



2025

WORLD DIRECT REDUCTION STATISTICS

MIDREX

THE WORLD LEADER
IN DIRECT REDUCTION
TECHNOLOGY



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Audited by





World DRI Production Reaches 151.0 Mt in 2025

Sets a fifth straight annual production record

Annual global direct reduced iron (DRI) production reached 151.0 million tons (Mt) in 2025, up 10.2 Mt (7.2%) from the previous record of 140.8 Mt set in 2024. Growth was led primarily by rotary kiln-based production in India, which increased by 4.5 Mt (9.8%), while gas-based shaft furnace output rose by 5.8 Mt (6.1%). Together, India and Iran accounted for more than 63% of global DRI production, with year-on-year increases of 7.4% and 9.0%, respectively. New natural gas-based capacity came online in Bolivia, and continued expansion supported growth in Algeria, India and Iran.

2025 Top 5 DRI Producing Nations

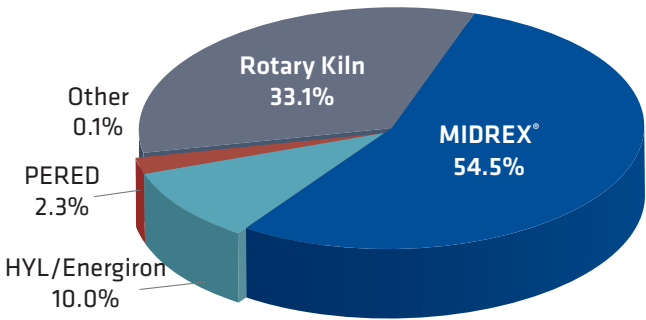
COUNTRY	PRODUCTION (Million Tons)
India	58.8
Iran	37.2
Russia	8.2
Algeria	6.7
Saudi Arabia	6.6

Source: World Steel Association, SIMA, and Midrex Technologies, Inc.

Since 2020, worldwide DRI output has grown by 46.2 million tons per annum (Mta), or approximately 44.0%. Over the same period, natural gas-based DRI production grew by 21.8 Mta / 27.5% and coal-based rotary kiln DRI production (in India and South Africa) increased by nearly 24.6 Mta / 97.4%. In the last decade, DRI production has grown by 78.4 Mta, or approximately 107.9%, or a compounded annual growth rate of 7.6%. Over those 10 years, shaft furnace production increased by 43.5 Mta / 75.8% (CAGR 5.8%), and rotary kiln production increased by 35.3 Mta / 239.3% (CAGR 13.0%).

(Continued on page 3)

2025 World DRI Production by Process



Total World Production: 151.0 Mt

	2023	2024	2025
MIDREX®	55.8%	54.1%	54.5%
HYL/Energiron	12.2%	11.1%	10.0%
PERED	2.3%	2.3%	2.3%
Other	0.1%	0.1%	0.1%
Rotary Kiln	29.6%	32.4%	33.1%

Source: Midrex Technologies, Inc.

Note: Percentages are rounded to the nearest decimal.

The production of hot DRI (HDRI), which is fed directly to a nearby melt shop for energy savings and productivity gains, was 20.6 Mt, a 21.4% increase compared to 2024, and made up 13.6% of the total DRI produced in 2025. The production of hot briquetted iron (HBI) – a compacted form of DRI ideally suited for shipping to Electric Arc Furnaces and Blast Furnaces – is estimated to have been 11.6 Mt, a 4.1% increase over 2024. HBI makes up 7.7% of all DRI produced.

The total DR production for 2025 was calculated using gas-based operations outside Iran and Russia, rotary kiln production in India reported by SIMA, and data reported by the World Steel Association. MIDREX® Plants produced 82.3 Mt of DRI in 2025, which is 8.0% more than the 76.2 Mt produced in 2024, both annual records. The MIDREX® Process accounted for 54.5% of total DRI produced, and 81.5% of the DRI produced in shaft furnaces. Approximately 16.7 Mt of HDRI and 10.5 Mt of HBI were produced by MIDREX Plants in this period, representing 80.9% and 90.1% of HDRI and HBI annual production, respectively.

Natural gas is generally the main source of reducing gas in shaft furnace-based processes, and DRI produced using natural gas has significantly lower CO₂ emissions than DRI produced using coal directly in rotary kilns, or indirectly in shaft furnaces using coke-oven gas, COREX® gas, or coal gasification. For plants using a combination, DRI production is pro-rated on an energy basis. In 2025, approximately 65.1% of the DRI produced was natural gas-based (i.e. low CO₂ DRI), whereas the balance, 34.9%, was coal-based (i.e., high CO₂ DRI). The proportion of low CO₂ DRI has steadily decreased in the last 5 years due to the faster growth in DRI produced in India via rotary kilns.

Since 1970, the cumulative production of DRI is 2.6 billion tons (Bt), of which shaft furnaces have produced 2.02 Bt. The cumulative production of HBI is 263 Mt and of HDRI is 202 Mt. Through the end of 2025, MIDREX Plants have produced a cumulative total of approximately 1.5 Bt of all forms of DRI (Cold DRI or CDRI, HDRI, and HBI).



BEHIND THE NUMBERS

DRI production is strongly influenced by steel demand, iron ore pricing and availability, and energy cost. Iron ore is traded globally against benchmark indices, while delivered costs to individual DR plants are strongly influenced by product quality, premiums, and logistics; captive mine supply can alter that cost structure. Natural gas and coal provide the reducing agent and energy required by the DRI process and often account for some of the largest production cost differences between plants. The impact of these drivers varies significantly by region and technology type (i.e., gas- or coal-based production). This publication highlights the global and regional trends most relevant to DRI production.

Crude Steel Production

Crude steel production remains a key proxy for steel demand. Worldsteel reported crude steel production for the 70 reporting countries at 1,803.8 Mt in 2025, a 2.0% decrease compared with 2024. The decline was led by lower output in Asia and Oceania, particularly China, while India continued to grow and the United States posted a modest increase. The overall result reflected continued softness in construction-related demand, uneven manufacturing activity, trade uncertainty, and ongoing margin pressure at steel mills. DRI demand does not always move in lockstep with total crude steel output: EAF capacity growth, scrap availability and quality, and decarbonization initiatives can support demand for ore-based metallics even when overall steel production is soft. Growth in the Middle East, North America, and Africa partially offset declines in Asia and Oceania, the EU (27), Russia & other CIS + Ukraine, and South America.

Demand for DRI-based steelmaking remained comparatively resilient, supported by the continued use of ore-based metallics in EAF operations and decarbonization-related planning. However, weaker steel pricing, uneven utilization, and regional trade pressures continued to weigh on margins throughout the year.

THE TOP 5 STEEL PRODUCING NATIONS IN 2025:

China:	960.8 Mt	(down 4.4% from 2024)
India:	164.9 Mt	(up 10.4% from 2024)
USA:	82.0 Mt	(up 3.1% from 2024)
Japan:	80.7 Mt	(down 4.0% from 2024)
Russia:	67.8 Mt	(down 4.5% from 2024)

The top 5 producing regions were:

1. **Asia and Oceania** produced **1,324.5 Mt**, down 2.4% from 2024. Worldsteel listed China, India, Japan, South Korea, and Vietnam among the leading producing countries in the region.
2. **The European Union (27)** produced **126.2 Mt** in 2025, down 2.6% compared with 2024. Germany, Italy, Spain, and France remained the largest producers in the region.
3. **North America** produced **107.4 Mt** in 2025, a 0.7% increase compared with 2024, led by the United States, Mexico, and Canada.
4. **Russia & Other CIS + Ukraine** production in 2025 was **81.3 Mt**, a 4.4% decrease compared with 2024.
5. The **Middle East** produced **56.9 Mt** in 2025, an increase of 4.3% compared with 2024, with Iran, Saudi Arabia, United Arab Emirates, Oman, and Iraq among the leading producing countries in the region.

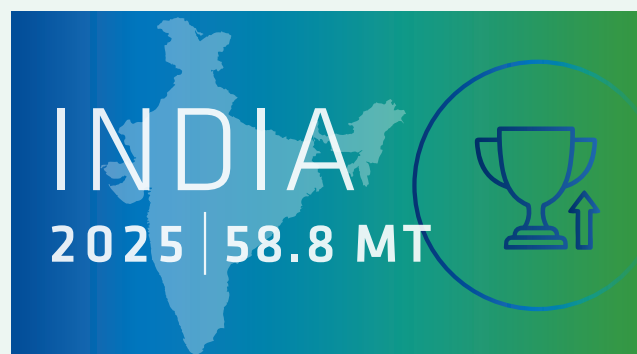
Iron Ore Supply and Pricing

For DRI producers, the most relevant pricing indicators are not lower-grade fines indices alone, but the pricing of high-grade iron ore and DR-grade pellets used for direct reduction. DR-grade pellet pricing is generally linked to high-iron, low-gangue feedstock values, plus a pellet premium that reflects product quality, availability, logistics, and regional demand.

In 2025, iron ore supply was generally stable and did not have a major impact on DR production worldwide. Sea-borne iron ore pricing remained range-bound compared

to the volatility seen in previous years. High-grade pellet premiums trended downward in the second quarter before stabilizing around first-quarter levels.

