

ADVANCEMENTS IN NANO-ELECTRONICS FOR ENERGY EFFICIENT DEVICES

Dr. Manisha Kumari¹, Dr. Bidyanand Mahto^{2*}

*Corresponding Author: ²Department of Physics (ASH), Bihar Engineering University, India,
bidyanandmadhuri@gmail.com

¹Department of Physics (ASH), Bihar Engineering University, India,
ishal60710@gmail.com

ABSTRACT

This article investigates the progress in nano-electronics that possess the potential of energy-saving devices. Nanoscience, with its capacity to manipulate substance at the atomic and molecular magnitude, has extensive implications in diverse domains, encompassing electronics, healthcare, power, and ecological durability. Recent advancements in nano-electronics, such as the utilization of graphene and other nanoscopic substances, have resulted in diminutive, more potent, and energy-frugal electronic gadgets. These breakthroughs possess the capacity to transform the technology panorama, resulting in eco-friendly energy alternatives and enhanced computational technology. Nevertheless, obstacles associated with security, morality, and fair availability must be tackled as we navigate the revolutionary capacity of nanotechnology. Cooperation amidst researchers, governments, industry participants, and policymakers is vital to harnessing the complete advantages of nano-electronics for society.

KEYWORDS: Nano-electronics, Energy-efficient devices, Advancements, Graphene, Sustainable technology, Collaboration.