



**“Gheorghe Asachi” Technical University of Iasi, Romania**



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## **MODELING ENVIRONMENTAL IMPACT OF CYBERNETIC TRANSPORTATION SYSTEM**

**Leonid Tartakovsky\*, Boris Aronov, Albert Mosyak**

*Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, 32000, Technion City, Haifa, Israel*

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### **Abstract**

Cybernetic Transportation System (CTS) is a relatively new branch of the Intelligent Transportation System, which can provide flexible transportation services for university campuses, resorts, and industrial parks. The proposed simulation approach is suitable for a preliminary assessment of CTS-related environmental impact in real-world driving conditions. The model is built to allow performance prediction of a single cybercar or the whole CTS in a wide range of operational conditions. A simple formula is proposed to compare the environmental impact of CTS with that of conventional vehicles. Calculation techniques are developed to evaluate the effect of the relative receptor density and different fuel resources used for electricity generation on the environmental impact of the transportation system based on battery-electric vehicles.

*Key words:* cybernetic transportation system, electric vehicle, environmental impact, receptor density, total emission indicator

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\* Author to whom all correspondence should be addressed: e-mail: [tartak@technion.ac.il](mailto:tartak@technion.ac.il); Phone: +972-4-8292077; Fax: +972-4-8295711