Direct Reduced Iron Production



As in previous years, India continued to be the largest DRI producer worldwide, producing a record 58.8 Mt of DRI, a 7.4% year-on-year increase according to the Sponge Iron Manufacturers Association (SIMA) of India. India's DRI production includes **49.9 Mt** from coal-based rotary kilns, an increase from 45.5 Mt in 2024, and 8.9 Mt by gas-based processes, a decrease from 9.4 Mt in 2024. Rotary kiln DRI production increased 9.8% year on year and by 24.6 Mta over five years, equivalent to a five-year CAGR of 14.6%. Coal-based DRI production in India constitutes most of the high CO₂ DRI produced worldwide in 2025.

Production of DRI in Iran was **37.2 Mt**, a 9.0% increase from 34.1 Mt in 2024. All Iranian DRI production is from natural gas-based processes. The MIDREX Process accounts for approximately 90% of DRI production in Iran, while PERED® plants produced an estimated 3.5 Mt in 2025.

Russia maintained its 3rd place standing as a DRI-producing nation with **8.2 Mt** in 2025, a 2.6% increase over its production of 8.0 Mt in 2024. All Russian DRI is produced from natural gas-based processes.

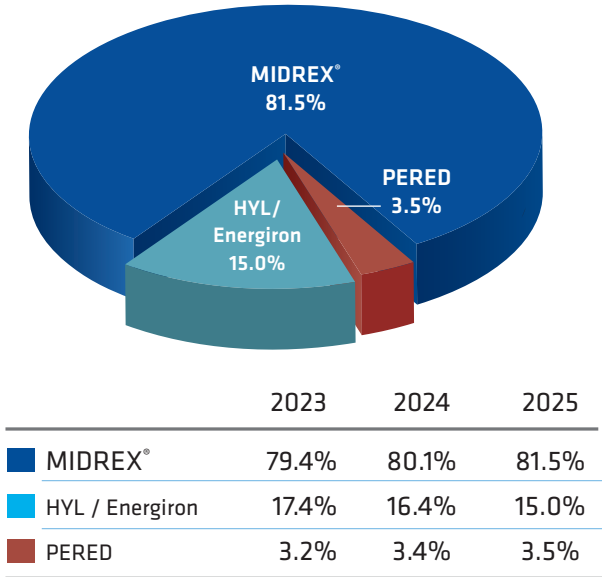
Algeria rose to 4th place with **6.7 Mt** in 2025, a 45.8% increase over 2024, reflecting the continued ramp-up of the 2nd module at Tosyali Algeria. This module produced a single-module record of 2.43 Mt in a calendar year. Algerian DRI production has more than tripled over the past five years, following the start-up of the country's first plant in 2018.

Saudi Arabia ranked 5th, producing 6.6 Mt in 2025, a 1.2% decrease from 2024.

Egypt produced 6.1 Mt in 2025, a 4.9% reduction from 2024. Mexico produced 5.2 Mt, up 10.4% year-on-year, while the U.S. produced 5.0 Mt, down 4.6% from 2024.

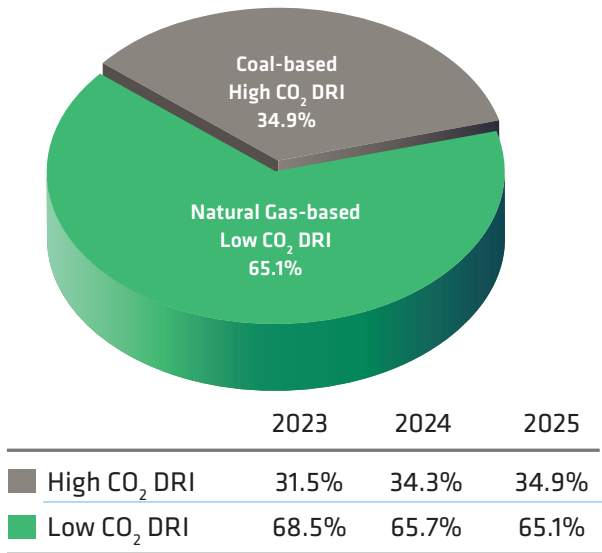
Venezuela continued to produce well below rated capacity, around 0.8 Mt.

2025 World Shaft Furnace Production by Process



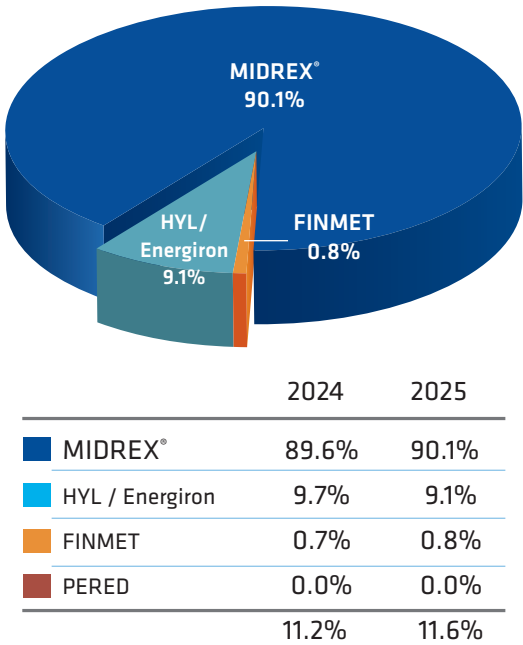
Source: Midrex Technologies, Inc.

2025 World DRI Production by CO₂ Emissions

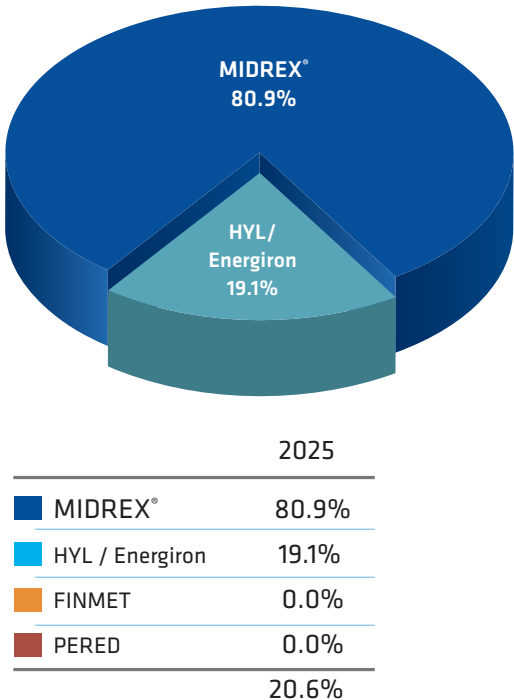


Source: Midrex Technologies, Inc.

2025 World HBI Production by Process



2025 World HDRI Production by Process





NEW CAPACITY, UNDER CONSTRUCTION, OR ANNOUNCED IN 2025

The projects listed in this section and the World Direct Reduction Plants Table include only commercial plants and omit pilot or demonstration-scale facilities. New capacity is defined as a plant that began commercial production in 2025. Plants are classified as under construction once foundation pouring or first steel erection has begun. Announced projects are included only after Final Investment Decision (FID) and exclude memoranda of understanding, pre-feasibility studies, and technology selections. Announcements made in 2026 are not included in the list of plants.

MIDREX

No new MIDREX module started operation in 2025.

As of December 2025, 2 MIDREX Plants are under active construction: Stegra in Boden, Sweden (2.1 Mta HDRI/HBI MIDREX H2™) and ThyssenKrupp in Duisburg, Germany (2.5 Mta HDRI/CDRI MIDREX Flex®). The 2.0 Mta HDRI/CDRI MIDREX Flex Plant at Dillinger, announced in 2024, carried out site preparation in 2025, and construction of the DR tower began in early 2026.

There were 11 MIDREX Plants under construction in Iran as of December 2025.

In February 2025, TOSYALI SULB Steel Industries - formed by TOSYALI and Libya United Steel Company for Iron & Steel Industry - selected SMS and Midrex Technologies for its first phase of construction in the Benghazi region of Libya. The

module will be a 2.5 Mta CDRI plant using the MIDREX Flex technology.

Midrex Technologies, Inc. announced a 2 Mta HBI plant in Kazakhstan in October 2025. This project is currently on hold.

In 2026, United States Steel Corporation announced a 2.5 Mta DRI at facility at Big River Steel Works in Osceola, Arkansas in partnership with Midrex Technologies.

HYL / ENERGIRON®

Tenova-HYL announced the successful start-up of its 0.25 Mta ENERGIRON Zero-Reformer DR Micro-Module at Empresa Siderúrgica del Mutún, in Santa Cruz, Bolivia in October 2025.

As of December 2025, 2 HYL plants are under active construction: Ternium 5M in Pesquería, Mexico (2.1 Mta HDRI HYL-ZR) and Jindal Steel Duqm in Oman (2.5 Mta HDRI HYL-ZR).

