$Al_2to_3gether$

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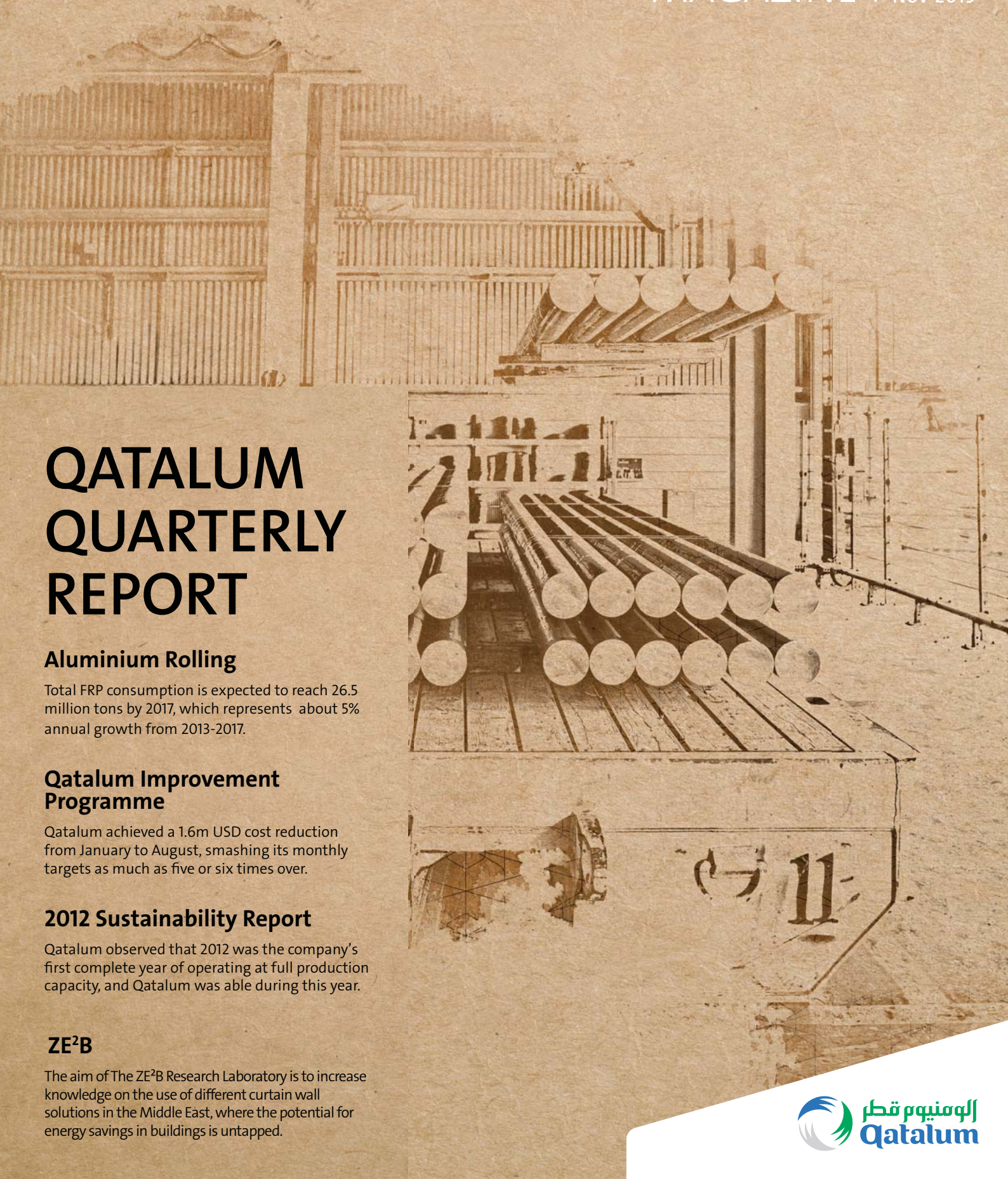

QATALUM QUARTERLY REPORT

Aluminium Rolling

Total FRP consumption is expected to reach 26.5 million tons by 2017, which represents about 5% annual growth from 2013-2017.

Qatalum Improvement Programme

Qatalum achieved a 1.6m USD cost reduction from January to August, smashing its monthly targets as much as five or six times over.

2012 Sustainability Report

Qatalum observed that 2012 was the company's first complete year of operating at full production capacity, and Qatalum was able during this year.

ZE²B

The aim of The ZE²B Research Laboratory is to increase knowledge on the use of different curtain wall solutions in the Middle East, where the potential for energy savings in buildings is untapped.

الومنيوم قطر
Qatalum

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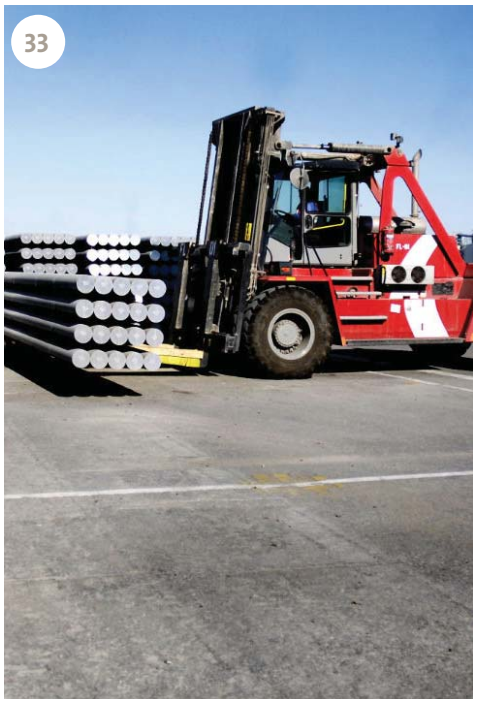
$Al_2to_3gether$

"$Al_2to_3gether$" is a name that symbolizes the work spirit of Qatalum, and reflects the Company's superiority and its ability to overcome challenges, as one team. "$Al_2to_3gether$" also helps remind employees of these great achievements on a daily basis. This magazine is a step in this direction, where team spirit is enhanced, and will provide an open forum to discuss the ideas and ambitious plans we aim to achieve, for the good of both the company and its employees. Last, but not least, the motto of our magazine is inspired by a symbol of aluminium oxide "Al_2O_3" which is the main raw material used by the aluminium industry in Qatar.

$Al_2to_3gether$ Contents



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“Always looking for ways to improve is a part of Qatalum’s DNA!”
TOM PETTER JOHANSEN
CEO, Qatalum

CEO Message

Welcome to this issue of Qatalum magazine from me and the rest of the Qatalum management team. It is an exciting time for the company, for the industry, and for Qatar – with the preparations for the 2022 World Cup, and the implementation of the National Vision 2030.

Corporate Social Responsibility is important for Qatalum's management and a part of our sustainability. This year, the company renewed the Summer Internship Program, which offered students a variety of challenging and interesting opportunities in many different areas of the Qatalum plant, as part of the company's Qatarisation initiative.

Once again, Qatalum was involved in the Qatar Career Fair, meeting and speaking with the next generation of young Qatari students. And the company partnered with RAF to sponsor an Iftar tent at the end of the Holy Month of Ramadan.

We have made Qatalum one of the absolute leading aluminium companies in the world in terms of health and safety and environmental standards. The Qatalum Sustainability Report for 2012 made public September 22nd ?? is a clear evidence of the efforts and the great results the Qatalum organization has achieved within its first year in full operation. This is nothing else but impressing and as a CEO I will take the opportunity to thank all our employees and stakeholders for their contribution and commitment making this possible.

Our vision is to be among the most cost-efficient aluminium producers! We certainly are a great team, we have in a very short time in operation been able to move towards a very favorable cost position, our products are very well received in the market and our relentless strive for continuous improvements makes us even better day by day! Always looking for ways to improve is a part of Qatalum's DNA!

Qatalum Production System and the Qatalum Improvement Program enable us to deliver significant improvements in a sustainable and systematic way.

I have a very simple slogan I carry with me all the time and that inspires me personally in my daily life. It is simply: "Better every day! " Qatalum has an extremely competent organization and no one would beat us if we all strived to identify potentials for improvements and to be a little better today than we were yesterday!

Thank you, and see you in the coming issue.

DCEO Message

Qatalum's management and board have huge faith in Qatar's development, the vision of the leadership, and the important downstream industries in the country – especially with the immense infrastructure plans which are ahead as the country prepares for the 2022 World Cup and implements the pillars of the National Vision 2030.

It is this cooperation between the private and public sectors which means investors are so attracted to Qatar nowadays, and we take this opportunity to encourage and welcome new investors to the country. Qatalum strongly promotes and supports the downstream development which use aluminum as feedstock to produce value added products in this country.

Health and safety for our family of employees, and environmental protection, are at the very top of Qatalum's corporate ethos. A continual process is underway to make the health and safety conditions within the plant optimum, and to thank our family of employees by providing the very best working environment possible.

Our international employee base, many of whom are away from their own families for long periods, means that Qatalum is a real 'family ' – and we wish to always be mindful of that. And we must remain mindful of our environmental obligations, too; incorporating international best practice in waste minimization, water conservation, emissions reduction, and recycling.

I would also like to take this opportunity to thank everyone for their contribution and continued support to the aluminium industry and other sectors within the economy. The clear vision of the leader of this country and his government that has created the conditions that have permitted Qatalum to innovation, flourish and grow. The industrial sector here has never been in better health, and it is with this in mind that we plan for the future with optimism, confidence and zeal

Thank you, and see you in the coming issue.

"whom are away from their own families for long periods, means that Qatalum is a real 'family"

KHALID MOHAMED LARAM
DCEO, Qatalum

THE QUARTERLY REPORT ISSUED BY QATALUM

"The Aluminium Industry exceeds the limits of growth and competition through more partnerships and mergers"

The Gulf Cooperation Council (GCC) States could impose their presence on the Aluminium industry map within a short period of time, with the Secretary General of the Aluminium Gulf Council expecting GCC production of Aluminium to reach 5 million tons by 2015, with the result that the GCC States become among the most important Aluminium-producing areas in the world after China. The GCC countries are reported to have reached production of 3.7 million tons of Aluminium during 2012, an increase of 300,000 tons year-on-year. The growth of this industry contributes to a corresponding increase in jobs, with the Aluminium industry sector employing 12,000 employees directly and about 30,000 indirectly.

According to its rank among other sectors and the rates of growth and productivity at the global economic level, the Aluminium industry sector, following the energy sector, predominates over all other investment projects, in terms of its capacity to drive more promising investment opportunities with high economic viability in the current period. The Aluminium industry sector in the GCC States urgently needs to expand investments at the global and local levels during the coming years. For example, when we talk about international partnerships, the automotive industry receives the greatest focus during the coming period, due to its efficiency in use, its ideal advantages at the environmental level, and the usability for recycling permanently.

Moreover, Aluminium products have penetrated the Heavy Industries Sector, the Consumer Goods Sector, and other industrial sectors. Modern technology has emerged in the service of the Aluminium industry at the refinery level, with progress in raising Aluminium efficiency in energy saving, and many other developments related to the expansion of its uses and raising its efficiency in both quality and quantity.

Given the great attention paid by the governments of the Gulf States to the industrial sector in general and the Aluminium sector in particular, we emphasize that the factors of success and expansion mandate work within the principle of achieving industrial integration between the markets of the GCC countries to work in conditions of fair competition and ensure the movement of products unhindered - in addition to the integration of production processes. This will make the GCC States productive units and help the States to complement each other rather than compete. In order to ensure that the GCC States succeed in the development of the industrial sector, they have to adopt the trends of specialization and industrial concentration, and avoid unnecessary diversification.

This will improve the proficiency of the different industries to compete on the regional and international levels. Moreover, the improvement of the level of coordination will also lead to efficient distribution of industries on the basis of the competitive advantages enjoyed by each state, which will contribute to the reduction of differences between markets and the development of further industries, thus helping the industrial sector play a leading role in the pursuit of economic unification and integration among the GCC countries.

The Aluminium industry and other manufacturing industries have recently been threatened by fierce competition on the regional and global levels, and therefore the GCC States have to establish partnerships and joint industrial projects, ensuring the expansion of the ranges of the regional and global market products, and increasing the production levels in size and magnitude and taking advantage of all the capabilities and resources available in the parties.

