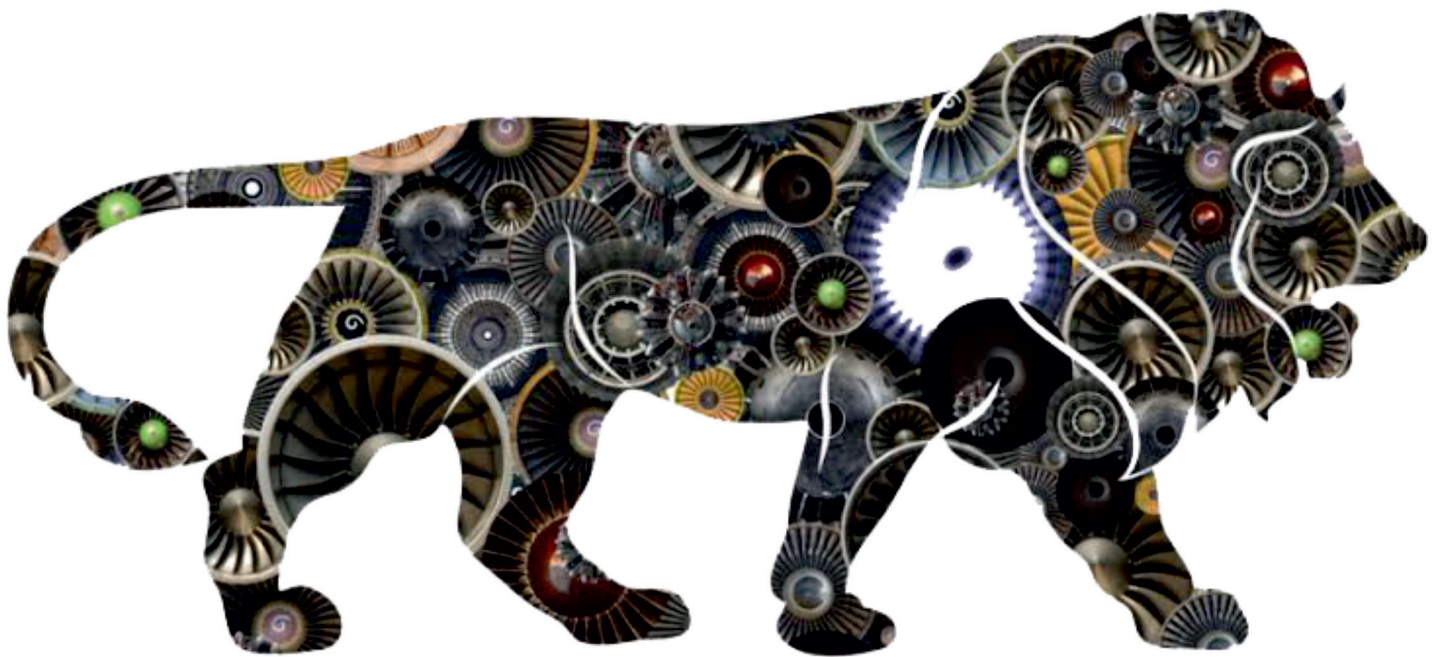


Make in India



Dhyeya's Kurukshetra Gist

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Make in India: Catalysing Growth of Students and Youth

The Indian government, through the Atal Innovation Mission (AIM), has established Atal Tinkering Labs (ATL) to cultivate an entrepreneurial mindset in young students. The aim is to equip them with skills that will enable them to contribute to the "Make in India" initiative in the future.

Countries typically undergo economic growth transitions, starting with agriculture, moving to manufacturing, and then services. However, the pace of these shifts varies widely among nations. In India, there has been urbanization without substantial industrialization, leading to employment challenges.

India's growth has been primarily driven by the services sector, with manufacturing lagging behind in terms of GDP contribution. To address this, initiatives like the National Manufacturing Policy and "Make in India" were launched to create more job opportunities and boost the manufacturing sector.

The "Make in India" initiative, launched in 2014, aims to position India as a global design and manufacturing hub. It encourages domestic and foreign companies to invest in manufacturing within India, spanning 27 economic sectors, with the goal of increasing manufacturing's contribution to GDP.

India's young population, with 67% aged 15-64, is a valuable demographic asset. To harness this demographic dividend, quality education and skill development are essential.

Challenges

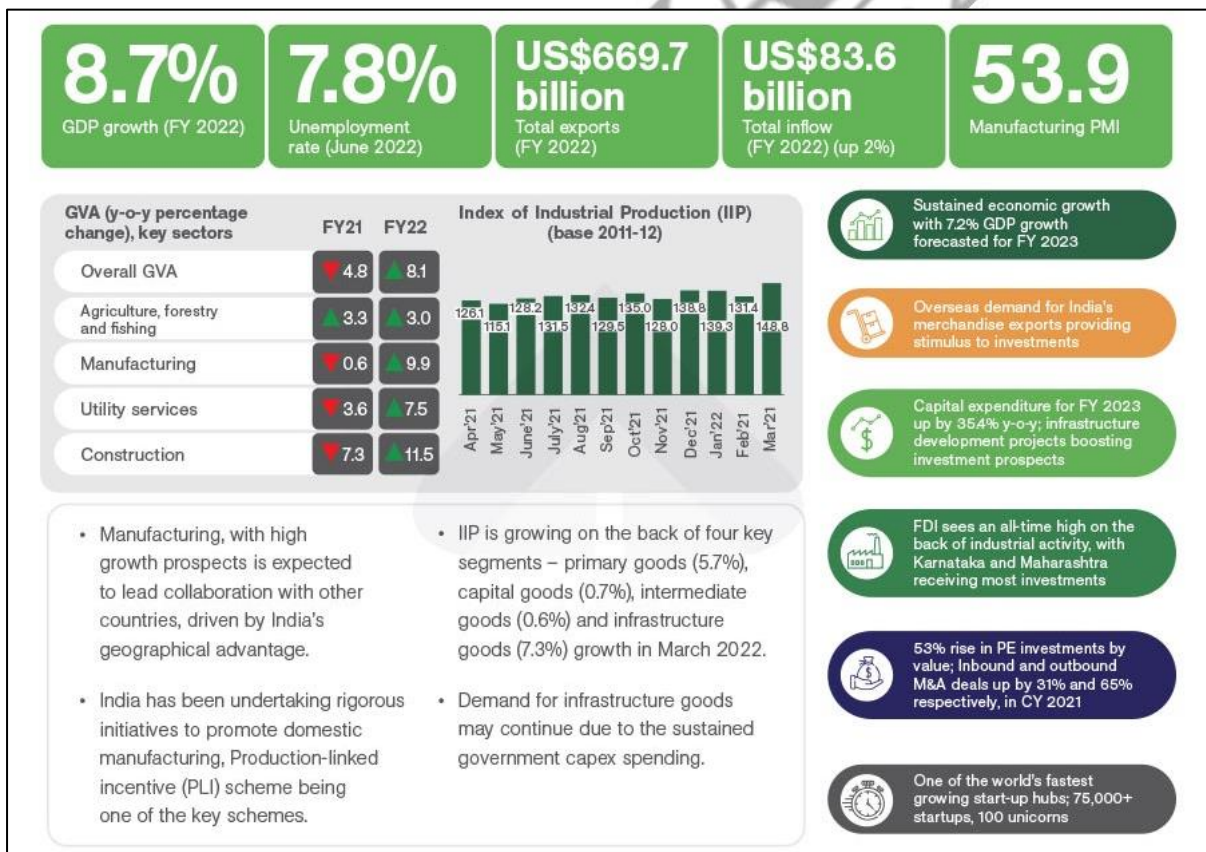
India's dynamic landscape, characterized by its diverse population and rapidly expanding economy, presents a complex scenario for its youth. While the country is making strides in various sectors, significant hurdles persist in the domains of education, infrastructure, business, and societal and cultural norms. Here's an overview of these challenges and potential solutions:

- **Education Challenges:**
 - Criticism of the education system for its heavy reliance on rote learning and grades, which stifles creativity and critical thinking.
 - Limited practical exposure and a disconnect between theoretical knowledge and real-world applications.
 - Inadequate investment in research and development, hindering the growth of innovative ideas and technologies.
- **Infrastructure and Access Barriers:**
 - Shortcomings in rural infrastructure, such as unreliable internet connectivity and lack of basic amenities.
 - Disparities in internet and technology access leading to educational inequalities.
 - Limited access to crucial resources like laboratories, libraries, and mentorship, particularly in rural areas.
- **Regulatory and Business Environment:**
 - Complexity and time-consuming processes for securing intellectual property rights and patents, discouraging innovators.
 - An evolving entrepreneurship ecosystem, making it challenging for young innovators to secure funding and find mentors.
- **Societal and Cultural Factors:**
 - Pressure from families to pursue conventional career paths, discouraging risk-taking and exploration of unconventional fields.
 - Fear of failure and the associated stigma deterring young entrepreneurs from taking bold steps.
 - Gender disparities persist, with women facing biases and limited opportunities in innovation.

Steps taken by India

- **Addressing Rote Learning:**
 - India recognizes the need for a skilled workforce in emerging fields like big data, machine learning, and artificial intelligence.
 - The 2020 National Education Policy aims to shift from rote learning to holistic, integrated, and enjoyable education.

