



VAJIRAO & REDDY INSTITUTE

India's Top Potential Training Institute for IAS

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YOJANA MAGAZINE ANALYSIS

(August 2023)

(Part 1/3)

TOPICS TO BE COVERED

- VISION FOR INDUSTRY
- LEVERAGING TECHNOLOGY FOR ACCESSIBLE QUALITY EDUCATION
- ATAL INNOVATION MISSION
- AGRICULTURE : FROM SHORTAGE TO SURPLUS
- INDIAN ECONOMY : HISTORICAL PERSPECTIVE

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VISION FOR INDUSTRY

Since 75 years into independence, India has faced numerous challenges. India has stood the test of time & is presently the **fastest growing major economy of the world**. We have come a long way from a country that saw its wealth drained by its colonial masters to a major player in the global economy.

As India enters the Amrit Kaal, we need to make sure to make it the Kartavya Kaal.

It is time for the country to realise its potential and emerge as a world leader in this **Post-Covid New World Order**.

POTENTIAL FOR INDIAN INDUSTRIES

- According to a **FICCI-MCKINSEY report, by 2047**, a growing India is expected to become a **high-income nation with six times its current per capita income** and to create 60 crore jobs to gainfully employ its growing workforce.
- Achieving this potential will make India an approximately **Rs 1500 lakh crore (\$19 trillion)** economy in real terms by 2047.
- Manufacturing has the highest potential of all sectors to propel job growth,
- With the potential to create 60 million to 70 million jobs by 2030.

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WHAT SHOULD INDIA AIM FOR ?

- **Boost overall manufacturing productivity** five fold by 2030 (by tripling labour productivity and doubling capital productivity),
- Achieve **70-80% digital adoption by MSMEs**.
- **Supply chain:** India could ensure the supply chain and **capture an increased share of key global supply chains** valued at between **\$800 billion and \$1.2 trillion** by 2030. India is well-positioned to leverage Global Value Chains (GVC) for higher economic growth and job creation.
- **New-age sectors:** India has selected multiple new-age sectors such as **mobile phones, solar PV modules, drones, wearables and semiconductors**. These new-age sectors would help India gain prominence as a manufacturing hub.
- **Plug-and-play cluster zones:** State governments could support efforts by creating plug-and-play cluster zones based on their manufacturing strengths.

INCREASING DIGITISATION IN MANUFACTURING

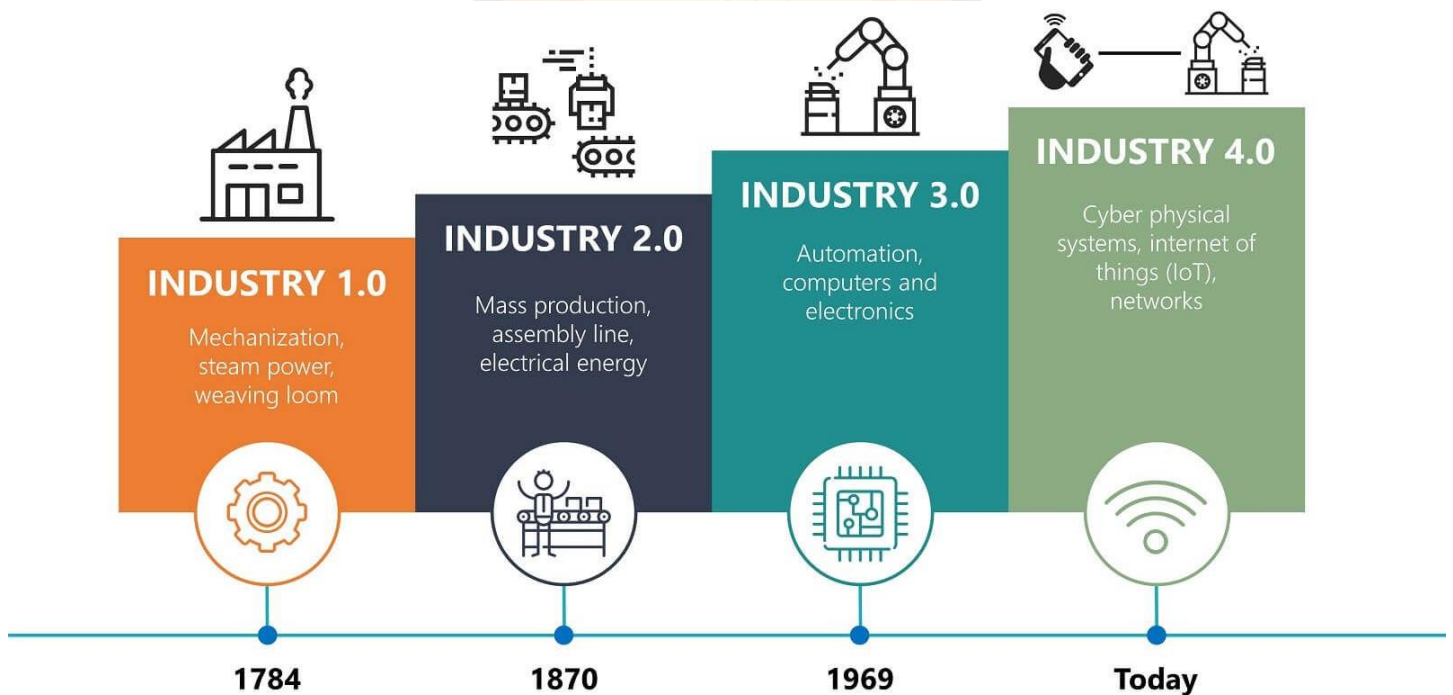
- **Industry 4.0 solutions:** As per a recent NASSCOM report, the Indian manufacturing industry spent between US 5.5 and US 6.5 billion dollars on Industry 4.0 solutions in FY21.
- Digitisation could **improve reliability and value chain resilience**.

