

MAY 2025



SUMMARY OF

KURUKSHETRA

Micro, Small and Medium Enterprises

Navigating the future of MSME Finances

PM Vishwakarma & Cooperatives MSMES

MSMEs Empowered by Science and Technology

Revitalizing Indian MSMES

Technology Adoption by MSME in India



TOPIC 1: EMPOWERING MSMEs THROUGH SCIENCE AND TECHNOLOGY INTERVENTIONS IN INDIA

Introduction

India's Micro, Small, and Medium Enterprises (MSMEs) are the backbone of its industrial economy, accounting for over 30% of the GDP and employing more than 110 million people. As the global economy transitions into a knowledge-based, digital-first ecosystem, the role of science, technology, and innovation (STI) in transforming MSMEs into globally competitive, sustainable, and resilient enterprises has become pivotal. This document explores the multifaceted ways in which science and technology interventions are empowering MSMEs in India to overcome traditional bottlenecks and emerge as drivers of inclusive and sustainable growth.

Significance of MSMEs in India's Economy:

- **Economic Contribution:** Contribute ~30% to India's GDP and 48% to exports.
- **Employment Generator:** Second-largest employer after agriculture.
- **Diversity of Enterprises:** Spans across manufacturing, trade, services, agritech, and creative industries.
- **Regional Development:** A key tool in decentralizing industrial development to semi-urban and rural areas.

Challenges Faced by Indian MSMEs:

- Limited Access to Finance
- Lack of Advanced Technology and R&D
- Low Productivity and Operational Inefficiencies
- Skilling and Talent Shortage
- Low Integration into Global Value Chains
- Compliance and Regulatory Hurdles

Science and Technology as Catalysts for MSME Empowerment

Science and technology interventions have the potential to address these challenges by enabling process innovation, product diversification, cost-efficiency, and quality assurance. They promote competitiveness, scalability, and sustainability through the following strategic pathways:

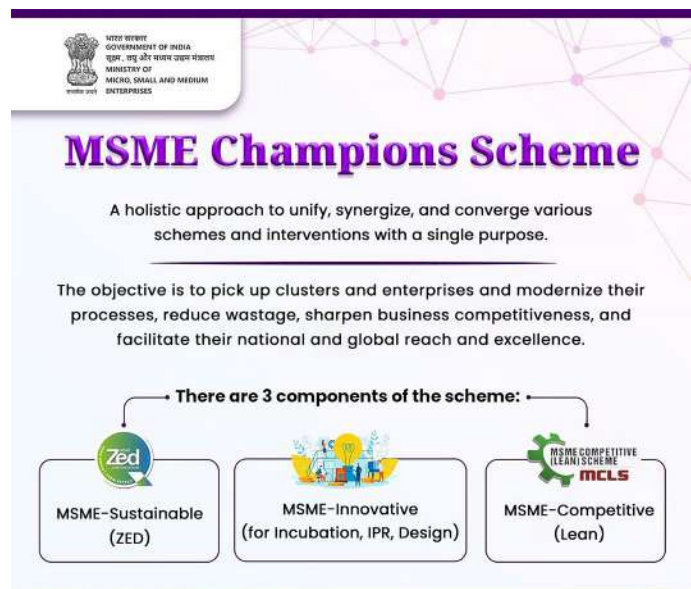
- Technology Incubation and Innovation Support**
 - **MSME Innovation Scheme (Merged schemes under MoMSME):**
 - **Components:** Incubation, Design, IPR support.
 - **Objective:** Nurturing innovation through support to business incubators and startups.
 - **Technology Business Incubators (TBIs) under DST and BIRAC (Biotech Ignition Grant):**
 - Provide seed funding, mentoring, and lab access.
 - Promote deep-tech and biotech startups.
- Digital Transformation and Industry 4.0 Adoption**
 - **SAMARTH (Smart Advanced Manufacturing and Rapid Transformation Hub):**
 - Industry 4.0 adoption including AI/ML, IoT, additive manufacturing.
 - Promotes smart factories and lean production.
 - **Digital MSME Scheme:**
 - Encourages adoption of cloud-based ERP, CRM, and cybersecurity tools.
 - Reduces cost and enhances productivity.
 - **Centre for Industry 4.0 (C4i4) Labs:**
 - Public-private partnership to demonstrate and deploy I4.0 technologies for MSMEs.
- Research-Industry Collaboration Platforms**
 - **MSME-Technology Development Centre (TDC) Network:**
 - 18 centres offer design, prototyping, and skill development support.
 - **Council of Scientific and Industrial Research (CSIR):**
 - Licensing affordable, scalable technologies to MSMEs.
 - Supports clean energy, agri-tech, process reengineering.
 - **Technical Education-Industry Interface Cells:**
 - Facilitate collaboration between engineering colleges and MSMEs.
 - Promote applied R&D and internship models.

(iv) Technology Upgradation and Quality Certification

- **Credit Linked Capital Subsidy Scheme (CLCSS):**
 - 15% capital subsidy for technology upgrades.
- **ZED (Zero Defect Zero Effect) Certification:**
 - Promotes lean manufacturing, quality assurance, and eco-friendly practices.
- **Support for International Certifications (ISO, CE, etc.):**
 - Enhances market access for MSMEs.

(v) Sustainable and Green Technology Integration

- **Technology Centres for Energy Efficiency (BEE):**
 - Promote adoption of energy-efficient machines, solar dryers, biomass gasifiers.
- **Waste to Wealth and Circular Economy Platforms:**
 - Innovations in reusing industrial by-products.
 - Promoted by DST, Atal Innovation Mission, and local universities.
- **Green MSME Scheme:**
 - Promotes environmental management and clean technology.



MSME Champions Scheme

A holistic approach to unify, synergize, and converge various schemes and interventions with a single purpose.

The objective is to pick up clusters and enterprises and modernize their processes, reduce wastage, sharpen business competitiveness, and facilitate their national and global reach and excellence.

There are 3 components of the scheme:

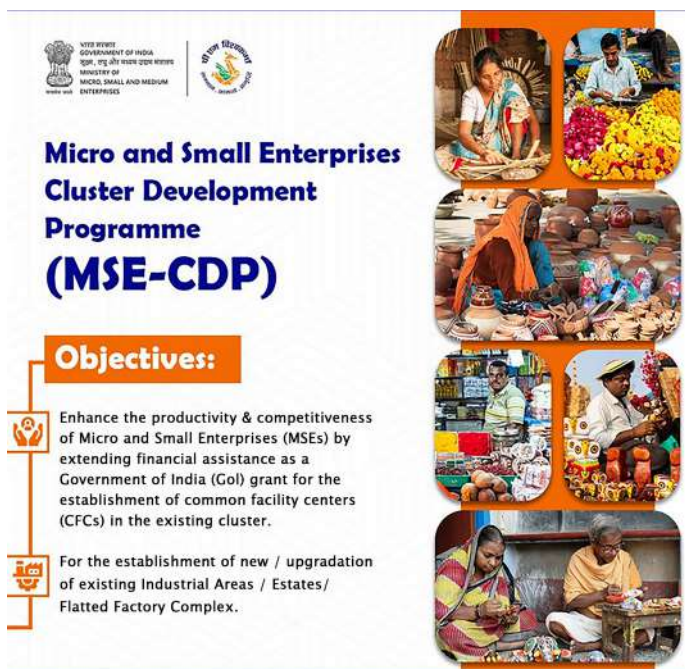
- MSME-Sustainable (ZED)
- MSME-Innovative (for Incubation, IPR, Design)
- MSME-Competitive (Lean)

(vi) Rural and Agro-based Technology Empowerment

- **CSIR-Rural Technology Incubators:**
 - Facilitate rural innovation for MSMEs in food processing, herbal products, rural crafts.
- **MGIRI (Mahatma Gandhi Institute for Rural Industrialisation):**
 - Promotes appropriate technology for khadi, textiles, rural manufacturing.
- **SFURTI (Scheme of Fund for Regeneration of Traditional Industries):**
 - Revives traditional clusters through modern tech infusion and capacity building.
- **Unnat Bharat Abhiyan:**
 - Academic-rural-industrial partnerships to upgrade technologies in rural enterprises.

