$Al_2to_3gether$

MAGAZINE

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Driving Aluminium Forward

Qatalum's Future Leaders

Qatar National Vision

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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. "Al2o3gether" 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 "Al2O3" which is the main raw material used by the aluminium industry in Qatar.

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Editorial of Contents	Communications Department
Photography	Qatalum Gallery Archive

2016 Event Calendar

Arabal

22-24 November
Dubai, United Arab Emirates

Aluminium 2016

29 November - 1 December 2016
Dusseldorf, Germany

WELCOME MESSAGE

KHALID MOHAMMED LARAM
CEO, QATALUM

The middle east is undergoing a dynamic change as the hydrocarbon sector suffers losses and in turn causes budgetary shifts regionally, secondary industries have become increasingly essential. As the CEO of Qatalum I fully understand the importance such transitions and am preparing our organization accordingly.

Qatalum's rise within the CRU cost curve for aluminium smelters is the ability to improve efficiency. Since 2012, Qatalum has climbed 10 places as a result of the Qatalum Improvement Programme (QIP). Ranked #13 in 2012, Qatalum has risen to #3 in this relatively short time. Our impressive growth is due entirely to Qatalum understanding the importance of cost effectiveness during a period as crucial as the present. Qatalum aims to remain among the most cost effective smelters through continued focus and a well-placed drive for sustainable cash cost reduction.

A significant aim of our strategy is based on possessing a vantage which relies on the international marketplace as opposed to depending too heavily on any specific region. Asia remains our most important market and as such, commands nearly half of our production, Turkey receives nearly 20% of our yield, more than 15% is earmarked for North America while smaller percentages are designated for Europe, Central and South America, Africa, Oceania and the Middle East, each proving how comprehensive our global aims truly are.

Our latest edition of Altogether Magazine will offer insight into which direction Qatalum is heading. A key shift which has supported aluminium's gains is the growing interest of the automotive industry in utilising aluminium as opposed to its preference for steel. This change has favoured Qatalum's international endeavours by allowing an increase in production due to the demands of carmakers worldwide. "Driving Aluminium Forward" details why this industrial requirement has grown and how Qatalum is answering these calls by dedicating more than 60% of its aluminium to the car manufacturers which are behind this promising trend.
Qatar National Vision 2030 is a major impetus for the level of industrial diversification which was designed to steer the State of Qatar. His Highness Hamad bin Khalifa Al Thani, the Father Emir, outlined this vision as far back as 2008 in order to better prepare the nation with a series of economic verticals. "Qatalum's Vision" details the exact manner our company is recognising each development pillar as furthered by His Highness Tamim bin Hamad Al Thani, the Emir.

By adhering to Qatar National Vision 2030 whilst applying our knowledge of an ever changing marketplace, Qatalum is prepared to forge ahead with the same rate of growth experienced in recent years. The importance of our partnership with Hydro is continuing to prove immensely beneficial and has allowed Qatalum to minimise free capacity metal, maximise its quality and develop a more lucrative product portfolio. Our global reach continues to bear fruit from a historically deep understanding of international trade.
The consideration to attain new products with higher premiums to cover different market requirements are a part of what makes Qatalum successful. No matter the obstacles before us, we will continue to apply the very brand of flexibility and industry-leading knowhow which has allowed our company to continuously achieve "Aluminium Perfection".

Khalid Mohammed Laram
Chief Executive Officier

DRIVING **ALUMINIUM** FORWARD

With Qatalum pledging more than 60% of its aluminium production to the automotive industry to meet demand, the relationship's yields are growing year on year.

The rising demand for aluminium within the manufacture of automobiles has reached a feverish pitch globally. While traditionally steel reliant, car production has for a number of reasons begun shifting away from the metal and closer to aluminium. Chief among these reasons is the increasing importance of environmentalism which has long focused its ire on the emissions output of automobiles. By constructing motor vehicles with aluminium, a metal lighter and thus less carbon emitting than steel, the aims of the car industry have resulted in considerable gains for aluminium.

These advances have amounted to an even wider level of importance in the Gulf. As the GCC's once central energy sector increasingly contracts, the region has readily embraced industrial diversification. This strategy has proved prescient during an age of growing carbon industry tumult, and shined a light on entities such as Qatalum, one of Qatar and the world's most important aluminium companies.

As an equal joint venture between Qatar Petroleum and Hydro Aluminium of Norway, the company's core embodiment of international viability has promoted a general understanding of global maneuvering essential to the ever evolving nature of the metal industry. An inevitable battle of old guard vs. new has formed over the future of the automotive industry with a number of key developments driving its trajectory. The Ford Motor Co. has in recent years adopted an aluminium body for its top-selling F-150 pickup truck model. As Ford's highest volume, highest profit vehicle, and thus a globally recognised automobile, the advance has announced a major shift for the promising relationship between aluminium and the automotive industry.

The market for body sheet aluminum is worth an estimated $300 million a year. If all car manufacturers approach the Ford model, by 2025 the market will be worth more than $7.5 billion. The promise of exponential growth of this order offers the level of benefits which were envisioned during the genesis of such well-planned expansion.

The luxury automobile segment, namely Jaguar, has led the embrace of aluminium in its approach

to manufacturing. The Jaguar XE sports car is the newest addition to the company's lineup and in Fall 2015 launched in Europe and will be made available in North America in 2016. As the first vehicle in the mid-size segment to feature an aluminum-intensive body structure, the development has spawned ever more promise for aluminium.

An assortment of carmakers with wider spread distribution such as Ford have signalled how the change is being enacted by investing $1.3 billion in an aluminum F-150 truck plant in the U.S. and running ads about how pickups without aluminum bodies are a thing of the past.

Qatalum has amply leveraged this growing opportunity by dedicating more than half of its aluminium output to the automotive industry. Such acute awareness for supplying a change vital to not only both industries but also environmentalism has made clear the stringent manufacturing standards and robust marketing strategies present at the company. The only other industries that place higher demands on a casthouse product are electronics and aerospace, though each respectively require smaller volumes and specialised processes.

