

# SOHAR ALUMINIUM

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# TESTING THEIR METAL

*Henk Pauw, CEO of Sohar Aluminium, talks to Gay Sutton about the company's role in promoting industry in Oman and creating jobs for local people*







Plant exterior

oman is perhaps one of the most impressive but least widely recognised success stories of the Arabian Peninsula. Rich in oil and gas, and occupying a favourable position on the eastern coast of this dry and desiccated land mass, it has a long and distinguished history as a trading and seafaring nation. Small wonder, then, that when the Sultan of Oman initiated a campaign to diversify the nation's economy and make it less reliant on oil revenue, much of the industrial effort centred around the port of Sohar, which has a shipping heritage dating back millennia.

“Sohar's history goes back over 5,000 years. Moreover, at one time it was the capital of Oman,” explains Henk Pauw, CEO of Sohar Aluminium, a company that is spearheading the modern industrialisation and the trading renaissance of the region. In ancient times copper was mined and smelted in the mountains behind Sohar and exported to the great Sumerian and Persian empires of the era, while food was produced and exported throughout the Gulf region. Today, copper mining continues in the mountains, but it is aluminium smelting and the manufacture of downstream products that is taking over as a revenue generator and acting as a trigger for a national industrial development.

Being a heavy consumer of electricity, aluminium smelting is in the process of moving away from the older industrial nations of the West where energy is relatively expensive, to the Middle East where power is cheap. With a ready supply of gas that would