Financing Innovation and Tech Adoption in MSMEs

- **Fund of Funds for Startups (FFS) and SIDBI's India Aspiration Fund:**
 - Venture funding and equity infusion for tech-driven MSMEs.
- **Technology and Innovation Fund (TIF) under SIDBI:**
 - Targets emerging tech areas (green tech, medtech, AI).
- **PSB Loans In 59 Minutes and Credit Guarantee Schemes:**
 - Fast-track credit access for tech adoption.



Micro and Small Enterprises Cluster Development Programme (MSE-CDP)

Objectives:

- Enhance the productivity & competitiveness of Micro and Small Enterprises (MSEs) by extending financial assistance as a Government of India (GoI) grant for the establishment of common facility centers (CFCs) in the existing cluster.
- For the establishment of new / upgradation of existing Industrial Areas / Estates/ Flatted Factory Complex.

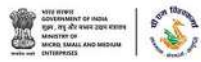


NIDHI BOOSTS STARTUP INDIA CAMPAIGN

Launched with the commitment of the Government to strengthen India's start up eco-system, NIDHI programme is nurturing ideas & innovations to successful startups.

- ▣ 12000+ Startups Incubated
- ▣ 1600+ Women Startups
- ▣ 65000+ Jobs Created

#vigyansevikas



SELF RELIANT INDIA (SRI) FUND

Empowering MSMEs for Aatmanirbhar Bharat



Designed to Leverage the strength of the Private Sector in providing growth capital to viable MSMEs.

Objectives

- Enhancing Equity/Equity like financing to MSMEs
- Supporting MSMEs in their growth & expansion and also creating employment opportunities.
- Supporting enterprises with a potential to graduate beyond the MSME bracket and become National/International Champions.
- Supporting MSMEs in the objective of making India self-reliant by producing relevant goods, services and technologies.

Skilling, Capacity Building, and Human Resource Development

- **Technology Centres (Tool Rooms):**
 - Offer advanced manufacturing training (CNC, CAD/CAM, robotics).
- **Skill Development Programmes under Skill India and NSDC:**
 - Specific modules on Industry 4.0, data analytics, blockchain, AR/VR.
- **TIDE 2.0 Centres:**
 - Promote tech entrepreneurship and digital skilling in tier-2 cities.

- **Digital Skilling for Women and Marginalised Communities:**

- Promoted by MeitY and NGOs using technology-enabled learning platforms.

Integration into Global Value Chains through Technology

- **Udyam Portal and ONDC Integration:**
 - Digitally integrates MSMEs into e-commerce and logistics.
- **B2B Global Tech Marketplaces (e.g., GeM, Amazon Global Selling):**
 - Provides market access to MSMEs with compliant tech products.
- **Technology Upgradation for Export Competitiveness:**
 - Promoted by EEP, EPCs, and EXIM Bank.

Case Studies of Impact

(a) Morbi Ceramic Cluster (Gujarat)

- Adopted energy-efficient kilns and digital design software with CSIR support.
- Reduced production cost by 25%, increased export orders.

(b) Coimbatore Foundry Cluster

- Transitioned to Industry 4.0 via SAMARTH and C4i4 Labs.
- Integrated IoT in casting operations, reducing defects by 30%.

(c) Bamboo MSMEs in Northeast India

- Benefited from CSIR-NEIST and MGIRI's technology transfer in laminated bamboo boards and bamboo composites.
- Created sustainable livelihoods, especially for women entrepreneurs.

(d) Rural Agro-Processing Units in Odisha

- Supported by Unnat Bharat Abhiyan and DST's SEED program.
- Installed solar dryers, cold chains, and digital quality control systems.
- Improved farmer-MSME integration and reduced post-harvest losses.

Policy Recommendations and Way Forward

- **Promote Tech Diffusion Networks:**
 - Scale up TDCs, TBIs, and TIDE centres across tier-2/3 towns.

- **Enhance Public-Private-Academic Collaborations:**
 - Promote mission-mode innovation alliances for high-impact MSME sectors (biotech, greentech, textiles, food processing).
- **Simplify Access to Tech Finance:**
 - Unified MSME tech-financing portal with real-time eligibility filters.
- **Create Sector-Specific Centres of Excellence:**
 - In robotics, additive manufacturing, medtech, agri-tech.
- **Expand Tech Skilling and Apprenticeship Programs:**
 - Blended learning, AI-based adaptive training modules, industry tie-ups.
- **Strengthen International Tech Partnerships:**
 - Facilitate Indo-ASEAN, Indo-EU MSME tech corridors and IP co-creation models.
- **Digital Infrastructure Boost:**
 - Last-mile broadband, cloud access, cybersecurity services for rural MSMEs.

Conclusion

India's ambition to become a \$5 trillion economy and a global manufacturing hub hinges significantly on the technological empowerment of its MSMEs. Strategic and coordinated science and technology interventions—across digitalisation, innovation, sustainability, and skill development—are already demonstrating transformative results. To scale this impact, a holistic ecosystem approach involving government, academia, industry, and civil society is essential. Empowered MSMEs, backed by robust technology frameworks, can not only drive inclusive economic growth but also position India as a global leader in sustainable, tech-driven entrepreneurship.

TOPIC 2: NAVIGATING THE FUTURE OF MSME FINANCES

Introduction: MSMEs as the Bedrock of Economic Growth

Micro, Small and Medium Enterprises (MSMEs) represent the backbone of global and national economies. According to the United Nations, MSMEs account for 90% of global businesses, 60-70% of global employment, and nearly 50%

of global GDP. In India, their role is particularly critical. As of April 7, 2025, India had over 6.23 crore registered MSMEs employing approximately 26.66 crore people, contributing around 30% to GDP and more than 45% to exports.

These enterprises are pivotal in fostering inclusive growth, especially in rural and backward areas. MSMEs in India span diverse sectors—from food processing and textiles to auto components and even high-end applications such as space mission components. Around 70% of registered MSMEs operate in the service sector, with micro-enterprises forming the majority.

