the EDB are in economic planning and investment promotion. The purpose of the EDB is to identify sectors where Bahrain can compete and translate that into practical sales pitches to investors to foster the successful mobilization of capital for the benefit of this economy, including to continue diversifying and creating high-value jobs.

**FDI Intelligence's Middle East & African Countries of the Future 2015-2016 ranking recently named Bahrain as number one in Foreign Direct Investment Strategy for the Middle East region. Why is Bahrain so attractive to investors?**

**RS:** Bahrain is a diverse, open economy, and while in other Gulf Cooperation Council (GCC) countries, companies can be restricted to working in an economic free-zone, Bahrain uniquely offers a no economic free-zones concept which allows for 100% foreign ownership in the entirety of the Kingdom. The Bahrain International Investment Park, for instance, attracts a variety of multinational blue chip manufacturers looking to leverage incentives that include a ten-year national tax-free guarantee and a five-year Bahrainization exemption. Moreover, from a cost perspective, the GCC is becoming an increasingly costly place to establish a business. Bahrain is approximately 40% more cost competitive to some of its neighbors when looking at various inputs including industrial utilities (i.e. water, electricity, gas), land, accommodation, salaries, schooling and so on. Bahrain enjoys a steady economic and inflation growth rate that forms the backbone of a stable economy.

**JTK:** From an economist's point of view, Bahrain's distinguishing factor is that it offers a distinct value proposition in the context of the GCC. In a region where competitiveness tends to revolve around cheap energy and hydrocarbons, Bahrain has moved to a different level where it is much more about skills, knowledge, and attractive regulations, which can allow a business to tap into region-wide opportunities. Bahrain today is, above all, about its human capital competitiveness. Bahrain has a skilled national labor force and because of its location and regulations, Bahrain can position itself as an attractive platform for the region.

**Aluminium makes up 10% of the country's GDP. What initiatives and programs does the government have in place to develop this industry further?**

**RS:** The biggest government incentive for the aluminium industry today is the molten metal park that is a combined initiative between the EDB and Mumtalakat, Bahrain's sovereign wealth fund, which owns 69.38% of Alba. The attractiveness of the park comes from being adjacent to Alba, where the molten metal will be delivered directly to downstream producers with significant cost advantages.



*In a region where competitiveness tends to revolve around cheap energy and hydrocarbons, Bahrain has moved to a different level where it is much more about skills, knowledge, and attractive regulations.*



**Aluminium is a very important to the national economy and to Bahrain's efforts to diversify away from oil and gas. As the sector grows, how will the investment environment change?**

**JTK:** Alba is considered as a significant national asset. It is majority owned by Mumtalakat, and is listed on the Bahrain Bourse; as such, it makes every sense for Bahrain to continue to grow this company. Alba was started as an effort to make use of gas through smelting, and exporting billets for profit. Today, however, the ambition is to further increase the standards and efficiency within Alba, so part of the Line 6 expansion is reengineering Alba as a whole; but more importantly for Bahrain, however, is that the expansion is about utilizing human capital in downstream production.

**RS:** Alba is partially listed on the LSE and is owned by two major shareholders, Mumtalakat and SABIC. Alba's commitment to servicing Bahrain's downstream capability is evident in the fact that 50% of their capacity provides the feedstock requirements to Bahrain's downstream industries, which consequently maximizes the value of the metal. Alba has created an ecosystem around itself by supplying to local midstream companies like Midal Cables, Balexco, GARMCO, and BAMCO. Today, Alba has a strong commitment to take that step further and develop Bahrain's downstream capabilities. Additionally, the further downstream, the less utility intensive the process becomes, and that is the beauty of it: higher value-added production creating higher skilled and paid jobs.

**JTK:** The Alba expansion project is underpinned by a clear strategic vision of national importance. How the country can maximize the economic impact is different from what it was thirty years ago. To make this a reality, stakeholders public and private will need to be involved. ●



Tim  
Murray

●●●  
CEO

**ALUMINIUM BAHRAIN (ALBA)**

●●● **Alba, as the first smelter in the Gulf, essentially birthed the aluminium industry in this part of the world. What are Alba's main products and their final use?**

Alba sells five core products with 40% of its production being billets, typically used for all types of construction and some automotive. Foundry alloys make-up 14% of production used mainly for automotive like wheels or die-casting. In addition, Alba produces rolling slabs, which makes up 13% of its production and are then sold to the downstream, offering a better value proposition.

The next 31% is liquid metal, also fed downstream, taken directly right out of the crucible and poured into the clients' furnace. Midal Cables, Alba's largest customer, uses its aluminium primarily for cables and wiring. Smaller companies like Bahrain Atomisers International makes paints, powders, and specialty chemicals with our primary materials. Commodity ingots make-

up the remaining 2% of production, though these are not being sold at present, as the market is not favourable. Alba's strategy is two-fold: maximize value-added products, which provide leniency for price fluctuations and market buffers, and keep our base load downstream liquid.

**In June 2015, Alba approved its Line 6 Expansion. Since then, the price of aluminium has fallen further. What impact has the lower aluminium LME price had on the economics of the Line 6 expansion?**

Alba's expansion is a brownfield expansion, which means capitalizing on existing infrastructure and systems already in place for cost efficiency. The aluminium LME price had already come down a bit when the project was approved in June, so the economics still work—the lower aluminium LME price has affected the project, but, nevertheless, Line 6 is still viable.

One factor that has offset the lower aluminium LME price relates to the construction costs; Alba has actually benefitted from commodities and supplier backlogs being very low. The advantage of Line 6 being a three-and-a-half year project is that it is not coming onto the market tomorrow; the aluminium forecasts are still fairly positive in the long run, in line with our 2019 target for completion. In terms of cost-per-ton to build, Line 6 will probably be the best project in the world.

Today, we are seeing a shakeup in commodity prices across the board. But unlike oil, for example, where there is a true oversupply in the market, aluminium is growing at a healthy 5% to 6% per year, aided by construction and packaging through increased basic consumption. Additionally, aluminium benefits from its substitutive properties in automotive. Cabling is another area where aluminium's usage is growing. Midal Cables, for example, is replacing its copper with aluminium, which costs four to five times less. Fundamentally, the long-term outlook for aluminium is promising.

When Line 6 is completed, it will bring Alba's production up to roughly 1.5 million mt/y, making Alba the largest single-site smelter in the world. This expansion is not only strategic for the company, but also for Bahrain, as at least half of the metal from Line 6 will be designated to the downstream in order to further develop the sector to continue capturing value locally.

**Can you tell us about Alba's recycling initiatives and how Alba serves as a model to the local and regional industry in this regard?**

Alba certainly is a leader when it comes to safety, health and environment (SHE), as it is paramount to the core of our operations. Unlike other global players who may prioritize cost first, Alba makes it a point to acquire the latest and greatest technology with environmental controls built-in, which usually comes at a higher price. Alba benchmarks very well not just in Bahrain, or the greater GCC, but internationally, specifically in fume treatment and recycling, where we recycle around 95% of our own generated waste. Aluminium recycling by-products can be used to further create value-added products in the steel or the cement industry and Alba has demonstrated locally and to the region how this is done by leading through example. For instance, Alba buys green petroleum coke, a by-product of refining in the cracking process in oil, to make anodes that are used by the cement industry.

**What aspect of Alba's operations do you believe has been the key to the company's long-term success?**

Alba's philosophy and my own has always been that developing and training people is the cornerstone of any success we may see. Five years ago, Alba's production was 850,000 mt/y, and this year it will hit 950,000 mt/y. This will be accomplished using the same equipment, same operations, and same number of workers. This is a testament that productivity comes through the people. Unlike regions where the mindset is largely profit driven, the Middle East truly puts an emphasis on how a company can benefit its people and when this is your focus, you see how employees can really improve the company's existing operations. In the short-term, it is very easy as a business to cut training or maintenance in order to reduce costs, but down the line, when there is no succession plan and workers leave and equipment starts falling apart, the previous cost-cutting measures end up becoming grave concerns that could have been avoided. •

# Hassan Radhi

Senior Partner  
**HASSAN RADHI & ASSOCIATES**



●●● **Can you provide us with a brief history and introduction into Hassan Radhi & Associates, as well as its practice areas?**

I started the firm as an individual and associate of Coudert Brothers, a giant New York-based firm during the 1970s, serving as its sponsor, partner and counsel in Bahrain until the firm decided to leave the region. I then acted as Coudert Brothers’ regional independent counsel, and started developing and growing my firm. Today, Hassan Radhi & Associates is comprised of eighteen lawyers, where banking and finance makes up 60% of our workload. Hassan Radhi & Associates has been working to diversify and thus has offered its services in other fields of law such as telecommunication and construction.

**As one of the oldest law firms, how would you assess the regulatory environment and attractiveness of Bahrain as an investment destination?**

Bahrain is a very open country and the most open in the region in terms of investment. Bahrain has one of the largest free-zones in the world to the extent that there is no need for a sectioned-off area; the whole country is an economic free-zone. The recent amendment of the Commercial Companies Law is creating an even more favorable environment for foreign direct investment, as it no longer requires Bahraini shareholders. So, in terms of investing and setting up a business in Bahrain, there are few restrictions, ranking it as one of the top countries in terms of attracting investment in the world. In addition, investors will find that the real wealth of Bahrain comes from its people. Any potential investor can source all levels of employees locally, with no real need to import. Bahrain has a long history of industrialization, unlike some of the states in the region that have come up very rapidly due to oil wealth. Lastly, Bahrain has been a hub for global investment and trade for a millennium and therefore it has an entrepreneurial population that is open to ideas and influences. The Kingdom began investing in formal education more than a century ago, which was very much a pioneering venture in the regional context. Developing excellence in human capital is a long-term strategic project that the government has undertaken and is actively pursuing, as seen through the establishment of Tamkeen, the special labor fund that provides training

solutions for companies needing qualified technicians or engineers by paying for the training and development of available local talent.

**How has Hassan Radhi & Associates been involved in the aluminium industry, specifically with Alba?**

In aluminium, Hassan Radhi & Associates mainly worked on the investment side, where we have helped with privatization, including the documentation and preparation for approaching investors. As such, we worked as a consultancy and executed certain kinds of investigations into manpower, administrative, and equipment works. After having undertaken a due diligence of Alba, we gained significant access to the aluminium industry, examining the assets including the units, furnaces, and equipment. Lastly, there were some material disputes in the aluminium trade contracts that needed to be clarified, specifically with buying and storing raw materials where defects could be found, safeguarding raw materials, and storage.

**Where will we find Hassan Radhi & Associates in five years?**

Hassan Radhi’s priority is to continue to diversify the sectors and jurisdictions that it serves. Currently, Hassan Radhi & Associates is seeking a license in other GCC countries that share a similar and stable regulatory environment as Bahrain. From our experience and history with the United States, we have chosen to explore opportunities in oil and gas and perhaps real estate, as well. Hassan Radhi is now licensed as a foreign legal counsel in Texas and is establishing an office in Texas. ●



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Tel. 97317535252 | Fax. 97317533358  
 info@hassanradhi.com | www.hassanradhi.com

# Mark Hardiman & Sunil Joseph



MH



SJ

MH: Managing Director  
SJ: Chief Commercial Officer

## APM TERMINALS, BAHRAIN

- **Headquartered in The Hague, Netherlands, APM Terminals is one of the largest port and terminal operators in the world. Could you please provide a brief introduction to APM Terminals in Bahrain and some of the services the port offers?**

**MH:** In 2006, APM Terminals won the concession to operate the Mina Salman port in Bahrain, which at that time was the country's only port and was operated by the government. APM Terminals operated there for around three years before the Khalifa bin Salman port was made operational in 2009.

Today, APM Terminals in Bahrain is a full multiport. This means that we operate the traditional container terminal, in which capacity APM Terminals has their most experience on a global scale. But beyond containers, APM Terminals Bahrain also handles general cargo, bulk commodities; Ro-Ro; livestock and we have a dedicated passenger terminal in the port as well. APM Terminals also offers Container Freight Station and LCL stripping and stuffing operations. We strip around 180 containers a day inside the port in a dedicated warehouse for the local market.

**APM Terminals is an important component to the outbound supply chain for Alba. Can you tell us about the services that you offer to Alba and the importance of this relationship?**

**MH:** Part of APM Terminal's strategy is not simply to engage shipping lines, which are our immediate customers, but to go beyond the traditional relationship by looking further, to our customers' customers to see what we can offer in terms of value-added services. APM Terminal's relationship with Alba is very much in line with this strategy. Alba is one of APM Terminals most important customers; around 450,000 metric tons of aluminium, about 50% of its production, came through the port in 2014. In the first quarter of 2015, APM Terminals signed a service-level agreement with Alba to reaffirm our strong ties and to enhance our consistent, highly reliable link within ALBA's supply chain.

**How can APM Terminals support other aluminium companies in Bahrain and in the greater GCC region?**

**MH:** APM Terminals hopes to grow as a partner with Alba, as the only producer of aluminium in Bahrain, finding ways to im-

prove their operations. APM Terminals can offer services, such as container stripping stuffing, and product storage including warehoused, to local downstream companies in the aluminium industry as we have the all the facilities already in place. When it comes to port operations, APM Terminals has a continuous improvement mindset. For example, in 2013, APM Terminals completed a joint project with Alba to see how we can maximize the truck flows. As a result of that joint collaboration, we improved efficiencies in resource allocation for both parties. APM Terminals can provide individualized services to any potential clients.

**SJ:** APM Terminals is exploring opportunities to provide innovative solutions for the aluminium industry both in Bahrain and outside of the country. Looking at the neighboring markets, some new, large aluminium projects have expressed keen interest in our present services offered to Aluminium like stuffing / loading etc., which itself presents an opportunity for APM Terminals. We have the ability to compliment the services that are already offered within the Saudi market to the Aluminium Industry.

