International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-9 Issue-11, September 2020

Evolution of Industrial Revolutions: A Review

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Abstract: ***The new economy has seen tremendous strides since its early appearance at the onset of the industrial revolution in the 18th century. For decades, much of the items, including guns, tools, food, clothes, and homes, have been crafted or used from work by animals. This improved in the late 18th century with the introduction of the industrial methods. Industry 1.0's development was then a quick uphill climb leading up to the next manufacturing age – fourth Era. The summary of this evolution will be discussed here. This article takes a theoretical approach to looking at Business 4.0 as the Fourth generation. The study identifies three key elements of each transformation to deepen understanding of the phenomenon: technological, economic and demographic changes. In Business 4.0, Public Use Technology (PUT), Extreme competition and ageing demographics will allow the expansion quicker and broader. Although advances in Business 4.0 are more evaluative than transformative, their mixture and the context in which they develop forecast significant economic and social impacts that will in turn constitute a revolution.***

Key words: Industrial Revolution period with History 1.0, 2.0, 3.0 and 4.0
Type of Paper: Literature Review

I. INTRODUCTION:-

INDUSTRY 1.0: First Revolution of Industry

The First Industrial Era period started in the 18th century with the introduction of water power and energy of the output. In the same timeframe, the mechanized version produced eight times the length, before producing threads on single spinning wheels. We already knew its steam engine. The biggest advance in rising human productivity was what was used for manufacturing purposes. Steam motors may be used for power instead of spinning muscle-driven looms.[1] Innovations such as the steamship or (about 100 years later) the steam-driven locomotive culminated in more major improvements. Since people and commodities may be traveling wide distances in less hours. The industrial period in Britain came about come to the end of the 18th century (1760-1840) to introduce machinery into existence. It involved moving from manual engineering to use turbine engines and water as power source. This was in 1784 that the first weaving loom was built. With the rise in efficiency and manufacturing volume, small companies grew from servicing a tiny range of clients to large organizations representing a larger variety of owners, executives, and employees. Business 1.0 can also be seen as the beginning of the corporate ethos based in equal measure on efficiency, profitability and size. The era also saw entrepreneurship culture evolving Incorporated into the Company 1.0 management framework to boost the efficiency of the manufacturing facilities. The fundamental processes have been simplified by multiple plant management approaches such as labor division, just-in-time plant and lean manufacturing practices contributing to improved output and performance. This greatly improved agriculture and the term "factor" became a little popular. One sector that has benefited most from these shifts is that of the textile industries. The major technical advances of the revolution are linked to the Watt steam engine, which was more powerful than that of Newcomen and which resulted in several subsequent developments and applications (Brynjolfsson and McAfee, 2014). Besides being stronger than the water wheel, the steam engine also provided greater flexibility to produce .More susceptible to environmental effects were plants (Freeman and Soete 1997). This invention "opened the door to further changes in efficiency that slowly put the steam engine under the influence of all branches of the economy and making it a universal primary mover"(Landes, 2003, p. 102).

Table-1: Literature Regarding 1st Revolution

Ref No.	Author with Year	Critical Findings
29	Freeman & Soete 1997	First Garment Industry Revolution
35	Jensen 1993	Economics Scale Balancing Investment
06	Friden 2008 & Jensen 1993	Virtualization of Automobile Industry
32	Goldhar &Jelinek 1983	Time Consuming & Expensive system study
31	Gerwin & Tarondeau 1982	Flexible Processing Mechanisms

The turn of the 20th century signaled the advent of the second industrial revolution, Manufacturing 2.0. The invention of electrical energy devices was the primary contributor to this revolution. Electrical technology has also been used as a primary source of electricity[3],[4].
In terms of costs and electricity, in comparison to water and steam,

Revised Manuscript Received on September 30, 2020.
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electrical machines were more efficient in service and upkeep. Computers were focused that were fairly slow and hungry for money. The first assembly line was also installed during this time, further streamlining the mass manufacturing process. The manufacturing of products has become a common method using the assembly line.

