MIDREX® PLANTS

SINCE 1969, THERE HAVE BEEN NEARLY 100 MIDREX® SHAFT FURNACE DIRECT REDUCTION MODULES BUILT IN 21 COUNTRIES WORLDWIDE.

MIDREX® Plants are able to perform reliably at or above rated capacity in climates that range from the dry, sandy heat of Saudi Arabia to the frigid cold of Canada and Russia. To date only three MIDREX® Modules have ever been decommissioned, the two small demonstration plants commissioned in Portland, Oregon in 1969 and the first full sized commercial scale plant commissioned in Georgetown, South Carolina, USA in 1971. Much of the equipment from the Georgetown facility remains in operation at sister plants operated by the same owner. The following is a partial list of reference plants.*

Plant	Location	Design Capacity (Mt/y)	Shaft Furnace Modules	Product	Start-up
MIDREX® PROCESS					
Oregon Steel Mills 1 Pilot Plant[1]	Portland, Oregon, USA	0.08	1	CDRI	'69
Oregon Steel Mills 2 Pilot Plant[1]	Portland, Oregon, USA	0.08	1	CDRI	'69
ArcelorMittal Georgetown[2]	South Carolina, USA	0.40	1	CDRI	'71
ArcelorMittal Hamburg	Hamburg, Germany	0.40	1	CDRI	'71
ArcelorMittal Montreal 1	Contrecoeur, Quebec, Canada	0.40	1	CDRI	'73
TenarisSiderca	Campana, Argentina	0.40	1	CDRI	'76
ArcelorMittal Montreal 2	Contrecoeur, Quebec, Canada	0.60	1	CDRI	'77
SIDOR I	Matanzas, Venezuela	0.35	1	CDRI	'77
Acindar[3]	Villa Constitucion, Argentina	0.60	1	CDRI	'78
Qatar Steel I	Mesaieed, Qatar	0.40	1	CDRI	'78
SIDOR II	Matanzas, Venezuela	1.29	3	CDRI	'79
ArcelorMittal Point Lisas I & II	Point Lisas, Trinidad & Tobago	0.84	2	CDRI	'80/'82
Global Steel Holdings	Warri, Nigeria	1.02	2	CDRI	'82
Hadeed A & B	Al-Jubail, Saudi Arabia	0.80	2	CDRI	'82/'83
OEMK I - IV	Stary Oskol, Russia	1.67	4	CDRI	'83/'85/'85/'87
Antara Steel Mills	Labuan Island, Malaysia	0.65	1	HBI	'84
EZDK I	El Dikheila, Egypt	0.72	1	CDRI	'86
LISCO 1 & 2	Misurata, Libya	1.10	2	CDRI	'89/'90
Essar Steel I & II	Hazira, India	0.88	2	HBI/HDRI	'90
FMO	Puerto Ordaz, Venezuela	1.00	1	HBI	'90
VENPRECAR	Matanzas, Venezuela	0.82	1	HBI	'90
Essar Steel III	Hazira, India	0.44	1	HBI/HDRI	'92
Hadeed C	Al-Jubail, Saudi Arabia	0.65	1	CDRI	'92
JSW Dolvi Works	Raigad, India	1.00	1	CDRI	'94
EZDK II	El Dikheila, Egypt	0.80	1	CDRI	'97
LISCO 3	Misurata, Libya	0.65	1	HBI	'97
ArcelorMittal Lázaro Cárdenas	Lázaro Cárdenas, Mexico	1.20	1	CDRI	'97
COMSIGUA	Matanzas, Venezuela	1.00	1	HBI	'98
ArcelorMittal Point Lisas III	Point Lisas, Trinidad & Tobago	1.36	1	CDRI	'99
ArcelorMittal South Africa[4]	Saldanha Bay, South Africa	0.80	1	CDRI	'99
EZDK III	El Dikheila, Egypt	0.80	1	CDRI	'00
Essar Steel IV	Hazira, India	1.00	1	HBI/HDRI	'04
Nu-Iron[5]	Point Lisas, Trinidad & Tobago	1.60	1	CDRI	'06
Essar Steel V	Hazira, India	1.50	1	HBI/HDRI	'06
DRIC I & II[6]	Dammam, Saudi Arabia	1.00	2	CDRI	'07
Hadeed E[7]	Al-Jubail, Saudi Arabia	1.76	1	HDRI/CDRI	'07
LGOK II[8]	Gubkin, Russia	1.40	1	HBI	'07
Qatar Steel II	Mesaieed, Qatar	1.50	1	CDRI/HBI	'07
Lion DRI	Banting, Malaysia	1.54	1	HDRI/HBI	'08
Essar Steel VI	Hazira, India	1.50	1	CDRI	'10
Jindal Shadeed	Sohar, Oman	1.50	1	HDRI/HBI	'11