- **Global Relevance**

- Account for 90% of global businesses
- Employ 60–70% of global workforce
- Contribute nearly 50% to global GDP

- **Indian Context**

- 6.23 crore registered MSMEs (as of April 2025)
- Employ ~26.66 crore people
- Contribute ~30% to India's GDP and >45% to exports

- **Role in Inclusive Development**

- Spread across rural and backward regions
- Cover sectors from food processing, textiles to high-end components for space

Evolution of MSME Classification and Formalization

- **Classification Milestones**

- **MSMED Act (2006):** Defined by investment in plant/machinery
- **July 2020:** Shift to investment + turnover (twin-criterion)
- **2025 Budget:**
 - ◆ Doubled turnover thresholds
 - ◆ Investment limits raised 2.5x
 - ◆ Unified definition for manufacturing & services

- **Formalization Tools**

- Udyam Registration Portal (URP) and Udyam Assist Platform (UAP)
 - ◆ Simplify registration and credit linkages
- **Impact:** Registered MSMEs increased from 1.65 crore (2023) to 6.23 crore (2025)

BUDGET
Announcement
2025-26 for MSMEs

Investment and turnover limits for MSME classification will be raised by **2.5 and 2 times**, respectively

(Effective since April 1, 2025)

Revision in Classification Criteria For MSME				
Category	Investment not exceeding (₹ in Crore)	(Revised) Investment not exceeding (₹ in Crore)	Turnover not exceeding (₹ in Crore)	(Revised) Turnover not exceeding (₹ in Crore)
Micro	1	2.5	5	10
Small	10	25	50	100
Medium	50	125	250	500

MSME INNOVATIVE SCHEME

Incubation | Intellectual Property Rights (IPR) | Design

Objectives

- To promote all forms of innovations in the complete value chain from developing ideas into innovative applications through incubation and design interventions.
- To provide appropriate facilities and support for development of concept to market, design competitiveness and protection & commercialization of Intellectual creations of MSME sector.
- To promote a culture of innovation and creative problem solving through knowledge sharing and collaboration amongst industry, academia, government institutions, research laboratories etc.
- To serve as a connecting link between industrial/academia leaders and innovators, in order to encourage new product development and hand-holding.
- To focus on developing affordable innovations that can benefit a large number of people and at the same time being commercially viable and sustainable

Strengthening MSMEs Through Finance

- **Priority Sector Lending (PSL)**
 - 40% of banks' ANBC to PSL; 7.5% reserved for micro-enterprises
 - **Year-on-Year (YoY) Lending Mandates:**
 - ◆ 20% growth in MSE credit
 - ◆ 10% growth in micro-enterprise accounts
 - ◆ 60% of total MSE lending to micro units
- **Collateral-Free Lending**
 - ₹10 lakh loans under PSL/PMEGP without collateral
 - Can be extended to ₹25 lakh based on creditworthiness
- **Foreclosure Flexibility**
 - **RBI's Feb 2025 draft:** No foreclosure/prepayment charges on floating-rate MSME loans

Credit Guarantee Mechanism

- **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)**
 - **Coverage Limit:** Raised from ₹5 crore to ₹10 crore (Apr 2025)
 - **Guarantee Coverage:**
 - ◆ 90%: Women-led enterprises
 - ◆ 85%: SC/ST enterprises
 - ◆ 80%: NE, J&K, Ladakh
 - ◆ 75%: Other MSMEs
- **Performance:**
 - 2000-2023: 71 lakh guarantees worth ₹4.27 lakh crore
 - 2023-2025: 44 lakh guarantees worth ₹5.02 lakh crore
 - Boost due to 50% cut in guarantee fees (April 2023)

Key Financing Schemes for MSMEs

- **Prime Minister's Employment Generation Programme (PMEGP)**
 - Micro-enterprises in non-farm sectors
 - **Loan:** Up to 95% of project cost
 - **Subsidy:** Up to 35%
 - Supported 10.18 lakh enterprises, 83 lakh jobs (till 2025)
- **Pradhan Mantri Mudra Yojana (PMMY)**

10 Glorious Years of **Pradhan Mantri Mudra Yojana**

Empowering Businesses:
Collateral Free Mudra Loans For Trades Engaged In

Manufacturing | Services | Trading | Activities allied to Agriculture

- 52 crore+ Loans Sanctioned
- ₹33 Lakh crore+ Amount Sanctioned
- 70% Womenpreneur Loans Sanctioned
- 31% New Entrepreneur (Amount Sanctioned)
- 50% SC/ST/OBC (Loan Sanctioned)

- Launched 2015; Collateral-free loans for micro units
- Disbursed 51.67 crore loans worth ₹32.61 lakh crore

- **PM Vishwakarma Scheme**
 - **Target:** Traditional artisans and crafts people
 - **Benefits:** Skill training, toolkits, marketing, and loans up to ₹3 lakh @ 5% interest
 - **Progress:** 29.6 lakh registered, 4 lakh received loans (mid-2025)
- **Self Reliant India Fund (SRI)**
 - **Govt:** ₹10,000 crore; aims to mobilize ₹50,000 crore via private capital
 - **Purpose:** Equity support for scale-up and listing
 - **Status:** ₹10,979 crore invested in 577 MSMEs (by Mar 2025)
- **Emergency Credit Line Guarantee Scheme (ECLGS)**
 - COVID-19 relief; closed March 2023
 - Provided 1.13 crore guarantees worth ₹2.42 lakh crore
 - **SBI study:** Prevented 14.6 lakh MSME NPAs

- They promote self-reliance, employment generation, and grassroots development.
- **Community Engagement:**
 - Cater to small producers, farmers, artisans, manufacturers, and service providers.
 - Foster bottom-up, participatory development processes.

Vision of Leadership: Prime Minister's Emphasis

- **Policy Endorsement:**
 - PM Narendra Modi recognizes cooperatives and MSMEs as socio-economic anchors.
 - **Highlighted traditional occupations as economic backbone:** tailors, florists, artisans, vendors, etc.
- **Cooperatives as Economic Foundations:**
 - Seen as member-driven, community-owned, sustainable systems.
 - Termed as pillars of an Atmanirbhar Bharat.

Budget 2025 Innovations and Way Forward

- **New Initiatives**
 - Credit Cards for Micro Enterprises
 - Fund of Funds for Startups
 - Dedicated credit for SC/ST/Women entrepreneurs (first-time)
 - Extended credit guarantee for exporter MSMEs & startups

Conclusion: Toward a Resilient Financial Ecosystem

- MSMEs are now central to India's economic transformation toward a \$5 trillion economy.
- Robust financial architecture—from PSL to equity infusion—is catalyzing MSME growth.
- Budget 2025 lays the foundation for "Amrit Kaal" goals and the vision of Viksit Bharat @2047.

PM Vishwakarma
Honouring Skills of Vishwakarmas

Provides end-to-end holistic support to the traditional artisans and craftspeople of 18 trades in scaling up to their conventional products and services

2,64,52,905 enrolments
26,83,911 successful registration (as on 22.01.2025)

TOPIC 3: PM VISHWAKARMA & COOPERATIVES MSMES - A CASE OF COLLECTIVE GROWTH

Introduction: MSMEs and Cooperatives as Engines of Inclusive Growth

- **Strategic Importance:**
 - MSMEs and cooperatives play a pivotal role in India's rural and semi-urban development.