It is also important for the GCC States to raise the level of coordination in the industrial production field and remove the obstacles associated with protectionist policies and custom restrictions which are imposed on their exports that operate directly to weaken the competitive position of the Gulf Industrial Sector, in

> “Aluminium will rise because of its capability to reduce the amount of consumed energy, and the Aluminium share of car body components will rise to 20% by 2025.”

turn weakening the productive industrial projects as a whole and preventing diversifying the rules of industrial production in the GCC States.

According to statistics issued by the GCC Aluminium Council, levels of primary Aluminium production reached new highs at the end of 2012, with the UAE Dubal Company topping the list at 1,061,002 metric tons at the end of 2012, followed by the Bahraini Alba Company at 890,217 tons, then the UAE Emal Company with primary Aluminium production up to 800,000 tons. Qatalum was ranked fourth in terms of production at 627,971 tons, followed by Sohar Aluminium Smelter at 360,100 tons. However, the indicators and levels of production show that the Gulf production of Aluminium will reach 5 million tons annually by 2015, due to the presence of five Aluminium smelters in these countries, and good indicators of demand on primary Aluminium products locally, regionally and globally.

It is obvious that the sources of demand are shifting towards the car-industrializing countries which are seeing great turnover in production components and where Aluminium is replacing iron and other metals, due to its lightness, strength and is being considered an economic and commercial choice for the automotive industry around the world. Moreover, the feasibility of using the Aluminium will rise because of its capability to reduce the amount of consumed energy, and the Aluminium share of car body components will rise to 20% by 2025.

The Gulf Aluminium-producing States will target rising levels of production during the next three years, and primary Aluminium production is expected to reach up to 5.2 million tons by 2015, a 40% increase on 2012. The GCC States currently depend on five smelters and they exert great efforts in order to reach the target levels of production and maintain their momentum and usefulness, by attracting investors to the Aluminium manufacturing industry and increasing the Aluminium share in the various industries.

Additionally, the countries of the region rely on an expected growth of the global Aluminium industry of 8.4% during 2013, compared to 3.7% for 2012 in China and the countries of Asia, North America, Eastern Europe and the Middle East. It is reported here that the Aluminium industry sector retains promising growth prospects and enjoys continuous government support which is targeted at expanding the sector and offering more investment opportunities, which would raise the GCC States’ prestige in the global Aluminium industry.

The unexpected change in the forces of supply and demand on the primary Aluminium in the global markets is considered one of the major challenges facing the Aluminium industry. The countries of the region are working to raise the investment values and assets of the Aluminium industry sector, according to forecasts and studies of the supply-and-demand tracks, the expected and current production levels, and the current production capacities together with their potential growth. This must be done without being able to fully determine the nature and timing of those variables such as productive capacities of countries,

levels of competition, mergers, partnerships and the financial and economical changes, which in most cases achieve production size of a high cost and accelerate the expansion of industry towards the countries having better industrial potentials and more resources.

This trend – towards consolidation and partnership – will bring about the production of Aluminium of high value and low cost; that is, the decision-makers in the Aluminium industry sector are required to focus on managing the general and operational costs and evaluate the trend of establishing partnerships and mergers which reflect, in general, huge capital investments that can meet the challenges of the markets and the unexpected variables outlined above.

Given the conditions and variables surrounding the Aluminium industry during the coming period, the decision-makers of this industry will build up strategic, regional and global joint alliances and partnerships, rather than merely compete on the local, regional and foreign markets.

In addition, they will move towards the development of the industry so as to be more valuable, influential on their economies, and more versatile in production, responsive to the evolution of applications, and in particular the growing demand in the construction, packaging, and transport sectors. In addition, the assessment of the shared grounds of the Aluminium industry in the GCC States will reflect positively in cost reduction, greater capacity to external expansion, an increase in the type and number of jobs, and rising production capacities in quantity, quality and timeliness. All these trends will work together to make the industrial sector in the GCC States a new headquarters for global Aluminium companies and the best investment destination in this region of the world.

The Aluminium price index in the global markets is considered the biggest challenge for the Aluminium industry in the region and the world. The Aluminium industry depends on the macroeconomic trends of countries. The negative impacts resulting from the lower Aluminium prices in the global markets vary from one country to another, depending on the availability of the raw materials, the energy required and the level of costs of production and marketing.

The Gulf Aluminium industry is recognized as being the least affected by the global declines in Aluminium prices. Also, the Aluminium prices at the London Stock Exchange are reported to have taken a downward path since March of this year till the end of July before rising upward during August; they fell from 1,911 USD/ton in March to 1,760 USD/ton at the end of July (a 7.9% decline) while during August the Aluminium prices rose to 1,816 USD/ton - a 3.2% rise.

Additionally, there is a continuous rise in aluminum prices, reaching an average price over a three-month period of 1,866 USD/ton during the first week of October 2013. The performance of the Aluminium industrial sector in the productive GCC States is not expected to record significant declines during 2013 as a direct result of the globally lower Aluminium prices, compared with the 'fair' price, estimated at a minimum of 2300 USD/ton, due to the GCC's flexibility in prices and efficiency in operation and production.

The GCC States, adopting the Aluminium industry as a vital component of the national economy, rely more on the development of Aluminium uses than on the increasing demand, since the industry is seeing more producers and a high increase in the productive capacities of the present producers. The construction sector will retain the largest share of Aluminium demand at the global level, followed by the transportation sector. Due to the development of various Aluminium applications and uses in all other sectors, the index of usage diversity will be the important catalyst for both the Gulf Aluminium industry's plans for growth, expansion and competition, and the use of the most advanced techniques in this field.

MR. JASSIM ABDEL-NOUR ABDUL-JABBAR

The Owner and General Director of Abdel Nour Aluminum Plant

> Mr. Jassim Abdel-Nour Abdul-Jabbar estimated the Qatari market need for aluminum products to reach 12-17,000 tons per year. He also expects an increasing demand for these products, in light of the influx of projects which the State of Qatar is witnessing in preparation for the 2022 World Cup.

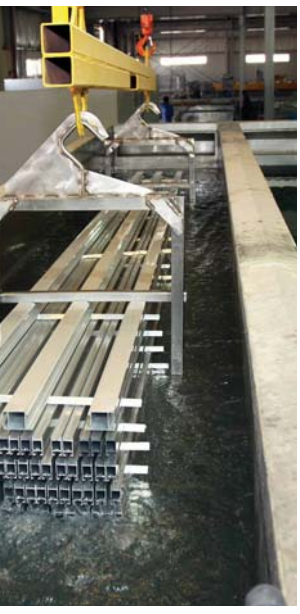
Jassim Abdel-Nour Abdul-Jabbar, born in 1963, graduated from the University of Qatar's Department of Business Administration. Before that, he was in the military field, and specializing in various technical elements of military development. The aluminum industry project, however, is new for him; and came about in the past two years since the founding of Qatalum.

The Owner and General Director of Abdelnour Aluminum Plant, Mr. Jassim Abdel-Nour Abdul-Jabbar estimated the Qatari market need for aluminum products to reach 12-17,000 tons per year. He also expects an increasing demand for these products, in light of the influx of projects which the State of Qatar is witnessing in preparation for the 2022 World Cup.

Abdel-Nour expects new competitors in the aluminum manufacturing sector in the domestic market, which would increase the size of the industry in the future and the number of Aluminium Extrusion plants in Qatar to five factories by 2017.

He has said that his aluminum plant aspires to produce about 100,000 tons per year of aluminum products within 15 years, stressing that the idea of founding the plant came as a result of the existence of Qatalum.

In this interview, Abdel-Nour also spoke about the current production size, the cost of founding the plant, its share of the domestic market, the export size, and the future of aluminum manufacturing industries.



Above all,
please tell us about Abdelnour aluminum plant:

When was it founded and what is the kind of industry provided by it?

The factory was founded in 2011 and started producing in January 2013. It is an aluminum extrusion plant; we purchase the raw material from Qatalum and put it inside highly-heated pistons until it gets transformed into paste, which is then withdrawn at the end of the plunger where there are forming molds designed in Europe according to the clients' specifications. We sell our products inside and outside the Qatari market. The aluminum plant was founded because of the existence of Qatalum in the Qatari market, which provided us with the raw material used in the manufacturing of our products, without which we did not intend to establish the plant. In the beginning, the local market depended on the import of all aluminum materials from the Gulf countries, especially the United Arab Emirates, Saudi Arabia and Bahrain, whose products are characterized as competing with those coming from China.

How much did the aluminum plant cost?

The plant cost amounted to nearly QR 110 million, including furnishings and equipment. It is also built on a land area of 10 thousand square meters, with the total usable area of approximately 29 thousand square meters.

Does the plant depend entirely on raw materials produced by Qatalum or does it import some from abroad?

We have relied entirely on the raw materials provided by Qatalum since the establishment of the plant, and did not import any from abroad. As I have said earlier, the idea of founding the plant came as a result of not only the availability of the raw materials in Qatar, but also their high quality provided by Qatalum and its Norwegian partner "Hydro" which is globally respected for its production of raw materials of high physical and chemical properties, in addition to their price - which is lower than that of their GCC counterparts because of the shipping cost.

How much is the size of the plant production of aluminum materials?

The plant began producing in last January at only 30% of its operational capacity, reaching at that time up to 200 tons of aluminum per month, while increasing during the current period to 300 tons per month.

Production will increase to 400 tons per month during the months of October and November of this year, and I expect to reach the maximum production capacity by the end of this year, amounting to 600 tons per month, or 7200 tons per year, and this is the maximal capacity for a piston, in order to fill the growing demand for our products from the local market.

Are you planning to increase the production capacity more widely to meet the local and international needs in the future?

Of course, we aspire not only to reach the production capacity of 7,200 tons per year, but also to add a new piston by the end of the year 2014 – for which we are currently conducting a study that is nearly complete. With additionally operational capacity up to 7200 tons per year, this will incrwease overall productivity of the plant to over 14,000 tons per year. Moreover, we are planning to add a third piston in the year of 2019, and our ambition is to reach production of 100,000 tons per year within 15 years.

How much is the estimated plant's share of the market for aluminum products in Qatar?

Over last 9 months, we have been able to get a large share of the domestic market ranging from 20% to 25%, which is a great achievement for us - especially taking into consideration the distributors of other plants in the Gulf states, the UAE, Saudi Arabia, Kuwait and Oman who have had a strong presence within the Qatari market for more than 35 years.

Also, I would like to add that our focus is not only on the local market but also on the international one as well. We export part of our products to the Gulf States, and we now have a special marketing section working on promoting our products to Asian countries including Pakistan, India, and Afghanistan. We will start exporting our products to these countries within three months. We also are focusing our attention on the Arab countries and African countries.

How much of Abdel-Nour plant's products current supply the domestic market?

60% of our production is currently being supplied for the domestic market, while the remainder is exported. We are planning to increase the proportion of exports in 2018 up to 80% with the increase in production, especially since the Qatari market is limited and saturated with aluminum products, thus leading to competition between the Gulf States by virtue of the price uniformity. All the competing plants here have the same advantages in gas and electricity, but the quality of the raw material which is produced by Qatalum is what makes our products more distinctive among other countries.

How much is the estimated need of the Qatari market for aluminum products?

The need of the domestic market for aluminum products ranges from 12,000-17,000 tons per year, a small amount that is enough to have three pistons in the country to meet it. That is why I say that the local market is saturated, and exporting abroad is one of our goals. The same thing also occurs in Saudi Arabia and the UAE where 70 % of the production of each of them is exported abroad.

Who are your main clients, as sectors, in the local market?

The construction sector is the most prominent client of ours in Doha and within the GCC countries. The industrial sector in these countries is still limited compared to that in European countries, so the focus will be more on the construction sector.

Does the emergence of Qatalum as a producer of raw material have an impact on the future of manufacturing industries related to aluminum?

