

## **An Electromechanical Device to Use in Road Pavements to Convert Vehicles Mechanical Energy into Electrical Energy**

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**Abstract :** With the growing need for alternative energy sources, research into energy harvesting technologies has increased considerably in recent years. The particular case of energy harvesting on road pavements is a very recent area of research, with different technologies having been developed in recent years. However, none of them have presented high conversion efficiencies nor technical or economic viability. This paper deals with the development of a mechanical system to implement on a road pavement energy harvesting electromechanical device, to transmit energy from the device surface to an electrical generator. The main goal is to quantify the energy harvesting, transmission and conversion efficiency of the proposed system and compare it with existing systems. Conclusions about the system's efficiency are presented.

**Keywords :** road pavement, energy harvesting, energy conversion, system modelling

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