Around the time computers were already a big development. They were first introduced in the textile industry, where each technological development presented a further obstacle for the whole enterprise, resulting in a series of changes (Landes, 2003). Such technologies extend across multiple industries. The economic condition was the right one. Two hundred years of relatively uninterrupted growth have turned Britain into a fertile ground for the industrial revolution (Hobsbawm, 2016): the use of mechanized machines in agriculture has increased the productivity of grain and wool; the launch process has created a network of rural factories that has enabled the flow of goods and capital across the island. While imaginative people have proposed approaches to business challenges, those with technological expertise, ambition and willingness to streamline and enhance the manufacturing cycle they have followed. The technological problems of the First Industrial Revolution were simple and did not require deep scientific expertise or huge sums of capital. (Landes, 2003; Hobsbawm, 2016)

II. INDUSTRY 2.0:SECOUND REVOLUTION OF INDUSTRY

In the 19th century, the Second Industrial Revolution began with the invention of the production of electricity and assembly lines. Henry Ford (1863-1947) took the concept of mass processing from the slaughterhouse in Chicago: the pigs hanged from the conveyor belts and each butcher did only part of the job of killing the cow. Henry Ford has applied these ideas in the manufacturing of vehicles and has improved significantly in the process. While the whole car was installed in front of one platform, the cars were now built on the conveyor belt in partial steps-significantly faster and at a lower cost. Technological advances in manufacturing have also had an influence on other industries: air, metal and chemical.

Around the same time, the advent of the mass production process increased performance with the use of interchangeable components and assembly lines. Less modern and inefficient technology has been used, but economies of scale have offset expenditures. (Jensen, 1993). The economic situation of that time saw many ups and downs, not only because of the major disasters (e.g. the "great depression" of 1893 and the "crash" of 1930), but also because of the two world wars. In general, it can be inferred that competition has intensified, contributed to globalization, and that capital has been central to this transition The growth of industrialization across Europe and the United States has expanded since the mid-19th century and the number of factories has grown (Hobsbawm, 2016). Competition to recruit more productive developments culminated in overcapacity; then a mechanism to merge created large corporations: first to create trusts throughout the rail, steel and oil industries. Further on, the virtualization of the automobile industry (Hobsbawm, 2016; Frieden, 2008; Jensen, 1993). The scale and complexity of these sectors have made science expertise and research more important, and several businesses have formed R&D divisions (Freeman and Soete, 1997). At the one side, vast quantities of the same items contribute to price cuts, allowing a much greater number of people to buy them. In the other hand, the manufacturing cycle was very linear, and any modification of the commodity became time-consuming and expensive (Goldhar and Jelinek, 1983).

Table-2: Literature Regarding 2nd Revolution

Ref No.	Author with Year	Critical Findings
10	Great crisis" of 1893 and the "crash" of 1930	Study Between these period of Industrial Revolution and implantation
20	Linderman K. (2009)	Type of improvement techniques applied
21	D, Junell (2010)	History of industry 2.0
23	A.Thomas (2011)	Implantation tool of industry 2.0
29	Freeman and Soete, 1997	Created R&D departments
36	Hobsbawm, 2016	the mid-19th century, and the number of factories grew
48	Henry Ford (1863-1947	Development of electricity and assembly line

The latter dates from 1870 to 1914 (though some of its characteristics date back to 1850) and introduced existing systems such as telegraphs and railroads into industries. Perhaps the distinguishing characteristic of the time was the advent of mass manufacturing as a primary means of overall production. Factory electrification added tremendously to the level of manufacturing. Heavy steel production contributed to the integration of railroads into the economy, leading to mass production[6]. Chemistry advances, such as the invention of synthetic dye, also reflect the time when chemistry was in a very primitive state at that time. However, with the advent of World War I, these radical approaches to manufacturing have been brought to an end. Of course, industrial production, was not put to an end, but only improvements were made under the same context, and none of these can be considered industrial revolutions.