Of course. The emergence of Qatalum as one of the raw material producers in Qatar is regarded as a real treasure for investors. We are the last Gulf state that entered into the aluminum industry, while all the other Gulf countries were in this area nearly 30 years ago. However, I expect that with the strong economic fundamentals in Qatar, Qatalum will definitely be at the forefront among the countries in the region in 15 years, especially as we believe Qatalum has the best kinds of aluminum in terms of high quality and chemical and physical

properties, thus affecting the types of products and the low percentage of waste, in addition to the availability of gas and electricity.

Is Qatalum ready to provide you with all the required quantities of raw materials?

Qatalum has a strong desire to provide us with all the raw materials that we need, and it has a great ability to provide us with about 20 times the amount that they already give us. Also, they encourage us a lot, urging us to export our products abroad.

How do you see the future of aluminum manufacturing in light of the influx of projects which Qatar is witnessing at the moment in preparation for the 2022 World Cup, and those industries relating to the Qatar National Vision 2030?

Personally speaking, I am very optimistic about the future of the aluminum manufacturing sector by virtue of the availability of the raw materials and energy in Qatar, and I expect the entry of new competitors into the local market, thus increasing the size of the industry in the future. Also, I expect that the number of aluminium extrusion plants in Qatar will reach five by the year 2017. However, we intend to be involves in the World Cup projects which are so large, as they require the provision of over-sized pistons that fit the size of the projects; therefore, we have held talks with the Olympic Committee in this regard. If we are chosen as a shareholder in the construction of the World Cup Stadiums, we will take the necessary steps in order to contribute to this important sporting event.

What is your assessment of the aluminum prices at the moment?

Prices are, of course, universal, and calculated on the basis of the London Stock Exchange, and in light of this, they are calculated per month. Prices have fallen dramatically since the global financial crisis in 2008. Now they are up to half the price before the crisis, but the difference is not in the price of the product, but the quality factor is the basis of excellence.

ALUMINIUM FLAT ROLLED PRODUCTS

Aluminium is the most abundant metal in the world, and as an element it comprises about 8% of the earth's crust. Aluminium is a versatile metal due to its exceptional properties; namely lightness, strength, corrosion resistance, ductility, conductivity and recyclability. Because of these attributes, Aluminium has a variety of applications ranging from building, automotive, transportation, infrastructure and other sectors.

Aluminium is produced by the energy-intensive electrolysis process, and Aluminium consumption is predicted to nevertheless grow around 2-3% annually over the next 5 years. Hence large smelters have been established in the ME region due to availability of inexpensive power. The metal produced at these smelters can be shipped out to customers across the globe or consumed locally. Local consumption requires downstream industries that can benefit from being locating close to a smelter. Downstream industries that would have strategic advantages located close to a smelter are:

- Rolling;
- Extrusion;
- Near Net Shape casting, foundry products; and
- Wire and Rod plants.

MARKET

Nearly 50% of Aluminium Alloys produced globally end up as flat rolled products (FRP) mainly in the form of sheet, plate and foil. China was the biggest consumer of FRP in 2012, followed by Europe and North America. CRU expects that China will continue to show high growth rates in the coming years. Total FRP consumption is expected to reach 26.5 million tons by 2017, which represents about 5% annual growth from 2013-2017 (source CRU, Hydro). The end-users of FRP are: Packaging (52%), Automotive and Transportation (13%), Building and Construction (11%), Consumer durables (8%), Industrial machinery (9%) and other (7%). It is clear that the main end use sector for FRP is packaging. However, this sector is expected to see the lowest growth rates in the coming years. On the other hand, the transport sector is gaining importance, mainly due to higher demand for automotive body sheet. Regionally in Asia, excluding China, the growth in consumption of FRP will be lead by South Korea, India, Middle Eastern countries and Turkey (source CRU, Hydro).

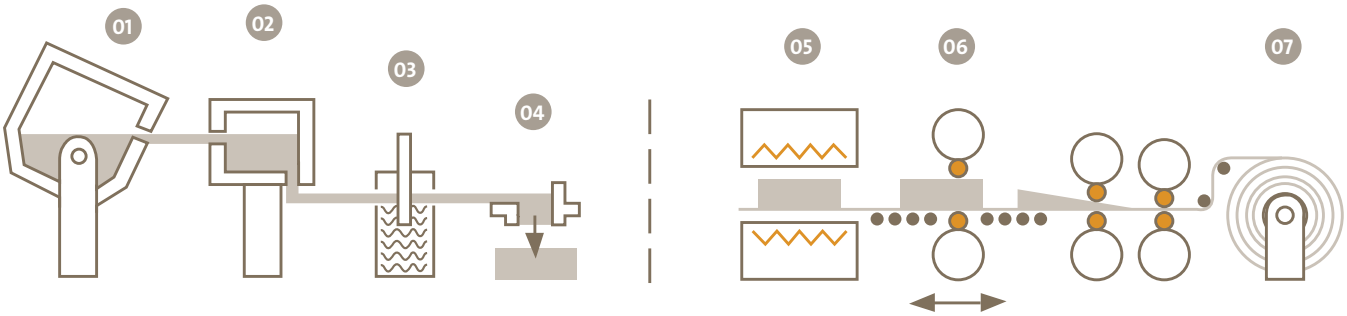
> **“Total FRP consumption is expected to reach 26.5 million tons by 2017, which represents about 5% annual growth from 2013-2017 ”**

PROCESS

Production of FRP requires the following processes: melting and alloying, melt treatment and filtration, casting of ingots, homogenization, and reheating followed by hot rolling, cold rolling and coiling.

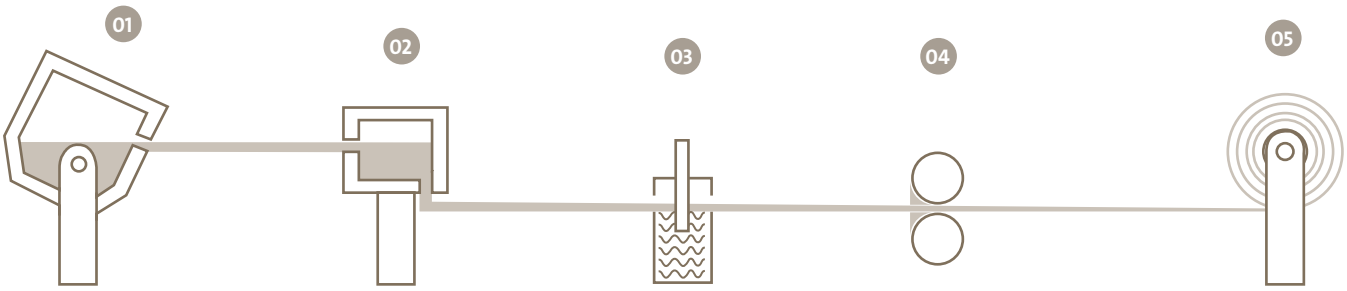
HOT ROLLING

The figure below shows the conventional method of hot rolling, which is also the most robust way of producing Aluminium strip. During hot rolling, the ingot is reduced in thickness from about 600mm to 2-3mm. This is achieved by passing the metal through the rolling mills, forward and backwards several times. The strip, which is the final product from the hot rolling mill, is produced in the form of coils.



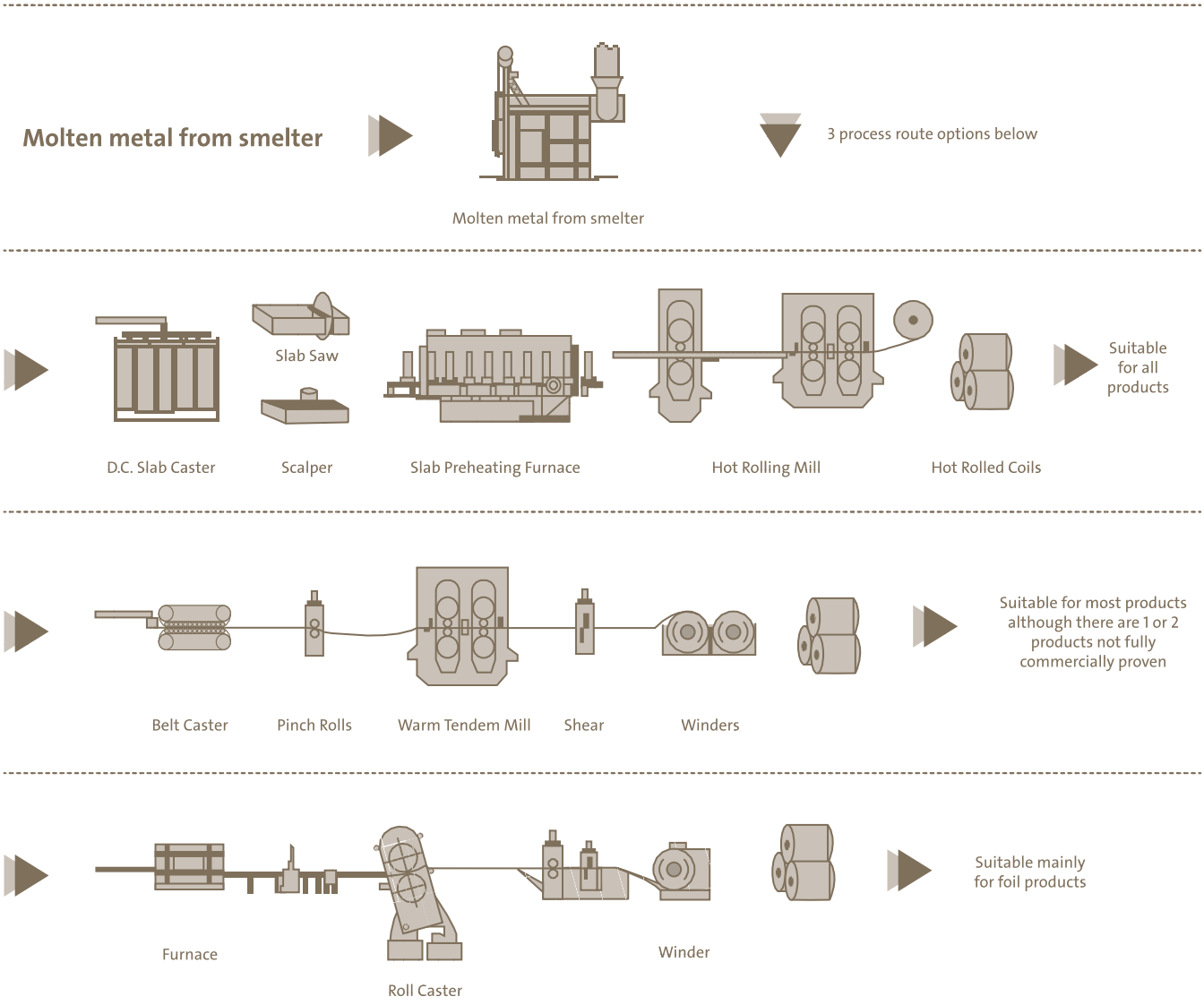
1. Melting
2. Holding/Casting
3. Filtering
4. DC Casting
5. Scalping Preheating
6. Rolling Ingots
7. Hot Rolling
8. Strip Coiling

Another method of producing strip coils in the the strip casting method, as show below.



1. Melting
2. Holding/Casting
3. Filtering
4. Strip Casting
5. Strip Coiling

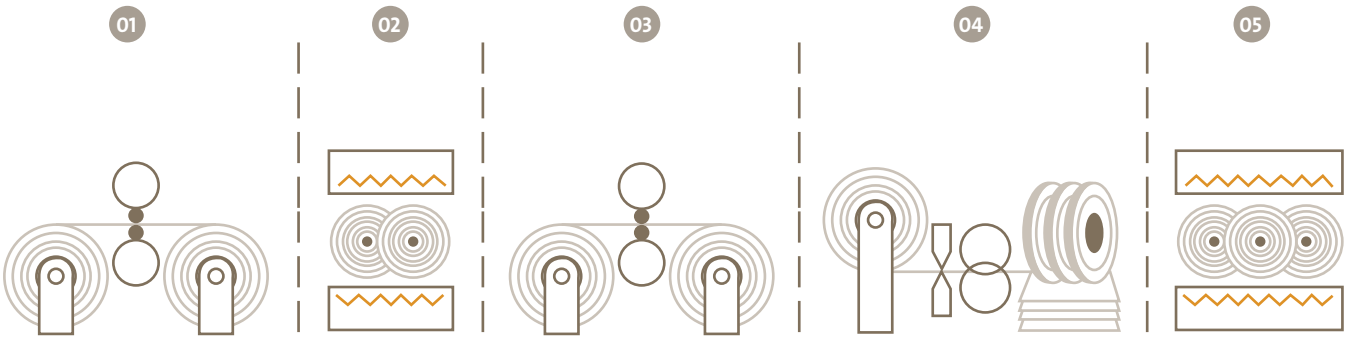
The choice of the production method and mills depends on the required production capacity and end product.



