

# Energy Savings by Essential System Integration in the Forthcoming E-Mobility

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## Abstract:

The electrical power-train is superior to the direct combustion based propulsion from several points of view: better overall energy efficiency, lower emissions, better fun to drive and reduced use of primary materials. The power-train of a full Electric Vehicle (EV) is conceptually the simplest and the most economic; there are no technical, economical, social or environmental reasons against its adoption.

Full Electric Vehicles require high efficiency power electronics to connect the various stages including the e-grid (or local renewable energy sources), accumulators, high power-energy switches, in the vehicle high power lines, high power converters, drivers and e-motors. Rather than more electronics or more computational power the development of higher efficiency electronic subsystems and, even more important, the engineering of their globally optimized integration-management, will be the factors to speed-up towards this new exciting era of mobility.

## Curriculum Vitae



Pietro Perlo took his Laurea degree in General Physics at the University of Torino in 1980. In the mid 90', he originated the first world-wide commercial introduction of diffractive and microoptics into the automotive, motorcycles, general lighting and IR systems for intrusion alarm. Pietro coordinates the Italian programme on the development of microcombustion based range extenders. As director and senior scientist at Centro Ricerche Fiat, he concentrates his interests on the optimal integration of enabling technologies and systems for zero emission mobility. Pietro is the Chairman of the Working Group Automotive of the EU Technology Platform EPoSS on Smart Systems Integration.

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