**Terminal operators in the region are expanding capacity, increasing competition for ports and the logistics services they offer. What unique advantages does APM Terminals provide to clients?**

**MH:** APM Terminal's advantages come from being dynamic and flexible to the customer's needs and requirements and our size affords us that flexibility. Inefficiencies within ports can be caused by under-capacity, resulting in congestion and thus making it difficult to maintain high productivity. The Khalifa Bin Salman Port has been built for the future and as a result we have more than sufficient space for current market demands, meaning we can also easily maintain a very high level of productivity and efficiency. We can also supplement the KSA market - for example, whereas some nearby ports have a deficit of containers, APM Terminals has surplus capacity meaning cargo can be sent to Bahrain for consolidation and transshipment thereby making use of the surplus equipment at the same time reducing costs of evacuation for the carriers. In the event of congestion in neighboring ports APM Terminals

Bahrain can also accommodate transshipment cargo at short notice, sometimes needed by the shipping lines so as not to disrupt mainliner's vessels schedules. When the customer is ready, APM Terminals can then trans-ship the cargo to destination ports. This setup has proven so successful in the past, that APM Terminals has now put some more structural deals in place for the trans-shipment of cars.

In terms of APM Terminals' infrastructure, we have state of the art equipment, employing the leading container terminal operating system in the world and offering front-line warehouses. The company is currently developing a general cargo operating system for the non-container terminal side of our business, moving APM Terminals away from manual processes and towards more automation and real-time updates. At the moment, APM Terminals works at a rate of 36-37 moves per hour, which is the highest in the Region and on par with the best performing ports in the world.

Lastly, APM Terminals has an excellent staff of professionals. APM Terminal's training program for operators puts great emphasis on safety and we strongly believe that if you focus on safety first, production will follow.

**If Global Business Reports were to come back in three to five years, where would we find APM Terminals?**

**MH:** APM Terminals is looking to identify the infrastructure needed not for just the next three to five years but for the next 20 years. APM Terminals is working with the government to see what role the company can play in the development of Bahrain. Currently, APM Terminals is in preliminary discussions with the government about improving infrastructure for handling bulk cargos. Regarding aluminium, Alba's Line 6 has been approved and thus APM Terminals will continue to play a crucial part in Alba's supply chain and will be able to accommodate the expanded downstream industry. Soon APM Terminals Bahrain will become a listed company on the Bahrain Stock Exchange, giving the chance to share the success of the company with the public. Ultimately, APM Terminals wants to be part of Bahrain's growth story, working closely with the government and the aluminium industry and giving back to the Bahraini people. •

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## Khalid Ali Turk



Director (TMI) and CEO (THT)

### **TURK MECHANICAL INDUSTRIES (TMI) AND TURK HEAVY TRANSPORT (THT)**

#### ●●● **Turk Mechanical Industries (TMI) and Turk Heavy Transport (THT) have been operating for over thirty years in the local and international markets. Could you provide a brief history and introduction to the companies?**

TMI was established in 1985 as a joint venture between two parties, Mr. Ali Abdul Jalil Turk and Mr. Mohammed Akbar Nawab Deen. The company began as a small machine shop but as Bahrain industrialized over the years, TMI diversified by investing in skilled staff and heavier equipment. As international companies took on projects here, some of their requirements were not met locally so TMI invested to meet those needs. Today TMI has four divisions: heavy and light fabrication facilities, foundry, one of the largest machining facilities, and an engine repair shop. TMI specializes in the fabrication and manufacture of consumable parts for the aluminium industry and has supplied parts to all

of the smelters in the GCC, most recently Ma'aden. TMI works in other industries, such as steel, oil and gas, but aluminium is the main driver of the company's business. THT was established before TMI, in the early 1960s, officially registering in 1972. THT first started offering crane and truck services to the local market and, once business began to accelerate in the 1970s, it worked on infrastructure projects including Alba's pot lines 1, 2 and 3. Today, THT is a logistics one-stop-shop, providing services such as custom clearance, freight forwarding, shipping and airfreight, general cargo transportation, and specialists in heavy and out of gauge transportation.

#### **The aluminium industry in Bahrain goes back over 40 years. How have TMI and THT grown with this industry?**

Alba, as one of the largest companies in Bahrain, consumes a large quantity of resources, and TMI is able to manufacture many of the consumable tools for smelting operations that they require. The company's specialization in the field of aluminium smelter consumable parts has furthered TMI's penetration of the GCC market such that today we service all of the smelters. THT provided all of the transportation equipment and related services for Alba's last two major expansions, pot line 4 and pot line 5.

Since the 1990s, TMI has had an excellent relationship with international EPCM firms, such as Bechtel and SNC-Lavalin, which worked on the expansion projects for Alba. Bechtel has utilized TMI internationally, inviting the company to manufacture the consumables for the Fjardaal aluminium smelter in Iceland. These EPCM firms understand TMI's high quality of products and service and that TMI is cost competitive.

#### **As local Bahraini companies, how do TMI and THT stay ahead of local and international competition?**

TMI products are inherently high-quality and are further enhanced through collaboration with the client. TMI does not have an research and development department per se, but has developed its own technology through trial and error and client cooperation. For example, TMI-designed, casted and supplied tapping tubes for passing molten metal aluminium, with a special composition using Alba's feedback to im-

prove the product. The product has a longer life and is therefore more economical for Alba. TMI's focus is to assure that the parts supplied are comparable to or better than what foreign competition produces. Another competitive advantage is shortened delivery time. TMI can deliver products within a week or less, whereas an Indian or Chinese firm could take up to six weeks for a similar request. This speed reduces shutdown or maintenance costs for our clients by a large margin.

#### **TMI works in multiple aluminium markets in the GCC. How would you assess the growth potential for the aluminium industry in Bahrain?**

Other GCC countries, such as Saudi Arabia or UAE, have invested heavily in the aluminium industry in recent years and within a short time frame have built the infrastructure for vertically integrated aluminium industries. For instance, Ma'aden began conceptualizing a fully integrated aluminium smelter in 2007 and by 2014 that smelter was in production with two very long pot lines. For Bahrain to be competitive, expansion of the aluminium sector is critical. Bahrain has the resources, from access to the raw material to industrial land to low cost power and will thus continue to be attractive for downstream projects, but there needs to be more of a consolidated effort to grow this industry at the rate that the downstream is growing in other GCC countries.

#### **Where will TMI and THT be in the next three to five years?**

The industries that TMI and THT serve are growing, and the demand for the companies' products is increasing. At present, turnover is largely derived from the local market, but the company is evaluating and open to joint ventures with foreign companies outside of Bahrain and the region. Looking at the aluminium industry, the rate of consumption for consumable smelter parts is huge thanks to growth in Saudi Arabia, UAE, Bahrain, Oman and Qatar. There is great potential for TMI to serve current and prospective clients in the region and to further expand its operations globally. •





## Nigel Clear

General Manager, Turkey, Africa, Middle East, India

### PYROTEK

- **Headquartered in the United States, Pyrotek opened its Middle East office in Bahrain in 2005. Can you tell us more about the company's decision to set up a location here in Bahrain?**

Pyrotek works in a number of industries, including steel, glass, marine/transportation/building, but Pyrotek's core business in the Middle East is aluminium. The company is a recognized world-leader for equipment, consumables and engineering consulting related to the refining, melting, processing, and casting of molten aluminium.

Initially, Pyrotek established a small stocking location and technical office in Bahrain. To better serve this industry, however, Pyrotek built its new 5,000-square-meter plant in the Askar industrial area near Alba in 2012. In the subsequent three years the company has grown thanks to new business and the support of the Bahraini government. Pyrotek purposefully situates its operations near to those of its clients, so

that the company is able to operate as a local supplier who offers immediate support. Pyrotek has the technology and resources, and its own in-house developed materials, so the main areas of service include after-sales and technical support to cast houses, carbon baking, and pot rooms.

### **What factors are driving international companies like Pyrotek to prioritize their Middle East operations?**

Analyzing the aluminium market today, one can see that, excluding China, the GCC produces 20% of the world's primary aluminium, totalling roughly 5 million metric tons per year (mt/y). Emal's expansion was pivotal to growing this figure to what it is today. Ma'aden has just ramped up production, placing it over 740,000 mt/y. Both Sohar and Qatalum have the capacity to expand, potentially doubling production. Alba's Line 6 was approved this year, and when that comes on line in 2019, the GCC will be producing 5.5 million mt/y.

These expansions will not only draw even further attention and business to the Middle East, but also will become key drivers in job creation, especially through vertical integration and downstream development as Qatalum and Ma'aden are proposing to do, following the example that Alba has set.

### **Regional governments are very focused on promoting the employment of local citizens, which in Bahrain is known as 'Bahrainization'. How important is this initiative to Pyrotek?**

Most of our employees are from Bahrain. From a business perspective, it makes sense to employ locals because the talent is already here. The Bahrain workforce is well educated, and there is rarely a need to go outside Bahrain to acquire the skilled employees who we require for our operations. Furthermore, it is important for Pyrotek to give back to the community by encouraging Bahrainis to acquire new skills and work in an exciting and important industry.

### **What are Pyrotek's priorities for the short-to-medium term?**

Pyrotek invests heavily in research and development labs to develop new materials in order to satisfy customers by offering lower-cost solutions. Separately, warehousing has taken precedence in our business model. Pyrotek is able to encourage customers

●● *Excluding China, the GCC produces 20% of the world's primary aluminium, totalling roughly 5 million mt/y. Emal's expansion was pivotal to growing this figure to what it is today. Ma'aden has just ramped up production, placing it over 740,000 mt/y. Both Sohar and Qatalum have the capacity to expand, potentially doubling production. Alba's Line 6 was approved this year, and when that comes on line in 2019, the GCC will be producing 5.5 million mt/y.*

●● to reduce their inventories by offering the opportunity to stock all of their products in our compound under a consignment stock agreement. Smelters have tens of thousands of numbered parts and would need a smelter-sized facility in order to store them all. Smelters depend heavily on cast house suppliers, with quick, local, and specialized distribution. This responsive service becomes key, since the lead-time for material can sometimes take from eight to 10 weeks. Pyrotek's strategy is to put warehouses next to smelters, and it is actively considering Qatar and Saudi Arabia as locations in which to build new warehouses for parts and consumables.

### **How does Pyrotek approach increasing its value to customers?**

Pyrotek has focused on adding new products and businesses to better meet customers' needs. As examples, we recently acquired the Ceramite® range of wear-resistant refractories. Ceramite is used in a variety of metal and non-metal contact applications in carbon bake, pot room, and casthouse. We also recently acquired the highly respected thermocouple manufacturer, Gulf Temperature Sensors (GTS) located in Hidd, Bahrain. This has enabled us to expand our offering and expertise in thermocouples and temperature sensing for all aluminium industry applications. ●





# A GLOBAL HOTSPOT: ALUMINIUM IN THE UNITED ARAB EMIRATES (UAE)



“Financially, EGA achieved sales revenues of AED 19.8 billion, a roughly 30% increase compared to the combined sales of EMAL and DUBAL in 2013; and net income of AED 3.7 billion, a roughly 75% increase compared to the combined net income of EMAL and DUBAL in 2013. The results were driven in particular by the successful ramp-up of EMAL Phase II to full production by mid-year and a continued focus on cost-reduction initiatives.”

- Abdulla Kalban,  
Managing Director and CEO,  
Emirates Global Aluminium (EGA)

# THE UNITED ARAB EMIRATES (UAE)

## The Aluminium Powerhouse of the GCC

### UNITED ARAB EMIRATES (UAE) AT A GLANCE

Source: CIA World Factbook

**Population:** 5,779,760  
**Land Area:** 83,600 sq km  
**Official Languages:** Arabic  
**Capital:** Abu Dhabi  
**Chief of State:** President Khalifa bin Zayid Al-Nahayyan (since 2004)  
**Head of Government:** Prime Minister Vice President Muhammad bin Rashid Al-Maktum (since 2006)  
**Growth Domestic Product:** \$617.1 billion (2014 est.)  
**Growth Rate:** 4.6% (2014 est.)  
**GDP per Capita:** \$66,300 (2014 est.)  
**Economic Sector Breakdown:** agriculture: 7%, industry: 15%, services: 78% (2000 est.)  
**Exports:** \$370.6 billion (2014 est.): crude oil 45%, natural gas, reexports, dried fish, dates (2012 est.)  
**Imports:** \$239.8 billion (2014 est.): machinery and transport equipment, chemicals, food  
**Major International Trade Partners:** China, Japan, India, Iran, United States, Germany

●●● Bahrain may have been the first, but it certainly was not the only GCC country to set its sights on aluminium four decades ago. With the vision of the late H H Sheikh Rashid bin Saeed Al Maktoum, Dubai sought to diversify the Emirate’s economic base beyond oil and gas by signing a decree to establish DUBAL in 1975 with production starting in 1979. Built on a 4.75-square kilometer (sq. km) site in Jebel Ali, DUBAL today operates one of the world’s largest single-site primary aluminium smelters, with a hot metal production capacity of 1,035 million metric tons per year (mt/y). The success of DUBAL helped pave the way for the UAE’s second smelter, EMAL, another one of the world’s largest single-site primary aluminium smelters housed on a 6-sq. km site in Al Taweelah, Abu Dhabi. EMAL Phase I, commissioned in late-2010, was the world’s largest greenfield smelter development with a smelter capacity of 800,000 mt/y; EMAL Phase II, commissioned in mid-2014, established the world’s longest single pot line, comprising 444 cells with a design capacity of 520,000 mt/y. The completed smelter has a total hot metal production capacity of around 1.32 million mt/y.