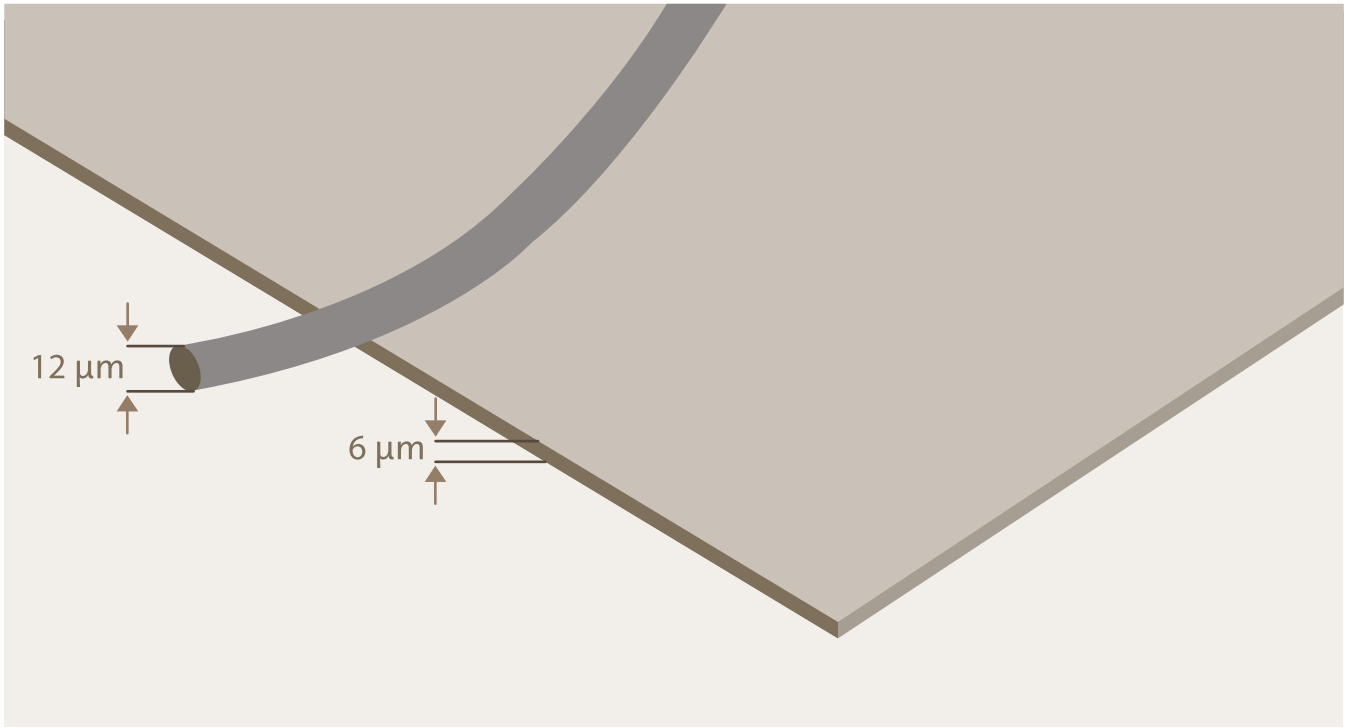
PRODUCT	ALLOYS	PROCESS STEPS	CAPACITY (TPA)
6 - 10 mm strip	1100, 5000 series	Twin roll caster and finishing mill	~10,000
2 - 3mm strip	1100, 3000, 5000 series	Belt-type caster, tandem hot rolling mill	<120,000
2 - 3 mm strip	1100, 3000 and 5000 series	Ingot/Slab, Hot Reversing Roughing and finishing mill	~150,000
2 - 3 mm strip	All alloys	Ingot, Hot Reversing mill, warm reversing finishing mill	~ 250,000
1 - 3 mm strip	All alloys	Ingot, hot reversing roughing mill, hot tandem finishing mill	~600,000

COLD ROLLING

Cold Rolling consists of further rolling the strip to thinner gauges depending on the application. The figure below shows the different operations in producing cold rolled products such as foils.



1. Cold Rolling in Several steps
2. Intermediate Annealing (opt.)
3. Cold Rolling in several steps down to 0.006 mm
4. Slitting (opt.)
5. Final Annealing (opt.)



The Al foil with a thickness of 6 microns is thinner than the diameter of a human hair (Ref Alufoil)

END PRODUCTS USING FRP

The list of products produced by Aluminium FRP is enormous. A sample of the products is listed below:

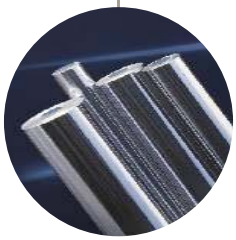
Packaging

Pills Wrapping

Chocolate Wrapping

Chocolate Wrapping

Household Foil



Bottle Wrapping

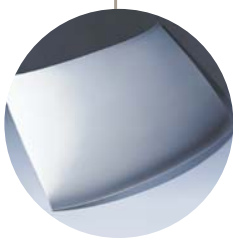
Cans, Pharmaceutical

Beverage and food

Automotive applications

Chassis and Body

Sun-Shading



Roller shutters

Ceiling Systems, Roof and Wall Systems

Building Materials: Roller shutters, sun-shading systems, ceiling systems, roof and wall systems.

Automotive applications: Components, Chassis and Body, heat exchangers in automobiles:

Others: Industrial, transport, building and Household application.

Aluminium flat-rolled product is an excellent downstream operation that could function in an industrial park linked with a smelter. FPR sector operations will provide green solutions to many of society's needs.

Article by: Chris Devadas
Head of Qatalum Hydro Center in Qatar Science & Technology Park

EXTRA

Hot rolling mill at Aluminium Norf GmbH (Alunorf) in Neuss, Germany.

End from Hot rolled mill products

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الومنيوم قطر
Qatalum

ABDUL RAHMAN AL-ANSARI

Chairman of the Board of Directors
Qatar Aluminium Extrusion Company (QALEX)

> In a wide-ranging discussion, Mr. Al-Ansari said that Qatalum is the cornerstone of the manufacturing industry's future in Qatar, and expected that these industries will have significant results inside and outside Qatar over the coming 20 years.

Qatalum is the cornerstone of the manufacturing industries future in Qatar.

In a private discussion on the impact of the aluminium industry on the future of manufacturing industries in Qatar, we have this interview with Mr. Abdul Rahman A. Al-Ansari, Chairman of the Board of Directors of Qatar Aluminium Extrusion Company (QALEX) and Chief Executive Officer of Qatar Industrial Manufacturing Company (QIMC).

In a wide-ranging discussion, Mr. Al-Ansari said that Qatalum is the cornerstone of the manufacturing industry's future in Qatar, and expected that these industries will have significant results inside and outside Qatar over the coming 20 years.
Mr. Al-Ansari added that the main reason behind the existence of the aluminium industry in Qatar is the existence of economic 'fundamentals', such as energy, financing, selling of manufactured products, and the government's determination to find various methods for developing and diversifying the national income sources, stressing that the aluminium industry has become a key for achieving sustainable economic development in Qatar.

He talked about the manufacturing industries that could emerge from an aluminium smelter in the country, many new projects under study, the production capacity of QALEX, and aspirations to participate in the 2022 World Cup:

The aluminium industry and the resulting intermediary and final industries are among of the manufacturing industries adopted by the Qatar Government as a strategic choice after the petroleum and petrochemical industries. How do you see the development of this industry in Qatar?

First, I would like to point out that the availability of economic fundamentals in Qatar is the main reason for the existence of the aluminium industry in the country. With the most essential elements for the establishment and development of the aluminium industry, namely energy and financing, and with others such as selling of the manufactured products and the government's determination to find various methods for developing and diversifying the national income sources, the aluminium industry has become a key measure for achieving sustainable economic development in Qatar. In the beginning, we were a poor country in the Gulf region regarding this industry, but now we have an aluminium smelter, belonging to Qatalum, which can strongly compete with the other smelters in the region. I see that having an aluminium smelter in Qatar and having companies that provide services to aluminium manufacturing industries are the best investment of our resources.

In your opinion, what is the development that must accompany having an aluminium smelter in Qatar?

With the establishment of Qatalum, Qatar has become the center of the aluminium industry in the Middle East. So this development requires changing our strategy and making use of what the Government provides for this industry – including offering more incentives and cooperating with the private sector. This is really what has been achieved by Qatalum, which was the main incentive to us in QIMC, towards taking the necessary procedures with our partners to establish the first factory for aluminium extrusion in Qatar, which serves this industry. There are still many other industries in this field that need study and development for the advancement of this industry and to make the most of it.

What are the other industries that could result from the aluminium smelter, other than extrusion?

There are many opportunities for the new technologies of aluminium, such as small parts molding, forming, and extrusion. All these technologies meet the future needs of Qatar in order to become a global center for investment in the region. We are studying many projects now in cooperation with Qatalum other than extrusion; these projects are still under study for they need advanced technologies. Of course we are looking for more opportunities in this field, and this requires more cooperation among the partners, through the development and expansion of aluminium product uses, and working together to share experiences, information and technology to achieve sustainable development, thus helping to meet the challenges facing the industry sectors, which are the vital sectors that have significant effects on the economies of Qatar. That is to say, the aluminium industry is a very important sector that is central to most other industries, so we have huge initiatives underway in the aluminium sector and we're studying all opportunities in this industry, and working to have in place all the available technologies within this field.

"I see that having an aluminium smelter in Qatar and having companies that provide services to aluminium manufacturing industries are the best investment of our resources."

To what extent has Qatalum contributed to the development of aluminium manufacturing studies in Qatar?

It must be first noted that the idea of establishing QALEX was first studied 15 years ago. At that time it was not feasible because of the unavailability of the raw material and the small capacity of the market, but now, after establishing Qatalum, everything is different. We implemented the project based on the availability of the raw material, which is provided by the aluminium smelter. We have great cooperation with Qatalum regarding the raw material, quotes, payments facilitating, and selling the waste material for the same raw material price. Qatalum is the most significant supporter of the aluminium manufacturing industry in Qatar, which is the cornerstone upon which the industry's future will be built. I expect that the manufacturing industries accompanying the aluminium industries will have significant results in Qatar within the coming 20 years.

Please tell us briefly about QALEX and its production capacity?

QALEX is a company specialized in producing aluminium cutters; it is the brainchild of Qatar Industrial Manufacturing Company, jointly hosted along with other business tycoons of Qatar, including Salam International Investment Ltd, Qatar Real Estate Investment Co., Alutec, Aluminium Gulf Ray, Qatar Oman Investment Co. & Qatar Belgium Aluminium Co. QIMC has a share of 40%, while the rest of the shares are distributed to the other six companies. This was the first project of its kind in Qatar. Another factory was established in Mesaieed later, which means that there are only two projects for aluminium cutters extrusion in Qatar. QALEX produces colored and non-colored aluminium cutters in accordance with the architectural regulations in force in Qatar and the other GCC countries. The production capacity is 8,000 tons per year, and the total cost of the project amounted to 80 million riyals.

Have your products (aluminium cutters) been distributed to the local market only?

Up to now, our entire production is directed to the Qatar market, but we have orders and requests from outside Qatar which are now under study. This is a great achievement, especially as the Qatar market has competitors, but the quality of products we believe is the factor that makes our production distinguished.

Does the local market have the ability and capacity for the entry of new companies in the field of manufacturing industries accompanying the aluminium industries?

Of course, the market is open to many manufacturing industries accompanying the aluminium industries, and the market still has many opportunities, and we are still at the stage of exploring this market.