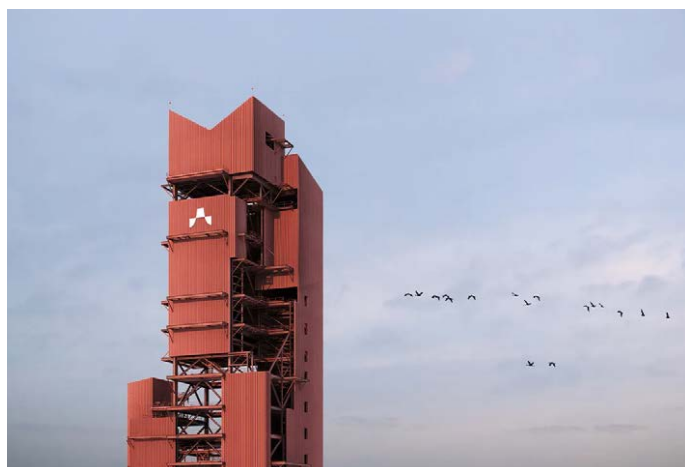
In September 2025, Jindal Steel Duqm selected Danieli to build a second hydrogen-ready plant in Duqm, Oman. This module will have a capacity of 2.5 Mta of DRI and will use ENERGIRON® Zero-Reformer technology.

In 2026, Hyundai Steel selected ENERGIRON to build a 2.5 Mta Zero-Reformer DRI plant in Donaldsonville, Louisiana, USA.

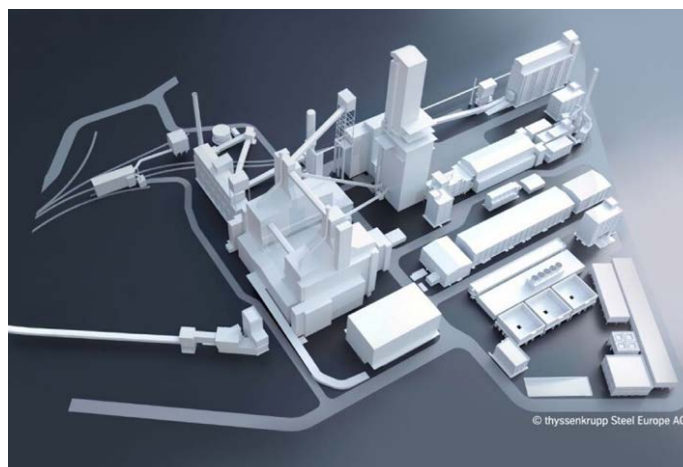
PERED

No new PERED module started operation in 2025.

As of December 2025, there are 3 PERED modules under construction: Setareh Simin Hormoz (1.7 Mta CDRI/HDRI), HOSCO no. 3 (1.7 Mta CDRI/HDRI) and Kordestan Steel (1.7 Mta CDRI).

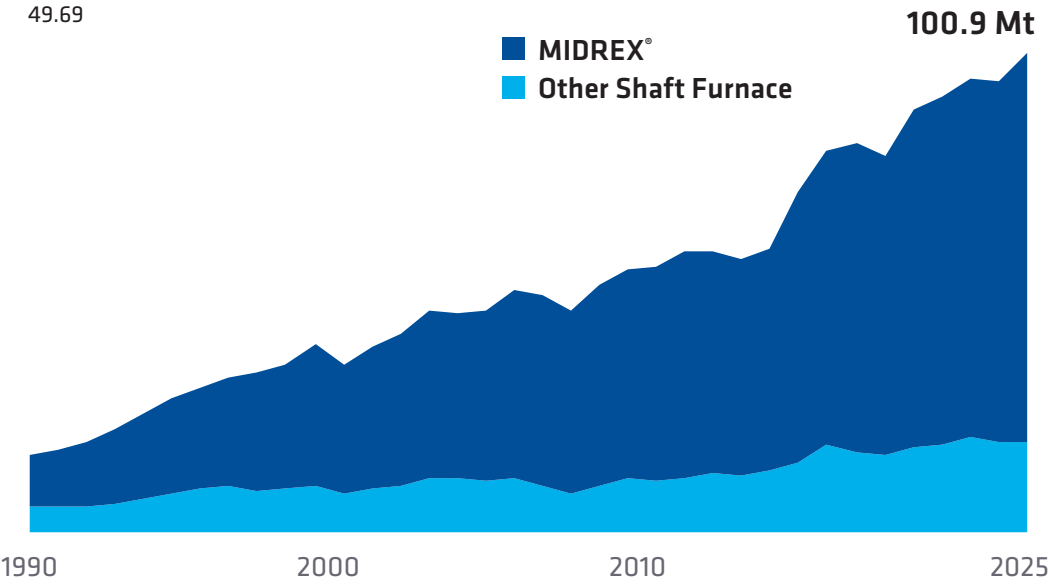


In 2025, Midrex Technologies had two plants actively under construction: Stegra in Boden, Sweden (L) and ThyssenKrupp in Duisburg, Germany (R).

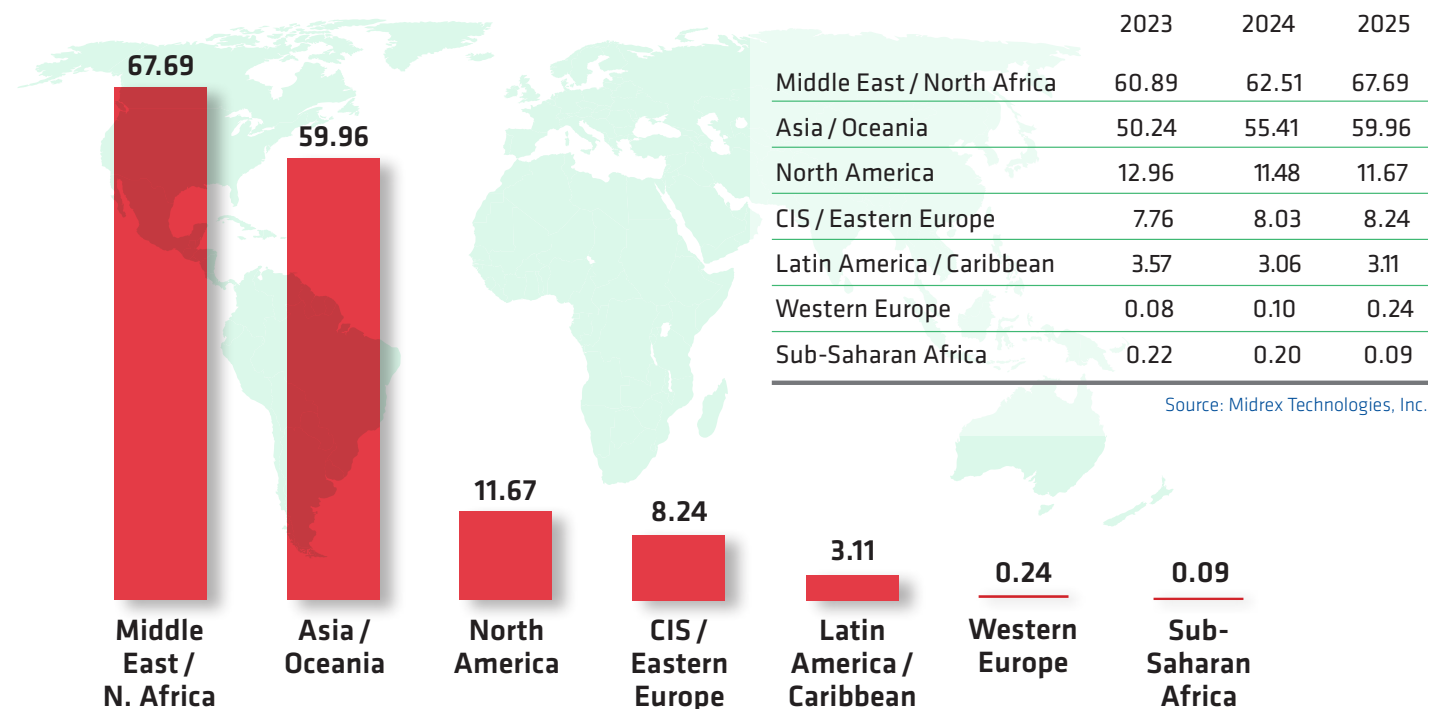


Shaft Furnace DRI Production by Process and by Year

Year	MIDREX®	Other Shaft Furnace	Total	Year	MIDREX®	Other Shaft Furnace	Total
1990	10.73	5.25	15.98	2009	38.62	7.88	46.50
1991	11.96	5.40	17.36	2010	42.01	9.81	51.82
1992	13.26	5.29	18.55	2011	44.38	11.03	55.41
1993	15.91	5.73	21.64	2012	44.76	10.79	55.55
1994	17.83	7.01	24.84	2013	47.56	11.29	58.85
1995	19.86	8.15	28.01	2014	47.12	12.04	59.16
1996	21.03	9.12	30.15	2015	45.77	11.62	57.39
1997	23.08	9.55	32.63	2016	47.14	12.66	59.80
1998	24.82	8.52	33.34	2017	56.65	14.68	71.33
1999	26.12	8.81	34.93	2018	62.10	18.11	80.21
2000	30.12	9.39	39.51	2019	65.37	16.57	81.94
2001	26.99	8.04	35.03	2020	63.07	16.03	79.10
2002	30.11	8.88	38.99	2021	70.85	17.84	88.69
2003	32.06	9.72	41.78	2022	73.55	18.12	91.68
2004	35.01	11.34	46.35	2023	75.73	19.68	95.41
2005	34.96	11.00	45.96	2024	76.20	18.88	95.08
2006	35.71	10.91	46.62	2025	82.29	18.62	100.91
2007	39.72	11.20	50.92				
2008	39.85	9.84	49.69				