III. INDUSTRY 3.0: THIRD REVOLUTION OF INDUSTRY

In the 1970s the Third Industrial Revolution began with partial automation using memory-programmable controls and computers. [8] Following the introduction of these developments, we are now in a position to optimize the entire development process-without human assistance. Examples of this are robots running program sequences without human interference. Industry 3.0 is the link between Henry Ford's drive for greater productivity and the smart processes we are seeing emerging under Industry 4.0. Processes like those at Ford were not only simplified, but automation made critical parts of the manufacturing process safer and more efficient . We talked to Scott Fawcett, divisional managing director at Essentials Components, about how Essentials' way of working has changed with the transition to smart automation, and how he sees it grow further in future. The technological development of this movement (i.e. computers, processors and the internet).

It originated from substantial R&D spending by the government and universities, first made for security reasons, and then produced for commercial purposes (Freeman and Soete 2008). A number of operations traditionally carried out manually, including planning and monitoring, have been centralized for engineering, electronics and IT. The term Advanced Manufacturing Technology (AMT) originated with the proliferation of these innovations in the 1980s, referring to a range of technologies such as computer-based integrated manufacturing (CIM), computer-aided design (CAD), computer-aided manufacturing (CAM), Flexible processing mechanisms (FMS), inter alia (Gerwin and Tarondeau, 1982; Meredith, 1987; Lei et al., 1996). "The aim was to offer more versatility, shorter manufacturing times, more personalized goods, quicker responses to evolving consumer demands, improved process management and accuracy" (Goldhar and Jelinek, 1983, p. 1). The first was the injection molding machine automatic. Heavy manual material loading systems allowed the loading of granules into machines by people. In the late 1990s, we moved to automated injection molding machines, which created efficiency in customer parts production and total output volumes. It was a tough economic situation. With the oil crisis of the 1970s plumming demand and increasing inflation, companies had to become more competitive in terms of cost savings and sales growth. Heavily indebted to most businesses and countries (Frieden, 2008). To cope with that reality, new organizational strategies are required.

Driven by cost savings, many manufacturing operations from developing countries were brought to underdeveloped countries by the end of the 20th century. On the one hand, globalization has stepped up the IT market due to the demands of connectivity. On the other hand, because the labor costs of these countries were low, there was little potential for automation. Though technology launch was not prohibitive, the bill increased with implementation, lack of expertise and organizational constraints. Second, our main rivals had moved from single to multi-cavity tools. We had to move quickly to maintain a competitive edge on the market that allowed us to strengthen our proposal to offer scalable output volumes. Maybe the third one is much more familiar to us than the others, since most of the people who live today are familiar with industries that depend on digital technology for growth. However, the third industrial revolution dates from 1950 till 1970. It's also called the Digital Revolution and the transition from analog and mechanical systems to digital systems has taken place.

Table-3: Literature Regarding 3rd Revolution

Ref No.	Author with Year	Critical Findings
29	Freeman and Soete, 2008).	Economics of Industry Revolution
32	Goldhar and Jelinek, 1983, p. 1)	Plan & Scope of 3.0 Revolution
17	S.Wang, J. wan (2016)	Type of improvement techniques applied
12	M. Chung, &Kim (2016)	History of industry revolution
20	H. Johansson (2017)	Implementation of the Industry 3.0 in health care industry
31	Gerwin and Tarondeau, 1982; Meredith, 1987; Lei et al., 1996	Case Study
37	Jacobides, M. G. (2005	Changes through vertical disintegration
40	Landes, D. S. (2003).	Technological Changes
46	Porter, M. E. (1994	Transforming Competition
49	Zhang, Z.; Liu, S.; Tang, M.(2014	Challenges
44	McKinsey Global Institute (2012	Future Need
41	Lasi, H., Fettke, P., Kemper, H. G., Feld, T., & Hoffmann, M. (2014)	Competitive advantages

The next technological transformation which led to Industry 3.0 had been brought about and powered by changes in the electronics industry in the last decades of the 20th century. The invention and manufacture of a range of electronic devices, including transistors and integrated circuits, significantly improved the machines, resulting in reduced effort, higher speed, higher precision and higher efficiency[10] In certain instances, and even total human agent substitution. Programmable Logic Controller (PLC), originally developed in the 1960s. The introduction of electronic hardware into manufacturing systems also created a software need for such electronic devices, further industrializing the entire industry using electronics and IT. Since then the systems are robotic and automatic have developed continuously with the developments in the electronics and IT industry.

