

# Facility for International Cooperation for Inclusive & Sustainable Industrial Development

Annual Report 2021-22



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# Foreword



“ UNIDO and DPIIT launched from April 2021, the Facility for International Cooperation for Inclusive and Sustainable Industrial Development (FIC-ISID) to operate as a facilitator in the manufacturing ecosystem, to support manufacturing growth and diversification for economic competitiveness, social inclusion and development and environmental sustainability, with full participation of MSMEs. ”

The United Nations Industrial Development Organization (UNIDO) is mandated to support inclusive and sustainable industrial development (ISID). In India, UNIDO agreed its Country Programme with the Department for Promotion of Industry and Internal Trade (DPIIT) and collaborates with governments, industry sector and other stakeholders in the areas of: productivity and resilience of micro, small and medium enterprises (MSMEs); solutions for climate, resources and environment; inclusive and responsible value chains and businesses; and strategic policy for industrial transformation.

Over the past five decades of technical cooperation in India, UNIDO has contributed to the establishment of partnerships and institutions that since continue as independent and well-recognized institutions, such as the Foundation for MSME Clusters, North East Cane and Bamboo Development Council, Gujarat Cleaner Production Centre, and others. Moreover, UNIDO and DPIIT had collaborated on time-bound initiatives, including for example the International Centre for Inclusive and Sustainable Development.

In view of the rapidly changing industrial development scenario and the expanding diversity of centres and partnerships, UNIDO and DPIIT identified in 2020 the need for a converging initiative to capture, disseminate and scale up ISID-relevant methods, techniques and experiences and to seed and support a diversity of new partnerships and projects. Consequently, UNIDO and DPIIT launched from April 2021, the Facility for International Cooperation for Inclusive and Sustainable Industrial Development (FIC-ISID). FIC-ISID operates as a facilitator in the manufacturing ecosystem, to support manufacturing growth and diversification for economic competitiveness, social inclusion and development and environmental sustainability, with full participation of MSMEs. This is achieved through a two-pronged strategy to, firstly, improve awareness and knowledge among policy makers, industry and other stakeholders and, secondly, seed and support new projects and partnerships on key sectors or ISID trust areas.

In the first year of its operation, FIC-ISID has made significant progress in terms of convening high-level fora for crucial topics such as manufacturing excellence for competitiveness in Indian manufacturing and potential for green hydrogen for industrial decarbonisation in India. Further, FIC-ISID has been contributing extensively to discussions and dialogues on manufacturing and industrial resilience, highlighting the importance of ISID, besides providing policy inputs to government agencies. FIC-ISID has also been supporting projects for technology demonstration for the pulp and paper sector and a nation-wide manufacturing innovation assessment, whilst also gaining considerable traction on developing further new projects and partnerships. This momentum garnered has laid the foundation for deeper and meaningful outputs and impacts in the years to come.

The Covid-19 pandemic has changed the context and conditions of manufacturing activities in India, and across the globe. FIC-ISID aims to continue supporting recovery of, as well as embedding long term resilience in manufacturing firms, especially MSMEs, through the adoption of the principles of ISID in policy and practice. UNIDO is confident that these efforts will contribute towards achieving the strategic objectives of the Government of India, including, but not limited to 'Make in India', 'Start up India' and 'Atmanirbar Bharat'.

## Dr. René Van Berkel

UNIDO Representative and Head,  
Regional Office in India



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## Chapter 1

# Overview



UNIDO is specifically mandated to promote **ISID: Inclusive and Sustainable Industrial Development.**

ISID targets the establishment of a thriving manufacturing sector that works for markets, environment and climate as well as for people and communities.

## Introduction

India aims to become a USD 5 trillion economy by 2024. The manufacturing sector is expected to contribute USD 1 trillion (i.e., 20%), to be achieved through enhanced participation of Indian firms in Global Value Chains (GVCs) and increased manufacturing for domestic consumption, contributing to increased self-reliance. It also aims at boosting GDP share of Micro Small and Medium Enterprises (MSMEs) from current 29% to 50% in five years along with adding 50 million additional jobs to the existing 110 million. India is giving impetus to industrial growth and expansion of the manufacturing sector through 'Make in India' and other initiatives, including 'Atmanirbhar Bharat' (self-reliant India), Digital India, Swachh Bharat, Skill India and Start-up India. The Government's overarching vision is to turn India into a global manufacturing hub, through provision of world class industrial infrastructure, improvements in ease of doing business, skilling and start-up initiatives, etc.

UNIDO is committed to supporting and facilitating such industrial development, and is specifically mandated to promote **ISID: Inclusive and Sustainable Industrial Development.** ISID targets the establishment of a thriving manufacturing sector that works for **markets** (i.e., manufacturing firms are able to access and effectively meet the demands from diverse markets), **environment and climate** (i.e., industrial activities are decoupled from excessive natural resource use and negative environmental impacts) as well as for **people and communities** (i.e., equal opportunities and an equitable distribution of the benefits of industrialization are available to all employers, employees and communities). UNIDO's activities and interventions are aligned with the Sustainable Development Goals of the 2030 Agenda for Sustainable Development, especially with Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation. Other SDGs relevant to UNIDO's activities include SDG 5 (gender equality), SDG 6 (water and sanitation), SDG 7 (energy for all), SDG 8 (decent work), SDG 11 (sustainable cities), SDG 12 (sustainable consumption and production) and SDG 13 (climate change).

ISID is very much aligned with the strategic priorities, policies, missions and initiatives of the Government of India, highlighting the shared vision of establishing a dynamic manufacturing sector that contributes to economic growth, generates employment and preserves the environment, by providing an enabling ecosystem that makes industries more competitive, innovative, diverse and future-ready.

# The Facility

The United Nations Industrial Development Organization (UNIDO) and the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India, jointly launched the **Facility for International Cooperation for Inclusive and Sustainable Industrial Development (FIC-ISID)** in April 2021. FIC-ISID has been launched with a five-year time horizon, with the objective of initiating, directing and supporting the inclusive and sustainable transformation of policy and practice for industrial development in India, particularly for the manufacturing and allied sectors, by disseminating knowledge, facilitating focused learning, developing projects and facilitating strategic partnerships. Through these synergistic functions, FIC-ISID aims to support manufacturing industries in enhancing

their productivity, inclusiveness, sustainability and innovation, by availing, adapting and promoting international and domestic good practices and techniques, and thereby helping manufacturers to succeed and excel in domestic and international markets.

Through FIC-ISID, UNIDO and DPIIT work towards the widespread adoption of ISID practices in manufacturing and mobilize governments, industries and other stakeholders to create the enabling conditions for building manufacturing capabilities. FIC-ISID's functions have thus been designed to bring to the fore the importance of ISID, as a means of achieving broader economic and social developmental goals.

FIC-ISID is structured in two parallel and mutually reinforcing facilities:



## Knowledge and Learning Facility

FIC-ISID works to improve awareness, understanding and knowledge on ISID in support of projects, policies and programmes of the Government, private sector and civil society. This is achieved through focused consultations with relevant stakeholders, convening of high-level policy and industry-focused fora and a variety of virtual and in-person training programmes.



## Projects and Partnerships Facility

FIC-ISID works to identify, develop and support practical projects and partnerships for ISID focused on different sectors, topics or regions. These projects comprise specific activities that meet specific needs and requirements of different manufacturing industries, and can include support interventions at enterprise, sector and national levels. Each project is expected to identify, customize, transfer and facilitate the uptake of good, inclusive and sustainable manufacturing practices through such activities as technical training, industry and institutional assessments, pilot demonstrations of innovative technologies and practices, support to common support facilities or testing infrastructure and policy inputs.

## FIC-ISID's Focus Areas

FIC-ISID works on a wide range of topics, covering different aspects of ISID. These currently include:



### Manufacturing excellence

Ensuring that manufacturing units are efficient (in their use of inputs, including materials, energy and water), effective (in meeting customer demands) and have mature planning and process controls. It involves clearing out inefficiencies from manufacturing units, conceptualized as Swachh Udyog<sup>(1)</sup>.



