



2ND QUARTER 2011

DIRECT FROM MIDREX

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COMMENTARY

5 Questions with... Mike Jasper

Mike Jasper is Director, Operations in the London office of Midrex UK Ltd. Here he explains just what Midrex UK is all about, why it was set up and how it can contribute to the continued success of MTI.

A successful North Carolina-based high technology process engineering steel sector company with a Central London Office - what is that all about?

This isn't one of those high school style, deep thinking exam questions where there isn't really a totally correct answer, just designed to test a candidate's lateral thinking powers. There's real logic, good strategy, sound commercial sense and a story of an expanding and successful company behind it all. For over 40 years Midrex Technologies has been a world leader in its specialist high technology sector of the global steel industry. The company can point to over 70 plants in 21 countries across five continents as the medals and awards for simply being the best.

Perhaps even more impressively, this world-wide success has been achieved out of more or less a single location, at the company's global headquarters in Charlotte, North Carolina USA. That set-up is all beginning to change, however, as MTI is evolving from being a Charlotte-based company working internationally towards becoming a globally located company working internationally. In other words, the company is in a strategic expansion mode.

Midrex has always had staff based around the world at various sites and plants, that's simply part and parcel of the business of designing, building and commissioning MIDREX® Plants and working with clients on an ongoing basis. These were mostly seconded Charlotte-based people on overseas assignments,

but the move now is towards setting up new Midrex offices in certain bespoke and strategic locations around the globe and employing "local" people to staff these Midrex entities.

MIDREX UK LTD

The first of these new strategic locations to be formally opened was Midrex UK Ltd on London Bridge. A world-famous address, contrary to the popular children's nursery rhyme, London Bridge isn't falling down, it is now home to Midrex UK Ltd. The office



Mike Jasper Director, Operations Midrex UK Ltd.

was officially opened in November 2009 and with the immense help, assistance and invaluable contribution from our Office Manager Jennifer Bardot, we are now fully up and running and actively working for and contributing to the aims, efforts, business activities and future success of MTI.

Why Midrex UK?

At first glance, the logic of a high technology process engineering steel sector company setting up office in Central London



Midrex UK, Ltd. located in the heart of London, England at 2 London Bridge.



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may seem a little difficult to appreciate. The company's historical, current and perceived future markets are far more "new world" than "old world" and there are limited possibilities for building new DRI plants in the UK or mainland Western Europe. So, why London and how can a UK entity assist MTI in securing future global sales?

A Central Location

Charlotte is a beautiful place and the Carolinas are a great area to live and work, but the reality is that it is a long way in both distance and time zones from many of the company's current and future markets – and many of our consortium partners and contractors.

Midrex is currently working in the Arabian Gulf, North Africa, the Indian sub-continent and the Commonwealth of Independent States regions and we see much of our future business and clients being in those same areas. A European office puts these territories within easier reach and provides a strategic "central" base. London is a great central point both geographically and from a time zone perspective. We can talk to most of the world in real time, from London you can look East and speak to Asia and the Far East at the end of their day and looking West, speak with most of mainland USA at the beginning of theirs. Maybe that's why the international Meridian Line runs through South East London. Global travel is also more easily managed from the airports of the UK and Western Europe.

London also hosts many of the major steel markets' leading consultants, vendors, financial advisors, trade associations and the media.

Access to Global Financial Expertise and Resources

Location, communications and accessibility to clients were important factors, but an additional and maybe more heavily weighted factor was that a London office allows the company ease of access to the resource that is the City of London's "Square Mile" financial district. It may often be debated in the bars, restaurants and offices of New York, Frankfurt and Hong Kong, but world perception and business reality still has London as the financial capital of the world and the wealth of financing expertise and sheer number of financial institutions located there makes London hugely important for companies operating internationally.

Why is access to finance important for Midrex?

For companies contracting a steel complex including a MIDREX Plant, financing is crucial. For this investment of several hundred million dollars, the buyer may wish to borrow the money, rather than funding it out of their own pocket. Financing allows the buyer to defer "paying" for the plant, often until it is constructed, up and running and



making money. Earnings from the project can then help repay the loan taken out to buy and build it.