MIDREX® PLANTS

Plant	Location	Design Capacity (Mt/y)	Shaft Furnace Modules	Product	Start-up
MIDREX® PROCESS *(Continued)*					
Tuwairqi Steel Mills	Karachi, Pakistan	1.28	1	HDRI/CDRI	'13
SULB	Hidd, Bahrain	1.50	1	HDRI/CDRI	'13
ESISCO	Sadat City, Egypt	1.76	1	HDRI/CDRI	'14 **
Jindal Steel & Power[9]	Angul, India	1.80	1	HDRI/CDRI	'14
JSW Projects Ltd.	Toranagallu, Karnataka, India	1.20	1	HDRI/CDRI	'14 **
voestalpine Texas	Texas, USA	2.0	1	HBI	'16
LGOK 3	Gubkin, Russia	1.80	1	HBI	'17
Tosyali	Oran, Algeria	2.5	1	HDRI/CDRI	'18
AQS Algerian Qatari Steel	Bellara, Algeria	2.5	1	HDRI/CDRI	'19
Cleveland-Cliffs HBI Plant	Toledo, Ohio	1.60	1	HBI	'20

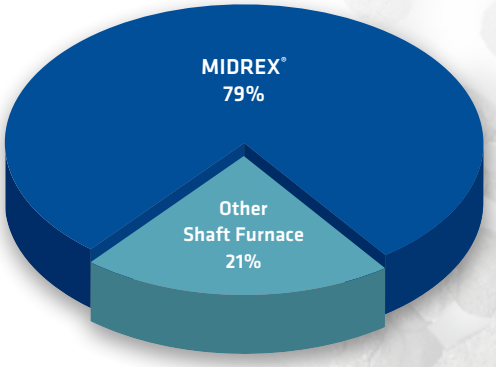
FOOTNOTES

1. Original demonstration plants built for Oregon Steel Mills used to develop the MIDREX® Process. Ceased operating after the cost of natural gas to the plants rose to more than ten times the original cost.
2. Facility idled after its natural gas supply rose to eight times original cost. Parent company sold facility as it was about to restart; new owners relocated main process equipment to support their more strategically located MIDREX® Plants.
3. Record holder for most cumulative production from a single Direct Reduction module, producing more than 25 million tons to date.
4. 1st commercial COREX®/MXCOL® Plant
5. Original module first built in the 1990s in the USA as the 1.2 mtpy AIR plant. Idled due to low industry demand and record high natural gas prices in North America. It was moved to Trinidad & Tobago in 2005 and expanded by Midrex Technologies Inc. to new a new design capacity of 1.6 mtpy.
6. Original modules first built in the 1970s in the UK and moved to USA in the late 1990s, then dismantled and moved again to Saudi Arabia in 2005-2006.
7. Largest producing DRI module currently in operation. First single DRI module ever to produce more than 2 million tons of DRI in a single calendar year.
8. Largest HBI Shaft Furnace Module in Production
9. 1st commercial MXCOL® Plant using coal gasifier

* There are additional MIDREX® Plants licensed by Kobe Steel, Ltd. of Japan

** Client's projected date of start up as of 1Q 2014

2017 World Shaft Furnace Production by Process



Total World Production: 71.4 Mt

	2015	2016	2017
MIDREX®	79.7%	78.8%	79.0%
Other	20.3%	21.2%	21.0%

Source: Midrex Technologies, Inc.