The opportunity to further cut costs caused many producers to move to low cost countries. The distribution of the manufacturing geography contributed to the creation of the Supply Chain Management. The high expectations generated by the strong media and business literature repercussions of AMT, always forecasting more than predicted, resulted in rapid disappointment, arguing that the proliferation of computer-related technology was slower than expected due to factors such as skilled technical shortages, high technological costs and the need for high investment in new equipment.

IV. PROPOSED METHODOLOGY:-

INDUSTRY 4.0: Fourth Revolution of Industry

Currently, the Fourth Industrial Revolution is in progress. It is distinguished by ICTs being introduced to production, already known as "manufacturing 4.0." Which builds on the advances of the Third Industrial Revolution? Computer technology manufacturing processes are extended through a network connection and thus have a physical counterpart on the Internet. This enables contact with other facilities and self-knowledge production. [11]. this is the next step in industrial automation. Networking of all systems leads to "cyber-physical manufacturing systems" and thus to clever factories that use a network to connect production systems, products and people.

In Industry 4.0 good software for production planning that automates the different tasks of product development is a must for mass change and improved efficiency. This suggests that a good planning manufacturing platform will form a critical business critical component in Industry 4.0. While there are still some questions regarding AMT's Third Industrial Revolution results, a new generation of innovations is emerging, offering all that has been expected before, plus a little bit more. But is this necessarily going to be a modern revolution.

The CPS, defined as the convergence of physical and cybernetic structures (Lee et al. 2015), is Industry 4.0's core technologies. Both systems function as one: much of this is in the physical results of the abstract and vice versa (Lee, 2010). Usable in a number of industries (Hellinger and Seeger, 2011). One of the core solutions of Industry 4.0 is to build flexible and configurable plug-and-work architectures which permit different product and process configurations. The main feature is the definition of control entities within fabrication structures that can be connected to the production network and commence operation without altering the control applications in the remaining production systems. Applicants can react quickly to market requirements and limitations through the physical process linked to the Virtual via the Internet and centralized embedded information. The This ensures that low-cost small lot production helps to meet requirements without scaling. (Brettel et al., 2014).

Cyber-physical systems derive from several important developmental electronic systems, embedded systems, informatics and artificial intelligence. "The rapid rise in device efficiency, network penetration and high-powerful internet search engine are just a few examples, and ever more miniatural integrated circuits. (Hellinger and Seeger, 2011, p. 15).

These innovations can be destructive in combination. D'Aveni (1994) argues that a hypercommercial, complex atmosphere has been created by the push to innovate. This means that the competitive advantage has gone away, and businesses will continually improve (D'Aveni et al., 2010). In order to grow and function at the same time, coordination is required; several organizations simultaneously design, create and deliver a service. Porter and Heppelmann (2015) Arguing that the supply chain undergoes an intense transformation cycle, to the extent where companies ought to challenge what they do and what they do. In particular, there are developments in industrial "servitizations," modern market models (Kagermann et al., 2013) and verticalisation (Langlois, 2003). Some scholars argue that industry's business environment shifts as the world is global (Jacobides, 2005; Evans and Wurster, 1997; Hagel and Singer, 1999).

The exchange of data and knowledge that allows greater output and process control is now connected to all the manufacturing tools within the sector. The procurement of the products and supply chain is solved using complex procurement and System Dynamics Control (SDC). Information and information are turned into applications that determines on techniques. For a very few manufacturing processes, such as welding, this form of process design has been completely implemented. Most producers often face the task of finding the right technology as the industry produces many products with various technologies. Moreover, the scaling of the high-tech single product method (such as soldering) may not be convenient for different types of goods to use. More relevant is the process simulation and resource allocation predetermination. Full production planning simulation using real-time data can be an important solution to this problem. Let's see how a product planning program can make the manufacturing process 'smarter.