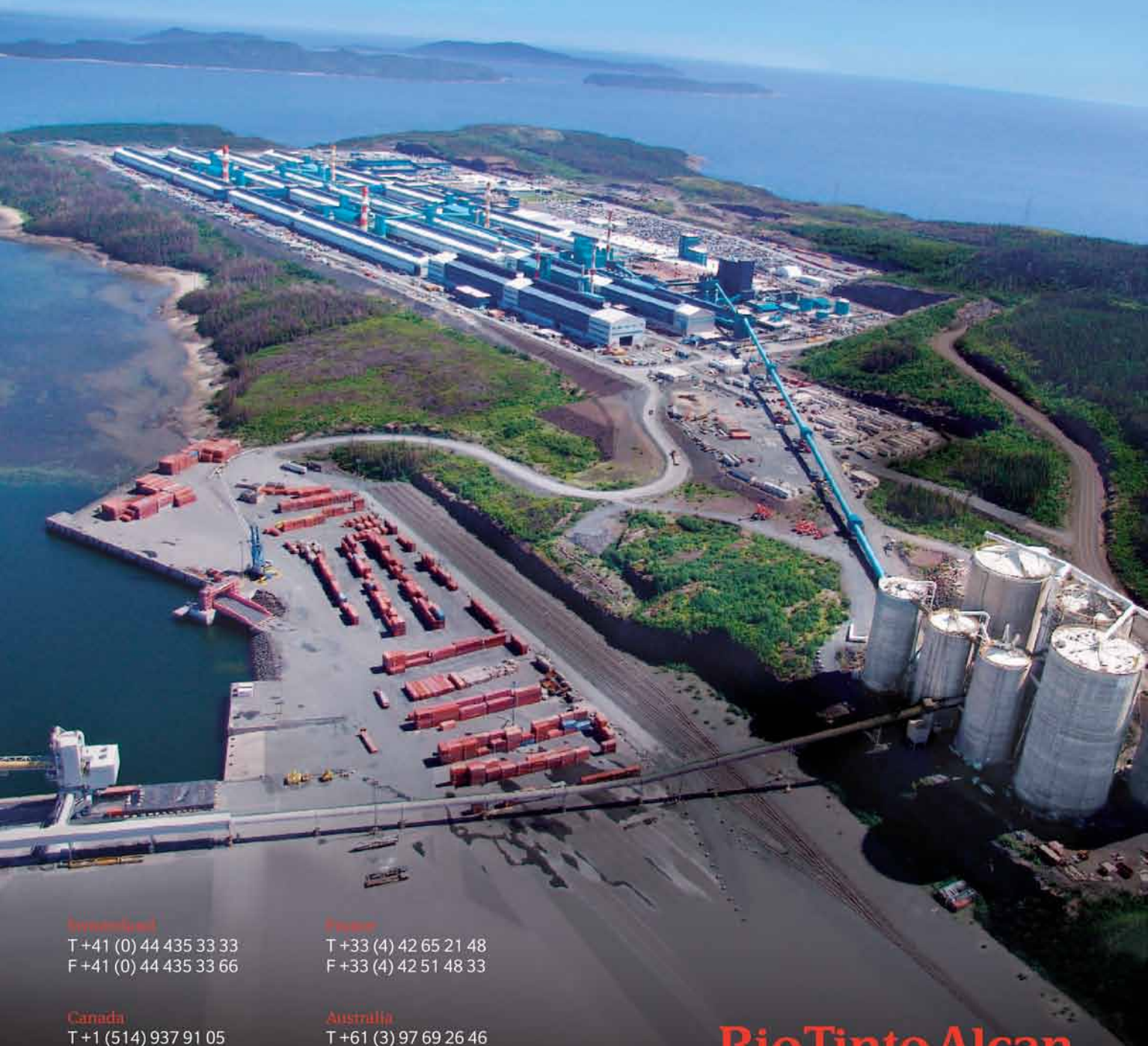


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Sohar aims to be a role model for industry in the Gulf

previously have been flared off from the oil wells, many of the oil producing countries are capable of generating large amounts of power at a relatively low cost, and this is ideal for the power hungry smelting process.

Sohar therefore has it all—low cost gas piped in from the vigorous oil industry and a location on the Arabian Sea that lies on the direct shipping route between the Suez Canal and the Far East providing easy access to the major global trade routes for importing materials and exporting finished products. In addition, the choice of Sohar as a location for Oman's new industrial centre is even more pertinent in view of its distinguished cultural history, the archaeological evidence for which is widely

scattered around the region. "His Majesty, the Sultan of Oman's vision is to restore Sohar to its former glory as the nation's shipping centre," Pauw continues.

The Sultan's programme to diversify the Omani economy and create wealth and jobs through industrialisation is embodied in the Vision 2020 document. And the development of a new modern deep water port at Sohar along with a strong aluminium industry is a major element of that. Supporting both port and industry, the internal transport infrastructure has also been updated and continues to be developed. A modern expressway to Muscat and a new airport are both under construction and will be completed this year, while there are ambitious

**2004**

.....  
**Year Sohar Aluminium  
was founded**

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**Rio Tinto Alcan**





Production line

plans for a railroad linking Muscat and Sohar to Dubai and Abu Dhabi. Currently, Dubai is just over two hours' drive by road; by ship the journey is much longer and involves navigating through the tortuous, narrow and congested waters of the straits of Hormuz, all of which places Sohar in a very strong position as a global shipping port, providing timely and cost effective access to the Gulf States.

The flagship enterprise in the industrialisation of the region, and the new port's first major customer, is Sohar Aluminium. The company was launched in September 2004 through a powerful alliance between three well established businesses, each of them bringing a significant level of expertise and knowledge to the project. Oman Oil Company, which owns a 40 per cent share in the company, is a commercial body wholly owned by the government of Oman and charged with pursuing investment opportunities in the energy sector, both in Oman and further afield. TAQA, 51 per cent owned by the Abu Dhabi National Energy Company PJSC, another government body, has a further 40 per cent share in the company, while the remaining 20 per cent is provided by Rio Tinto Alcan, the aluminium division of the global mining and metals group, Rio Tinto.