As global demand rises, the Asian market has increasingly piqued the interest of Qatalum. In comparison to the West, the Asian automobile manufacturers use half the amount of aluminium in their cars. Ensuing environmental legislation and consumer demand have led the industry to look towards weight saving measures and other efficiencies to make their products more desirable. Qatalum is heeding this call by not only focusing its efforts on Asia but by also producing higher quality aluminium which meets these demands.

Qatalum is the first company to achieve ISO/TS 16949 certification in Qatar, as announced by the certification body Det Norske Veritas (DNV). This allows for Qatalum to supply the global automotive industry with high-quality aluminium whilst filling necessary gaps within the automotive supply chain.

QATALUM'S **VISION**

Qatar National Vision 2030 is a widespread outlook which is preparing the country for success along a number of verticals. Qatalum is addressing each of these goals in ways unforeseen.

Qatar National Vision 2030 was launched by His Highness Sheikh Hamad bin Khalifa Al Thani, the Father Emir of Qatar as a roadmap for continued growth within the country. This Vision has persisted in its multi-pillared approach to advance the State of Qatar along a series of verticals central to the nation's wellbeing. Arranged into four areas related to economic, human, social and environmental development, Qatar's industrial contributions have proved integral to realising the Vision's aims.

Qatalum has been a supporter of Qatar National Vision in each form of its developmental aims since the company's founding. The economic contributions which the company makes are the most profound examples of the company's offering yet via its multi-layered approach to Corporate Social Responsibility, environmentalism and Qatarisation, Qatalum has likewise supported human, social and environmental development.

Economic Development

Long a candidate for falling victim to the dreaded resource course which looms over commodity rich nations similar, the State of Qatar has worked tirelessly to diversify its economy away from oil & gas and towards secondary industries. The aluminium industry has proved to be the answer for this tactic, with Qatalum acting a major base of support within the country. Founded as a joint collaboration between Qatar Petroleum and Hydro Aluminium of Norway, Qatalum has not only created a new parallel for Qatar's GDP but also formed yet another bridge for international commerce essential to the country's fiscal solvency.

As the price of oil continues to decrease, the growing importance of the aluminium industry has made clear just how far-sighted Qatalum's founding has become within a marketplace eager to create new opportunities for revenue.

Qatalum today has a production capacity of 625,000 tonnes of high-quality primary aluminium products per annum. Located approximately 50 km South of Doha, Qatar, Qatalum's facilities includes a port, carbon plan, twin 1.2 kilometre potlines, storage facilities, and a captive power plant. The company has reached economic milestones which speak directly to the aims of Qatar National Vision. The company is now listed on the London Metals Exchange, and has received ISO/TS 16949 certification for its casthouse. Qatalum produces extrusion ingots and foundry alloys that meet the strict quality standards of Qatalum's global customer base, exuding a company-wide ethos of Aluminium Perfection with and a made in Qatar brand.

Human Development

Qatalum has invested heavily in the development of Qatar's people with a range of initiatives designed for various forms of impact. Qatarization is one of the most significant measures which the company employs by developing and hiring Qataris. With an increasingly vital developee programme, Qatalum now counts 77 of its staff as Qatari. A key aspect of Qatalum's attention to Qatarization is based on the need for foundational education. The company's partnership with Qatar University has made clear just how seriously Qatalum takes supporting a knowledge-based society.

Qatalum sponsors a professor's chair at Qatar Universit which is dedicated to aluminium technology. The sponsorship has created a range of courses for QU students which has not only strengthened the university's course offering but also the potential for Qataris to effectively enter and impact the increasingly vital aluminium industry. Qatalum has created an invaluable extension for Qatarization which not only employs more Qataris but also trains these individuals to better understand and in turn strengthen the aluminium sector.

Social Development

In a bid to address Qatar National Vision's social development tenet, Qatalum has regularly staged events central to family and nationalism. Qatalum's National Day celebrations annually invite employees from across the organisation to enjoy a day which honours the country's accomplishments and in turn stoke Qatari pride. This pride's backbone was formed by the country's forebears which have also been a core focus for Qatalum's aims for social development.

Environmental Development

As an increasing number of countries around the world take heed of the impact which global warming is having, environmentalism has grown in scope. Qatalum understands these pressing concerns and has enacted measures to address Qatar's carbon footprint whilst honouring Qatar National Vision's attempts to do the same.

Aluminium production meets the highest environmental standards with low emissions of fluorides, an important yardstick for aluminium smelters. Qatalum was an early adopter, in the Gulf, with wet scrubbers for sulphur dioxide abatement. The captive power plant meets the highest standards regarding NOX and the technology selection further reduces CO2 emissions.

Qatalum is at a very advanced stage of recycling and reusing all bi-products created in the smelting and casting process. Together with neighbouring industries such as steel making and ultimately the cement manufacture, Qatalum is able to provide bi-products as feed stock therefore, entirely avoiding the use of land-fills.

The very nature of aluminium is in itself environmental based on the inherently green aspects of the metal as compared to other materials. The most obvious result of the environmental advantage aluminium bears is the manner with which it is being earmarked for the automotive industry. Qatalum dedicates more than half of its aluminium output to global auto manufacturers. Demand related has increased for the much lighter material, challenging traditional uses of steel. The Ford Motor Company has invested $1.3 billion in an aluminium F-150 truck plant in the U.S. for its highest volume, highest profit vehicle.

Qatalum's role within this activity as a major aluminium distributor of the State of Qatar has majorly supported the country's environmental aims amidst the comprehensive agenda outlined by Qatar National Vision 2030.

A **POT'S JOURNEY** THROUGH RELINING

Refurbishment of aluminium producing pots is a complex and labour intensive process all smelters must undertake. The process is streamlined to achieve minimal downtime between pot replacements. Qatalum is among the best in the world at rapid pot replacements

Repair of Anode Superstructure (SS)

Carbon pot linings normally last between four and six years. A sudden increase of iron level in the aluminium usually indicates that a pot is nearing the end of its service life. The lining must then be replaced completely. This process is called "Pot Relining". Pot relining is a significant part of Qatalum's production expense.