It isn't strictly out of a sense of just trying to be as helpful as possible with clients, although that is always our aim. The reality is that plant owners/buyers often "expect" bidding contractors to bring potential access to financing with them as part of their bid package. In some of our target market territories, the local banking and financing market will often not be able to provide the long term project financing required – but the client





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still wants it, so looks to potential suppliers to provide it. In some cases, financial assistance is almost a requirement to win the job. The London finance market can provide us with an important part of the financing piece of the overall “project winning package.”

What is so special about the financing required – and why London?

Financing of big CAPEX projects is a bit of a niche area, involving lengthy contract negotiations, maybe 2-3 year construction periods and perhaps also containing elements of “political risk.” This is even more the case when repayment periods of anywhere between 5 to 10 years are demanded by buyers. The type of financing which best lends itself to these parameters is via Export Credit Agency (ECA) or project financing techniques. ECA financing in particular, often backed by government or national insurance institutions, best meets many of the needs of buyers wishing to access long term financing.

The inherent flexibility that City of London institutions, regulatory authorities and government financing systems offer, in particular the UK’s ECA financing, best fitted our project sourcing and project financing needs. Combined with the enormous depth of London’s banking sector, this simply couldn’t be replicated elsewhere. Having a UK registered operating office and the ability to work with and order from UK sub-contractors for elements of our new plant contracts allows us to have access to and benefit from such financing.

Unlike other current and future Midrex offices, Midrex UK isn’t in itself overtly marketing, selling and bidding for new plant contracts. As a facilitator to long term, client

required financing, however, we are actively supporting those MTI activities.

How have things gone in the last 15 months and where do you see it headed?

My work prior to joining Midrex revolved around financing cross border capital equipment sales and projects, working for international banks based in London. As an export finance banker I was involved in the financing of power stations, aircraft, bridges and airports, capital equipment of all shapes and sizes – and steel sector plants as well. I have transitioned from being a banker who works with internationally-based suppliers and buyers of capital equipment and plant around the world, to being an exporter who works with internationally based buyers of capital equipment and plant – and banks.

I am on the same field of play as before, with the same rules, same protagonists, same overall goal, but I’m now playing for a different team and using different tactics. It is also quite interesting having dealings now with London-based banks who wish to assist Midrex in our sales financing efforts that used to be my direct competitors.

The first 15 months has gone amazingly quickly, which is a sign that I am keeping busy and enjoying life at Midrex. I have come from a bank with over 2,000 employees in its London branch, to the office of a small, high technology process engineering steel sector company. We have two full time employees and our part time Assistant Controller Meena Bhandari - who keeps us solvent, honest and adhering to the required financial regulations. Combine that sea change with a lot of my day-to-day work being far removed from my “comfort zone” of financing – and that

makes for some real interesting days at London Bridge. After so many years in the banking sector, having a “real job” is pretty rewarding.

It must be said that London and the UK generally seems pretty happy to have Midrex move in. The relevant UK authorities and ECA, London banks and various UK companies have all welcomed us to the country. There is real and genuine support for Midrex to succeed, which is perhaps understandable. A successful Midrex UK, by the very definition of its “reason for being here” means that contracts have been won and orders placed within the UK – it is mutually beneficial for all parties involved.

MTI is currently following potential projects at various stages in their gestation period that COULD conceivably, access Midrex facilitated financing. The ultimate sign of success will be when a client places a plant order with Midrex and uses the ECA long term financing that we brought to the table. However, maybe success can also be measured on the fact that we are already tabling such proposals and facilities to our potential clients – we are performing one of the primary functions that Midrex UK was set up for.

Midrex UK was the first major overseas location that was set up as a means to be closer to our clients and provide better service. The Midrex office in China is now a reality now and we expect to establish further additions to the global Midrex network. ■



MIDREX® Direct Reduction Plants 2010 OPERATIONS SUMMARY

With the world economy slowly climbing out of recession, MIDREX® Plants produced 42.0 million tons in 2010, 9.6% more than in 2009 and 5.4% more than in 2008. MIDREX Plants accounted for more than 80% of the worldwide production of natural gas based DRI. Despite slow demand and high iron ore prices, plants continued to establish new production records (13 annual and 14 monthly production records), and seven plants came within 5% of their record annual production values. Sixteen MIDREX® Modules operated in excess of 8000 hours.