### Circular and low carbon economy

Concerning the greening of existing industries and products and development of new 'green' industries, products and services, to contribute to efficient use of all natural resources, recovery and reuse of end-of-life products and transition to carbon neutral economy. This can be achieved through such established practices as resource efficient and cleaner production, eco-industrial parks, remanufacturing<sup>(2)</sup> and wealth-from-waste cleantech innovation.



### Innovation and digitalization

The adoption of new technology, products, business models, etc., including the integration of digital technologies for improved predictive planning and operation of manufacturing operations, leading to Advanced Digital Production.



### Trade and value chains

The enhanced participation of Indian manufacturing units, including MSMEs, in domestic and global value chains.



### Economic recovery

Recovery and rejuvenation of manufacturing units in the wake of the impacts, including from lockdown, from the Covid-19 pandemic. An online learning and support package has been made available for MSME units, under Building Back (MSME) Business from Crisis<sup>(3)</sup>.

<sup>1</sup> The idea of Swachh Udyog: unlocking manufacturing growth in India, see: <https://economictimes.indiatimes.com/small-biz/sme-sector/the-idea-of-swachh-udyog-unlocking-manufacturing-growth-in-india/articleshow/82253219.cms>

<sup>2</sup> Ready to remanufacture: why it is time for (re)Make in India, see: <https://economictimes.indiatimes.com/small-biz/sme-sector/ready-to-remanufacture-why-its-time-for-remake-in-india/articleshow/78249802.cms?from=mdr>

<sup>3</sup> See: <https://www.isid4india.org/Building-back-business-from-crisis.php>

# FIC-ISID's vantage

FIC-ISID is positioned as a catalyst for knowledge and implementing partnerships, collaborations within the innovation ecosystem and coordinated action between different stakeholders. By definition, the Facility's functions are dynamic, needs-based and highly responsive to developments in manufacturing ecosystems, markets, science, technology and innovation as well as policies.

- FIC-ISID's role in terms of facilitating practical projects is to not only provide support for implementation, but to go beyond individual projects and to identify opportunities for scaling up and replicating good practices and lessons learned to other contexts or industries. FIC-ISID also provides an active repository of lessons learned and on-ground experience accumulated from ongoing and completed projects by UNIDO and other partners in India.
- FIC-ISID provides the platform for engaging wide variety of stakeholders - be it government, business membership associations, businesses, technical and research institutes, independent consultants, inter alia - that are working on different aspects of ISID. FIC-ISID aims to provide good practices to strengthen stakeholders' initiatives and amplify their results and experiences to further awareness, understanding and adoption of ISID at large in India.
- FIC-ISID acts as a resource to respond to short-term requests on industrial development policy and practice from central or state governments for key ISID topics and trust areas, such as industrial parks, circular economy and global value chains.
- FIC-ISID works to normalize inclusion of shared prosperity and environmental sustainability in industrial development and competitiveness. FIC-ISID makes available ISID relevant reference materials, tools and direction on how firms can 'do well by doing good'. This counters perceptions that sustainability or inclusivity are secondary to or not instrumental to achieving business outcomes.

This Annual Report provides a snapshot of FIC-ISID's achievements in terms of projects supported, partnerships established, knowledge products produced and disseminated and synergies facilitated in its first year of establishment and operation (April 2021 - March 2022). FIC-ISID's contributions to cross-cutting facets of ISID across the UNIDO portfolio as well as for different initiatives of the government, private sector and civil society are highlighted here to illustrate and underscore the role of the Facility as a multi-faceted and resourceful agent for ISID.

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## Overview of FIC-ISID's activities in April 2021 - March 2022



**5**  
high-level ISID dialogues  
organised



**12**  
partner events  
participated in



**6**  
project proposals being  
developed



**2**  
ongoing technical  
projects facilitated



## Chapter 2

# Knowledge and Learning



FIC-ISID's knowledge and learning facility mobilizes and motivates businesses, industry associations, government entities, research and innovation centres for ISID and provides them with the knowledge, methods best practices and skills for implementation. This contributes to deepen and widen the discourse on inclusive and sustainable manufacturing in India and provides a springboard for stakeholders' actions towards its realization.

## Policy Support

2021 was particularly challenging for India and the world due to the unprecedented scale and intensity of the Covid-19 pandemic and its impacts on public health, society and economy. Moreover, the threat of further pandemic waves with large scale disruptions is not over. To assist (MSME) businesses to respond and recover from the pandemic-induced crisis FIC-ISID continued to avail its online business recovery tutorials and guidance materials, initially launched in 2020, under the umbrella of Building Back Business from Crisis (B3CMSME)<sup>(4)</sup>. B3CMSME supports business recovery by availing and customizing good management, manufacturing and business practices to the challenges of post pandemic manufacturing sector recovery.

As the pandemic continued, it became increasingly clear that the global economic and manufacturing landscape was undergoing permanent change. Therefore, UNIDO initiated the development of its global biennial flagship Industrial Development Report (IDR) on the impacts of Covid-19 pandemic on the manufacturing sector. As part of its preparation, FIC-ISID coordinated the conduct of a survey of firm level impacts of the pandemic in India, during April – June 2021 with the support of the India SME Forum<sup>(5)</sup>. It was found that in India, 61 percent of respondent firms witnessed a decrease in sales, 51 percent reported a reduction in profits and 56 percent had to lay off staff. 22 percent of respondent firms received some form of government support, although the number of firms that benefitted from government relief efforts was higher among manufacturing than non-manufacturing units and the relief efforts benefitted large firms more than small and medium enterprises. The survey findings were widely promoted through the media by FIC-ISID in particular in connection with the celebration of World MSME Day on 27<sup>th</sup> June 2021<sup>(6)</sup>.

With these inputs from India and similar impact surveys in other developing and lower middle-income countries globally, UNIDO completed and released its 2022 IDR on the future of industrial development in the post pandemic period<sup>(7)</sup>. This analysed subsector specific impacts and observed three main trends shaping post pandemic industrial development landscape, respectively: digitalization and the transition to Advanced Digital Production (Industry 4.0); greening and the transition to circular and low carbon economy; and rebalancing of global manufacturing through reorganization and diversification of global value chains.

<sup>1</sup> See: <https://www.isid4india.org/Building-back-business-from-crisis.php>

<sup>5</sup> Impact of Covid-19 on India's manufacturing firms, United Nations Industrial Development Organization (2021), see: [https://www.unido.org/sites/default/files/files/2021-10/UNIDO%20COVID19%20impact%20survey%20-%20India\\_AMR.pdf](https://www.unido.org/sites/default/files/files/2021-10/UNIDO%20COVID19%20impact%20survey%20-%20India_AMR.pdf)

<sup>6</sup> See e.g.: <https://economictimes.indiatimes.com/small-biz/sme-sector/world-msme-day-2021-putting-msmes-at-the-heart-of-inclusive-and-sustainable-recovery/articleshow/83912371.cms>

<sup>7</sup> The future of industrialization in the post pandemic world: Industrial Development Report 2022, United Nations Industrial Development Organization (2021), see: <https://www.unido.org/sites/default/files/files/2021-11/IDR%202022%20-%20EBOOK.pdf>.

During the reporting period FIC-ISID provided extensive inputs and guidance to the development and application of India's second industrial park rating system (IPRS)<sup>(8)</sup>. Developed and promoted by DPIIT and Invest India, the IPRS provides an independent appraisal of industrial parks across the country against a comprehensive set of indicators covering physical infrastructure, business support ecosystem, governance and environmental, human resources and social infrastructure and performance. The IPRS succeeded to incorporate and adapt international guidance developed and promoted by UNIDO, in particular on establishment, management and operation of industrial parks<sup>(9)</sup> and on their transformation into eco-industrial parks<sup>(10)</sup>.

