

Harnessing Fourth Industrial Revolution (4IR) Tools for Industrial Innovation and Infrastructure

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ABSTRACT

The Fourth Industrial Revolution (4IR) has brought about a transformative wave of technological advancements that hold immense potential for industrial innovation and sustainable development. Each of the key 4IR tools, namely Artificial Intelligence (AI), Web 3.0, Green IT, and the Internet of Things (IoT) has impacted on the way activities are run in the world today. Properly harnessing them should expectedly bring about tremendous benefits beyond the individual contributions. This paper delves into real-world case studies and examples to illustrate how these 4IR tools are being deployed across industries, showcasing their impact on sustainable development goals. It also discussed the challenges and considerations in adopting these technologies, including data privacy, security and ethical concerns for our industries as they seek innovative solutions to address global challenges while minimizing their ecological footprint, understanding and harnessing the potentials. A survey was carried out that revealed that effectively harnessing the 4IR would be of greater benefits. Thus, this paper recommended a combination of the tools for our industries.

Keywords: 4IR, AI, IoT, Green IT, Web 3.0