Table-4: Literature Regarding 4^{th} Revolution

Ref No.	Author with Year	Critical Findings
34	Schroder-schlepphorst &Key 2015	Approaches Used in Paper Industry
8	A. Maier (2015)	Type of improvement techniques applied
13	M. Rendall (2017)	Time Line chart in industry Revolution
50	Lee. Et al 2015	Decision Algorithms
22	Schleipen et al. 2015	Approaches Industry 4.0 Revolution
28	Brettel et.al. 2014	Small Batch Production at low Cost

15	Roser & Ortiz 2017	Growth Rate of Industry 4.0 Revolution
50	Bauernhansl, Hompel & Vogel-Heuser, 2014	
46	Spath, Ganschar, Gerlach, Hämmerle, Krause & Schlund, 2013	Simulation Technology
55	Wan, Cai & Zhou, 2015	Focus in customer demand
30	Weiss, Zilch & Schmeiler, 2014	implementation strategies & Benefit of industrial Revolution
53	Shah and Ward (2007	Discussed how the technologies and concepts of Industry 4.0
54	Venohr &Meyer 2007	Introduction of small scale manufacturing
52	Dora-ven Gourberrgen & Gellynck 2013	Factor effecting in 4th Revolution
10	Field & Hoff mann 2014& Posada et al. 2015	Introduction of robotics and automation Technology
35	Karger,Helbig & Wahlster 2013	Relation Between Employees & Business Partners

According to Oxford Dictionary, industry is the "economic activity engaged in the processing of raw materials and the development of goods in the factories." The root of the term comes from the 15th century. And the first industrial revolution started at the end of the 18th century. The technological advances in manufacturing processes ultimately drive all industrial revolutions. The industrial revolutions in a timely fashion. Notice that periods are shortening following each industrial revolution. There are 100 years before the Next Revolution between revolutions. Yet there are just 40 years between the third and the so-called fourth industrial revolution What do you know about whether or not the business will invest in Industry 4.0? When you can look for the most of this report, the assessment of Industry 4.0 technologies and service vendors and the distribution of the tools available to use them in Enterprise Resource Planning (ERP) are generally free

- For IoT: the Internet of Things, a term which refers to the connection from sensor or device to the Internet. This is the Internet of Things. = IoT.
- The Industrial internet of things, a term relating to the links between suppliers, data and computers, is known as IIoT.
- Big data: big data refers to large data sets that may be collected, stored, organized and analyzed in order to identify patterns, trends, interactions and possibilities, either formal or unstructured.
- FI: the concept of artificial intelligence refers to a machine's ability to carry out tasks and take actions that usually require a degree of human intelligence.
- § M2 M: refers to the communication between machines through wireless or wired networks between two different machines.
- Digitisation refers to a process for storing and converting various types of information into digital formats.
- Machine learning: Machine learning refers to the ability, without being specifically taught or programmed, of computers to learn and to improve themselves through the use of creative intelligence.
- TO Cloud Computing: Cloud Computing refers to a method to store, control and process information on Internet-hosted, integrated distributed servers.Real-time data processing: Real-time data processing refers to the computer systems and machines 'ability to process data continuously and automatically, delivering real-time or near-time outputs and insights.
- The Ecosystem: the entire cycle of development and planning is protected by the industrial ecosystem — manufacture, procurement, customer service, supply chain management, etc. and cyber physical systems — are recognized as the industrial world of Industry 4.0. They include in real time, data gathering, monitoring and compliance in all respects.

With a deeper understanding of some of the key principles of Industry 4.0, you're prepared to explore how intelligent production will revolutionize the way of doing business. In the 1990's, our connectivity and exchange of information was revolutionized by the boom in the internet and telecommunications industry. This has contributed to structural shifts in production and conventional industrial processes combining physical and technological borders. This boundary is further blurred by cyber physical systems (CPSs) which contributes to various rapid technical disorders in the industry. CPSs allow machines to communicate smarter with each other with almost no physical or geographical barriers.

Industry 4.0 advocates refer, so to speak, to the concept in terms akin to the smart home— a network of "smart factories."