Cooperatives as Community MSMEs

- **Definition and Principles:**
 - Based on International Cooperative Alliance (ICA) definition: autonomous, jointly-owned, democratically-managed enterprises.
- **Historical Evolution:**
 - **Cooperative Credit Societies Act 1904:** rural credit access.
 - **Post-independence:** integral to Five-Year Plans, rural development.

- **Successful Models:**
 - AMUL, IFFCO, KRIBHCO, NAFED: cooperative business success stories.
- **Current Landscape:**
 - As of 2025: 34,897 cooperative MSMEs, 3.64 lakh SHGs registered under MSME Ministry.
 - Opportunity for tailored policy linkage and schematic support.



PM Vishwakarma

Every Vishwakarma shall rise and create a new India



- Recognition to Artisans and Craftspeople through Certificate and ID Card
- Basic Training
- Advance Training
* 500 Rs stipend per day training
- Toolkit Incentive support of ₹15,000
- Collateral Free loan at 5% upfl,
* ₹ 1 Lakh (First Tranche)
* ₹ 2 Lakh (Second Tranche)
- Marketing Support

MSMEs: Growth, Inclusion and Transformation

- **Legacy and Evolution:**
 - **Pre-independence:** Handlooms, khadi, handicrafts.
 - **Post-independence:** Five-Year Plans, SIDOs, NSIC, SIDBI.
 - **2006:** MSMED Act formalized MSME definition.
 - **2020-2025:** Inclusion of turnover, uniformity across manufacturing and services.
- **Economic Contribution:**
 - 6.24 crore MSMEs (April 2025).
 - Employ 26 crore+ people, contribute 33% to GDP and 48% to exports.
- **Policy Initiatives:**
 - PMEGP, CGTMSE, Udyam Registration, Marketing & Technology Support Schemes.

PM Vishwakarma Scheme: Empowering Traditional Artisans



PM Vishwakarma

Honouring skills of Vishwakarmas



Benefits of the Scheme

Collateral free loan up to Rs 3 Lakh for Vishwakarma brothers and sisters.



Toolkit Incentive Support upto Rs 15,000

Training for skill Upgradation and stipend of Rs 500 per day



Marketing assistance for Quality Certification and Branding

- **Scheme Overview:**
 - **Launched:** 17 September 2023.
 - Targets traditional artisans like carpenters, goldsmiths, potters, tailors, etc.
 - Seeks to revive heritage craftsmanship and ensure sustainable livelihoods.
- **Support Structure:**
 - Skill training, toolkits, financial aid (up to ₹3 lakh), market linkage.
 - Focus on informal sector integration and upskilling.
 - Guru-Shishya parampara reinforced.

Cooperatives & PM Vishwakarma: Synergistic Opportunity

- **Collaborative Potential:**
 - Cooperative formation at cluster/block level for Vishwakarmas.
 - Economic activity-specific cooperatives can drive collective growth.
- **Advantages:**
 - End-to-end support from PM Vishwakarma Scheme.
 - Improved product quality and market readiness.

- Upliftment of artisans' livelihoods and dignity.

Initiatives to strengthen rural India

There are a total of 1000 cooperative banks in India, which mainly provide loans and banking services to the rural and agricultural sectors of the country.



Artisan Cooperative Societies: Collective Impact

- **Formation Strategy:**
 - District-level artisan cooperatives across varied trades.
 - Encourages interdisciplinary collaboration for product diversification.
- **Resource Optimization:**
 - Shared tools, workspace, and machinery.
 - Joint investments reduce individual financial stress.
- **Business Expansion:**
 - Cooperative marketing, e-commerce onboarding, branding.
 - Access to credit and certification enhances visibility.
- **Social Capital:**
 - Knowledge exchange, peer mentorship, and innovation.
 - Inclusive growth through collaborative platforms.

Implementation Framework

- **Steps for Cooperative Formation:**
 - Identify and enroll PM Vishwakarma artisans.
 - Conduct awareness campaigns and orientation sessions.
 - Register cooperatives via legal/administrative protocols.
- **Monitoring & Evaluation:**
 - Develop systems for performance tracking.
 - Member feedback for adaptive governance.

Conclusion: Community-Driven Economic Empowerment

- **Vision 2047 Alignment:**
 - Cooperative MSMEs as key enablers of Developed India.
- **Inclusive Industrialization:**
 - Cooperatives ensure industrial benefits reach the grassroots.
- **Sustainable Growth:**
 - Combining policy support (PM Vishwakarma) with community spirit (cooperatives).
 - Transition towards an equitable, innovation-driven economy rooted in cultural heritage.

TOPIC 4: ADOPTION BY MSMEs IN INDIA- PATHWAYS TO COMPETITIVENESS, INNOVATION, AND INCLUSION

Introduction

Micro, Small, and Medium Enterprises (MSMEs) are pivotal in the socio-economic fabric of India. They act as engines of employment, innovation, and inclusive growth. With over 63 million enterprises, MSMEs contribute around 30% to India's GDP and 50% to exports, employing nearly 18 crore people. However, a critical challenge impeding their global competitiveness is the lag in adopting modern technologies, particularly digital and Industry 4.0 solutions. The global industrial landscape is undergoing a paradigm shift with the advent of emerging technologies like Artificial Intelligence (AI), Internet of Things (IoT), and sustainable manufacturing. To ensure India's MSME sector is not left behind, a multi-pronged strategy involving government, academia, industry associations, and financial institutions is necessary.

Current Situation: Gaps in Technology Ecosystem

Despite multiple institutional mechanisms and R&D infrastructure supported by the Government of India, the rate of technology absorption in Indian MSMEs remains low. Factors include:

- Fragmented collaboration between MSMEs and R&D institutions.

- Inability to scale innovations beyond pilot projects.
- Limited demand-driven R&D targeting MSME-specific bottlenecks.
- Over-reliance on outdated machinery and manual processes.
- Disproportionate technology development in urban vs rural clusters.

This has perpetuated a cycle where MSMEs struggle with low productivity, high costs, and poor integration with global value chains.

Key Challenges in Technology Adoption

(i) Limited Awareness and Digital Literacy

- Only 20% of MSMEs have a digital presence (Google-KPMG report).
- Lack of exposure to benefits of automation, e-commerce, ERP, CRM tools.

(ii) Lack of Access to Market Intelligence

- Insufficient use of analytics to forecast demand or identify market gaps.
- Poor institutional linkages with industry chambers and export councils.

(iii) Financial Constraints

- Around 90% of MSMEs rely on informal financing (IFC-Intelcap, 2019).
- Formal credit often lacks flexible tenures and technology-specific products.

(iv) Complexity and Customization Barriers

- Off-the-shelf tech solutions often do not match sector-specific needs.
- Absence of affordable, modular, scalable tech tailored to micro units.

(v) Infrastructure and Connectivity Gaps

- Internet penetration in rural India stands at only 37% (TRAI 2023).
- Power reliability and bandwidth limitations affect automation prospects.

(vi) People and Skills Deficit

- 66% of MSME employees lack formal technical training (MSME Data Bank).
- Deficit in IT skills, design thinking, digital marketing, and data literacy.

