

環境への取り組みと研究開発

■ 燃料電池ハイブリッド鉄道車両 Fuel cell hybrid train

環境負荷低減というコンセプトの下、ディーゼルハイブリッド鉄道車両の実現に続き、世界初の燃料電池ハイブリッド鉄道車両を研究開発中。
We develop the world first fuel cell hybrid train to reduce environmental impact.



■ 鉄道林 Railroad Forests

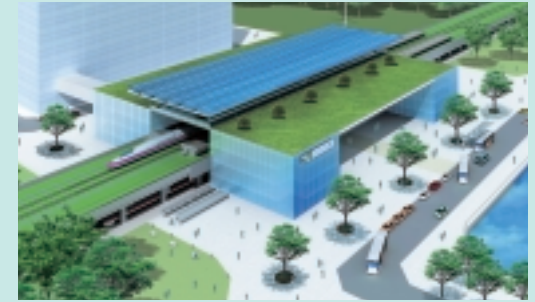
吹雪や土砂崩れなどの自然災害から鉄道を守る人口林（鉄道林）600万本、約4,200ha保有。排出するCO₂を吸収するなど、沿線の環境保全に貢献。
JR East maintains planted forests of 6 million trees, covering an area of approximately 4,200ha, which protect railroads from avalanches, mudslides and other natural disasters. The trees also contribute to the environment by absorbing CO₂ emissions.



■ エコステ "ecoste" (environment earth conscious station of east japan railway company)

太陽光発電、LED照明、自然風の活用、植栽・緑化等様々な環境保全技術を取り入れた環境モデル駅「エコステ」の実現に向け、研究開発中。

"ecoste" incorporates a variety of technologies for preserving the environment, including solar power generation, LED lighting, natural wind usage, and replanting or greening.



■ 環境技術研究所 Environmental Engineering Research Laboratory

2009年4月、「JR東日本研究開発センター」内に設立。鉄道の環境技術における世界の最先端をめざし、環境負荷評価手法（ライフサイクルアセスメントなど）や新たな運転エネルギーの効率的利用、再生可能エネルギー技術の適用など、地球環境問題への貢献に有効な技術テーマを専門的に研究開発中。

In April 2009, the Environmental Engineering Research Laboratory was established within the Research and Development Center of the JR East Group. Researchers here are aiming to become a leading edge world center of railroad environmental technology by conducting specialized R&D on technological themes that can contribute to resolving global environmental problems, such as the effective use of environmental load assessment methods (life cycle assessment, etc.) and new locomotive energy, as well as technology using renewable energy.

■ ATACS Advanced Train Administration and Communication System

列車自ら位置を検索し、無線により列車間隔を制御する次世代の運転制御システム。仙石線へ導入予定。

In this system, trains detect their locations with on-board equipment and ensure safe spacing through wireless communication. ATACS is scheduled to begin regular use plan on the Senseki Line.



■ 在来線用試験電車 MUE-Train MUE-Train (Multipurpose Experimental Train for Conventional Lines)

降雨時のブレーキ力向上試験やWiMAX（高速データ通信）の検証試験のほか、営業用車両で地上設備を高頻度に監視しメンテナンスに活かす装置の開発を実施中。

This train is used for experiments to improve braking power during rainfall, test WiMAX (high speed data transmission), and the development of devices to allow maintenance based on high-frequency monitoring of ground facilities from commercial trains.