- Reforms promote experiential learning, critical thinking, problem-solving, project-based learning, and industry collaborations.
- **Instilling Behavioural Change:**
 - The Atal Innovation Mission (AIM) established Atal Tinkering Labs (ATLs) in 10,000 schools to foster curiosity, creativity, and imagination.
 - ATLs provide students in grades 6-12 with maker spaces equipped with DIY kits, scientific instruments, electronics, robotics, and 3D printers.
 - The labs aim to instill entrepreneurial skills, encouraging students to become innovators and contribute to "Make in India."
- **Developing Innovation Infrastructure:**
 - The Atal Incubation Centres (AIC) program supports the establishment of incubators nurturing innovative startups.
 - The "Mentor India" initiative connects students at ATLs and startups at AIC with professionals for mentoring in innovation, marketing, product development, and patenting.
- **Ease of Doing Business and IP Protection:**
 - The "Start-up India" initiative simplifies enrolment and compliance processes, fostering entrepreneurship and innovation.
 - The number of startups in India increased significantly, surpassing 84,000 by November 2022.
- **State-Level Initiatives:**
 - State governments have the flexibility to design and implement programs tailored to local needs.
 - Initiatives like the Kerala Startup Mission, T-Hub in Telangana, and Gujarat Startup and Innovation Scheme support entrepreneurship and innovation at the state level.



Ways to measure Manufacturing Growth in India

The National Manufacturing Innovation Survey (NMIS) 2021-22, conducted jointly by the Department of Science and Technology (DST) and the United Nations Industrial Development Organization (UNIDO), aims to assess the innovation performance of manufacturing companies in India. This comprehensive survey comprises two main components:

- ❖ **Evaluating Innovation in Manufacturing Firms:** The NMIS examines the innovation processes, outcomes, and barriers within manufacturing companies. It seeks to understand how these firms innovate, the results of their innovation efforts, and the challenges they face in the process.
- ❖ **Analysing the Innovation Ecosystem:** In addition to assessing individual manufacturing firms, the study also investigates the broader innovation ecosystem that influences innovation outcomes in these firms. This includes factors such as government policies, research and development infrastructure, and industry collaborations.

The NMIS 2021-22 builds upon the foundation of DST's first National Innovation Survey held in 2011. By collaborating with UNIDO, this survey offers a holistic view of manufacturing innovation by examining various aspects, interactions, and processes. It allows for the assessment of innovation performance at the state, sector, and firm size levels.

One notable finding from the survey is the Indian Manufacturing Innovation Index (IMII), which measures the degree of innovation among manufacturing firms. According to the IMII, Karnataka emerges as the most 'Innovative' state, followed by Telangana and Tamil Nadu. This ranking reflects the innovation prowess of these states in the manufacturing sector.

Make in India: A Success Story

Innovation and entrepreneurship in India are flourishing, driven by initiatives like 'Make in India' and projects emerging from Atal Tinkering Labs. One remarkable example is the Saaf Water project, a testament to young minds harnessing technology to solve pressing issues.

- **Innovative Groundwater Monitoring Platform:**
 - Students from five different Indian states with Atal Tinkering Labs developed an AI-IoT platform.
 - The platform regularly monitors groundwater quality and communicates data to authorities and communities.
 - It includes hardware (cellular-enabled, low-powered unit) checking water parameters and a dashboard, both linked via IBM Cloud.
 - The team won the IBM 'Code for Challenge' and received a \$200,000 award for their innovative system.
 - Motivation came from a personal incident when one member's mother fell ill due to contaminated water.
 - Saaf Water aims to provide communities with proactive water quality information, making it versatile, low-maintenance, and scalable.
- **Role of 'Make in India' in Start-Up Growth:**
 - The 'Make in India' initiative has led to significant strides in fostering indigenous solutions and start-ups.
 - The success story of Saaf Water demonstrates how young innovators are taking charge to develop solutions.
 - Interventions in the start-up ecosystem are expected to create a large number of 'Make in India' start-ups.
 - Students in tinkering labs are gaining 21st-century technology skills and problem-solving abilities through NEP 2020.
 - The development of knowledge workers is expected to attract multinational manufacturing companies to India.
 - This, in turn, will stimulate the growth of ancillary units and contribute to the 'Make in India' movement.
- **Nine Years of 'Make in India':**
 - 'Make in India' represents a transformative vision that has propelled India toward economic resurgence and self-reliance.
 - Collaboration among the Government, industries, educational institutions, and citizens is vital for building a sustainable and inclusive manufacturing ecosystem.
 - The establishment of over 2,000 start-ups in the manufacturing sector showcases India's progress in self-reliance.
 - India's growth in manufacturing has the potential to drive economic growth, create jobs, and contribute significantly to the global economy.
 - With determination and continuous efforts, 'Make in India' can lead to a prosperous and self-sufficient India for generations to come.

Make in India: Challenges, Opportunities and Outcomes

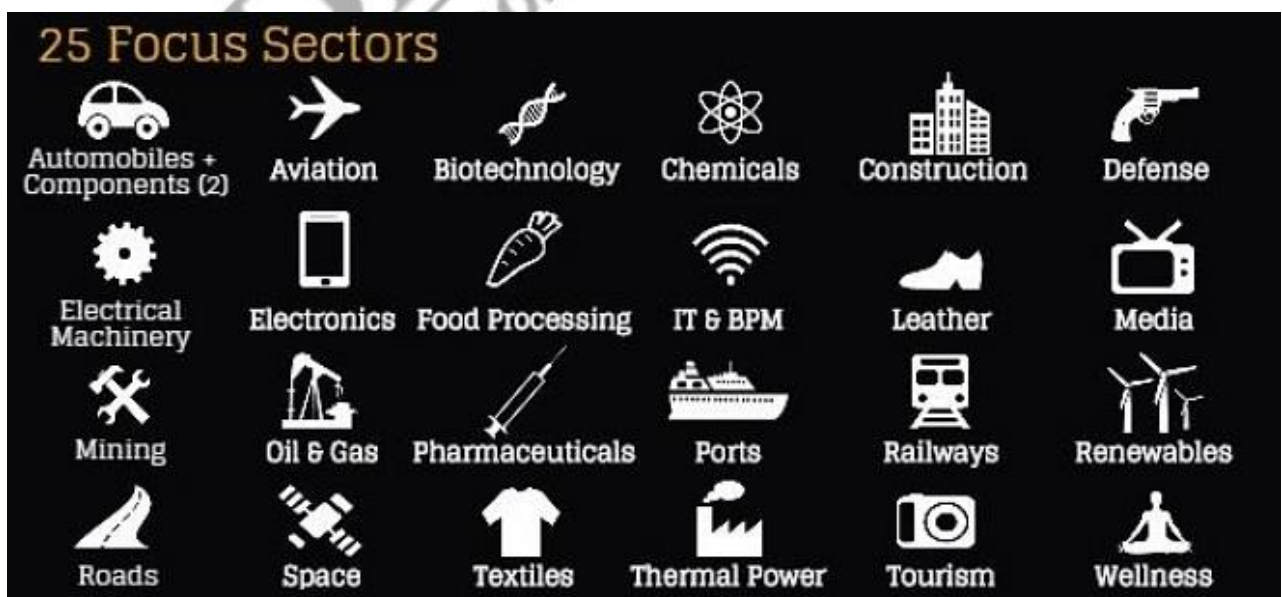
The Indian Government has enacted reforms to foster economic growth, attract domestic and foreign investments, and promote efficient business partnerships. Launched on September 25, 2014, 'Make in India' is a significant initiative aiming to encourage global investments, innovation, infrastructure development, and establish India as a manufacturing and innovation hub. It also emphasizes "vocal for local" to boost domestic manufacturing. This initiative seeks transformation through manufacturing by identifying competitive sectors, supporting labour and capital-intensive industries, and promoting research and development for sustainability and growth.

Need of Make in India

- The Make in India initiative aimed to prioritize job creation and skill development in 27 key sectors.
- It sought to boost the manufacturing sector's contribution to overall GDP growth.
- The initiative aimed to simplify regulations, eliminate unnecessary laws, and reduce bureaucratic hurdles.
- It aimed to identify and promote growth in the services and industrial sectors.
- Make in India intended to adopt higher quality standards for manufacturing while reducing environmental impact.
- It aimed to attract Foreign Direct Investment (FDI) for capital and technological investment in various economic schemes.
- The initiative sought to increase tax revenues by stimulating business activity through a manufacturing revolution.

Scope and Coverage of Make in India

- The 'Make in India' initiative covers a total of 27 economic sectors, with 15 related to manufacturing and 12 associated with services.
- Manufacturing sectors include Aerospace and Defence, Pharmaceuticals, Electronics, and Renewable Energy, while services sectors encompass IT & ITeS, Tourism, Finance, and more.
- Both Central Government Ministries and State Governments are involved in implementing 'Make in India' activities.
- Ministries develop action plans and policies for their respective sectors, and coordination is handled by the Department of Promotion of Industry and Internal Trade (DPIIT) for manufacturing sectors and the Department of Commerce for service sectors.
- Collaborative efforts involve Ministries, State Governments, and Indian Missions abroad to promote investment and international cooperation within the initiative.



Pillars of Make in India

The 'Make in India' initiative is built on four essential pillars:

- **New Processes:**
 - Implemented reforms to attract domestic and foreign investment, improve business efficiency, and enhance India's Ease of Doing Business ranking.
 - Focused on reducing adverse economic impacts post-Covid.
- **New Infrastructure:**
 - Develops industrial corridors, smart cities, and advanced infrastructure with technology and communication networks.
 - Supports research, innovation, and simplifies Intellectual Property Rights (IPR) registration.
- **New Sectors:**
 - Identifies and prioritizes 25 sectors, later adding two more, to drive economic growth.
 - Removes investment barriers and relaxes expansion restrictions for selected sectors.
- **New Mindset:**
 - Aims to change the mindset of stakeholders, transforming the Government's role into a partner in economic development.
 - Encourages collaboration and a new approach to industrial growth.