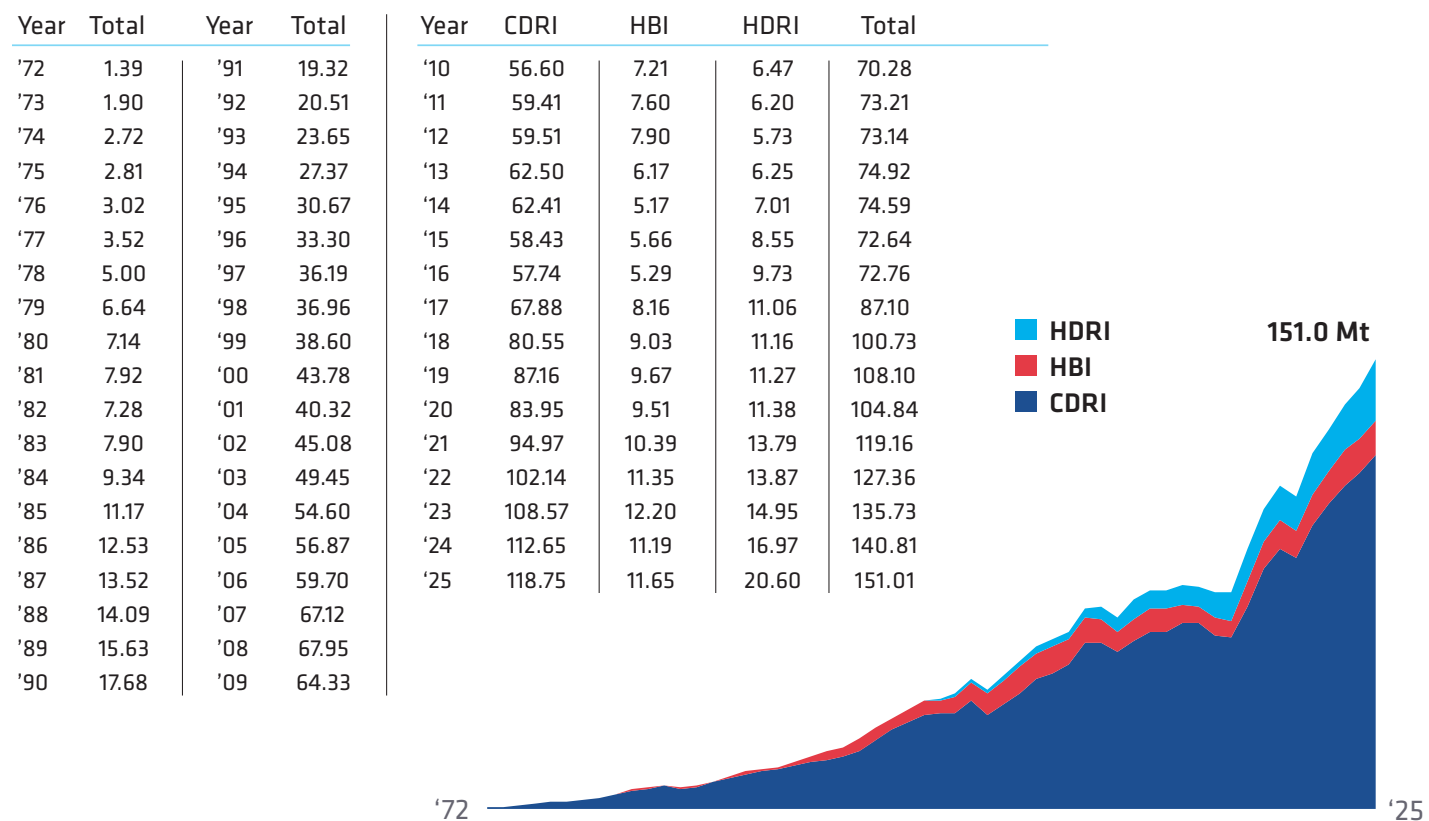


2025 World DRI Production by Region (Mt)



World DRI Production by Year (Mt)

Source: Midrex Technologies, Inc.



1970-2014 World DRI Production by Region (Mt)

Source: Midrex Technologies, Inc.

NAME	'70-'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
Latin America											
ARGENTINA	30.92	1.83	1.95	1.81	1.86	0.81	1.57	1.68	1.61	1.54	1.67
BOLIVIA	-	-	-	-	-	-	-	-	-	-	-
BRAZIL	9.14	0.43	0.38	0.36	0.30	0.01	-	-	-	-	-
PERU	1.25	0.09	0.14	0.09	0.07	0.10	0.10	0.09	0.10	0.10	0.09
TRINIDAD AND TOBAGO	23.70	2.25	2.08	3.47	2.78	1.99	3.08	3.03	3.25	3.29	3.24
VENEZUELA	104.57	8.95	8.61	7.71	6.87	5.61	3.79	4.47	4.61	2.77	1.68
Middle East/N. Africa											
ALGERIA	-	-	-	-	-	-	-	-	-	-	-
BAHRAIN	-	-	-	-	-	-	-	-	-	0.78	1.44
EGYPT	24.93	2.90	3.10	2.79	2.64	2.91	2.86	2.97	2.84	3.43	2.88
IRAN	52.68	6.85	6.85	7.44	7.46	8.20	9.35	10.37	11.58	14.46	14.55
LIBYA	15.82	1.65	1.63	1.64	1.57	1.11	1.27	0.30	0.51	0.95	1.00
OMAN	-	-	-	-	-	-	-	1.11	1.46	1.47	1.45
QATAR	14.94	0.82	0.88	1.30	1.68	2.10	2.16	2.23	2.42	2.39	2.64
SAUDI ARABIA	41.84	3.63	3.58	4.34	4.97	5.03	5.51	5.81	5.66	6.07	6.46
UAE	-	-	-	-	-	-	1.18	2.25	2.72	3.07	2.41
Asia/Oceania											
AUSTRALIA	5.91	-	-	-	-	-	-	-	-	-	-
CHINA	1.23	0.41	0.41	0.60	0.18	0.08	-	-	-	-	-
INDIA	69.14	12.04	14.74	19.06	21.20	22.03	23.42	21.97	20.05	17.77	17.31
INDONESIA	32.06	1.27	1.20	1.32	1.21	1.12	1.27	1.23	0.52	0.76	0.16
MALAYSIA	19.26	1.38	1.54	1.84	1.94	2.30	2.39	2.16	2.01	1.40	1.33
MYANMAR	0.59	-	-	-	-	-	-	-	-	-	-
PAKISTAN	-	-	-	-	-	-	-	-	-	0.06	-
North America											
CANADA	22.51	0.59	0.45	0.91	0.69	0.34	0.60	0.70	0.84	1.25	1.55
MEXICO	92.79	5.98	6.17	6.26	6.01	4.15	5.37	5.85	5.59	6.13	5.98
USA	16.49	0.22	0.24	0.25	0.26	-	-	-	-	-	1.30
CIS/Eastern Europe											
RUSSIA	36.07	3.34	3.28	3.41	4.56	4.67	4.79	5.20	5.24	5.33	5.35
Sub-Saharan Africa											
NIGERIA	1.53	-	-	0.15	0.20	-	-	-	-	-	-
SOUTH AFRICA	22.29	1.78	1.75	1.74	1.18	1.39	1.12	1.41	1.57	1.41	1.55
Western Europe											
GERMANY	10.94	0.44	0.58	0.59	0.52	0.38	0.45	0.38	0.56	0.50	0.57
Other Nations											
	0.47	-	-	-	-	-	-	-	-	-	-
WORLD TOTAL	650.93	56.87	59.70	67.12	67.95	64.33	70.28	73.21	73.14	74.92	74.59

1970-2014 World DRI Production by Process (Mt)

NAME	'70-'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
MIDREX®	410.45	34.96	35.71	39.72	39.85	38.62	42.01	44.38	44.76	47.56	47.12
HYL/Energiron	168.89	11.00	10.91	11.20	9.84	7.88	9.81	11.03	10.79	11.29	12.08
PERED	-	-	-	-	-	-	-	-	-	-	-
Rotary Kiln	53.50	9.17	11.53	14.90	16.92	17.33	18.12	17.32	17.06	15.93	15.39
Other *	18.09	1.70	1.53	1.29	1.33	0.76	0.34	0.48	0.53	0.14	-
WORLD TOTAL	650.93	56.87	59.70	67.12	67.95	64.33	70.28	73.21	73.14	74.92	74.59

* Other: A variety of processes using retorts, shaft furnaces, fluidized bed furnaces and hearths.

e - estimated

2015-2025 World DRI Production by Region (Mt)

Source: Midrex Technologies, Inc.