Once the procedure to switch a pot 'off' is completed by the Pot-Line & Start-Up Team, the Relining Team takes over. This is where the relining journey for pots at Qatalum begins.

Disconnection of the superstructure is the first stage of relining whereby it is separated from all its ancillary connections. The 50 ton object is then lifted and removed by the service crane onto the specialized multi-wheeler transport and taken out of the pot room to the dedicated workshop at the Relining Facility.
The service crane returns to the site of the superstructure and removes all the floor slabs and steel gratings. This is a challenging operation due to the high magnetic field in the area and disconnection and removal of the old cathode cell is then done using tailor made equipment.

Within the Relining Facility the pot needs to be cooled for several days before the de-lining process can start, which

involves the removal of all materials inside the cathode to prevent de-lining equipment being damaged.

All materials inside the pot-shell are removed by chiselling and excavating. The bath goes back to the pot-line process through the Bath Cleaning Plant. Metal, which can amount to a few tonnes per pot, is processed and returned to Qatalum as aluminium ingots. All carbon materials and steel is sent to Qatar Steel and used in their processes. Research is ongoing to find recycling solutions for spent pot lining.
In the pot-shell repair workshop. Here the pot-shell undergoes replacement of damaged or eroded steel and straightening of sides and bottom. Approximately 600 man-hours are needed on a pot for this task. After being inspected and approved, the pot-shell is transferred to the relining workshop

The next step is to install a completely new lining inside the pot-shell - 80 tonnes of material will go into one pot. The main material is the cathode block, which comes in direct contact with liquid metal during its lifetime. The lining process consumes more than 300 man-hours. The Anode Superstructure (SS) is then repaired and tested in the workshop.

The pot now prepared, is transported back to pot-line. When the last inspection of the pot has been completed, the multi-wheeler brings it either to a parking position at the facility or to the pot-line. It is then lifted by the cathode crane to the correct cell position. The careful and slow lowering of pot into position is very important to avoid collision with bus-bars, cathode flexes or other auxiliaries.

After the pot has been placed, a final cleaning and buffing of all auxiliary support processes and structures are checked and approved. The SS is then brought to its destination and installed in position.

Before the pot is handed over to the Start-Up Team for preheating preparations, it is checked thoroughly.

Currently the Qatalum's Relining Department is to manage all Pot replacements within 24 hours.

De-lining of pot

Removal and transfer of superstructure on to the multi-wheeler

Relining process underway

Davy and representatives of each team at the relining facility

QATALUM'S FUTURE **LEADERS**

On september 2015, Jassim Al-Mejali presented to senior management the synopsis of his master degree thesis about the 'role of key impurity elements on the performance of aluminium electrolysis - current efficiency and metal quality'. His findings proved that the future is bright for not only Jassim but also Qatalum and the State of Qatar.

Jassim at his graduation from Qatar University for a Master's degree in Material Science and Technology

What drew you to Qatalum as an employer?

Upon graduation, I had no idea about the industries in Qatar. All my friends wanted to get into the oil and gas industry; however I sought an alternative option.

I joined Qatalum in 2011 and was really interested in Qatalum's graduate trainee programme as well as its integral developee system. This is how I started my journey with the company. The aluminium industry was also incredibly attractive to me specifically because of my course of study. Driven by a desire to learn and further my career, I perused a Master's degree at Qatar University in Material Science and Technology which was sponsored by Qatalum.

How has your degree translated to your experience at Qatalum?

During my trainee period with the company, I was developing a thesis titled "Role of Key Impurity Elements on the Performance of Aluminium Electrolysis – Current Efficiency and Metal Quality" which I was able to present to senior management once complete. They were pleased with my findings proving just how beneficial the relationship between myself and Qatalum could become. I'm now a process engineer and pleased with how effective Qatalum's management has been in understanding my skill set and applying it as a result. The perfect fit which my employment has proven to be is based largest on a mutual interest between myself and Qatalum in not only our industry but also utilising the aluminium sector to strengthen the State of Qatar.

How important a role does education play at Qatalum?

A very big role. My trajectory at the company offers a clear example of how important education is based on the manner Qatalum invested in me. This investment was rooted in the relationship which the company has with Qatar University. Qatalum sponsors a professor's chair at Qatar University which is dedicated to aluminium technology. Along with a group of students, I took a course which weighed heavily on my graduate degree and fulfilled every requirement in order to pass with flying colours.

Now that you're a valued member of Qatalum's staff where do you expect you career with the company will head next?

This industry is helping me to fulfil my lifelong ambitions of continued education and personal growth. With the latter in mind, I now have an eye on reaching a new senior position; Senior Booster Developing Project Engineer. The project is dedicated to increasing currents within cells as they spawn 2nd and 3rd generation cells. I am incredibly grateful to Qatalum for continually providing me with opportunities which encouraging me to always reach for more with a real promise of being able to attain these goals.

Why do you think Qatalum is good for the State of Qatar?

I represent the new generation of Qataris but this means so much more as a member of Qatalum's staff. The company has encouraged me to successfully progress through every level of the aluminium smelting process knowledge as well as in supporting the completion of my Master's degree which has provided me the foundation for this knowledge. I am delighted to tackle my next challenge of managing the main pot development project with the booster unit. I know that Qatalum is behind me 100% but furthermore the company is behind this great nation of ours.

As an expectant father, I am proud to represent all that is valued within Qatalum and the next generation of Qatar. I've been entrusted as a brand ambassador for our industry amongst my peers and been allowed to achieve so much with the backing of Qatalum.

QATALUM PRESENTS **INDUSTRY-LEADING ADVANCEMENTS** AT THE 19TH EDITION OF ARABAL

Qatalum's attendance highlighted the contribution of education and people as a prospect for furthering the aluminium industry in the region.

