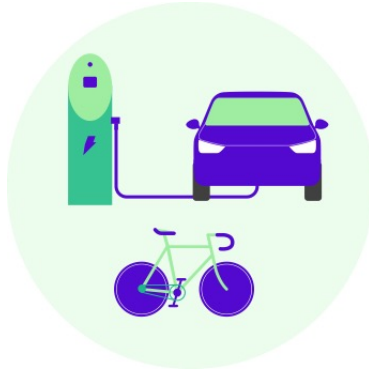




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## SMART MOBILITY Harvesting energy from bicycles

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### TRL scale



### What's needed for?

This patent describes a device that can effectively transform the mechanical energy of the vibrations generated by a bicycle travelling on road into electrical energy. The energy collected will be used to power electronic devices such as lights or speedometer without the use of batteries, making bicycles an even more environmentally friendly vehicle.

Bicycles travelling on city streets generate low-frequency and wideband vibrations due to the characteristics of road roughness. Energy harvesters currently on the market are not capable of transforming such ranges in electrical energy. This patented device can recover energy from vibration enough to power devices such as lights, speedometers, clocks or other low energy consuming devices on vehicles that do not have an autonomous power supply. This new device can tune a cantilever harvester to the typical vibrations generated by cycles. It will be ideally used also to generate electricity in other unpowered vehicles such as kayaks or small boats.

### Advantages

- Eco-friendly energy harvesting
- Batteries no longer required
- Low cost components

### Applications

- Power for bicycle devices (light, speedometer, clock)
- Devices for unpowered water vehicles