The ramp-up of EMAL Phase I & II was delivered in part by SNC-Lavalin, a Montreal-based company that provides EPC and EPCM services. Ezzeddine Chouikhi, director of business development in mining and metallurgy in the Middle East and Africa for SNC-Lavalin, said: “Both project phases achieved first hot metal ahead of schedule and within budget, while attaining outstanding health, safety and environment performance.”

In June 2013, Mubadala Development Company and Investment Corporation of Dubai announced the formation of Emirates Global Aluminium (EGA), into which DUBAL and EMAL would be integrated. “The merger,” according to Abdulla Kalban, managing director and CEO of EGA, “immediately put EGA among the world’s five largest primary aluminium producers, with a hot metal production capacity of more than 2.4 million mt/y. It also allowed us to capitalize on several synergistic opportunities by centralizing

the support functions (e.g. supply, finance, human capital, marketing and sales, information technology, legal) and by leveraging the operational expertise across the two plants.”

EGA’s first fully operational year was quite successful as Kalban recounted: “Financially, EGA achieved sales revenues of AED 19.8 billion, a roughly 30% increase compared to the combined sales of EMAL and DUBAL in 2013; and net income of AED 3.7 billion, a roughly 75% increase compared to the combined net income of EMAL and DUBAL in 2013. The results were driven in particular by the successful ramp-up of EMAL Phase II to full production by mid-year and a continued focus on cost-reduction initiatives.”

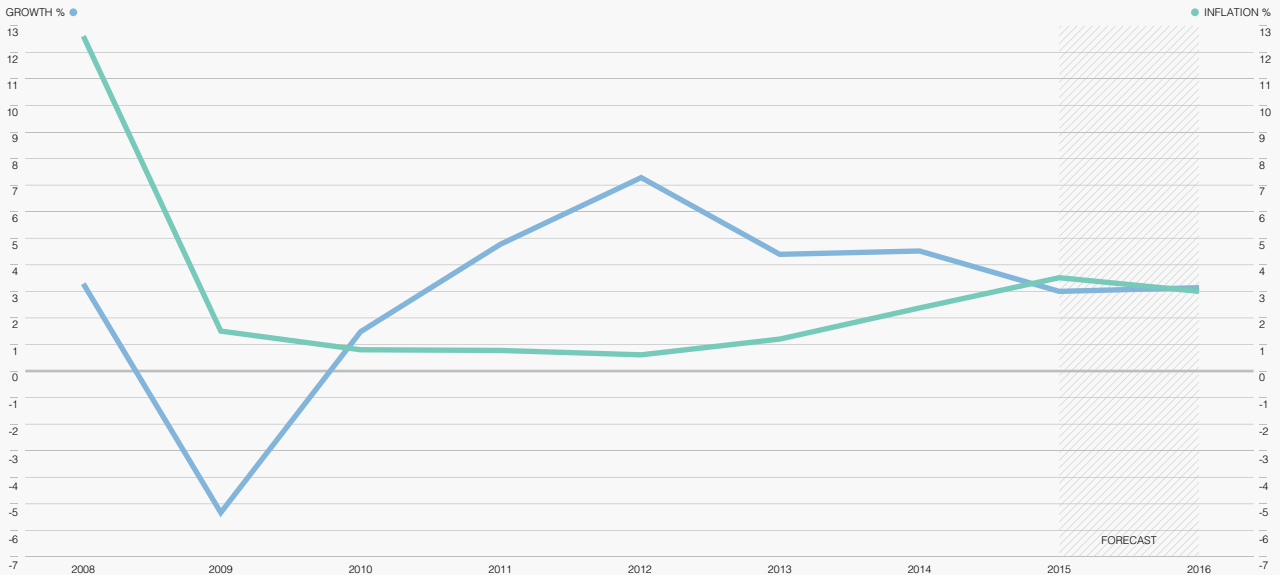
### Vertical Integration to the Hilt

The only major global player without upstream assets, and determined to fulfill at least part of its alumina requirements, EGA acquired Guinea Alumina Corp. (GAC) at the former’s incorporation in the first quarter of 2014. GAC holds a mining concession for over 50 years in Guinea’s northwest, a bauxite-rich region with a deposit base of approximately 1.3 billion mt of bauxite, which is roughly 16% of Guinea’s total bauxite reserves. GAC will develop an eight to 12-million mt/y bauxite export mine with production scheduled to begin at the end of 2017. Supporting mine infrastructure will include a rail line that will connect to a 15-million mt/y multi-user port facility. The bauxite will be shipped from Guinea’s Port Kamsar to the EMAL berth in Khalifa Port, where it will be processed by the alumina refinery that EGA is planning to develop at Al Taweelah.

After comprehensive feasibility studies, EGA has partnered with leading technology suppliers who will work in collaboration with skilled local construction and service companies to construct the refinery. Specifically, BechtelPetrofac Joint Venture is the appoint-

## UNITED ARAB EMIRATES (UAE) GROWTH VS. INFLATION (2008 TO 2016)

Source: International Monetary Fund



ed EPCM contractor, while Rio Tinto Alcan is the refinery technology provider, including start-up and operations assistance, and Hatch & Outotec Joint Venture is the digestion design technology provider. As Clark explained: “Hatch holds patents and considerable intellectual property for many metallurgical processes, most notably the tube digestion process for producing alumina. With continued environmental pressures, where maximizing extraction and minimizing water and other raw material usage is key to long term business success, this places Hatch in an enviable position for assisting our clients not only in new projects, but modernizing and expanding existing operations.”

Emphasizing the importance of the project, Kalban stated: “The proposed alumina refinery in the UAE will contribute substantially to securing a supply of high-quality, smelter-grade alumina for the EMAL and DUBAL smelters. This is aligned with EGA’s strategy of expansion along the aluminium value chain, allowing the company to capture upstream margins and strengthening EGA’s effective position on the aluminium cost curve.”

●●●

### Optimization During the Troughs

Following one of the biggest mergers in the aluminium sector, EGA is now focusing on streamlining its operations, especially during a period when the LME price for aluminium is low. Clark explained: “In times of depressed metal prices and lack of demand, the best way to protect the asset is to optimize and produce the highest quantity at the lowest cost, which translates into very big potential for all smelters, even newer ones in the GCC region, to increase performance and focus on cost optimization.”

Chouikhi echoed this message: “The most significant element to optimizing operations is through the optimization of the assets, as this is where the greatest efficiencies can be achieved.”

In the first quarter of 2015, SNC-Lavalin was awarded a compo-

ment of DUBAL’s Energy Optimization and Capacity Creep project that will likely continue into 2018. Chouikhi explained: “This will focus on optimizing the productivity from 520 existing pots. Essentially, we will be replacing less energy-efficient pots with pots that are more energy-efficient, using design modifications developed in-house at EGA.”

●●●

### Downstream Development

Bahrain was the first to create a robust downstream, yet the UAE downstream industry has developed significantly in the last decade due to substantial increases in primary production. “Over the last 10 years, the primary sector in the UAE has gone from producing less than 600,000 mt/y of primary metal to 2.4 million mt/y,” stated Modar Al Mekdad, general manager of Gulf Extrusions, a downstream player founded in 1976 and the flagship company of the conglomerate Metals Industries, the holding group for a number of extrusion and downstream businesses.

In May 2011, Gulf Extrusions entered in a JV with Senaat General Holding, one of Abu Dhabi’s largest industrial investment holding companies, to establish Taweelah Aluminium Extrusion Company (TALEX), which will operate over 100,000 mt/y of production capacity. This US\$200 million investment will make Senaat the largest global customer of EGA, which will bring significant synergies to all of Senaat’s projects in aluminium. In addition to TALEX, Senaat has invested AED 220 million into a JV with Dubai Cables (Ducab) to start producing aluminium alloy rods, wires and bare overhead conductors during Q2 2016.

Senaat’s acting CEO, Jamal Salem Al Dhaheri, explained Senaat’s AED \$5 billion investment to develop downstream industries: “We recognized at an early stage that the unique position of Abu Dhabi, with its privileged conditions and industrial framework, will allow Senaat to become a relevant player in the high value-

added products market. As such, the development of downstream aluminium plants has become core to Senaat’s strategy.”

While established players like Gulf Extrusions and investment holding companies like Senaat are marking the largest waves in terms of investment dollars, a number of smaller downstream players are starting to pop up, such as OSE Industries, a highly specialized aluminium extrusion company that was established in 2012 and began operations with two extrusion presses with a capacity of 10,000 mt/y. Establishing operations in the UAE was very strategic for OSE industries, according to CEO Magdy Samoul: “Dubai is very well connected from a logistics standpoint, and it is relatively easy to import and export product. In addition, OSE Industries benefits from its proximity to DUBAL, which provides OSE Industries with primary, high-quality alloy that can be delivered from its site to our plant within 20 minutes.”

**Setting up for Success**

In order for the aluminium sector to continue expanding and developing downstream, it needed to find a new home. Waheed Ahmed, general manager of Cast Aluminium Industries, a prominent dross recycler in the region, highlighted the issue: “One challenge that Cast Aluminium Industries had to overcome was the size constraint of the site in Al Quoz. When Cast Aluminium Industries was first established in Al Quoz, this was Dubai’s only industrial area allocated by the authorities. However, the growth of Dubai has been robust over the last three decades. The enormous growth in the real estate sector has rendered Al Quoz the heart of the city.” As aluminium companies were dealing with the effects of urbanization encroaching on industrial areas and business slowing down as transportation and documentation processes became more complex, the Abu Dhabi government provided a solution in the form of a new industrial zone, Kizad, where many are setting up new operations, including Cast Aluminium Industries. “To accommo-

date existing and expected new business, Cast Aluminium Industries will need a much larger facility in Kizad, as the company currently only has 8,000 square meters (sq. m) in Al Quoz. Cast Aluminium Industries is looking to expand into 33,000 sq. m, with what will be a state-of-the-art facility. With the civil contract already awarded, the goal is to start construction by the middle of 2015, so that operations can begin in the fourth quarter of 2016,” explained Ahmed.

Conceptualized as part of Abu Dhabi’s 2030 vision, a 25-year road-map for economic development aimed to diversify the economy away from oil and gas revenues, Kizad is a world-class, state-of-the-art industrial complex built to harness industrial diversification for industries from aluminium to petrochemicals, food, paper, print, and packaging on its 417 sq. km greenfield site. Martijn Van De Linde, CEO of Abu Dhabi Terminals, with its core business being the operation and management of the Khalifa Port Container Terminal within Kizad, explained: “What differentiates Kizad is that the industrial zone is integrated with the port. It takes exactly 12 minutes for trucks to enter the port with their product, drop it off, and exit. From the moment that the product is put into a container it can be on the ocean within an hour. This level of efficiency can only be achieved when the industrial zone is integrated with the port.”

“The master plan behind Khalifa Port and Kizad is one rife with innovation, as we were not building for 10 years down the road, but rather 100 years down the road,” said Mohamed Juma Al Shamisi, CEO of Abu Dhabi Ports.

Kizad has some of the most modern infrastructures with a pioneering design, evidenced through very wide roads, ample land to allow for expansion, numerous culverts and ducts to enable all of the factories to connect to utilities, as well as additional room for pipelines in the future. The uniqueness of this industrial zone is that it is constructed in vertically integrated clusters such as heavy industry and its respective midstream, downstream and logistics components. “In laying out Kizad,” Shamisi said, “we reserved one of

**OSE INDUSTRIES** Quality Aluminium Extrusions

OSE Industries is a UAE, Dubai based company established in 2012. The company specializes in aluminium extrusion, beginning its first phase with two extrusion presses, 2750T for MPE tube and 1800T to extrude precision tubes, intercooler, evaporative and heat exchanger tubes as well as industrial profiles.

Our target market is HVAC for Automotive and Air-conditioning industries, where aluminium is replacing conventional systems (fin and copper tube). There are numerous advantages in using aluminium multi-port extruded tube over conventional copper where the coil has a smaller size, less weight, high efficiency and less refrigerant.

Our company is certified and accredited with ISO 9001:2008, ISO/TS-16949:2009, ISO-14001:2004 and OHSAS 18001:2007.

**OSE Industries**  
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 Factory Address: Dubai Industrial City, Sakh Shuaib 3, Dubai United Arab Emirates  
 Tel: +971 4 4534864 Fax: +971 4 4539903 E-mail: info@oseindustries.com, sales@oseindustries.com  
 Website: www.oseindustries.com

SGCC  
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 UK

the clusters around EMAL precisely for the aluminium industries. This alone offers a great boon to the aluminium industry. Kizad’s objective for this sector was to offer a platform to consolidate the fragmented, expansive aluminium business and reduce operating expenses by having prime land with state-of-the-art infrastructure already in place, allowing it to become a matter of plug-and-play.” While being located minutes away from EMAL alone is a big draw for aluminium companies, a “Hot Metal Road” further sweetens the deal. EMAL includes a liquid metal transfer facility that, together with the dedicated Hot Metal Road, enables the transfer of hot molten aluminium from the smelter directly to downstream industry within the cluster. For aluminium downstream players, the benefits are great: “The capacity to supply liquid metal to downstream industries within the Kizad aluminium cluster will give these companies the ability to create innovative new products. They will also benefit hugely by eliminating shipping costs, massively reducing energy usage through not having to re-melt cold product, and lowering carbon dioxide emissions, thereby enhancing their environmental credentials,” noted Kalban. Kizad already has 71 investors assigned to zone A and a few interesting tenants in aluminium besides EMAL, including TALEX, Ducab, and Cast Aluminium Industries. While in the downstream clusters important international players including Al Braik are setting up to support the aluminium and steel industries, Morgan



*The master plan behind Khalifa Port and Kizad is one rife with innovation, as we were not building for 10 years down the road, but rather 100 years down the road.*

*- Mohamed Juma Al Shamisi,  
CEO,  
Abu Dhabi Ports*



Advanced Materials and Saif Al Kahili Group will supply caustic soda. At the same time that Abu Dhabi was developing Kizad, it was improving the logistics as part of the government’s 2030 vision. Now with a number of aluminium companies scheduled to become operational in 2015 and 2016, Abu Dhabi’s Kizad and logistical and infrastructural investments look to be not only the answer to consolidating the aluminium industry, but major factors that will push it forward, taking the sector to the next level. •

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## Abdulla Kalban

Managing Director and CEO  
**EMIRATES GLOBAL ALUMINIUM (EGA)**

●●● **In the past six years, the GCC aluminium industry has expanded substantially. To what extent has Emirates Global Aluminium (EGA) been the impetus to the growth of the sector?**

The UAE smelters, DUBAL and EMAL, are the two largest facilities in the region. Their combined capacity of 2.4 million metric tons (mt) makes Emirates Global Aluminium (EGA) the largest primary aluminium producer in the GCC.