Aluminium industry leader Qatalum attended The Arab International Aluminium Conference and Exhibition (ARABAL) 2015 as a platinum sponsor of the event and with a host of innovations to share with those in attendance. Hosted in Dammam, Saudi Arabia for its 19th year, ARABAL is the premium trade event for the Middle East's aluminium industry and the only conference in the world attended by all primary aluminium manufacturers from the region.

The welcoming address was given made by Mohammad Al-Naki, Chairman of ARABAL who praised Saudi Arabia's initiative to host the conference and highlighted the Kingdom's increasing drive to diversify away from the hydrocarbon industry, highlighting the importance of aluminium. As a significant contributor to the aluminium industries of the State of Qatar, the Middle East and the international market, Qatalum sent a delegation to represent the company.

Amongst Qatalum's representatives was CEO Khalid Laram, who offered ARABAL's attendees a presentation which preceded the event's panel discussion. Given on the first day of the event and titled "The Contribution of Education and People", the rousing display offered the range of prospects present for the GCC's aluminium sector.

During his presentation, Qatalum's CEO shared a number of key milestones recently reached by Qatalum. Notable mentions included the company recently achieving the globally recognised environmental ISO 14001 and OHSAS 18001 certification while aluminium production in 2014 reached 6% above the plant's design capacity.

Additionally, imperative aspects of Laram's presentation included information on how Qatalum is utilising education in ways unforeseen to advance the industry's use of technology while also forging ahead with an environmental outlook.

By partnering with Qatar University and the Qatar Science & Technology Park, Qatalum has reaped a number of benefits related to supporting future generations of Qatari professionals, in addition to increased industrial efficiency which adds a more widespread outlook to the company's sustainable ethos.

Deon Earle, HSE Manager for Qatalum, moderated a separate session on the event's second day titled "EHS best practices in the Gulf".

With Qatalum's ISO/TS 16949 certification for foundry alloy products, it produces premium quality value added products with 60% production being sold to meet the growing need of the global automotive sector.

The aluminium industry is growing year on year and the increasing number of milestones Qatalum is able to present at ARABAL each year is a clear sign of the smelter's successful evolution. The company's premium aluminium and its "Made in Qatar" brand of quality contributes to the aluminium business not only in the Gulf but across the world. The Qatalum delegation is proud to attend each edition of ARABAL.

Qatalum and Qatar University's relationship was also on display at ARABAL based on the entities having worked together for years by offering yearly seminars and conferences which are hosted by international expertise. These experts are then able share their knowledge with students and company staff. A significant amount of the knowledge shared is related to sustainability and honouring the importance of environmentalism the world over.

QATALUM'S ANNUAL **ALUMINIUM SYMPOSIUM 2015** ARRIVES IN DOHA

Award-winning aluminium industry leader Qatalum inaugurated the company's annual aluminium symposium in Doha, Qatar 14 December 2015 at the Intercontinental Hotel.

Titled "Aluminium The Engine for Growth in the Region", the day-long event was co-sponsored by Norwegian aluminium company Hydro, Qatar University, CAM and host a number of key members of the industry.

Qatalum executives Christian Stette, Khalid Laram and Olaf Wigstoel each delivered opening remarks with each executive addressing the importance of the aluminium industry in the Middle East during a period of stagnation in the energy sector.

The aluminium industry has taken enormous strides in recent years and there is much to grow excited for based on what's to come. Hosting an annual Aluminium Symposium gives Qatalum great pride as it gathers individuals from around the world to not only discuss next steps for the industry but furthermore strengthen collaborative bonds already formed. With the sponsorship of Hydro and CAM, each company has made clear how essential their respective relationships are. The importance of educational research is likewise important and Qatalum is visibly grateful for the continued support of Qatar University.

Running parallel to the industrial prowess of the aluminium industry, the importance of educational research is helping to bolster aims central to Qatalum's plans for the future. The vital support of Qatar University has cemented how closely aligned the academic institution and Qatalum have become in driving forward both a stronger research community and Qatari economy.

Two sessions followed the inauguration speeches and touch on aluminium downstreaming, quality, recycling and research. Company executives from Qatalum, Hydro, SAPA and Taha International Corporation guided the sessions with presentations specific to dross handling, futuristic applications, building systems, casthouses and more.

Central to these sessions was academic research, as educational due diligence continues to drive the nuanced application of science and technology within the aluminium industry. The support of Qatar University further states how aligned industrial pursuits central to aluminium have become with academia based on the increasingly essential nature research is playing within the sector.

GAC MOBILE EQUIPMENT WORKSHOP

The Qatalum mobile equipment workshop, through peer evaluation and the successful exchanging of ideas has committed itself to the long term improvement of its processes and efficiency. A regional collaboration has allowed for such successful ambition.

Qatalum hosted a one day GAC Mobile Equipment Workshop on 4 June 2015 which was attended by Maintenance Supervisors, Planners and Superintendents from GCC smelters which included ALBA, Ma'aden, Sohar and Qatalum.

The purpose of the meeting was to form a common network from the Gulf Aluminium Council to improve experiences through various best practices, foster good relationships among GCC smelters mobile equipment maintenance teams and share common challenges and fixes.

Delegates arrived at Qatalum's project office for the General Site Induction and were escorted to the smelter site. The workshop was held in the Central Maintenance Welding Room.

Qatalum Chief Technical Officer Geir Nilsen gave the welcome address and in his speech mentioned the importance of networking among GCC smelter mobile maintenance groups, the exchange of knowledge and ideas to improve the maintenance of equipment and the sharing of successes and good practice through learning from each other.
After the welcome address, the group toured the Qatalum Vehicle Repair Shop, the Mechanical Repair Shop and the Mechanical Tool Store which duly impressed all present.

There were presentations from Qatalum, Sohar and Ma'aden on mobile equipment challenges, improvements and best practices.