NAME	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25
Latin America											
ARGENTINA	1.26	0.78	1.23	1.61	1.09	0.53	1.41	1.51	1.49	1.07	0.77
BOLIVIA	-	-	-	-	-	-	-	-	-	-	0.02-e
BRAZIL	-	-	-	-	-	-	-	-	-	-	-
PERU	0.07	0.01	-	-	-	-	-	-	-	-	-
TRINIDAD AND TOBAGO	2.52	1.50	1.59	1.54	1.70	1.34	1.62	1.43	1.39	1.52	1.55
VENEZUELA	2.75	1.59	1.68	0.99	1.01	0.89	0.76	1.01	0.69	0.47	0.78
Middle East/N. Africa											
ALGERIA	-	-	-	0.11	1.54	2.23	3.08	3.88	4.17	4.60	6.70
BAHRAIN	1.23	1.26	1.26	1.60	1.45	1.38	1.51	1.42	1.62	1.53	1.65
EGYPT	2.73	2.82	4.67	5.22-e	4.05	4.71	5.23	5.82	6.42	6.37	6.06
IRAN	14.55	16.01	20.55	25.75	28.52	30.21	31.85	32.90	33.45	34.15	37.21
LIBYA	0.45	0.69	0.56	0.61	0.87	0.83	0.88	1.10	1.65	1.77	1.75
OMAN	1.48	1.46	1.51	1.50	1.75	1.73	1.70	1.82	1.60	1.95	1.88
QATAR	2.71	2.58	2.63	2.63	2.49	0.78	0.79	1.62	1.71	2.03	2.49
SAUDI ARABIA	5.80	5.89	5.74	6.00	5.79	5.19	6.13	6.48	6.68	6.65	6.57
UAE	3.19	3.48	3.61	3.78	3.67	2.96	3.66	3.45	3.59	3.48	3.38
Asia/Oceania											
AUSTRALIA	-	-	-	-	-	-	-	-	-	-	-
CHINA	-	-	-	-	-	-	-	-	-	0.25-e	0.45-e
INDIA	17.68	18.47	22.34	28.11	33.74	32.98	39.11	43.55	49.33	54.72	58.78
INDONESIA	0.05	-	-	0.24	-e	-e	-e	-e	-e	-e	-e
MALAYSIA	0.96	0.66	0.57	0.75	0.59	0.73	0.36	0.78	0.71	0.44	0.74
MYANMAR	-	-	-	-	-	-	-	-	-	-	-
PAKISTAN	-	-	-	-	-	-	-	-	-	-	-
North America											
CANADA	1.50	1.40	1.61	1.67	1.44	1.17	1.65	1.52	1.55	1.58	1.51
MEXICO	5.50	5.31	6.01	5.97e	5.97	5.17	5.83	5.84	5.92	4.69	5.18
USA	1.10	1.81	2.99	3.35	3.24	3.35	5.01	5.24	5.48	5.22	4.97
CIS/Eastern Europe											
RUSSIA	5.44	5.70	6.99	7.90e	8.03	7.93	7.89	7.66	7.76	8.03	8.24
Sub-Saharan Africa											
NIGERIA	-	-	-	-	-	-	-	-	-	-	-
SOUTH AFRICA	1.12	0.70	0.93	0.83	0.66	0.18	0.20	0.19	0.22	0.20	0.09
Western Europe											
GERMANY	0.55	0.60	0.63	0.56	0.47	0.53	0.50	0.15	0.08	0.10	0.24
Other Nations											
	-	-	-	-	-	-	-	-	-	-	-
WORLD TOTAL	72.64	72.71	87.10	100.73	108.10	104.84	119.16	127.36	135.73	140.81	151.01

2015-2025 World DRI Production by Process (Mt)

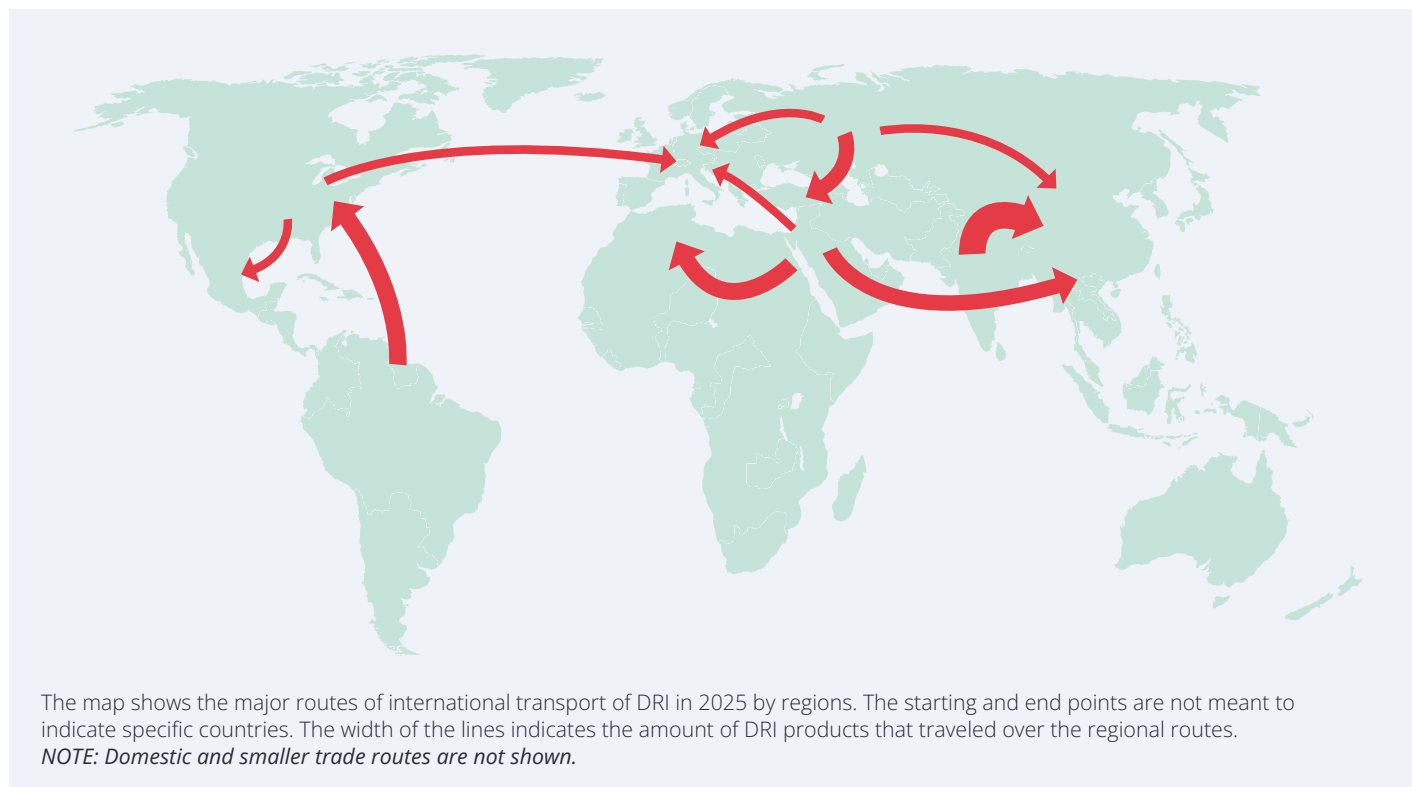
NAME	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25
MIDREX®	45.77	47.14	56.65	61.96	65.37	63.07	70.85	73.55	75.73	76.20	82.29
HYL/Energiron	11.62	12.66	14.68	15.85	14.26	12.98	15.16	15.36	16.61	15.64	15.09
PERED	-	-	**	2.40	2.31	3.05e	2.67e	2.76	3.08	3.24	3.53
Rotary Kiln	14.74	12.67	15.34	20.31	25.98	25.50	30.30	35.57	40.16	45.65	50.01
Other *	0.51	0.24	0.44	0.22	0.18	0.24	0.16	0.11	0.15	0.08	0.09
WORLD TOTAL	72.64	72.71	87.10	100.73	108.10	104.84	119.16	127.36	135.73	140.81	151.01

* Other: A variety of processes using retorts, shaft furnaces, fluidized bed furnaces and hearths.

** Included in Other

e - estimated

2025 Major Trade Routes for International Trade of DRI



MAJOR TRADE ROUTES FOR INTERNATIONAL TRADE OF DRI:

Total shipments of DRI - including both domestic and international shipments - increased to 30.4 Mt in 2025, or 6.3% more than last year, establishing a new record. Land shipments made up the majority of the total in 2025, amounting to 20.0 Mt, an 8.8% increase over the 18.4 Mt reported for 2024. Water shipments showed a 1.9% increase compared to 2024, totaling 10.5 Mt.

International trade routes were estimated from trade data to be 10.8 Mt, a decrease from 11.7 Mt in 2024. Accounting for missing data from sanctioned countries, international DRI trade was more likely around 13.2 Mt in 2025, a slight decrease from the 13.3 Mt estimated in 2024.

Importing Region								Total Mt
Exporting Region	MENA	Asia/ Oceania	Latin America	CIS/ E. Europe	North America	Sub-Saharan Africa	Western Europe	
MENA	1.53	0.99	-	-	-	-	0.43	2.95
Asia/Oceania	0.19	2.30	-	-	-	0.00	-	2.49
Latin America	0.08	0.01	-	-	1.54	-	0.61	2.23
CIS/Eastern Europe	0.98	0.45	-	0.05	-	-	0.53	2.02
North America	0.20	-	-	-	0.25	-	0.49	0.94
Sub-Saharan Africa	-	0.06	-	-	-	0.02	-	0.07
Western Europe	-	-	-	-	0.00	-	0.11	0.11
Total Mt	2.99	3.81	-	0.05	1.79	0.02	2.17	
Grand Total								10.8

Note: Regional Trade showing "0.00" indicates trades of less than 10,000 tons. Absence of regional trades is listed as "-"

2025 Major Trade Routes for International Trade of DRI

SUPPLIERS

According to data filtered from ISSB, 12 countries represented the majority of exported DRI (excluding re-exporting countries).