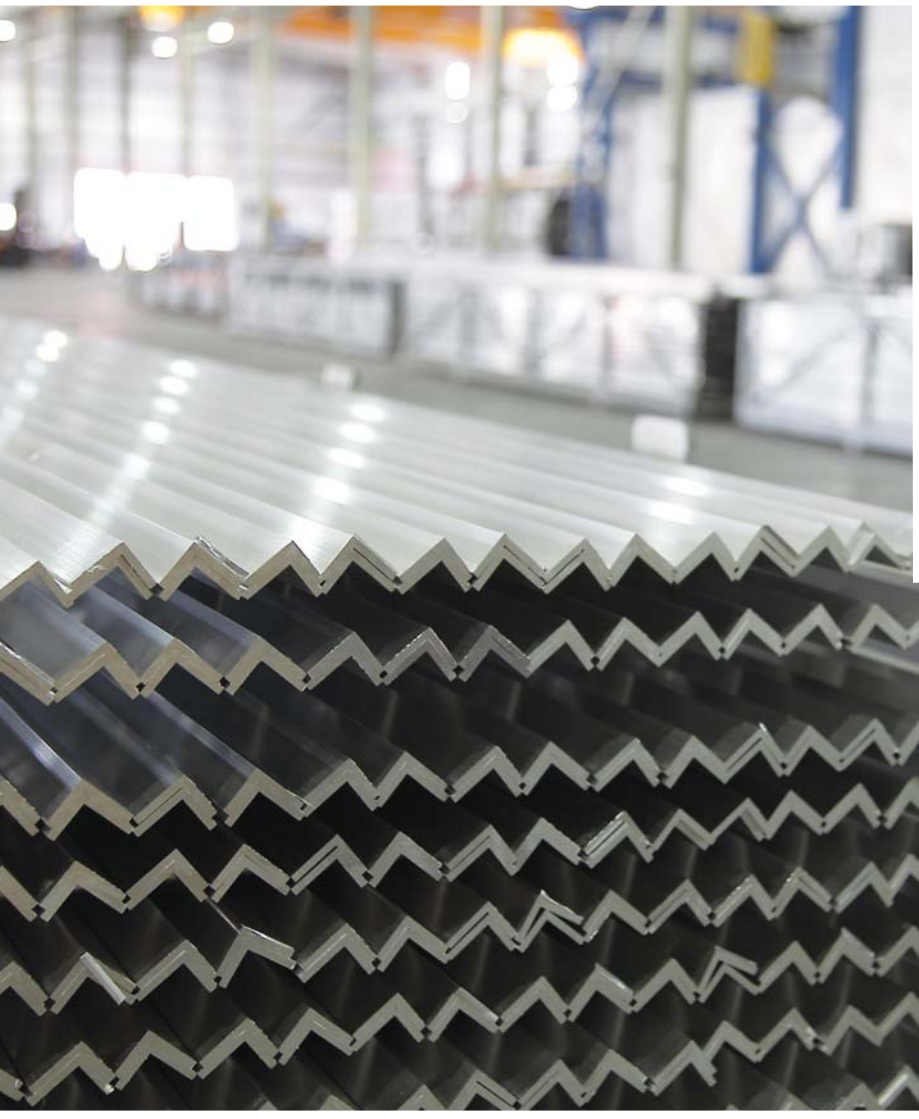
Do you have plans for expansion in this industry in the future?

Naturally, we look forward for expansion of this industry since it is going to have a bright future. We believe that this is a promising field, so we are considering adding a new piston to QALEX, and there will be a special system for the company, similar to the international systems, which provides all the necessary requirements for aluminium cutters. There are many other projects regarding aluminium industries, and we are having contacts with Qatalum and many global companies working in this field, in order to establish some new projects, such as manufacturing PV solar panels. We think also of having business associations with foreign companies to tap into and exchange technical skill and

knowledge. We have also contacts with a number of entities to carry out feasibility studies for a number of projects in this field.

Are there opportunities for the participation of QALEX in 2022 World Cup projects, namely building stadiums or accompanying projects?

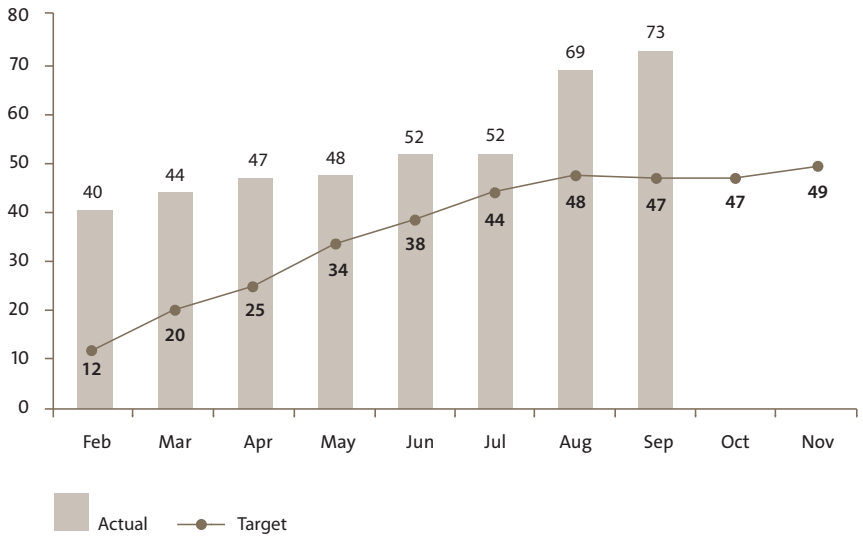
Of course, there are great opportunities to participate in this important event. The organizing committee invited us to hold discussions on this matter, and we are waiting for them to give us the authorization to start manufacturing what is required. QALEX is capable of manufacturing all World Cup 2022 requirements, and we are just waiting on the required specifications of the stadiums to be designed. We will be able to design what is required according to international standards, and everything will be made in Qatar. What I can assure everyone is that if our company is awarded the honor of contributing to the World Cup 2022, we will carry out the projects during the seven coming years with complete focus, without any attention or direction to markets outside Qatar.



“We will be able to design what is required according to international standards, and everything will be made in Qatar. What I can assure everyone is that if our company is awarded the honor of contributing to the World Cup 2022.”

THE QATALUM IMPROVEMENT PROGRAMME: SURPASSING ALL EXPECTATIONS

Since its launch in January 2013, the Qatalum Improvement Programme (QIP), a drive to improve efficiency at the aluminium smelter, has gone from strength to strength. As ambitious as it seemed at the time, the initial goal – to achieve 52USD/tonne cash cost reduction in 2013 against the baseline in 2012– was rapidly realised, and just as quickly surpassed. Such has been the success of the programme that Qatalum is now well underway to achieve a 150US/tonne cash cost reduction, a feat that would position it among the top-ten most cost-effective smelters in the world on the CRU curve.



> **“Qatalum achieved a 1.6m USD cost reduction from January to August, smashing its monthly targets as much as five or six times over”**

How has this been achieved? The programme encompassed hundreds of improvement initiatives across all areas of the business from core smelter operations through to various support functions. The improvements included a broad range of initiatives, from major business cases with direct impact on cash cost through to enablers – process or system improvements that improve workflow effectiveness and efficiency. Regardless of their impact, all improvements had one thing in common – a heavy focus on Qatalum Production System (QPS) to help define improvements and execute them. QPS is Qatalum’s common platform for change and a major part of our identity. Based on the original Toyota Production System, QPS helps install a culture of continuous improvement through application of lean tools and methodologies.

The 5 underlying principles of QPS are directly linked to Qatalum’s values: standardised work processes, customer supplier agreements, optimised flow, dedicated teams and visible leadership.

There is an array of success stories where teams from different functions delivered impressive results in terms of efficiency and effectiveness in the way they work, which in turn had a significant impact on various components of the cost. Consider one important example: the cost of Casthouse maintenance, a vital fixed cost which was identified as one of the key opportunities in Casthouse cost improvements in 2013. By putting into place a range of improvement actions and leveraging QPS, Qatalum achieved a 1.6m USD cost reduction from January to August, smashing its monthly targets as much as five or six times over.

Improvement activities included reducing maintenance material usage, collecting and analysing data on equipment failures, repairing and reusing spare parts, and setting up dedicated maintenance teams –.

Improvements were evident in support functions too. The logistics team recorded unprecedented on-time-delivery levels, achieving an average of 94 percent in 2013 YTD compare to average of 82% in 2012. This is critical to ensure that Qatalum’s brand is synonymous with quality and dependability.

Meanwhile the Engineering department has introduced a number of changes in the way they handle and process complex engineering projects to help ensure that projects are executed on time in full and optimal workflow helps ensure that the engineering team delivers “right first time”.

The programme is replete with individual success stories. The Paste Plant, for example, despite enduring extreme climatic conditions and with ongoing spare plant and equipment reliability issues, registered an extraordinary record-breaking month in August – achieved without a single injury or accident. Through effective team-work, systematic application of Qatalum Production System (QPS) principles, tools and methodologies, and above all, a strong sense of ownership, the team achieved new heights in green anode production, plant uptime and overall equipment efficiency.

Progress has already been remarkable, but Qatalum shows little sign of slowing down in its efficiency drive. By September, QIP had achieved a 73 USD/tonne cost reduction, well ahead of its target of 47 USD/ton. With a culture of continuous improvement continuing to mature, the organisation is coming up with new and innovative ways of becoming cost efficient and improving techniques, processes and productivity to meet the world class standards„ it seems just a matter of time before Qatalum takes its place among the global efficiency elite.

QATALUM RELEASES 2012 SUSTAINABILITY REPORT

Qatalum has released its second annual Sustainability Report. Entitled "Harnessing the Sustainable Potential of Aluminium", it builds on actual field data collected at Qatalum and includes data from last years report "Our Sustainable Journey", in detailing the company's approach, perspective and progress following international standards of sustainability indicators.

Within the report, which celebrates a nine-year journey towards a prosperous and responsible future, the company has presented its baseline sustainability approach covering the company's most material issues.

2011's Report focused on the role Qatalum has taken in helping to achieve Qatar's National Vision 2030, and the ways in which the company has – and will continue to – "contribute to the economic diversification, social progression, and environmental sustainability of Qatar as it emerges into a new age". With this second report, the focus has broadened in line with Qatalum's growing sustainability agenda.

The first quarter of the new report presents an overview of the company, plant, management, board, organisational structure, mandate and mission. The second quarter details the company's principles, values, integrated and international Management Systems, the developmental impact of aluminium and Qatalum, while going into considerable detail on evidence of aluminium's green credentials, and the support to Qatar's economic diversification.

The second half of the report, and its key component, outlines the progress made towards production excellence, quality assurance, customer satisfaction, supply chain developments, climate change mitigation, waste management, water management, biodiversity, the company's Qatarisation policy, training and public engagement, HSE policy, health and wellness, and Qatalum's many Corporate Social Responsibility initiatives over the past year.

The second annual Sustainability Report shows Qatalum performance as part of the Sustainable Development Industry Reporting (SDIR) Programme.

Qatalum has committed not only to submitting its sustainability performance as part of the SDIR Programme, but also to the public release of its performance in the form of this sustainability report.

Looking back on Qatalum's first complete year of operating at full production, the company has already come a long way toward achieving its mission of operational excellence. The company's commitment to this mission is central to its work. For Qatalum, this means ensuring that the company's staff is well trained, healthy, and safe, that the efficiency of the production process is constantly improving, and that the quality of the product continues to be exceptional.

Qatalum continues to integrate sustainability into its core strategies, corporate culture, and DNA. As a reflection on the company's pre-eminent emphasis on sustainability, in 2012 the Board of Directors approved creation of a full-time Sustainability Manager position to help ensure that sustainability is embedded into everything Qatalum does. The company in 2012 also began planning for a facility that aims to develop aluminium cladding that will reduce buildings' carbon emissions in Qatar. As we progress into the future, Qatalum will continue to be a leader in mitigating the environmental impact of production and will work to make its end product even more sustainable

"This report clearly captures our commitment to advancing the Qatar National Vision 2030, presenting the steps we have taken to realize this vision as well as our performance to date. The report also reflects our 2012 focus on the developmental value of our industry and product as we continue to catalyze the evolution of a sustainable aluminium industry in Qatar".

