FOREWORD

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In Japan, powder metallurgy accounts for approximately 70% of the applications of iron powder, and about 90% of the sintered parts manufactured from iron powder are used in automobiles. In recent years, the trend in the number of automobiles manufactured in Japan has been flat, and the share of light vehicles has also increased. Since Japan now faces an aging society with few children, a gradual declining trend in the number of automobiles manufactured in this country is expected in the future, and due to the effects of engine downsizing, a decrease in the weight of sintered parts per vehicle is also a possibility.

On the other hand, the number of automobiles produced overseas by Japanese-affiliated automobile manufacturers is increasing steadily, and Japanese manufacturers of sintered parts are successively setting up operations overseas and expanding production there. In response to increasing demand for iron powder, various iron powder makers in China have increased their production capacities, and new iron powder businesses have entered the market in Korea. As a countermeasure for global warming, all of the world's countries are continuing to strengthen their efforts to reduce CO_2, resulting in even higher needs for weight reduction and improved fuel economy in automobiles.

Under this environment, we believe that it is necessary to deliver attractive products to customers, while ceaselessly continuing our efforts to achieve technical innovation. During the past several years, we have grappled with product development from the following viewpoints: (1) Iron powders which contribute to weight reduction in automobiles by higher density and higher strength, (2) High strength alloy steel powders which omit high cost components, and (3) Iron powders which contribute to cost reduction in post-processing such as press forming, machining, etc. by the customer. In addition, we have also developed iron powders for electromagnetic applications for use in reactors and motors and iron powders for agricultural use. Many of these new products are part of Cleanmix™ series of high grade iron powders for use in automotive parts. In order to respond to expanded demand, we are now constructing a No. 2 Cleanmix Plant which is scheduled to start operation in the summer of 2015.

This special issue presents an outline of JFE Steel's iron powder products and introduces distinctive products which were developed from the above-mentioned viewpoints.

Based on JFE Group's corporate vision, "Contributing to society with the world's most innovative technology," in the future, the iron powder division of JFE Steel will continue to grapple with the development of technologies that lead to a total cost reduction for customers, technologies that contribute to expansion of the markets for powder metallurgy, and technologies that will open the way to new applications for iron powder.

In closing, we will be most grateful for the continuing advice and support of all those concerned.