(vii) Use of Obsolete Machinery

- 70% of MSMEs use machinery over 10 years old (SIDBI-GIZ report).

- Second-hand imports from China and Germany dominate.

(viii) Weak R&D Capabilities

- Less than 1% of MSMEs invest in in-house R&D (CII-2020 study).
- Absence of linkages with national laboratories or innovation hubs.

(ix) Market Structure and Competitive Pressures

- Dominance of monopolistic OEMs discourages small firm innovation.
- Weak IPR enforcement limits protection for MSME-driven innovations.

Challenges from Emerging Technologies

(i) Artificial Intelligence and Automation

- Risk of job displacement in low-skilled jobs.
- **Opportunity:** automation of inventory management, customer service.

(ii) Augmented and Virtual Reality (AR/VR)

- Transform design, training, remote maintenance—yet capital-intensive.
- Immersive marketing in tourism and handicrafts remains underleveraged.

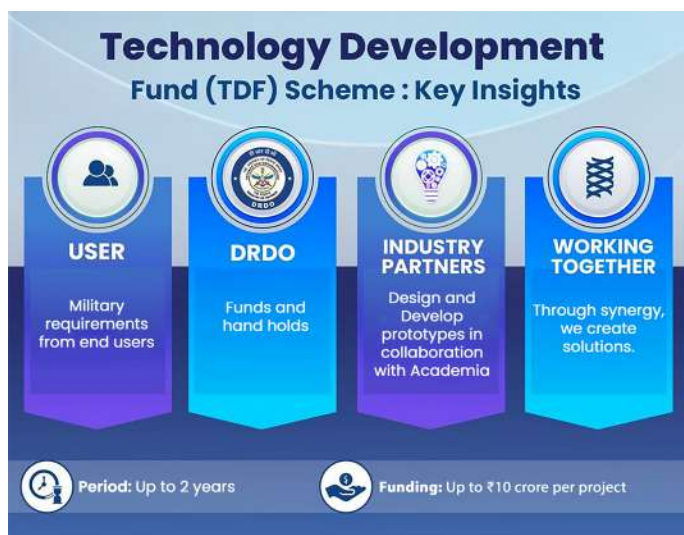
(iii) 3D Printing and Additive Manufacturing

- Potential in jewelry, aerospace, biomedical, but lacks scale and material diversity.
- Need for shared access centers in clusters.

(iv) Green and Sustainable Manufacturing

- SMEs unprepared for EU's Carbon Border Adjustment Mechanism (CBAM).
- Lack of awareness on ISO 14001, ESG metrics, and lifecycle analysis.

The poster is titled "MSME Sustainable Zed Certification Scheme" and is part of a government initiative. It features the logos of the Ministry of Micro, Small and Medium Enterprises, Government of India, and the 75th Azadi Ka Amrit Mahotsav. The text reads: "Golden Opportunity for MSMEs to Become World-Class Manufacturers through 'Zero Defect in product & Zero Effect on environment' Practices". Below the title, it states: "An initiative to encourage and enable MSMEs adopt Zero Defect Zero Effect solutions for attaining maximum Quality while ensuring Minimum Impact on Environment". A box titled "Zed Certification Benefits" lists four points: "Improved Quality in Manufacturing systems and processes.", "Improved Quality through improved quality & reduced rejection.", "Enhanced manufacturing productivity.", and "Reduced negative impact on the environment through adoption of Zero Defect, Zero Effect Practices."



Government Interventions for Technological Upgradation

A. Ministry of MSME Initiatives

Scheme	Objective
MSME Technology Centres / TCSP	Support tooling, skilling, prototyping for clusters.
ZED Certification	Promote quality, environment-friendly practices.
IPR Awareness Scheme	Support patent filing, innovation registration.
Lean Manufacturing Scheme	Improve efficiency and reduce process waste.
MSE-SPICE	Promote circular economy and waste minimization.
MSE GIFT	Green financing for eco-friendly technology transition.

B. Inter-Ministerial Schemes

Ministry	Scheme	Purpose
DST	CRTDH, PRISM	Innovation and research for MSMEs.
MoD	TDF	Defence tech partnerships with MSMEs.
MeitY	IndiaAI	Democratize AI innovation for SMEs.
DHI	C4I4 Labs (SAMARTH Udyog)**	Promote smart manufacturing and IIoT.

Strategic Pillars for Technology Adoption

(i) Emerging Technology

- Create industry-specific digital sandboxes and testbeds.
- Promote local innovation in AI/ML, green tech, 3D printing.

(ii) Human Capital Development

- National Curriculum for Industry 4.0 skills via NSDC and MSME-DIs.
- Develop “Digital Apprenticeship” models for young graduates.

(iii) Infrastructure and Connectivity

- Establish Smart MSME Clusters with common power, broadband, and toolkits.
- Public WiFi in rural industrial zones under PM-WANI.

(iv) Access to Finance/Credit

- Technology-specific credit lines through SIDBI, NABARD.
- Insurance schemes for risk mitigation in tech adoption.

(v) Marketplace & Linkages

- Develop an interoperable e-marketplace connecting MSMEs with OEMs, service providers, and government buyers.
- Promote “Digital Cluster Showcases” online and at G20/B20 forums.

(vi) Knowledge Creation

- National Technology Portal on UDYAMI Bharat platform.
- Real-time database of tech vendors, innovations, standards, and toolkits.



INTELLECTUAL PROPERTY RIGHTS (IPR)

Objectives:

- To enhance the awareness of Intellectual Property Rights (IPRs) amongst the MSMEs and to encourage creative intellectual endeavour in Indian economy.
- To take suitable measures for the protection of ideas, technological innovation and knowledge-driven business strategies developed by the MSMEs for their commercialization and effective utilization of IPR tools.

For more information, Visit : www.innovative.msme.gov.in

or Scan QR Code

Commercialization and Sector-Specific Roadmaps

- Sectoral Tech Adoption Blueprints for industries like:
 - **Textiles:** digital dyeing, robotic sewing, CAD/CAM.
 - **Food Processing:** IoT-enabled cold chains, automation.
 - **Leather and Footwear:** smart design and biodegradable materials.
 - **Auto-Components:** Additive manufacturing, digital twins.
- **Emphasis on:**
 - Prototype to product pipelines.
 - Pre-commercialization support grants.
 - Incubators with vertical specialization.

Skills and Training for Future-Ready MSMEs

- National Upskilling Mission aligned with Skill India, PMKVY.
- **5-tier strategy:**
 - Curriculum Development (AI, IoT, green tech)
 - Training of Trainers (ToT)
 - Digital Learning Platforms
 - Cluster-Based Skill Labs
 - Certification and Mobility across clusters

Recommendations: Holistic Path Forward

(a) Policy Integration

- A National MSME Technology Mission, similar to Make in India/Startup India.
- Embed MSME tech priorities in India's Digital Public Infrastructure stack.

(b) Public-Private Partnerships

- Expand plug-and-play shared infrastructure.
- Collaborate with BigTech (Google, Amazon, Microsoft) for Digital MSME kits.

(c) International Cooperation

- Technology partnerships with Japan, Germany, South Korea.
- Leverage WTO TBT and UNIDO programs for standards adoption.