Qatalum work constantly to improve our processes while continuing to produce a high-quality product. This called the Qatalum Production System: both a culture and a system of guidelines that shape every aspect of our business, from management to production. As a result of this system Qatalum continue to exceed industry standards in numerous areas and continue to improve its performance.

Qatalum observed that 2012 was the company's first complete year of operating at full production capacity, and Qatalum was able during this year "to have a greater impact on Qatar's economic diversification, social progression, and environmental sustainability as it emerges into a new age. Our impact included organizing and hosting the 2012 Arabal conference, which is the leading aluminium trade event in the Middle East.

It gives Qatalum enormous pride to present this report; in its production it has helped keep our eyes on the key sustainability elements of Qatalum's agenda, and we look forward to continuing this work and improvement in the future.

QATALUM ZE²B PAVES THE WAY FOR AN EMISSION-NEUTRAL FUTURE IN THE MIDDLE EAST

In March of 2013, Qatalum and Hydro unveiled a newly established facility dedicated to researching and testing aluminium used in curtain wall solutions in support of creating energy, emission and carbon neutral buildings in the Middle East.

The Zero Energy and Emission Building lab (or ZE²B) is located onsite at the Qatalum smelter and was officially opened on 18th Mar 2013.

ZE²B came about from recognition that around 40 per cent of the world's energy consumption is related to cooling and heating of the buildings we work and live in. Qatalum and Hydro have been delivering solutions in aluminium to a large number of energy-efficient and energy-positive buildings. Simply put, if by using various certain devices the temperature immediately inside the curtain wall can be lowered by 1 degree Celsius, there will be a saving of 5-10 per cent in terms of energy used for air conditioning.

According to Qatalum, the zero-energy goal is becoming more practical as the costs of alternative energy technologies decrease and the costs of traditional fossil fuels increase. This is supported by the progress made in new energy and construction technologies and techniques, as well as vastly improved research, which collects precise energy performance data on traditional

and experimental buildings and provides performance parameters for advanced computer models to predict the efficacy of engineering designs.

The aim of The ZE²B Research Laboratory is to increase knowledge on the use of different curtain wall solutions in the Middle East, where the potential for energy savings in buildings is untapped. So what is the ZE²B? It consists of two independently operated test containers and a detached chiller station. Each of the two test containers has two test chambers embedded, which represent a single office room. In the area of the building envelope, the test containers have an opening allowing the installation of different curtain wall solutions. Each test chamber itself can be individually cooled, artificially lighted, mechanically and naturally ventilated.

The research lab can analyse four different curtain wall solutions in parallel - allowing mainly qualitative comparison between the options. In addition, the facility is equipped with specialist equipment to test solar thermal and photovoltaic applications. It is expected to operate for several years, during which test data will be collected and analysed.

The research at the facility will be conducted to make assessments of the impact of the Middle East climate on building envelopes and how building envelopes can be developed to influence the long-term sustainability of buildings. The facility will enable Qatalum and Hydro to provide environmentally sustainable products and knowledge on options for building design and layout. It will allow the companies to investigate room conditions, like indoor air temperature, relative indoor air humidity and air velocity and, out of the data then determine the energy consumption of a building using the tested curtain wall solution.

A "zero energy building" is a building with zero net energy consumption and zero carbon emissions annually. While no such building currently exists in Qatar, the potential to achieve this is great.

In Europe, there are already aluminium solutions to reduce energy consumption by implementing smart facade systems, which can significantly reduce the need for heating or cooling. However, in the Middle East, high temperatures combined with air humidity, sand and very high solar radiation, provide one of the most demanding climatic conditions for buildings and their materials, and there is currently only limited data and research available regarding the performance of different solutions under these climatic conditions. As a leader in operational excellence, high-quality aluminium products and environmental performance in the Gulf, Qatalum is actively working towards a future where the combination of Qatalum's primary aluminium production and other Qatari firms' use of that aluminium to create value-added products, results in Qatar becoming one of the main centres of aluminium trade and production in the region and the world.

QATALUM SIGNS AGREEMENT FOR NEW ALUMINIUM STUDIES CHAIR AT QATAR UNIVERSITY

Qatalum – the joint venture between Qatar Petroleum and Hydro Aluminium of Norway –today signed an agreement with Qatar University's Center for Advanced Materials (CAM) to create a faculty chair position. The Qatalum/Hydro Faculty Chair in Aluminium will be a three-year position, with the relevant person based in CAM, developing applied research programs related to aluminium applications and their end use.

They will also be required to establish and develop close collaborations with universities across the world, which are leading the way in this field of materials science. CAM already has strong bilateral ties with the Norwegian University of Science and Technology (NTNU).

The research program will be integrated with the QU undergraduate senior student projects and graduate theses as relevant. CAM Director Dr Mariam Al-Maadeed, Qatalum CEO Tom Petter Johansen, DCEO Khalid Laram and Hydro Vice President Hilde Aasheim announced the partnership at QU in the presence of Dr Sheikha Al Misnad – Qatar University President.

Qatalum has already built a strong relationship with the Centre for Advanced Material (CAM) at Qatar University to promote research and graduate studies. Hydro is also cooperating with various departments of the College of Engineering at Qatar University, with several projects and guest lectures.

Together as Qatalum they believe there is more value to be gained in promoting Aluminium as a material of choice in building-construction sector, structural and transportation sector, automotive sector and marine applications, as well as furthering the industrial application and usage of Aluminium will create more opportunities and jobs in Qatar and GCC.

The remit for the Faculty Chair will be to: provide recruitment basis for Qatalum and the local Aluminium downstream industry; develop Aluminium materials competence in Qatar by establishing building blocks, Masters and PhD programs as supported by NTNU; to launch research programs on aluminium and its application appropriate for Qatar and GCC; promote and develop applications for Aluminium in humid and corrosive climates; assist launch of National Priorities Research Program(NPRP) with core resources from Hydro and CAM; and promote Aluminium as a green recyclable and versatile material.

QATALUM IN SHANGHAI AS ALUMINIUM CHINA 2013 EXHIBITORS

Representatives from Qatalum have been in China to exhibit at the Aluminium China 2013 conference, the largest within the industry, and which took place 2-4 July. As an exhibitor, Qatalum was able to present its technologies and innovations to the top echelons of the global industry.

Aluminium China 2013 is Asia's leading aluminium industry platform, annually held in Shanghai. By presenting customized match making programs, buyers with emerging and established demands from booming industry clusters as well as a conference and seminar program, Aluminium China 2013 is the first choice for branding, networking and sourcing in Asia, the world's fastest growing market.

Over 450 international exhibitors from 30 countries representing the entire aluminium value chain - from Aluminium raw materials, semi-finished and finished products to production and processing machinery and accessories - met with 15,000 qualified professionals and buyer delegates from China – the world's fastest growing market - all the key Asian and other global emerging markets, through the conference's renowned "business-matching" program.

For Qatalum, ensuring a high profile within the most importance industry events on the world stage is key to sharing information, marketing, learning about developments in international best practice, and networking with potential partners, supply chain linkages and customers.

China is especially important for Qatalum – like all the world's most important industry players. Alongside China's enormous production capacity, the country is also the world's largest consumer of aluminium, a position set to maintain and consolidate in the coming years as the several-hundred million-strong Chinese middle class grows, and the Chinese automobile industry moves from the periphery to the centre of the global industry.

"This is the largest industry event, for the fastest-growing metal industry sector, in the largest market with the largest audience and network of buyers. Exhibiting here allows us to make invaluable connections from throughout the global aluminium supply chain, to ensure we keep our focus on the massive Chinese market, and increase our global branding exposure".

"This conference has allowed many thousands of buyers and industry professionals to learn about what we are doing back in Qatar, and to build the relationships which will be the centrepiece of the company's future".

QATALUM TAKING PART IN WORLD CHAMBERS CONGRESS

Qatalum participated in the 8th World Chambers Congress, held at the Qatar National Convention Centre from 22-25 April 2013.Under the theme "Opportunities for All", the Congress is addressing topics at the heart of a chamber's local and international agenda, as well as the central services of a chamber's daily operations including leadership, marketing and communications, trade documentation and advocacy.

For Qatalum, involvement brings several benefits, including the ability to target millions of businesses worldwide via the international chambers network – chambers being synonymous with the voice of SMEs across the globe; the opportunity to explore new partnerships and network opportunities with business and chamber leaders; to introduce through exhibits and networking the Qatalum brand to more than 1,500 chamber leaders from over 100 countries; and present Qatalum products, the company's latest initiatives, extend the company's international network, and promote opportunities for trade and investment for the country, region and the business community at large.

As Qatalum is keen to emphasise to attendees, the company is continuing to lead at the cutting edge of industry innovation. With a production capacity of over 600,000 tonnes per annum of primary aluminium, Qatalum is providing significant support for GCC aluminium production. At full operation, the facility enhances the national GDP by approximately US$1.5 billion a year and leads to significant downstream diversification for the country.

Qatalum is also an aluminium smelter with a low environmental impact. As a result, Qatalum is using the WCC to highlight its environmental soundness, and marketing and other informative material was available for visitors to the stand interested in learning more.

QATALUM CENTRE STAGE AT ALUMINIUM MIDDLE EAST DUBAI 2013

Qatalum has taken a central role in the Aluminium Middle East Dubai 2013 Conference, which has wrapped up after three days at the Dubai International Convention & Exhibition Centre (DICEC).

The exhibition conference, which took place over 23-25 April, was its third edition and brought together international industry front-runners including producers, manufacturers and processors of raw materials and end products made with aluminium components, as well as suppliers of technologies and accessories for aluminium production, processing and refinement. The focus was on the MENA region's fast-growing role in the global aluminium industry, highlighting investment plans in new smelters and expansion of existing capacities by the regional market players from the GCC countries.

Qatalum was involved both as exhibitor of what is the leading exhibition for aluminium products, technologies and investments in the Middle East, and as one of the supporters of the event– which set new records in welcoming more than 3,500 renowned industrial and manufacturing sector representatives from over 70 countries. It brought together international industry front-runners including producers, manufacturers and processors of raw materials and end-products made with aluminium components, as well as suppliers of technologies and accessories for aluminium production, processing and refinement.

Qatalum chose to support and exhibit at Aluminium Middle East because it provided an unparalleled opportunity to explore the latest technologies and advancements from around the globe - a vital opportunity for all industry players - and to benefit from exclusive one-to-ones with high profile individuals from leading organisations and from potential partners and customers, while being able to showcase innovative products and services in an interpersonal format.

QATALUM EXHIBITING AT 6th QATAR CAREER FAIR

Qatalum participated in the 6th Qatar Career Fair, held from the 1st to 6th of April at the Qatar National Convention Centre. Qatalum is involved because of the company's own focus on implementation of human resources projects within the Human Development pillar of the Qatar National Vision 2030 - a key objective of the Fair.

Qatalum is taking part as an exhibitor – at booth EI-G09–to attract Qatari students and graduates as future employees, part of the company's Qatarisation policy, and has as its objective at the Fair "to increase Qatari students' awareness about the importance of Aluminium industry and find in QCF a great opportunity to communicate with Qatari students".This is part of Qatalum's theme "Forming Generations with a Brighter Perspective". The company strongly believes that forming "National Generations" is highly important in progressing local society, and has committed to develop the abilities of these younger generations until they possess the required skills that make them able to take over the torch -leading the industrial sector and investment in Qatar.

Part of the virtue of QCF 2013 for Qatalum is to communicate with students and share with them information on Qatalum's programs aimed at Qatari nationals: the Graduate Development Programmes (GDPs); Professional Development Programme (PDP); National Scholarship Programme; and Summer Training Programme. The GDPs are meant to qualify University fresh graduates to occupy different jobs in Qatalum. The training is focused, designed and driven by the requirements of the job and to qualify them for the job's requirement and develop their competencies.

