



## 'Future of Jobs' Report by WEF

---

 [drishtiias.com/printpdf/future-of-jobs-report-by-wef](https://drishtiias.com/printpdf/future-of-jobs-report-by-wef)

The World Economic Forum (WEF) in its report 'Future of Jobs' found that machines are increasingly replacing jobs done by people. It projected that more than half of all workplace tasks will be carried out by machines by 2025.

- It predicts the loss of some 75 million jobs worldwide by 2022, but also says 133 million new jobs will be created.
- According to WEF, despite bringing widespread disruption, the advent of the Fourth Industrial Revolution could actually have a positive impact on human employment.

### Key Findings

---

- Four specific **technological advances**: universal high-speed mobile internet; artificial intelligence; widespread adoption of big data analytics; and cloud technology—are set to dominate the 2018–2022 period as drivers positively affecting business growth.
- By 2022, large proportions of companies are likely or very likely to have expanded their adoption of technologies such as the internet of things, big data analytics and app and web enabled markets, and to make extensive use of cloud computing.
- Companies across all sectors are most likely to **adopt the use of stationary robots**, in contrast to humanoid, aerial or underwater robots, however leaders in the Oil & Gas industry report the same level of demand for stationary and aerial and underwater robots, while employers in the Financial Services industry are most likely to signal the planned adoption of humanoid robots in the period up to 2022.
- When determining job location decisions, companies overwhelmingly prioritize the **availability of skilled local talent** as their foremost consideration. A range of additional relevant factors such as the flexibility of local labour laws, industry agglomeration effects or proximity of raw materials were considered of lower importance.
- In 2018, humans performed an average of 71% of total task hours across the 12 industries spanning manufacturing, services and high tech. By 2025, that will drop to just 48%. Machines will perform the remaining 52% task.

- Among the range of established roles that are set to experience increasing demand in the period up to 2022 are Data Analysts and Scientists, Software and Applications Developers, and Ecommerce and Social Media Specialists, roles that are significantly based on and enhanced by the use of technology.
- **Roles that leverage distinctively human skills**, such as Customer Service Workers, Sales and Marketing Professionals, Training and Development, People and Culture, and Organizational Development Specialists as well as Innovation Managers, are expected to grow.
- There is extensive evidence of **accelerating demand for a variety of wholly new specialist roles** related to understanding and leveraging the latest emerging technologies: **AI and Machine Learning Specialists, Big Data Specialists**, Process Automation Experts, Information Security Analysts, User Experience and Human-Machine Interaction Designers, Robotics Engineers, and Blockchain Specialists.
- By 2022, no less than 54% of all employees will require significant re- and upskilling. Proficiency in new technologies is only one part of the 2022 skills equation, however, as human skills such as creativity, originality and initiative, critical thinking, persuasion and negotiation will likewise retain or increase their value.
- **Emotional intelligence, leadership and social influence** as well as service orientation also see an exceptionally large increase in demand relative to their current prominence.

## Suggestions

---

- The need for a comprehensive '**augmentation strategy**', an approach where businesses look to utilize the automation of some job tasks to complement and enhance their human workforces' comparative strengths and ultimately to enable and empower employees to extend to their full potential.
- Rather than narrowly focusing on automation-based labour cost savings, an augmentation strategy takes into account the broader horizon of value-creating activities that can be accomplished by human workers, often in complement to technology, when they are freed of the need to perform routinized, repetitive tasks and better able to use their distinctively human talents.
- To unlock this positive vision, workers will need to have the appropriate skills enabling them to thrive in the workplace of the future and the ability to continue to retrain throughout their lives.
- Crafting a sound lifelong learning system, **investing in human capital** and collaborating with other stakeholders on workforce strategy should thus be key business imperatives, critical to companies' medium to long-term growth, as well as an important contribution to society and social stability.
- A mindset of **agile learning** will also be needed on the part of workers as they shift from the routines and limits of today's jobs to new, previously unimagined futures.

- Finally, **policy-makers, regulators and educators** will need to play a fundamental role in the development of new agile learners in future workforces by bringing improvements in education and training systems, as well as updating labour policy to match the realities of the Fourth Industrial Revolution.

## In Context of India

---

- An overreliance on **automation is expected to shrink job creation** in India. Automation and robotics in industrial manufacturing are better suited for countries with low productive populations. But it does not suit countries like India, where 12–13 million people enter the job market every year.
- There is a **natural fear of job loss** resulting from automation and robotics in India. Repetitive processes are being increasingly automated. Banks in India are already using chatbots and even humanoid robots. For eg. HDFC Bank has the **Ira robot**, which helps customers choose the right service and financial products.
- However, loss of jobs can be countered by reskilling, and by creating new opportunities.
- Fourth Industrial Revolution also brings **tremendous opportunities** to leapfrog many stages of development, hastening its journey towards becoming a developed economy. In many ways, the Fourth Industrial Revolution can be seen as a leveller. The technologies being used in India will be the same as those in use in the developed world. Robots, AI, IoT are all technologies transforming industry in the West and are ready to do the same in India.
- New industry sectors are being created. These have potential to create work for millions. There is already industry associations for producing and promoting the use of drones in India.
- India needs a collaborative effort. It will have to create a long term ecosystem that trains and educates professionals. India could collaborate with the US, Germany, and the EU. The central government can consider a joint platform between ministries, state governments and industry bodies to create a mission for making the most of the Fourth Industrial Revolution technologies.

## Fourth Industrial Revolution

---

- The **first Industrial Revolution** began in Britain in the last quarter of the 18th century with the **mechanisation of the textile industry, harnessing of steam power**, and birth of the modern factory.
- The **second revolution** began roughly a century after the first and peaked at the beginning of the 20th century, exemplified in **Henry Ford's** creation of the moving **assembly line that resulted in mass production**. Factories could produce countless numbers of identical products quickly and cheaply.

- The **third industrial revolution**, beginning in 1970s, was digital and **applied electronics and information technology** to processes of production.
- The **fourth industrial revolution** is conceptualised as an **upgrade on the third revolution** and is marked by a fusion of technologies extending the physical, digital and biological worlds. The speed of change is utterly unprecedented as it is disrupting almost every industry in every country, and it heralds the transformation of entire systems of production, management, and governance.
- WEF describes the new revolution as the advent of **cyber-physical systems** which, while being reliant on the technologies and infrastructure of the third industrial revolution, represent entirely new ways in which technology becomes embedded within societies and even our human bodies. Examples, include genome editing, new forms of machine intelligence, and breakthrough approaches to governance that rely on cryptographic methods such as blockchain.
- It is **marked by emerging technology breakthroughs** in a number of fields, including **robotics, artificial intelligence, nanotechnology, quantum computing**, biotechnology, the Internet of Things, the Industrial Internet of Things (IIoT), fifth-generation wireless technologies (5G), additive manufacturing/3D printing and fully autonomous vehicles.