The initiative seeks to promote entrepreneurship, attract investments, and drive economic development in India.

Reforms undertaken

- 'Make in India' aims to enhance manufacturing efficiency and boost the sector's contribution to economic growth and exports.
- Since 2014, the Indian Government has implemented reforms to simplify the taxation system, attract Foreign Direct Investments (FDI), foster innovation, improve skills, modernize infrastructure, liberalize the services sector, and enhance Ease of Doing Business (EoDB).
- Key policy focuses include ensuring competitive access to power, minerals, and water, improving transport and communication infrastructure, expanding market access, developing entrepreneurship, and supporting EoDB through venture capital and deregulation.
- The Union Budget 2021-22 allocated Rs. 1.97 lakh crore for production-linked incentive (PLI) schemes in 14 manufacturing sectors to bolster India's manufacturing capabilities, employment, economic growth, and exports.
- Steps to attract FDI include the introduction of Goods and Services Tax, corporate tax reduction, EoDB improvements, FDI policy reforms, compliance burden reduction measures, support for domestic manufacturing through public procurement orders, and phased manufacturing programs.

Advantages of Make in India

- **Socio-Economic Growth:** Effective implementation of the initiative fosters overall socio-economic growth, particularly in the manufacturing sector, and creates employment opportunities in both rural and urban areas.
- **Employment Boost:** The initiative leads to a significant increase in employment, elevating the purchasing power of citizens, expanding consumer bases for companies, and addressing poverty-related challenges.
- **Skilled Workforce:** Emphasis on education and training infrastructure ensures a skilled workforce in targeted sectors, reducing brain drain and retaining talent within the country.
- **Textiles Sector Development:** Special schemes like the National Technical Textiles Mission, Silk Samagra Scheme, and others promote employment and trade in the textiles sector, enhancing its growth.
- **Global Competitiveness:** By attracting investments and positioning India strongly in the global market, the initiative boosts export-oriented growth, positively impacting the country's balance of payments.
- **Foreign Exchange Reserves:** Export-oriented growth helps accumulate foreign exchange reserves, stabilizing India's economy in a volatile global economic landscape.

- **Foreign Investment:** The initiative's appeal to foreign investment brings technical expertise and creative skills, contributing to economic development.
- **Credit Ratings:** The holistic approach of 'Make in India' enhances the country's credit ratings, making India an attractive global manufacturing hub for investors.

The 'Make in India' initiative presents a multifaceted approach to stimulate economic growth, employment, and competitiveness on both national and international scales.

Challenges for Make in India

- **Land Acquisition:** Facilitating the land acquisition process is a significant challenge, requiring streamlined procedures and clear guidelines.
- **Labour Development Ecosystem:** Developing a suitable labour development ecosystem to enforce labour laws effectively with entry and exit guidelines can be complex.
- **Taxation Regime:** The complex taxation system in India needs to be rationalized and simplified to promote ease of doing business (EoDB).
- **Technology Acquisition:** Enabling technology acquisition and dissemination is crucial for staying competitive in the global market.
- **MSMEs:** India's vast micro, small, and medium-sized business environment, with over two crore MSMEs, requires support and simplification of regulatory processes.
- **Capacity Building:** Networking capacity-building institutions is essential for rapid skill development in targeted sectors.
- **Innovation and R&D:** Universities and research organizations need to intensify their efforts in innovation, research, and development to create a conducive business environment.
- **Procedural and Regulatory Clearances:** Streamlining procedural and regulatory clearances and ensuring a business-friendly environment for project approvals is critical.
- **Research Infrastructure:** Developing world-class research and development infrastructure in collaboration with reputed institutions is essential for fostering innovation and development.
- **Intellectual Property Protection:** Ensuring robust mechanisms for protecting innovation and intellectual property is necessary for promoting indigenous growth.

Addressing these challenges is crucial for the successful implementation of the 'Make in India' initiative and achieving its objectives of economic growth, job creation, and global competitiveness.

'One District One Product' (ODOP)

The 'Make in India' initiative emphasizes decentralized development through the 'One District One Product' (ODOP) program, a vital component of the vision. ODOP aims to promote and manufacture indigenous products from every district in India, providing global exposure to farmers, artisans, and manufacturers in various sectors like textiles, handloom, handicrafts, agriculture, and processed goods. It seeks to foster balanced regional growth by selecting, branding, and promoting at least one unique product from each district. Over 1,000 products from 761 districts have been identified.

Key Activities for the Success of ODOP:

- **Capacity Building:** Regular capacity-building initiatives in partnership with government and private training institutions such as the National Institutes of Design and the National Institutes of Fashion Technology.
- **E-commerce Integration:** Inclusion on e-commerce platforms, including Government e-Market (GeM), to expand market reach.
- **Buyer-Seller Meetings:** Organizing physical and virtual meetings between market players, supported by Indian embassies and missions abroad, facilitating trade events.
- **International Marketing:** Promoting local products through branding and international marketing efforts.
- **State Involvement:** Products selected by States/UTs, considering the local ecosystem.
- **District Export Hubs (DEH):** Setting up DEHs to channelize the unique identity and potential of each district.

The ODOP initiative converges various government and state schemes to provide support for improving backward and forward linkages in the selected product sectors. It significantly contributes to the 'Make in India' activities in rural areas, benefiting the economy through agriculture,

handicrafts, fisheries, poultry, and dairy. The initiative actively drives economic growth in rural regions and the entire country.

Achievements of Make in India

Achievements of 'Make in India' Initiative:

- **Strengthening Manufacturing:** The initiative aims to boost the manufacturing sector, making India a global hub. It streamlines project clearances, infrastructure development, and R&D.
- **Ease of Doing Business (EoDB):** EoDB parameters improved significantly. India jumped from 142nd in 2014 to 63rd in 2022 in the World Bank's ranking.
- **Foreign Investment:** Attracted record FDI with an annual inflow of \$84.84 billion in 2022.
- **Agriculture Growth:** The sector grew at 4.6% annually, making India a net exporter of agri-products with \$50.2 billion in exports in 2021-22.
- **Manufacturing Employment:** GVA in manufacturing rose, providing jobs to 62.4 million people by 2019-20.
- **Resilient Service Trade:** Service exports increased by \$48.4 billion in 2021-22, reaching \$254.5 billion.

These successes reflect the initiative's positive impact on India's economy, investment climate, and international trade.

The Make in India initiative is a visionary plan for sustainable economic growth, aiming to establish India as a global manufacturing hub. It capitalized on post-Covid opportunities through measures like Atmanirbhar packages, PLI schemes, NIP, NMP, IILB, IPRS, and NSWS. This ambitious effort is achieving remarkable results:

- India significantly improved its World Bank Ease of Doing Business ranking, moving from 142 (2014) to 63 (2022).
- Foreign Direct Investment (FDI) reached a historic high of \$84.84 billion in FY 2022.
- Agriculture experienced robust growth, making India a net exporter with exports reaching \$50.2 billion in 2021-22.
- Despite Covid disruptions, the manufacturing sector witnessed positive employment growth, increasing from 57 million (2017-18) to 62.4 million (2019-20).
- India's service exports surged, growing from \$206.1 billion (2020-21) to \$254.5 billion (2021-22).

The Make in India initiative is more than an economic plan; it's a transformative journey aimed at ensuring equitable growth and addressing issues like poverty, unemployment, and income disparities. It strives to position India as a global manufacturing powerhouse.

Fostering Skills for Environmentally Conscious Sustainable Future

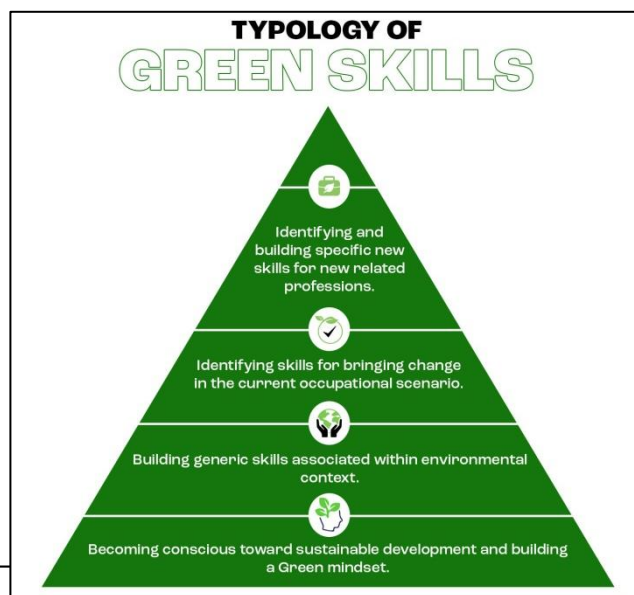
United Nations Industrial Development Organization defines green skills as the competencies, values, and mindsets essential for thriving in and contributing to a sustainable, resource-efficient society. In the pursuit of reaching net-zero carbon emissions by 2070, the cultivation of green skills is imperative. Embracing the tenets of a circular economy is also vital for enabling sustainable industrial advancement in India. The concepts of resource efficiency and a circular economy paint a vision of a future characterized by environmentally sustainable and fair economic expansion.

Promoting Green Skills for a Sustainable Future:

- Recognizing the importance of green skills in building a sustainable and resource-efficient society.
- Correlation between environmental knowledge and attitudes underscores the need for green skill development.
- Increasing calls to sensitize youth in India through environmental education.
- Emphasizing practical learning through environmental projects for effective skill acquisition.
- Fieldwork not only enhances environmental knowledge but also boosts students' confidence and motivation.
- Empowering youth with knowledge and skills in Environmental Science.
- The International Labour Organization (ILO) defines green jobs as those contributing to environmental preservation or restoration.
- Green jobs span traditional and emerging sectors, promoting energy and raw materials efficiency, reducing emissions, and supporting climate change adaptation.
- United Nations Industrial Development Organization (UNIDO) highlights green skills as essential for living in and developing a sustainable society.