(d) Data and Monitoring

- Establish a "Tech Readiness Index for MSMEs" across clusters and states.
- Publish annual MSME Technology Adoption Reports for transparency.

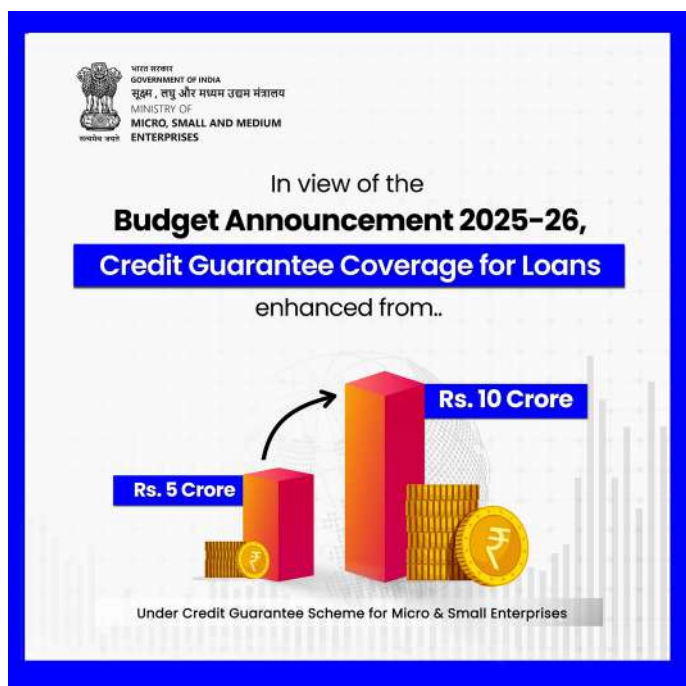
Conclusion

India's MSMEs stand at a critical inflection point. As the global economy becomes increasingly digital, green, and knowledge-driven, the ability of MSMEs to adopt and adapt technologies will define not only their competitiveness but the nation's economic resilience and inclusive growth. A coordinated, technology-first policy approach—rooted in equity, innovation, and ecosystem collaboration—is essential to unlock the next wave of MSME-led industrial transformation in India.

TOPIC 5: REVITALIZING INDIAN MSMEs: EMPOWERING THE ENGINE OF INCLUSIVE ECONOMIC TRANSFORMATION

Introduction:

The Union Budget 2025–26 heralds a transformative era for India's Micro, Small and Medium Enterprises (MSME) sector—widely acknowledged as the bedrock of employment generation, decentralized industrialization, and equitable development. Recognized as one of the four critical pillars of India's development strategy (alongside agriculture, exports, and private investment), the MSME sector is poised to lead the charge toward a \$5 trillion economy. With 5.93 crore registered units employing over 25 crore people and contributing nearly 46% of India's exports, the sector's revitalization signals a bold policy shift towards inclusive, sustainable, and innovation-driven growth.



Redefining the Scale: Revised Classification Norms

One of the most transformative announcements in Budget 2025-26 is the upward revision of investment and turnover thresholds for MSME classification. This long-awaited reform addresses the “fear of graduation”—a structural bottleneck where MSMEs hesitated to grow beyond defined limits to avoid losing access to fiscal and institutional support.

Classification	Investment Cap	Turnover Cap
Micro	₹2.5 crore (↑ from ₹1 crore)	₹10 crore (↑ from ₹5 crore)
Small	₹25 crore (↑ from ₹10 crore)	₹100 crore (↑ from ₹50 crore)
Medium	₹125 crore (↑ from ₹50 crore)	₹500 crore (↑ from ₹250 crore)

Implications:

- Bridges the “missing middle” by facilitating seamless transition from micro to small and medium scales.
- Enhances scale economies, technology adoption, and employment generation.
- Encourages formalization and incentivizes reinvestment without penalizing success.

This reclassification aligns with global best practices, such as the EU’s SME definitions and ASEAN regional models, thereby improving global integration and benchmarking.

Credit as Catalyst: Deepening Access and Reducing Risk

(i) CGTMSE Expansion

The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) has been revitalized with:

- Guarantee coverage increased from ₹5 crore to ₹10 crore for MSEs.
- **Total expected credit unlock:** ₹1.5 lakh crore over 5 years.
- **Guarantee fee reduction:** From 1.5% to 1% for loans in 27 priority sectors.

(ii) Specialized Credit for Startups and Exporters

- Startups can now avail up to ₹20 crore under credit guarantees—doubling the previous cap.
- Export-oriented MSMEs gain access to term loans up to ₹20 crore, aligned with foreign trade policy priorities.

(iii) Digitized MSME Credit Cards

- A novel **Credit Card initiative for Udyam-registered micro units, offering:**
 - ₹5 lakh credit limit.
 - Collateral-free, usage-based terms.
 - 10 lakh cards proposed in FY 2025-26.

Impact:

This multi-layered credit architecture fosters a **trust-based financing ecosystem**, reducing NPAs while enhancing liquidity for innovation, working capital, and global competitiveness.

Inclusive Entrepreneurship: Bridging the Opportunity Divide

(a) Fund of Funds for Startups

- ₹10,000 crore allocation to catalyze early-stage innovation across India, particularly targeting **Tier-II and Tier-III cities**.
- Strategic alignment with Startup India and the National Innovation Mission.

(b) Scheme for First-Time Entrepreneurs

- A new initiative to support **5 lakh entrepreneurs** from SC, ST, women, and rural backgrounds:
 - Term loans up to ₹2 crore.

- Hand Holding via mentorship, interest subvention, and digital linkages.
- Inspired by the successful **Stand-Up India** model.

These interventions redefine **entrepreneurial equity**, ensuring that innovation and job creation are decentralized, diverse, and demographically inclusive.

Sectoral Interventions: Labor-Intensive Industries in Focus

Recognizing the role of traditional industries as job multipliers and cultural exports, the budget introduces targeted interventions:

(i) Footwear and Leather Sector

- **Focus Product Scheme to:**
 - Support design-led innovation.
 - Expand into non-leather segments.
 - Create **22 lakh new jobs**, and target ₹4 lakh crore turnover.

(ii) Toy Manufacturing

- Cluster-based development, training, and modernization to reduce import dependence and develop export-ready clusters.

(iii) Food Processing in Eastern India

- Establishment of the **National Institute of Food Technology, Entrepreneurship and Management in Bihar**, to support MSMEs in food tech and agro-processing.

These initiatives reinforce India's ambition to become a **global production hub** while maintaining strong **regional employment linkages**.

National Manufacturing Mission and Clean Tech MSMEs

A new **National Manufacturing Mission** lays the roadmap for advanced industrialization and MSME integration:

Key Features:

- Sectoral roadmaps tailored for MSMEs in auto, electronics, and defense.
- **Clean tech incentives for:**
 - Solar PV cell production.
 - EV batteries.
 - Wind turbines.
 - High-voltage grid equipment.

This mission aligns with India's net-zero goals, pushing MSMEs into the **green manufacturing frontier** while creating global champions in clean energy.