EGA is also a regional pioneer in the in-house development of advanced reduction cell technology that operates at higher amperages, thereby offering higher productivity per cell, lower specific energy consumption, and reduced environmental impact. Our commitment to sustainability has seen EGA smelters set international benchmarks for perfluorocarbon and hydrogen fluoride emissions; and led to EGA becoming the first primary aluminium producer in the region to recycle spent pot lining. (This is done through

the local cement industry, effectively eliminating landfill of this hazardous waste).

**Aluminium is increasingly finding applications in the automotive industry. What opportunities is EGA seeing in the car manufacturing industry?**

As per the analysts, we expect that growth in global aluminium demand will continue to be dominated by transport, with a compound annual growth rate of 7% for the rest of this decade, especially in automotive applications where the low density of aluminium makes vehicles considerably more fuel-efficient and better for the environment. Usage of aluminium in the transportation sector will also grow the most in terms of annual mt of demand. Much of this growth will be driven by aluminium sheet in automotive rather than castings. This translates into growing demand for sheet ingot.

This bodes well for EGA, as rolled products, in the form of sheet ingots, account for 12% of our total production output. The major proportion of EGA sheet ingots is currently supplied to most major European rolling mills and the balance to other global consumers. Predominant usage is in the packaging industry (including foil rolled down to 0.2 mm thick) and for lithographic plates used in printing. However, EGA sheet ingots are also suitable for the growing market in the automotive sector.

Moreover, EGA is one of the largest and leading suppliers of foundry alloys to automotive manufacturers, where they are used in the manufacture of wheel rims, sub-frames, and suspension parts, cross members, engine blocks, and engine cradles, among various other applications. So we are also well placed for the growing use of aluminium in castings.

**One challenge the Middle East faces is the acquisition of national talent. What steps is EGA taking in order to foment the participation of the national workforce?**

Emiratization is a key component of EGA's efforts to maximize its impact on the social and economic development of the UAE. UAE nationals currently comprise approximately 20% of EGA's 7,000-strong workforce in the UAE (with more than 38% of staff in supervisory roles and 45% of corporate staff being UAE nationals). The proportional UAE national representation at senior management level is currently at 70%. Every measure is significantly above the UAE's

industry average of 4%. As the nation's industrial flagship and already a significant contributor to the strategic diversification of the local economy, historically EMAL and DUBAL have demonstrated that a highly qualified and skilled Emirati workforce is essential to the future success of the business and the UAE.

In 2015, EGA is working towards a target to recruit 340 UAE nationals across a range of disciplines and we have active talent acquisition and development programs in place to meet this goal. We place strong emphasis on the contribution, qualities and skills of employees in the belief that this is an essential framework for maintaining EGA's status as a prominent employer.

Evidencing a commitment to ensuring rewarding career opportunities for our employees, EGA provides clear development and career paths in a performance-based work culture where individuals are empowered through ownership, accountability and team support. A dedicated National Development Program includes pre-employment National Training courses for high school science graduates and holders of technical certificates; a National Graduate Training Program for university graduates in engineering and other fields; as well as internships and work placement opportunities for UAE nationals.

The EGA Scholarship Program currently has extended approximately 100 scholarships to UAE nationals working towards a bachelor's degree in relevant disciplines and continues to be a key lever to prepare UAE nationals for a career in the aluminium sector.

**What are EGA's key plans and priorities for the short- to medium-term?**

Looking ahead, EGA has strong aspirations to continue to grow and expand its upstream portfolio with two mining and refining projects included in the five-year plan. We will also continue to identify and execute opportunities to further boost our primary aluminium capacity within our current assets. Our safety and environment performance remain key priorities, as is our ongoing focus on costs and efficiencies, as well as innovation through continuous improvement. We also remain committed to Emiratization and are pursuing an aggressive target to boost Emiratization over the coming three years. Key strategies for recruiting and retaining UAE nationals have been identified and are being implemented. •





## Mohamed Juma Al Shamisi

●●●  
CEO

**ABU DHABI PORTS**

●●● **Can you please tell us about the vision behind Abu Dhabi Ports' Khalifa Port and Khalifa Industrial Zone Abu Dhabi (Kizad)?**

When Khalifa Port and the industrial zone were first being conceptualized even before 2006, there were two main considerations: the first was to expand the ports in Abu Dhabi as the existing port, Mina Zayed, was located practically in the middle of the city without any room to expand. A larger port was essential to support the growth of the Emirates as a whole. The second consideration, and the one that led to the location's selection, was to have an industrial zone integrated fully with the port.

**What are some of the features of Khalifa Port and Kizad that make investing in this area so attractive to heavy industries?**

The master plan behind Khalifa Port and Kizad was one rife with innovation, as we

were not building for 10 years down the road, but rather 100 years down the road. Khalifa Port and Kizad are centrally located not only in the region, but in the world with the most modern facilities. In terms of ports handling, you will find the first semi-automated container terminal not only in the Middle East but also in Africa, as well as Indian subcontinent. The industrial zone is constructed in vertically integrated clusters such as heavy industry and its respective midstream, downstream, and logistics components. Kizad has the most modern infrastructures and its design is truly pioneering, evidenced through very wide roads, ample land to allow for expansion, numerous culverts and ducts to enable all of the factories to connect to utilities, as well as additional room for pipelines in the future. Adjacent to the industrial zone are already established heavy industry and midstream industry, which will be crucial for the incoming supporting industries. The area also benefits from nearby international airports and rail serves to link the zone to the whole GCC. We also have a unique product in Khalifa port, the Modular Path, which enables the over-sized cargo to be transferred from the port itself, all the way to the factories. Such a facility is rather uncommon around the world.

**One of the objectives for Kizad was to build a zone to handle the country's heavy industry. How will Kizad cater to the country's growing aluminium sector?**

Within Kizad, we have designed the aluminium cluster with EGA's EMAL, our anchor tenant, at its core. EMAL has completed its Phase II expansion and so the supply of aluminium has increased substantially. In laying out Kizad, we reserved one of the clusters around EMAL precisely for the aluminium industries. This alone offers a great boon to the aluminium industry. Kizad's objective for this sector was to offer a platform to consolidate the fragmented, expansive aluminium business and reduce operating expenses, by having prime land, with state-of-the-art infrastructure already in place, allowing it to become a matter of plug-and-play.

Kizad already has 71 investors assigned to zone A and a few interesting tenants in aluminium. After EMAL, we also have Talex, Dubai Cables, and Cast Aluminium Industries. In the supporting downstream clusters we have Al Braik, Morgan Advanced

Materials, and Saif Al Kahili Group for the caustic soda to support aluminium and steel industries. These investors are not just from the UAE, but also include important international players.

**A unique proposition that Kizad offers is the hot metal corridor. Can you tell us more about this innovative solution?**

Aluminium is usually made in pot lines, where it becomes liquid at approximately 750°C to 800°C. At that point, it goes to the cast houses, where it is made into bars or ingots for transport. The alumina cannot be transported or shipped in liquid form because it cannot be kept at such high temperatures. Clients will then have to re-melt the ingots. At Kizad, we created the innovative hot metal road, which allows for the industrial process to create economies of proximity by integrating the manufacturing supply chain, creating synergies and improving productivity and efficiency. EMAL will convey aluminium to other manufacturers in the zone in hot molten form, transported by especially fitted trucks. Accordingly, industries down the road, such as TALEX, will use the molten metal in their processes, saving substantial energy and costs of re-melting the aluminium. The environmental benefits of the hot metal road are also considerable.

**How is Abu Dhabi Ports working with the local authorities to ensure the availability of electricity for incoming companies?**

Abu Dhabi Ports' neighbor is Taweelah Power Plant, one of the largest power plants in the region. Having one of the biggest power plants in the region at our doorstep is yet another one of our competitive advantages. We have also developed the 33-kilo-volt (kv) and 11-kv substations, allowing us the comfort of having secure supplies of electricity, which has already been agreed upon. The energy supply comes from the authorities, but we act as facilitators with the infrastructure in place for any company to plug into the network. ●



SMS



WA



KN

## Sulaiman MKA Suwaidi, Waheed Ahmed & Kashif Nazir

●●●  
SMS: President & CEO  
WA: General Manager  
KN: Plant Manager

### CAST ALUMINIUM INDUSTRIES

●●● **Can you please provide us with an introduction to Cast Aluminium Industries and the key milestones within the company's history since it was first established in 1990?**

**SMS:** Cast Aluminium Industries was first founded to cater to the construction industry to make erected products such as main gates, villa gates, grills, balconies, which all need to be aluminium-casted and powder-coated. In 1995, Cast Aluminium Industries took a great step forward when the company began to buy some of Dubai Aluminium's (DUBAL) generated dross to feed into our own foundry to make the alloys. After three to four years of recycling aluminium dross, Cast Aluminium Industries approached DUBAL to allow us to handle the recycling of their dross, which at the time was being sent to a competitor in Bahrain, illustrating how this would

save costs and reduce their environmental footprint. In 1999, Cast Aluminium Industries won the aluminium dross contract for 3,000 metric tons per year (mt/y). After 20 years, Cast Aluminium Industries is now managing 40,000 mt/y, having split its operations into two: one dedicated to fabrication and casting and the other to dross recycling.

Today, Cast Aluminium Industries is a very specialized company and a 100% recycler. Cast Aluminium Industries works only with aluminium dross, which is a hazardous commodity, class 4.3, indicating that its cross-border movement is restricted. As such, to process dross certain licensing is required, and Cast Aluminium Industries is proud to be the only company in the UAE that is licensed to handle this material.

**Cast Aluminium Industries plans to open a new facility in the new Khalifa Industrial Zone Abu Dhabi (Kizad). What was the impetus behind this move and can you provide more details about the facility?**

**WA:** One challenge that Cast Aluminium Industries had to overcome was the size constraint of the site in Al Quoz. When Cast Aluminium Industries was first established in Al Quoz, this was Dubai's only industrial area allocated by the authorities. However, the growth of Dubai has been robust over the last three decades, and the enormous growth in the real estate sector has today situated Al Quoz in the heart of the city.

With ambitions to expand but no space to do so, Cast Aluminium Industries saw the opportunity to move to Kizad as a natural first choice, as the area was developed to handle the high impact nature of heavy industry. Kizad will be a significant industrial hub, especially for aluminium, as the Kizad developers want to attract significant investment in the downstream industry. Cast Aluminium Industries will become a part of that downstream industry, as it will be able to manage the dross of new clients in the area.

To accommodate existing and expected new business, Cast Aluminium Industries will need a much larger facility in Kizad, as the company only has 8,000 square meters in Al Quoz. Cast Aluminium Industries is looking to expand into a, 33,000-square meter, state of the art facility. With the civil contract already awarded, the goal is to

start construction by the middle of 2015, so that operations can begin in the fourth quarter of 2016.

**How will Kizad benefit from the presence of Cast Aluminium Industries' facility?**

**KN:** Cast Aluminium Industries is synonymous with the aluminium sector in the region, and Kizad aims to attract more downstream and aluminium-related industry. By having Cast Aluminium Industries present, Kizad will be able to use its reputation as a specialized recycler of aluminium to attract more aluminium investment, as there will already be a framework in place for companies entering Kizad to manage their dross, and, very importantly, this discussion can commence during a company's planning stages.

**Cast Aluminium Industries is working to become zero-waste-to-landfill. Why is this designation so important?**

**WA:** As per Abu Dhabi governmental regulations, companies cannot generate waste-to-landfill. Once Cast Aluminium Industries' facility in Kizad is operational, the company will process the dross and, as it will then be zero-waste-to-landfill, it will be closing the loop. Any new facility will generate dross and thus need to make an environmental impact statement to get the basic approvals. These investors must either find a solution themselves or incorporate dross recycling. It makes little sense for companies to process their own dross, as it can be very expensive to do without scale, increase their project costs, and make these projects commercially not feasible. Cast Aluminium Industries is the third-party solution.

**Where will we Cast Aluminium Industries be in three to five years?**

**WA:** Cast Aluminium Industries' vision is to become the one-stop-shop for the smelters of the region and is on track to becoming this. In the short-to-medium term, Cast Aluminium Industries will expand into Kizad so that it can work with the primary smelters of the region and the downstream industries, while the original facility in Al Quoz will be dedicated to northern emirates and any other overseas business. ●



## Magdy Samoul



CEO

**OSE INDUSTRIES**

### ●●● Can you please provide us with an introduction to OSE Industries and its products?

OSE Industries is a highly specialized aluminium extrusion company that was established in 2012. Our operations began with two extrusion presses with a capacity of 10,000 metric tons per year (mt/y). The main press produces multi-port extruded (MPE) tubes which were developed for constructing condenser coils used in air-conditioners and heat exchangers for both automotive and domestic industry. The aluminium tube replaces the copper tube in the condenser. The second line produces precision round tubes, intercooler, evaporator tube, and industrial profiles used in a number of different industries.