Russia remained the leading exporter with more than 2.0 Mt of DRI products, shipping predominantly HBI to Asia and Western Europe. As in prior years, Russian HBI exports are likely underreported or misreported based on the discrepancy between production and trade, estimated to be in the range of 2.4 Mt. The main destinations for Russian HBI in 2025 were Türkiye, the United Arab Emirates, Europe (primarily Italy), and India.

India's exports of coal-based DRI continued to rise, reaching 1.6 Mt in 2025, mostly to regional markets in Nepal and Bangladesh.

The remaining three countries in the top five were Trinidad and Tobago, Iran and the USA.

DESTINATIONS

According to data filtered from ISSB, 19 countries imported significant quantities of DRI/HBI (including re-exporting countries, but not final destinations).

The top five importers were USA (1.5 Mt), Türkiye (1.5 Mt), India (1.2 Mt), Nepal (1.2 Mt) and Italy (1.0 Mt).

India imported most of its DRI/HBI from Middle Eastern countries and Russia, indicating that India imports gas-based DRI and exports coal-based DRI. China imported significantly smaller amounts of DRI in 2025 than in 2024, mostly from Iran; no HBI was reported as shipping from Russia to China.

OUTLOOK

Trade in DRI products in 2026 is expected to differ materially from 2025 due to conflicts and shipping restrictions affecting both iron ore and DRI products. Trade regulations, tariffs and sanctions will also have a significant impact on global trade.

Data Source

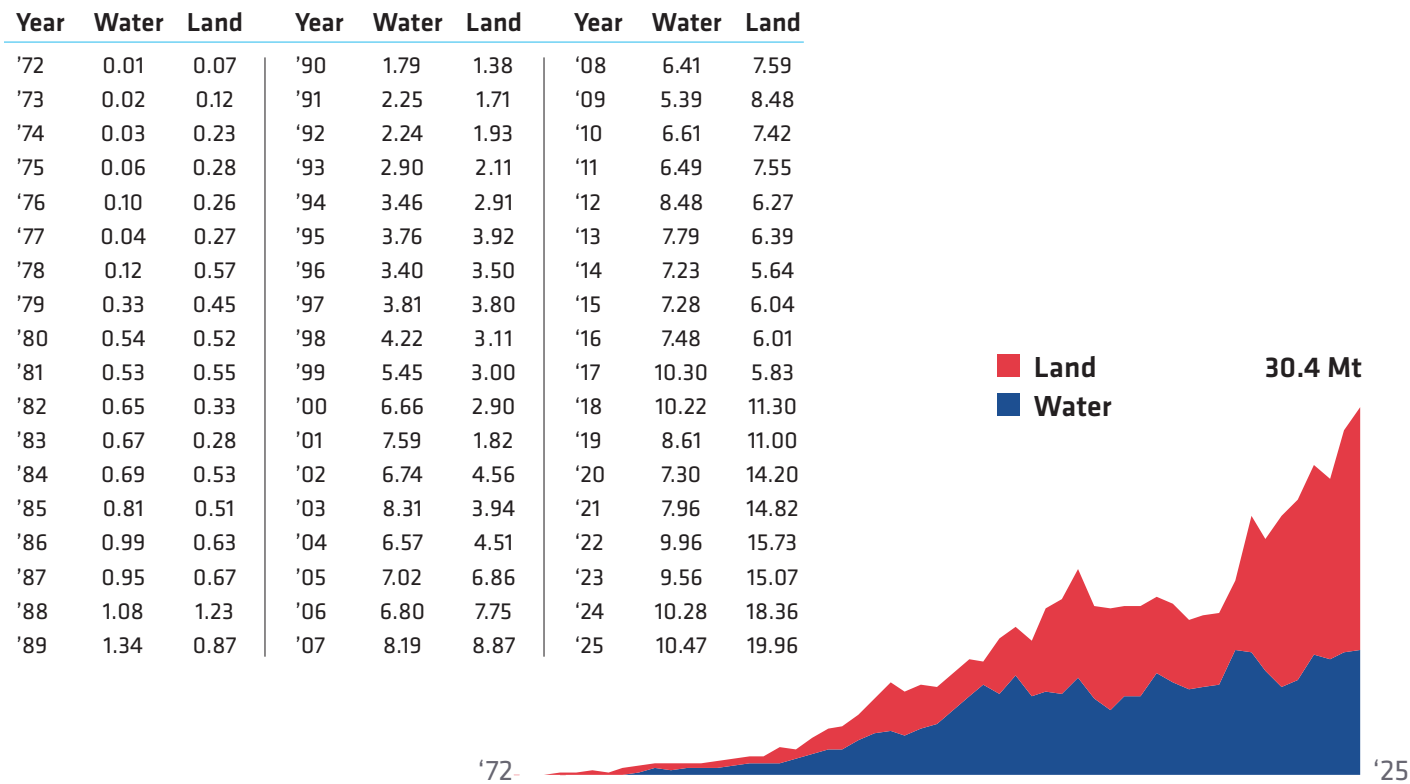
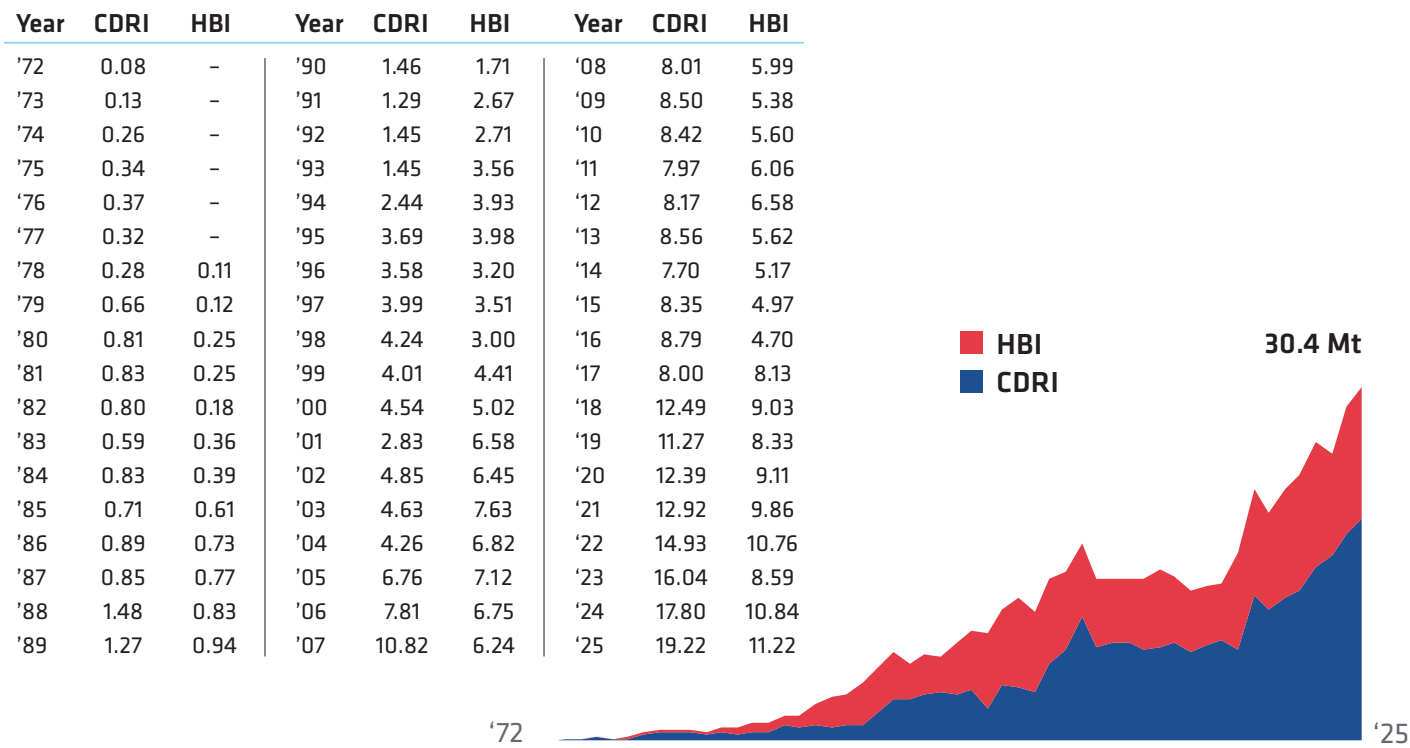
Data for the map was taken from four sources: the International Iron Metallurgical Association (IIMA), the International Steel Statistics Bureau (ISSB), the Sponge Iron Manufacturers Association (SIMA), and reports from individual operating DR plants. IIMA information derives from a variety of sources. Data from the ISSB originates with national export and import records, for instance, from the US Customs Bureau. It should be noted that a significant portion of the export data does not match the import data. Shipments to re-exporting countries are excluded to avoid double-counting. Individual plants report CDRI and HBI shipment tonnage and mode (land or water), but do not report destinations.

