Innovation > Research and Development

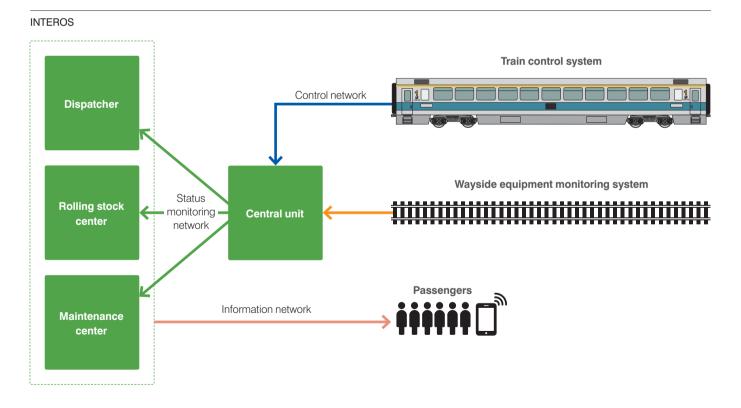
In accordance with "JR East Group Management Vision V—Ever Onward," we are stepping up initiatives to achieve "extreme safety levels by building a railway capable of withstanding natural disasters and developing railways that passengers can use without anxiety." In addition, we are advancing technological innovation in various areas with an emphasis on "establishing energy and environmental strategies," "utilizing information and communications technology (ICT)," and "operating Shinkansen at faster speeds." The Research & Development Center of the JR East Group is leading these R&D initiatives.

Establishing Energy and Environmental Strategies

The JR East Group has taken a range of environmental preservation measures. However, we need to innovate environmental technology even further, partly due to concern about the possible prolongation of power shortage problems that have arisen since the Great East Japan Earthquake. Therefore, with the aim of establishing energy and environmental strategies we are advancing R&D in three key areas: utilizing renewable energy, promoting energy conservation, and establishing smart grid technologies for railways.

Utilizing ICT

Taking advantage of rapid ICT advances in recent years, we are conducting R&D focused on tailoring information to each customer's needs. Other R&D initiatives aim to use ICT to transform transportation systems and innovate maintenance work. For example, setting our sights on transforming the Tokyo metropolitan area transportation system, we are researching and developing INTEROS (INtegrated Train control/communication networks for Evolvable Railway Operation System). As for maintenance work, we are conducting R&D to realize smart maintenance. This requires the adoption of a new approach that views equipment and facilities as assets and maximizes asset performance.



Operating Shinkansen at Faster Speeds

To achieve an operational speed of 360 km/h for Shinkansen, we are pursuing R&D focused on improving stability during high-speed operation and reducing the environmental impact on areas along Shinkansen lines. Moreover, we will use the results of this R&D to enhance safety and reliability even further for the operation of Shinkansen at 320 km/h and to increase the line segments in which Shinkansen operate at 320 km/h.

Demonstrating the Power of Human Resources

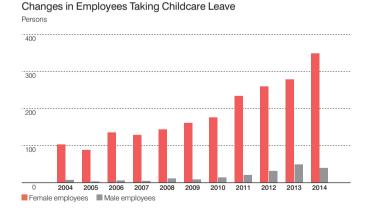
JR East continues to work to provide an environment in which all employees can enjoy their jobs while constantly striving to attain even higher goals. To that end, we are determined to face the challenge of creating a company where people grow through their work from the perspectives of how to respond to the motivation of each employee to meet challenges, how to ensure a suitable work-life balance, and how to make full use of the diversity of our human resources.

Promotion of Diversity

JR East believes that employees who derive satisfaction from doing challenging work and who can maximize their skills are able to enhance the Company's competitiveness. We have initiated a *Work-Life Program* to encourage all employees, both male and female, to participate independently.

Measures to Support the Achievement of Work and Childcare / Nursing

- Extended childcare leave availability by one year, until the child reaches three years of age (from April 2010)
- Introduced a system for reduced daily working hours and increased holiday entitlement (from April 2010)
- Established workplace nursery schools (two in Tokyo and one in Sendai) and a hospital nursery school (in JR Tokyo General Hospital)



Expansion of Workplace Opportunities for Female Employees

The number of workplaces, both field and office, in which female employees can work is growing every year. For example, about 40% of train crew members on the Yamanote Line are female employees. The number of female managers is also increasing every year, with female employees taking important positions such as Head Office and Branch Office managers, chiefs of field offices (stationmasters), and Board members of Group companies.



Promoting the roles of female employees

Skills Training Centers: Developing Engineers for Future Railway Transportation

Integral to our efforts to ensure that experienced employees pass on their technologies and skills to the next generation of technical staff, who will carry the responsibilities for railways in the future, is our establishment of skills training centers designed to support the continuity of railway-specific technologies and skills in individual workplaces. We have established 104 centers by also making use of existing training facilities.



Skills training centers

Improve Employee Culture to Create a New Culture

To advance the diversity of our workplaces, we conduct training for managers and hold forums and seminars. Furthermore, in each workplace we implement Work-Life Network activities, and network members organize seminars and other activities. Also, centered on the Head Office, we hold Family Day events in which members of employees' families visit workplaces.



A general meeting of Work-Life Network members



Employees' families visiting a workplace on Family Day

Inclusion in Diversity Management Selection 100

JR East became the first railway operator included in the Ministry of Economy, Trade and Industry's Diversity Management Selection 100. This ranking recognizes companies that are innovating and enhancing productivity by employing diverse personnel, such as women, non-Japanese people, the elderly, and people with disabilities.

Main Reasons for Inclusion

- Development of the *Work-Life Program* targeting all employees from a program that previously focused on encouraging the promotion of female employees to motivate them to continue working
- First railway operator to introduce a system allowing shift workers, such as railway station personnel and train crews, to work shorter hours or fewer days
- Introduction of an equal-opportunity multiple-track personnel system and career development support
- Creation of a system enabling personnel with physical disabilities to work
 in their local communities
- Combination of business and corporate social responsibility through the development of nursery schools near railway stations under the HAPPY CHILD PROJECT