There was a lot to learn from the other GAC Mobile Equipment teams with regard to how to improve mobile equipment maintenance, best practices among GCC smelters and the importance of moving forward by relying on trusted methodologies.

QATALUM RECOGNISES **NATIONAL DEVELOPMENT** AT CNAQ

After completing Qatalum's development programme, national employees are sponsored to pursue advanced diplomas in engineering at College of North Atlantic - Qatar (CNAQ). The students were given an open day with Qatalum management in 2016 to further direct their careers toward opportunities at Qatalum.

On 12 January 2016 at the Qatalum Training Centre the company's CEO and technical/operation department's managers met with Qatalum staff to pursue further development measures. The objective of the meeting was to update the related departments on the status of the development programme and to honour its best performers.

The CEO and HR Manager addressed the students and were followed by the Chief Operations Officer who stressed the importance of education and the need for competent nationals to be employed by Qatalum.

Group Managers met with their future employees while the Training Supervisors provided updates on the progress of each student.

The student group was made up of eighteen Qatari nationals at CNAQ, eachcompleting diplomas within different engineering programs.

Qatalum's Qatarization Manager AbdulHalim Al-Bader emphasised the importance of following the CNAQ's policies and encouraged the students to comply with the attendance and grades requirements.

The ultimate benefit to Qatalum is that the students were introduced to the management team and the students had a chance to talk to their potential group managers and become familiar with all aspects of working within Qatalum. All managers agreed that these kind of interactive sessions should be held from time to time to keep them updated.

Additionally, the three best academic performers were honoured for their outstanding academic performance.

QATAR NATIONAL SPORT DAY

Qatalum's staff joins together to celebrate Qatar's National Sport Day

Qatalum participated in National Sports Day 2016 by offering a range of activities to employees and their families. Held at Amwaj Msaieed Village, on the morning of 9 February 2016, a number of sporting contests were offered to promote a day of recreational activity. Included were football, cricket, tennis and basketball competitions to everyone in attendance, of all ages, under a banner of TEAM, "Together Everyone Achieves More".


National Sports Day
2016

GAC ENVIRONMENT CONFERENCE

Qatalum contributed to the GAC Environment Conference in Doha, Qatar with a number of measures. By opening the event with a powerful welcoming speech and presenting a range of key environmental case studies, the aluminium industry leader expressed just how committed the company is to a greener tomorrow.

Qatalum contributed to the GAC Environment Conference in Doha, Qatar with a number of measures. By opening the event with a powerful welcoming speech and presenting a range of key environmental case studies, the aluminium industry leader expressed just how committed the company is to a greener tomorrow.

Qatalum participated in the GAC Environment Conference 2015 in Doha, Qatar with resounding levels of success. As the aluminium industry grows in importance amidst a slump experienced by the Middle East's energy sector, the Conference offered an incredible opportunity for Qatalum to display its many layers of expertise whilst keying in on the event's central theme: the environment.

The increasing importance of sustainability in the aluminium industry has been accompanied by a number of new processes which aim to preserve the environment while additionally create larger forms of earning potential for key players offering new industrial techniques. The GAC Environment Conference was launched to provide an opportunity for sharing and discussing these developments as they relate to emission control in production plants and power stations. Through a series of sessions, the Conference provided attendees the opportunity to network whilst gathering a range of essential information.

Khalid Laram, Qatalum's CEO, delivered a rousing address to the GAC Environment Conference's attendees to inaugurate the event. During his speech he touched on the importance of aluminium and how previously held myths are being discarded in favour of more widespread use of the precious metal.

The environmental ethos of Qatalum adds further to the value of aluminium based on the company's commitment to limiting waste. A key environmental waste management objective for Qatalum has always been to avoid contributing to the country's landfills. An essential aspect of these efforts has been based on collaborating with like-minded industries across the Gulf, in order to best explore how to fully utilise waste as both alternative fuel and raw material.

Laram also professed not only the importance of the aluminium industry furthermore embracing sustainability but also the advantages present in more companies working more closely together. Qatalum's CEO laid out the methods with which this would be possible via the sessions of the Conference.

During the Fume Treatment Session of the GAC Environment Conference, Ian Fuller, Qatalum's Power Group Operations Manager presented a Qatalum case study titled "Selective Catalytic Reduction technology for Power station NOx control". The presentation touched on Selective Catalytic Reduction Technology (SCR), why SCRs are needed, how they are properly operated, their life cycles, and proper SCR maintenance and emissions control.

Sherwin Salinio, Qatalum's Environment Monitoring Supervisor and Joy Abraham, Environment Superintendent, jointly presented Qatalum case study "Leak Detection and Repair (LDAR)". The talk was centred on preventing the leak of gaseous and volatile products from pipelines and pipeline fittings. By touching on leak detection methodology, measurement, reporting and repair, Salinio and Abraham offered the Conference's "Emission Monitoring & Clean Technology" session an incredibly valuable contribution.

Abraham's input in the lead detection presentation only hinted at how wide her impact was in representing Qatalum at the GAC Environment Conference. In addition to this session, Abraham presented yet another Qatalum case study; "Baseline Vegetation Monitoring for Aluminium Smelters", which touched on the importance of the practice as it directly relates to the industry. Abraham also chaired a presentation given by Dr. Esam Elsarrag, Director, Research & Development – Gulf Organization for Research & Development, which covered the potential for powering Gulf aluminium with solar energy.

No stranger to compiling case studies for Qatalum with a bent for environmentalism, Abraham has previously produced a guide to sustainable recycling designed to specifically target the aluminium industry. By featuring not only reasons to recycle directly relevant to the industry but also flow charts which detail exactly how these environmental processes can be executed within an aluminium smelter, Abraham's expertise added tremendous value to the many contributions of Qatalum at the GAC Environment Conference 2015.

Qatalum cultivates world class research and development hubs via the scientific and educational resources which the company possesses. The organisation has sponsored international research and coursework specific to innovation at Qatar University and promises to continue doing so in a bid to further its environmental aims.