Footnotes:

- All references to tons are metric unless otherwise stated. Bt = Billion tons, Mt = Million tons; Mta = Million tons per annum.
- A Direct Reduction Plant can include one or more modules.
- The Russian production and trade numbers were inferred from several sources. The production figures are of a good degree of certainty. However, the amount of traded HBI is significantly lower than production.
- The list of plants includes only commercial plants that are operating, idled, or under construction (defined as process equipment installed on site). Announced projects and dismantled plants have been removed from the list. Pilot plants are not included. The World Direct Reduction Plants Table lists the original plant design capacity; some plants have higher production capacity due to upgrades, but it is not reflected in the table.
- The list of rotary kilns was removed from the 2023 publication due to lack of recent, accurate information matching the increased coal-based DRI production.

World DRI Shipments (Mt)

Source: Midrex Technologies, Inc.



Note regarding land shipments: It is estimated that about 25% of the DRI produced in India is transported domestically to nearby melting furnaces. This tonnage is included in the figures given above.

World Direct Reduction Plants (as of 12/31/25)

Source: Midrex Technologies, Inc.

Plant	Location	Capacity (Mt/y)	Modules	Product	Start-up	Status*
MIDREX®						
ArcelorMittal Hamburg	Hamburg, Germany	0.40	1	CDRI	'71	O
ArcelorMittal Canada 1	Contrecoeur, Quebec, Canada	0.40	1	CDRI	'73	O
Tenaris Siderca	Campana, Argentina	0.40	1	CDRI	'76	O
ArcelorMittal Canada 2	Contrecoeur, Quebec, Canada	0.60	1	CDRI	'77	O
SIDOR I	Matanzas, Venezuela	0.35	1	CDRI	'77	I
Acindar	Villa Constitucion, Argentina	0.60	1	CDRI	'78	O
Qatar Steel 1	Mesaieed, Qatar	0.40	1	CDRI	'78	O
SIDOR IIA, IIB, IIC	Matanzas, Venezuela	1.28	3	CDRI	'79	O
ArcelorMittal Point Lisas I & II	Point Lisas, Trinidad & Tobago	0.84	2	CDRI	'80/'82	I
Delta Steel I & II	Warri, Nigeria	1.02	2	CDRI	'82	I
Hadeed A & B	Al-Jubail, Saudi Arabia	0.80	2	CDRI	'82/'83	O
OEMK I - IV	Sary Oskol, Russia	1.66	4	CDRI	'83/'85/'85/'87	O
Antara Steel Mills	Labuan Island, Malaysia	0.65	1	HBI	'84	O
EZDK I	El Dikheila, Egypt	0.72	1	CDRI	'86	O
Khouzestan Steel Co. I - III	Ahvaz, Khuzestan, Iran	1.20	3	CDRI	'89/'90/'92	O
LISCO 1 & 2	Misurata, Libya	1.10	2	CDRI	'89/'90	O
AM/NS India I & II	Hazira, Gujarat, India	0.88	2	CDRI/HDRI	'90	O
FMO	Puerto Ordaz, Venezuela	1.00	1	HBI	'90	O
VENPRECAR	Matanzas, Venezuela	0.82	1	HBI	'90	O
AM/NS India III	Hazira, Gujarat, India	0.44	1	HBI/HDRI	'92	O
Hadeed C	Al-Jubail, Saudi Arabia	0.65	1	CDRI	'92	O
Mobarakeh Steel A - E	Mobarakeh, Istahan, Iran	3.20	5	CDRI	'92/'93/'94	O
JSW Steel Ltd.	Dolvi, Maharashtra, India	1.00	1	CDRI	'94	O
EZDK II	El Dikheila, Egypt	0.80	1	CDRI	'97	O
LISCO 3	Misurata, Libya	0.65	1	HBI	'97	O
ArcelorMittal Lázaro Cárdenas	Lázaro Cárdenas, Mexico	1.20	1	CDRI	'97	O
COMSIGUA	Matanzas, Venezuela	1.00	1	HBI	'98	O
ArcelorMittal Point Lisas III	Point Lisas, Trinidad & Tobago	1.36	1	CDRI	'99	I
ArcelorMittal South Africa	Saldanha Bay, South Africa	0.80	1	CDRI	'99	I
EZDK III	El Dikheila, Egypt	0.80	1	CDRI	'00	O
Khouzestan Steel IV	Ahvaz, Khuzestan, Iran	0.80	1	CDRI	'01	O
AM/NS India IV	Hazira, Gujarat, India	1.00	1	HBI/HDRI	'04	O
Nu-Iron	Point Lisas, Trinidad & Tobago	1.60	1	CDRI	'06	O
AM/NS India V	Hazira, Gujarat, India	1.50	1	HBI/HDRI	'06	O
Mobarakeh Steel F	Mobarakeh, Istahan, Iran	0.80	1	CDRI	'06	O
DRIC I & II	Dammam, Saudi Arabia	1.00	2	CDRI	'07	O
Hadeed E	Al-Jubail, Saudi Arabia	1.76	1	HDRI/CDRI	'07	O
LGOK HBI-2	Gubkin, Russia	1.40	1	HBI	'07	O
Qatar Steel 2	Mesaieed, Qatar	1.50	1	CDRI/HBI	'07	O
Khouzestan Steel V	Ahvaz, Khuzestan, Iran	0.96	1	CDRI	'08	O
Lion DRI	Banting, Malaysia	1.54	1	HDRI/HBI	'08	I
Hormozgan A & B	Bandar Abbas, Hormozgan, Iran	1.65	2	CDRI	'09/'10	O
AM/NS India VI	Hazira, Gujarat, India	1.50	1	CDRI	'10	O
Khorasan Steel I	Neyshabur, Khorasan Razavi, Iran	0.80	1	CDRI	'10	O
JindalShadeed	Sohar, Oman	1.50	1	HDRI/HBI	'10	O
Ghadir Iron and Steel Company	Ardakan, Yazd, Iran	0.80	1	CDRI	'11	O
Khorasan Steel II	Neyshabur, Khorasan Razavi, Iran	0.80	1	CDRI	'11	O
South Kaveh Steel A & B	Bandar Abbas, Hormozgan, Iran	1.86	2	CDRI	'12	O

Note: The plant capacities have been updated in 2024 to reflect the original design capacity. Some plants have higher capacity after upgrades, but they are not reflected in the table above.

**** Status Codes:** O- Operating
I- Idle
C- Under Construction

World Direct Reduction Plants (as of 12/31/25)

Source: Midrex Technologies, Inc.

Plant	Location	Capacity (Mt/y)	Modules	Product	Start-up	Status*
MIDREX® (Continued)						
Mobarakeh Steel (Kharazi A & B)	Mobarakeh, Istahan, Iran	3.00	2	CDRI	'12/'14	O
Tuwairqi Steel Mills	Karachi, Pakistan	1.28	1	HDRI/CDRI	'13	I
SULB	Hidd, Bahrain	1.50	1	HDRI/CDRI	'13	O
Arfa Steel Company	Ardakan, Yazd, Iran	0.80	1	CDRI	'13	O
Mobarakeh Steel (Saba)	Chamgordan, Isfahan, Iran	1.38	1	CDRI	'13	O
JSW Steel Ltd.	Toranagallu, Karnataka, India	1.20	1	HDRI/CDRI	'14	O
Sirjan Iranian Co.	Bardsir, Kerman, Iran	0.80	1	CDRI	'14	O
Jindal Steel & Power	Angul, Odisha, India	1.80	1	HDRI/CDRI	'14	O
ESISCO	Sadat City, Egypt	1.76	1	HDRI/CDRI	'15	I
Sirjan Jahan Co. 1	Sirjan, Kerman, Iran	0.96	1	CDRI	'15	O
Golgozar Iron & Steel Development 1	Sirjan, Kerman, Iran	1.76	1	CDRI	'15	O
ArcelorMittal Texas HBI	Corpus Christi, Texas, USA	2.00	1	HBI	'16	O
Sefid Dasht Steel	Sefiddasht, C&B, Iran	0.80	1	CDRI	'16	O
LGOK HBI-3	Gubkin, Russia	1.80	1	HBI	'17	O
Persian Gulf Saba Steel	Bandar Abbas, Hormozgan, Iran	1.50	1	HBI	'17	O
Sabzevar Steel Company	Sab, Khorasan Razavi, Iran	0.80	1	CDRI	'18	O
Golgozar Iron & Steel Development 2	Sirjan, Kerman, Iran	1.85	1	CDRI	'18	O
Tosyali Algérie 1	Oran, Algeria	2.50	1	HDRI/CDRI	'18	O
Chadormalu M & I Co.	Ardakan, Yazd, Iran	1.50	1	HDRI/CDRI	'18	O
Pasargad Steel	Shiraz, Fars, Iran	1.76	1	HDRI/CDRI	'19	O
Ardakan Steel	Ardakan, Yazd, Iran	0.96	1	CDRI	'20	O
Cleveland-Cliffs HBI Plant	Toledo, Ohio, USA	1.60	1	HBI	'20	O
Algerian Qatari Steel (AQS)	Bellara, Algeria	2.50	1	HDRI/CDRI	'21	O
Ghaenat	Nimbolook, South Khorasan, Iran	0.80	1	CDRI	'22	O
Bafgh Mineral Company (BMISCO)	Bafgh, Yazd, Iran	0.80	1	CDRI	'22	O
Khuzestan Steel VI	Ahvaz, Khuzestan, Iran	1.76	1	CDRI	'24	O
Tosyali Algeria 2	Oran, Algeria	2.50	1	HDRI/CDRI	'24	O
Sirjan Jahan Co. 2	Sirjan, Kerman, Iran	0.96	1	CDRI	'24	O
Gol-e-Gohar III (TOOBA)	Sirjan, Kerman, Iran	1.80	1	HDRI/CDRI	'24	O
Stegra	Boden, Sweden	2.10	1	HDRI/HBI	'27	C
Tosyali SULB	Benghazi, Libya	2.50	1	CDRI	'27	C
ThyssenKrupp	Duisburg, Germany	2.50	1	HDRI/CDRI	'27	C
Arta Foulade Mobin Ardebil	Ardabil, Ardabil, Iran	1.10	1	CDRI		C
Eqlid Steel Company	Eghlid, Fars, Iran	1.00	1	CDRI		C
Persian Gulf Saba No.2	Bandar Abbas, Hormozgan, Iran	2.50	1	HBI		C
South Kaveh Steel	Bandar Abbas, Hormozgan, Iran	1.00	1	CDRI		C
Sirjan Iranian Co. 2	Bardsir, Kerman, Iran	1.70	1	CDRI/HDRI		C
Gohar Zamin	Bardsir, Kerman, Iran	1.70	2	CDRI/HDRI		C
Sirjan Jahan Steel Co. DR13	Sirjan, Kerman, Iran	1.70	1	CDRI/HDRI		C
Torbat	Shirabad, Razavi Khorasan, Iran	1.85	1	CDRI		C
Makran	Chabahar, Sistan Baluchestan, Iran	1.60	1	HBI		C
Sarmad Iron and Steel Complex	Abarkuh, Yazd Iran	1.20	1	CDRI/HDRI		C
BAFAQ Steel Co.	Bafgh, Yazd, Iran	1.70	1	CDRI/HDRI		C
		118.37	111			