Iron ore raw material prices rebounded in 2010 to more than double the 2009 price levels and were higher than the inflated 2008 price levels due to the increased demand worldwide. At the end of 2010 there were continued upward price pressures and shortages of pellets. ArcelorMittal's Module 2 in Canada remained shut down the whole year, whereas ArcelorMittal's Module 1 in Trinidad restarted production in April. In 2010, Essar Steel started up their sixth module in Hazira, India, and Hormozgan Steel, IMPADCO, and Khorasan Steel started up their respective plants in Iran. MIDREX Plants have produced more than 640 million tons of DRI/HBI through the end of 2010.

ACINDAR

ACINDAR's MIDREX Plant operated with their 90-tube parallel reformer off-line for the whole year, limited by the demand for DRI and the high price of iron ore.

Antara Steel Mills

The first MIDREX Plant designed to make HBI produced over rated capacity in 2010, marking a recovery from depressed 2009 production levels.

ArcelorMittal Hamburg

AM Hamburg's MIDREX Plant exceeded annual rated capacity in 2010 after restarting production in June 2009.

ArcelorMittal Lazaro Cardenas

AMLC ramped up production throughout 2010 and averaged 26% over its rated capacity for the year. Having produced just over 20 million tons of DRI in their 13.5 years of operation, with a plant rated for 1.2 million tons per year AMLC has averaged over 1.5 million tons per year over this period despite the 2009 downturn.



ACINDAR



Antara Steel Mills



ArcelorMittal Hamburg



ArcelorMittal Lazaro Cardenas



ArcelorMittal Montreal

After operating below rated capacity for most of 2009, Module 1 set a new monthly production record in January and a new annual production record in 2010. Module 2 remained down the whole year.

ArcelorMittal Point Lisas

Thirty years after its initial start-up, and after being down for the whole of 2009, AMPL's Module I restarted production in April 2010. Production was constrained by demand and the availability and high price of iron ore. Module II's production for the year was within 3% of their annual production record.

ArcelorMittal South Africa (Saldanha Works)

Saldanha's COREX Export Gas-based DR Plant operated at reduced capacity throughout the year, and averaged 67% lump ore usage for the year.

COMSIGUA

COMSIGUA operated at reduced capacity due to a shortage of locally produced pellets, and electric power restrictions in Venezuela during the first part of the year.

Delta Steel

The two Delta Steel modules did not operate in 2010.

DRIC

DRIC's two modules located in Dammam, Saudi Arabia, operated below capacity due to lack of available oxide feed. Module 1 established a new monthly production record in December, and both modules established new annual production records.

Essar Steel

Twenty years after the startup of their first two MIDREX Modules, Essar started up during the month of November their sixth MIDREX Module, designed to produce cold DRI. In 2010, Essar Steel's five Hot Discharge Modules produced 4 million



Essar Steel Module V



ArcelorMittal South Africa (Saldanha Works)



EZDK

tons, of which 67% was charged hot to Essar Steel's EAFs.

EZDK

EZDK's three modules exceeded rated capacity, produced over 2.8 million tons of DRI, and averaged over 8000 hours of operation for the year. Module II set a new monthly production record in October. Ten years after the startup of their third Module EZDK's three modules surpassed the 40 million ton mark in 2010.

Ferrominera Orinoco

In its 20th anniversary year since restarting as a MIDREX Plant, Ferrominera Orinoco's HBI producing facility in Puerto Ordaz, Venezuela was restrained by government-mandated electricity rationing and oxide pellet availability.



Hadeed

Hadeed exceeded rated capacity for the 26th consecutive year in Modules A and B, and for the 18th consecutive year in Module C. All three modules operated over 8000 hours despite shutdowns for major maintenance. Module E, with a capacity to produce 1.76 million tons per year, again set a new annual production record in its third full year of operation, and in March established a new monthly production record of 174,600 tons.

Ispat Industries, Ltd

Despite being down 50 days towards the year end for the transition period from Ispat Industries Ltd to JSW Ispat Industries Ltd, IIL comfortably exceeded rated capacity in 2010. IIL used over 10% blast furnace pellets in their oxide feed mix.