OSE Industries' main markets are in Asia, but we are beginning to approach Europe. We are different from many of the surrounding extrusion factories in that we do not have any customers in the local market,

nor in the GCC at large. OSE Industries mainly services the automotive industry, which does not have a large presence in the region and, while the air conditioning sector in the Gulf is very large, manufacturers continue to adhere to the traditional copper and aluminium fin for the condensers.

### Many industries are finding new applications for aluminium. Can you tell us the benefits of using aluminium versus copper in condensers?

Looking first at the automotive industry, aluminium first began replacing copper in condensers 15 to 20 years ago. At first, aluminium faced fierce opposition by those claiming that copper was more conductive, but over time, it was clear that aluminium was a better material and today all condensers used in the automotive industry have aluminium tubes with aluminium fins. The main technical comparison between copper and aluminium is that when you use copper tubes with aluminium fins for the condenser coils, galvanic corrosion can occur; however, when you use aluminium tubes with aluminium fins this does not occur with the use of a technology called parallel-flow condenser. With copper there is opposition in the direction of the refrigerant - the gas for cooling - because of the way it is built, but with aluminium, the gas flows in parallel, making it more efficient with the absence resistance to the gas flow. Another separate but important comparison is that when you are filling the refrigerant into the aluminium (microchannel system), you are saving around 35% to 70% of the refrigerant, which is an ozone contaminant. Lastly, the weight and size of the microchannel condenser is much smaller. Technical aspects aside, aluminium is more attractive than copper from a pricing perspective. Not only is aluminium currently cheaper than copper, but the price of the copper fluctuates more. In addition, the availability of copper is much smaller than aluminium.

### Why did OSE Industries establish its operations in the UAE given that it does not have any customers in the local market at present?

Establishing operations in the UAE was strategic. Dubai is very well connected from a logistics standpoint and it is relatively easy to import and export product. In addition, we benefit from its proximity

to the well known smelter, DUBAL. DUBAL provides OSE industries with primary high-quality alloy that can be delivered from its site to our plant within 20 minutes. OSE Industries is first looking to sell its products abroad, but in time we may see a local market develop. The challenge to adopting the technology is that it is relatively new and there is a lack of awareness. There is no local market in the GCC because in order to change the system you need to modify something in the assembly of the condenser in the factory itself. There is also a misunderstanding that you cannot repair the aluminium tube if there is a leak, as the tube cannot be welded. But this challenge is easily overcome with the straightforward replacement of the aluminium tube. As these aluminium condensers become more popular and develop a positive track record, the local market may take interest.

### How does OSE Industries find the professionals it needs?

OSE Industries produces high-quality and specialized products that have not been seen in this region. We have no competitors and, apart from our operations, this specialized expertise is not being developed here. This industry is well developed in Asia and Southeast Asia, however, where many of our employees come from. We also have professionals from Europe. Bringing the right talent from overseas has not been an issue for OSE Industries, as the UAE government is open to foreign professionals.

### If Global Business Reports returned in five years, where would we find OSE Industries?

OSE Industries is a young company, but has great ambitions. Our plant is state-of-the-art and has not yet reached full capacity. By the end of 2016 alone we hope to double capacity to 20,000 mt/y. OSE Industries' vision is to become an active player in the field of MPE and precision Aluminium Tubes globally while being a manufacturer of cost effective and high quality products adhering to International standards. ●



## Modar Mohamed Al Mekdad

General Manager  
**GULF EXTRUSIONS**

### ●●● Can you please provide us with a history and introduction to Gulf Extrusions?

Gulf Extrusions was founded in 1976 and is the flagship company of the conglomerate Metals Industries, the holding group for a number of extrusion and downstream businesses. Gulf Extrusions was founded to meet the increasing demand for aluminium extrusions in the domestic, regional, and international markets for the architectural, industrial, and automotive sectors.

Today Gulf Extrusions has one of the largest extrusion plants in the region. Our plant in Jebel Ali produces 60,000 metric tons per year (mt/y) at its location adjacent to the primary raw material supplier, DUBAL. By the end of 2015, Gulf Extrusions will have opened a new plant in Kizad that will produce 25,000 mt/y its first year, with production ramping up to 50,000 mt/y by 2018.

**The majority of extrusion companies in the UAE sell their products to the domestic market, while Gulf Extrusions exports**

**30% of its products. What accounts for this variance and are we likely to see exports from the extrusion industry increase?**

Most of the extrusion companies in the UAE sell raw extrusions, such as profiles, which are not competitive or profitable for export. These products do not have added value so it makes more sense for most extrusion companies in the UAE to sell domestically. Gulf Extrusions does not sell raw extrusions; we sell finished products that sell for between four and six times the conversion price. These specialized products compete on international markets and are sold throughout GCC countries, the Middle East, Indian Sub-Continent, South East Asia, Australia, Africa, Europe, and Canada.

**While the aluminium industry has certainly grown in the last few decades, some argue that this growth has not diversified into the downstream industry. What is your perspective on the development of the downstream?**

The downstream industry has come a long way in the last 10 years. Primary production has grown significantly in Qatar, Oman, Saudi Arabia, and the UAE, which has led to a natural growth in the downstream. Over the last 10 years, the primary sector in the UAE has gone from producing less than 600,000 mt/y of primary metal to 1.7 million mt/y. Instead of subsidizing the world by exporting billets, ingots, or slabs where by the smelters only charge a small premium over the metal price, now almost 50% of what the smelters are producing is being converted into products that local downstream industries use. Bahrain was the first to create a flourishing downstream and you see today that with strong primary production setup, the UAE, Oman, Saudi Arabia and Qatar will be able to do the same. It is a very exciting time to be a part of not only the primary aluminium industry in the region, but also the downstream processes because we will see further growth in this sector in terms of range of products, quality, and volume.

**Gulf Extrusions is committed to creating sustainable products. Can you tell us more about your initiatives and Gulf Extrusions' 'Green Aluminium'?**

As a creative and innovative company, Gulf Extrusions cannot ignore the environmen-

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*Primary production has grown significantly in Qatar, Oman, Saudi Arabia, and the UAE, which has led to a natural growth in the downstream.*

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tal aspects of the business. Every year, Gulf Extrusions invests into research and development (R&D). After many years of R&D, Gulf Extrusions has developed a strategy to make an environmentally friendly plant, which is built on three main components: raw material, process, and green end products. Gulf Extrusions has successfully implemented and patented a product, X-ECO, an alloy made from over 80% recycled content, reducing the carbon footprint by 60% to 80%. This number is very significant when we consider that for every one mt of primary aluminium, we emit 11,000 kilogram of carbon dioxide. Even though this product uses high levels of recycled aluminium, it maintains excellent mechanical properties and excellent surface finish. For clients, Gulf Extrusions provides the same high-quality products, but is also able to substantially reduce its negative impact on the environment.

**If Global Business Reports were to return in three to five years, where would we find Gulf Extrusions?**

Gulf Extrusions is a leading company in developing and implementing innovative and creative processes and products and is committed to elevating the level of the extrusion industry not just in the UAE or the region, but globally. Our strategy is very simple: in order to maintain an edge over our competitors, we must stay ahead in terms of knowledge and know-how. Gulf Extrusions will continue to think and develop, as will its competitors, in the race to excellence. Providing desirable products is not a price competition, but rather one of quality and production. We will continue to make high-quality products for our clients in a number of industries in a manner that is environmental friendly and safe for our employees. •



## Ezzeddine Chouikhi

Director, Business Development,  
Commercial & Risk, Mining & Metallurgy,  
Middle East & Africa

### SNC-LAVALIN

- **SNC-Lavalin is one of the leading engineering and construction groups in the world. Please provide us with an introduction to the company and its work in the region.**

SNC-Lavalin was founded in 1911 and has been active internationally for the last 50 years. The company provides EPC and EPCM and project-financing services to a number of industries; the company's four key sectors are infrastructure, mining and metallurgy, oil and gas, and power. SNC-Lavalin has extensive experience in the Gulf, having established its presence in the area for many decades. Its project experience includes aluminium smelters, power plants, petrochemical plants, infrastructure, water works, public buildings, and other facilities.

**In 2015, SNC-Lavalin was award a contract to provide its EPCM services to DUBAL, now encompassed under Emir-**

### **ates Global Aluminium (EGA). Can you tell us about SNC-Lavalin's relationship with EGA and its work on this project?**

From a global perspective, SNC-Lavalin's relationship with EGA is very important to the company and has been on-going for the past 12 years. SNC-Lavalin enjoys a long-standing relationship with EGA that predates the merger of DUBAL and EMAL. SNC-Lavalin first began providing services to DUBAL in 2004, namely feasibility studies, front-end engineering design, EPCM, and technology packaging services. Over this period that SNC-Lavalin has worked with DUBAL, we have been able to help the company increase its production capacity from 680,000 metric tons per year (mt/y) to current capacity of 1.06 million mt/y.

SNC-Lavalin's relationship with DUBAL developed to the point that SNC-Lavalin was first awarded work on EMAL Phase I and then EMAL Phase II. Both project phases achieved first hot metal ahead of schedule and within budget, while attaining outstanding health, safety and environment performance.

In the first quarter of 2015, SNC-Lavalin was awarded DUBAL's Energy Optimization and Capacity Creep project that will likely continue into 2018. Following the merger, DUBAL is looking to optimize its operations. The most significant element to optimizing operations is through the optimization of the assets, as this is where the greatest efficiencies can be achieved. The work that SNC-Lavalin will be completing on DUBAL will focus on optimizing the productivity from the existing 520 pots. Essentially, we will be replacing the less energy efficient pots of the operations with pots that are more efficient. The objective is to reduce the energy consumption per ton, which will then yield higher production. In addition, SNC-Lavalin is performing other projects for DUBAL to optimize the resources and providing plant engineering services and technology development support. These optimization projects make sense for EGA as it streamlines its processes following the merger and while the LME price for aluminium is low.

**Given the current low LME price for aluminium, will smelters focus their energies on optimization or will they take advantage of this slower period to expand operations like Alba with Line 6?**

As the assets in the region age, optimization must take place and it is a convenient period to do this. Yet smelters cannot take a one- or two-year view; they must look at long-term demand, which is very promising considering the 6% to 7% year-over-year growth for aluminium worldwide for the past decade. Now is a good time to consider expanding. In 2009, when market conditions were similar with a low LME price for aluminium, EMAL decided to build Phase II, which was completed at an excellent price. EMAL is reaping the benefits from that expansion today.

### **What would you describe as a main obstacle to the growth of aluminium within the GCC and how can it be addressed?**

Somewhat ironically, the main constraint facing the aluminium industry in the region is power, which is largely derived from natural gas. This part of the world is known for its natural gas reserves, but the pace of development has been so rapid and the demand for energy is so great that the reserves are not being developed fast enough. There is a focus in the UAE on developing nuclear power, as evidenced in Abu Dhabi's 2030 vision and the government seems to be further developing the country's natural gas reserves. Independently, the aluminium industry can work to address this issue. While each aluminium project is sized based on the gas allocated to it, smelters can make certain modifications to be more efficient, reduce the consumption of power, and thereby increase production output.

### **Where will SNC-Lavalin be in the region in five years?**

SNC-Lavalin has played a key role in the successful development of three of the world's most recent Greenfield smelter projects – EMAL Phases I and II and Qatalum – as well as brownfield expansions at DUBAL. As such, SNC-Lavalin has gained insight into the development and project-delivery approaches in the Middle East and is therefore very familiar with the state and capability of regional and global partners in the supply and construction industry. SNC-Lavalin is committed to providing exceptional service to EGA and to expanding its business to aluminium projects throughout the region. ●





# MUCH TO CONSIDER: REGIONAL TRENDS



“One trend that is uniquely affecting the Gulf countries is that the currencies in this region are pegged against the U.S. dollar, whereas many countries are experiencing currency depreciations. Russia’s aluminium sector, for example, is slowly gaining momentum through its weakened currency against the U.S. dollar, as its labor and materials are cheaper, even if its energy costs are higher.”

- Said Al Masoudi,  
CEO,  
Sohar Aluminium

# LOOKING AT THE GCC AT LARGE

Regional efforts to increase competitiveness in a depressed market are rooted in governmental and private sector initiatives. While each country has its own unique value proposition and challenges, there are certain trends that transcend borders and affect the region as a whole.

## Chinese Dumping, LME Price Decline and Currency Movements

In a globalized economy, numerous dynamics from abroad affect the aluminium industry in the GCC region. None is more influential than the oversupply of Chinese products. “Uncertainty surrounding China’s aluminium industry is one of the reasons that the price of aluminium on the London Metals Exchange (LME) has fallen,” argued Pete Forakis, regional director of STAS Middle East. “Virtually all of the aluminium that China produces stays within the country [...] As the Chinese economy has slowed down, domestic consumption has consequently slowed down as well, creating a surplus.”

In response, the Chinese government removed export duties in order to keep local producers afloat. On a global scale, however, aluminium that was previously not being exported is now available on the world market. “The LME price has dropped slightly, but of greater concern is that premiums have dropped significantly,” described Forakis, capturing a worry that many in the industry share. The decrease in China’s local demand directly affects the demand, supply and price of the global aluminium market and therefore GCC smelters. In theory, the high cost should prompt producers to reduce capacity, but GCC smelters operate on a lower-cost curve and will continue to produce without reducing capacity. China produces around 30 million metric tons per year (mt/y). Exporting two million mt/y may mean peanuts to China, but for the rest of the world, it is a large amount to swallow.

Yet the aluminium industry in the GCC region remains resilient, as many believe that imbalance created by China’s products entering the market will correct itself within the next two years. The global aluminium industry has already seen China begin to buckle under the pressure, when Aluminium Corp. of China (Chinalco), the country’s top producer of the metal, announced that it plans to shut down its biggest smelter, which accounts for roughly one-eighth of its total capacity, due to the low aluminium prices.