In a smart home, a modern-day residence's various luxuries and security features— lights, appliances, alarms, clocks — are enhanced with digital capabilities such as sensing, scanning, memory programming, and voice and facial recognition.

- The cyber-physical machine, a mechanical computer powered by algorithms.
- — IoT — linked networks of computers and vehicles rooted in computer-based sensing, filtering and monitoring capabilities.
- Cloud storage – hosting and data recovery offsite network.
- Cognitive computing — technological platforms that employ artificial intelligence.
- Despite the vast potential of Industry 4.0 in the realm of manufacturing, numerous obstacles stand in the way of full, universal implementation at present, namely:
- Reliability issues with machine-to-machine (M2) communication, which hasn't fully arrived at the levels of performance and stability envisioned by Industry 4.0 proponents.

- IT security concerns, which become even more pressing as older, long-unused facilities are brought into the fold.
- Fear of IT glitches — until artificial intelligence has long proven itself across vast IoT infrastructures; the possibility of costly mishaps leaves many manufacturers skeptical.
- Insufficient skill-sets for the implementation of Industry 4.0 among factory engineers.
- Fear that Industry 4.0, once fully implemented, could spark mass layoffs across the industrial sector, leaving many low-educated factory workers jobless.

Improved identification mechanisms in cyber physical technologies would essentially eliminate the risk of failures in the years ahead and add 4.0 participants to the industry in the automotive sector. Many backers will already agree that computer systems are more reliable and accurate than current manually controlled systems. Industry 4.0's advantages could easily outweigh the risks in many producers' minds if the physical potential of cyber systems is taken into account. In the lifting of heavy vehicles, IoT and technical engineering, thereby relieving human workers from the more demand aspects of industrial labor. In the end, factories could s as a result of these changes.

Computerized equipment should also be designed to cope with certain operating loads containing high temperatures and toxic chemicals, which could save people from adverse exposure. Indeed, Industry 4.0 would not replace people with the kind of jobs most people find unwanted.

• In turn, cyber and cognitive machine systems will lead to improved performance efficiency as technology removes human error from production line activities. • This move could lead to the continuity of goods lines from companies in the production sector. As businesses profits from this, income will be exponential higher reputation for efficiency.

Flow Chart with diagrammatic Representation:-

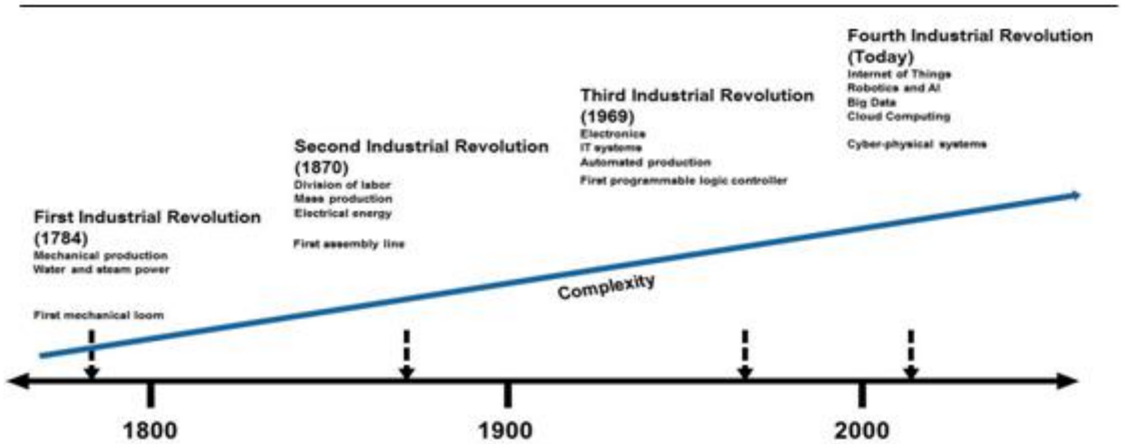

Fig: Time Line Chart Industrial Revolution Period [19]

V. FUTURE WORK:-

What Is Latest New Industry Revolution 5.0?

