Confederation of Indian Industry
Southern Region

COMPENDIUM OF CASE STUDIES

October 2025

Prepared by **CII Southern Region**

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Southern Region

CII FOR
MSME

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CII for MSME: Compendium of Case Studies

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FOREWORD

Mr Thomas John Muthoot
Chairman, CII Southern Region
Chairman & Managing Director, Muthoot Fincorp Ltd

The Micro, Small and Medium Enterprises (MSME) sector forms the backbone of India's industrial economy, comprising over sixty million registered units. It stands as a cornerstone of inclusive growth, contributing nearly thirty percent to the national GDP, thirty-six percent to manufacturing output, and about forty-five percent to exports. MSMEs embody the entrepreneurial energy of India, and they are the second largest employer after agriculture, creating millions of livelihoods, fostering innovation, and enabling balanced regional development.

In the Southern Region, MSMEs have consistently set benchmarks in adopting advanced manufacturing practices, sustainability measures and digital tools that enhance their global competitiveness.

Sustainability is no longer a choice; it is a strategic imperative. The demand for structured sustainability services and technical guidance has never been more critical. International developments such as the European Union's Carbon Border Adjustment Mechanism, the emergence of global carbon markets and the tightening of domestic environmental regulations are reshaping the way industries operate. To remain competitive, enterprises must transition to low carbon operations through energy efficiency, renewable integration and circular resource management. This is not merely to meet compliance standards, but to secure their place in global value chains and attract sustainable investment.

Through its Centres of Excellence, the Confederation of Indian Industry continues to empower MSMEs by providing knowledge, technology and best practices that strengthen their competitiveness and resilience. This publication presents impactful case studies and initiatives that illustrate how MSMEs across the region are leading progress in energy efficiency, digital transformation and sustainability, reaffirming their pivotal role in shaping a greener and more inclusive future for Indian industry.

FOREWORD

Mr P Ravichandran
Deputy Chairman, CII Southern Region
President, Danfoss Industries Pvt Ltd

The next 5-10 years present a defining opportunity to transform India's MSME sector. While large industries have led most of the energy efficiency and sustainability achievements over the past two decades, the next wave of impact will undoubtedly come from our MSMEs. Their untapped potential, entrepreneurial agility, and innovation capacity can redefine India's industrial landscape.

CII's Centres of Excellence (CoEs) have been instrumental in enabling this transformation. They act as knowledge and capability pillars-bringing the best of research, technology, and industry expertise to MSMEs through cluster-based interventions across sectors such as foundry, forging, ceramics, and dairy.

Through the CoEs, CII has helped MSMEs adopt energy-efficient technologies, improve productivity, enhance quality, and reduce costs-making them globally competitive and export-ready. More importantly, the CoEs create ecosystems of learning and collaboration, ensuring that MSMEs are not alone in their transformation journey.

The case studies featured in this publication are living examples of how these initiatives are driving measurable impact on sustainability, competitiveness, and growth. As industries move toward a more sustainable and digitally empowered future, the CoEs will continue to be vital enablers, ensuring that MSMEs innovate, scale responsibly, and contribute meaningfully to India's growth story.

FOREWORD

Mr M Ponnuswami
Co-Chairman, CII MSME National Council and CII Task Force on Ease of Doing Business
Chairman, CII-SR MSMEs & EODB: Focus on Manufacturing Competitiveness Taskforce
Chairman and Managing Director, Pon Pure Chemical India Private Limited

MSMEs form the cornerstone of India's industrial landscape, fostering inclusive growth and innovation across sectors. Their continued evolution towards sustainable, efficient, and technology-driven operations is vital for building a resilient and competitive economy.

CII's Centres of Excellence play a critical role in enabling this transformation by delivering practical solutions, expert guidance, and capacity-building support. The best practices captured in this publication highlight how MSMEs are leveraging these interventions to achieve tangible improvements in performance and sustainability.

By adopting such forward-looking practices, MSMEs are not only strengthening their own businesses but also contributing meaningfully to India's journey toward green growth and global competitiveness.

CII FOR MSME

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1 CII CENTRES OF EXCELLENCE

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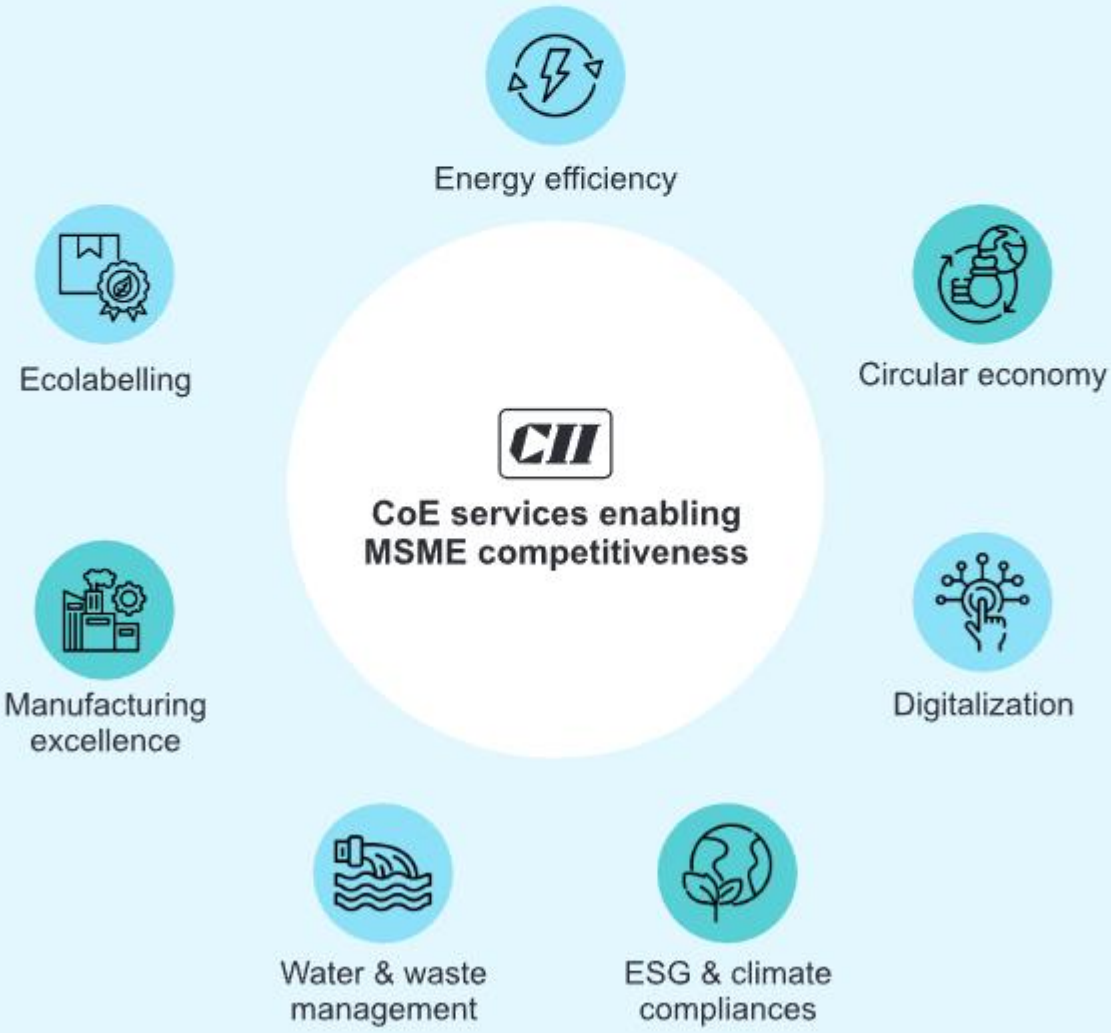
The Confederation of Indian Industry (CII) Centres of Excellence (CoE) act as catalysts in building and sustaining organizational capabilities and competitiveness. Through training, consulting, advisory services, and research, they engage with industry and government stakeholders in India and abroad to create meaningful impact across sectors. The fundamental objectives behind creation of these Centres are to:

1. Address the evolving needs of industry and society.
2. Nurture and develop domain experts.
3. Ensure the long-term competitiveness of organizations.