Another trend that is affecting the aluminium industry in the GCC is the worldwide devaluation of currencies against the U.S. dollar. While many countries are enjoying the increased demand for exported products that their devalued currency brings, the GCC is an exception, as CEO of Sohar Aluminium Said Al Masoudi explained: “Another trend that is uniquely affecting the Gulf countries is that the currencies in this region are pegged against the U.S. dollar, whereas many countries are experiencing currency depreciation,” stated Al Masoudi. “Russia’s aluminium sector, for example, is slowly gaining momentum through its weakened currency against the U.S. dollar, as its labor and materials are cheaper, even if its energy costs are higher.”

Despite the excess of aluminium on the market and currency pressures, Al Masoudi takes a more positive view of the situation: “This pressure has forced smelters, especially in the GCC region, to become more innovative and efficient in order to withstand price pressures until the market comes back to a balance.”

Speaking about the steps that Qatar Aluminium (Qatalum) has had to take in this more difficult pricing environment, Khalid Mohammed Laram, the recently appointed CEO of Qatalum, explained that the company is focusing on not only improving costs, but improving productivity as well: “This is done through increasing the utilization of our own people, reducing manning from contractors, and, very importantly, enhancing safety performance. Fewer incidents mean fewer breakdowns and stops to production. If we take an average of what we call recordable incidents and bench-



mark Qatalum against the other GCC smelters and hydro smelters around the world, Qatalum is performing better, respectively. Qatalum has a very strong health safety and environment team and also coordinates with Mesaieed Industrial City (MIC). MIC has its own safety program, so we are learning from them and they are learning from us.”

While improving productivity is one aspect to surviving a more difficult business climate, it cannot be the only solution. Laram continued: “It is also becoming more challenging to get new customers, so we must work to maintain our existing clients. To keep existing customers happy, Qatalum is working to improve its on-time delivery. Clients, particularly those in the automotive sector, are looking for consistency in product delivery and this is one of the main reasons clients prefer to work with us.”



### Nationalization of the Workforce

In a region where competitiveness depends on cheap energy and hydrocarbons, the GCC countries are upgrading their approach by focusing on the development of local talent, skills, and knowledge to produce a better value proposition for both employers and employees. Each country is working to boost human capital competitiveness through nationalization efforts that maximize local employment and minimize the need for expatriates in the work force. The ultimate goal is to raise the standard of living and benefits for their respective citizens.

“From the perspective of GCC countries, there are great advantages to recruiting locally. GCC countries have nationals that are well educated and some have very good experience,” argued Christians Cruz, managing director of MGR Management Consulting, a recruitment services firm based in Dubai. “The aluminium industry can provide their newly graduated GCC nationals with the opportunity to gain working experience, which is so important for the success of the GCC countries.”



*The LME price has dropped slightly, but of greater concern is that premiums have dropped significantly.”*

*- Pete Forakis,  
Regional Director,  
STAS Middle East*



As the industrial flagship of the UAE and already a significant contributor to the strategic diversification of the local economy, EGA considers “Emiratization” a key component of its efforts to maximize its impact on social and economic development. “UAE nationals currently comprise approximately 20% of EGA’s 7,000-strong workforce in the UAE, while the proportional UAE national representation at senior management level is currently at 70%,” said Kalban.

EGA is working towards a target to recruit 340 UAE nationals across a range of disciplines through their active talent acquisition and development programs in place to ensure rewarding career opportunities.

Similarly, Sohar Aluminium considers the development of its people to be an integral part of its operations: “Sohar Aluminium enjoys one of the highest percentages of local employment, with 73% Omanization and has achieved this through investments in training,” stated Al Masoudi.

Yet nationalizing the workforce is not something that happens overnight. Alba has achieved 88% Bahrainization, but one must

### WORLD PRICE OF ALUMINIUM (\$/mt)

Source: World Bank



From the perspective of GCC countries, there are great advantages to recruiting locally. GCC countries have nationals that are well educated and some have very good experience.

- Christians Cruz,  
Managing Director,  
MGR Management Consulting



remember that the smelter has been in operation for over 40 years. For newer smelters, this challenge persists: “Qatarization is one of Qatalum’s goals, but it is the most difficult target for us to achieve,” explained Laram. “The Qatari population is small and has many opportunities in other industries such as oil and gas: a smelter is not an ideal place to work in. Qatalum has a five-year plan to attract more Qataris, but it will be difficult to achieve. For now, Qatalum relies on foreign expertise, employing people from 41 different countries. To really grow Qatari participation in the aluminium industry, the country will have to grow its downstream sector, which right now only includes two extrusion companies.” While the smelters are making significant progress toward nationalizing the workforce, likewise, private companies are doing the same because it is just good business. Pyrotek, for example, is very focused on employing the maximum number of Bahraini’s within the organization. “At present,” said Majeed, “98% of our employees are from Bahrain and our goal is to achieve 100%-Bahraini employment. From a business perspective, it makes sense to employ locals, as the talent is already here. The Bahrain workforce is well educated and there is no need to go overseas to acquire the talent we require for our operations.”

### A New Frontier for Innovation

The GCC has distinguished itself as a region constantly pushing itself to innovate, as is easily seen through its infrastructure de-

velopments, but one might be surprised by the innovation that is taking place in the industrial sectors. It is easy to assume that the aluminium industry in the GCC would rely on importing technology and processes from the Western world, which has a long history of working in this sector, but that would be mistaken. EGA, for example, is the only smelter in the region to have developed its own proprietary technology, DX & DX+ Technology, which it is already transferring to the neighboring smelters. Alba decided to utilize EGA’s DX+ Smelting Technology for its Line 6. Innovation is not limited to the giants in the industry. “Every year, Gulf Extrusions invests into research and development and has developed a strategy to make an environmentally friendly plant, which is built on three main pillars: raw material, process, and green end products,” explained Al Mekdad. Gulf Extrusions has successfully implemented and patented X-ECO, an alloy made from over 80% post-consumer recycled content, reducing the carbon footprint by 60% to 80%. “This number is very significant when we consider that for every metric ton of primary aluminium, we emit 11,000 kilogram of carbon dioxide. Even though these products use high levels of recycled aluminium, this product still maintains excellent mechanical properties and excellent surface finish. This product also helps designers and architects to achieve Leadership in Energy and Environmental Design (LEED) certification for their prestigious construction projects.” OSE Industries is looking to shake up two globally significant industries, automotive and cooling, by increasing awareness to



the benefits of replacing copper in certain extruded products with aluminium. “The main technical comparison between copper and aluminium is that when copper tubes with aluminium fins for the condenser coils are used, galvanic corrosion can occur; however, when using aluminium tubes with aluminium fins this does not occur with the use of a technology called parallel-flow condenser. Whereas with the copper there is opposition in the direction of the refrigerant – the gas for cooling – because of the way it is built; with aluminium, the gas flows in parallel, making it more efficient with the absence of resistance to the gas flow,” explained Samoul. “Another separate but important comparison is that when you are filling the refrigerant into the aluminium (microchannel system), you are saving around 35% to 70% of the refrigerant, which is an ozone contaminant. Technical aspects aside, aluminium is more attractive than copper from a pricing perspective. Not only is aluminium currently cheaper than copper, but the price of the copper fluctuates more. In addition, the availability of copper is quite small in comparison to aluminium,” he said.

Even service providers are innovating to service their smelting and downstream clients. Turk Mechanical Industries (TMI) is one such company. Based in Bahrain, TMI specializes in the fabrication and manufacture of consumable parts for the aluminium industry and has achieved penetration across the GCC smelting market. While TMI does not have a research and development department it has developed its own technology through trial and error and client cooperation. Khalid Turk, director of Turk Mechanical Industries (TMI) and CEO of Turk Heavy Transport (THT), provided an

example: “TMI designed, casted, and supplied tapping tubes for passing molten metal aluminium with a special composition using Alba’s feedback to improve the product. The product has a longer life and is, therefore, more economical for Alba. TMI’s focus is to assure that the parts supplied are comparable or better than what foreign competition produces.”

Another Bahraini service provider, TAHA International Corp. (TAHA), has innovated to provide an alternative method to traditional and commonly used forms of dross recycling. TAHA has patented a two-stage process that requires neither extra energy nor salt, yielding no toxic material by-product. “TAHA’s onsite operation avoids the need to reheat the dross,” explained Frank Pollman, CEO of TAHA, “and, due to this rapid, low-energy process, up to 90% of available metal in the dross can be recovered in the first stage and can be returned immediately to the original furnace without further alloying. The second stage recovers virtually all of the remaining aluminium in the dross through a meticulous mechanical separation process that includes the use of a non-ferrous metal separator. This recovered metal is collected, re-melted and sold or returned to the cast house, completing the recycling process. Separately, the residual oxides can be used in a variety of downstream product applications furthering TAHA’s zero waste solution.”

What is important about these innovations is that they are not limited to a specific country. These products and services are being invented and designed in the GCC at large and are being shared with the world. •



## Said Al Masoudi

●●●  
CEO  
SOHAR ALUMINIUM

government laid a solid foundation for industrial capacity through modern infrastructure, access to competitive energy, and a deep port that opens the country to not only the Arabian Sea, but also the Indian Ocean through the Sea of Oman.

### **Sohar Aluminium currently produces 375,000 metric tons per year (mt/y). Do you plan to expand in the near term?**

Sohar Aluminium currently produces 375,000 mt/y through three main product lines: liquid metal for the downstream (30% of production), ingots for domestic and international markets (50% of production), and sows (20% of production). The plant itself is designed for more than one pot line, but expansion is not the current focus. We have invested in optimizing the existing infrastructure and pot line, which will allow us to creep up our current amperage, increase production, and become more efficient. With optimization, we can produce 390,000 mt/y, but this will require addressing other important aspects, such as modifying the carbon plant. These initiatives are in the pipeline in the medium term.

### **Sohar Aluminium intends to direct 60% of its production to the local downstream. Can you tell us about Oman's downstream aluminium industry and how this will be achieved?**

Sohar Aluminium helped to establish and supplies to two downstream companies, Oman Aluminium Processing Industries Limited (OAPIL) and Oman Aluminium Rolling Company (OARC). Once the OARC ramps up its production, increasing its input requirements, Sohar Aluminium will supply more liquid metal to achieve that 60% figure. These are the only two downstream companies at present, but Sohar Aluminium is open to working with any downstream and any private sector, if the metals are available.

### **Sohar Aluminium is owned by Oman Oil Company, TAQA, and Rio Tinto. How do you benefit from having Rio Tinto Alcan as an owner?**

Having the support of Rio Tinto Alcan has positioned Sohar Aluminium on a world-class level since day one. Rio Tinto has brought its state-of-the-art AP technology, and has helped us implement international operational standards related to safety or operational efficiency, which were relatively

new to Oman. Having Rio Tinto on board has swiftly transformed Sohar Aluminium into an internationally recognized company, not only through its expertise and technology, but through the ability to source materials from time to time, as well as supplying us with raw materials, like alumina.

### **What do you consider to be the greatest external challenges facing aluminium production in the Gulf?**

The global aluminium industry is going through a difficult two years with China's slowing growth. Chinese products have traditionally remained in their local market, but are now entering the international market and put significant pressure on the industry. On a positive note, this has forced smelters, especially in the GCC region, to become more innovative and efficient, to withstand price fluctuations until the market comes back to a balance.

Another trend that is uniquely affecting the Gulf countries is that the currencies in this region are pegged against the U.S. dollar, whereas many countries are experiencing currency depreciation. Russia's aluminium sector, for example, is slowly gaining momentum through its weakened currency against the U.S. dollar, as its labor and materials are cheaper, even if its energy costs are higher.

Nonetheless, even if the LME price is low, the aluminium industry is cyclical, like any commodity; it becomes a question of how one will manage through these times. The GCC is equipped to take on this challenge.

### **Though a newcomer, Sohar Aluminium is already making its mark on the industry. How do you envision Sohar Aluminium will continue to develop?**

Sohar Aluminium has the vision and capability to be the benchmark smelter in the GCC. We will do this by continuing to put our people first, which is our biggest strength. We enjoy one of the highest percentages of local employment, with 73% Omanization, through our investments in training and development. Along with our state-of-the-art technology and equipment and competitive energy costs, Sohar Aluminium offers value creation without compromising on safety and production. •

- **With the first pot coming on line in 2008, Sohar Aluminium is one of the younger smelters in the GCC region. Can you provide us with a brief introduction to how Sohar Aluminium got started?**

The city of Sohar has played a historical role in Oman in maritime and mining. Hundreds of years ago, this area exported copper from mines located very close to our site. Sohar was the capital of Oman during several historical eras and had for years captivated the hearts of historians, travellers, poets and merchants. Hence, and with the industrial evolution and rapid economic growth that the city witnessed at the beginning of the new millennium, there was no better location for our company.

Sohar Aluminium is reviving the tradition of mining, as part of the Sultanate of Oman's Vision 2020 to diversify the economy from crude oil exports. The vision was to build an aluminium smelter that would maximize the energy by creating value-added products and jobs in a densely populated area. The



## Khalid Mohammed Laram



CEO

**QATAR ALUMINIUM  
(QATALUM)**

### ●●● Can you provide us with a history and introduction to Qatalum and its plans to increase production?

Qatalum has two shareholders, which each hold 50% of the company: Qatar Petroleum and Norsk Hydro. The plant started up toward the end of 2009 and by 2014 was producing 610,000 metric tons per year (mt/y), more than the 585,000 mt/y for which the plant was originally designed to produce. Today, Qatalum produces 640,000 mt/y of primary aluminium in the form of extrusion ingots and foundry alloys. 95% of the products are export and 60% of Qatalum's ISO/TS 16949-certified products go to the automotive industry, a percentage that we hope to increase. At present, Qatalum is not looking to expand, but instead focus on maximizing benefit from the existing assets. We have studied the limitations in our plants and are trying to boost production to overcome them.