Green Skills for Sustainable Development:

- Green skills encompass jobs that protect ecosystems, biodiversity, and minimize waste and pollution.
- India's Ministry of Environment, Forest & Climate Change (MoEF&CC) leverages ENVIS Hubs for green skill development through the Green Skill Development Programme (GSDP).
- GSDP, launched in June 2017, aims to equip youth with green skills for sustainable development, contributing to India's Nationally Determined Contributions.
- The program covers a wide range of beneficiaries, including school and college dropouts, environmental sector students, entrepreneurs, and working professionals.
- Ministry of Skill Development and Entrepreneurship (MSDE) oversees skill development efforts nationwide, aligned with National Council for Vocational Education and Training (NCVET) guidelines.
- GSDP-approved courses facilitate placement in various MoEF&CC bodies and institutions, including Biodiversity Management Committees, Wildlife Crime Control Bureau, National Parks, and more.
- Courses include topics like water budgeting, bamboo management, cleaner production, geospatial techniques for wildlife management, and emission inventory.
- Mainstreaming green skills fosters responsible behavior and encourages innovation and



sustainable technologies among the youth, promoting an eco-friendly culture.

India's National Action Plan on Climate Change (NAPCC):

- NAPCC is a strategic national approach to addressing climate change, enhancing ecological sustainability, and has eight missions:
 - National Solar Mission
 - National Mission for Enhanced Energy Efficiency
 - National Mission on Sustainable Habitat
 - National Water Mission
 - National Mission for Sustaining the Himalayan Ecosystem
 - National Mission for a Green India
 - National Mission for Sustainable Agriculture
 - National Mission on Strategic Knowledge for Climate Change.
- States also prepare State Action Plans on Climate Change focusing on adaptation interventions.
- India's Long-Term Low-Carbon Development Strategy under UNFCCC emphasizes rational resource utilization with energy security.
- India's climate action goals presented at COP 26 include achieving 500 GW non-fossil energy capacity, meeting 50% energy needs from renewables, reducing projected carbon emissions by one billion tonnes, cutting carbon intensity by <45%, and achieving Net Zero carbon emissions by 2070.
- Developing green skills is crucial to achieving the Net Zero carbon emissions goal.

Resource Efficiency and Circular Economy:

- India promotes resource efficiency and circular economy as part of the UN Decade of Action for SDGs.
- Resource efficiency involves producing more output with fewer inputs.
- Extended Producer Responsibility and Circular Economy principles, focusing on reduce-reuse-recycle, promote sustainable consumption and production.
- NITI Aayog forms committees for circular economy action plans for various waste categories.
- MoEFCC is the nodal ministry for Circular Economy Action Plan for Tyre and Rubber and issues guidelines on Extended Producer Responsibility for Plastic Packaging under Plastic Waste Management Rules, 2016.

National Resource Efficiency Policy (NREP) 2019:

- MoEF&CC's draft NREP, 2019 envisions sustainable and equitable economic growth with resource security, a healthy environment, and restored ecosystems.
- Guided by principles such as reducing primary resource consumption, creating higher value with less material, waste minimization, material security, and generating employment and business models beneficial to the environment.
- Aims to foster a circular economy approach, moving away from a linear economy, reducing costs, increasing productivity, and promoting sustainable industrial growth.

Promoting Off-Farm Technologies:

- Sustainable technologies like 'bio-briquetting' can be promoted to generate energy locally, utilizing resources such as pine needles for biomass energy generation.
- Initiatives under G.B. Pant National Institute of Himalayan Environment involve marginalized villagers in manufacturing Bio-briquettes and Bio-globules, creating livelihood opportunities.

Role of Department of Science and Technology (DST):

- DST contributes significantly to the 'Make in India' initiative through various programs, providing affordable technologies for local manufacturing.
- Collaborates with the Ministry of Education on projects addressing developmental needs in healthcare, information and communication technology, energy, sustainable habitat, water resources, environment, and climate.

PARIVESH (Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental Single window Hub):

- Developed by MoEF&CC, PARIVESH automates the entire process, from project application submission to clearance grant for developmental projects.
- Aligns with the 'Digital India' initiative and supports the 'Make in India' campaign, streamlining environmental clearances and approvals.



India: Hub for Electronics Manufacturing

India's push for manufacturing growth, particularly in the electronics sector, has been bolstered by the Production Linked Incentive (PLI) scheme, a pivotal component of the 'Make in India' initiative. The PLI scheme, which offers incentives to manufacturers setting up operations in India, has garnered substantial attention.

During Prime Minister Narendra Modi's June 2023 visit to the United States, Micron, a US semiconductor company, committed a massive \$2.7 billion to establish a semiconductor assembly and testing plant in India. This investment is anticipated to create 5,000 direct jobs and 15,000 indirect jobs, with chip production starting in December 2024.

Other major players like Apple, Wistron, Foxconn, and First Solar have also unveiled plans to set up manufacturing facilities in India. This underscores India's growing appeal as a manufacturing destination.

The global shift away from China-centric supply chains, known as 'China Plus One,' aligns well with India's PLI scheme. This initiative offers subsidies to manufacturers, aiming to boost exports, reduce imports, and generate domestic employment.

The electronics sector, in particular, has benefited significantly from the PLI scheme, with electronic exports ranking as the sixth-largest commodity group by quick estimates for March 2023. India has set a target of increasing electronics manufacturing capacity to Rs. 24 lakh crore by 2025-26, a move expected to generate over 10 lakh jobs.

Early Success

- The telecom and allied industries are major job creators in India.
- India has evolved from having just two mobile phone factories in 2014 to becoming the world's second-largest mobile phone producer.
- Mobile phone exports reached over \$11 billion in 2022-23.
- The PLI Scheme for Large-Scale Electronics Manufacturing (LSEM) and the existing Phased Manufacturing Program (PMP) has significantly increased value addition in the electronics sector and smartphone manufacturing.
- In 2022-23, India aims for \$300 billion in electronics manufacturing.
- Smartphone production constituted \$44 billion, with \$11.1 billion in exports out of the \$101 billion total electronics production in FY 2022-23.
- The telecom sector has achieved 60% import substitution and self-reliance in Antennae, GPON, and CPE.
- The drone sector, primarily composed of MSME startups, has seen a seven-fold increase in turnover due to the PLI Scheme.
- Exports of electronic goods grew from Rs. 39,978 crore (\$5.96 billion) in 2016-17 to Rs. 1,09,797 crore in 2021-22 (\$14.6 billion) at a CAGR of 22.39%.
- India's share in global electronics manufacturing grew from 1.3% in 2012 to 3.75% in FY 21-22.
- Between April 2022 and January 2023, electronic goods worth \$18.78 billion were exported.
- As of March 2023, the PLI scheme for LSEM attracted investments of Rs. 5,998 crore and led to total production worth Rs. 2,76,903 crore, including Rs. 1,28,886 crore worth of exports, and generated employment for 58,276 individuals.
- Global players like Foxconn, Samsung, Pegatron, RisingStar, and Wistron, along with domestic companies like Lava, Micromax, Optimus, United Telelinks, Neolyncs, and Padget Electronics, have participated in the PLI scheme for LSEM.
- As of March 2023, the PLI scheme for IT hardware attracted Rs. 195 crore in investments and resulted in total production worth Rs. 5,715 crore, creating 1,089 jobs.

How did Make in India help?

The transformation of India's electronics manufacturing sector has been a gradual journey that commenced with the launch of the Make in India initiative in 2014. This initiative, introduced on September 25, 2014, set out to achieve several key objectives:

- **Facilitate investment:** Make in India aimed to create a conducive environment for domestic and foreign investment in various sectors, including electronics manufacturing.
- **Foster innovation:** The initiative encouraged innovation and the development of cutting-edge technologies to bolster India's manufacturing capabilities.
- **Build top-tier infrastructure:** An essential aspect of Make in India was to develop world-class manufacturing infrastructure across the country.
- **Ease of doing business:** Streamlining regulations and procedures to make it easier for businesses to operate in India was another crucial aspect of the initiative.
- **Skill development:** Enhancing the skillset of the Indian workforce was a priority to meet the demands of a rapidly evolving manufacturing landscape.

The initiative initially focused on 27 sectors, spanning both manufacturing and services. Among these, Electronics System Design and Manufacturing (ESDM) stood out in the manufacturing sector, while Information Technology & Information Technology-enabled Services (IT & ITeS) played a vital role in the services sector.

India has gradually emerged as a reliable player in the global electronics value chain, and it has set an ambitious target of achieving \$300 billion in electronics manufacturing by 2025-26.

To promote electronics manufacturing, various strategic steps and initiatives have been undertaken by the government:

- **National Policy on Electronics 2019:** This policy provided a framework to encourage core component development, including chipsets, and create an enabling environment for the industry to compete globally.
- **Production Linked Incentive (PLI) Schemes:** Under the aegis of NPE 2019, several PLI schemes were introduced:
 - **PLI for Large Scale Electronics Manufacturing (LSEM):** Incentivizes companies involved in mobile phone manufacturing and specific electronic components.
 - **PLI for IT Hardware:** Encourages the manufacturing of laptops, tablets, all-in-one PCs, and servers.
 - **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS):** Provides financial incentives for capital expenditure in electronic components and semiconductor manufacturing.
 - **Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme:** Supports the creation of infrastructure, including Ready Built Factory (RBF) sheds and Plug-and-Play facilities.
 - **Programme for Development of Semiconductors and Display Manufacturing Ecosystem:** A comprehensive program aimed at advancing semiconductor and display manufacturing in India, with a substantial outlay.

