

Introduction of the Organization of the Railway Technical Research Institute

Starting with this issue, we would like to introduce the organization of the Railway Technical Research Institute (RTRI, hereinafter) over several issues. In this issue, we would like to introduce an overview of the revised organization as of April 1, 2022, and three research divisions in the following articles.

Purpose of the Organizational Revision

Amid drastic changes seen in railway operation environments due to the growing pandemic of COVID-19, RTRI is facing challenges including more enhanced safety measures for natural disasters, digital technology-driven innovative railway systems and carbon neutrality by 2050 that need to be addressed in a prompt manner.

To that end, we announce that we have revised RTRI's organizational structure on April 1, 2022 to seek for swift and efficient research and development achievements and further operating efficiency.

The organization of RTRI currently consists of thirteen research divisions (including one research center) and eight divisions (including two centers) [Organization chart after revision]. The main points of the organizational revision are described below.

Organizational revision of research divisions

(1) New divisions responsible for research and development of innovative railway systems with digital technologies (*New divisions: Signalling and Operation Systems Technology Division and Information and Communication Technology Division*)

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Signalling and Operation Systems Technology Division

- Signalling, train control and operation system for autonomous train operation and control

Signalling system

Train control system

Operation system



Autonomous train operation and control

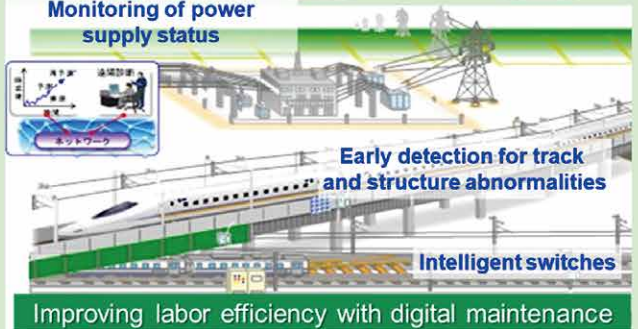
Information and Communication Technology Division

- Data & image analysis and network technologies for better labor efficiency of railway system

Information analysis

Image analysis

Communication network



Improving labor efficiency with digital maintenance

**New divisions: Signalling and Operation Systems Technology Division and Information and Communication Technology Division
(Main research projects shown in encircled areas)**



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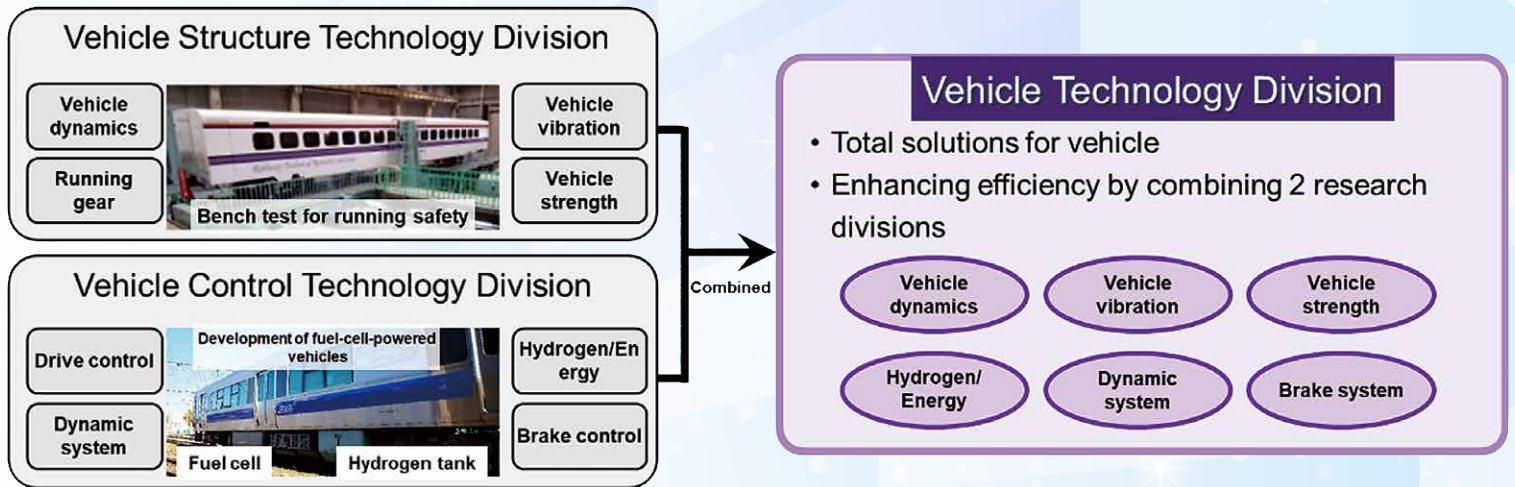
Message from Managing Editor Dr. Toru MIYAUCHI

Under the main theme of “Reorganization of the Railway Technical Research Institute (RTRI) and the Initiatives of the Technology Divisions”, this issue of Ascent focuses on three technology divisions - Structures Technology Division, Power Supply Technology Division and Track Technology Division. As for the other divisions, they will be introduced in the next and subsequent issues .

As you may know, COVID-19 has been reclassified as a Class 5 infectious disease in

Japan since May 8th, 2023. Since the reclassification, the country has seen a massive flow of Japanese going abroad and foreign tourists coming to Japan.