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- **Technology grants and international joint ventures** could help secure technology expertise that would help propel manufacturing into the digital future.
- **Smart manufacturing:** The ongoing 5G rollout would play a key role in the transformation to 'smart manufacturing' like Connected Warehouses, Logistics, Fleet Management, etc.
- **Skill development programmes:** India needs to invest in robust skill development programmes and collaborate with educational institutions and industry bodies to bridge the skills gap.



ADOPTING SUSTAINABLE MANUFACTURING

- The future of manufacturing is sustainability. Customers are looking for products and partners who follow eco-friendly practices, adopt green policies, and share a commitment to sustainability.

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- Manufacturers need to prioritise the creation of green alternatives, such as
 - Bio-based feedstock
 - Sustainable packaging
 - Green building materials
 - 'Zero Defect – Zero Effect'

STRENGTHENING INFRASTRUCTURE

- India has **inefficiencies** in terms of a **large number of goods transitioning within an industrial value chain**, as well as the high cost and lengthy time for transition.
- The country is **solving infrastructure challenges** with a variety of interventions, such as
 - Industrial Corridor Development Programme,
 - PM Gati Shakti National Master Plan, and
 - National Logistics Policy.
- Additionally, state and central governments could strengthen infrastructure in key manufacturing hubs through
 - Public-private partnerships (PPPs) and
 - Special-purpose vehicles and
 - Expand smart-city coverage.

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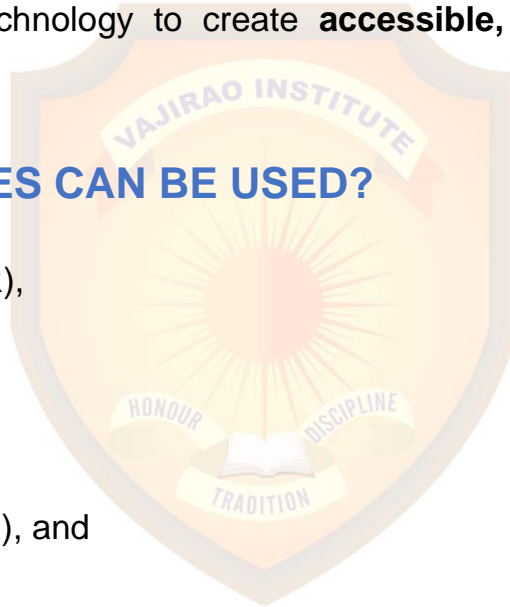
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LEVERAGING TECHNOLOGY FOR ACCESSIBLE QUALITY EDUCATION

The **National Education Policy 2020 (NEP 2020)** envisions sweeping reforms in the education sector through technology to create **accessible, equitable, and high-quality education** for all.

WHICH TECHNOLOGIES CAN BE USED?

- Augmented Reality (AR),
- Virtual Reality (VR),
- Extended Reality (ER),
- Artificial Intelligence (AI), and
- Machine Learning (ML)



ONLINE EDUCATION : THE ANSWER

The sudden push for online education was driven by the **disruption caused by the Covid-19 pandemic**.

The availability of online classes, internet through fibre connectivity and DTH content delivery through satellites helped to ensure high-quality education delivered at home during this period.

But **many challenges** existed and are still existing in this domain.

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THE CHALLENGES IN ONLINE EDUCATION

- Monitoring Learning outcomes
- Digital divide between rural & urban areas
- Psychological issues & strained health conditions.
- Employability of students
- Language barriers
- Cost of online education.
- Rising trust deficit for the ed techs. (Added)

GOVERNMENT INITIATIVES TO LINK TECH. & EDUCATION

- **National Programme on Technology Enhanced Learning (NPTEL):** NPTEL (2005), provided high-quality recorded engineering lectures delivered by IIT professors. Subsequently, in 2008, virtual labs were started to provide simulation-based experiments for all students.
- **Teacher Training Platforms:**
 - **The Amrita Virtual Interactive E-Learning World (A-VIEW)**, a collaboration between AMRITA & MHRD, was established with the purpose of providing online training to educators.
 - **IIT Bombay and IIT Kharagpur** launched the '**Train 10,000 Teachers**' (T10KT) program, which focuses on augmenting the teaching skills of teachers in **Core Engineering and Science Subjects**.

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- **Aicte Training And Learning (ATAL)** academy was instituted to facilitate the dissemination of high-quality technical education across the nation.
- **SWAYAM platform:** SWAYAM platform stands as the world's largest online free e-learning portal, meticulously designed to realise the goals of accessibility, equity, and quality education across all educational tiers.
- **National Internship Portal** was established to foster connections between students and industries, including Micro, Small, and Medium Enterprises (MSMEs).
- **The National Educational Alliance for Technologies (NEAT) scheme**, implemented by the All India Council for Technical Education (AICTE), aims to act as a bridge between ed-tech companies, academic institutions and students.
- **Anuvadhani**, an artificial intelligence-based translation tool developed by AICTE, is developed to bridge the language gap and provide equal learning opportunities to students across the country. It can translate text files, and enable speech-to-text typing, and editing.
- **National Digital Library Project** by IIT Kharagpur provides free access to digital books and documents.
- **Academic Bank of Credit (ABC):** initiated by the National Education Policy (NEP) 2020, students can store their academic credits and credentials earned in Digilocker. It serves as a credit bank for students that allows them to accumulate, verify, transfer, and redeem their credit which ensures flexibility and enhances learning opportunities for students.

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