



Japan Railway Track Consultants Co., Ltd.



## Corporate Profile



# We contribute to creating safe and comfortable railway tracks and social infrastructure with our comprehensive and excellent track technologies.

## (1) Pursuing safety

We pursue ultimate safety levels.

## (2) Client satisfaction and trust

We offer safe and high-quality technologies and services by properly understanding clients' needs.

## (3) Compliance with laws and regulations and conduct of fair trade

We comply with laws and regulations both domestic and overseas, social norms and ethics and strive to conduct fair and proper transactions.

## (4) Contribution to local communities

We strive to preserve and coexist with the environment, and contribute to the development of regional society.

## (5) Autonomy and independence

With a wide perspective and a challenging spirit, we learn, think, and act independently.

In recent years, railways have increasingly been recognized in Europe and Asia as a mode of mass and high-speed transport with fewer environmental concerns. Therefore, there is a growing need for the construction of high-speed intercity railways and urban railways and need for the maintenance and renewal of existing lines. Additionally, plans for projected Shinkansen lines are being promoted in Japan, and the metropolitan railway network is being expanded with the increase in train speeds. As for existing lines, progressively more advanced technologies will be required for maintenance and renewal. As a necessary social infrastructure, railways are being developed further to create a safe and comfortable time and space and to enrich the lives of people in surrounding communities.

Japan Railway Track Consultants Co., Ltd. was founded in 1979 to offer track inspection, track-related survey, and design services. The company has continued to expand its businesses as a consulting firm specializing in railway tracks with vast experience in inspections, measurements, surveys and design.

We will continue to further improve railways as a safe, comfortable, and environmentally friendly transport mode. In our efforts to satisfy our customers and contribute to creating social infrastructure, we will offer high-quality technical services by fully utilizing our technological capabilities in track-related inspections, measurements, analysis and design, as well as our comprehensive knowledge and experience in track structures, components and track maintenance and management.



# Track inspection

We offer technically specialized measurement of track irregularities and detection of rail flaws as part of facility management for railway companies.

## Measurement & analysis of track irregularities by track inspection cars

We offer measurement and data analysis for railway companies. Track inspection data is essential for planning and confirming the completion conditions of track maintenance work and for contributing to safe and reliable transport.



● General electric and track inspection car (East-i) for conventional lines ●



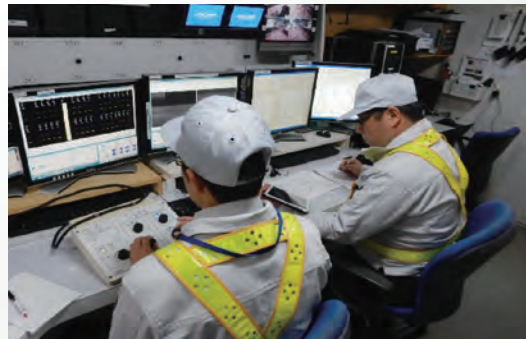
● Tractor-type track inspection system for conventional lines ●

## Rail flaw detection by rail flaw detection cars

By using rail flaw detection cars with track maintenance cars and road-rail vehicles (6-car), we offer rail flaw detection and wear measurement with high accuracy to prevent rail damage for safe and reliable transport.



● Rail flaw detection car (RFD-N) for conventional lines ●



● Measurement room of the rail flaw detection car for conventional lines ●

## Maintenance & regular inspection of track inspection cars & rail flaw detection cars

We inspect and adjust devices in our inspection cars and perform regular device overhauls to acquire accurate data for safe and reliable transport.



● Rail irregularity gauge inspection / Inspection car ●



● Bogie inspection / Rail flaw detection car ●

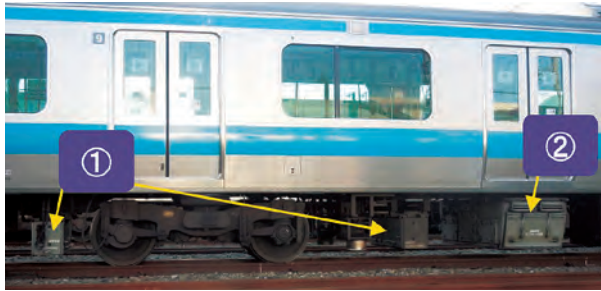


# Track facility monitoring

We process the data of the track facility monitoring devices, maintain and manage the onboard devices, and provide highly frequent data analysis.

