

IBJ AWARDS

CATEGORY:

BULK LOGISTICS EXCELLENCE AWARD

ENTRY TITLE:

PORTO SUDESTE, BRAZIL AN EXCEPTIONAL GATEWAY FOR IRON ORE Brazil is the world's third largest iron ore producer and exporter. Since September 2015 the mining industry has been served by Porto Sudeste, our flagship iron ore port facility on the south-eastern coast in Rio de Janeiro state. The port provides a revolutionary export passage for both large and smaller producers in the Minas Gerais region.

It is owned and operated as a joint venture by Impala Terminals, a global terminals operator providing port, warehousing and multi-modal logistics services for the movement of essential commodities, and investment and development company Mubadala Development Company in association with MMX Mineração e Metalicos.

> PORTO SUDESTE, BRAZIL

With a total area of 600,000 square meters, two storage yards (with a storage capacity of 2.5 million tons) and two berths for capsize vessels, as well as high-performance logistic equipment (four reclaimers, two car dumpers, two ship loaders), Porto Sudeste is one of the most advanced iron ore export terminals in the world, transforming Brazil's port scenario and opening new opportunities for economic development and job creation.

Porto Sudeste is able to move 50 million tons of iron ore per year with the potential to expand to handle 100 million tons per year. With a gradual ramp up due to depressed market conditions the port is averaging four vessels per month. We expect to reach the milestone of 10 million tons exported by the end of 2016, increasing to up to 40 million tons over the next four years.

STORAGE CAPACITY

2.5_{MMT} 50_{MMT} **IRON ORE HANDLED** PER YEAR

THE ORE'S JOURNEY THROUGH PORTO SUDESTE

A highly efficient, automated and secure logistics chain from the mine to the port has now been created. Iron ore arrives at Porto Sudeste by the MRS railroad from the Quadrilátero Ferrífero region in Minas Gerais. Here it is discharged by two car dumpers each capable of discharging two cars simultaneously, so taking only three hours to discharge a train with 134 wagons. Once discharged, the ore is carried by conveyor belts 12 km in length to one of the two stockyards where it is initially stacked and then recovered by one of the four

reclaimers. Manufactured in Europe this equipment is the largest in its category in Brazil. After the iron ore is recovered and returned to the conveyor belts it is sent to the pier through a mountain tunnel specially constructed for the port which is 1.8 km long, 22 meters wide and 11 meters high. Finally at the pier, two ship loaders deposit iron ore into the vessel's hold with a loading capacity of 12 tons per hour. The 50 meter high ship loaders were manufactured in China by ZPMC and can work together or separately.





Highly efficient, automated and secure logistics chain from the mine to the port.



Iron ore is sent to the berths via a mountain tunnel specially constructed for the port.

GROWING TOGETHER

Porto Sudeste places great importance on how we invest in and mitigate our impact on surrounding communities. We have conducted over 35 social projects and environmental programmes in the region. Our actions strengthen artisanal fishing, improve the skill set of the local workforce and help to preserve the Atlantic Forest. For example, the Equoterapia – Hippotherapy programme was developed with the Mayor's Office of Itaguaí and provides therapeutic treatment for people with disabilities such as blindness and infantile paralysis. Through interaction and contact with horses the programme promotes physical, psychological, emotional and biopsychosocial improvement.

To help protect the local environment we have invested R\$4 million in the Cultivar project, which has involved over 5,000 children from the region planting 200,000 tree saplings to reforest the banks of the Guandu River which is responsible for 80% of the water supply in the metropolitan area of Rio de Janeiro, reduce erosion and improve water quality. We also support the fishing activities in the Sepetiba Bay where the port is located, developing a Social Investment Plan for fisheries and aquaculture. The initiative seeks to improve the working conditions of fishermen's associations and to foster fishing in the bay.

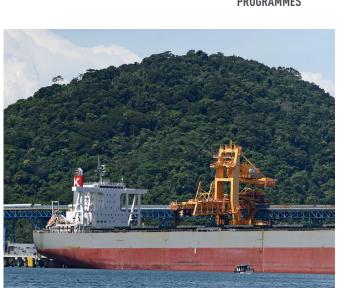
Our commitment is to ensure that our activities are environmentally balanced, economically prosperous and socially fair, always promoting continuous improvement and human development. As the market for iron ore improves, Porto Sudeste will be a vital lifeline to world markets for producers in the 'iron ore quadrangle' of Minas Gerais state.



Impala works to strengthen local artisanal fishing.

5,000
CHILDREN INVOLVED
IN THE CULTIVAR
PROJECT

35
SOCIAL PROJECTS
AND ENVIRONMENTAL
PROGRAMMES



Porto Sudeste invests in surrounding communities.



Equoterapia - hippotherapy programme.



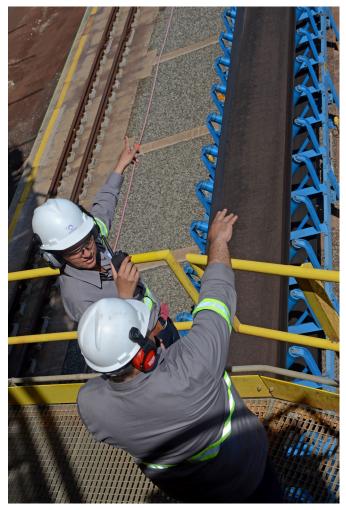
Storage yards covering 250,000 $\ensuremath{\text{m}}^2.$



Sophisticated subterranean conveyor belt running 1.8 kilometres.



Greater safety and security for employees and communities is our priority.



Our ship loaders can handle 12,000 metric tons of iron ore per hour. $\,$