CoE provide specialized advisory services designed to benefit organizations across the public and private sectors, including large enterprises, MSMEs, start-ups, government departments, financial institutions, educational organizations, and NGOs. With a proven track record and the trust of over 2,000 clients in India and more than 100 international clients, the CII Centres of Excellence continue to drive excellence, innovation, and sustainable growth across industries.



CII Sohrabji Godrej Green Business Centre

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CII-Sohrabji Godrej Green Business Centre (CII-Godrej GBC) was established in the year 2004, as CII's Developmental Institute on Green Practices & Businesses, aimed at offering world class advisory services on conservation of natural resources. The Green Business Centre in Hyderabad is housed in one of the greenest buildings in the world and through Indian Green Building Council (IGBC) is spearheading the Green Building movement in the country. The Green Business Centre was inaugurated by His Excellency Dr. A.P.J. Abdul Kalam, the then President of India on 14 July 2004.

CII NAOROJI GODREJ Centre of Manufacturing Excellence

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The Centre of Excellence was set up to provide facilities for education, training and development for the industry. Over the years, it has built a large pool of qualified and well-experienced faculty. The uniqueness of this Centre is that it promotes learning through small groups and intensive interaction with the faculty, which is predominantly drawn from industry experts and practitioners.

CII Institute of Logistics

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CII Institute of Logistics (CII-IL) established in 2004 by Confederation of Indian Industry as a 'Centre of Excellence' plays a pivotal role in accelerating growth and competitiveness in 'Logistics and Supply Chain Sectors'. CII Institute of Logistics plays a catalytic role in reaching Indian Supply Chain Performances greater heights by setting a sustainable ecosystem through stake-holder participations, policy advocacy and industry best practices through global networks.

CII Centre of Excellence for Competitiveness for SMEs

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The CII Centre of Excellence for Competitiveness for SMEs focuses on enhancing the capabilities of Small and Medium Enterprises (SMEs) to achieve business excellence and competitiveness. It was established to help SMEs harness manufacturing excellence and empower clusters. The centre offers a range of services including energy and corrosion management audits, HR management, and facilitating digital technology adoption through initiatives like the DigiTech Cluster.

CII-ITC Centre of Excellence for Sustainable Development

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The CII-ITC Centre of Excellence for Sustainable Development (CESD) was established in 2006. It functions as an ecosystem creator for sustainable development in India. CESD offers a range of services including capacity building, advisory services on corporate sustainability management, ESG reporting, climate resilience, circular economy, and clean air initiatives. They also engage in policy advocacy and conduct research to promote sustainable business practices.

CII - Suresh Neotia Centre of Excellence for Leadership

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The CII Suresh Neotia Centre of Excellence for leadership (CII-SNCEL) is part of CII's Integrated agenda of building competitiveness through Centres of Excellence (COE). CII-SNCEL is set up for enhancing development and progress through a diverse range of services. Established in 2009 at Kolkata, the Centre was initiated with the purpose of serving as a key facilitator of leadership development across various segments of business and socio-cultural demographics.

CII-TRIVENI WATER INSTITUTE

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The CII-Triveni Water Institute (TWI) was established in 2008 as one of CII's Centres of Excellence. It focuses on holistic water management, bringing together government, industry, and civil society. Its services include advisory services like water audits, wastewater management, and water use efficiency projects, as well as training, skill development, and awareness generation through events and conferences. The institute aims to achieve water security in India by transforming water conservation and management practices.

FACE
CII-Jubilant Bhartia Food & Agriculture Centre of Excellence

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CII's Food and Agriculture Centre of Excellence (FACE) is charged with the mission to improve competitiveness of India's agriculture and food processing sector, by catalyzing innovation, building capacity, enhancing productivity, and establishing supply chain linkages across the agriculture and food value chain, ensuring food security and inclusive growth.

Centre of Excellence for Innovation, Entrepreneurship & Startups

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CII's Centre of Excellence for Innovation, Entrepreneurship & Startups (CII CIES) is a dynamic hub fostering innovation and entrepreneurship. Bridging the gap between corporates and startups, CII CIES drives a host of impactful initiatives like Market Access Programs, Corporate Startup Pitching, Capacity Building, and Forums, alongside Awards & Recognition Programs.

CII CENTRE FOR WOMEN LEADERSHIP

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The Centre for Women Leadership is committed to driving the growth of women as leaders within the economy. The centre proposes to address barriers to the entry, retention, and growth of women as leaders in the economy, both within the formal and informal sector, through a range of initiatives.

Centre of Excellence on Employment & Livelihood

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CII CEL, supported by TVS Mobility, operates in mission mode to facilitate collaboration between industry and key stakeholders, implement impact-driven projects and facilitate key policy dialogues to break systemic and social barriers that impede the exponential growth possible in this sector.

CII Rahul Bajaj Centre of Excellence on Skills

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CII has been working on the skills agenda since 1987 in partnership with the industry and government to build a robust and aspirational skill ecosystem in India. CII-Rahul Bajaj Centre of Excellence on Skills acts as a bridge between Industry & youth, impacting over 1 million youth annually.

INSTITUTE of QUALITY

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CII Institute of Quality is the leading authority in Quality Enhancement among organizations and industries. Over the past century, CII has provided Indian Industries with the support, systems and tools to make a mark in the competitive world. It is realized that the best way to enhance an organization's competitiveness is through the quality route.

CII FOR MSME

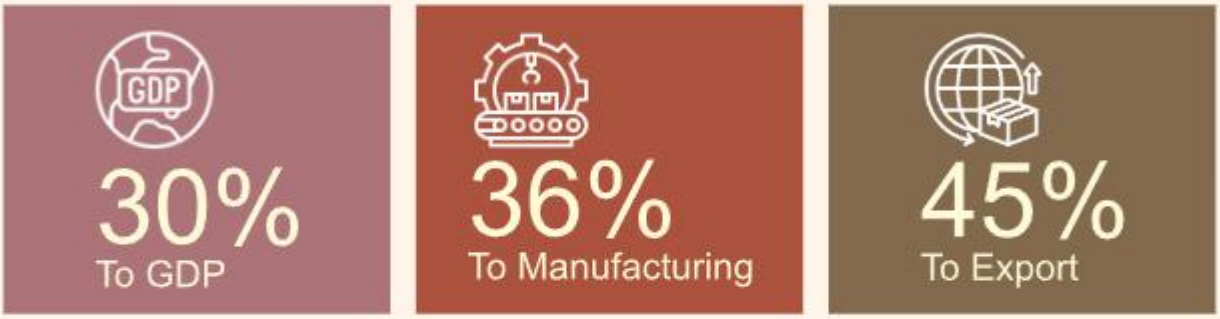
COMPENDIUM OF CASE STUDIES

2 MSME SECTOR

2 MSME SECTOR

2.1 Vibrant & Dynamic Sector of the Indian Economy

Micro, Small, and Medium Enterprises (MSME) play a pivotal role in driving entrepreneurial growth and fostering business innovation. By diversifying across sectors, MSME cater to both domestic and global market demands with a wide range of products and services. These enterprises are instrumental in generating significant employment opportunities at a lower capital cost compared to large industries. The role of MSME and contribution in various aspects of the country's economy is as follows:



2.2 Challenges in the Sector

In certain segments of the MSME sector, the awareness level regarding the strategic importance and associated benefits of sustainability is low. This includes the value of resource efficiency, circular economy, and regulatory compliance.

Marginal profit and financial constraints pose a significant barrier to the sector. The initial investments required for essential upgrades, such as equipment for cleaner production or process efficiency, are frequently treated as a low-priority expense.

Effective resource management relies on the principle that "what is not measured cannot be improved." Manual recording of crucial data-from energy consumption to material loss, often lack granular-level detail. The unavailability of comprehensive data hinders the ability to accurately track resource usage, pinpoint specific areas of inefficiency, and reliably measure the return on investment for any initiative.