Khuzestan Steel

Khuzestan Steel's fifth module established new annual and monthly production records in 2010. The other four modules exceeded rated capacity again in 2010 for the eighth consecutive year, with Module I and III setting new annual production records, and Modules I and II setting new monthly production records. Khuzestan Steel has produced over 30 million tons of DRI since 1989.

Lebedinsky GOK

Lebedinsky GOK's second DR module, capable of producing 1.4 million tons of HBI, established a new annual production record in its third full year of operation.

Lion DRI

In its second full year of production, the Lion DRI plant located in Malaysia established a new annual production record. In 2010 the production of HDRI was over 89% of the tons produced, with the balance being HBI.

LISCO

On the 20th anniversary of the startup of their second MIDREX Module, LISCO's three modules operated below their rated capacity due to market conditions.

Mobarakeh Steel

All six of Mobarakeh's modules operated over rated capacity, averaging 8288 hours of operational availability, and produced a total of over 5.2 million tons of DRI in 2010. Module F (in its fourth year of production) and Modules A and B established new



Hadeed



LGOK



Lion DRI

annual and monthly production records. Since 1992 Mobarakeh has produced over 59 million tons of DRI from their six modules.



Nu-Iron

In its fourth full year of operation, Nucor Corporation's MIDREX Plant in Trinidad ramped up production after the world economic slowdown but produced below rated capacity. Average metallization of the DRI produced was 96.5%, with 3.0% carbon.

OEMK

With its four modules operating on average over 8100 hours in the year, OEMK again produced over 2.4 million tons in 2010. Module III set a new monthly production record in January, and Module I set a new monthly production record in December reaching a production rate of 106 t/h after a plant expansion in August. All four modules operated within 2.5% of their annual production records.

Qatar Steel

In its third full year of operation, Qatar Steel's dual product (CDRI and HBI) Module 2 set a new monthly production record in October, reaching an average 210 t/h for the month. Most of the production for the year was CDRI. In 2011 Qatar Steel reached the 20 million tons of DRI mark from its first module which started up in August 1978.

Sidor

Production from all four of Sidor's MIDREX Modules was limited to 2.0 million tons in 2010, mainly due to a government-mandated electricity curtailment. Sidor's four MIDREX Modules have produced over 64 million tons since initial startup.

TenarisSiderca

TenarisSiderca's production in 2010 recovered significantly from their 2009 depressed levels, but was limited by the demand for DRI and the high price of iron ore.

VENPRECAR

In its 20th anniversary year, VENPRECAR's production was significantly restricted by the limited availability of locally produced pellets and the electric power curtailment in Venezuela.



OEMK



Qatar Steel



Sidor



MIDREX News & Views

Jindal Shadeed plant dedicated to the Nation of the Sultanate of Oman

The recently commissioned MIDREX® HOTLINK® Plant in Oman, Jindal Shadeed, has been dedicated to the Nation of the Sultanate of Oman, by H.E. Sheikh Sa'ad Bin Mohammed bin Said al Mardhouf al Sa'adi, Honorable Minister of Commerce and Industry, Sultanate of Oman at an event held here in late May.

The event was held in the presence of Mr. P.R. Jindal, Vice-Chairman, Jindal SAW Ltd., Mr. Naveen Jindal, Executive Vice-Chairman & Managing Director, JSPL, H.E. Seiji Morimoto Ambassador of Japan to Oman, H.E. Anil Wadhwa, Ambassador of India to Oman, H.E. Deepa Gopalan Wadhwa, Indian Ambassador to Qatar.

Jindal Shadeed is a 1.5 MTPA gas-based MIDREX® HDRI/HBI plant at Sohar Industrial Port area of Sohar, Oman that was purchased by Jindal Shadeed Iron and Steel LLC. According to JSPL, this facility will support the strong demand for steel in the Middle East and North African countries, which has a supply shortfall estimated at more than 12 million tonnes.

The plant started commercial production four months ahead of schedule in December 2010. The feat was achieved by the well co-ordinated and collective efforts of Jindal Shadeed, its contractors and sub-contractors along with the strong support of the local community and the Omani government.

JSPL has plans to expand Jindal Shadeed over the next few years. JSPL is pressing ahead with the next phase of expansion with goals of producing 2 MTPA of finished steel in the second stage and in the third phase, 4-5 MTPA of steel in the next 4-5 years time.