RELINING OPENS DOORS TO MA'ADEN

In the spirit of cooperation, Qatalum's Relining Plant recently hosted a tour of its facility for Ma'aden, in preparation for a relining project within the Saudi company.

Visitors from Ma'aden with the Qatalum team during their visit

Four representatives from Saudi smelter Ma'aden visited Qatalum in order to technically evaluate the relining contractor STAREF, presently undertaking Qatalum's relining process.

Qatalum shared with Ma'aden the advantages of working with STAREF. Davy Fosen, Relining Manager at Qatalum highlighted STAREF's capabilities with a detailed presentation.

CASTHOUSE JOINT COLLABORATION WITH **QATAR UNIVERSITY**

Academic collaboration allows for further research in developing metallurgical competence in Qatar and increases competence on specific casthouse products for process optimisation. This results in a wider product portfolio of high quality aluminium products for a larger global market.

Qatalum's Casthouse has established a joint student project together with Qatar University. The project's objective is to study microstructure development during the homogenisation process of aluminium alloys. Therefore, further developing aluminium metallurgy competence amongst the students. The specific research and development case concerns a commercial alloy and is directly related to Qatalum potentially gaining increased market share with extrusion billet alloys containing chromium.

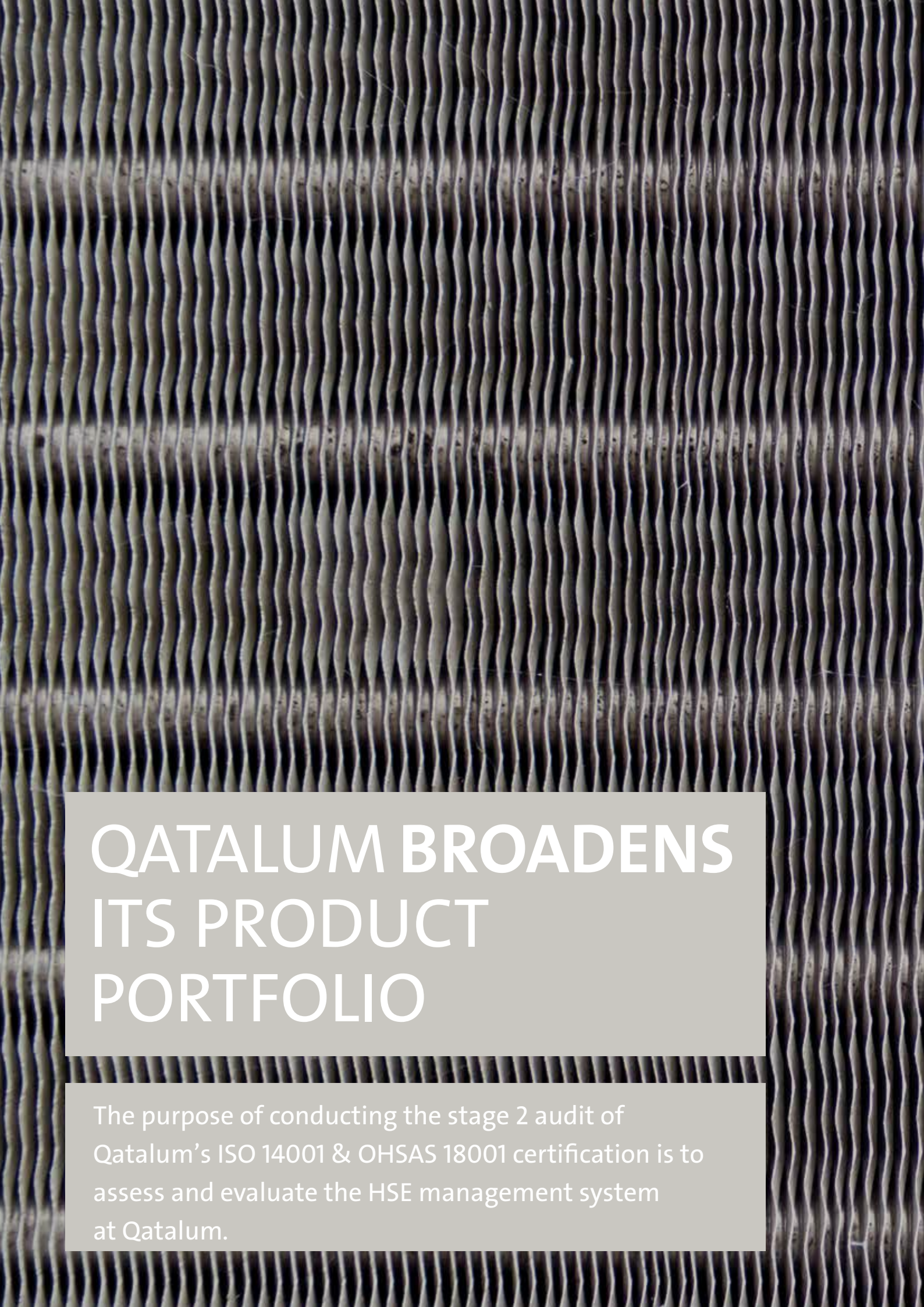
This type of alloy is outside what is defined as standard alloys and is therefore of strategic interest in order to increase Qatalum's gross profit margin. However, this type of alloy requires strict control of process parameters through casting and subsequent heat treatment (homogenisation). Increased understanding of the material response during heat treatment will thus increase the potential for long term success in this market segment.

The students and professors of Qatar University visited the Qatalum Casthouse and Laboratory to get real life experience of the casthouse process related to the ongoing collaboration project. The complete casthouse process was demonstrated, with special attention to alloy preparation, casting and homogenisation. The students were also taken to the laboratory whereby they were trained in different aluminium metallography characterisation techniques. This new competence will be used at the Qatar University lab in order to obtain the results planned for the experimental part of the project.

The collaborative project is directly linked to a real life business potential in the casthouse, whereby, the overall objective is to increase the competence on the metallurgy aspect of a new specific alloy, therefore enabling control of the casthouse process in maximising product quality.