## Track facility monitoring system

With recent advancements in information technology, we can now continuously monitor track conditions for CBM (condition-based maintenance) by installing a track facility monitoring devices on passenger trains.



● ① Track irregularity monitoring device ② Track component monitoring device ●



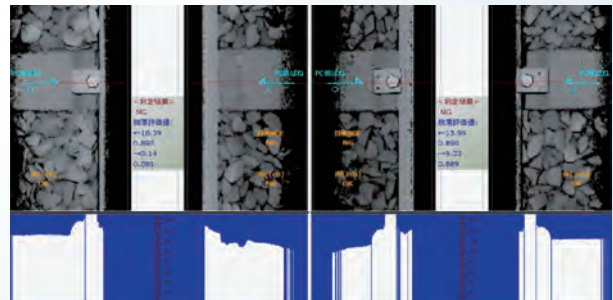
● Monitoring devices in operation ●

## Track irregularity monitoring device & track component monitoring device

With the track irregularity monitoring devices, we can frequently check the track measurement data on a real-time basis via radio transmission. With the track component monitoring devices, we can monitor the condition of track components such as rail fastening systems, joints, and bolts by capturing images using cameras.



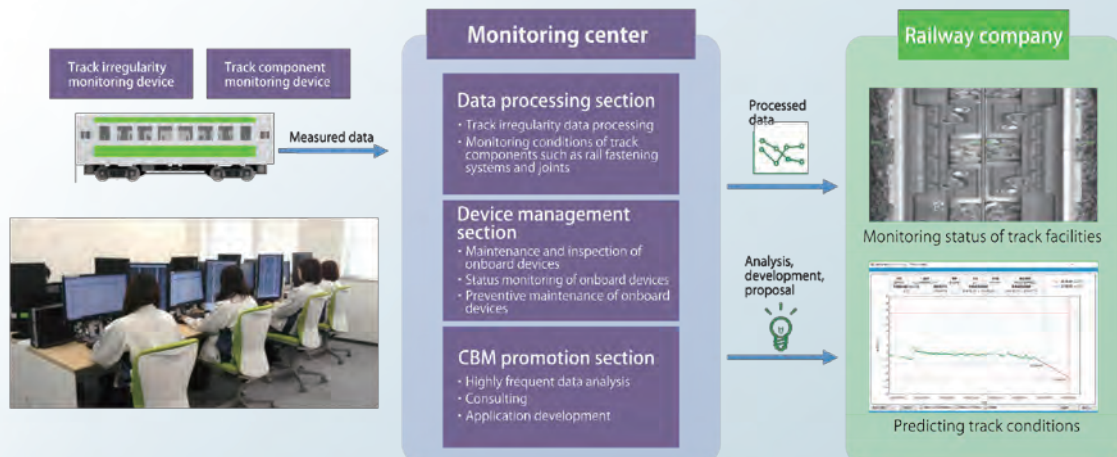
● Monitoring track irregularity conditions on a real-time basis ●



● Monitoring track component conditions ●

## Track Facility Monitoring Center

We offer comprehensive services to railway companies, including the processing of measured data, maintenance and management of the onboard devices, and data analysis consultation.



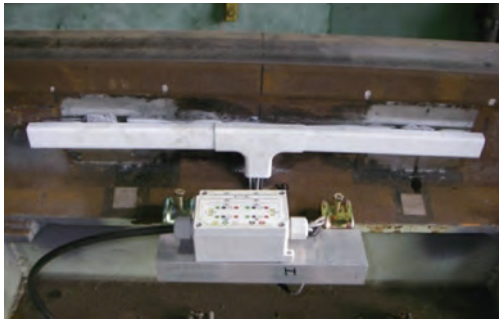


# Railway track engineering

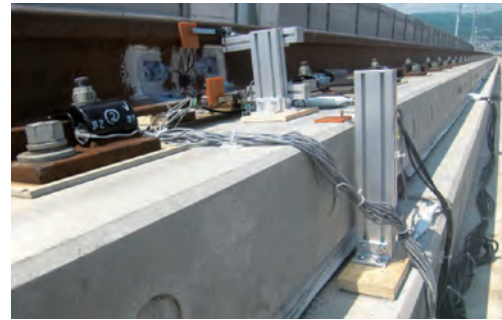
We offer consultation services for track maintenance-related surveys, measurement, design, and analysis to respond to various needs.