## Advocacy and Policy Dialogue

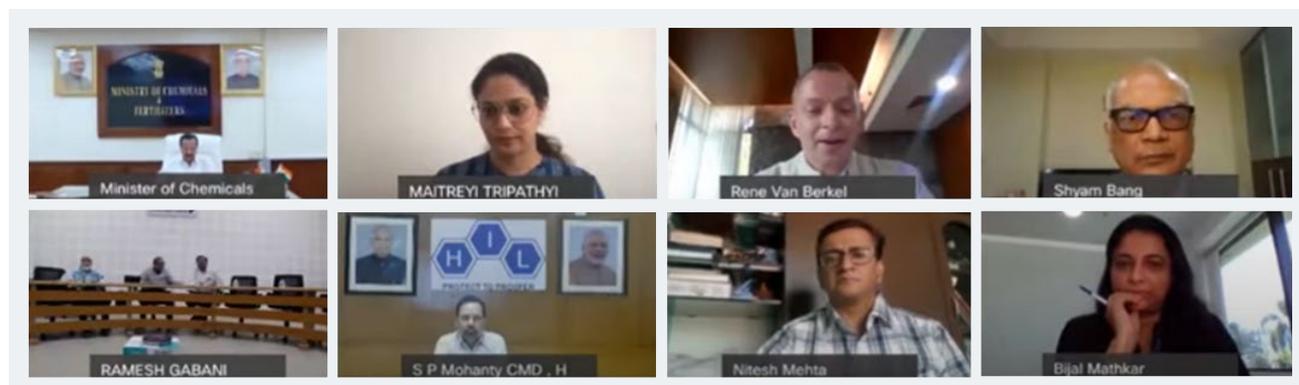
FIC-ISID convened several high-level policy roundtable dialogues to put the spotlight on manufacturing developments impacting India and associated key opportunities and applications of ISID. Three of these high-level roundtable dialogues events had a national minister as chief guest, whereas all included discourse between senior government, industry and development officials and subject experts.

### Excellence and Innovation for Competitive and Sustainable Chemicals Manufacturing in India (6 April 2021)

This policy dialogue discussed opportunities and challenges for chemical manufacturing growth and diversification in India and associated need for knowledge and skill-based transformative change to safeguard and future proof chemicals manufacturing

in India. The event was held against the backdrop of the chemical industry's continued reliance on 'traditional' process chemistries which are energy intensive, involve hazardous substances and produce more waste and effluents. Union Minister for Chemicals and Fertilisers, Shri D.V. Sadananda Gowda, chief guest, stressed on the need to have a combination of policy intervention, company-level initiatives, industry-academic partnerships, smart investments and greater international cooperation to achieve the industry's ambitious growth targets. Talking about the pandemic and its effects on the industry, Shri Gowda said that Indian chemical companies may take advantage of this opportunity and bring about structural changes in the chemical industry.

Dr. René Van Berkel, UNIDO Representative for India outlined a two-pronged strategy towards inclusive and sustainable chemicals manufacturing. Firstly, achieve 'manufacturing excellence' by cleaning out factories to zero out avoidable losses, through efficiency, effectiveness and maturity, which improve profitability and well-being of workers, community and the environment; and by making factories more efficient, effective and mature. Secondly, embrace 'innovation' through learning (or continuous improvement), adapting (of new and emerging technologies) or redefining (with new chemical manufacturing approaches such as green chemistry and engineering). HIL India, Solvay Chemicals and Ankleshwar industries association, amongst others, presented industry experiences, showing progress and challenges in making the chemicals industry safe and more sustainable. Secretary, Chemicals and Petrochemicals, Shri Yogendra Tripathi; Additional Secretary (Chemicals), Shri Samir Kumar Biswas; Director General, Indian Chemical Council, Shri H. S. Karangle; CMD, HIL India Ltd, Dr. S.P. Mohanty; and senior officials of the Ministry were also present at the event.



<sup>8</sup> See: <https://static.investindia.gov.in/s3fs-public/2021-10/IPRS%20Report.pdf>

<sup>9</sup> International guidelines for industrial parks, UNIDO (2019), see: [https://www.unido.org/sites/default/files/files/2020-05/International\\_Guidelines\\_for\\_Industrial\\_Parks\\_EN.pdf](https://www.unido.org/sites/default/files/files/2020-05/International_Guidelines_for_Industrial_Parks_EN.pdf)

<sup>10</sup> An international framework for eco-industrial parks, UNIDO, World Bank and GiZ (2021), see: <https://www.unido.org/sites/default/files/files/2021-04/An%20international%20framework%20for%20eco-industrial%20parks%20v2.0.pdf>

## Policy and Partnerships for Remanufacturing in India

(8 April 2021)

On the occasion of global remanufacturing day, FIC-ISID with Re-CREATE and Invest India organized and hosted policy dialogue on prospects of remanufacturing in India. Dr René Van Berkel, UNIDO Representative for India, provided context highlighting that remanufacturing is aimed at returning discarded products or component to 'as good as new' and indeed 'Make in India' may require a companion initiative to facilitate the expansion of remanufacturing in India <sup>(11)</sup>.

The roundtable focused on policy and practice for remanufacturing. Mr. Michael Bucki, Head of Development Corporation, EU Delegation to India, elaborated on the European Union's commitment to circular economy including through remanufacturing. Mr. Swapan Mehra, Vice President, Invest India, highlighted investment promotion initiatives supporting the setting-up of Wealth from Waste industries. Representatives from Tata Motors and Ludhiana Machine Tools Industries Association shared practical experiences from their remanufacturing operations in India, which were complemented by international perspective, provided by Mr. Rajiv Ramchandra, Founder and Director of Re-Create.

In her closing observations, Ms Vandana Kumar, Joint Secretary DPIIT, expressed appreciation for putting the spotlight on remanufacturing as a practical solution to achieve aims and objectives of the Circular Economy. Moreover, she encouraged industry and stakeholders to collaborate on formalization of remanufacturing and, as appropriate, engage with government on enabling measures that might be required.

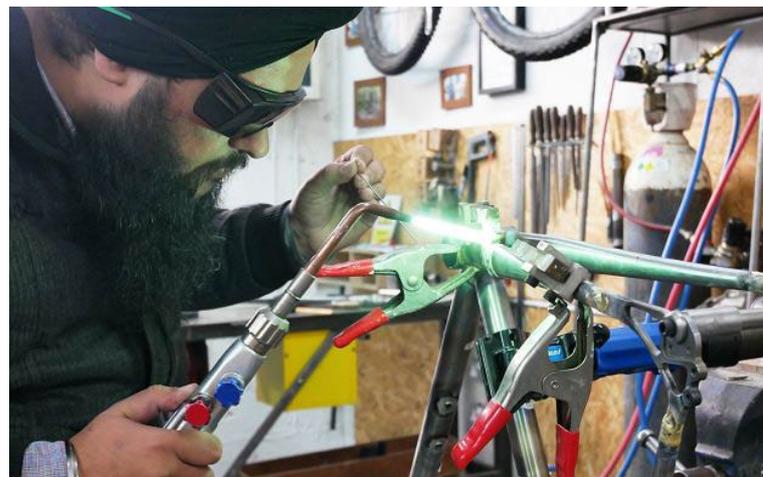
In a follow up to this policy dialogue, FIC-ISID supported the participation of DPIIT and other stakeholders from India in UNIDO's global consultations on the circular economy <sup>(12)</sup>.