Fiscal Commitment: Continuity Amidst Expansion

- ₹23,168.15 crore allocated to the Ministry of MSME in 2025–26 (↑ from ₹22,137.95 crore).
- **Budgetary trajectory reflects:**
 - Post-COVID recovery stabilization.
 - Need-based reallocation.
 - Strategic reprioritization (as seen in 2024–25 RE drop to ₹17,306.70 crore).

The sector's **Gross Value Added (GVA)** as a percentage of GDP grew from **27.3% in 2020–21 to 30.1% in 2022–23**, validating the impact of sustained investments and policy realignment.

Export Surge: MSMEs in the Global Value Chain

- Exports by MSMEs **tripled** from ₹3.95 lakh crore (2020–21) to ₹12.39 lakh crore (2024–25).
- Share in national exports grew to **45.79%**.
- Number of exporting MSMEs increased from **52,849 to 1.73 lakh**.

Contributing Factors:

- Product standardization.
- Global e-commerce facilitation.
- Digital tools for customs, logistics, and documentation.

This highlights India's emergence as a **global MSME hub**, particularly in sectors like textiles, pharma, electronics, and food processing.

Policy Architecture: Institutional and Scheme-Level Empowerment

(a) Udyam Registration Portal:

- Paperless, self-declaration based registration.
- Over 5.93 crore registrations (as of Feb 2025), generating 25.18 crore jobs.

(b) Udyam Assist Platform (UAP): Integrates informal units into Priority Sector Lending and formal financing mechanisms.

(c) PM Vishwakarma Yojana:

- ₹13,000 crore outlay (2023–2028).

(d) SFURTI (Scheme of Fund for Regeneration of Traditional Industries)

- 513 clusters approved, covering over 2.2 lakh artisans.

- Revitalizes sectors like bamboo, coir, handlooms, etc.

(e) Public Procurement Policy for MSEs

- 25% mandate on central procurement from MSEs.
- ₹74,717 crore worth procurement in FY 2023–24.
- Inclusive quotas for SC/ST (4%) and women (3%)

Prime Minister's Employment Generation Programme
PMEGP
2nd Loan for up-gradation of the existing PMEGP/ MUDRA units

OBJECTIVES
Assisting existing units for expansion and upgradation, the scheme provides financial assistance to successful/well performing units.
The scheme also caters to the need of the entrepreneurs for bringing new technology/automation so as to modernize the existing unit.

KEY BENEFITS
Maximum subsidy would be 15% of the project cost (20% for NER and Hill States). The balance amount of the total project cost is provided by Banks as a term

SCHEME APPLICABLE FOR
Existing well performing PMEGP/REOP/MUDRA units

ACHIEVEMENTS

National SC-ST Hub

About the Scheme

- A central sector scheme of the M/o MSME launched in **October 2016**.
- Aims at capacity enhancement of SC/ST entrepreneurs and promoting **"Entrepreneurship Culture"** amongst the SC/ST population.
- Empowering the SC/ST population** to participate in public procurement process and fulfill the mandated target of 4% procurement from SC/ST enterprises under Public Procurement Policy by the Ministries, Departments and CPSEs.

Achievement:
The public procurement from SC/ST MSEs have increased from **Rs 99.37 Crores** (0.07%) to **Rs. 3049.53 Crore** (1.21%) in FY2024-25.

These policies illustrate a **multi-pronged strategy**—balancing credit access, formalization, skilling, and market integration.

Conclusion: A New Dawn for MSMEs

The Union Budget 2025–26 articulates a **strategic realignment of India's development model**, placing MSMEs not at the fringes, but at the **epicenter of economic transformation**. Through holistic reforms spanning classification, credit, skilling, inclusivity, and global integration, the Budget reimagines MSMEs as resilient, tech-savvy, and globally competitive entities.

As the sector expands its footprint in exports, manufacturing, and job creation, this shift signifies more than economic progress—it represents the **democratization of prosperity**, ensuring that India's smallest enterprises become the architects of its largest ambitions.

"With Our Small Hands to Make You LARGE," India's MSMEs are no longer just beneficiaries—they are builders of the nation's future.

TOPIC 6: FROM INVISIBLE TO INVINCIBLE – MARKETING THE MSME WAY

Introduction: The Evolution of MSME Marketing in the Digital Age

The traditional model of marketing for Micro, Small and Medium Enterprises (MSMEs) was deeply localized. Businesses depended on physical media—pamphlets, hoardings, newspaper inserts, and local TV—to attract customers typically residing within a 3-5 km radius. However, the advent of the digital age has redefined the nature of the marketplace itself. With mobile internet penetration exceeding 700 million users in India and e-commerce expected to reach \$200 billion by 2026 (IBEF, 2024), MSMEs no longer market to a location—they market to intent, behavior, and digital presence.

Today, customers discover products and services through Google search, social media algorithms, online reviews, and AI-based voice assistants. This transformation has turned marketing from a static, physical activity into a dynamic, data-driven digital capability. The businesses that succeed in this environment are not necessarily the largest—but the most adaptive, data-savvy, and customer-centric.

Traditional Marketing and Its Constraints

(i) High Financial Barriers

Traditional marketing channels like print media, television, and outdoor hoardings require substantial financial investment. A 30-second regional TV ad can cost ₹50,000 to ₹1,50,000 per airing in mid-range markets (FICCI-EY M&E Report, 2023). Print advertisements in leading dailies can cost upwards of ₹20 lakh for a full-page ad in metro cities. These expenses make such strategies unsustainable for most MSMEs.

(ii) Lack of Precision and Measurability

Conventional marketing typically lacks targeting precision and analytics. Ads reach broad demographics, many of whom may not be relevant to the product or service being promoted. This leads to low conversion rates and suboptimal Return on Investment (ROI)—a major deterrent for small firms operating with limited marketing budgets.

Digital Marketing: The Game-Changer for MSMEs

(i) Democratizing Visibility and Reach

Digital marketing platforms such as Facebook, Google Ads, Instagram, LinkedIn, WhatsApp Business, and Amazon Seller Central allow MSMEs to reach both hyper-local and global markets with a fraction of traditional budgets. MSMEs can build a strong online presence through:

- Search Engine Optimization (SEO)
- Pay-Per-Click (PPC) Campaigns
- Content Marketing (blogs, videos, reels)
- Email and WhatsApp Marketing
- Influencer Collaborations

This democratization of visibility levels the playing field, allowing smaller players to compete directly with large brands, provided they are strategically agile.

(ii) Precision Targeting Through Data

With tools like Google Analytics, Meta Ad Manager, and CRM platforms, MSMEs can segment audiences by age, gender, location, behavior, interests, and purchase intent. Real-time metrics such as click-through rates (CTR), bounce rates, cost per lead (CPL), and customer lifetime value (CLTV) enable informed decision-making and continuous optimization of marketing campaigns.

(iii) Cost-Effectiveness and Scalability

Digital marketing platforms offer modular pricing, enabling MSMEs to scale their campaigns according to budget. For example, a well-optimized Facebook campaign can yield reach in the tens of thousands for under ₹1,000. According to a KPMG report (2023), MSMEs that shifted to digital platforms experienced a 30–50% reduction in marketing costs and a 2x increase in ROI over traditional methods.

