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Utilization of EAF

One notable advancement in steelmaking technology in Iran is the utilization of electric arc furnaces (EAF) and continuous casting machines, which have significantly increased the industry's capacity for producing high-quality steel in various forms. These modern processes not only enhance productivity but also enable the industry to meet stringent international standards and specifications, boosting its competitiveness in the global market.

High-performance steel alloys

In the energy sector, Iranian steel companies have introduced advanced alloys and specialty steels tailored to meet the stringent performance requirements of critical components, such as aircraft structures, turbine blades, and drilling equipment. These high-performance alloys exhibit exceptional mechanical properties, temperature resistance, and fatigue strength, contributing to the efficiency and reliability of aerospace and energy systems.

Robust production chain

The steel industry's progression in Iran is also closely intertwined with the efficient management of iron ore supply, production processes, and the establishment of a robust and integrated production chain. The country's iron ore reserves have facilitated the development of a comprehensive production chain, encompassing iron ore extraction, beneficiation, pelletizing, and the production of direct-reduced iron (DRI) and steel. This integrated approach has empowered Iranian steelmakers to minimize dependency on external sources and ensure a seamless flow of raw materials throughout the production process, fostering cost-efficiency, reliability, and self-sufficiency.

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Challenges facing Iran's steel industry

The steel industry in Iran faces some challenges, including fluctuations in global steel prices, disruptive international sanctions, and reliance on some of imported raw materials, especially iron ore and coking coal.

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Facilitate exports

Furthermore, the Iranian government has been actively fostering diplomatic and trade relations with other countries to facilitate the export of steel products. Bilateral trade agreements and diplomatic initiatives have paved the way for expanded market access, creating opportunities for Iranian steelmakers to solidify their presence in international trade networks.

Export destinations

Iran's steel industry has set ambitious targets for production and exports, aiming to expand its global reach and increase its share of the international steel market. The industry targets key export destinations in the Middle East, Asia, and Europe, where Iranian steel products are in high demand. The government's initiatives and strategic trade agreements have paved the way for expanded market access, creating opportunities for Iranian steelmakers to solidify their presence in international trade networks.

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Iran's steel industry has emerged as a beacon of industrial prowess and innovation, forging a path towards greater success and prominence in the global steel sector. Embracing a culture of innovation, strategic investments, and a commitment to competitiveness and sustainability, Iran's steel industry is set to leave an indelible mark on the international steel landscape, contributing significantly to the nation's economic development and global trade presence.

Main steelmakers of Iran

Iran is home to several major steelmakers that have played a pivotal role in the industry's progression. Notable among them is Mobarakeh Steel Company (MSC) in central province of Isfahan, the largest steelmaker in the Middle East and North Africa, which has introduced groundbreaking products such as ultra-high strength steel for advanced engineering applications. Additionally, Esfahan Steel Company (ESCO) has developed corrosion-resistant steel grades, catering to the automotive and construction sectors, while Khuzestan Steel Company (KSC) in southwestern province of Khuzestan has launched innovative advanced high-strength steel for the aerospace and energy industries.

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Iranian production technologies

Iran has been an innovator in steel production technologies, particularly with the widespread adoption of the PERED technology. PERED or Persian Reduction has been invented and patented by Mines and Metals Engineering, an Iranian engineering company registered in Germany. The technology involves a direct reduction process converting iron oxides, in the form of pellets or lump ore, to highly reduced product suitable for steel making. Iran's domestic iron ore supply has bolstered its production chain, supporting the industry's self-sufficiency and capacity to meet both domestic and international demands.

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Long-term goals

The future outlook for Iran's steel industry is promising, with opportunities for significant expansion and global influence. The industry's alignment with sustainable development goals, focus on product diversification, and strategic market expansion position it as a key player in the ongoing evolution of the global steel sector. Moreover, the industry's commitment to research and development has fostered a culture of continuous innovation, driving advancements in steel technology, product diversification, and value-added solutions.