The plant currently produces 375,000 tonnes of aluminium per annum, and employs a workforce of 1,000 people. But the aluminium smelting facility is just the starting point for a growing industrial base. Pauw believes the company indirectly employs some 3,000 people, across a range



The number of Omani nationals in the workforce is set to increase

of downstream industries. A considerable proportion of the plant's output is cast into ingots and exported around the world through the Port of Sohar. However, part is supplied in liquid form to an adjacent factory that produces aluminium cables for high voltage power lines. These cables are then either supplied to Oman's growing aluminium industry or exported. By manufacturing from liquid aluminium direct from the smelter, the cable factory is able to operate at a markedly reduced cost as it bypasses the metal melting process most of its competitors go through.

The downstream industry is still growing strongly. A new aluminium rolling mill is currently under construction close to the smelting facility. "Our target is to pass 60 per cent of our output on to Omani companies. We're not there yet, and there's still room for improvement. But when the rolling mill is up and running we will be getting close to that target."

Based on cost and output figures, Sohar Aluminium is calculated to be the most competitive and cost effective smelter in the world, although Pauw is characteristically cautious about such claims. "I always take

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these numbers with a pinch of salt,” he comments. At the heart of this energy efficiency is a 1,000 MW combined-cycle captive power generation facility constructed and owned by Sohar Aluminium, which produces abundant low cost energy fuelled by natural gas that is supplied under the terms of an agreement with the government of Oman.

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Golden Laundry started operations in 1997 in the Al Bathinah region of Oman. Golden Laundry is focused on timely delivery and quality laundry services, achieved via its team of qualified, experienced and committed professionals. We have been providing laundry services to Sohar Aluminium for the past four years, with a dedicated customer relationship management team meeting Sohar’s needs on a just-in-time basis. During the project period we have successfully implemented a unique tracking system as per Sohar Aluminium’s requirements and have achieved a high percentage of Omanisation. We also follow good industrial practices as agreed in our contract with Sohar Aluminium. [info@goldenjeed.com](mailto:info@goldenjeed.com)

“Another factor in our competitiveness is that the plant employs Rio Tinto Alcan technology. Engineered in France and constantly under development, it is the most reliable and consistent smelting technology on the market today. We are currently operating with the AP36 version, and we are now looking at the AP40.” This latest iteration of the technology will certainly be utilised in any planned expansion of the plant, and may well be part of future upgrades or updates. “It’s what’s known as creeping your plant,” he says.

As a greenfield development, the plant is

“THIS LATEST TECHNOLOGY WILL BE UTILISED IN ANY PLANNED EXPANSION”



Sohar takes part in local beach-cleaning efforts

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also free from the constraints of previous projects, and therefore includes a number of a number of innovations such as the world's highest capacity ingot caster, and a specially designed elevated walkway that separates man from machinery, and ensures the highest level of safety for the workforce.

The third element that has contributed to the company's highly competitive performance is what Pauw calls using resources wisely. To achieve this he has been introducing the concept of lean. Developed for the automotive sector, lean has become a universal business improvement process, used with great success in almost every conceivable area of business from manufacturing and engineering through to health services and banking. "The principles are always the same," Pauw says. "Lean is about focusing on waste and empowering people on the shop floor. It's about toolboxes and data, about taking responsibility and doing something about it—not blaming other people."

As with everything the company does, training plays a key role in introducing and maintaining the lean process. The company runs what it calls the Sohar Aluminium Academy at the plant and this provides a comprehensive portfolio of training,

ranging from welding and technical courses through to safety, management and leadership training. "We started our first lean workshops about a year ago and we're now rolling it out over different departments. Almost all our leaders have completed a three-day lean session where they have learned about the principles of lean and about the lean toolbox."

Lean is a relatively new concept in Oman and in many ways Sohar Aluminium is

**"ALMOST ALL OUR LEADERS HAVE COMPLETED A THREE-DAY LEAN SESSION WHERE THEY HAVE LEARNED ABOUT THE PRINCIPLES OF LEAN AND ABOUT THE LEAN TOOLBOX"**



Plant at night

pioneering the change. The experience has certainly been interesting. Having worked in the automotive industry for 10 years and gained a plethora of experience in lean implementations and operations, Pauw has observed that its introduction has been less difficult at Sohar than in many businesses, industries and locations. "The response here has been good," he says. "And that's partly because our local employees have no previous industrial experience, so there is very little resistance to change."