## National Dialogue on 'Swachh Udyog: Manufacturing Excellence in India

(12 April 2022)

The DPIIT with its supporting institutions, particularly National Productivity Council (NPC) and Quality Council of India (QCI), hosted at the start of 2021, a marathon of sector-specific Udyog Manthan dialogues on productivity and quality-led growth, to which UNIDO contributed extensively <sup>(13)</sup>. The need for uplifting MSME's manufacturing performance reoccurred as a challenge across many sectors, to which UNIDO posited the idea of a national drive to clean out factories of avoidable wastages – Swachh Udyog <sup>(14)</sup>

To further this approach, FIC-ISID in partnership with the Federation of Indian Chambers of Commerce & Industry (FICCI) organized and hosted National Dialogue on 'Swachh Udyog- manufacturing excellence in India'. UNIDO presented its take on 'manufacturing excellence' as a prerequisite for industrial competitiveness from three complementary angles, to 'future-proof' manufacturing growth by making manufacturing units efficient and effective, with mature, evidence based and adaptive management. Efficiency involves firms to maximize production with minimum and constantly declining inputs of materials, energy, chemicals and water; Effectiveness involves firms to



<sup>11</sup> See also e.g.: <https://economictimes.indiatimes.com/small-biz/sme-sector/ready-to-remanufacture-why-its-time-for-remake-in-india/articleshow/78249802.cms?from=mdr>

<sup>12</sup> See: <https://www.unido.org/our-focus/safeguarding-environment/global-consultations-circular-economy>

<sup>13</sup> <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1694643>

<sup>14</sup> See: <https://economictimes.indiatimes.com/small-biz/sme-sector/the-idea-of-swachh-udyog-unlocking-manufacturing-growth-in-india/article-show/82253219.cms?from=mdr>

adopt lean manufacturing and undertake only those activities that create direct value for customers; and Maturity involved monitoring and managing manufacturing processes and operations for adaptive and predictive management.

FICCI presented the results of its 2021 survey of the status of manufacturing excellence in India<sup>15</sup>. It found that even though select manufacturing excellence tools, such as 5S or lean, are well known and frequently applied, only a few companies have made manufacturing excellence a strategic priority and institutionalized it comprehensively in their manufacturing operations and business processes. Addressing the dialogue, Ms. Alka Arora, Joint Secretary, Ministry of MSME, said, "We all know that manufacturing is not at the level at which we would have wanted it to be. Covid-19 posed a challenge to the MSMEs to get up and start working on chapters that will take them to the next level. There are challenges, apart from the financial ones that MSMEs need to overcome."

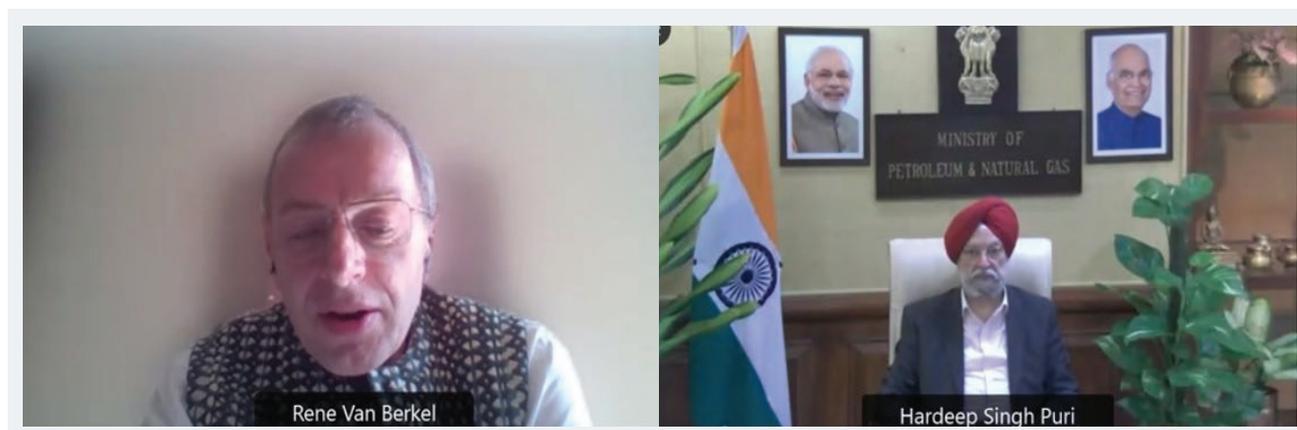
Furthermore, Dr. V K Saraswat, Member, NITI Aayog highlighted the importance of leveraging megatrends such as Industry 4.0 in achieving manufacturing excellence. He said, "Make in India through Industry 4.0 is an important transition in the manufacturing sector that will bring new technologies, new operations, and will impact all sectors. This will bring competitiveness, Atmanirbhar Bharat, and make our manufacturing sector a bigger contributor to the GDP." Further on, he stressed on the importance of greening manufacturing through 6-Rs of re-manufacture, redesign, recovery, recycle, re-use and reduce. Representatives of electronics, paper and automotive components sectors, presented examples of manufacturing excellence, including through digitalization, lean manufacturing and productivity tools.

## Leaders' Roundtable on Green Hydrogen for Industrial Decarbonization in India (23 November 2021)

Prime Minister Narendra Modi announced on 75th Independence Day, 15 August 2021, India's green hydrogen mission. In support of shaping specific industry strategies and initiatives, FIC-ISIS organized and hosted high-level leaders' roundtable on green hydrogen for industrial decarbonization in India. Green hydrogen, hydrogen produced from renewable energy, offers potential for hard to abate sectors such as fertilizers, cement and metallurgical sectors, contributing to SDGs 9, 7 and 13, covering respectively on industry, energy and climate action. The roundtable discussed the opportunities and challenges for manufacturing, supplying and using green hydrogen as an industrial feedstock and fuel in India.

Minister of Petroleum and Natural Gas and Minister of Housing and Urban Affairs, Government of India, Shri Hardeep S. Puri, positioned green hydrogen as "catalyst for India's goal to achieve energy independence by 2047". This requires interventions to increase both supply and use, trading in regulated markets and perseverance in research and innovation.

Dr. René Van Berkel, UNIDO's Representative for India put forth that in order to accelerate the use of green hydrogen in India, transformative change is required in the production of hydrogen, generation of renewable energy to power such green hydrogen production, and development and commercialization of technologies for safe and efficient use of hydrogen in existing and new industry and transport applications.



<sup>15</sup>See: [https://ficci.in/spdocument/23473/FICCI-EFESO\\_Manufacturing\\_Excellence\\_Survey\\_Report2021.pdf](https://ficci.in/spdocument/23473/FICCI-EFESO_Manufacturing_Excellence_Survey_Report2021.pdf)

Elaborating on the steps taken, Mr. Tarun Kapoor, Secretary, Minister of Petroleum and Natural Gas said, "We're working with the refinery sector to introduce green hydrogen in existing hydrogen applications and supporting new applications in buses or blending with natural gas using existing piping infrastructure." Industry panellists reiterated the need for concerted action in terms of policy, technology and applications, which may require sector-specific policy interventions, potentially supported by a Green Hydrogen Centre for technology facilitation with participation of key agencies such as NITI Aayog, Ministry of Steel and Department of Fertilizers.

**Stakeholders' Consultations on Industrial Deep Decarbonization** (22 October 2021, 11 December 2021 and 12 January 2022)



As a member of the Clean Energy Ministerial (CEM), India is partner to its Industrial Deep Decarbonization Initiative (IDDI), for which Bureau of Energy Efficiency (BEE) act as nodal agency. IDDI addresses greenhouse gas (GHG) emissions of cement and steel sector, each responsible for 7-8% of global emissions. Governments through their public works in turn are accountable for 40% of global cement and 25% of global steel use. IDDI therefore aims to unleash the power of green public procurement, specifically the preferential use of low carbon cement and steel in public works, as a lever to reduce industrial GHGs from these two sectors.

FIC-ISID assisted BEE with the India launch of IDDI, by convening three consecutive workshops. First, workshop focused on the role of green public procurement to create large scale demand for low or zero steel and cement. In continuation, the second workshop delved further into specific decarbonization strategies for steel and cement, including through use of green hydrogen and potentially carbon capture, use and storage. This provided input for the third workshop which focused on financing of the demonstration and scaling up of requisite technologies.

