High-speed sorting system for Manganese-containing steel plates (high tensile strength steel plates)

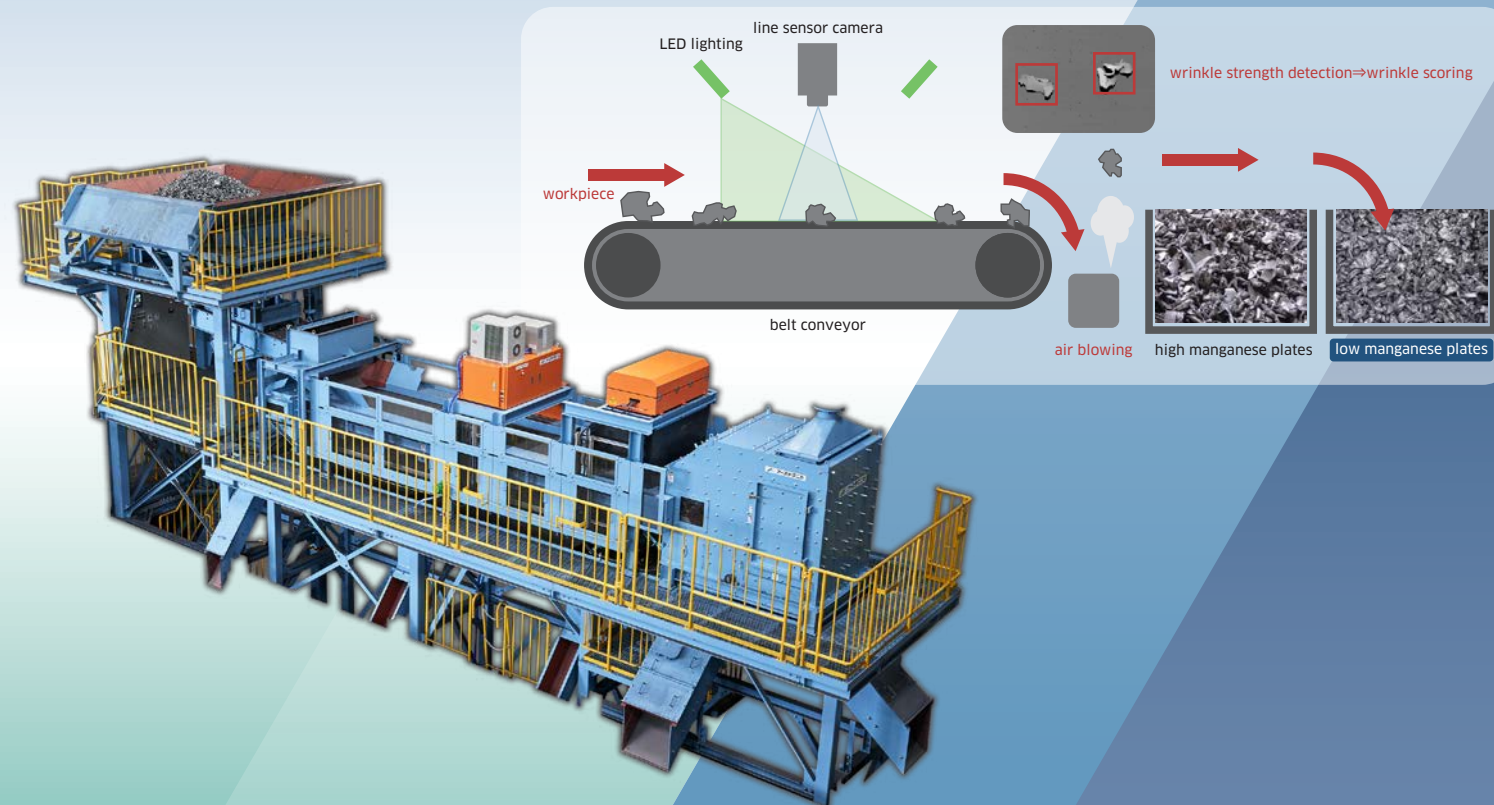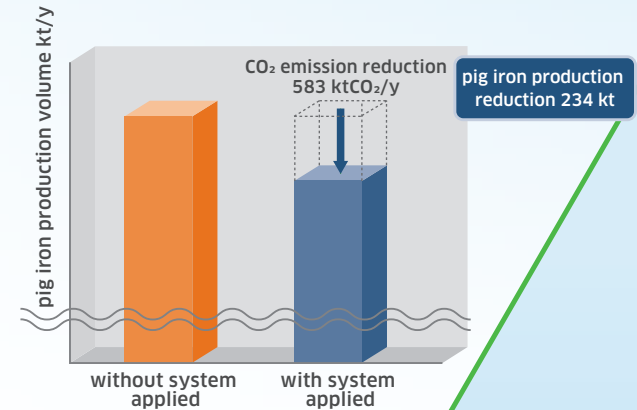**2024**
Kawasaki Ecological Frontiers
S class

Kawasaki Heavy Industries, Ltd.

Contributes to the reduction of CO_2 emissions in pig iron production

By selecting low manganese concentration steel plates from the scrap generated during the manufacturing of automotive vehicle parts and supplying and recycling them to cast iron manufacturers, the use of blast furnace pig iron can be reduced, and CO_2 emissions in pig iron production can be decreased by up to 538,000 tons annually.

Note: Calculation in case applied to the entire scrap market in Japan

pig iron production volume kt/y

CO_2 emission reduction 583 $ktCO_2$/y

pig iron production reduction 234 kt

without system applied — with system applied

LED lighting · line sensor camera · wrinkle strength detection⇒wrinkle scoring · workpiece · belt conveyor · air blowing · high manganese plates · low manganese plates

Product Description

A system for efficiently sorting and recovering useful low manganese concentration steel plates from the large amount of scrap pieces generated during the manufacturing of automotive vehicle parts.

Features

Capture images of numerous workpieces on a fast-moving conveyor belt, process these images at high speed, and obtain detailed information on wrinkle condition, size, and position. Use this data to determine manganese concentration and control the timing of compressed air for sorting at the discharge section.