Much of lean implementation is about changing mind sets and culture. And again, Oman has presented a slightly unusual challenge. "With lean there is no right or wrong, just a problem that needs a solution. Nobody has a better solution than anybody else, and this is what the Omanis find difficult.

They find it hard to criticise a leader because the leader is, traditionally, always right. With lean, we are turning the traditional hierarchical management pyramid on its head and creating a serving leadership and not a boss leadership." And this new mindset is being instilled successfully by completely engaging management and tasking them with leading by example.

A major part of Sohar Aluminium's original remit, of course, was to generate growth and prosperity for Oman, and to provide jobs for its rapidly growing population. The population demographics in Oman are similar to those in many Gulf States: the average age of the population is around 25, and families continue to have four or five children, so the requirement for more jobs does not look likely to abate any time soon.



The plant currently produces 375,000 tonnes of aluminium per annum



Currently, around 70 per cent of Sohar Aluminium's 1,000 workforce are Omanis, and the company is well on the way to its goal of Omanisation of the business. "When we began the project phase of site development, we employed just one per cent of Omanis. But we have continuously been taking on and training local people," Pauw says. "We embarked on construction of the power generation plant and smelting facilities in 2005 and by the time we went into full production in April 2009 our Omani workforce had increased to around 40 per cent. They now comprise around 70 per cent of our workforce and our aim is to increase that to 85 per cent in the next two-and-a-half years."

The standards at Sohar Aluminium are world class, conforming to all Rio Tinto Alcan's global targets for quality, health and safety. The training department is therefore provided with a significant budget to ensure newly recruited Omanis and longer-term employees are provided with the relevant skills and mindsets to operate at globally recognised levels of best practice. "The educational system in Oman is still based on learning things by heart, but we want our people to think for themselves. And that can be a challenge because it's not what they're used to. However, we have a large training budget, and we're achieving a great deal of success with this type of training."

The global aluminium market

continues to be very dynamic in spite of the recent economic uncertainties, and countries like Oman are in a good position to increase output to meet this growing demand. "If you look at the predicted growth in demand for aluminium worldwide, it stands in the region of five per cent, depending on which figures you look at," Pauw says. "We're talking of four million tonnes of aluminium per year at present and that's expected to increase to close to 10 million tonnes by 2020. That means the world needs to build five or six plants the size of Sohar Aluminium to keep up with demand."

This creates considerable opportunities for companies like Sohar Aluminium. In line with its mandate to provide wealth generation and jobs for Oman, the company is currently in the planning phase for

# 70%

Proportion of Omani nationals in Sohar's direct workforce

a major programme of expansion that would more than double the plant's output from its current rate of 375,000 tonnes per annum to one million tonnes. "We're currently in talks with the minister of oil and gas to secure an allocation of gas for the power plant. The trick is to get it at the right price." If the gas allocation is agreed and the expansion goes ahead, a new 1,600 MW power plant, new AP40 pot lines, carbon plant and casthouse will be constructed adjacent to the current facilities, and all of this is likely to cost in the region of \$4 billion.





The company is currently planning a major expansion programme

## “WE’VE BEEN WORKING TO REDUCE OUR EMISSIONS, REDUCE OUR POWER CONSUMPTION AND INCREASINGLY RECYCLE WASTE”

Beyond the remit of its own business, the company is very active working with the local community, both at a social and economic level, and also in promoting the growth of business and industry in the wider sense. Its involvement ranges from simple events such as cleaning up the local beach in conjunction with the local community through to major projects such as building a centre for the blind and contributing to local schools and hospitals, or targeted efforts such as supporting women’s groups

and training women to drive trucks.