## **Industry 4.0 for inclusive and Sustainable Industrial Development in Gujarat** (29 March 2022)

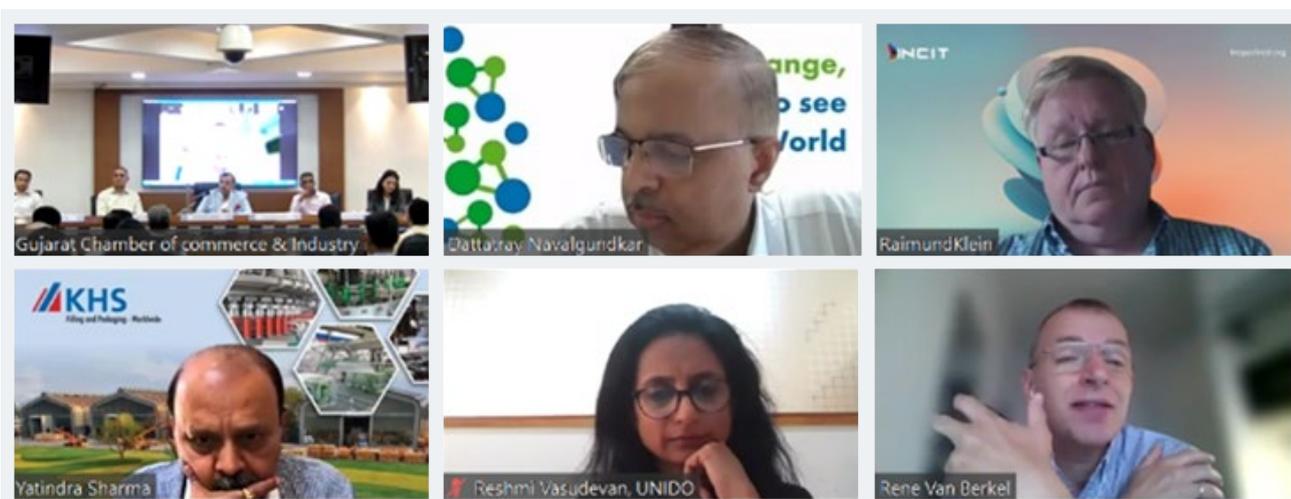
Following its participation in the National Manufacturing Innovation Survey, supported by FIC-ISID, the Gujarat Chamber of Commerce and Industry (GCCCI) invited FIC-ISID for follow up discussions on opportunities and challenges for innovation and digitalization of Gujarat's extensive manufacturing sector. Gujarat is a leader in manufacturing, and manufacturing is highly dependent on contributions from MSMEs, which are typically ill-resourced to lead in innovation and digitalization, and hence, are at risk of losing out. Upon further discussion, FIC-ISID organized with GCCCI a hybrid **Orientation Workshop on Industry 4.0 for inclusive and sustainable industrial development in Gujarat.**

FIC-ISID drew attention to the concept of Advanced Digital Production (ADP) solutions, which integrate digital technologies in manufacturing processes, such as artificial intelligence, big data analytics, cloud computing, Internet of Things (IoT), advanced robotics and additive manufacturing. FIC-ISID espoused that the adoption of ADP solutions must be grounded in current manufacturing capabilities so that digital technologies complement and support further improvements leading to manufacturing excellence, inclusiveness and sustainability. Put differently, ADP solutions are 'a means to an end' rather than 'an end in themselves'. Mr. Hemant Shah, President GCCCI said, "Industry 4.0 is the need of the hour for any industry to survive and grow today." Shri Vijay Nehra, Secretary, Department of Science and Technology, Government of Gujarat noted, "We cannot let Gujarat's current manufacturing strengths become its liability. In this context, it's crucial that our

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**FIC-ISID espoused that the adoption of ADP solutions must be grounded in current manufacturing capabilities so that digital technologies complement and support further improvements leading to manufacturing excellence, inclusiveness and sustainability.**

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MSMEs adapt and upgrade.” He further advocated for frugal digitalization saying that past performance was no guarantee for the future.

The workshop further featured leading national and international readiness and adoption frameworks, as promoted by India’s Centre for Industry 4.0 (C4I4) and the International Centre for Industrial

Transformation (INCIT). These were complimented by user experiences from factories in Gujarat. These examples showed that some digitalization is happening and delivering real-time benefits. Participants expressed interest to continue dialogue with UNIDO with the aim of initiating joint work on policy and practice for successful deployment of ADP in Gujarat’s manufacturing sector.

## Industry Outreach

As an advocacy and knowledge partner, FIC-ISID also regularly provided inputs and substantive contributions at high-level events organized by a wide range of partner institutions, including business membership organizations, technical organizations and institutes, UN agencies and government agencies or ministries. Recurring key topics in FIC-ISID’s contributions during the reporting period included MSME development, manufacturing excellence, Industry 4.0, circular economy and women in manufacturing. Through such industry outreach, FIC-ISID contributes actively to the discourse on manufacturing and economic development in India and highlights both need for and opportunity of ISID.

FIC-ISID contributed to several programmes addressing post-pandemic responses and MSME competitiveness, including ‘Resurgence of MSMEs for inclusive and sustainable recovery of India’ (25

June 2021)(with NITI Aayog, ILO, UN Women, ILO and UNDP); ‘Inclusive and sustainable recovery of Indian MSMEs (28 June 2021)(with FICCI); ‘Skilling for green and inclusive recovery’ (15 July 2021)(with UNV, UNDP, UN Women, ILO & UNDP); ‘Reigniting sustainable growth of MSMEs in aftermath of COVID 19 pandemic’ (30 July 2021)(with ISID and NITI Aayog) and the ‘Manufacturing excellence conclave with CII’ (12 Nov).

In the environment, climate and sustainability domain, FIC-ISID contributed to, for example: GreenCo Summit (7-8 October 2021)(by CII) ‘Circular economy in textiles (14 October 2021)(with the Circular Apparel Innovation Factory); the 8th Annual Sustainability Conference by the Centre for Responsible Business (27-29 October 2021); the Global Procurement Summit by All India Management Association (AIMA) and World Bank (7-8 March 2022); Sustainability Dialogue 2022 by the

Maratha Chamber of Commerce Industries and Agriculture (09 March 2022)(MCCIA); and PHDCCI's Webinar on ESG Sustainability (11 February 2022). In addition, FIC-ISIS actively contributed to forums on focusing on diversity in manufacturing such as the

6th International conference by Federation of Women Entrepreneurs (23-25 March 2022); and CII's 'Women in Manufacturing Summit' (08 December 2021).



# Knowledge and Capacity Building

FIC-ISID developed and launched a dynamic learning and knowledge support platform to contribute to improved understanding of opportunities, benefits and practical examples of inclusive and sustainable industrial development in India. The www.isid4india.org portal is foreseen to expand into a one-stop-shop for information and learnings from UNIDO projects implemented in India for different sectors and regions; knowledge products produced by UNIDO in context of specific technical interventions; resources developed as a business toolkit in response to Covid-19; and e-learning modules on topics related to ISID.

The portal is also enabled for delivery of e-learning content, for which initial content development took place during the reporting year. Substantive content for a module on 'Inclusive and Sustainable Industrial Development: Key concepts and tools' has been assembled and is foreseen to be developed into a primer or introductory module on concept and practices of ISID. This module introduces ISID as an approach towards making businesses more competitive, resilient and sustainable. The module is further being customized to manufacturing firms, especially small and medium sized enterprises.

The screenshot displays the FIC-ISID website interface. At the top, the logo for FIC-ISID (Facility for International Cooperation for Inclusive & Sustainable Industrial Development) is visible alongside the UNIDO logo and the Government of India emblem. The main content area features a large video conference window with a grid of participants, including Gerd Müller, Director-General of UNIDO. Below the video, there are three event highlights: 'National Manufacturing Innovation Survey (NMIS) 2021', 'Promoting energy efficiency and renewable energy in selected micro, small and medium enterprises (MSME) clusters in India', and 'Promoting market transformation for energy efficiency in micro, small and medium enterprises'. The bottom section includes a photo of a meeting in Madhya Pradesh with the caption 'Supporting inclusive and sustainable industrial development in Madhya Pradesh', a text box about the 'National Innovation Conclave on Low Carbon Technologies' held on 1 March 2022, and two social media tweet screenshots from @UNIDO\_India.



