Remarks on Special Issue on Solutions for Future Automobile Design

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This first technical report under the name of Nippon Steel Corporation features the automobile sector. The Japanese automobile industry has been enhancing its competitive edge in the global market together with various related industries. It has eventually become one of the most important industries leading the growth of Japan. The steel industry has also been advancing in step with the development of the automobile industry. Considering this fact, this technical report with a new company name restarts from the present issue featuring our activities in the automobile industry.

Looking back on the technological advancements in automotive sheet steel, for example, the steel industry in Japan has contributed to the rapid progress of mass production of automobiles in the high-economic-growth period by developing integrated steelmaking and continuous processing technologies that have realized the supply of high-quality sheet steel in sufficient quantities. In the following globalization period, various types of coated steel sheets were developed, initially for exported vehicles to meet the needs for anti-corrosion in North America until around 1990. In addition, various types of high-strength steel sheets and their application technologies have been advancing to accommodate further requirements in various areas for the crash safety of vehicles and for the reduction of CO_2 emissions from vehicle use. Currently, increasing attention is being paid to sustainable development where the reduction of environmental loads throughout the life cycle from material production to recycling and disposal is essential. We consider it important to contribute to environmental protection with our steel products, which can be recycled in a closed loop and can suppress the amount of CO_2 gas emitted through the life cycle of a vehicle. We are therefore developing and proposing solutions for lighter-weight vehicles to have our steel products continuously selected as major automotive materials even if unignorable attention remains focused on CO_2 emissions from vehicle use.

This special issue introduces our latest steel products along with their application technologies for automotive bodies, chassis, and drive units. It has been said that Japan's competitive edge in manufacturing resides in comprehensive technologies integrated in cooperation with various related sectors. The technologies introduced herein have also been created through the integration of our R&D achievements in materials, structural design, and manufacturing. We feel confident that you will find the state of the art in our R&D aiming for the ultimate technologies in iron and steel.

It is said that the automobile industry has entered a period of major revolution once every 100 years. We will further undertake our mission, that is, designing the future of automobiles as an expert in iron and steel, to contribute to the automobile industry progressing towards vehicle electrification, autonomous driving, car sharing, and other changes in mobility. We appreciate your continuous support.