CII FOR MSME

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3 BEST PRACTICES – ENERGY SAVINGS

3 BEST PRACTICES – ENERGY SAVINGS

3.1 Enhancing Milk Chilling Efficiency with Instant Milk Cooler (IMC)

Current Status:
Conventional milk chilling has challenges with energy efficiency, such as equipment inefficiencies or malfunctions, which can result in elevated milk temperatures. This rise in temperature promotes rapid bacterial growth, causing spoilage and deterioration in milk quality. Additionally, traditional chilling units often consume excessive energy, significantly increasing operational costs for farmers.

Proposed Intervention:
The IMC integrates an efficient ice bank tank, milk pump, plate heat exchanger, and balance tank. It is designed to automatically recharge its ice storage whenever grid power is available, regardless of milk cooling needs. This eliminates reliance on diesel generators during power cuts, ensuring uninterrupted milk chilling and consistent quality control.

Benefits:

- Energy Savings: Significant reduction in diesel usage (1,389 litres annually saved)
- Environmental Impact: Lower CO_2 emissions (0.69 tCO_2 reduction annually)
- Operational Efficiency: Reliable cooling without dependence on DG sets during power outages

Contact CII Godrej Green Business Centre, Hyderabad

3.2 Improving Furnace Efficiency with Regenerative Burners

Current Status:
In thermal energy-intensive MSME units such as forging, burners play a pivotal role in furnace operations, as they directly influence the overall system efficiency. The conventional burners have relatively low efficiency, resulting in heat losses during combustion. The lost energy not only lowers furnace performance but also consumes more fuel to maintain desired temperatures. Consequently, high operating costs and reduced competitiveness due to excessive energy expenses.

Proposed Intervention:
Regenerative Burners that work in pairs to recover and reuse waste heat. While one burner fires, it uses preheated combustion air warmed by exhaust gases stored in its regenerator. At the same time, the second burner absorbs heat from the outgoing flue gases for the next cycle. After a set reversal cycle, their roles switch, ensuring continuous energy recovery, reduced fuel use, and uniform furnace heating.

Benefits:

- Energy Savings: 1 Lakh Sm^3 natural gas saved annually
- Lower Emissions: 230 tCO_2 avoided per year
- Reduced Operating Costs: Improved system efficiency reduces fuel expenses

Contact CII Godrej Green Business Centre, Hyderabad

3.3 Waste Heat Recovery in Textile Dyeing Units

Current Status:
Textile dyeing is a thermal energy-intensive process, requiring large volumes of hot water at different temperatures. While many units have adopted advanced effluent treatment solutions such as Zero Liquid Discharge (ZLD) to recycle water, a major challenge remains unresolved. The hot effluent discharged still carries away significant amounts of thermal energy. Wastage of heat increases fuel demand and operational costs.

Proposed Intervention:
Waste Heat Recovery Unit designed to capture heat from hot dye effluent and use it to preheat incoming process water or boiler feed water. The system is fully automated and integrated with IoT technology, allowing seamless operation with minimal human intervention. By reducing heat loss and reusing energy, the solution ensures a more sustainable dyeing process. Furthermore, the technology is scalable and replicable across multiple textile plants.

Benefits:

- Energy Savings: 458 MT coal saved annually
- Reduced Emissions: 619 tCO_2 avoided per year
- Operational Efficiency: Automated and IoT-enabled, requiring no manual oversight
- Scalability: Can be widely replicated across textile dyeing units

Contact CII Godrej Green Business Centre, Hyderabad

3.4 Energy-Efficient Ceiling Fans for Mould Drying in Sanitaryware Production

Current Status:
In sanitaryware production, mould drying is a critical step, typically requiring 12–16 hours depending on ambient conditions. To achieve this, moulds are stored in large drying areas equipped with hundreds of conventional ceiling fans using induction motors. While effective in airflow, these fans consume a large cumulative amount of electricity, resulting in high energy bills and increased operational costs for cast houses.

Proposed Intervention:
Energy-efficient ceiling fan powered by Switched Reluctance Motor (SRM) technology. Unlike conventional 75W induction motor fans, the SRM-based fan operates at just 35W, delivering the same or better airflow performance. The indigenous SRM motor design eliminates the need for costly rare-earth permanent magnets (used in BLDC fans), making it more sustainable, affordable, and easier to manufacture. The innovation also addresses inherent motor noise issues, providing a quiet and efficient solution suitable for large-scale mould drying facilities.

Benefits:

- Energy Savings: Over 50% reduction in electricity consumption per fan
- Reduced Emissions: 50 tCO_2 avoided annually
- Indigenous & Sustainable: Rare-earth free motor, reducing import dependency

Contact **CII Godrej Green Business Centre, Hyderabad**

3.5 IGBT-Based Induction Billet Heating for Forging Industry

Current Status:
Conventional billet heating systems are highly energy-intensive and costly to operate. Oil-fired furnaces incur thermal losses, low efficiency, and issues such as temperature inconsistency and lack of heating uniformity. These challenges make it difficult for forging shops to keep up with rising production demands. Even traditional induction heaters, while more efficient, often lack effective coil control, limiting their performance.

Proposed Intervention:
The adoption of an Insulated Gate Bipolar Transistor (IGBT) based Induction Billet Heating provides precise and efficient heating of billets to the correct forging temperature. Its modular design ensures individual power modules for each induction coil, allowing fine control over heating and enhancing uniformity. By replacing oil-fired billet heaters with IGBT-based induction systems, forging units can achieve significant reductions in energy, cost, and emission reductions while ensuring consistent product quality.

Benefits:

- Energy Savings: Up to 50% reduction in energy consumption
- Reduced Emissions: 50 tCO_2 avoided annually
- Improved Productivity: Faster, more uniform billet heating enables higher output

Contact CII Godrej Green Business Centre, Hyderabad

3.6 Process Intensification with Intensified Flow Reactors

Current Status:
Conventional chemical reactors have long reaction times, consume high energy, and limited heat and mass transfer efficiency. These constraints lead to higher production costs and limiting productivity and scalability.

Proposed Intervention:
Intensified Flow Reactors with micro/mini-channel technology and external agitation provides a modern solution. These reactors combine the benefits of process intensification and flow chemistry by enabling continuous processing with enhanced heat and mass transfer. The modular reactor design allows easy scaling and reduces equipment footprint, while continuous flow ensures more efficient operations. This results in higher productivity and lower energy use.

Benefits:

- Less Reaction Time: Faster chemical processing with high efficiency
- Modular Design: Easy to scale up or replicate in different units
- Improved Heat & Mass Transfer: Ensures consistent quality and efficiency
- Reduced Specific Energy Consumption (SEC): More efficient use of energy per unit products
- Reduced Emissions: 4 kg CO_2 avoided per kg of product

Contact CII Godrej Green Business Centre, Hyderabad

3.7 Biomass-Powered Cooling

Current Status:
Conventional chilling units not only consume high amounts of electricity or diesel but also contribute to significant greenhouse gas emissions. These challenges make milk chilling costly, unsustainable, and difficult to expand in rural or off-grid areas.

Proposed Intervention:
The Biomass-powered cooling system capable of delivering up to 30 TR of cooling and achieving -2°C temperatures for brine in turn milk chilling. The system works on the Vapour Adsorption Refrigeration System (VARS) principle, enabling sustainable cooling without dependence on grid power for the main chilling (required minimal power for auxiliaries' operation). This demonstrated and validated technology can be scaled across multiple sectors for efficient milk chilling and cold storage.

Benefits:

- Energy Savings: Up to 83% reduction in grid power use compared to conventional chilling
- Reduced Emissions: 22 kg CO_2 avoided per 1,000 liters of brine chilled
- Sustainable Technology: Biomass-powered system reduces reliance on grid or diesel power
- Sector-Wide Applicability: Usable for milk chilling and other cold-chain applications
- Enhanced Rural Access: Enables decentralized chilling closer to production sites

Contact **CII Godrej Green Business Centre, Hyderabad**

3.8 Waste Heat Recovery for Improved Kiln Efficiency

Current Status:
In ceramic industry, kiln performance highly depends on temperature control and thermal efficiency across its three main zones - preheating, firing, and cooling. The ceramic parts are heated up to 1,200°C in the firing zone and rapidly cooled in ambient air in the cooling zone. This cooling air, after absorbing heat, is discharged at about 250°C, representing a substantial loss of recoverable energy.