## Chapter 3

# Projects and Partnerships



FIC-ISID seeks to maximise the impact of its projects by advising on project strategy and policy and partnership opportunities during project implementation and driving results dissemination and project sustainability post implementation.

FIC-ISID strives to develop and support impact-oriented partnerships and projects that further the adoption of best practices and policies for Inclusive and Sustainable Industrial Development (ISID). This serves to mobilize, equip and recruit key stakeholders (businesses, industry associations, government entities, research and innovation centres, among others) for putting ISID in practice. Each project and partnership mobilizes and further develops relevant national and international good practices and techniques and facilitates piloting and application customized to Indian context.

FIC-ISID supports ISID-relevant projects, including, but not necessarily limited to, UNIDO technical cooperation projects that are being implemented with funding from the Government of India. FIC-ISID seeks to maximise the impact of its projects by advising on project strategy and policy and partnership opportunities during project implementation and driving results dissemination and project sustainability post implementation. Moreover, FIC-ISID identifies and develops new project and partnership opportunities and promotes these for approval and mobilization of funding and other resources.

## Ongoing Projects

During the reporting year, FIC-ISID supported the implementation of two ongoing UNIDO projects – one focused on technical interventions for the pulp and paper sector, supported by DPIIT; and the other focused on deriving an evidence base for improving innovation in Indian manufacturing sector, supported by the Department of Science and Technology (DST).

### Productivity and Innovation in the Indian Pulp and Paper Sector

The Project aims to contribute to strengthening the productivity and sustainability of the Indian paper industry, and thereby, its global competitive position, through the demonstration of process improvement interventions and innovative technologies at the firm level.

The project comprises two sets of mill level demonstrations:

- **Process improvement interventions** - the project demonstrates both specific pulp and paper technology and manufacturing excellence tools. The performance of selected pulp and paper mills is assessed and improvements are identified for efficiency of its sub-processes, quality and overall productivity.
- **Innovative technologies** - pilot demonstration units (PDUs) are created and piloted for three technologies:
  - (i) membrane filtration to maximize recycling/ reuse of treated process water and recovery of fibre;
  - (ii) black liquor heat treatment to improve the energy efficiency of the chemical recovery system; and
  - (iii) chemical disinfection to abate odour and improve water recovery.

This involves design of equipment customized to Indian conditions, trial and optimization of process parameters and technology validation under stabilized conditions, each at mills across four major paper producing clusters in the country.

### Specific progress during April 2021 – March 2022

- An audit tool for Productivity Enhancement Measures (PEMs) in pulp and paper technology was developed in cooperation between Central Pulp and Paper Research Institute and international experts.
- Manufacturing excellence tools were introduced through the National Productivity Council in three paper mills (one each in Vapi, Gujarat; Muzaffarnagar, Uttar Pradesh; and Balasore, Odisha), focusing on three areas: workplace improvement; energy efficiency; and general process improvements.
- The pilot demonstration unit for black liquor heat treatment (LHT) was designed and fabricated in India.
- The technical specifications for the pilot demonstration unit for membrane filtration technology were finalized, following detailed consultations with experts and technology suppliers.
- Chlorine dioxide (ClO<sub>2</sub>) disinfection technology was successfully tested and validated to reduce odour and improve wastewater treatment in recycled fibre-based paper mill in Chennai, Tamil Nadu.

## Spotlight: Odour Control Technology in Recycle Fibre based (RCF) Paper Mills

RCF mills produce around 22 million tons/annum equivalent to around 73% of paper production in India. One of the challenges is reduction of fresh water consumption and further closing of paper machine back water loops. This results in significant growth of microbes (both aerobic and anaerobic) in process water and product, which causes a foul odour in paper and around the mills, which affects product quality, productivity and profit margins.

Biocides/bio dispersants are widely used to control microbe growth and smell, yet are found to have limited efficacy. There is a need for innovative, cost-effective treatment options to control microbial growth without adverse effect on paper quality and mill productivity. Chlorine dioxide (ClO<sub>2</sub>) is a broad-spectrum, short-lived and ecologically compatible biocide. It was trialed at mill-scale at Vamshadhara Paper Mill, Chennai, in cooperation with Grundfos India and Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology. The trials



were successful, resulting in reduction of microbial count (anaerobes and aerobes) by up to a factor 10,000, from a population range of 10<sup>7</sup> to less than 10<sup>4</sup>/10<sup>3</sup>. Moreover, volatile fatty acids were reduced resulting in significant reduction of odour and slime.

## National Manufacturing Innovation Survey (NMIS) 2021

UNIDO and DST are jointly undertaking the National Manufacturing Innovation Survey to measure innovation capabilities at the firm level across 58 manufacturing and related service sectors as well as at the sectoral level for five sectors (automotives, food and beverages, textiles and apparel, pharmaceuticals and information and communication technology). The project builds on the Innovation survey conducted by DST in 2011 and combines the global benchmark OECD Oslo Manual (2018)<sup>(16)</sup> and UNIDO's methodology for measuring 'system of innovation'. The earlier captures innovation activity and performance at firm level. The latter focuses on mapping the interactions between industries, academia and government, mediated through arbitrageurs, such as financial institutions and venture capitalists, institutions supporting technical change and others.

The innovation survey will yield an empirical understanding of the barriers and challenges to technological learning, innovation and development in Indian industry and thereby identifying ways to address them. UNIDO and DST will develop an action plan and a series of short, medium and long-term policy recommendations for capacity building and innovation system development at all levels of aggregation.

The survey is guided by Technical Advisory Panel which considered and endorsed the survey instruments and the statistically significant randomized sample of 10,139 manufacturing firms for the firm level survey and a further 7,841 firms and 1,500 non-firm actors for the sectorial system of

innovation survey. Surveys have been administered by UNIDO trained enumerators through video conference and other platforms, as face to face interviews were not possible given pandemic restrictions.

### Progress during April 2021 – March 2022

- The nation-wide survey was launched in February 2022, and by the end of reporting period, data had been collected from **12,600 firms** and **350 non-firm actors**<sup>17</sup>.
- Five industry associations were engaged to support firm identification and facilitate survey participation: Federation of Telangana Chambers of Commerce and Industry (FTCCI); Federation of Andhra Pradesh Chambers of Commerce and Industry (FAPCCI); Madras Chamber of Commerce (MCCI); PHD Chamber of Commerce and Industry (PHDCCI); and India SME Forum (ISF).
- A webpage for the survey was launched to contextualize the data collection efforts and offer respondents more-project-specific details of the survey:  
<http://nstmis-dst.org/NMIS/index.html>

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**The survey is guided by Technical Advisory Panel which considered and endorsed the survey instruments and the statistically significant randomized sample of 10,139 manufacturing firms for the firm level survey and a further 7,841 firms and 1,500 non-firm actors for the sectorial system of innovation survey.**

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<sup>16</sup>Oslo Manual: guidelines for collecting, reporting and using data on innovation – The Measurement of Scientific, Technological and Innovation Activities, Organization for Economic Cooperation and Development (OECD), 2018, see: <https://read.oecd.org/10.1787/9789264304604-en?format=pdf>

<sup>17</sup>As of 31 March 2022

# New Project Opportunities

FIC-ISID is entrusted to develop and promote new ISID relevant project opportunities, in particular in support of key government initiatives and major trends in manufacturing in India and elsewhere. FIC-ISID therefore actively engaged with different ministries and select state governments and industry stakeholders, including business membership associations and technical institutes. This served to assess opportunities and challenges for sectors, regions or topics and scope potential for collaboration, including through new joint projects with Government of India.