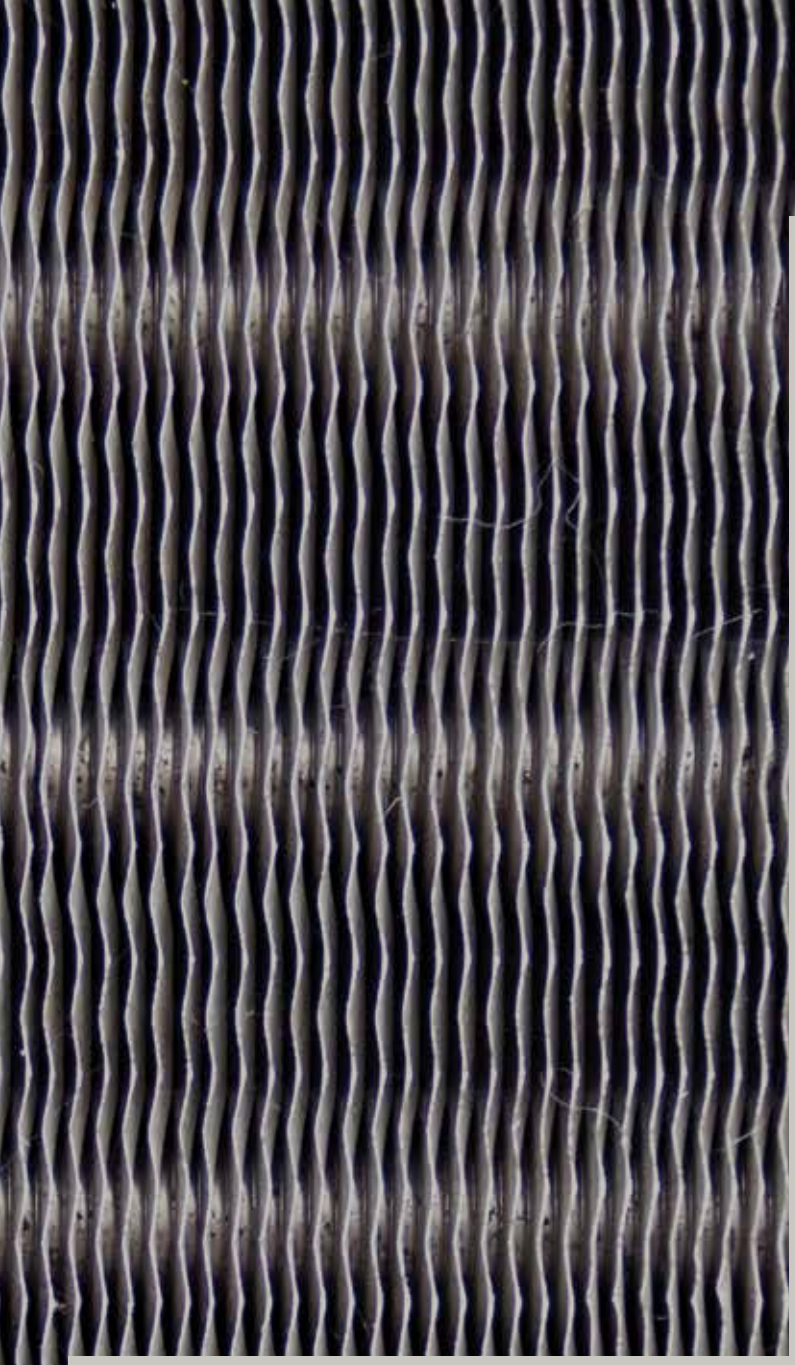
The student project is the first step towards reaching Qatalum's related objective and will in turn develop other competencies through further collaborative projects which can lead Qatalum to achieve strategic product optimisation within the casthouse product portfolio.

The collective impression given by students, post visit, indicated that the Qatalum tour had enabled them to learn more during their four hour tour than they had during course study at the university.



QATALUM **BROADENS** ITS PRODUCT PORTFOLIO

The purpose of conducting the stage 2 audit of Qatalum's ISO 14001 & OHSAS 18001 certification is to assess and evaluate the HSE management system at Qatalum.



Precision Tubing (PT) was firmly endorsed as an alternative sought to lead diversification after winning the Qatalum and Hydro Primary Quality award in 2014. This companywide endorsement confirmed the success of five years of dedicated quality improvement work. In 2015 Qatalum's casthouse challenged itself to sustain quality leadership. To meet this challenge, the casthouse decided upon two quality targets which would convert industrial quality into cash by championing the the supply of high margin products such as PT to the market.

Precision Tubing is used for a myriad of products which include heat exchangers, audio products, PC products and consumer electronics.

The decision to move forward with alternatives methods such as PT is not without its challenges. The efforts have been deemed risk worthy as PT yields approximately US $200 more than a standard ingot.

The cost reductions in place in 2015 saw a change of contractors within the Casthouse, with the introduction of 38 new directly supervised contractors. This exists parallel to the reduction of casthouse maintenance. All of these methods need to be aligned to sustain casthouse product quality whilst maintaining existing customer confidence and gain a PT customer base in a slow market.

Within the precision tubing market Qatalum is a new supplier. Furthermore, with the current casthouse running at full capacity, there is little time to spare for product experimentation given that the existing equipment needs to be tuned for the production of even higher quality melt with a very low tolerance for impurities.

The nature of the finished products require very high levels of purity to maintain product integrity. Any foreign material present in the extrusion billet coming out of the Qatalum casthouse can potentially result in an extrusion failure and/or a hole in the extruded tube, resulting in a leak in the final heat exchanger.

Preliminary actions taken within the Casthouse using its consistently reliable method of quality observations, reporting and problem solving initiated the qualification process and considers the following qualitative improvements: optimisation of casting parameters for reduced scrap and optimal microstructure, optimisation of the homogenising process and optimisation of product handling for best surface quality.