RTRI has also accepted visits since then and many people from overseas have visited RTRI to see our facilities and to have productive dialogue with RTRI staff. It is a great pleasure for us to have international visitors to RTRI.



**New division: Vehicle Technology Division
(Main research projects shown in encircled areas)**

The Signalling and Transport Information Technology Division has been separated into two divisions: the Signalling and Operation Systems Technology Division and the Information and Communication Technology Division, with the aim of more agile research and development with digital technologies to make railway systems more innovative.

These two divisions mainly focus on research into autonomous train operation and improving labor efficiency, such as unmanned and labor-saving systems and remote operations through advancing interdisciplinary research of digital technologies, respectively.

(2) New vehicle research and development division for more sophisticated and diverse R&D needs (New division: Vehicle Technology Division)

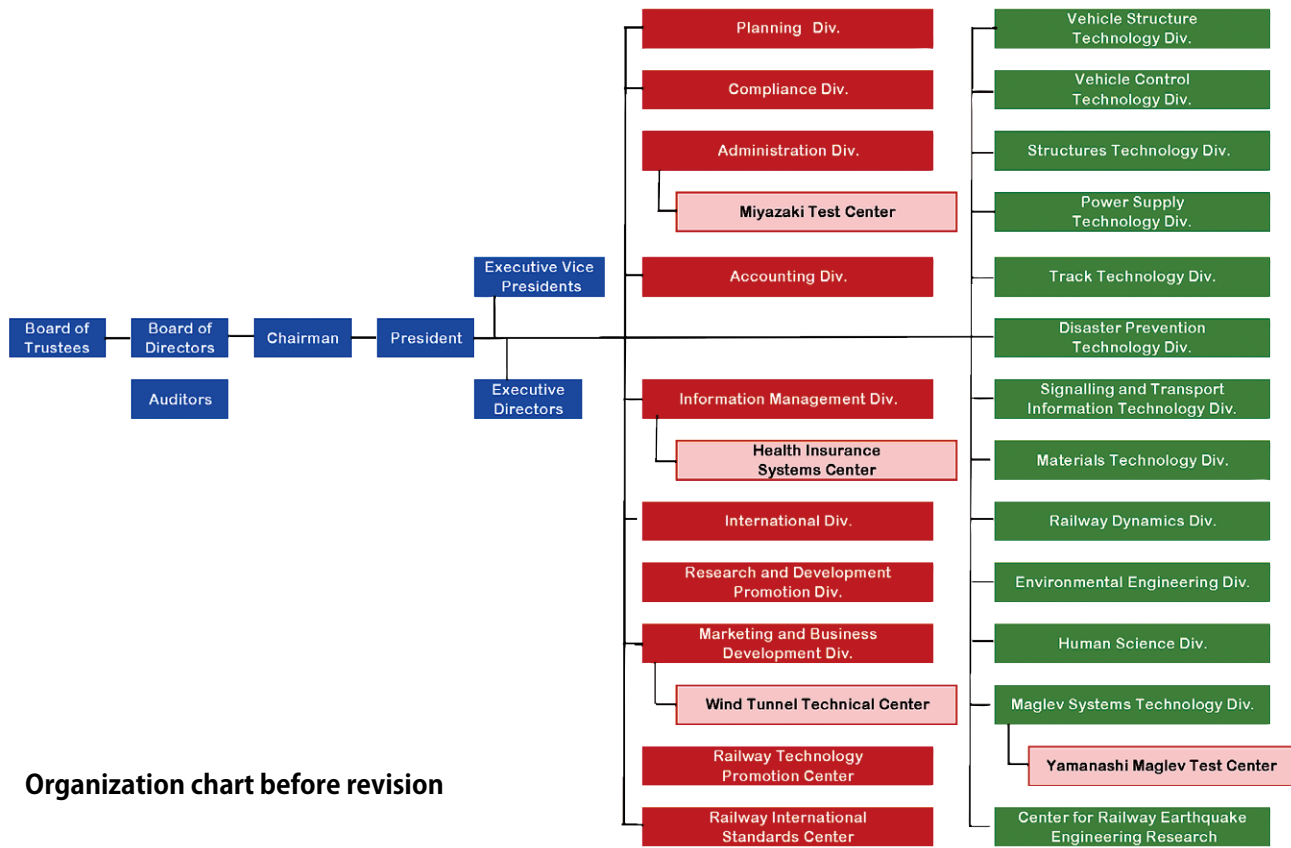
A Vehicle Technology Division has been established by integrating the Vehicle Structure Technology Division responsible for vehicle safe operation and the Strength and Vehicle Control Technology Division responsible for vehicle motor, internal combustion and brake control systems. Integrating the two divisions aims for collective research and development of vehicle technologies, moving forward to digital-technology-incorporated vehicle engineering, decarbonizing initiatives, global

business expansion, and an effective and agile response to more sophisticated and diverse R&D needs.

Organizational revision of divisions

Several divisions have been integrated to support R&D operations conducted by the research divisions more efficiently:

The Information Management Division and the International Division have been integrated into the Planning Division and the Research and Development Promotion Division, respectively. The Information Management Division's Health Insurance Systems Center was integrated into Marketing and Business Development Division.



Organization chart after revision