The PDP applies to candidates recruited for their specialist knowledge and field of study, yet who are limited in their industrial exposure, or who are without any industrial exposure at all. The objective of the PDP is to define an agreed training programme, based on the key performance areas listed in approved job descriptions. Qatalum's National Scholarship Programme identifies Qatari students who fulfil certain criteria and who have the enthusiasm and motivation to advance in their studies, and offer them the chance to develop their education in related studies. Something that will interest Engineering students attending at the QCF is that Qatalum has also recently announced the creation of the 'Qatalum Chair' at Qatar University – a world-class Institute of Aluminium within the Centre for Advanced Materials. Two professors from Norway will be the inaugural holders of the Chair, each for a successive, six-month period. The two professors will be teaching the University's engineering students, and will have responsibility for the new research centre for International Best Practice – the Institute of Aluminium within the Centre for Advanced Materials. And finally, Qatalum's Summer Training Programme covers a period of 4-8 weeks during which students are given the opportunity to spend time in one of Qatalum's departments – technical or non-technical – to be introduced to the basics of workplace ethics and to be familiarised with the work environment.

The Qatar Career Fair will offer Qatari students education, recruitment, training opportunities and development in order to enhance their abilities and strengthen their skills - enabling them to meet the challenges in national development. Public and private institutions such as Qatalum can provide the largest number of jobs to Qatari citizens, provide the right employment opportunities and meet the objectives of the Qatarisation policy.

QATALUM ENGAGES WITH FAMILIES AT QATAR PETROLEUM ENVIRONMENT FAIR 2013

"CLEAN AIR FOR A SUSTAINABLE WORLD" THE THEME AS CHILDREN AND TEENAGERS LEARN ABOUT RENEWABLE ENERGY SOLUTIONS

Qatalum participated in this year's Qatar Petroleum (QP) Environmental Fair, which took place at Doha Exhibition Center from 14 to 16 April. The event, held under the slogan "Clean Energy for a Sustainable World", brought together children and teenagers from ages 3-18, QP employees and their families – of many nationalities and backgrounds – to learn about Qatalum's plans for renewable energy solutions.

Qatalum's involvement sought to build upon the success of last year's Fair, which included a so-called "ECO step" concept, and to deliver messages to visitors that aluminium is a genuinely sustainable metal that can lead to a more sustainable world. The company's 2013 theme for the Fair related to creating renewable energy solutions, portraying aluminium as a renewable energy source contributing to energy crisis prevention while showing that it can participate in the emerging clean energy market globally. Aluminium, Qatalum emphasised, helps to improve environmental performance due to its energy efficiency.

The concepts that make up this general theme were illustrated on Qatalum posters during the event in 'Q&A' form. One such poster asked how many times the same piece of aluminium could be recycled; another whether the quality of aluminium produced is an indicator of energy efficiency; and another whether we can benefit from the intelligent use of energy in the production of Aluminium. As was the case last year, Qatalum's booth at the Environmental Fair was constructed of environmentally friendly paper and included gift items such as colouring toys, flowerpots, and paper lamps. The booth offered many activities for children – and their parents – such as the flipper game, the 'be choosy' game, a recycling fun corner to ignite children's imaginations by creating any shape from aluminium foil, a colouring zone (using coloured aluminium foil instead of papers), a selective wall game, a labyrinth game and a baby foot table.

Qatalum is a founding member of the Qatar Green Building Council, and its Deputy CEO, Khalid Mohammed Laram, is a board member of the Council. Last month, a Zero Emissions Lab was opened at the Qatalum Plant, a newly established facility dedicated to researching and testing aluminium used in curtain wall solutions in support of creating energy, emission and carbon neutral buildings in the Middle East.

IMPROVED COOPERATION THROUGH CUSTOMER SUPPLIER AGREEMENTS

Casthouse and Reduction departments are strengthening their cooperation through Customer Supplier Agreement (CSA), targeting increased efficiency and maximising Casthouse production of value added products.

On a daily basis, Reduction supplies approximately 1,680 Mt of liquid aluminium to the casthouse. In turn, the casthouse mixes this liquid with alloying elements to form a value added product perfected to customer requirements. This daily amount of liquid corresponds to about 230 trips for Metal Tapping Vehicles, each with a capacity of 7.3 Mt per trip. For the Casthouse, it is of great importance that the liquid metal is filled in its furnaces at the right time, with the correct volume and to the exacting quality. The efficiency of this customer/supplier relationship is measured as on-time delivery (OTD), which is equal to the time spent by the Reduction Tapping Organisation to fill a Casthouse furnace.

In order to continuously improve OTD of liquid metal, the Tapping Organisation and Casthouse have focussed on their Customer Supplier Agreement to further improve their relationship. Actions have been taken based on a Root Cause Analysis (RCA) as to how to improve OTD targets.

Tapping Logistic Supervisor and Casthouse Metal Scheduler show closer cooperation and teamwork

The primary action was to create a shared office space at the Casthouse for the Tapping Logistic Supervisor and Casthouse Metal Scheduler. The resulting proximity of these key stakeholders allows for close cooperation that enables them to efficiently supervise and support the Metal Tappers and Casthouse Furnace Tenders, resulting in improved Casthouse productivity and an increase in product margins through value added products. The expected full outcomes of this implementation will include:

- Direct, clear and effective communication between two important key stakeholders, Tapping Logistic Supervisor and Metal Scheduler
- Allowing further development of a common understanding of each other's processes, thereby reducing the effect of bottlenecks
- The Tapping Logistics Supervisor will be closer to his own shift team in the Crucible Cleaning Area. It will ensure visible leadership to solve issues within the team at all levels
- The physical presence of the Tapping Logistics Supervisor on site will also ensure a better housekeeping standard and strengthen support to the implementation of the 5S standard in the RAM stations

Representatives of the ODT initiative's improvement team gathered in front of the Casthouse RAM station

"This will result in stronger cooperation between the two organisations which is an important step to continuously improve on day-to-day performance," commented Hans Petter Lange, Reduction Group Manager. "This implementation is a direct result of a customer supplier relationship that is monitoring the status and continuously searching for common improvements. We, in the Casthouse are already seeing the first indications of improved OTD," said Dr. Roar Orsund, Casthouse Group Manager.

THE EOLIOS PITCH FUME TREATMENT SYSTEM IN QATALUM'S PASTE PLANT: A NEW BENCHMARK IN THE GULF

Qatalum's Pitch Fume Treatment in the Paste Plant, which incorporates a dry scrubber and RTO technology (Regenerative Thermal Oxiidser), sets a new benchmark in the Gulf, demonstrating several indispensable qualities. It optimises capture and destruction efficiency while cutting natural gas consumption – and the associated carbon footprint – dramatically.

As we at Qatalum well know, in a carbon plant, treating emissions of polycyclic aromatic hydrocarbons (PAH) – some of which are known or suspected to be highly carcinogenic – is a vital priority. Since the introduction of paste mixer-coolers in the process fabrication of anodes, there has been a substantial proliferation of volatile compounds. Accordingly, emissions standards have become more stringent. It is therefore crucial that treatment technology can cope with more concentrated streams at the inlet, and lower emission requirements at the outlet.

How does this work in practice? The Eolios System, developed by Solios, delivers an unprecedented level of performance. Independent tests conducted in January 2013 at the Qatalum Green Anode Plant, the largest single line green anode plant in the world, found emissions of 1mg/Nm3 of PAH 16 (according to the NS 9815 Norwegian Standard) – a level never before achieved. Eolios was introduced at Qatalum in 2010. Prior to this, it was first used at the Alcoa Moesjen Anode Plant in Norway in 2007 – where a PAH destruction efficiency improvement from 97 per cent to 99 per cent was observed. The system is an optimized combination of a dry scrubber, based on the adsorption of PAH on coke fines, and a Regenerative Thermal Oxidizer (RTO), using oxidation technology. This combination minimizes energy consumption while maximizing the treatment efficiency.

PAHs are the main components of coal tar pitch volatiles (CTPV). This is produced when coal tar pitch – a binder for the fabrication of anodes, which is solid at ambient temperature – is heated at around 160-200 degrees centigrade to turn it into liquid. PAHs can exist as light and heavy fractions, the former defined as having fewer than 3 aromatic rings in a molecule. Adding water to cool the anode paste substantially increases production of the light fraction, which are released in gaseous form. To illustrate, in the Deschambault paste plant, tests showed that PAH emissions grew six-fold after the introduction of a paste-cooler. The conventional treatment method is the dry scrubber process. It entails injecting coke fines in a gas stream loaded by pitch fumes, resulting in absorption of the pollutants. Pitch loaded fines are collected by a dust collector

and reintroduced into the anode paste recipe, while the clean gases are released into the atmosphere. The recycling of the pitch loaded fines means there is neither waste stream nor product loss. The global capture efficiency of this method for heavy PAHs can be up to 99 per cent.

Of course, the drawback of the dry scrubbing system is that it is based on the ability of PAH to condensate. That works well for the heavy fractions, which condensate easily: the global capture efficiency of this method for such fractions can be 99 per cent. But the lighter PAHs – emissions of which, as we have seen, increase drastically when water is added to cool the anode paste – do not condensate so easily. If there is no condensation, no adsorption occurs and the pollutants pass through the bag filter without being captured. Thus in order to improve the treatment efficiency of light PAHs, we need to harness different technologies using oxidation reactions. PAHs are comprised mainly of C-H (carbon-hydrogen) bonds which are easily broken by oxidation. This process converts them to carbon dioxide and water vapour.

How does this happen? An RTO is the industrial process which does this. The equipment comprises three main components:

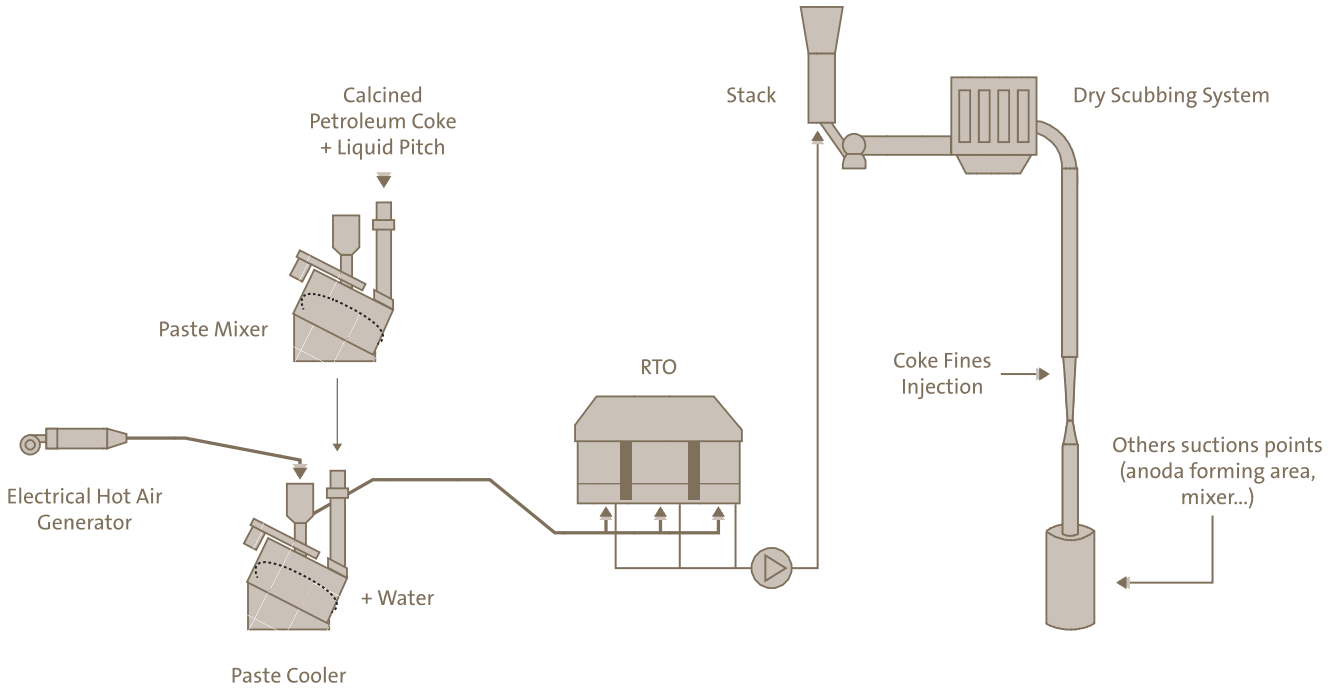
- The combustion chamber, where the oxidation reaction occurs. The temperature in the combustion chamber is around 850-900°C.
- Ceramics beds, which are used as heat exchangers. The aim is to store heat and to recover it to preheat the inlet gas flow, thus saving energy.
- The valve box, which consists of two valves for inlet and outlet ducts and a valve for purge for each chamber.