These initiatives have already shown substantial results:

- Smartphone manufacturing in India witnessed a 23% increase in value addition, and electronic exports reached \$11 billion in 2022-23.
- Import substitution of 60% was achieved in the telecom sector, and India became nearly self-reliant in areas like Antennae, GPON, and CPE.
- The drone sector, primarily comprising MSME startups, experienced a seven-fold jump in turnover due to the PLI Scheme.
- India's share in global electronics manufacturing grew from 1.3% in 2012 to 3.75% in FY 21-22.
- As of March 2023, the PLI scheme for LSEM attracted substantial investment, leading to significant production and job creation.

India's journey to becoming a global electronics manufacturing hub is well underway, driven by strategic policies, incentives, and a concerted effort to boost domestic production.

Incentives to eligible manufacturers

- **Modified Scheme for Semiconductor Fabs:**
 - Provides fiscal support for establishing semiconductor wafer fabrication facilities in India.
 - Offers 50% of the project cost as fiscal support.
 - Applicable to silicon-based semiconductor fabs across all technology nodes.
- **Modified Scheme for Display Fabs:**
 - Offers fiscal support equal to 50% of the project cost.
 - Designed for setting up TFT LCD/AMOLED-based display fabrication facilities.
- **Modified Scheme for Compound Semiconductors, Silicon Photonics, Sensors Fab, and more:**
 - Provides fiscal support of 50% of the capital expenditure.
 - Eligible for those establishing Compound Semiconductors, Silicon Photonics (SiPh), Sensors (including MEMS) Fab, Discrete Semiconductor Fabs, and Semiconductor ATMP/OSAT facilities in India.
- **Design Linked Incentive Scheme:**
 - Offers financial incentives and design infrastructure support.
 - Covers various stages of semiconductor design for ICs (Integrated Circuits), Chipsets, SoCs (System on Chips), Systems, and IP (Intellectual Property) Cores.
 - Includes both 'Product Design Linked Incentive' and 'Deployment Linked Incentive.'

PLI Scheme 2.0 for IT Hardware:

- The Indian government introduced PLI Scheme 2.0 for IT Hardware to bolster manufacturing capabilities and exports.
- This scheme, with a budgetary outlay of Rs. 17,000 crore, aims to attract global companies, hybrid (global/domestic) companies, and domestic companies.
- Existing PLI scheme beneficiaries are also eligible to apply for PLI 2.0.
- The scheme encourages localization of components, sub-assemblies, and supply chain development within India.
- It offers flexibility and incentives tied to incremental sales and investment thresholds.
- Semiconductor design, IC manufacturing, and packaging are incentivized components.
- Expected outcomes include total production worth Rs. 3.35 lakh crore, an additional investment of Rs. 2,430 crore in electronics manufacturing, and the creation of 75,000 direct jobs.
- The scheme promotes large-scale manufacturing in laptops, tablets, all-in-one PCs, servers, and Ultra Small Form Factor (USFF) devices.
- It contributes significantly to achieving a \$300 billion electronics manufacturing turnover by 2025-26.

Digital India Mission

- Digital India Mission aims to make India a digitally empowered society and knowledge economy.
- It generates employment opportunities in various sectors, with a focus on electronics manufacturing.
- The Ministry of Electronics and Information Technology (MeitY) has introduced schemes to boost the electronics ecosystem's growth.
- Two skill development schemes in Electronics System Design and Manufacturing (ESDM) have been approved by MeitY.
- These schemes are running simultaneously and are implemented by training partners affiliated with key agencies.

- As of March 1, 2023, over 4,35,000 candidates have been enrolled, 4,28,540 trained, and 3,11,862 certified under these schemes.
- PLI Scheme 2.0 for IT Hardware is part of the Digital India mission, focusing on electronics manufacturing.
- It covers various electronic devices and has a budget of Rs. 17,000 crore over six years.
- The scheme aims to boost production, investment, and job creation in the IT hardware sector.
- The C2S Programme by MeitY focuses on generating industry-ready workers in VLSI and Embedded System Design.
- It encourages semiconductor design education and entrepreneurship in chip design within India.

India's PLI schemes for electronics manufacturing and IT hardware are boosting the country's competitiveness and supporting the Aatmanirbhar Bharat initiative. India has risen in global manufacturing rankings, reaching 63rd place on the World Economic Forum's Global Competitiveness Index. Key sectors like automobiles, pharmaceuticals, electronics, and textiles, with over 27.3 million workers, are vital for India's economy.

However, challenges remain, including infrastructure limitations, bureaucratic complexities, and a skilled labour shortage. While foreign investors express interest, the investment process can be slow.

To attract foreign investments and streamline operations, both domestic partners and the government must ensure a smoother experience. The government has already reduced the number of approvals required, but further improvements are needed.

India has a unique opportunity to become a global supply chain alternative as multinational companies seek alternatives to China. India's manufacturing sector aims to reach 25% of GDP by 2025, leveraging domestic demand, government initiatives, and demographic advantages. To seize this opportunity, India must act quickly and efficiently.



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Production Linked Incentive Scheme for Aatmanirbhar Bharat

The DPIIT-managed PLI scheme has fostered more than 3.5 lakh jobs across 14 sectors and disbursed incentives exceeding Rs. 2900 Cr. Unlike the MEIS scheme, it exclusively aids manufacturers, promoting self-sufficiency and domestic production. Underpinning this approach is the government's Aatmanirbhar Bharat policy, which aims to revitalize manufacturing and create jobs. Amidst global supply chain disruptions fuelled by US-China trade tensions, numerous multinational corporations sought to diversify their manufacturing bases and reduce reliance on China. In 2020, India proactively welcomed these firms to establish manufacturing units, with support from both the central and state governments, streamlining clearances and land acquisition to establish itself as an attractive manufacturing destination.



PLI Scheme: A Catalyst for Manufacturing Growth

The PLI Scheme, introduced by NITI Aayog, set in motion India's journey to become a global manufacturing hub. With a focus on 10 critical sectors, the scheme aimed to attract investments, foster innovation, and boost domestic manufacturing. The sectors covered under this scheme are:

- Advanced Chemistry Cell (ACC) Battery
- Electronic/Technology Products
- Automobiles & Auto Components
- Pharmaceutical Drugs
- Telecom & Networking Products
- Textile Products
- Food Products
- High Efficiency Solar PV Modules
- White Goods (ACs & LED)
- Specialty Steel

The Union Cabinet approved the PLI scheme for these sectors in November 2020, with an initial outlay of Rs. 1,45,980 Crore. This marked the beginning of a significant transformation in India's manufacturing landscape.

Sector-wise Breakdown of Incentives

The financial incentives provided under the PLI Scheme were allocated to each sector according to its specific requirements and potential for growth. Here is a breakdown of the incentives for each sector:

- **Advance Chemistry Cell (ACC) Battery**: Rs. 18,100 Crore
- **Electronic/Technology Products**: Rs. 5,000 Crore
- **Automobiles & Auto Components**: Rs. 57,042 Crore
- **Pharmaceutical Drugs**: Rs. 15,000 Crore
- **Telecom & Networking Products**: Rs. 12,195 Crore

- **Textile Products:** Rs. 10,683 Crore
- **Food Products:** Rs. 10,900 Crore
- **High Efficiency Solar PV Modules:** Rs. 4,500 Crore
- **White Goods (ACs & LED):** Rs. 6,238 Crore
- **Specialty Steel:** Rs. 6,322 Crore

These incentives were aimed at boosting domestic manufacturing and reducing import dependency in various sectors.

Recognizing the evolving economic landscape, the PLI Scheme expanded to incorporate additional sectors. The government added "Manufacturing of Drones and Drone components" to the scheme, allocating Rs. 120 Crore to promote MSMEs and startups in this emerging sector. With this inclusion, the total commitment to the PLI scheme for 14 sectors reached Rs. 1,97,411 Crore.

Objectives of the PLI Scheme

The PLI Scheme was designed with four primary objectives in mind:

- **Reduce Import Dependency:** Identify products with substantial import dependency and incentivize their domestic production.
- **Enhance Exports:** Increase the export of products covered under the scheme, making India a global export hub.
- **Attract Foreign Direct Investment (FDI):** Encourage foreign investors to establish manufacturing capacities in India.
- **Technology Infusion:** Bring cutting-edge technology to India by promoting investments in key sectors.

Pharmaceuticals: A Success Story

One of the most significant success stories of the PLI Scheme is in the pharmaceutical sector. The manufacturing of Active Pharmaceutical Ingredients (APIs) and drug intermediaries saw a substantial boost. This sector accounted for the highest investment under the scheme, with notable results:

- Commencement of manufacturing of 35 APIs, addressing India's 90% import dependence on these critical pharmaceutical components.
- Significant investment in expanding domestic API production capacity.
- Promotion of self-reliance in pharmaceuticals and reduction of import dependency.

Electronics: Mobile Manufacturing and Exports Surge

India's mobile phone manufacturing and export capabilities have experienced remarkable growth due to the PLI Scheme. The country is poised to achieve record-breaking mobile phone exports in the upcoming years, driven by global giants like Apple. Key highlights include:

- Expected mobile phone exports of over Rs. 1.2 lakh crore in 2023-24.
- Apple's plan to shift a significant portion of its iPhone production to India by 2025.
- Substantial reduction in electronics imports, positioning India as a self-reliant electronics manufacturing hub.