Proposed Intervention:
By redirecting the preheated air from the cooling zone into the fuel combustion system, the need for additional fuel in the kiln is significantly reduced. This intervention enhances the kiln's thermal efficiency and decreases specific energy consumption.

Benefits:

- Energy Savings: 5,754 Lakh kCal saved annually
- Increased Thermal Efficiency: More effective heat utilization across zones
- Reduced Emissions: 172 tCO_2 avoided annually
- Increased Production: Enhanced heat recovery supports faster and uniform heating

Contact CII Godrej Green Business Centre, Hyderabad

3.9 Replacement of Conventional Motors with Energy-Efficient Motors

Current Status:
Conventional electric motors are widely used as the prime mover for utilities like pumps, compressors, conveyors, fans, etc. The standard efficiency motors operate at relatively low efficiency, resulting in higher energy losses, excessive heat generation, and increased operating costs. With continuous operation across multiple shifts, these inefficiencies translate into significant annual power and cost losses for MSMEs.

Proposed Intervention:
Replacing conventional motors with energy-efficient motors of IE4 & IE5 class. Advanced motors are engineered to reduce losses, ensuring higher performance and durability. Key design improvements include lower eddy current and copper losses, longer stator core and thicker winding wires, thinner laminations for reduced hysteresis losses.

Benefits:

- Higher Efficiency: Up to 10–15% improvement over standard motors
- Faster returns: Payback period typically up to 2 years and lesser
- Improved Reliability: Cooler operation extends motor and equipment life
- Environmental Benefits: Reduced indirect CO_2 emissions through lower power demand

Contact CII Godrej Green Business Centre, Hyderabad

3.10 Energy-Efficient Refrigeration through Evaporative Condensers

Current Status:
Traditional air-cooled and water-cooled condensers used in refrigeration and HVAC systems often operate with high condensing temperatures and low heat transfer efficiency. This leads to higher compressor power consumption, increased operating costs, and greater environmental impact.

Proposed Intervention:
Evaporative Condensers, which combine the functions of a cooling tower and a water-cooled condenser into a single, compact unit, can help in achieving lower temperature of condensing medium. In this system, water is sprayed over a coil carrying refrigerant vapor, while air is simultaneously induced upward. The resulting evaporative cooling effect creates a thin water film on the condenser tubes, rapidly removing heat and condensing the refrigerant. The high heat transfer coefficient allows the system to operate at much lower condensing temperatures, closer to the wet-bulb temperature, thereby reducing the compressor load and overall energy consumption.

Benefits:

- Energy Savings: 2,00,000 kWh electricity
- Reduced Emissions: 164 tCO_2 avoided per year
- Lower Condensing Temperature: Improved system efficiency and compressor performance

Contact CII Godrej Green Business Centre, Hyderabad

3.11 Compressed Air Optimization

Current Status:
An auto-cast plant was planning a significant production capacity upgrade and increase. The existing facility was burdened by high electricity costs due to the operation of 10 air compressors. Before investing in new compressors, the plant sought an external audit to evaluate the performance and efficiency of the current system.

Proposed Intervention:

Recommendation	Expected Impact
1. Leakage & Layout Management	Minimize air leakage and install an Aluminum pipeline with a closed-loop system for better pressure stability.
2. Generation Optimization	Optimize compressor power by reducing the generation pressure in the CI Section.
3. Equipment Upgrade	Replace 4 old, inefficient air compressors in the SMF & Machine shops.
4. Zero-Loss Practices	Install Two-Port Valves in all sections to eliminate air leaks during non-production time.
5. End-Use Efficiency	Replace conventional compressed air blow guns with EE Transvector guns.
6. Waste Heat Recovery	Install Hot Air ducts at all compressors to utilize waste heat.
7. System Control	Eliminate the power consumption wasted during the unloading cycle of SMF compressor Number 2.

Contact **CII Centre of Excellence for Competitiveness for SMEs, Chandigarh**

3.12 Energy Savings in Auto Components Industry

Current Status:
Electrical furnaces accounted for nearly 60% of the total electrical load in the unit. The plant sought an external audit to evaluate the performance and efficiency of the current system.

Proposed Intervention:

Focus Area	Recommendation
Furnace Optimization	Increase bulk density of the charge; reduce cone formation of the GDC-25 furnace; and optimize the overall furnace operation.
Furnace Efficiency	Replace existing contactor-type switching with more efficient IGBT-type switching. Apply thermo ceramic coating to the refractory and outer shell to reduce radiation heat losses.
Compressed Air	Minimize compressed air losses in the plant (currently 48%); replace the existing compressor with a new EE Air Compressor. Eliminate unloading power consumption and reduce generation pressure.
System-Wide	Replace old rewinded IE1/IE2 motors with IE4 Energy Efficient Motors and replace conventional fans with Energy Efficient fans. Replace Cooler Fans with Higher Capacity Fans. Improve the overall Power Factor.
Ventilation	Optimize power consumption of the Scrubber Blower by replacing it with EC+ Blowers.

Contact CII Centre of Excellence for Competitiveness for SMEs, Chandigarh

3.13 Energy Savings in Wire Manufacturing Plant

Current Status:
The organization was pursuing an expansion and an increase in production capacity for the wire manufacturing plant. To support this growth while fulfilling compliance needs and ensuring cost-effectiveness, the plant team requested an external audit to evaluate the performance and efficiency of the existing system.

Proposed Intervention:

Focus Area	Recommendation
Thermal Loss Reduction	Provide insulation on the outer surface of curing tanks, extruder barrels, and uninsulated oven areas. Modify the MTO recovery section and final dryer to include insulation and improve solvent recovery.
Motor & Blower Efficiency	Replace DC Motors with AC Motors where feasible. Replace belt-driven blowers and conventional exhaust fans with energy-efficient EC/BLDC fans in AWUs and exhaust systems.
System Controls	Replace less efficient Contactor based Switches in the Extruder heater with Thyristor Based Switching systems.
Utility Optimization	Improve Power Factor and Optimize Contract Demand to reduce penalty charges.
Auxiliary Savings	Minimize compressed air losses and reduce compressor generation pressure. Install Movement Sensors and arrange group switching for the lighting system on the production floor.

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4 BEST PRACTICES – MANUFACTURING & QUALITY

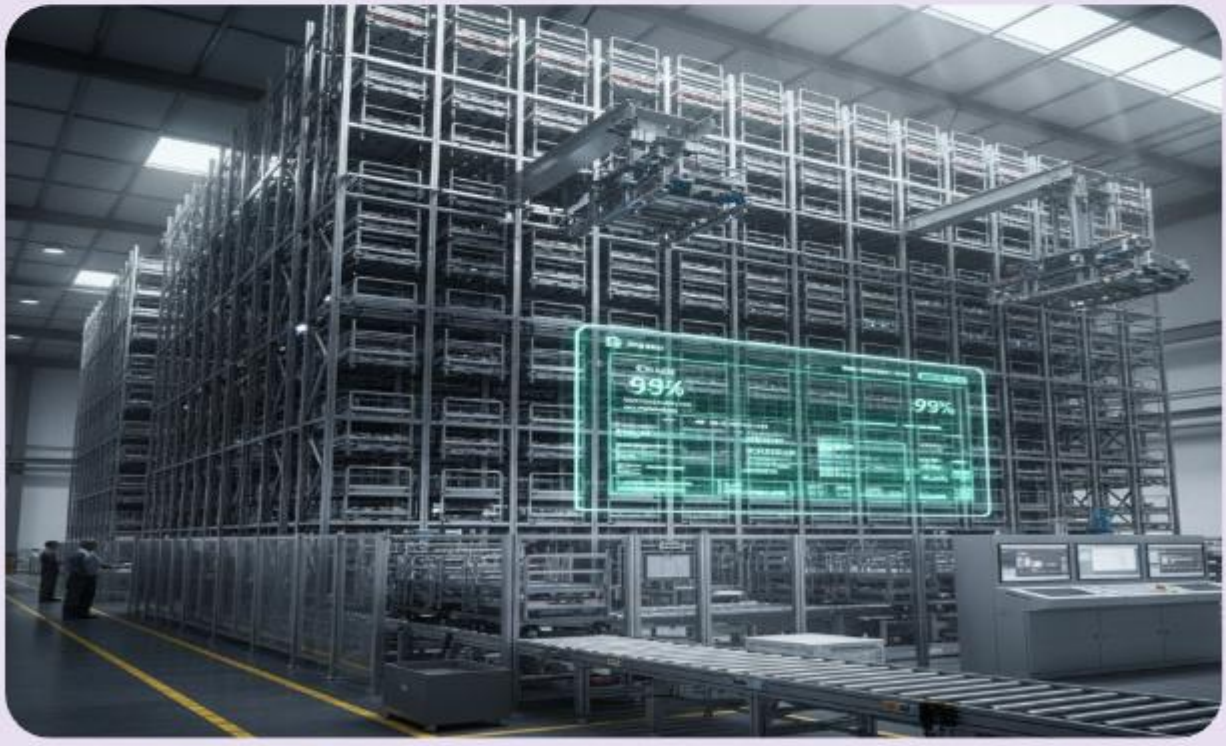
4 BEST PRACTICES – MANUFACTURING & QUALITY