Jindal Shadeed plant in Oman

Jindal Steel Bolivia, Midrex to construct world's largest capacity single Direct Reduction module

Jindal Steel & Power Limited (JSPL) has announced that it will build a 2.52 million metric tonne per year natural-gas-based MIDREX® Direct Reduction Plant in Puerto Suarez, Bolivia, South America. The new MIDREX® Plant will be the largest single module to date of any direct reduction technology.

The project will feature the latest MIDREX® Shaft Furnace innovations and will have the flexibility to produce both quality Hot DRI and Hot Briquetted Iron for use in a new proposed greenfield meltshop. Ore will be supplied from Jindal's El Mutun iron ore reserves in Bolivia.



This project marks JSPL's third selection of the MIDREX® Direct Reduction Process technology for commercial DR production. In 2009, Midrex began engineering for JSPL on a 1.8 million ton per year coal gasification-based MXCOL® Direct Reduction Plant in Angul, Orissa, India. The MXCOL plant pairs a 7.15 meter MIDREX® Shaft Furnace with available gasification technology from Lurgi GmbH of Germany, to produce direct reduced iron (DRI) for use in meltshop applications. In 2010, JSPL purchased the former Shadeed MIDREX® HOTLINK® plant in Oman. Renamed Jindal Shadeed, the plant was commissioned and began producing HBI in 2010.



MIDREX News & Views

Midrex launches Midrex Shanghai Office to serve China

Midrex Technologies, Inc. has announced the opening of a new office located in Shanghai to serve the growing Chinese iron and steel industry. Known officially as Midrex Metallurgy Technology Services (Shanghai) Ltd., the company will promote and sell MXCOL® Direct Reduction Technology and other ironmaking technology solutions throughout China.

“China now accounts for nearly 50 percent of global steel output and we are excited to set up this new Midrex office to serve the growing Chinese steel market,” said James D. McClaskey, president & CEO of Midrex Technologies, Inc. “Midrex’s innovative ironmaking technologies, such as the coal-based MXCOL®, are ideally suited to provide high quality iron for Chinese steelmakers. Continued growth in emerging markets creates a need for direct reduced iron (DRI) and other iron products from Midrex’s technologies.”

The new Shanghai-based office will work with the leading Chinese steelmakers to bring them the benefits of Midrex’s cutting-edge technologies and expertise that has spanned the globe over the past 40 years.

“We are excited about the possibilities in China” said Jeffrey McEneny, General Manager of Midrex Metallurgy Technology Services (Shanghai) Ltd. “Steelmakers in the Middle East/North Africa, Russia, India, Southeast Asia, and elsewhere are profiting from Midrex’s technologies and we believe China will prove to be an excellent market as well.”

Midrex Metallurgy Technology Services (Shanghai) Ltd. is located at 1505 Park Place on Nan Jing West Road and will be staffed by a local Chinese staff with additional personnel from Midrex’s main office in the USA. The opening of the office continues the expansion of Midrex’s global presence. The company now has offices or representatives in London, Venezuela, Russia, Australia, and will be adding to that list this year.





MIDREX News & Views

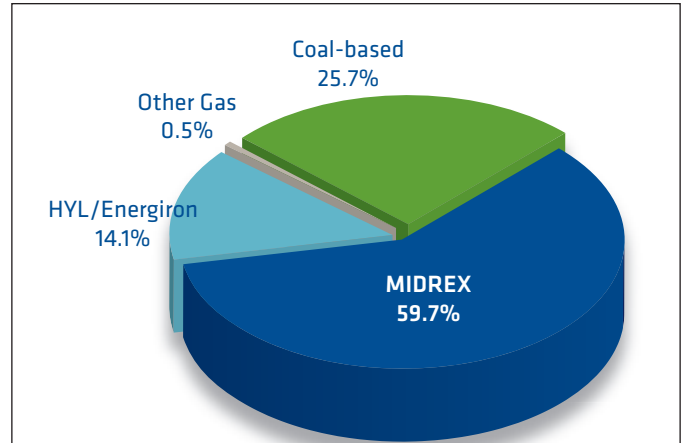
DRI production in 2010 sets new record of 70.4 million tons

The overall total World DRI production in 2010 topped more than 70.4 million tons and set a new record for the industry. Complete world DRI statistics can be downloaded as a printable pdf from www.midrex.com. According to 2010 data compiled, in the last four months of the year, world DRI output averaged 105% of the prior best production rate (summer of 2008); meanwhile, the non-China blast furnace ironmaking industry continued to languish, operating at 85-90% of its prior best.