Telecom Sector: Self-Sufficiency Achieved

The telecom sector witnessed a remarkable transformation, achieving import substitution of over 60%. India now produces Antennae, Gigabit Passive Optical Network (GPON) equipment, and Customer Premises Equipment (CPE) domestically. This self-sufficiency has been instrumental in reducing reliance on imports.

Implementation of the PLI Scheme

After the government's approval, individual ministries and departments formulated and notified their respective PLI schemes. These schemes were then opened to industry proposals, with partners selected based on their commitment to significant investments, rapid scaling, and contribution to production, employment, and exports.

The eligible products identified by these ministries were characterized by high import dependency, limited domestic manufacturing capacity, and substantial export potential. The PLI Scheme aimed to achieve four specific outcomes:

- **Reduce Import Dependency:** Encourage domestic production to reduce reliance on imported goods.
- **Boost Exports:** Enhance the export potential of designated products.
- **Attract FDI:** Attract foreign investments for manufacturing.
- **Technology Transfer:** Facilitate the introduction of cutting-edge technology to India.

Table: Impact of PLI Scheme on Key Sectors	
Sector	Achievements
Pharmaceuticals	Commencement of manufacturing for 35 critical APIs, addressing 90% import dependency
Electronics	Expected to cross Rs. 1.2 lakh crore in mobile phone exports; Apple's plans to increase iPhone production in India
Telecom	Import substitution of over 60%; domestic production of Antennae, GPON, and CPE
Textiles	Boosting domestic production and reducing reliance on imports
Automobiles & Auto Comp.	Significant investments in the automotive sector, enhancing manufacturing capabilities

The Production Linked Incentive (PLI) Scheme has emerged as a game-changer in India's manufacturing landscape. With a focus on key sectors such as pharmaceuticals, electronics, and telecom, the scheme has significantly reduced import dependency, boosted exports, attracted foreign investment, and facilitated technology transfer. India's rapid progress in mobile phone manufacturing and pharmaceutical production is testament to the scheme's success. As the country continues to pursue self-sufficiency and global competitiveness, the PLI Scheme stands as a beacon of hope for India's manufacturing renaissance.

In a world where supply chain dynamics are constantly evolving, India has seized the opportunity to become a credible global manufacturing alternative. The success of the PLI Scheme, coupled with the government's commitment to ease of doing business, positions India as an attractive destination for investments in manufacturing. As India works toward achieving its target of 25% contribution from the manufacturing sector to its GDP by 2025, the PLI Scheme remains a vital driver of this growth story.

Cultural Heritage: Tradition to Innovation

The 'Make in India' initiative, launched by the Indian government, aims to boost domestic manufacturing, attract foreign investments, and create job opportunities while preserving and promoting India's rich cultural heritage. India's cultural legacy, with its diverse arts, crafts, and traditions, plays a significant role in shaping the nation's identity and global perception. However, the modern era presents challenges such as globalisation, urbanisation, and technological advancements that can erode traditional practices and endanger cultural authenticity. 'Make in India' seeks to strike a balance between modernisation and cultural preservation, ensuring the continuity of India's cultural heritage in the face of changing times.

Empowering Artisans and Preserving Tradition through 'Make in India'

- 'Make in India' launched in 2014 to boost domestic manufacturing and attract foreign investment.
- It expanded its focus beyond manufacturing to sectors like IT, tourism, renewable energy, biotech, and electronics.
- The initiative aims to blend tradition and innovation by encouraging investments in arts, crafts, handlooms, and traditional medicine.
- Skill development programs like PMKVY train artisans in modern techniques, marketing, and ecommerce.
- Financial support is provided through PMEGP, offering loans for artisans to start or expand their businesses.
- Trade fairs and online platforms like e-Haats create digital marketplaces for artisans.
- The Government established 150 rural handicraft clusters for artisan training, marketing, and financial assistance.
- Partnerships with companies like Fabindia and Good Earth promote traditional handicrafts globally.

Reviving Traditional Artforms

- 'Make in India' campaign rejuvenates Indian art, crafts, and traditions.
- Promotes cultural authenticity alongside modernization.
- Artisan workshops and design camps foster collaboration and fusion of traditional and contemporary techniques.
- Supports research on traditional art forms to preserve heritage while embracing technology.
- Example: Revival of traditional handloom textiles with the 5F approach.
- National Handloom Day celebrated on 7 August to honor weavers' contributions.
- Government allocates Rs. 6,006 crore to support the handloom sector, enhancing productivity and competitiveness.
- Allows 100% Foreign Direct Investment (FDI) in Indian textiles under the automatic route to boost global presence.
- Revival of traditional pottery encourages innovative experimentation.
- Nationwide cultural festival celebrations showcase Indian art and promote bonding among artisans and enthusiasts.
- Fusion of traditional textiles with modern fashion finds success in both national and global markets.
- Revisitation of Indian music and dance forms with innovation creates modern productions through advanced technology and storytelling.

Using Technology for Cultural Heritage

- Technology enhances heritage preservation through digital replicas, high-resolution images, and 3D scanning/printing.
- Digital databases securely store all artefacts for long-term conservation.
- Digitisation contributes to the creation of virtual museums and online exhibitions.
- Virtual museums provide immersive experiences with 3D models and detailed exhibit information.
- Online exhibitions and virtual museums offer multimedia elements for interactive learning.
- Virtual museums act as backups for physical artefacts, ensuring additional protection.
- Ecommerce platforms transform artisan sales, granting access to a global marketplace.
- Elimination of intermediaries in ecommerce benefits artisans with fair prices and financial inclusion.
- E-commerce platforms offer training, support, and marketing strategies to promote entrepreneurship among artisans.

Economic Impact of Cultural Tourism on Local Communities and Heritage Preservation

- Cultural tourism benefits local communities, small businesses, and cottage industries.
- Heritage preservation is encouraged by the demand for artefacts from tourists.
- 'Heritage Walks' provide authentic historical site exploration for tourists.
- These experiences enrich tourists' understanding of Indian culture and foster cross-cultural exchange.
- 'Home Stays' offer tourists insights into traditional lifestyles and culinary practices.
- Economic benefits of cultural tourism motivate communities to invest in heritage preservation.
- Public-private partnerships (PPPs) are vital for promoting and preserving India's cultural heritage.
- PPPs bring together government, private sector, and NGOs to achieve common goals.
- Make in India initiative supports PPPs in the cultural heritage sector, fostering economic growth.
- Tourism showcases Indian art and culture, enhancing the country's international image.
- Cultural tourism promotes cross-cultural understanding and strengthens cultural diplomacy.
- 'Make in India' leverages tourism initiatives to showcase Indian artistic traditions globally, benefiting artists and culture.
- Exposure on international platforms elevates the stature of Indian art and culture worldwide.

Balancing tradition and innovation in cultural heritage preservation is a challenge under 'Make in India.' While technology can enhance preservation, it must be carefully curated to avoid diluting authenticity. Ongoing support, funding, policy frameworks, and community involvement are essential for safeguarding India's cultural heritage. 'Make in India' has the potential to make a lasting impact by integrating culture into tourism, supporting artisans through e-commerce, and promoting cultural diplomacy, enhancing India's global visibility and leaving a legacy for future generations.

Make in India's Super Star Sectors and Water Management

Water is a crucial component in various industries, including those under the Make in India initiative, like Automotive, Electronics, Renewable Energy, Roads, Pharmaceuticals, and Food Processing. Effective water management is vital for these sectors' growth and sustainability. The initiative, launched in 2014 to promote India as a global manufacturing hub, relies significantly on water usage. However, India's GDP per cubic meter of fresh water withdrawal is much lower compared to other countries, emphasizing the need for efficient water utilization in industries to maximize productivity.

Automotive

- Automotive Mission Plan (AMP) 2026 aims for four-fold growth in the automotive industry under Make in India, from \$74 billion to \$300 billion.
- It's expected to create 65 million jobs and contribute over 12% to India's GDP.
- Automobile manufacturing consumes about 39,000 gallons of water per car.
- Growth in the automotive sector leads to increased demand for water resources, potentially causing conflicts among users.
- Major car manufacturers, like Hyundai and Toyota, adopt sustainable water practices, including rainwater harvesting and recycling.
- Tata Motors focuses on water efficiency through process improvements and wastewater recycling.
- Waterless car cleaning operations have been introduced to reduce consumption.
- Initiatives aim to eliminate or reduce water usage in paint pre-treatment, as per the US Energy Department's roadmap.
- These practices can be scaled up as the automotive industry grows through Make in India.

Electronics System Design and Manufacturing

- Electronics device manufacturing is crucial in the technology-driven world and aligns with the Digital India initiative.
- India aims to become a global hub for electronics system design and manufacturing, targeting a \$400 billion turnover by 2025.
- Electronics manufacturing requires ultra-pure water for various processes, including semiconductor manufacturing.
- The production of ultra-pure water demands a significant amount of raw water.
- For instance, manufacturing one integrated circuit on a wafer can require approximately 2200 gallons of water, including 1500 gallons of ultra-pure water.
- The availability of pure water is tightly linked to the success of the 'Make in India' initiative.
- The electronics industry has the potential to innovate and minimize water wastage while generating pure water for both industrial and drinking purposes.

Renewable Energy

- India aims for 50% of cumulative electric power from renewables by 2030, including solar, wind, hydropower, and green hydrogen.
- The renewable energy sector attracts Foreign Direct Investment (FDI), promoting manufacturing industries producing power generation components.
- Water plays a role in renewable energy, including solar plant maintenance, which can require 1 to 5 million gallons of water for a 100 MW solar plant.
- Innovations like the Massachusetts Institute of Technology's electrostatic repulsion method aim to reduce water usage in solar energy.

