

ECO4 - Value Added Solutions for Energy Friendly Rail Products

Energy, efficiency, economy and ecology are the four 'E' cornerstones and basic elements in an innovative new formula for total train performance from Bombardier Transportation: ECO4.

The ECO4 modular portfolio of innovative technologies, products and services covers a wide spectrum of performance requirements and offers specific benefits for train operators. The ECO4 portfolio, which ranges from planning the energy efficiency of new transportation systems to aerodynamically enhancing new train designs or optimizing the energy consumption of an existing fleet, can create a substantial overall saving of up to 50 per cent.

The technical highlights of the ECO4 products are:

- **EnerGplan Simulation Tool:** the only tool on the market which enables operators to simulate and then optimize the energy consumption for complete transport systems, reducing energy use by 20 per cent
- **Energy Management Control System:** an energy management control system designed to integrate energy awareness, efficiency and carbon control into an operators business
- **EBI Drive 50 Driver Assistance System:** the industry's first integrated solution for customers to help save up to 15 per cent of traction energy by assisting drivers with information on speed and traction force, thus saving up to 30 per cent traction force
- **AeroEfficient Train Optimization:** a design approach for energy-efficient aerodynamic designs which can realize energy savings of up to eight per cent for regional and up to 15 per cent for high speed trains
- **ThermoEfficient Climatization System:** an intelligent, low-energy interior climate system for all rail vehicles which helps improve comfort levels for passengers while at the same time saving energy
- **The C.L.E.A.N. Diesel Power Pack:** leading the industry by providing the only drive system for Diesel Multiple Units in the 660 kW class already in conformity today with the new EU emission guidelines (stage III-B) to be implemented in 2012. The C.L.E.A.N. system leads to a reduction in particulate emissions of 87 per cent
- **MITRAC Energy Saver:** the leading regenerative braking system for light rail vehicles, which delivers energy savings of up to 30 percent
- **PRIMOVE Catenary-Free Operation:** the world's first system to enable completely catenary-free operation of trams over distances of varying lengths and in all surroundings including underground lines
- **BOMBARDIER FLEXX Tronic Technology:** a system which provides unique functionalities for active Radial Steering and Bogie Stabilization (ARS)
- **BOMBARDIER MITRAC Permanent Magnet Motor:** increases energy efficiency and performance for our customers

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