

Chapter 9

Industry 4.0 Revolution and Its Impact on Society

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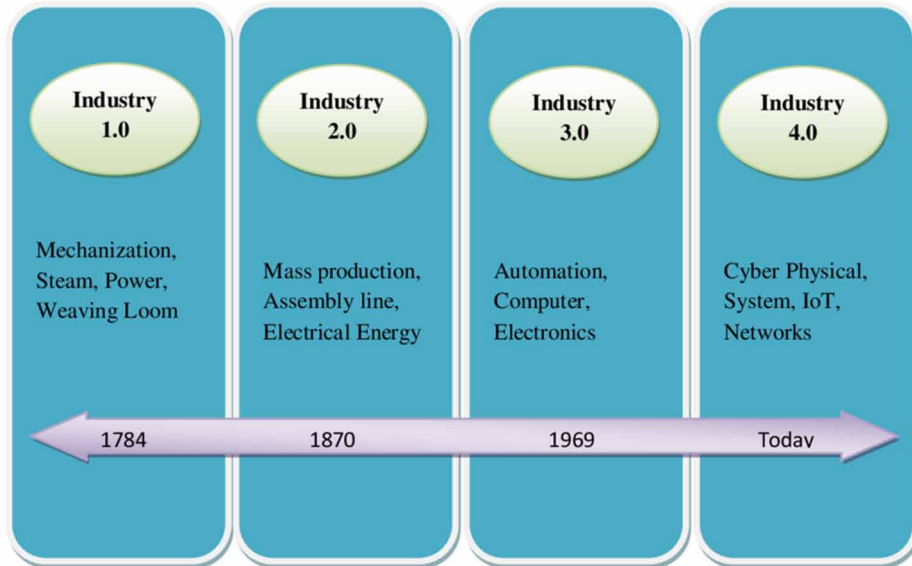
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ABSTRACT

The term “fourth industrial revolution” is used as a framework for analyzing the influence of coming technologies on the full range of societal impact on the current generation, evolving cultural laws, governmental view, economical growth, and foreign affairs. The fourth industrial revolution idea confirms that technological change is the engine of change in relevant sectors and elements of society. It underscores the theme that many technologies have emerged at some point in history that has been combined in ways that have had an impact on incremental efficiency gains. This chapter introduces how this new revolution has brought great opportunities; the core potential of this industrial revolution is to increase manufacturing output globally to meet social needs and to enhance the capacity across all the different current systems. The chapter focuses on various novel techniques that sustain this ultra-modern era and delineates the influence, prospects, desires, and acclimation of Industry 4.0 from the social viewpoint.

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Figure 1. Advancement from industry 1.0 to 4.0



INTRODUCTION

The 21st century, marked by a knowledge explosion, has witnessed a surge in various trends, technology, and Innovations that are rapidly evolving Industry incubators that plan to grow budding ideas. “Manufacturing intelligentization and digitalization” is the core technology of the new industrial revolution (Vaidya, S., Ambad, P., & Bhosle, S, 2018). To increase productivity, so many industries are putting effort into the customization of production. The advancement from industry 1.0 to industry 4.0 implies a complete transition in the industrial epoch as shown in Figure 1.

Industry 4.0 revolution, popularly known as the ‘fourth industrial revolution, is a novel trend of smart automation in the industry that brings complete administration of product’s life cycle. Industry 4.0 includes various technologies like the Industrial Internet, Internet of Things, Smart Manufacturing, and Cloud-based Manufacturing. In Industry 4.0, the entire globe has faced a series of novel technologies linking the physical and virtual worlds. Adaption of modern techniques and tools results in improving production efficiency and revolutionizing the way the entire organization works and grows. The technologies enabling this revolution grip existing data and extensive supplementary data sources, containing data from associated assets, to enhance efficiency at multiple levels, convertcurrentproduction processes, create conclude information flows along the value chain, and generatecontemporary services and business prototypes. It is worthwhile to glance at the prior industry revolutions to appreciate the significance of Industry 4.0.

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