Put briefly, the raw gas is introduced via the valve box and pre-heated as they pass through the ceramics to achieve the desired temperature for the combustion of PAH. One or two seconds in the combustion chamber is enough time for the destruction of PAH. The clean gas is released though a second heat exchanger, while a third removes the remaining gas residues. Eolios is a combination of the dry scrubber and the RTO. At Qatalum paste plant, the RTO unit specifically treats the high concentrated fumes collected from the paste cooler – which contain mainly water vapour and light PAH fractions. The fumes are heated with hot air into a mixing pot situated on the paste cooler, to avoid tar condensing in the duct. Following this process, diluted fumes enter into the RTO unit at a temperature of 150°C. Following treatment by the RTO, the clean gas is rejected to the atmosphere.

To measure the performance of this method, a set of flame ionisation detector measurements were taken to estimate the relationship between RTO temperature and destruction efficiency. The gas sample was continuously sampled into the FID, which measures the concentration of total volatile organic compounds. As the table illustrates, the results were impressive:

RTO Combustion temperature (°C)	RTO Efficiency (%)
840	91.2
870	96.2

With environment emissions becoming ever more stringent, the importance of harnessing the full potential of innovative techniques and technologies cannot be overstated. Qatalum's system sets a new benchmark in the Gulf, combining the advantages of two established techniques, the dry scrubber and the RTO, while minimising their weakness, all the while at a substantially lower operating cost.



IMPROVED CUSTOMER AND SUPPLIER CO-OPERATION BETWEEN REDUCTION & CARBON

Team from Reduction and Carbon responsible for the cost saving initiative

The excellent teamwork with improved internal customer and supplier co-operation between Reduction and Carbon has resulted in process waste reduction and increased income generation for Qatalum.

The Reduction and Carbon operations teams have taken a joint initiative in managing all by-products efficiently and effectively. Initial gains have been by Reducing, Recycling and Reusing by-products of bath and steel. This has been achieved through the commitment of the dedicated teams from Reduction, the customer and Carbon, the supplier.

"This is a brilliant example of what can be achieved as a result of working according to Qatalum's principle 2, 3 and 4 (defined customer supplier relationship, optimized flow and dedicated teams). Excellent team work and outcome of this team work and thanks to all involved," said Geir Nilsen, Group Manager of the Carbon Plant.

How was this achieved?

- Identifying all waste streams in each process
- Identifying recycling avenues internally first
- Optimizing our process by recycling internally and by not affecting the product quality
- Identifying recycling or consumption avenues externally
- Continuously improving by minimizing wastes
- Improved focus by formation of dedicated day-time team for streamlining actions on Reduction wastes

What are the outcomes of this process?

- Maximizing plant potential in the BCPs by running tapped bath loop
- Bagging of 30 tons of tapped bath per day without additional labour
- Consistent supply of tapped bath from the pot rooms
- Improved GSD (grain size distribution of bath)
- Stable ratio of bath and alumina
- Recycling of 400 tons of crucible cleaning material through BCP's
- Recycling of 30 tons of fluoride per month
- Recycling of FTP scales of 25 tons per month
- Improved process knowledge in both Carbon and Reduction

Income generated

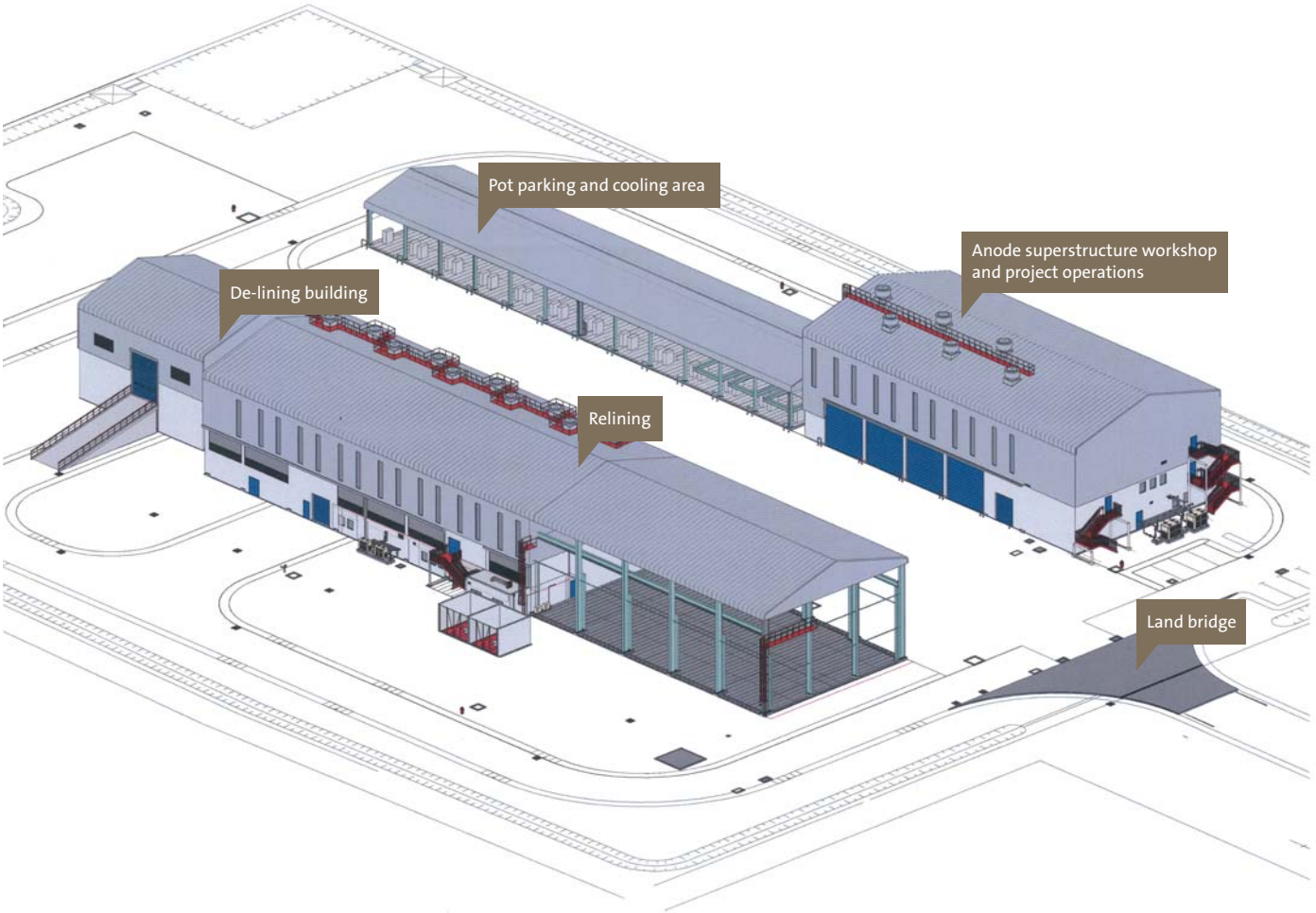
- 5,600 tonnes of bath at a sale price of USD 360 per ton [approximately 2 million USD]
- Approximately 1,200 tonnes of steel at a sale price of USD 250 per ton [approximately 300,000 USD]
- Total saving of 2.3 million USD

"Managing waste is a key in international business today. Not only will this reduce future liabilities possibly threatening the future growth and prosperity of the company, but it could also give companies a competitive advantage through becoming a desirable business partner as well as generating income. The cooperation between the Carbon and Reduction Group illustrates this potential and should be an encouragement to us all to further focus on how we can improve in managing our waste," concluded Group Manager Reduction, Hans Lange.

SIX MONTHS INTO THE RELINING PROJECT...

Further to the award of the Pot Relining Facility contract in January 2013, we trace the progress of the Project after the first six months.

The site will consist of 4 main buildings: the pot parking and cooling area; the de-lining building; the relining building, comprising of potshell repair, relining and ramming; and the anode superstructure workshop, which will also contain the relining project's operational facilities. To the north of the facility will be the laydown area for spent pot lining (SPL) ready for disposal. The relining facility will be included within the Qatalum smelter infrastructure and within the Qatalum property fence forming the northern-most point of the property.



Managing the Project is Iain Dodds from Qatalum. Iain heads a lean team of Qatalum employees and associated contractors who work closely with EPC contractor Dutco McConnell Dowell Qatar (DMD). 'Our relationship with DMD is very close. Their offices are situated across the car park of the project office which allows us a very hands-on working relationship allowing for immediate status reports, problem solving and time management.'

Processes facilitating the relining facility are a large undertaking in themselves, whereby the transportation links need to be heavily upgraded. All access routes leading to it, such as the potline passageways, ramps and asphalt road north of the potrooms, need to be reinforced. The reasons for this are made plainly evident by the size and weight of the vehicles required to transport the pot superstructures from the potline to the relining facility and back.

Furthermore, the building of the land bridge leading over the current Qatalum fence into the relining facility comes with several special requirements. The primary concern is that it spans over the Kahramaa cable passageway leading from their Power Plant and should not compromise the integrity of their critical function. The bridge, which is essentially an earth embankment, will have a layer of concrete slabs built into the embankment so as to protect underlying cables.

Project status

Transporting the pot superstructures will be a job for two highly specialised vehicles which have been ordered by Qatalum. Each vehicle contains 64 wheels with the gross vehicle weight (GVW) on the concrete road of approximately 250 tonnes.

Ramps 1 and 5 have already been strengthened ready for multi-wheeler traffic. Work on the passageway 2 and 4 with their corresponding passageways are on-going.

Strengthened ramp supports in grey concrete

Foundations are being laid for the buildings that will incorporate de-lining and re-lining facilities, in preparation for the steel work erection which will begin in early September 2013.

The facilities equipment is currently being designed and manufactured as per schedule.

THIRD QATALUM SUMMER INTERNSHIP PROGRAM CONCLUDES WITH CEREMONY AND PLANS FOR THE FUTURE

Two-month program for Qatari students finishes with awards from Qatalum management and enthusiasm for the future by participants.

The third Qatalum students summer internship program finished on 1st August, after an intensive two month period of industry exposure and training, designed to help Students Bridge the gap between their academic studies and a real-life career in the industrial workforce – and possibly within the Aluminium industry at Qatalum.

A key component of Qatalum's Corporate Social Responsibility agenda, and its promotion of a Qatarisation policy (seeking to bring bright young Qatari nationals into the domestic workforce), the internship program came about in 2011 as Qatalum management sought to encourage all Qatari students, male and female, from Qatari high schools and colleges to apply for a valuable, intensive and fascinating two-month summer program. The program would help them plan for their future careers, and help Qatalum identify promising and enthusiastic candidates from within the next generation – laying the groundwork for long-term human capital within the company.

This year's Summer Internship Program included 'on-the-job' training, computer training and soft skills training courses, providing opportunities for a total of ten Qatari university students who demonstrate exceptional ability and an interest in the aluminium industry to benefit from a comprehensive eight week program which ran from June 11th through to August 1st. In addition, a total of 20 high school Qatari students from the Qatar Independent Technical High School participated in a two-week summer program from June 23rd through to July 4th.

Over the several weeks of intensive training, students were given the opportunity to spend time in one of Qatalum's departments – both technical and non-technical – in order to be introduced to workplace ethics, familiarised with the work environment, learn about the company, the plant and the industry, and increasing students' understanding of the complex tasks and responsibilities in working in a complex industry, and giving them the opportunity to discover for themselves the preferred role they might wish to seek upon graduation.

The program for 2013 wound up on 1st August with a series of messages and presentations from Qatalum's CEO and HR Manager, and representatives of Qatar University and College of North Atlantic Qatar and Texas A&M University in Qatar.

The summer program constitutes an important part of the Energy and Industry Strategic Qatarisation Plan put forth by the State, and adopted as a central part of Qatalum's strategic agenda.

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