THE FUTURE (AND THE PRESENT) OF MOTOR VEHICLE PROPULSION SYSTEMS

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Limited reserves of oil and the increasing environmental effect of its usage as a motor fuel represent global issue related to the constantly increasing number of motor vehicles. Therefore, the reduction of the fossil fuel consumed and the emission produced in internal combustion engines is the primary goal of the development of motor vehicle propulsion systems. In that sense, the present and the future of motor vehicles relies on hybrid drive systems, electric drive systems and drive systems which use hydrogen as a fuel (either by its combustion or by production of electric energy with the help of fuel cells). In this paper, the authors have presented the aforementioned motor vehicle propulsion systems by explaining their function and design, their basic elements and their functions. Authors have also analysed advantages and disadvantages of the mentioned propulsion systems in comparison to conventional internal combustion engine based systems, both technically and environmentally speaking, but also in relation to available infrastructure and energy resources.

Key words: hybrid vehicles, electric vehicles, fuel cells, hydrogen, fuel consumption, exhaust emission, internal combustion engine