As Oman migrates from an oil-based economy to an industrial one there is a much wider need for education and support to stimulate growth. “There is a need for different skill sets, and for an understanding of what it is to work in industry,” Pauw explains. “And we see our role as one of the educators. One of the things we’re currently focusing on is supporting and promoting SMEs, and this is where the real job creation will come in Oman,” he adds.

The percentage of SMEs in Oman is very low in comparison with Western countries so there is plenty of opportunity for expansion. By providing a mixture of financial support, business knowledge and training over a two or three year period, the company aims to get a number of new businesses off the ground and ensure they reach a standard where they can compete at a global level in terms of quality, cost and financial stability. “Our aim is to ensure they will be sustainable businesses, and not depend on us in the long term.”

Interestingly, many of these new businesses are not associated in any way with the aluminium industry. For example, the company has worked with new SMEs in the food, safety clothing and

tourist industries, and is currently looking at the production of artificial reefs for the fishing industry.

Environmentally, the Batinah area in which Sohar is located is highly sensitive. Among the rare and endangered species is an Omani breed of the giant blue whale, which is believed to not take part in the species’ annual migration because of the sheer abundance of food in the region. The island of Masirah is the second largest breeding ground for the loggerhead turtle. Meanwhile, the endangered Arabic leopard can be found in the Dhofar mountains along with the oryx, almost hunted to extinction at one time. Sohar Aluminium works with the ESO (Environmental Society of Oman) to help protect these precious species.





Worker in action

From an operational perspective, the plant has been constructed to the highest levels of environmental performance, exceeding even those required under European law. “In addition to that, we’ve also been working to reduce our emissions, reduce our power consumption and increasingly recycle waste,” Pauw comments.

In this essentially dry part of the world, water supply is a major environmental and social issue. In ancient times, Oman and many of the Persian-influenced Gulf States achieved phenomenal feats of engineering, constructing a series of underground channels that stretched over many miles to bring fresh cool water from the mountains or from springs and wells, to the centres of agriculture and population. Known as qanats across the wider region and falaj in Oman, the systems predated Roman aqueducts by hundreds if not thousands of years. Today, these systems are being renovated as part of the campaign to address water shortages. Desalination plants are also being built around the coast to convert seawater to drinking water, and Sohar Aluminium has a role to play by condensing the steam generated in its power plant into fresh water.

“We have three generators, and this provides us with enough power to take one down at any time for maintenance. However, during the summer months when the weather is at its hottest and national power demand peaks, we run all three generators at peak capacity and export the excess power to the grid. This also helps us produce more than enough water for our needs. In the winter, however,

we do the majority of our major maintenance and don’t export anything to the grid.”

Looking to the future, Pauw has a number of major objectives. The first is to achieve the planned expansion. “The second is to stay cost competitive,” he says. In spite of the economic troubles of recent years, the company has remained firmly in the black and intends to stay that way, maintaining its cost reduction process through further implementation of lean.

“Thirdly, we are not only about making money, but about creating future leaders for Oman. And that’s not something you usually find in your year-end financial objectives. We believe we have a job training role to play, and I would like to see some of our Sohar Aluminium employees find jobs in other companies and to be recognised as the best employees to have.

“Finally, our vision is to be the very best. We want to be a role model for industry in the Gulf. We haven’t achieved that in every department, but we have made big strides in getting there.”

As a Dutch man with worldwide business experience, Pauw believes Oman is a great place to work and live, for a number of reasons. Under the leadership



Part of the company’s mandate is to create jobs

of the current Sultan the country is diversifying and its people flourishing. As a result, the country has seen little of the tumult that has recently taken place in Tunisia, Egypt and Libya.

Certainly Oman retains its unique character, even down to the scenario that many ex-pats will instantly recognise—camels, goats and donkeys wandering in and occupying the parking lots. “The Sultan has brought Oman to where it is today,” Pauw concludes. “And it’s something I’m proud to be a part of.” **BE**

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