In an effort to renew our research and development framework, Research and Development Center of JR East Group was established in Omiya in December 2001, the first fiscal year of 21st century.

When the Japanese National Railways was reformed in 1987, the Railway Technical Research Institute and Railway Labor Science Research Institute of the Japanese National Railways were combined to form the Railway Technical Research Institute. Since it was founded as a common research institute for the JR Group, each of the JR companies started its business operation without having its own research institute.

However, triggered by the accidental collision of trains that took place in 1988 close to Higashinakano Station on the Chuo Line, we founded the Safety Research Laboratory. Further, according to the steadfast proposal by Mr. Yamashita, the first Chairman, two organizations were founded in 1991 to launch independent research and development projects. One is the Technical Development and Research Department in charge of increasing the speed and decreasing the weight of Shinkansen trains, and reforming the railway control system. The other is the Technical Center in charge of solving the problems involved in so-called “3D” work (Dirty, Dangerous, Demanding work) at the worksite.

These research and development organizations were founded at three different places, and were equipped with very few experimental facilities. They have been integrated and reorganized to serve as a core of the research and development activities for the entire JR East Group.

The Research and Development Center has the new internal organizations “Frontier Service Development Laboratory” and “Advanced Railway System Development Center” in addition to the existing Safety Research Laboratory and Technical Center. The aim of the software-related Frontier Service Development Laboratory is the creation of three factors: “Value”, “Comfort” and “Space” in the project of marketing and developing new customer services. This is the first attempt among railway companies. For this reason, the post of Director of this organization was filled by a woman who had played a prominent role in the fields of mass communications and the development of marketing in academics, and in the expansion of the range of occupations available to women.

The Advanced Railway System Development Center is in charge of the mission of innovating the railway cars and railway control systems into radical future-oriented systems, using state-of-the-art information technologies and network technologies. Especially, these two organizations are related to the field of activities where in-house expertise and human resources alone are not sufficient to realize achievements. It is essential to have the cooperation of the companies and researchers who have state-of-the-art technologies and know-how. Accordingly, the organizations have been devised to ensure that the subjects of research and development projects are easy to understand for the outsider.

The objective of publishing this JR East Technical Review is to provide information on the result of our research and development to the outside to introduce the characteristics of the themes of our research and development, and thereby to encourage others to suggest how progress can be made if new technologies are applied to our research and development efforts.

In closing my Greetings for this first issue of the Technical Review, I sincerely hope that this objective will be understood and that active bi-directional exchanges of information will develop.