- Hydrogen energy production depends on water, particularly for green hydrogen sourced from renewable electricity.
- India's National Hydrogen Mission seeks to establish the country as a green hydrogen hub, targeting 5 million tonnes of green hydrogen production by 2030.
- The 'Make in India' initiative offers investment opportunities in the hydropower sector, including Large Hydro Power Projects (LHPPs) and pumped storage projects.
- Mini and micro-generators in canals and small streams can contribute to the power pool with minimal investments, fostering associated industries.
- Innovations and improvements in small hydro power generation can lead to increased power output with minimal head and water flow.

Road and Transport

- India possesses the world's second-largest road network, covering approximately 63.32 lakh km.
- Historically, road network investments were primarily made by the government, but recent amendments to the National Highways Act encourage private participation.
- Incentives for private sector and foreign direct investment include the government covering feasibility study costs, shifting utilities, environmental clearance, and more.
- The government provides subsidies of up to 40% of the project cost to enhance project viability.
- Duty-free import of modern road construction equipment, declaring the road sector as an industry, and simplified external commercial borrowing norms further promote investment.
- Road and highway networks interact directly with water courses, emphasizing the importance of considering water conservation in planning.
- The 'Make in India' initiative can leverage technology, such as satellite imagery, for integrated planning and addressing geographical challenges.
- Collaboration opportunities exist with water conservation efforts, such as using soil and silt from ponds in highway construction, promoting resource availability and environmental conservation.

Food Processing

- India's pharmaceutical industry ranks third globally in volume, comprising 3,000 drug companies and 10,500 manufacturing units.
- The industry produces around 60,000 different generic brands across 60 therapeutic categories, contributing to 20% of global generic supply.
- India's success in handling the COVID-19 pandemic and developing the world's first intranasal COVID-19 vaccine, iNNCOVACC, highlights its pharmaceutical industry's achievements.
- Estimates project the industry to reach USD 130 billion by 2030, with medical device exports expected to hit USD 10 billion by 2025.
- The government introduced Production Linked Incentive (PLI) schemes with USD 400 million in incentives for medical devices to bolster domestic production.
- The National Medical Devices Policy aims to establish India as a global leader in medical device manufacturing and innovation, capturing a 10-12% share of the global market over 25 years.
- High-quality pure water is crucial for the pharmaceutical industry across various manufacturing stages.
- A WWF study revealed that 80% of the top 30 global pharmaceutical companies prioritize water sustainability, with 83% conducting water risk assessments.
- There's a need to enhance water management during the Research and Development stage to address local water resource deficits and associated social impacts.

Pharmaceuticals

- The food processing industry bridges the gap between agriculture and other sectors, boosting farmers' income through value addition and market connections.
- It contributes to public health by reducing nutritional gaps through fortified foods.

- The Ministry of Food Processing, under 'Make in India,' supports integrated cold chain projects and Mega Food Parks.
- Cold chain projects aid farmers in preserving perishable products, while each food park generates 5,000 jobs and benefits 25,000 farmers.
- The government's PLI scheme for the food processing industry, with an outlay of INR 10,900 crore, aims to expand processing capacity and create employment for 2.5 lakh people by 2026-27.
- The Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) scheme, with INR 10,000 crore, aims to boost competitiveness and formalize microenterprises in the unorganized food processing sector.
- Water is crucial for the food processing industry, with 70% of the 90% water used in agriculture dedicated to food production and 20% to food processing. Process improvements are needed to reduce water intensity.

Changing Paradigm of Foreign Direct Investment

The Make in India initiative has not only attracted substantial Foreign Direct Investment (FDI) but has also significantly boosted India's GDP and job creation, bolstering its resilience in the post-pandemic world. FDI plays a pivotal role in industrial development by providing external resources, technology infusion, capacity building, and job opportunities. It has been a catalyst for economic growth and a driving force behind India's transformation into a global manufacturing hub. FDI's impact on economic growth is particularly pronounced in emerging economies, where it fosters technological transfer and innovation. The Make in India initiative leverages FDI to bolster India's manufacturing sector, driving progress and economic resilience.

What is FDI?

- FDI, or Foreign Direct Investment, involves one country participating in another's long-term business activities, often including management, technology transfer, and joint ventures.
- The International Monetary Fund defines FDI as the acquisition of at least 10% of shares or voting power in an enterprise by non-resident investors, with a lasting interest in management and profit reinvestment.
- Two main types of FDI from the investor's perspective are horizontal and vertical. Horizontal FDI expands a company's production of similar goods in the host country and can be motivated by profit or cost savings.
- Vertical FDI occurs when an organization seeks to exploit raw materials or establish distribution outlets closer to consumers, making the production process more cost-efficient.
- FDI can take various forms, including greenfield investment (establishing new facilities), mergers and acquisitions (M&A), and joint ventures (partnerships with local or foreign entities to share risk and expertise). Joint ventures often involve one partner contributing technical skills and funding, while the other provides market knowledge and regulatory insights.

FDI in India

- FDI enters India through multiple automatic routes, government, and mergers/acquisitions.
- The automatic route allows foreign investors to invest in most sectors without prior government approval, facilitating ease of business.
- The government route regulates sensitive sectors to align with strategic interests.
- Mergers and acquisitions involve foreign companies acquiring existing Indian firms for quick market entry.
- FDI in India has grown significantly, surpassing \$60 billion in 2020, accounting for over 2.4% of GDP.
- In 2022-23, India received \$70.97 billion in FDI equity inflow, with top investors being Mauritius (26%), Singapore (23%), USA (9%), Netherlands (7%), and Japan (6%).

Change in FDI Policy Paradigm

- 100% FDI allowed in single-brand retail trading (SBRT) under automatic route since January 2018.
- Relaxed local sourcing norms for SBRT entities for the initial five years.

- Revised definition of "real estate business" in the construction sector in November 2019.
- Reduced minimum capitalization requirement for FDI in construction development sector from USD 10 million to USD 5 million within six months.
- 26% FDI allowed under Government approval route for digital media entities involved in news and current affairs content streaming since September 2019.
- Contract manufacturing included in the definition of SBRT in August 2019.
- 100% FDI permitted in coal mining and associated infrastructure activities under the automatic route since August 2019.
- 100% FDI allowed in scheduled airlines under the automatic route in March 2016.
- FDI limit in the defense sector increased from 49% to 74% through the automatic route in February 2021.
- Offset guidelines relaxed to encourage more significant investments in the defense sector.
- FDI limit in the insurance sector increased from 49% to 74% under the automatic route in February 2021.
- New FDI norms introduced for e-commerce companies in December 2018, including restrictions on exclusive deals and inventory control.
- Clarification of the distinction between marketplace and inventory-based models in e-commerce to ensure FDI compliance.

Impact of Changes in FDI on Make in India

- The industry contributes significantly to India's economy, accounting for 31% of GDP and employing over 12.1 crore people.
- The manufacturing sector contributes 17.3% of the total gross value added in GDP.
- Annual FDI equity inflows in the manufacturing sector have steadily increased.
- The Make in India initiative aims to attract FDI, boost domestic manufacturing, create employment, and enhance export capabilities.
- India's manufacturing output grew from 381.51 billion US dollars in 2019 to 443.91 billion US dollars in 2021.
- FDI in India crossed the 60 billion US dollar mark in the financial year 2017-18.
- The automobile sector in India saw a growth of 25.54% from 2017-18 to 2018-19, with substantial FDI inflows.
- The textile sector attracted FDI of 1522.23 million US dollars from 2017 to 2022, representing over 4% of India's GDP.
- India's recent growth has been recognized as a significant achievement by the World Bank, making it a resilient economy.

FDI is a key component of globalization, particularly in emerging economies, where it bridges the gap by providing capital and technological support for industrial development and economic growth. India's 'Make in India' initiative, launched in 2014, aimed to transform the country into a global manufacturing hub, attracting foreign investment. Industries under this initiative have not only drawn FDI but have also bolstered India's GDP and employment, making it a resilient economy in the post-pandemic era.

Vocal for Local

Amid health, economic, and climate change crises, "vocal for local" has emerged as a new path for development. A strong "vocal for local" approach can bolster rural India and contribute to making India the world's third-largest economy. Policymakers are focusing on this strategy to revive economic growth and job creation. Initiatives like 'Make in India,' 'Start-up India,' and labour reforms aim to boost the local economy. However, various barriers, including skill gaps, technology limitations, financial constraints, and marketing challenges, need to be addressed. The COVID-19 pandemic worsened rural livelihood issues, but it highlighted the importance of local economies. Rural households adopted coping strategies during the crisis.

Need for Vocal for Local

- The 'Vocal for Local' concept gained prominence after a speech by India's Prime Minister in May 2020, emphasizing self-sufficiency and local production.
- It aligns with the Self-reliant India Movement, focusing on economy, infrastructure, governance, demography, and supply chain.
- Various stakeholders, including governments, NGOs, and the corporate sector, have adopted policies and schemes to promote 'vocal for local' for rural development, inclusivity, and recovery.
- The goal is to realize Gandhi's vision of self-sufficiency using local resources and eco-friendly technologies to meet basic needs like food, shelter, healthcare, and education.
- India aims to balance self-reliance with openness to the world, focusing on domestic demand while not completely isolating itself from global markets.
- 'Vocal for Local' promotes local brands, manufacturing, and supply chains to make local products competitive globally.
- It supports small enterprises, traditional artisans, self-help groups, and more, operating with local resources and limited market reach.
- The strategy encourages businesses to tailor products to local market preferences, utilize local resources, and adopt effective marketing and distribution.
- 'Vocal for Local' also aims to preserve indigenous crafts and practices, benefiting rural non-farm economies.
- The Ministry of Textiles has initiated e-commerce platforms and collaborations to enable artisans to go online and compete effectively.