Additional assistance was gained through technical discussions with Hydro on best practices for furnace operation, casting, homogenising and product handling. Most importantly, the ultimate success of the initiative lies within the proper utilisation of existing casthouse and organisational expertise.

PT production is still in its infancy, however qualitative gains both in the casthouse and the market are providing resounding results for Qatalum.

Within the international market, Qatalum has successfully qualified to supply one PT customer and is undergoing final approval with an additional three. Collectively this will equal the supply of more than 3000 MT of precision tubing alloy in 2016. The plan is to develop casthouse capacity and customer portfolio to supply up to 40,000 MT of PT products by 2018, potentially bringing in an approximate increase in margins.

QUALITY TESTS AT THE **CASTHOUSE**

Production of high quality products at the Qatalum casthouse is critical in meeting the expectations of new markets that offer higher premiums.

Within the Hydro R&D Centre at Sunndal, Norway, there is a Research and Development team that is equipped to measure liquid metal quality. Their mandate is to travel between all the Hydro subsidiaries and measure liquid metal quality, which was done for the first time in Qatalum's Casthouse in 2015. The liquid metal quality test involved using sophisticated testing equipment which included LiMCA, PoDFA and AlScan Hydrogen measurements. This testing is part of the quality strategy which aims to exceed customers' expectations.

The LiMCA (Liquid Metal Cleanliness Analyser) test is a quantitative measure of number and size distribution of foreign particles (referred to as non-metallic inclusions) present in liquid aluminium. The LiMCA system can therefore monitor, in real-time, the melt cleanliness along a cast as a function of process parameters and melt-handling practices.

PoDFA (Porous disc filtration analysis) on the other hand is a qualitative measuring process that provides information on the composition and concentration of the inclusions in molten aluminium. It allows Qatalum to accurately assess the effects of various operating practices on metal cleanliness or identify filtration efficiency.

AlScan measurement of hydrogen present in the melt gives an indication of whether or not the melt degassing unit, SIR, is efficient in the removal of hydrogen.

The consistent testing allows for Qatalum to benchmark the metal quality with other comparable casthouses and thereby maintain and further improve high quality standards. This is of highest importance since Qatalum is addressing new high premium markets with more sophisticated alloys, such as precision tubing for automotive heat exchangers.

DEADLINE **SUCCESSFUL COPPER** CASTING IN THE FA CASTHOUSE

On 3 January 2016, the foundry alloy casthouse team led by Dilip Behera and Joao Carrasqueiro successfully managed to align all parameters to produce its first copper casting order.

The first order, destined for automotive giant Bajaj, in India, will be specifically used to make engine blocks and piston heads. Between 2.5% - 4% copper is added to the furnace in order to create an alloy that can tolerate a higher operating strength and temperature. These types of alloy have never been produced before at Qatalum. However based on detailed preparation, this first cast was an immediate success.

Dilip, the FA Process Engineer in the team responsible for the first casting, reported that after testing several parameters of the casting process, the team was able to target quality and productivity within a short time, making the first trial cast a success with optimum surface finish and production efficiency.

Fundamentally adding copper to the liquid metal pollutes the entire furnace. In order to go back to standard products, the entire furnace needs to be cleaned out and the standard product process restarted. Therefore there needs to be justifiable reasons to make the change to copper.

Equally important to the financial gain is that the casthouse has reached a stage of organisational maturity whereby handling change determined by market forces is sustainably handled within its operational capability.

In order to fulfil this achievement, the FA team had backing from the Hydro Casthouse support team and the Sunndal PFA team who provided core competencies for the processes and casting recipes. This success at the FA casthouse allows Qatalum to add a copper alloys to its product portfolio and remain flexible to the market demands placed on it with minimal losses in changes to the process.

The copper based alloys are yet another step in broadening Qatalum's product portfolio and meeting challenges from the market, while maximising margins.

SUCCESSFUL START-UP OF **101 POTS**

The Pot-line Start-up Team have successfully started 101 relined pots since January 2015 signaling a milestone reflecting Qatalum's efficient production process within Reduction.

Due to the ageing process of Qatalum's 704 pots, it is required to manage a detailed shutdown and start-up to meet the business plan. When pots are replaced with those relined, these refurbished pots must be started as soon as possible to avoid loss of metal production.

A dedicated team was formed in the middle of 2014 to accomplish this task, meeting the business plan by applying QPS principles and utilising expertise of in-house team members.

In order to perform all start-up activities, pots must go through five stages; pot inspection, preparation, preheat, bath start, metal pouring and normalisation. Each stage needs close supervision with process control measures in place to mitigate inherent HSE risks and the use of a systematic approach towards SOPs.
HSE is a first priority for the team, since start-up activity is a man and machine interface with forklift movement, overhead crane operation, hand tools usage, in addition to working in high process temperatures.

According to the start-up team, results so far are excellent, meeting the business plan of hot metal production with the intensive start-up and relining activities and by causing minimal interruption to day to day production activities.

The start-up team, Reduction

LIFE SAVING CAMPAIGN

New heights reached at Qatalum

In a bid to continue honouring workplace health and safety, Qatalum launched a campaign in 2015 designed to furthermore heighten awareness related. As an aluminium industry leader, Qatalum has reached success unforeseen in the State of Qatar by not only applying a global outlook to its production capabilities but by also addressing matters central to sustainability, CSR and safety.

Qatalum's latest health and safety campaign was based on height awareness. With world-class production facilities, Qatalum initiated the safety campaign in order to maintain the well-being of the many staff members present within the company's operations. Titled "Working at Heights", the campaign's artwork highlighted a number of key provisions necessary within an operation the size of Qatalum's. Key aspects of the campaign's artwork included the importance of conducting risk assessments, ensuring that all fall protection systems are in place, obtaining proper permits and guaranteeing that all workers present are properly trained.

Qatalum has become an increasingly imperative company in the State of Qatar based on continued annual revenue growth. As the company's products are imported to a growing number of global concerns, Qatalum has taken pride in not only providing the best aluminium possible but also the safest.