Note: The plant capacities have been updated in 2024 to reflect the original design capacity. Some plants have higher capacity after upgrades, but they are not reflected in the table above.

**** Status Codes:** O– Operating
I– Idle
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World Direct Reduction Plants (as of 12/31/25)

Source: Midrex Technologies, Inc.

Plant	Location	Capacity (Mt/y)	Modules	Product	Start-up	Status*
HYL/ENERGIRON						
Ternium 3M5	Monterrey, Mexico	0.50	1	CDRI	'83	O
ArcelorMittal Lázaro Cárdenas I	Lázaro Cárdenas, Mexico	1.00	2	CDRI	'88	O
ArcelorMittal Lázaro Cárdenas II	Lázaro Cárdenas, Mexico	1.00	2	CDRI	'90	O
JSW Salav**	Raigad, India	0.90	1	HBI/CDRI	'93	O
PT Krakatau Steel	Cilegon, Indonesia	1.35	2	CDRI	'93	I
Perwaja Steel	Kemaman, Malaysia	1.20	2	CDRI	'93	I
Usiba II	Salvador Bahia, Brazil	0.31	1	CDRI	'94	I
Ternium 2P5	Puebla, Mexico	0.61	1	CDRI	'95	O
Ternium 4M	Monterrey, Mexico	0.68	1	HDRI/CDRI	'98	O
LGOK HBI-1	Gubkin, Russia	0.90	1	HBI	'99	O
Hadeed D	Al-Jubail, Saudi Arabia	1.10	1	CDRI	'99	O
Briqven	Matanzas, Venezuela	1.50	2	HBI	'00	I
Emirates Steel I (GHC)	Abu Dhabi, UAE	2.00	1	HDRI/CDRI	'09	O
Emirates Steel III	Abu Dhabi, UAE	0.20	1	CDRI	'10	O
Emirates Steel II (GHC)	Abu Dhabi, UAE	2.00	1	HDRI/CDRI	'11	O
Suez Steel	Adabia, Egypt	1.95	1	HDRI/CDRI	'13	O
Nucor Steel Louisiana	Convent, Louisiana, USA	2.50	1	CDRI	'13	O
Ezz Rolling Mills	Ain Sukhna, Egypt	1.90	1	CDRI	'15	O
Hebei Iron and Steel	Zhangjiakou, Hebei, China	0.55	1	CDRI	'23	O
Baosteel Zhanjiang	Zhanjiang, Guangdong, China	1.00	1	CDRI	'24	O
Mutún Steel	Puerto Suarez, SC, Bolivia	0.25	1	CDRI	'25	O
Ternium 5M	Pesqueria, Mexico	2.10	1	HDRI		C
Salzgitter AG	Salzgitter, Germany	2.10	1	HDRI		C
Jindal Steel Duqm I	Duqm, Oman	2.50	1	HDRI/HBI		C
BISCO	Butia, Kerman, Iran	2.00	1	HDRI/CDRI		C
		21	25			
PERED						
Shadegan Steel	Shadegan, Khuzestan, Iran	0.80	1	CDRI	'17	O
Mianeh Steel	Mianeh, East Azerbaijan, Iran	0.80	1	CDRI	'17	O
Neyriz Steel	Neyriz, Fars, Iran	0.80	1	CDRI	'18	O
Baft Steel	Baft, Kerman, Iran	0.80	1	CDRI	'19	O
Baft Steel II	Baft, Kerman, Iran	0.80	1	CDRI	'24	O
Shanxi Taihang Mining	Jinzhong City, Shanxi Province, China	0.30	1	CDRI	'23	O
Setareh Simin Hormoz	Bandar Abbas, Hormozgan, Iran	1.70	1	CDRI/HDRI		C
Hosco No. 3	Bandar Abbas, Hormozgan, Iran	1.70	1	CDRI/HDRI		C
Kordestan Steel	Bijar, Kurdistan, Iran	1.70	1	CDRI		C
		4.30	9			
OTHERS						
FINMET						
BriqOri	Matanzas, Venezuela	2.20	4	HBI	'00	O
CIRCORED						
Arcelor Mittal Trinidad	Point Lisas, Trinidad & Tobago	0.50	1	HBI	'99	I
FIOR						
Operaciones RDI	Matanzas, Venezuela	0.40	1	HBI	'76	I

** JSW Salav has two reduction furnaces but only one reformer. The reformer can supply either reduction furnace, but not simultaneously.

Note 1: This list does not include plants that are inoperable or that have been dismantled.

Note 2: This list only includes plants processing feed materials with total iron content of 60% or higher and producing DRI with metallization of 85% or higher.

* Status Codes: O– Operating
I– Idle
C– Under Construction

2025 WORLD DIRECT REDUCTION STATISTICS

is compiled by Midrex Technologies, Inc. annually as a resource for the global iron and steel industry.

Disclaimer: This publication is provided for informational purposes only and should not be relied on as legal, financial, engineering, operational or other professional advice. Any estimates or inferences contained herein are based on actual plant-generated operational data and not on AI-generated data, assumptions, or inputs.

Direct reduced iron (DRI) is a high-quality metallic product produced from iron ore used as a feedstock in electric arc furnaces, blast furnaces, and other iron and steelmaking applications. Hot briquetted iron (HBI) is a compacted form of DRI designed for ease of shipping, handling, and storage.

Midrex Technologies, Inc. is the world leader in direct reduction ironmaking technology and aftermarket solutions for the steel industry. As the technology provider of the MIDREX® Process for 50+ years, Midrex designs direct reduced iron (DRI) plants, providing engineering, proprietary equipment, and project development services. The MIDREX Process is unsurpassed in the industry in terms of production, reliability, and process flexibility to meet the constantly evolving nature of steelmakers and ore-based metallurgy providers.

World Steel Dynamics (WSD) has audited the data collection and preparation process of the "2025 World Direct Reduction Statistics"; i.e., "The Booklet". It is our observation that Midrex receives inputs from all over the world from practically every known direct reduction producer either directly or indirectly through partner organizations. Midrex invites all producers to participate directly. In instances where plant information is not available directly from producers, Midrex deduces that information from publicly available data. WSD has reviewed the data collection and preparation procedures and can confirm the documentation substantiates the methodology and accuracy of the data to be published in The Booklet for the world direct reduction industry in 2025.

The following organizations supplied or assisted in collecting data for this issue of 2025 WORLD DIRECT REDUCTION STATISTICS:

*Sponge Iron Manufacturers Association – India
World Steel Association – Belgium
International Iron Metallurgy Association – UK
South East Asia Iron and Steel Institute – Malaysia
International Steel Statistics Bureau – UK
Kobe Steel Ltd. – Japan
All Individual MIDREX® Direct Reduction Plants
Other Direct Reduction Plants
Various company correspondence*

MIDREX® is a registered trademark of Kobe Steel, Ltd in the USA and China.

For updates check www.midrex.com
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Englewood Cliffs,
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MIDREX

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