Framework

- **Enhancing 'Vocal for Local' Strategy:**
 - 'Vocal for Local' is crucial for rural development, fostering healthy, resilient, and economically strong communities.
 - The strategy begins with comprehensive local resource and supply-demand mapping at the village level.
- **Strengthening Local Economy:**
 - Local economies should be fortified through various measures.
 - Special Gram Sabhas can address issues of local entrepreneurs and artisans.

- Panchayat secretariats can act as hyper-local platforms connecting entrepreneurs to government schemes and support.
- Gram Panchayat Development Plan (GPDP) can effectively integrate entrepreneurship into rural development strategies.
- Panchayati raj institutions, supported by stakeholders like SRLMs, NGOs, CSR affiliates, can create an ecosystem to bolster the 'Vocal for Local' strategy.
- **Efficient Planning and Coordination:**
 - Coordination among different line departments in rural areas is essential for efficient planning.
 - Skill and economic development planning should focus on local economic strengthening.
 - Local plans must align with national and sub-national development strategies.
 - Local institutions like panchayats should visit local businesses regularly, addressing their needs and challenges.
- **Support for Local Enterprises:**
 - Local institutions can assist enterprises in participating in local business events and connecting with the business community.
 - Designing contracting procedures, including incentives to buy local products, can promote local firms.
 - GPDP can identify sectors and prioritize resource allocation for local entrepreneurs.
 - Convergence framework is required for local entrepreneurs to benefit from multiple government programs.
 - Special packages, like PM Vishwa Karma Kaushal Samman, aim to integrate rural artisans into the MSME value chain.
 - Initiatives like Hunar Haat encourage local craftsmanship.
 - Mentoring and handholding services are crucial for local entrepreneurs, covering business skills, technical know-how, and psychosocial support.
 - A network of Community Resource Persons (CRPs) should provide continuous mentoring and capacity development.
 - CRPs need regular training to stay updated on policies and programs.
 - Entrepreneurs should be educated about IT-enabled portals and digital tools.
 - Collaboration with stakeholders like SRLMs, MSME-Development Institutes, and District Industries Centres can enhance digitization efforts and support for rural enterprises.
- **Streamlined Access to Information and Support:**
 - Panchayats should work with various stakeholders to provide comprehensive information and support on a single platform.

Way forward

- To achieve self-reliance, focus on local business opportunities using local resources.
- Providing skill orientation is essential to improve product quality.
- Consumer preferences for local products over imported ones are changing rapidly.
- 'Vocal for Local' doesn't mean avoiding foreign products but emphasizes supporting local markets to protect the local economy.
- It's a crucial part of the 'Make in India' strategy, aimed at facilitating investment, fostering innovation, and enhancing infrastructure.
- 'Ease of doing business' is vital for promoting entrepreneurship.

The 'Vocal for Local' initiative holds the potential to promote self-reliance, spur economic growth, generate job opportunities, reduce import dependence, and boost small, micro, and SHG-based enterprises in the country. To fully leverage this strategy, the focus should be on establishing reliable local raw material sources and adopting the mindset of "Think local, act global."

Boosting Innovation: Transforming Manufacturing

The 'Make in India' initiative, launched by the Government of India in 2014, is a visionary program designed to transform India into a prominent manufacturing hub. It encompasses a multifaceted approach, with key objectives such as promoting domestic manufacturing, attracting foreign investments, fostering innovation, and generating opportunities. This transformative initiative places a strong emphasis on improving the ease of doing business in India, streamlining regulations, and creating a more investor-friendly environment. These efforts have not only boosted the confidence of both domestic and foreign businesses but have also encouraged them to establish manufacturing facilities within the country. 'Make in India' plays a pivotal role in advancing India's economic development and self-reliance, ultimately contributing to its global progress. Additionally, the initiative prioritizes innovation and entrepreneurship, offering incentives for research and development activities to enhance the competitiveness of Indian industries in the global market. Over the years, 'Make in India' has achieved notable success, attracting substantial foreign direct investment in manufacturing and positioning India as a preferred destination for industrial growth and economic expansion.

How does Make in India help Innovators?

- 'Make in India' program prioritizes innovation, recognizing its role in driving economic growth and competitiveness.
- It fosters an environment conducive to innovation and offers robust support to entrepreneurs across diverse sectors.
- India's manufacturing sector holds significant importance in the economy, attracting foreign investments, especially in industries like mobile phones, luxury goods, and automobiles.
- The program benefits from India's status as one of the world's largest and rapidly expanding consumer markets, providing innovators with access to a vast customer base.
- The government offers financial incentives, tax benefits, and subsidies to innovators looking to establish manufacturing facilities or research and development centres in India.
- 'Make in India' encourages technology transfer and collaboration between Indian companies and global firms, allowing innovators to access cutting-edge technologies and expand their capabilities.
- As a result of the program's efforts, Indian products and innovations have gained recognition on the global stage, strengthening India's position in the international market.
- Overall, 'Make in India' has created an enabling ecosystem for innovators and entrepreneurs, driving India's manufacturing landscape to unprecedented heights.

Scenario of Manufacturing Sector

- The manufacturing sector, including industries like automotive, engineering, chemicals, pharmaceuticals, and consumer durables, is a vital cornerstone of India's economic expansion.
- Before the pandemic, manufacturing contributed around 16-17% to India's GDP and is expected to be a rapidly growing sector in the future.

- The manufacturing sector contributes 17% of India's GDP and employs over 27.3 million workers, making it a crucial part of the economy.
- The government aims to achieve 25% of the economy's output from the manufacturing sector by 2025, driving various programs and policies to boost growth.
- India has become an attractive destination for foreign investments in manufacturing, with industries like mobile phones, luxury goods, and automobiles establishing or considering manufacturing facilities in the country.
- India's manufacturing sector has the potential to reach one trillion dollars by 2025, with the introduction of Goods and Services Tax (GST) enhancing its attractiveness to investors.
- The Indian tech industry experienced significant growth in 2022, generating a total revenue of \$227 billion and boasting 108 unicorns, highlighting its thriving startup ecosystem.
- The Indian startup ecosystem saw a record-breaking 240 mergers and acquisition deals before September 2022, amounting to \$148 billion, showcasing India's prominence in the global startup and tech arena.

Global Partner on Artificial Intelligence

- India has assumed the prestigious role of chairing the Global Partnership on Artificial Intelligence (GPAI), an international initiative focused on responsible and human-centric development and use of artificial intelligence (AI).
- This achievement follows India's presidency of the G20, showcasing the country's increasing influence in shaping global AI policies and fostering international collaboration for ethical and inclusive AI development.
- GPAI consists of 25-member countries, including the US, UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, South Korea, and Singapore, with India as one of the founding members.
- GPAI serves as a pioneering initiative that aims to deepen understanding of AI challenges and opportunities, working closely with partners and international organizations. It brings together industry leaders, civil society representatives, government officials, and academic scholars to promote responsible AI advancement grounded in principles like innovation and economic growth.

Sectors pushing the Make in India

- **Automotive Sector:**
 - Renowned global car manufacturers like Renault, Suzuki, Honda, and Volkswagen have established manufacturing bases in India.
 - The automotive sector aims to become a \$300 billion industry within the next five years, generating up to 65 million job opportunities.
 - This expansion aligns with India's commitment to sustainability and environmental conservation.
- **Renewable Energy:**
 - India has made remarkable progress in embracing renewable energy, particularly solar power.
 - The country's geographical expanse and favourable climatic conditions make it ideal for solar power generation.
 - India has become one of the world's leading solar energy producers, contributing significantly to global sustainability efforts.
- **Electronics Hardware Manufacturing:**
 - Electronics hardware manufacturing is crucial to India's 'Make in India' and 'Digital India' initiatives.
 - The sector aims to reach a turnover of \$400 billion, create employment for 28 million people, and increase exports from \$8 billion to \$80 billion.
 - India is becoming a preferred destination for electronics production, enhancing its global standing in the electronics market.
- **Food Processing:**
 - Food processing bridges agriculture and industry, supporting job creation and farmer empowerment.
 - The Ministry of Food Processing is involved in integrated cold chain projects and Mega Food Parks.

- Food processing is poised to become a sunrise sector, contributing to economic growth, job creation, and agricultural advancement.
- **AI & Robotics:**
 - AI and Robotics are transformative technologies gaining traction globally.
 - India inaugurated its first artificial intelligence and robotics park in Bengaluru with a venture fund of \$100 million.
 - India's commitment to nurturing these technologies fosters innovation, economic progress, and global competitiveness.
- **Launch of ONDC (Open Network for Digital Commerce):**
 - ONDC aligns with the Make in India initiative to boost domestic manufacturing in digital commerce.
 - ONDC aims to establish a comprehensive digital commerce ecosystem, promoting local innovation and production.
 - The integration of ONDC and Make in India positions India to harness its digital potential, stimulate economic progress, and strengthen its global position in digital commerce.

Initiatives such as 'Make in India' exemplify India's unwavering commitment to nurturing economic growth, promoting innovation, and achieving self-reliance. Through strategic efforts to boost domestic manufacturing, attract investments, and facilitate business expansion, India positions itself for greater global recognition across various sectors. The integration of technology, innovation, and localized production propels India toward a future characterized by enhanced capabilities, economic prosperity, and self-sufficiency. These initiatives pave the way for India to emerge as a major global player, leading the way in innovation, job creation, and sustainable progress.



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