4.1 Automation of Trolley Handling System Using ASRS

Current Status:
In the manufacturing facility, manual trolley handling led to frequent damages, operational delays, and safety risks. The retrieval process will be time-consuming and dependent on manpower, while the absence of real-time tracking made it difficult to monitor trolley locations or plan dispatch efficiently. Additionally, poor space utilization and floor congestion restricts productivity and overall operational efficiency.

Proposed Intervention:
Trolley Automated Storage and Retrieval System (ASRS) integrate advanced hardware and intelligent software to completely automate the storage, tracking, and retrieval of trolleys. It receives trolleys directly from the production line and stores them in a dense vertical and horizontal grid to optimize space utilization. Each trolley is digitally tracked in real time, enabling precise control and visibility. The ASRS retrieves trolleys automatically for dispatch and operates continuously, ensuring round-the-clock efficiency and eliminating the need for manual handling.

Benefits:
- Reduced damages and delays and increased productivity
- Real-time visibility of trolley status and location
- Optimized floor space utilization and higher storage density
- Enhanced safety through elimination of manual pushing



Contact **CII Naoroji Godrej Centre of Manufacturing Excellence, Mumbai**

4.2 Production Line Synchronization and Efficiency Improvement in Forging Unit

Current Status:
A forging unit was struggling to meet customer demand within the required delivery window. Frequent line stoppages occurred due to inconsistent receipt of housings from suppliers, while excessive material movement and low line efficiency further affected throughput. As a result, delivery commitments were not being met, and the overall productivity of the line remained suboptimal.

Key Performance Indicators Before Intervention:
- Delivery Performance: 0%
- Synchronization Ratio (SR): 38%
- Line Efficiency: 76%

Proposed Intervention:
A series of countermeasures were implemented, including the 3S mapping technique for workplace organization, tier definition within the process flow, and the introduction of Heijunka planning - a lean manufacturing approach for production levelling.

Key Performance Indicators After Intervention:
- Delivery Performance: Improved from 0% to 100%
- Synchronization Ratio (SR): Increased from 38% to 92%
- Line Efficiency: Enhanced from 76% to 97%

Contact CII Naoroji Godrej Centre of Manufacturing Excellence, Mumbai

4.3 Enhancing Productivity and Quality through TPM Implementation

Current Status:
A Spindle unit was facing multiple performance challenges impacting both operational efficiency and customer satisfaction. Low spindle delivery adherence, frequent customer complaints, and reduced profitability were major concerns. Additionally, there was high dependency on manpower, underperformance of the workforce, and a reactive work culture with limited focus on continuous improvement.

Proposed Intervention:
Total Productive Maintenance (TPM) transformation journey aimed at building a culture of continuous improvement. The key objective was to enhance quality, productivity, and employee ownership by integrating structured maintenance practices, empowering employees, and promoting proactive problem-solving. Focus areas included strengthening preventive maintenance, enhancing equipment effectiveness, promoting daily kaizen activities, and investing in workforce capability development through training and performance tracking.

Benefits:
- Overall Equipment Effectiveness (OEE): Improved from 63% to 83%
- Customer Complaints: Reduced from 8% to 2.3%
- On-Time Delivery: Increased from 64% to 92%
- Kaizen Activities per Month: Increased from 20 to 71

Contact **CII Institute of Quality, Bangalore**

4.4 Productivity Enhancement in Automotive Component Manufacturing

Current Status:
The automotive component manufacturing unit had a rising customer demand for a critical part, requiring a daily output of 295 parts/hour over two shifts. However, the existing process could produce only 204 parts/hour, compelling the company to run an additional third shift with overtime. This not only escalated operational costs but also lowered productivity, and inefficiencies across the production line.

Proposed Intervention:
A structured productivity improvement initiative was launched using lean manufacturing tools such as VA/NVA (Value-Added/Non-Value-Added) Analysis, VTR (Value Throughput Ratio) Study, Root Cause Analysis, and the 7-Step Problem-Solving method. Based on these analyses, several key Kaizen actions were implemented to streamline operations and reduce cycle time. These included applying PVD coating on dies to prevent material sticking and reduce unloading time, integrating U-forming and O-forming operations into a single tool equipped with a gravity chute to minimize handling, and introducing air ejection systems to automate part removal and enhance consistency. Together, these interventions resulted in a more stable, efficient, and higher-output production process.

Benefits:

- Cycle Time: Reduced from 17.6 sec to 9.9 sec
- Output: Increased from 204 to 363 parts/hour
- On-Time Fulfilment (OTF): Achieved 100% delivery performance

Contact **CII Institute of Quality, Bangalore**

4.5 Strategic Transformation through Vision Alignment and Operational Excellence

Current Status:
The organization sought to strengthen its strategic alignment and operational efficiency by linking its vision and mission with on-ground execution. Despite having structured processes, gaps existed in KPI tracking, productivity management, quality improvement, and data-driven decision-making. These challenges limited the organization's ability to sustain performance improvements and achieve consistent business growth.

Proposed Intervention:
A comprehensive strategy management and capability enhancement program was implemented to align organizational goals with measurable performance outcomes. The initiative focused on Vision–Mission alignment, KPI and KAI management, and the integration of X-Matrix and A3 projects for structured problem-solving. Detailed training sessions were conducted covering topics such as productivity improvement techniques, Kaizen implementation, quality enhancement, cost reduction methods, and data management through digitization. These interventions empowered teams to take ownership, improve process visibility, and foster a culture of continuous improvement across departments.

Benefits:
- Inventory Turnover: Increased by 71%
- DSA (Daily Sales Achievement): Improved from 89% to 99%
- Breakdown Hours: Reduced by 87%
- Accident Frequency Rate: Reduced by 96%
- Conducted multiple training sessions, building workforce capability and engagement

Contact CII Centre of Excellence for Competitiveness for SMEs, Chandigarh


Kaizen
X-Matrix
99%
-96%

CII FOR MSME

COMPENDIUM OF CASE STUDIES

5 BEST PRACTICES – DIGITIZATION

5 BEST PRACTICES – DIGITIZATION

5.1 Energy Optimization through Smart IoT-Based Compressor Control

Current Status:
Air compressors represent one of the highest energy-consuming utilities. Only around 10% of the input energy is converted into useful work, while nearly 50% is lost as heat, and the remaining energy is wasted through leakages, artificial demand, and inappropriate usage. These losses result in high operating costs, increased maintenance requirements, and carbon emissions.

Proposed Intervention:
A Smart Control System enabled with IoT and AI/ML capabilities continuously monitors key operating parameters across major compressor sections, analysing data in real time to predict supply-demand variations and adjust operations accordingly. With its machine learning intelligence, the system optimizes load-unload cycles, eliminates artificial demand, and minimizes energy wastage. In addition to substantial energy savings, the technology supports Industry 4.0 integration by enabling digital visibility, predictive maintenance, and intelligent performance management.