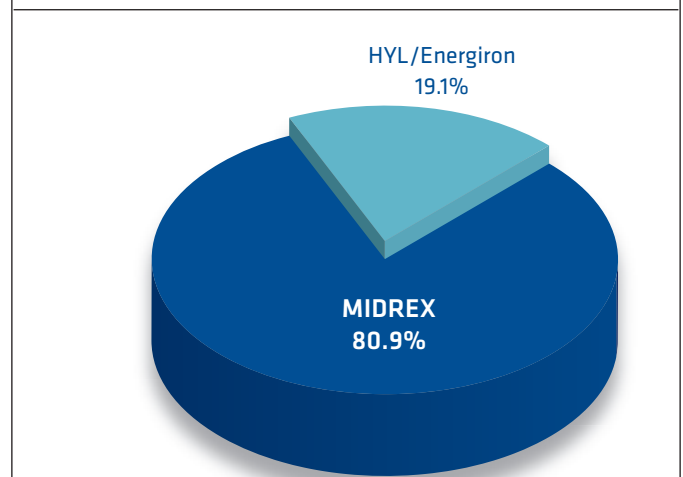
In the natural gas fueled sector of the industry, by January 1st of 2011 there were 60 Midrex® Direct Reduction Plants in operation, which had produced over 42 million tons in 2010, 15 Hyl/Energiron modules that produced 9.9 million tons and one Finmet facility which made over three hundred thousand tons.

The coal-based rotary kiln sector operated between 350 and 400 units, almost all of them in India, and with a few in South Africa and in Peru. Their production is estimated to have been about 18.1 million tons. After having averaged over 25% growth year-on-year for seven years (2002-2008, inclusive), this was the second year in a row that the growth of coal-based rotary kilns fell below 5%.

The number one nation for DR ironmaking was again India as it has been every year since 2003. India's DRI production was 23.4 million tons, of which 17.3 million tons were made in rotary kilns. Second place was again taken by Iran (which led all nations in natural gas based DRI production) with 9.4 million tons. The next three were Saudi Arabia, Mexico and Russia with 5.5 million tons, 5.4 million tons and 4.8 million tons respectively. Venezuela, which was in first place as recently as 2002 and which made almost nine million tons in 2005, suffered a decline to less than 3.8 million tons, leaving over five million tons of operable capacity unused.



2010 World DRI Production by Process
Total World Production: 70.4 Mt



2010 World Shaft Furnace Production by Process
Total World Production: 51.9 Mt

FORCES AFFECTING THE INDUSTRY

With most of the DR plants being in economies that had already recovered from the Financial Crisis of 2008-2009, the major force on the direct reduction industry was the ever rising cost of its main raw material, iron ore. Fines (63.5% Fe) from India were selling, fob Indian port, at about \$80/t in December of 2009, but by April 2010 had risen to \$162/t. Including freight to reach their main destination, the ports in eastern China, prices reached \$186/t, CIF (delivered). After April, prices slumped slightly, but by December 2010 were back to their highest levels ever. For a long term comparison, these same iron ore fines were selling for \$13/t to \$16/t (fob) as recently as 1999, only eleven years earlier. The increase has been more than ten-to-one.



MIDREX News & Views

The NEW IRON AGE: A blog for the metalics industry

THE NEW IRON TIMES Blog

The iron and steel industry is continually evolving. Trends are constantly in motion and in a digital cyber age we have more access to communication portholes. Because of this continual flux, and our ability to comment on it, Midrex has introduced a new blog, “The New Iron Times” to comment on the industry in a timely manner.

Midrex will use this blog to bring to you our observations on the latest trends in raw materials and technology, as well as report on industry conferences worldwide. Please visit www.midrex.com and check back often to see our latest posts. If you have suggestions for topics, please e-mail Cravenscroft@midrex.com with the subject line “Iron Times.”



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