## Survey and measurement

Track measurement data is required for a variety of purposes in daily train operations, including the confirmation of safety when increasing train speeds, verification of effects on introducing newly developed technologies, and investigation of the causes of accidents. We measure various track-related phenomena such as wheel load, lateral force, vibration acceleration, noise, etc.



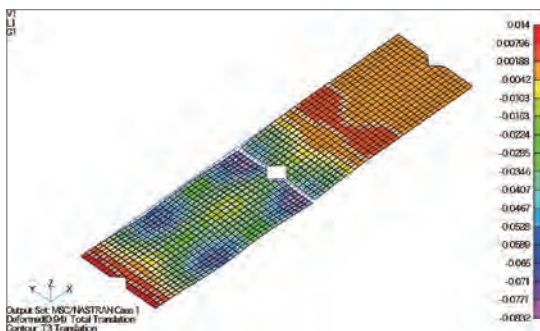
● Wheel load balance measurement device ●



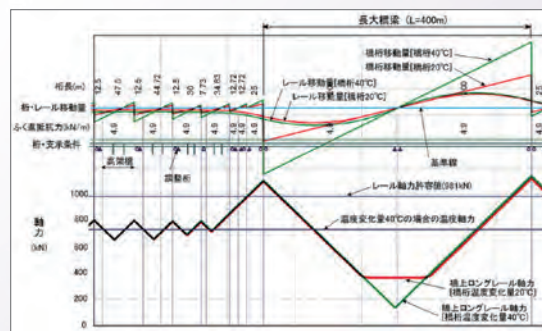
● Displacement and stress measurement ●

## Track design and analysis

We design various tracks for new lines and track improvements as well as track components for existing lines. Furthermore, we analyze and assess track structures, which includes the use of dynamic response analysis (stress, displacement, acceleration, etc.) and long rail axle force analysis (long rails on bridges, those with turnouts, etc.).



● FEM analysis (track slab) ●



● Axle force analysis (long rails on bridges) ●

## Consulting

We offer a wide range of consultation services to review track structures and propose improvements to track maintenance methods, by utilizing our technologies and expertise that we have acquired through problem-solving for railway operators both domestic and overseas over many years.



● Discussions on track maintenance methods (Myanmar Railways) ●



● Slab installation training (People's Republic of China) ●



# Track maintenance technical education

We create textbooks for each railway company and offer training programs for track maintenance engineers of various levels to acquire the expertise and skills required for track maintenance work.

## New employee and young engineer education

We offer classroom lectures and practical training sessions that are conducted by our experienced staff. These cover the required tasks for daily track maintenance, including the measurement of track irregularities, compliance with work procedures, and maintenance of turnouts.



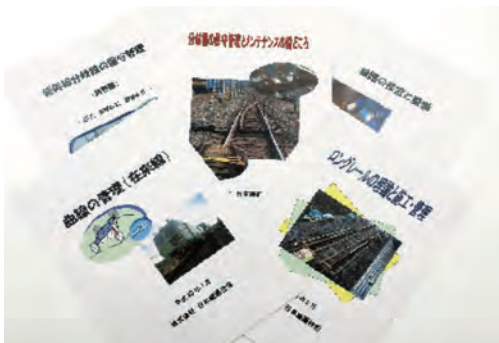
● Classroom lecture ●



● Practical training ●

## Advanced engineer and expert engineer education

In track maintenance lectures and expert training seminars, we teach extensive expertise about maintenance theories and work procedures. Through these programs, we train advanced engineers and expert engineers to solve technical issues.



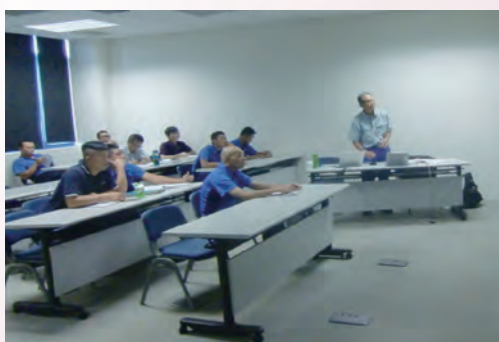
● Various textbooks ●



● Practical training with a turnout ●

## Overseas engineer education

For overseas clients, we offer training programs on track maintenance methods in Japan that consist of a combination of classroom lectures and practical training.



● Classroom lecture ●



● Practical training with slab tracks (Taiwan High Speed Rail) ●

