

# FOREWORD

The year 2008 marked the “150th anniversary of the birth of modern iron manufacturing” in Japan. In other words, one and a half centuries have now passed since the first modern western-style blast furnace was constructed and began producing pig iron in this country.

The appearance of the blast furnace, which produces iron by a continuous process using

purpose, including improvement of raw material quality and adjustment by burden distribution in order to increase reduction efficiency and maintain permeability in the blast furnace, injecting of waste plastic, which is a carbon neutral material, metallic charging, natural gas injection and others. In addition, research and development of an “innovative iron making process,” which controls the in-furnace reaction itself, is also underway.

Recently, the price of coal tripled in a single year, and at the same time, the price of iron ore rose by 70%. Amid the progressive oligopolization of resource companies and rapidly increasing steel production in China, India, and elsewhere, there is also a tendency toward declining quality/depletion of raw material resources as such. In order to secure stable supplies of raw materials and fuels and maintain stable iron production, it will be necessary to develop technologies which make the best possible use of low grade raw materials. Therefore, technologies for using low grade raw materials in the existing sintering and