

# IMPROVING THE ENERGY MANAGEMENT FOR LDH-1250HP LOCOMOTIVE USING EMBEDDED SYSTEMS

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**Abstract:** *The paper presents the implementation of a new energy management system on LDH 1250HP locomotives and the prototype realized by upgrading and improving the existing old fashioned voltage regulator and the starting system of the locomotive. The models considered, the developed topology as well as the chosen strategy in the energy management is described in this article. The approach for this challenge consists in an embedded system, a set of intelligent sensors, and high power switching in order to accomplish an optimal energy transfer from super capacitors and lead-acid batteries, to the DC starting motor of ICE. The solution implemented by us reduces the number of lead-acid batteries at half of initial and increases the batteries' life time.*

**Key words:** *adaptive control, embedded system, topology, energy management, super capacitors.*

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