**Qatalum is placing a high focus on the automotive industry. Why is it more focused on the automotive sector than, for example, the infrastructure sector, where there is a lot of domestic demand for aluminium pieces?**

The global automotive industry is increasingly its need of aluminium parts, and Qatalum is well positioned to meet this demand. The automotive sector requires aluminium that must meet a minimum quality and producers must have ISO/TS 16949 certification. There is a lot of infrastructure demand in Qatar today, but the downstream industries are unable to meet the need of the local market. The majority of finished aluminium products for infrastructure are imported.

**Qatalum is 50% owned by Norsk Hydro. What value does Hydro provide to Qatalum?**

If you mention Qatar to foreigners, they will likely refer to Qatar as an oil and gas country. Qatalum is the only smelter in Qatar and locally we did not have the experience or technology to operate this plant. Hydro provides us with its technology, which is constantly being improved and further developed in its research center, and Qatalum has an agreement with Hydro in which Hydro will supply us with people to assist in operating our plant for a certain period, during which time we are developing our own people. Hydro also provides support to us when it comes to marketing our products and helping us to obtain a good price for raw materials.

**The GCC is determined to promote nationalization. How important is Qatarization to Qatalum?**

Qatarization is one of Qatalum's goals, but it is the most difficult target for us to achieve. The Qatari population is small and has many opportunities in other industries such as oil and gas: a smelter is not an ideal place to work in. Qatalum has a five-year plan to attract more Qataris, but it will be difficult to achieve. For now, Qatalum relies on foreign expertise, employing people from 41 different countries.

To really grow Qatari participation in the aluminium industry, the country will have to grow its downstream sector, which right now only includes two extrusion companies. Until recently, investors have been focusing on high and quick return on in-

vestment, but we are now starting to see investors approach Qatalum to discuss the potential for downstream investments in Mesaieed Industrial City (MIC), where Qatalum is located. This is due in part to the education and advice that Qatalum is imparting on the business community in Qatar through forums and conferences.

**How has Qatalum shifted its focus during this aluminium down cycle?**

In this more difficult pricing environment, Qatalum is focusing on how to improve costs. This does not mean simply cutting costs, but improving productivity through increasing the utilization of our own people, reducing manning from contractors, and, very importantly, enhancing safety performance. Fewer incidents mean fewer breakdowns and stops to production. If we take an average of what we call recordable incidents and benchmark Qatalum against the other GCC smelters and hydro smelters around the world, Qatalum is performing better, respectively. Qatalum has a very strong HSE team and also coordinates with MIC. MIC has its own safety program, so we are learning from them, and they are learning from us.

Improving productivity is one aspect to surviving a more difficult business climate, but it is also becoming more challenging to get new customers, and so we must work to maintain our existing clients. To keep existing customers happy, Qatalum is working to improve on-time delivery. Clients, particularly in the automotive sector, are looking for consistency in product delivery, which is one of the main reasons that clients prefer to work with us.

**As the newly appointed CEO, what are your strategic priorities for Qatalum in the next three to five years?**

Qatalum's top priority is to be on top of the CRU cash cost curve. In 2012, our place was #22 and today we are #3, just behind Sohar and Ma'aden. Qatalum also wants to see more of its products utilised in the global automotive industry and downstream within Qatar and to depend more on our own people for the operation of our plant. •



## Frank Pollmann

●●●  
CEO  
TAHA INTERNATIONAL CORP.

●●● **As the founder of TAHA International Corp., what inspired you to direct the company's focus to aluminium dross recycling?**

Dross is the residual material from any process in which aluminium is melted; it is a by-product, a waste, and a nuisance to aluminium producers. I saw an opportunity upon realizing the inefficient way the aluminium industry deals with its dross. Given that aluminium manufacturers would rather focus on their core business, little attention is paid to this inherent waste by-product, which unknowingly becomes very costly. Traditional processes skim dross from furnaces; and attempt to recover the metal through expensive and energy intensive salt rotary furnaces, where salt must be added in order for the metal to not get consumed in the flames, which in the end produces the highly toxic "salt cake."

Dross generally represents between 1% and 3% of the metal's weight, and, depending on the process, its metal content can vary from

30% to 70%. With reduced aluminium prices, coupled with increasing salt prices, the old-fashioned methods of recovering metal from dross is becoming increasingly out of sync from a cost perspective to the point that it is more costly to retrieve the metal than what it is worth.

We posed the question: if the dross already has the energy in it, why not process it right then and there for a safer, more energy-efficient and cost-effective solution?

**Dross processing is a competitive industry with established players. What makes TAHA's process so unique?**

TAHA's patented two-stage process is unique because it requires neither extra energy nor salt, yielding no toxic material by-product. TAHA's onsite operations avoids the need to reheat the dross, and due to this rapid, low-energy process up to 90% of available metal in the dross can be recovered in the first stage and can be returned immediately to the original furnace without further alloying.

The second stage recovers virtually all of the remaining aluminium in the dross through a meticulous mechanical separation process that includes the use of a non-ferrous metal separator. This recovered metal is collected, re-melted and sold or returned to the cast house, completing the recycling process. Separately, the residual oxides can be used in a variety of downstream product applications furthering TAHA's zero waste solution.

TAHA's main objective is to collaborate with and assist the client in dross management. Aluminium producers, unfortunately, are accustomed to dross-recycling companies who may view more dross as an opportunity to recycle more metal. This is where TAHA differs at the core. Dross is inherent to any aluminium process, but TAHA differentiates itself by working with clients to implement practices that lead to a reduction in dross generation, because that is where the biggest financial loss occurs. Moreover, it does not suffice to only reduce dross generation; more importantly, improved skimming practices lead to a better quality of dross.

The collaboration between our experts and cast house personnel allows for an effective transfer of knowledge on how to deal with dross, emphasizing an aspect that most companies overlook, which is the timing of the skimming in order to produce less, yet better quality dross.

**Can you provide us with a case study that illustrates the efficacy of TAHA's process?**

In 2009 and 2010, we conducted a two-year trial at GARMCO, the first and one of the largest downstream aluminium facilities in the Middle East for rolling, cutting and fabricating aluminium, comparing on-site one bucket of skimmed dross side-by-side with a traditional rotary furnace. Over those two years, TAHA's process consistently recovered more metal than the state-of-the-art rotary furnace was able to recover. All of this was done while transparently returning every bit of metal to GARMCO.

**How can TAHA's process serve to create value-added products downstream?**

Dross should not be viewed as a waste, but as an economic source of valuable aluminium oxide to serve as feedstock for other products. TAHA manufactures a fertilizer in its New Zealand plant that works extremely well there and in soil types that have increased salt levels, which under normal conditions do not allow for plant growth.

Another use is aluminium tri-hydrate (ATH); a white powder, that is typically made out of the raw material, bauxite. TAHA collaborated with a German research institute and created a process that converts residual aluminium oxide, from the dross process, into ATH, a valuable product used in flame retardant applications and traded worldwide.

**What are your priorities for TAHA's future growth and expansion?**

A key to achieve TAHA's mission to assist the aluminium industry change the way it deals with its dross is through awareness and expansion regionally and globally. Regionally, we are in discussions with other smelters and downstream players in the GCC, but we also see promising opportunities for our cost-effective and zero-waste solution in the United States and Europe, where the latter prohibits salt cake landfill and disposing of it is quite expensive. TAHA's objective over the next few years is to significantly scale its dross recycling process to help the global aluminium industry efficiently handle an onsite environmental hazard and produce value-added products. ●



## Julian Clark

Regional Director, MENA  
**HATCH**

- **Hatch is a global EPCM with a significant focus on metallurgical industries, including aluminium. In the scope of Hatch's global operations, how significant is aluminium and what services does Hatch currently offer to this industry in the GCC?**

With around 10,000 employees worldwide, Hatch celebrates its 60th anniversary as a global project delivery company, including EPCM amongst other forms of contract, with a key priority to continue to add value to metallurgical operations. Light metals, like aluminium, due to their energy saving characteristics in transportation and recyclability, have taken hold and become one of the driving metals in the world and Hatch's involvement in this field has grown with it. Aluminium is certainly true to the heart of Hatch, and over the years we have developed strong partnerships with some of the leaders in this industry including, EGA, Alcoa, Rio Tinto's aluminium division, as well as others. Hatch has delivered

large-scale projects in both alumina and aluminium and what differentiates Hatch is our inherent process knowledge of both alumina and aluminium.

In the GCC region, Hatch is well-known as a consultative engineering firm skilled at process improvements, cast house modernizations, and assisting developments toward expansions, having been involved with Alba and Dubal since the late 1990s. Hatch now has regional operations led in the UAE, with active offices in Saudi Arabia and Oman to support the primary and secondary industries in the GCC as a whole from those three bases in addition to its global response from other centers of excellence.

**The Middle East is known for its challenging environmental conditions. Can you tell us about a piece of technology that Hatch has successfully adapted to aluminium facilities in this part of the world?**

Hatch hold patents and considerable Intellectual Property for many metallurgical processes, most notably the Tube Digestion process for producing alumina. With continued environmental pressures, where maximizing extraction and minimizing water and other raw material usage is key to long term business success, this places Hatch in an enviable position for assisting our clients not only in new projects, but modernizing and expanding existing operations. Our alumina process technology has been utilized for not only the first GCC alumina refinery, for Ma'aden at Ras al Khair in Saudi Arabia, but is being implemented for the first UAE refinery for EGA at Al Taweelah in Abu Dhabi.

**How does Hatch cope with the competitive nature of the aluminium market for engineering and construction companies in the GCC countries?**

The GCC region's growth in aluminium has brought significant interest from the global engineering and construction firms, making it a competitive, yet limited market. Given the competitive nature, smelters have stringent qualifications and requirements when hiring engineering delivery firms to complete the construction of large-scale projects. Hatch uses a three-tiered business model that provides a full-service offering when considering the overall project life-cycle: (1) major projects, to execute

large scale projects safely and efficiently; (2) technologies, including process development, where we are specialists in all our fields of operation, driving recoveries up and costs down; and (3) operational performance, to enhance the asset with our ramp up and asset management and optimization skills.

**In what ways will the current low price of aluminium affect decisions to optimize and/or expand operations?**

In times of depressed metal prices and lack of demand, the best way to protect the asset is to optimize and produce the highest quantity at the lowest cost, which translates into big potential for all smelters, even newer ones in the GCC region, to increase performance and focus on cost optimization.

On the other hand, when prices are depressed, any major project needs to procure a significant amount of metals, parts and services, all of which at present can be procured cheaper than in a bull market, meaning it is also the perfect time for investment in new facilities. The smelters are in a strategic position to expand.

**If Global Business Reports returned in five years, where would we find Hatch in the region?**

Part of the reason Hatch set up a permanent office in the GCC region in 2010 was to service our regional clients locally and be more competitive. Hatch is able to mobilize staff within short notice in a work-permit-required environment and bring the required expertise with a competitive edge on cost. Hatch strongly believes in education and aims to effect programs where we might bring in our client's employees to train within Hatch, later handing them back to the operating companies.

Having analyzed the global markets, the strategy for Hatch is to achieve performance enhancement, production increments, and cost reductions for clients in addition to delivering major projects where we are strongly positioned. Hatch's current plan is to grow our GCC offices substantially to meet growing needs and strengthen the partnerships that we have with clients in the region. Within the UAE, we have already established a very good partnership with EGA and hope to ensure this is replicated in the other GCC countries with their major operating companies. ●



## François Pahmer



Chief Representative

**FIVES MIDDLE EAST**

### ●●● Fives is an international industrial engineering group with operations in 30 countries. Can you provide us with a brief introduction into the company's global as well as GCC regional operations?

Founded in 1812, The Fives Group is comprised of 100 companies worldwide with a headcount of roughly 8,000 people. The common attribute that our companies share is orientation to engineering equipment and processes. The group mostly operates in eight different industrial sectors: aluminium, aerospace, automotive and manufacturing, cement, energy, steel, glass, and logistics.

Within the GCC, the group has a strong local presence. The corporate office of Fives sits in Dubai and supplements the presence in the region of Fives Group's companies, including Fives Solios, our branch focused on aluminium. Fives Solios has subsidiaries in Saudi Arabia and in Bahrain, which

caters to all maintenance and services for our regional customers. Finally, with the recent acquisition of ECL, the latest addition to Fives' aluminium portfolio of companies, our local presence has deepened with two new specialized service companies in Dubai and Bahrain.

### **In 2015, Fives acquired ECL, a specialist in the design and installation of equipment used to produce primary aluminium. How will this acquisition enhance Fives' service offering?**

Fives is strongly oriented towards growth and adding value to its customers. To us, growth means extending our local presence, the proximity and the understanding of our customers' needs. Growth further comes from enhancing the value proposition that we offer to the customers. ECL has worked with many smelters globally, is a recognized leader in his field, and has highly regarded technologies. Bringing ECL within the Fives' umbrella will create synergies and improve the overall value that the group can provide to its customers in the smelting area of the aluminium industry.

### **What are some of the key projects that Fives Group been involved with in the region?**

In the GCC region, Fives Solios has been very active for decades and fortunate to participate in all the smelter plants that took place in the region, from the construction of Alba, the GCC pioneer, to Ma'aden, the latest one. Ma'aden Aluminium has been our biggest project to date, with equipment supplied for the carbon, reduction and casthouse sectors. Overall, we poured 30,000 metric tons (mt) of concrete, installed 35,000 mt of steel, and supervised up to 3,000 people on-site at the construction peak. We are very proud that our project for Ma'aden, which totaled 13 million man hours on-site, took place without any lost-time injuries.

### **Can you tell us more about the work Fives Solios performed for Ma'aden, and how this exemplifies the work that Fives provides to smelters?**

Ma'aden Aluminium is the largest integrated smelter in the world, and we have been fortunate to provide equipment, solutions and services in the three sectors in which Fives specializes: the carbon, the reduction, and the casthouse.

