



Centre for the Fourth Industrial Revolution

The World Economic Forum (WEF) has launched a Centre for the Fourth Industrial Revolution (Industry 4.0) in India.

- The centre would aim to bring together the government and business leaders to pilot emerging technology policies.
- The centre would be based in Maharashtra. **Drones, artificial intelligence and blockchain** have been selected as the first three project areas.

Key Points

- As part of the WEF's global network, the new centre in India will work closely with project teams in San Francisco (USA), Tokyo (Japan) and Beijing (China), where such Centres are already present.
- NITI Aayog will coordinate the partnership on behalf of the government and among the multiple ministries.
- The WEF has also entered into partnerships with the Maharashtra and Andhra Pradesh governments for the new initiative and more states would be roped in going forward.
- The initial efforts at the national level are focused on two emerging technology areas-
 - **Artificial intelligence and machine learning:** expanding access to data to accelerate the adoption of artificial intelligence in socio-economic areas like education, healthcare and agriculture.
 - **Blockchain and distributed ledger technology:** application of smart contracts (the terms of the agreement between buyer and seller are directly written into lines of code) to boost productivity and transparency while reducing inefficiency
- At the state level, the Government of Maharashtra in collaboration with the Centre is planning to undertake a drone mapping operation in the agriculture sector.

Benefits

- Emerging fields, including Artificial Intelligence, Machine Learning, Internet of Things, Blockchain, and Big Data, can improve the quality of life of Indian citizens.
 - In this regard, the government has recently exempted wireless devices that operate in low-frequency range like bluetooth, wireless chargers, internet-of-things products, medical devices etc from licensing requirement. This is particularly significant for easing business for the emerging smart industry for machine-to-machine communications both in industrial and consumer applications.
- The Digital India movement has brought data connectivity to the villages of India. Tele-density, internet coverage, and mobile internet subscriptions have increased tremendously in the recent past. There has been a rapid growth in the number of Common Service Centres (access points for delivery of essential public utility services, social welfare schemes, healthcare, financial, education and agriculture services, apart from a host of B2C services to citizens in rural and remote areas) in India.
- India has the highest mobile data consumption in the world and is also the country where data is available at the lowest price. Currently, India's digital infrastructure and its interfaces include Aadhaar, Unified Payment Interface, National Agriculture Market (e-NAM), and Government e-Marketplace (GeM).
- A national strategy for creating a robust infrastructure for research in Artificial Intelligence has

recently been prepared. The new Centre will strengthen this process.

- Along with all these changes, Industry 4.0, and the expansion of Artificial Intelligence can lead to better health care, and reduce expenditure on health.
- It can also help farmers, and be of immense help in the agriculture sector. It can play a key role in other areas such as transportation and smart mobility.

4th Industrial Revolution

- The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production. Now a Fourth Industrial Revolution which builds upon the Third, the digital revolution has been occurring since the middle of the 20th century. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres.
- When compared with previous industrial revolutions, the Fourth Industrial Revolution is evolving at an exponential rather than a linear pace (linear pace is steadier whereas exponential is much faster). Moreover, it is disrupting almost every industry in every country. The depth and breadth of these changes bring out the transformation of entire systems of production, management, and governance.
- The Fourth Industrial Revolution has the potential to raise global income levels and improve the quality of life for populations around the world.
- Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.
- However, economists have pointed out, that the revolution could yield greater inequality, particularly by disrupting labor markets. As automation substitutes for labour across the entire economy, the net displacement of workers by machines might widen the gap between returns to capital (profit to the entrepreneurs) and returns to labour (wages earned by the labours).
- On the other hand, it is also possible that the displacement of workers by technology will, in the aggregate, result in a net increase in safe and rewarding jobs.
- Concerns have also been raised regarding the increasing societal inequality due to technological interventions. The largest beneficiaries of innovation tend to be the providers of intellectual and physical capital (the innovators, shareholders, and investors). The few capital investors tend to reap much more benefit than the large population of workers who are not investors.
- Also the demand for highly skilled workers is being seen to be increased while the demand for workers with less education and lower skills has decreased.

Way Forward

- Concerns have been raised that the technology will drive out jobs from the market, however, the leaders in the country have assured that **4th Industrial Revolution will create more opportunities in India while changing the nature of jobs.**
- Government initiatives including Skill India Mission, Start-Up India, and Atal Innovation Mission are preparing the country for new and emerging technologies. The diversity, demographic potential, fast-growing market size, and digital infrastructure has the potential to make India a global hub for research and implementation.