Project opportunities are emerging as spin offs from ongoing or completed UNIDO projects and FIC-ISID's outreach and engagement activities, specific requests from central or state government entities and/or the established mandate of the UNIDO India Country Programme<sup>(18)</sup>

A snapshot of such project opportunities explored during the reporting period, is presented below<sup>19</sup>. This list illustrates the range and scale of dialogue, interest and commitment FIC-ISID works to mobilize. Moreover, it highlights FIC-ISID's achievements in monitoring industry requirements, identifying innovative approaches, conceptualizing India specific interventions and garnering industry and stakeholders' support.

## Enhancing competitiveness of the Indian bicycle industry

UNIDO successfully completed during 2017-2020 a project for the Indian bicycle sector, titled 'Development and adoption of appropriate technologies for enhancing productivity of the Indian bicycle and bicycle parts sector'. This comprised a series of technology transfer and capacity building interventions. Testing facilities for bicycle reflector testing was set up as well as for REACH/RoHS testing. Moreover, technical training programmes were delivered for the meso-level industry institutions<sup>20</sup>.

During the reporting period, FIC-ISID appraised post-completion project impacts. It was found that project interventions had contributed to tangible and intangible industry benefits, inter alia<sup>21</sup>:

- Increase in bicycle exports from **USD 293 million** in 2016-17 to **USD 372 million** 2019-20 (**27% increase**);
- Decrease in bicycle imports from **USD 209 million** in 2016-17 to **USD 149 million** 2019-20 (**28% decrease**);
- Increase in domestic production from **20.7 million** bicycles in 2016-17 to **23 million** in 2019-20 (**11% increase**);
- Reduction of **75%** of the testing cost for bicycle reflectors; and
- The sector's technical institute has been able to offer new/expanded services to the industry leading to additional revenue generation.

The Government of Punjab and industry associations requested a follow-up project to diversify and scale-up the nodal technical institute to meet new testing and certification requirements. FIC-ISID has therefore developed a detailed proposal to help the industry to prepare for the impending migration to mandatory safety standards for bicycles and parts in India, to provide testing for battery powered 'assist' bicycles (commonly referred to as 'e-bikes') and technical support bicycle/parts manufacturers, focusing on MSMEs, in meeting new safety and quality-related production requirements. The proposed project has been strongly endorsed by the industry and is at advanced stages of consideration for funding.

<sup>18</sup>UNIDO India country programme for inclusive and sustainable industrial development 2018-2022, see: [https://open.unido.org/api/documents/21389008/download/CP\\_2018-22\\_Signed.pdf](https://open.unido.org/api/documents/21389008/download/CP_2018-22_Signed.pdf)

<sup>19</sup>At various stages of consideration for approval or discussion by relevant ministries or counterparts.

<sup>20</sup>Project beneficiaries included the nodal technical institution – the Research and Development Centre for Bicycle and Sewing Machine (RDCBSM); and industry associations – the All India Cycle Manufacturers' Association (AICMA) and the United Cycle Parts Manufacturers Association (UCPMA).

<sup>21</sup>Source: Industry statistics provided by AICMA.

## Application of Augmented and Virtual Reality (AR/VR) applications in industries in Kerala

Through its participation in the National Manufacturing Innovation Survey, the Kerala Development and Innovation Strategic Council (K-DISC) became interested in UNIDO's expertise in the areas of innovation and digitalization of manufacturing. As a follow-up, K-DISC invited UNIDO to support the promotion of applications of Augmented Reality (AR) and Virtual Reality (VR) in the state's industrial sector. Upon fact finding and stakeholders consultations in March 2021, UNIDO's expert team developed and submitted a comprehensive project that aims to increase awareness of the usefulness of Industry 4.0 technology solutions, particularly Mixed Reality (MR), and their uptake by the automotive, pharma and medical devices sectors in Kerala.

## Inclusive and sustainable industrial development in Madhya Pradesh

The Madhya Pradesh State Policy and Planning Commission (MP-SPPC) requested UNIDO support in building the competitiveness of priority industries in the state, as well as cross-cutting policy support for fostering inclusive and sustainable industrial development. FIC-ISID conducted a factfinding-cum-consultation mission in November 2021, as a basis for its proposal which focuses on (i) accelerating, diversifying and rejuvenating existing industries and industrial clusters; and (ii) seeding new industries based on value addition from locally available resources, combined with interventions to strengthen policy and innovation and market support available to industries.

## Adoption of Industry 4.0 in Indian manufacturing industries

One of FIC-ISID's focus areas is the adoption of advanced digital production solutions in different manufacturing industries. Towards this, FIC-ISID worked on a concept note on unlocking improved productivity, innovation, quality of work and sustainability of small and medium manufacturing firms through ADP. The proposal builds on UNIDO's assessment that amidst the plethora of interpretations and (mis)conceptions on Industry 4.0, concerted efforts are needed to improve the appreciation for and understanding of the applicability and benefits of ADP implementation in firms, especially Small and Medium Enterprises

(SMEs), customized to the firm's manufacturing capabilities. Based on achievements and lessons learned from its technical cooperation with manufacturing SMEs – in India and elsewhere – UNIDO espouses that firms need to practice 'manufacturing excellence' to ground and succeed in their Industry 4.0 transition. This involves making existing processes efficient, effective and mature so that the development and adoption of advanced digital production solutions becomes both, feasible and useful.

## Inclusive and sustainable industrialization in aspirational districts

Recognizing the pivotal role of districts to promote and enable the development and growth of micro and small enterprises for local economic development and job creation, FIC-ISID conceptualized a pilot initiative for district level support and promotion related to ISID. The proposed initiative focuses on the creation and demonstration of a replicable model for district-level industrial development. Conceptualized as a complement to the initiatives under the aspirational districts programme, a consultation meeting was conducted with DPIIT and NITI Aayog in July 2021 with 13 priority districts, to identify key industries, opportunities and challenges in each of these districts. The consultation was received with enthusiasm by the participating districts, who expressed further interest in identifying specific value chains to be supported in their respective districts.

## Sustainable industrial development in the North Eastern region

The North Eastern states have rich diversity, in terms of topography and landscapes, ethnicity and culture, biodiversity and natural resources. Yet, factors such as remoteness, conflicts and geopolitical factors covering the wider region have all held socio-economic development back. FIC-ISID has been in discussion with the Ministry of Development of North East Region (MDoNER) and the North East Council on ways to further diversify and deepen the manufacturing sector in the region on the basis of its unique offerings in terms of its natural resources and culture. Consultations have revolved around increasing linkages with agri-based value chains, increasing the scope of processing and value addition within the region, along with the establishment of manufacturing segments relatively new to the region beyond agri-based products.

# Media Coverage<sup>22</sup>

**The Economic Times Rise**  
English Edition | Print Edition

Home | ETPrime | Markets | News | Industry | RISE | Politics | Wealth | Mutual Funds | Tech | Jobs | Opinion | NRI | Panache

SME | Policy | Trade | Entrepreneurship | Money | IT | Legal | GST | Marketing | HR | Resources

Business News - Small Biz (SMB) - The idea of Swachh Udyog: Unlocking manufacturing growth in India

## The idea of Swachh Udyog: Unlocking manufacturing growth in India

By René Van Berkel, ET CONTRIBUTORS - Last Updated: Apr 26, 2021, 11:07 AM IST

**Synopsis**  
India's manufacturing is roughly equal to the combined manufacturing of Indonesia, Thailand, Malaysia and Philippines, the principal manufacturing economies in South East Asia, and just over five-fold the combined manufacturing of Bangladesh and Pakistan.

**Popular in Rise**  
1. Income from property rented out: GST AAR makes an important ruling

UNIDO approaches manufacturing excellence from three complementary angles, to future proof manufacturing growth by making manufacturing units efficient and effective, with mature, evidence based and adaptive management.