More generally, in the carbon sector, Fives is known for complete green anode plants, starting with the liquid pitch terminal in the harbor where the raw materials are received and brought to the anode plants. Within the paste plants, the anodes are fabricated according to a special recipe. Fives also provides fume treatment solutions and firing and control systems for baking the anodes as well as bath processing units to treat bath coming from potlines. Fives can provide all of this on a turnkey, EPC-type contract, which is the preferred mode of contract execution in this region. Additionally, with the acquisition of ECL, we can now also provide baking furnace tending assembly machines, anode handling systems and turnkey solutions for complete aluminium rodding shops.

Since the reduction process requires fluoride to reduce the alumina melting point, Fives also provided high-performance gas treatment centers which recover the fluoride from the fumes and return it back to the reduction process, recycling it in an almost closed loop. The fluoride fumes are extremely toxic and must be very efficiently filtered, especially given that smelters in the region are generally in the city proper or very close to populated areas. With the ECL addition, moreover, the group will now be able to provide pot tending machines whose performance and reliability are absolutely key for smelters, meaning our presence in the reduction sector of the smelters will be significantly reinforced.

Last but not least, Fives provides complete casthouse turnkey solutions, similar to the most recent contract for GARMCO. Overall, we have provided around 75% of all the casthouse furnaces in the Gulf region.

### **Fives is increasingly looking toward the downstream, as evidenced through the GARMCO casthouse partnership. What does Fives have to offer in this space?**

The Fives Group's experience with casthouse furnaces provided to smelters is very extensive and we are looking to build a bigger footprint in the downstream area. It is a competitive environment, but, what is much less common and where Fives excels, is its capability of providing customized turnkey solutions for our customers, from civil works and building, to the process equipment and the plant utilities, in an EPC contract. •





## Pete Forakis

Regional Director, Middle East  
**STAS MIDDLE EAST**

### ●● As a Canadian company, what opportunity did STAS see to begin operations in the Middle East?

Evaluating global trends, STAS realized that the future of the aluminium industry is in the Middle East. The aluminium sector in North America is in decline; in Western Europe it is virtually decimated due to energy prices; China is a challenge, as they have their own domestic supply; there is no expansion in Australia; and while India has potential, it is not without its own challenges.

STAS began local operations in 2007 working on the construction of EMAL. As business wound down, STAS' activity focused more on business development so as to continue to have a permanent, physical presence in the Gulf. The Middle East is the only region where STAS has a satellite office because of how important it is to be physically available in this region in order to build trust and maintain business.

### ●● What type of companies does STAS work with and what are the core services that the company provides?

STAS works with all companies that deal with molten metal. Our equipment and products are designed to purify, refine and make the metal better, which allows our clients to produce products of added value. The first area of focus for the companies that we work with is cost per metric ton (mt); making value-added products initially increases the cost per mt to produce, even though the premium goes up. Companies first want to reduce costs, and once this is achieved, they then consider value-added products, which is when STAS comes in. STAS helps companies diversify and increase the quality of their products, as well as produce value-added products.

### ●● China, which produces half of the world's aluminium, recently saw its production outpace domestic consumption. How does this dynamic affect the aluminium industry in the Gulf?

Uncertainty surrounding China's aluminium industry is one of the reasons that the price of aluminium on the London Metals Exchange (LME) has fallen. Virtually all of the aluminium that China produces stays within the country. China's objective is to use the aluminium to produce semi-finished and finished products that are used both for export and for domestic consumption. As the Chinese economy has slowed, domestic consumption has consequently slowed as well, creating a surplus. To address this, the government has removed export duties, meaning that aluminium that was previously not being exported is now available on the world market. The LME price has dropped slightly, but of greater concern is that premiums have dropped significantly from \$500/mt to \$200/mt. Before China became an active player, producers globally were making all in \$2,300/mt. That price has now dropped to between \$1,700/mt and \$2,000/mt.

In this state of aluminium oversupply, producers in the Gulf are hesitating to expand operations. The upside is that the cost of expansion will be very inexpensive, from the engineering work to the equipment provided by companies like STAS, in comparison to 2006 and 2007 levels when everyone was building at the same time. The concern though is that once the facility is operational, will there be a market for the

●● *Uncertainty surrounding China's aluminium industry is one of the reasons that the price of aluminium on the LME has fallen.*

●● product? Ultimately, it really depends on what China does. Alba, for example, has evaluated the challenges and opportunities and has chosen to take that risk, moving forward with the decision to install Line 6.

### ●● Do you anticipate new and/or foreign smelters entering into the aluminium industry in the Gulf?

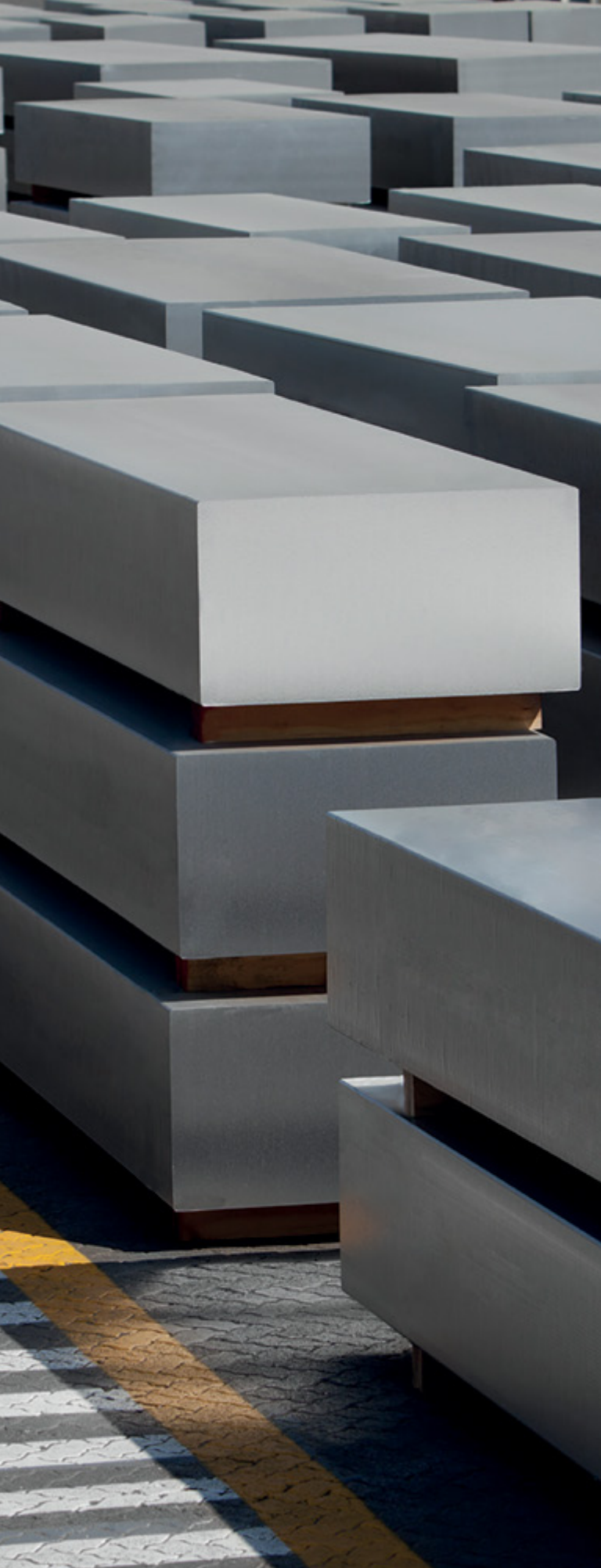
It is unlikely that the Gulf will see new regional players emerge. EGA has the vision and direction to be the biggest and the best. Other players, such as Alba, which will produce 1.5 million mt following the completion of its expansion, will also be quite strong. New ones will most likely not arise; instead, the existing smelters will become larger and more powerful.

The only way that foreign players can participate is through partnerships. Aluminium production is based on cost, and cost is based on energy prices, which is government-controlled gas. Foreigners will not have access to that. There are examples of successful foreign partnerships: Ma'aden with Alcoa, which has a 25% stake; and Qatalum, which is 51% owned by Qatar Petroleum and 49% owned by Norsk Hydro, which brings the expertise, technology, and people.

### ●● If Global Business Reports were to return in three to five years, where would we find STAS?

STAS has ambitions to grow its presence in the Middle East, offering a wider range of services, including after-sale services. STAS is starting to see a trend among the major smelters where clients are looking to outsource non-core activities. STAS would like to become more involved in the maintenance and operation of the equipment at the clients' site. This would provide STAS with different revenue streams, plus, being present on site will allow STAS to identify new product needs. ●





# INTO THE FUTURE



“The smelters are more or less driven by the national governments, which in turn are creating industrial parks to develop a vertical system and maximize resources that ultimately create more value for the companies and the country. This can be seen in Abu Dhabi’s EMAL smelter development and associated downstream aluminium development, Ma’aden’s one-site vertical integration in the Kingdom of Saudi Arabia, and in Oman with Sohar, as it has a continuous rolling line, where molten metal is taken directly from the smelter to the downstream company and converted into a value-added product. This basic model of having the smelter with the downstream industries directly adjacent or in close proximity started in Bahrain with Alba.”

- Gary Daniel Martin,  
Plant Executive Manager,  
Bahrain Aluminium Extrusions Co. (BALEXCO)

Demand for aluminium is driven by the highly aluminium-dependent construction in Dubai, Doha and Riyadh, a growing middle class that consumes many products that require aluminium packaging, and downstream demand in automotive or transportation applications to produce ever-lighter vehicles. This is achieved through the increased substitution of steel parts for aluminium ones.

- Jean-Baptiste Lucas, CEO,  
Gulf Aluminium Rolling Mill Co. (GARMCO)



In three-to-five years, Fives and ECL will have pooled together their client portfolios, and a future common service platform dedicated to Middle East customers will have been formed. It will provide deeper local knowledge with a high level of technical expertise and great responsiveness.

- Frederic Gicquel, General Manager, ECL  
Services Middle East



Aluminium has gained a significant amount of momentum in the transport industry particularly in automotive, which will continue to grow. Ford's F150 truck body for instance is mainly fabricated from rolled and extruded aluminium products. Additionally, foundry alloy manufacturers are seizing growing demand opportunities in production of aluminium automotive wheels and other cast components to supply original equipment manufacturers.

- Gary Daniel Martin, Plant Executive Manager,  
Bahrain Aluminium Extrusions (BALEXCO)



The challenge as a downstream player comes from having a single source of supply. We commit to a certain amount of tonnage, which we must take, even if the market is in a recession. This benefits the smelter, as it is able to take stock off their factory shelves.

- Hamid Rashid Al Zayani, Managing Director,  
Midal Cables



The aluminium industry in the GCC today is growing at a rate of around 8.4%, compared to an average annual global expansion of 3.5%. By end of 2015, aluminium production in the GCC is expected to increase to five million metric tons, with the UAE accounting for over around 50% of regional production.

- Jamal Salem Al Dhaheri, Acting CEO,  
SENAAT



The aluminium industry currently produces products that are considered commodities, meaning that their lead-time to market is crucial. Thus, the logistics and supply-chain element is very important to the industry. Abu Dhabi Terminals aspires to create an environment where EGA or any other aluminium provider has a much-shortened lead-time to sales.

- Martijn Van De Linde, CEO,  
Abu Dhabi Terminals



The industry cannot be prepared to use the aluminium on the first day of Alba's Line 6 expansion starting up, simply because the capacity is not there. Currently, the downstream in Bahrain could possibly take another 20% of their current aluminium capacity leaving about 40% to 50% to stay in Bahrain. The problem is that there is no one here to use it and there is no news in the public domain about new plants or future expansions.

- Tim McLaughlin, General Manager,  
Bahrain Atomisers International



From the perspective of GCC countries, there are great advantages to recruiting locally since they have nationals that are well educated, and some have very good experience. The aluminium industry can provide their newly graduated GCC nationals with the opportunity to gain working experience, which is so important for the success of the countries in this region.

- Christians Cruz, Managing Director,  
MGR Management Consulting



Alba is subsidized and, because there are subsidies throughout the GCC, this means that the natural competitors of Alba will be the major aluminium producers in the rest of the GCC. The consequence is that even though they hold a competitive advantage against the market of producers established outside the region, their ability to compete with Qatar, Saudi Arabia, and the United Arab Emirates comes down, in substantial part, to how much government support there will be and the additional efficiencies that Alba creates relative to other GCC countries.

- Steven Brown, Managing Attorney, ASAR Al Ruwayeh and Partners,  
Bahrain Office



It is important for the aluminium industry to use specialized logistics providers, as the sector is particular and moving its products requires specific equipment. To safely and efficiently handle and move this product, logistics players must invest in the right equipment and provide adequate long-term solutions.

- Bassel El Dabbagh, CEO,  
Agility (Abu Dhabi)



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This list contains those companies interviewed during the course of research for this publication and as such represents only a limited selection of the companies operating in the aluminium industry of the GCC. It should not be considered a comprehensive guide. For further information on database access packages, please contact [info@gbreports.com](mailto:info@gbreports.com) or call +44 20 7812 4511.

● CREDITS

## EDITORIAL AND MANAGEMENT TEAM

**Project Director:** Josie Perez ([jperez@gbreports.com](mailto:jperez@gbreports.com))



**Executive Editor:** John Bowlus ([jbowlus@gbreports.com](mailto:jbowlus@gbreports.com))  
**Graphic Designer:** Gonzalo Da Cunha ([gdc@gopadesign.com](mailto:gdc@gopadesign.com))

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Additional copies of this book can be ordered through Elif Ozturk ([elif@gbreports.com](mailto:elif@gbreports.com)).



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