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Direct Reduced Iron Market Forecasts to 2032 – Global Analysis By Product (Hot Briquetted Iron and Cold Direct Reduced Iron), Raw Material, Form, Production Process, Size, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Direct Reduced Iron Market is accounted for $52.04 billion in 2025 and is expected to reach $95.74 billion by 2032 growing at a CAGR of 9.10% during the forecast period. Direct Reduced Iron (DRI) is a form of iron produced by reducing iron ore (usually in the form of hematite or magnetite) using a gas-based reduction process, typically in a shaft furnace or rotary kiln. Unlike traditional blast furnace methods, DRI is produced without the need for coke, using natural gas or hydrogen as the reducing agent. This method results in iron with a higher degree of purity and lower carbon content. DRI is often used as a raw material in electric arc furnaces for steel production, offering an environmentally cleaner alternative to conventional blast furnace methods.

According to the World Steel Organization, every tonne of steel produced in 2021 resulted in an average of 1.89 tonnes of CO2 being released into the atmosphere.

Market Dynamics:

Driver:

Environmental Sustainability

Environmental sustainability is significantly impacting the Direct Reduced Iron (DRI) market by promoting cleaner production methods and reducing carbon emissions. As global demand for eco-friendly steel increases, DRI, produced through natural gas

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rather than coke, becomes more attractive due to its lower environmental footprint. Innovations in energy efficiency, renewable energy adoption, and green technologies are accelerating this shift, enhancing the market's growth. The focus on sustainability aligns with industry goals for reduced emissions, boosting the DRI market's long-term viability.

Restraint:

High Capital and Operational Costs

High capital and operational costs significantly hinder the growth of the Direct Reduced Iron (DRI) market. Setting up DRI plants demands substantial investment in advanced technologies and infrastructure, making it unaffordable for smaller players. Additionally, high energy consumption and maintenance costs reduce profitability, discouraging new entrants and limiting expansion. These financial burdens slow innovation, restrict production capacity, and make DRI less competitive compared to alternative iron-making processes, ultimately stifling market development and broader adoption.

Opportunity:

Rising Demand for Steel

The rising demand for steel significantly boosts the Direct Reduced Iron (DRI) market. As steel production increases, DRI becomes an attractive alternative to traditional blast furnace methods, offering a cleaner, more energy-efficient option. The shift towards more sustainable and cost-effective production processes drives higher adoption of DRI technology, expanding its market presence. Additionally, the growing construction and infrastructure sectors further fuel demand for steel, positively impacting the DRI market by increasing its relevance and application.

Threat:

Raw Material Price Volatility

Raw material price volatility, particularly in iron ore and natural gas, poses a significant hindrance to the Direct Reduced Iron (DRI) market. Fluctuating costs disrupt production planning and raise operational expenses, making DRI less economically viable for steelmakers. This unpredictability affects profit margins and discourages investment in DRI facilities. Additionally, sharp price shifts can reduce competitiveness against

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traditional steelmaking methods, slowing the adoption of DRI despite its environmental advantages, ultimately restraining market growth.

Covid-19 Impact

The COVID-19 pandemic significantly disrupted the Direct Reduced Iron (DRI) market by halting steel production and construction activities due to lockdowns, labor shortages, and supply chain interruptions. These disruptions led to decreased demand for DRI, causing delays in order schedules and increased prices. However, as economies reopened, the market demonstrated resilience, with demand rebounding. The pandemic underscored the importance of sustainable steelmaking practices, accelerating the adoption of DRI as an eco-friendly alternative to traditional methods.

The midrex process segment is expected to be the largest during the forecast period

The midrex process segment is expected to account for the largest market share during the forecast period, due to sustainability, and cost-effectiveness. Its innovative use of natural gas as a reducing agent enhances energy efficiency, reducing carbon emissions compared to traditional blast furnace methods. This process also allows for the production of high-quality DRI, offering greater flexibility in steelmaking. With its lower environmental footprint and reduced production costs, MIDREX continues to drive the growth of the DRI market, aligning with global sustainability goals.

The construction segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the construction segment is predicted to witness the highest growth rate, due to demand for high-quality steel, essential in building infrastructure, commercial buildings, and residential projects. DRI, used as a cleaner alternative to traditional iron, benefits from this demand due to its efficient production process and environmental advantages. As construction activities expand globally, the need for DRI rises, fostering growth in the market. The sector’s continual development ensures sustained consumption of DRI, bolstering the overall market dynamics.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to rising demand for sustainable steel production. DRI, produced using natural gas or hydrogen, offers an eco-friendlier alternative to traditional blast furnace

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methods, aligning with the region's increasing focus on reducing carbon emissions. The market benefits from robust industrial activities, especially in countries like China and India. Additionally, the shift toward cleaner technologies and government incentives is further accelerating DRI adoption, positively impacting the region’s economy and environment.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to rising demand for high-quality steel and the shift towards environmentally friendly production methods. DRI, produced using natural gas instead of coal, offers a lower carbon footprint, aligning with sustainability goals. The market benefits from increased investments in advanced technologies, boosting steel manufacturing efficiency. As industries prioritize green initiatives, the adoption of DRI contributes to reducing emissions, making it a key player in North America's evolving steel sector.

Key players in the market

Some of the key players profiled in the Direct Reduced Iron Market include ArcelorMittal, Qatar Steel, Midrex Technologies Inc., Kobe Steel Ltd., Nucor Corporation, Essar Steel, JSW Steel Limited, Jindal Steel and Power Ltd., Tata Steel Limited, Tosyali Algeria A.S., Metinvest Holding LLC, Tenova HYL SA, JFE Steel Corporation, Liberty Steel Group, Hadeed Steel Industries, Khouzestan Steel Company, Mobarakeh Steel Company, Voestalpine AG, Ternium SA and Salzgitter AG.

Key Developments:

In January 2025, Tata Steel and MECON Ltd. have entered into a strategic business cooperation agreement to offer comprehensive and integrated mining solutions across India. This collaboration combines Tata Steel’s extensive mining expertise with MECON’s engineering and consultancy capabilities to enhance the scientific and sustainable development of the mining sector.

In October 2024, Tata Steel has entered into a significant partnership with Italy-based Tenova to install a state-of-the-art Electric Arc Furnace (EAF) at its Port Talbot steelworks in Wales. This initiative is a pivotal component of Tata Steel's ?1.25 billion decarbonization strategy aimed at transforming the UK's steel industry.

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Products Covered:

- Hot Briquetted Iron
- Cold Direct Reduced Iron

Raw Materials Covered:

- Iron Ore
- Iron Oxide
- Steel Scrap

Forms Covered:

- Lump
- Pellets
- Fine

Production Processes Covered:

- Midrex Process
- HYL Process
- FINMET Process

Sizes Covered:

- Small Capacity
- Medium Capacity

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- Large Capacity

Applications Covered:

- Steelmaking
- Foundry
- Construction
- Automotive
- Energy
- Industrial Machinery
- Infrastructure
- Oil & Gas
- Transportation
- Other Applications

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe

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- Germany
- UK
- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

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Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

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Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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