

## Optimal Driving Technique for Energy Efficiency

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**Abstract:** Railway offers advantages in terms of environmental performance in comparison with many other modes of transport. However, as alternatives such as air and road transport improve and new technologies are introduced, the advantages are reduced. To maintain or increase them, new technologies and systems will also have to be introduced in the railways.

In recent years, energy prices have soared, which of course have increased costs for railway operators. Simultaneously, the energy market has considerably changed that in most developed countries, it is deregulated, giving railway operators an opportunity to define new ways of using energy. Efficient operation of the Railway system is considered as an essential way to energy saving while an efficient management of power level helps to lower the reference subscribed power, giving access to better energy rates.

It is studied on the energy efficient driving of train in railway. It should be considered several parameters as train traction and braking power characteristics, gradient and curve of rail, maximum speed, journey time, particularly regenerative power during braking and so on. The energy sensitivity and their majority are studied through parametric study. In result it is proposed which parameters are considered during design and operation for energy efficient driving.

**Keywords:** railway, energy efficiency, train driving