Since industry 4.0 comes into the field of manufacturing for the first time less than a 10 years ago, but the next revolution is now awaited, Industry 5.0. The new transformation is intended to concentrate on human return and minds in an urban world, with the conversion of factories to IoT-compatible intelligent facilities using cognitive processing and clouting systems for communication. Industry 5.0 is the transformation that combines output means and efficiency and finds ways to communicate between man and machine. [20] Interestingly enough, for those firms who just now have Industry 4.0 the fourth transformation may already be introduced concepts. Even when manufacturers begin to use advanced technologies, they do not immediately shoot large swaths of their workforces and becoming entirely computerized.

The collaboration between human intelligence and cognitive computing is among the key advances predicted from the industry 5.0. In addition, the human beings and computer machines are expected to propel technology to unprecedented speed and perfection levels. The fifth technology could also be more environmentally sustainable, as companies build systems for renewables and waste disposal.

Table: 5 Compressions between Industries 4.0 to Industry 5.0[13, 21]

	Industry 4.0	**Industry 5.0**
Motto	New Factory	Social Economic
Motivation	Mass Production	Sustainability
Power Source	Electrical power - Fossil based fuel - Renewable power sources	Solar power - Renewable power sources

Latest Technology	- Internet of Things (IoT) - Cloud Computing - Big Data - Robotics and Artificial Intelligence (AI)	- Sustainable Agricultural Manufacturing - Bionics - Renewable Resources - Human Robot Coordination
Covered area	- Organizational Research - Process Innovation and Improvement - Business Administration	- Agriculture - Biology - Reduction Waste Prevention - Organizational Research - Method Innovation and Development - Business Administration

Industry 4.0 Today, Industry 5.0 Tomorrow

With technical change every ever more quickly, revolutions could pursue each other quickly over the next 10 years and beyond. [21] While the first three industrial revolutions took decades to carry out, today's revolutions run progressively before they are completely introduced throughout the sector. It is only reasonable to see that the pace of those inventions will soon be preceded by a fourth revolution. When businesses take a fast or incremental path to Industry 4.0, ideas are expected to shape the future industrial landscape. Because of IoT Applications' features, cyber systems and cognitive computing, we will see rapid growth as more businesses come on board. In a few years' time, human workers and factory robots could end up collaborating on designs and sharing workloads across a variety of manufacturing processes.

VI. CONCLUSION

The Industrial Revolution promoted a middle class of people who were not comfortably wealthy, but almost ever went to the factory or unskilled employees. It included tradesmen and mid-level leaders, as well as skilled workers with manufacturing equipment not loaded. Despite such development, life was not easy as a worker during the Industrial Revolution. The standards of employment were bad and often dangerous. Even now, workers were expected to work or to forfeit their jobs for long hours during the Industrial Revolution. It was expected that most employees will work 12 hours and 6 days a week. The technological and cultural advances of the Industrial Revolution have led to important social changes. Increased migration and urbanization patterns were motivated by the rise in the movement of people in search of employment to urban centres. Income and labor performance decreases. The Industrial Revolution has resulted in many cheaper goods, which have often altered the basic balance of life of the low, mid, and high classes. There was a misunderstanding. Things were "improved" as the products were made more economical for convenience and life changes per piece even through the prism-but they came at a cost. Industry 4.0 is at a very early age. It was launched at the beginning of 2010 officially. Within only a few years, many visionaries have begun to discuss Industry 5.0. Moreover, these analysts also point to the limitations of Industry 4.0 and suggest to Industry 5.0 to address industrial limitations 4.0. Right now. Only now. One obvious inference is that Industry 4.0 was introduced without a clear dream. Unlike Industry 4.0, which is currently defined and forced on manufacturing, there were, of course, prior industrial revolutions. This technological development can be argued that it starts prematurely and without sufficient maturity is adopted. Industry 4.0 is moving towards intelligent mass production. The focus of interventions in Industry 5.0 is on sustainable growth. They are both unsuccessful by themselves. In fact. Note that productivity, even mass production, is not mutually exclusive. Therefore, it may be easier to synthesize these two goals or values than to redefine the new industrial revolution. Therefore, at least the next business motto will be "sustainable intelligent development."

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