Benefits:

- Energy Savings: 49,000 kWh per annum
- CO_2 Emission Reduction: 36 tCO_2 per annum

Contact **CII Godrej Green Business Centre, Hyderabad**

5.2 Real-Time Energy Monitoring through IoT System in Textile MSMEs

Current Status:
MSME textile units face challenges in energy and operational efficiency. The primary reasons include lack of real-time data on energy consumption, absence of machine-specific analysis to identify excessive energy use, and inadequate infrastructure for monitoring and actionable insights.

Proposed Intervention:
Smart Industrial Internet of Things (IoT) solution designed specifically for textile circular knitting machines. Through edge computing technology, the system collects and processes data directly at the machine level, ensuring faster, localized decision-making without the need for remote servers. It provides real-time monitoring of critical parameters such as power consumption, machine speed, running and idle times, and detailed stoppage reasons (like yarn breakage or door openings). This integrated setup allows operators and managers to identify inefficiencies, track performance trends, and take immediate corrective actions to enhance productivity and reduce energy waste.

Benefits:
- Real-time visibility of machine-wise energy consumption
- Reduced downtime by identifying and addressing stoppage causes
- Enhanced productivity via optimized process control
- Reduced specific energy consumption upon actions taken by the unit based on insights

Contact **CII Godrej Green Business Centre, Hyderabad**

5.3 Process Fluctuation Monitoring and Optimization through Smart IoT-Based System

Current Status:
Abnormal fluctuations in key process variables lead to excessive energy consumption, reduced product quality, and higher carbon emissions. Existing monitoring systems often track only a few parameters and collect data at long intervals, making it difficult to identify and correct process deviations in real time. The absence of continuous performance visibility across critical process equipment further limits operators' ability to maintain stable and efficient operations.

Proposed Intervention:
A cloud-based smart monitoring and optimization system using advanced sensors and IoT technology was introduced to identify and mitigate process fluctuations. The system follows a structured plant-wide and section-wise fluctuation mapping approach to pinpoint instability and inefficiencies. It gathers real-time data through intelligent collection tools and performs in-depth analysis to evaluate the performance of controllers and PID loops. This enables identification of root causes behind process variations and supports corrective tuning for improved process stability, reduced energy wastage, and consistent product quality.

Benefits:
- Reduced PID controller errors, leading to stable process operations
- Lower specific energy consumption through improved control accuracy
- Real-time process visibility for proactive decision-making and cloud-based

Contact **CII Godrej Green Business Centre, Hyderabad**

5.4 Enhancing Energy Efficiency in MSMEs through IoT-Enabled Edge Computing for Real-Time Monitoring and Insights

Current Status:
In MSME units, data monitoring and utilization for actionable insights remain major challenges. Real-time visibility of energy consumption patterns and process performance are essential. The absence of specific and long-term data restricts effective analysis to identify areas of excessive energy use. Additionally, inadequate infrastructure for real-time monitoring and analytics further limits operational efficiency and decision-making.

Proposed Intervention:
Edge computing technology integrated with IoT for wireless data access and real-time analysis. Unlike traditional monitoring systems, this advanced digital platform processes and visualizes data locally (at the source) and simultaneously stores it on the cloud for long-term trend analysis. It enables seamless connectivity, data-driven insights, and enhanced operational visibility. The system is specifically designed and engineered to meet the needs of MSMEs, promoting efficiency and smart energy management.

Benefits:
- Improved decision-making through actionable insights
- Long-term data storage for trend and performance analysis
- Digital infrastructure readiness for Industry 4.0 adoption
- Up to 5% reduction in Specific Energy Consumption (SEC)

Contact **CII Godrej Green Business Centre, Hyderabad**

5.5 Digital Saksham

Digital Saksham is a transformative initiative launched by the Confederation of Indian Industry (CII) in collaboration with the Mastercard Centre for Inclusive Growth. The initiative aimed to empower around 3,00,000 MSMEs (Micro, Small, and Medium Enterprises) across 55 cities and districts in 13 states over a span of three years, with a strong emphasis on driving digital transformation among micro-enterprises. At its core, Digital Saksham has helped micro-enterprises transition from physical to digital payments and assisted them with key processes such as registering on the Udyam portal, e-filing taxes, building websites for their products and expanding their businesses into digital trade. In addition, the program addresses compliance challenges, providing businesses with the necessary tools to meet regulatory standards.

Digital Saksham program - Handloom

KARNATAKA

An ambitious handloom entrepreneur from Karnataka, possessed a deep understanding of his craft but felt constrained by limitations that he was unable to identify. His demanding work schedule left him yearning for more family time, a regret that constantly gnawed at him. Just as he began to lose hope, a friend introduced him to the Digital Saksham program. Intrigued, Vinay enrolled, hoping for a solution.

The Digital Saksham program empowered Vinay to achieve a better work-life balance. Furthermore, the digitalization helped him gain valuable digital skills along with the freedom to pursue his ambitions, while cherishing precious moments with his loved ones. His story bears witness to the program's effectiveness in empowering entrepreneurs and enhancing their overall well- being.

Digital Saksham program – Bamboo products

KERALA

For 62-year-old craft-man from Kerala, making bamboo products has been a way of life for over 40 years, A family tradition started by his father, Vijayan's bamboo work is an art, rather than just a business. While it has sustained his family, he never imagined venturing into anything new. However, his perspective changed when he joined the Digital Saksham program. Though, hesitant about going digital, Vijayan embraced the training and began promoting his bamboo creations on social media, this shift transformed his moderate family business, helping him secure orders from across India.

In the current scenario, Vijayan's joy knows no bounds. His newfound digital skills have expanded his market reach and have also significantly increased his profits, He has employed five people and additionally hires daily wage workers during peak demand, turning his small-scale operation into a thriving enterprise. Thanks to Digital Saksham, Vijayan has successfully blended tradition with technology, ensuring that his family's bamboo artistry continues to flourish while creating opportunities for others.

Digital Saksham program - Fisheries

ANDRA PRADESH

A fisherman from Andhra Pradesh, had always lived a traditional life, relying on daily fishing and selling at the market to make a living. However, his life took a dramatic turn when he discovered the Digital Saksham program.

As a result of his digital empowerment, Rao's sales figures more than doubled, and he was able to magnify his business. He has become a role model in his community, inspiring others to adopt digital technology and improve their livelihoods. Rao's story exemplifies the metamorphic transformation that digital empowerment can bring about to upgrade the lives of traditional artisans and entrepreneurs.

Contact CII MSME (CO)

CII FOR MSME

COMPENDIUM OF CASE STUDIES

6 BEST PRACTICES – SUSTAINABILITY

6 BEST PRACTICES – SUSTAINABILITY

6.1 Sustainable cold chain in Banana Transportation

Current Status:
Over the years, farmers of Tamil Nadu have witnessed a post-harvest loss of 30%. The banana farming industry could not utilize the vast potential of their harvest, and the bananas were wasted in a country in urgent need of good quality food for 300 million people.

Proposed Intervention:
But things have changed since Danfoss started a task force with the Confederation of Indian Industry (CII) FACE to address the challenges of food loss – focusing on bananas. The task force started out by identifying three major blocks: The lack of good agricultural practices at the pre-harvest stage, poor post-harvest management, and a disconnect to the market.

The task force has worked primarily on two interventions, based on the company's global expertise in cooling – precooling & ripening chambers.

Firstly, pre-cooling intervention. Once harvested at the farm, pre-cooling and cold storage of the bananas extends the life and quality of the produce. Secondly, ripening chambers have resulted in better control, to ensure the bananas are kept at the right temperature until they reach consumers.

"These two interventions have resulted in three times higher value for the banana farmers and a wastage reduction of nearly 20%. What has also been achieved by helping farmers is that today, Indian bananas are available in Europe. A thing that would have been unthinkable a few years back. We have succeeded in making a significant impact for the farmers and on the Indian economy. The Prime Minister of India wants to double farmers' income, but I think in this case, we have actually helped triple farmers' income", says Mr. Ravi Purushothaman.

