



Technical Tutorial: Intelligent Vehicles and Energy Efficiency

Organized by:

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Learning Outcome:

At the end of the tutorial, the audience should be able to understand the link between intelligent vehicle and energy efficiency:

1. different vehicle power train architectures
2. different sensing technologies to achieve high power flow efficiency
3. role of GIS (Geographical Information System) when dealing with single on-board energy source or hybrid on-board energy sources
4. various well-known driving cycles
5. brief optimisation of driving behaviour in conjunction with road condition (road sensing) and GIS data
6. link between driving security, autonomous driving and energy efficiency
7. soft-computing techniques for intelligent transportation

Teaching Concepts:

This tutorial will use several examples to illustrate main concepts and relevant features.

Teaching Methods:

The tutorial is divided into two parts: the first one will cover point 1 to 4 whilst the second part is related to point 5 to 7. For each part, a set of examples as well as some well-known references will be presented and discussed. The fundamental issues will be highlighted and some of known solutions will be presented.



Teaching Media:

All presented materials are planned with a conventional multimedia tool like Microsoft PowerPoint. A copy of the presented material can be provided, if required by participants.

Exam Methods:

At the end, the participants will be asked to answer questions orally.

Relevance for the Industry:

The intelligent sensing industry can learn how to leverage their technology in order to contribute favorably to reduce energy consumption on IVs.