Building Trust: Branding, Storytelling, and Customer Engagement

(i) From Logo to Legacy: Brand Building in the Digital Era

Today's customers seek emotional resonance and authenticity. MSMEs must build a brand identity that reflects values, trust, and user experience. For instance, tribal women producing millet snacks can market not just food, but narratives around health, sustainability, and empowerment—elements that command brand loyalty and price premiums.

(ii) The Rise of Comfort Marketing

Comfort marketing focuses on ease, personalization, and convenience. MSMEs must optimize mobile websites, offer one-click purchases, respond via chatbots or WhatsApp, and ensure rapid delivery. Digital convenience is now a baseline expectation—not a competitive advantage.

(iii) Engagement and Loyalty

Platforms like Instagram and YouTube enable direct dialogue through stories, comments, and DMs. MSMEs can crowdsource ideas, co-create with customers, and develop brand evangelists. This builds community-led loyalty—a powerful marketing multiplier.

Intellectual Property Rights (IPR) and Marketing Synergy

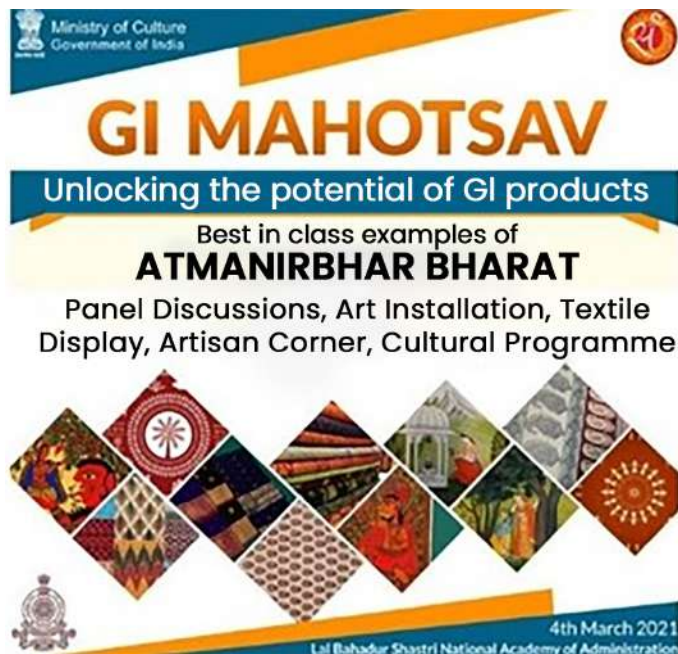
(i) IPR as a Strategic Asset

The Ministry of MSME's IP Mission positions intellectual property as both a legal shield and a branding tool. Trademarks, patents, design registrations, and GI tags help MSMEs secure their brand identity, prevent imitation, and command market trust.

Key Initiatives:

- **Bharat IP Yatra:** Conducted in 25+ districts to educate rural MSMEs.

- **IP Awareness Programs:** Over 100 capacity-building workshops on trademarks, copyrights, and design registration.
- **GI Mahotsav:** Showcases products like Banarasi saris, Araku coffee, etc., reinforcing heritage branding and premium positioning.



Government Enablement: Catalyzing Digital and Global Marketing

(i) Procurement and Marketing Support (PMS) Scheme

Provides financial assistance to MSMEs for domestic and virtual trade fairs, allowing businesses to showcase offerings and build networks.



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MINISTRY OF
MICRO, SMALL AND MEDIUM
ENTERPRISES



Procurement & Marketing Support (PMS) Scheme



OBJECTIVE

- Promotes new market access initiatives like organizing/ participation in National & International Trade Fairs/ Exhibitions/MSME Expo, etc.
- Creates Awareness and Educates the MSMEs.

(ii) International Cooperation (IC) Scheme

Facilitates global exposure through subsidized participation in international expos, buyer-seller meets, and B2B delegations.

(iii) Trade Enablement and Marketing (TEAM) Scheme

Supports MSMEs in building digital marketing capabilities, cloud adoption, e-commerce participation, and platform integration.

(iv) Open Network for Digital Commerce (ONDC)

A revolutionary initiative that creates a unified, open protocol for listing products across multiple platforms. ONDC reduces reliance on monopolistic e-commerce platforms, enabling rural MSMEs from Gujarat to Kerala to reach national and international buyers.

Institutional Support: India SME Forum and Beyond

The India SME Forum (ISF) has emerged as a key facilitator for MSME marketing transformation. Through workshops, mentorship, and toolkits, ISF demystifies digital adoption for small business owners, especially in Tier II and rural areas.

Key Contributions:

- Encouraging Google Business listings, SEO adoption, and WhatsApp commerce.
- Offering digital readiness assessments and peer-learning networks.
- Advocating policy improvements for MSME marketing infrastructure.

Case Illustrations and Best Practices

- **Case 1:** A local spice maker in Kerala listing on ONDC accessed over 50,000 new customers nationally within three months.
- **Case 2:** A Madhubani art entrepreneur used Instagram Reels and Etsy to reach global buyers, generating 4x revenue growth in one year.
- **Case 3:** A D2C organic tea startup in Assam secured IP protection, participated in Dubai Expo via IC Scheme, and scaled exports to 12 countries.

REVOLUTIONISING E-COMMERCE

3 YEARS OF ONDC

OPEN NETWORK FOR DIGITAL COMMERCE



- 150 million+ transactions
- 200+ network participants
- 7 lakh+ sellers & service providers
- Sellers from 600+ cities & towns

- Consumers from 1,100+ cities & towns transacted through network
- 7,000+ Farmer Producer Organisations onboard representing 35 lakh farmers
- MSME TEAM scheme launched to empower 5 lakh SMEs, 50% of beneficiaries are women-owned enterprises

Challenges and the Way Forward

Despite the promise, several challenges persist:

- **Digital Literacy Gaps:** Especially among rural entrepreneurs.
- **Cybersecurity and Data Privacy:** Growing threats in digital commerce.
- **Language Barriers:** Limited digital content in regional languages.
- **Platform Dependency:** Risk of reliance on dominant aggregators.

Recommendations:

- Launch of **MSME Digital Coaches** under ESDP to train entrepreneurs.

- Strengthening **regional language content** on digital platforms.
- Integration of **AI-based customer targeting tools** in MSME toolkits.
- Promotion of **IPR-awareness** in school-level entrepreneurship programs.



MSME Innovative Scheme INTELLECTUAL PROPERTY RIGHTS (IPR)

Scheme applicable for :

For Manufacturing MSMEs with UDYAM Registration.

A Grant of up to Rs. 1 crore would be provided to an IPFC in milestone-based (three or more) installments

How to Apply :

The eligible applicants may apply at the MIS portal www.innovative.msme.gov.in or Scan QR Code

Conclusion: Marketing Without Borders

The future of MSME marketing is boundaryless, defined not by budget or location, but by data agility, customer connection, and digital creativity. In this age of “comfort marketing,” where convenience, authenticity, and responsiveness define success, even the smallest enterprise can achieve global visibility and impact.

With robust support from the government, institutional enablers like ISF, and a national push for digital inclusion via ONDC and IPR awareness, Indian MSMEs are poised to move from being invisible to invincible in the global marketplace.