Contact **CII Jubilant Bhartia Food & Agriculture Centre of Excellence, New Delhi**

6.2 Sustainability in Auto & Engineering industry

Greening the Supply Chain – Automotive & Engineering Industry

The automotive sector is undergoing a rapid transformation, guided by global sustainability imperatives and India's commitment to achieve net zero emissions by 2070. While Original Equipment Manufacturers (OEMs) are setting ambitious decarbonization goals, it is important to recognize that more than 85% of their total carbon footprint lies within their supply chains.

As global markets and OEM customers increasingly emphasize sustainable sourcing and low-carbon manufacturing, it has become imperative for automotive & engineering industry to adopt structured pathways towards decarbonization. By embedding sustainability into their operations engineering industries can not only strengthen their role as reliable partners in green supply chains but also unlock new opportunities for growth, innovation, and global market access.

Adoption of GreenPro, Product Ecolabelling through Life cycle impact assessments helped identify environmental hotspots in automotive and engineering sector and guided the implementation of targeted measures such as enhancing energy performance, reducing dependency on virgin raw materials, and minimizing waste to lower overall environmental impacts.

Current Status:

Energy-intensive sectors such as foundry, auto component manufacturing, and vehicle assembly contribute significantly to industrial carbon emissions. Traditional processes rely heavily on fossil fuel-based heating, virgin raw materials, and inefficient waste management practices. Supply chain emissions and logistics operations further amplify the carbon footprint, necessitating a holistic, value chain–wide decarbonization strategy.

Proposed Intervention:

Foundry Sector: Transition from gas-based ovens to electric ovens improved energy efficiency in the drying process. Scrap utilization in raw material mixes increased, and waste generation was reduced through optimized design and manufacturing processes.

Auto Components Sector: Production workflows were streamlined to enhance process efficiency. Adoption of low-embodied carbon steel and EV-based local logistics minimized material and transport emissions. Renewable energy (RE) integration was promoted across supplier facilities, while material substitution and circularity principles expanded to Tier II suppliers.

Vehicle Assembly Sector: Low-embodied carbon steel was introduced along with 100% renewable energy integration through on-site solar and off-site PPAs. Localized EV logistics and design-driven lightweighting reduced transport and material-related emissions. Plasma cutting efficiency improved, and scrap generation reduced from 17% to 15%.

Contact CII Godrej Green Business Centre, Hyderabad

Benefits:

- 55% reduction in Global Warming Potential (GWP) from in-house manufacturing processes.
- 20% reduction in GWP from suppliers.
- 31% overall GWP reduction across the value chain.
- 85% reduction in total carbon footprint through combined eco-labelling and decarbonization measures.
- Enhanced resource circularity, improved process efficiency, and strengthened supplier sustainability alignment.

6.3 Sustainability in Cleaning products

Driving Better Performance, Operational Excellence, And Sustainable Impact in housekeeping chemicals

The plant has focused on optimizing product design and manufacturing with efficient resource utilization. They have achieved notable improvements in product performance by eliminating environmental pollutants as well. At the organizational level, the adoption of a sustainable living policy further strengthens the environmental sustainability of its products and manufacturing initiatives.

Adoption of GreenPro, Product Ecolabelling through Life cycle impact assessments helped identify environmental hotspots in automotive and engineering sector and guided the implementation of targeted measures such as enhancing energy performance, reducing dependency on virgin raw materials, and minimizing waste to lower overall environmental impacts.

Energy Efficiency Initiatives:

The unit adopted a cold route manufacturing process, significantly reducing thermal energy use. Steam optimization in pasteurization was achieved by adding plates to the heat exchanger, minimizing steam loss and reducing pasteurization time by 30%. Predictive viscosity control using mixer anchor current data shortened batch time and saved approximately 5.5 kWh per batch. Collectively, these interventions resulted in an 83.6% reduction in Specific Energy Consumption (SEC) over two years.

Water Conservation:

The facility implemented a rainwater harvesting system based on advanced technology, featuring a total holding capacity of 12,602 m^3 across a 19.6-hectare area, enabling an estimated 1,22,000 kL of rainwater savings per annum. To enhance water efficiency:

- Fresh water in cooling towers was substituted with recycled water through a redesigned loop and intermediate tank, reducing freshwater consumption by nearly 50%.
- Spray valves were installed in liquid manufacturing vessels to minimize cleaning water usage.
- Treated wastewater continued to be used for landscaping and toilet flushing. These measures resulted in a 14.91% reduction in Specific Water Consumption (SWC) and improved long-term water sustainability.

Renewable Energy Integration:
The facility advanced its renewable transition through both on-site and off-site energy generation. For the year 2023–24, 35% of electrical energy and 56% of total energy requirements were sourced from renewables. Of this, 50% came from on-site systems and 6% from off-site sources. A 3.75 MWp captive solar power plant was established to ensure consistent renewable energy supply and reduce dependency on conventional power sources.

Benefits:
- 83.6% reduction in Specific Energy Consumption (SEC)
- 14.91% reduction in Specific Water Consumption (SWC)
- 1,22,000 kL annual rainwater harvesting potential
- 56% renewable energy integration
- Significant decrease in operational costs and carbon emissions.

Contact **CII Godrej Green Business Centre, Hyderabad**

6.4 IoT-Enabled Automated Two-Wheeler Washing System

Current Status:
Conventional two-wheeler washing consumes significant water per wash, lacked accountability in water usage, and created environmental issues due to poor sludge management. The need was for a sustainable, automated, and data-driven system to minimize freshwater use and improve operational efficiency.

Proposed Intervention:
An automated washing system uses only 4 liters of water per wash. Integrated with an Effluent Treatment Plant (ETP) achieving 98% water recycling. An IoT platform provided real-time dashboards on water use, cycle count, sludge generation, and performance. The system featured predictive maintenance, ensuring high uptime and easy operation with minimal training.

Results & Benefits:
- 19.3 lakh liters of freshwater saved from 11,125 washes.
- 1,776 kg of sludge safely treated and disposed of.
- 60% throughput increase, with each wash completed in under 5 minutes.
- Lower operational costs through reduced freshwater dependency.
- Transparent and traceable operations with IoT-based monitoring.

Contact **CII Triveni Water Institute, New Delhi**

CII FOR MSME

COMPENDIUM OF CASE STUDIES

7 | ESG IN MSME

7 ESG IN MSME

Environmental (E): includes climate change mitigation and adaptation, sustainable resource use and energy efficiencies, circular economy, prevention of pollution and waste management, protection of the environment, biodiversity and restoration of natural habitats.

Social (S): includes social impacts like human rights, labour practice, decent work, consumer issues, community relations and engagement, privacy and data protection, health, well-being and safety, among others.

Governance(G): includes corporate board composition and structure, strategic sustainability oversight and compliance, executive compensation, anti-corruption, responsible political involvement, fair competition, promoting social responsibility in the value chain, respect for property rights and interrelationship with communities and society.

Strategies for ESG in MSME

Importance of ESG in MSME

CII GBC's GreenCo is an innovative, voluntary environmental performance certification that supports organizations, including MSMEs, in adopting and improving sustainable business practices. Focused on comprehensive environmental performance, GreenCo provides a specialized tool called GreenCo Lite, tailored for SMEs and MSMEs to help integrate ESG principles into their operations. The tool covers both traditional areas like energy, water, and waste, as well as modern concepts such as green supply chains, extended producer responsibility, and GHG mitigation. More than 150 MSMEs have already achieved GreenCo certification, demonstrating their commitment to sustainability.

GreenCo SME - Shree Ashtavinayak Glass Private Limited

Shree Ashtavinayak Glass Private Limited, Khandala (SAG), GreenCo SME Platinum rated, is a manufacturer of toughened glass, insulated glass, tinted glass, etc. A UK based manufacturer of consumer electrical goods, has a target of reducing its carbon footprint, for which it aimed at working with suppliers who will contribute to its emission reduction target. Since most of its supplies were imported and transport emissions are inevitable, the UK company decided to focus on suppliers with a lesser environmental footprint. In its supplier evaluation criteria, 25% weightage was provided for environmental performance. With this stringent requirement, SAG outperformed its competitors from China and Turkey, to bag an order of 2.5 million GBP with the UK company and business with various other international buyers. An excellent business case of a preferential supplier.

SAG is also one of the few SMEs to have extended sustainability efforts beyond its fence. The SME has adopted two schools in nearby villages and has also adopted a nearby village to implement the projects. Some of the green initiatives in its model village Salav, include, use of biogas for cooking purposes, solar lamps, rainwater harvesting systems and recharge structures, among others.

GreenCo SME - Khutale Engineering Private Limited

Khutale Engineering Private Limited, Satara, a GreenCo platinum rated company has been a local torch bearer of green initiatives. The SME has taken several steps to promote green manufacturing in industries located in and around Satara through various industry and local associations

GreenCo SME - Syndicate Impex Limited

Syndicate Impex Limited, Tirupur, a garment manufacturer, has launched a recycled yarn-based garment that consumes reduced water, nil fertilizers, reduced chemicals, less carbon footprint and eliminated waste going to landfill, in comparison with a normal garment

GreenCo SME - Vishwadeep Pressparts Private Limited

Vishwadeep Pressparts Private Limited, Pune, a press part manufacturer, set up a portable biogas plant to utilize the waste generated within their facility. The SME later converted the system into a commercial product and now promotes portable biogas plants of varying capacities

Contact **CII Godrej Green Business Centre, Hyderabad**

CII FOR MSME

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8 CII NET ZERO PROGRAM

8 CII NET ZERO PROGRAM

To bolster India's Net zero journey and sustain the competitiveness of the Indian companies in the dynamic climate regulatory landscape, the Confederation of Indian Industry has launched the CII Net-Zero Program.

The CII-Net Zero programme facilitates Indian industries in contributing to India's 2070 net-zero emissions goal and supports their alignment with global sustainability standards, amidst changing climate regulations.

Stream 1 – Mitigating Scope 1 and 2 emissions

- Focuses on driving Indian companies toward Net-Zero emissions by targeting Scope 1 (direct emissions from owned or controlled sources) and Scope 2 (indirect emissions from the generation of purchased energy) through a comprehensive approach.
- **Companies sign up for the net zero programme:** Businesses take the initial step by enrolling in the programme dedicated to achieving net-zero emissions.
- **Awareness & capacity building sessions:** These sessions are designed to enhance understanding and develop the skills necessary to implement net-zero initiatives.
- **Assessment of GHG inventorisation:** Companies evaluate and quantify their greenhouse gas emissions to understand their environmental impact better.
- **Growth scenario development and identification of reduction levers:** Firms formulate potential growth trajectories and identify strategies to reduce emissions.
- **Support in developing roadmaps & action plans:** Organizations receive guidance to create detailed strategies and action plans for reaching net-zero goals.
- **Organizations commit to Net-zero:** Companies establish a net-zero target with a clear strategy and roadmap demonstrating their commitment to climate responsibility.

Stream 2 – Tackling Scope 3 emissions

- Dedicated to enhancing sustainable supply chain practices, addressing Scope 3 emissions of all the participating companies by accounting for hundreds of their supplier, which encompass all indirect emissions that occur within a company's value chain.
- **Supply Chain Analysis:** Assess and map the entire supply chain to pinpoint emission hotspots and opportunities for emissions mitigation.
- **Sensitization and Awareness:** Educate stakeholders about the interconnected environmental impact of supply chains.
- **Capacity Building and Guidance:** Offer training and support to cultivate the skills and knowledge required for effective Scope 3 GHG inventory management.
- **GHG Inventory Management:** Methodically measure and document greenhouse gas emissions across the supply chain.
- **Enhanced Supplier Emission Disclosure and Reduction Strategies:** Encourage suppliers to disclose their emissions and adopt tactics to diminish their carbon footprint.

Companies Participating in the Program

axplora · BAJAJ · Biocon · CUMI CARBORUNDUM UNIVERSAL LIMITED · ENDURANCE · Galaxy · IFB · JSW Cement · KANSAI NEROLAC · neuland · NEULAND · NUVOCO · RIL · Rane · SAGAR CEMENT · SUVEN PHARMA · WIPE hotwire

Contact CII Godrej Green Business Centre, Hyderabad

CII FOR MSME

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9 MSME SCHEMES & POLICIES FOR SUSTAINABLITY

9 MSME SCHEMES & POLICIES FOR SUSTAINABLITY

ADEETIE

The "Assistance in Deploying Energy Efficient Technologies in Industries and Establishments" (ADEETIE) Scheme is a flagship initiative of the Bureau of Energy Efficiency (BEE) under the Ministry of Power, Government of India. This Scheme aims to catalyze the adoption of energy-efficient technologies among Micro, Small, and Medium Enterprises, enhancing their competitiveness and contributing to India's climate goals.

This Scheme offers comprehensive financial and technical support to Udyam registered MSMEs, enabling them to implement energy-efficient technologies with proven potential to save at least 10% of energy. Scheme is structured to provide targeted assistance in the form of interest subvention on loans, Investment Grade Energy Audits (IGEA), Detailed Project Reports (DPRs), and post-implementation Monitoring and Verification (M&V). The scheme envisaged to provide interest subvention of 5% for Micro and Small Enterprises and 3% for Medium Enterprises on loans, ensuring accessibility and affordability for MSMEs seeking financial aid for energy efficiency projects.

ZED

MSME Sustainable (ZED) Certification is an extensive drive to create awareness amongst MSMEs about Zero Defect Zero Effect (ZED) practices and motivate and incentivize them for ZED Certification while also encouraging them to become MSME Champions. To build the ecosystem to implement the idea, three important components emerged as the vehicle for this new transformation:

1. The Ease of Doing Business in India.
2. The confidence in quality of source material, components and services.
3. Making available competent human resource to drive the change.

MSE-GIFT

Green Investment & Financing for Transformation Ministry of Micro, Small & Medium Enterprises (MoMSME) has formulated MSME-GIFT scheme to develop an ecosystem wherein institutional finance is made available to MSEs at a concessional cost to minimize/ overcome the incremental cost of clean/green technologies, which include energy from renewable sources like solar, wind, biogas, etc.; clean transportation that involves lower greenhouse gas emissions; energy-efficient projects like green building; waste management that includes recycling, efficient disposal, and conversion to energy, etc.

SIDBI Green Climate Finance Vertical.

MSE-SPICE

The MSE-SPICE Scheme is the "MSE Scheme for Promotion and Investment in Circular Economy" introduced by the Ministry of Micro, Small & Medium Enterprises (MoMSME). It aims to encourage Micro, Small, and Medium Enterprises to adopt Circular Economy practices, focusing on sectors like Plastic, Rubber, and Electronics Waste Management to comply with international environmental goals and improve operational efficiency.

SIDBI Green Climate Finance Vertical.

MSME COMPETITIVE (LEAN) SCHEME

Recognizing the importance of overall economic growth of a country and the need for enhancing its productivity, competitiveness and employment generation besides resource optimization, many countries have initiated institutional mechanism for a national approach on improving the quality of manufacturing & services. Ministry of Micro, Small & Medium Enterprises, Government of India, aims to implement the MSME Competitive (Lean) Scheme for MSMEs with an objective to enhance their productivity, efficiency, and competitiveness by reduction of wastages in processes, inventory management, space management, energy consumption, etc.

NOTES

Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organisation, with around 9,700 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 365,000 enterprises from 318 national and regional sectoral industry bodies.

For 130 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with the Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness, and business opportunities for industry through a range of specialised services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Through its dedicated Centres of Excellence and Industry competitiveness initiatives, promotion of innovation and technology adoption, and partnerships for sustainability, CII plays a transformative part in shaping the future of the nation. Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes across diverse domains, including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

For 2025-26, CII has identified "Accelerating Competitiveness: Globalisation, Inclusivity, Sustainability, Trust" as its theme, prioritising five key pillars. During the year, CII will align its initiatives to drive strategic action aimed at enhancing India's competitiveness by promoting global engagement, inclusive growth, sustainable practices, and a foundation of trust.

With 70 offices, including 12 Centres of Excellence, in India, and 9 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with about 250 counterpart organisations in almost 100 countries, CII serves as a reference point for Indian industry and the international business community.

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