First, (resource) efficiency, aims to create the maximum production with minimum and constantly declining inputs of materials, energy, chemicals and water. This triggers a virtuous cycle: once resources are used more efficiently, less remains to be wasted into the environment (effluents, emissions and waste) and working conditions improve, which boosts productivity and improves employee retention. Industrial energy efficiency is a case in point. Working with the Bureau of Energy Efficiency, UNIDO established energy management cells in 12 MSME clusters, covering five sectors: dairy, ceramic, foundry, brass and hand tools. During 2017-2020, these already supported 345 units to implement 603 energy measures, that annually save 10,850 tonnes of oil equivalent worth 59 Crores for a cumulative investment of just 90 Crores. In the leather tanning and products sector, proven clean technologies provide 20-30% reductions in specific effluent generation and chemicals and water use.

**The Economic Times Rise**  
English Edition | Print Edition

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SME | Policy | Trade | Entrepreneurship | Money | IT | Legal | GST | Marketing | HR | Resources

Business News - Small Biz (SMB) - The idea of circular economy 'challenging' but its the best bet for visionary firms, say experts

## The idea of circular economy 'challenging' but its the best bet for visionary firms, say experts

By Shariq Khan, ET ONLINE - Last Updated: Oct 28, 2021, 09:57 AM IST

**Synopsis**  
The Indian textile industry, traditionally a labour-intensive industry, has long been plagued by issues around sustainability.

**Circular economy** offers a clear and credible pathway to achieve sustainably — one that equally puts focus on people, the planet and profit, said experts at **Sankalp Global2021**.

René Van Berkel, Representative, Regional Office, **UNIDO India**, said the long-term benefits of the circular economy has to be explained to all stakeholders in the ecosystem, especially consumers as their involvement is crucial for a broader acceptance of the idea. "The **textile and apparel sector** is a huge industry worth \$1.5 trillion. If it was a country, it would have been the 14th largest country in the world or of the same size as that of Australia. However, the greenhouse gas emissions of the sector are about 10% of the global emissions, which exceeds those from the aviation and maritime industry clubbed together," he said.

**The Daily Guardian**

## REIGNITING INDIAN MSMEs FOR INCLUSIVE, SUSTAINABLE RECOVERY AND GROWTH

By René Van Berkel, ET CONTRIBUTORS

MSMEs are critical to the resilience and social fabric of India. The Indian States should take the MSMEs to be the backbone and the engine of growth to become both socially, with widespread-based jobs of its, inclusive, and profitable. The government has to support the manufacturing particularly the textiles, handloom, and leather sectors. There are the issues of credit availability and sustainability. The business sector and small agencies that manage the credit should take the financial management and business systems to ensure the employment and income for the growing and existing sectors. The business sector should take a high-level view for credit access, the support and digital and online to improve the business and growth.

The government should encourage entrepreneurs to create business units during the post-pandemic period. It was argued in the 2021, in response, that a new focus on the business units with focus and specific on those, that are business orienting, can be done for half of the cost and can be done with the public. There is a challenge manufacturing sector like garments, leather, and fashion apparel, as an example. The higher reduction in costs and 10% higher reduction in pollution has been achieved across the board, plastics, chemicals, and sustainable MSMEs for the garment, leather and fashion, as an example. There is a need to take MSMEs to be the backbone, that can manage the credit of the sector.

**The Economic Times Rise**  
English Edition | Print Edition

Home | ETPrime | Markets | News | Industry | RISE | Politics | Wealth | Mutual Funds | Tech | Jobs | Opinion | NRI | Panache | ET NOW

SME | Policy | Trade | Entrepreneurship | Money | IT | Legal | GST | Marketing | HR | Resources

Business News - Small Biz (SMB) - World MSME Day 2021: Putting MSMEs at the heart of inclusive and sustainable recovery

## World MSME Day 2021: Putting MSMEs at the heart of inclusive and sustainable recovery

By René Van Berkel, ET CONTRIBUTORS - Last Updated: Jun 28, 2021, 11:07 AM IST

**Synopsis**  
Across the board, services sectors appeared more severely impacted than manufacturing, particularly in the hospitality, travel and related sectors.

**Popular in Rise**  
1. Income from property rented out: GST AAR makes an important ruling  
2. China export boom fades as spending shifts, cheaper (rivals) sales



The **United Nations** commemorates 27th June as World Micro, Small and Medium Enterprises (MSMEs) Day. MSMEs continue to be heavily impacted by the COVID-19 pandemic.

Financial worries have taken centre-stage. However lasting solutions depend on overcoming the underlying challenges for MSME recovery. Through its work with MSME clusters, United Nations Industrial Development Organization (**UNIDO**) identified five main challenges for small scale manufacturers. Firstly, unprecedented uncertainty about the further development of the pandemic, its impacts on society and policy responses. Secondly, in the area of sales, due to collapsed markets, reduced consumer confidence and changing consumer preferences. Thirdly, concerns about availability of a productive workforce and necessary measures to zero out infection risks through changes in workplace and work procedures. Fourth, the financial burden of stranded and decaying stocks and equipment, and fifth the disruption of supply chains. Firms stand to benefit from adopting sound business and **manufacturing** practices and techniques to overcome these challenges.

**TAPPI**

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## Enhancing the competitiveness and sustainability of the Indian Paper Industry - UNIDO's intervention

Author: Tulash Kataria (Dr. René Van Berkel, Anil Kishor Bajaj and Shaikha Srikant)

Enhancing the competitiveness and sustainability of the Indian Paper Industry - UNIDO's interventions for adoption of best available technologies, 2021 PEERS Conference (ZIPEE02)

Year price: \$200  
Quantity: 1

**New Releases**  
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TAPPI PAPER POWER PUBLICATIONS  
TAPPI conference proceedings and presentations, technical papers, and publication will also provide technical and management data and solutions on topics covering the Pulp, Paper, Tissue & Amusement (Toiletries, Skincare, Performance, Nonwovens, Bio-based and Composites)

**INPAPER INTERNATIONAL**  
November 2021 Issue 1

Challenges Confronting the Growth of the Indian Paper Industry - K.S. Kishor Bajaj

Industry Captains on Sustainability of Paper Industry - 12

Country Pulp and Paper has successfully commissioned second Valmet Advantage 3000 T415 tissue machine

3TG

**INPAPER INTERNATIONAL**  
January 2022 Issue 2

Challenges Confronting the Growth of the Indian Paper Industry - K.S. Kishor Bajaj

Industry Captains on Sustainability of Paper Industry - 12

UNIDO Partner in Inclusive & Sustainable Development of Indian Industries

MSME Working towards value addition

<sup>22</sup>Media coverage links:  
<https://bit.ly/3tu6VpH>  
<https://bit.ly/3Hbl407>  
<https://bit.ly/3zunrK3>  
<https://bit.ly/3ttrL8C>



# Chapter 4

# Outlook



The activities of FIC-ISID have addressed key and emerging topics that are pertinent and current to manufacturing in India, with a particular focus on economic recovery, MSME development, manufacturing excellence, innovation and digitalization, circular and low carbon economy and women in manufacturing, in addition to sector specific challenges and opportunities, particularly in pulp and paper and bicycle sectors.

FIC-ISID was agreed between UNIDO and DPIIT on 1 April 2021, in the lead up to what in hindsight turned into the devastating second Covid-19 pandemic wave in India, which impacted adversely on completing the necessary start up arrangements for FIC-ISID, such as budget allocation, recruitments and administrative processes. Thereafter during the remainder of its first year since launch, FIC-ISID managed to garner significant momentum on its mandates of facilitating knowledge and learning and initiating and supporting projects and partnerships.

The activities of FIC-ISID have addressed key and emerging topics that are pertinent and current to manufacturing in India, with a particular focus on economic recovery, MSME development, manufacturing excellence, innovation and digitalization, circular and low carbon economy and women in manufacturing, in addition to sector specific challenges and opportunities, particularly in pulp and paper and bicycle sectors.

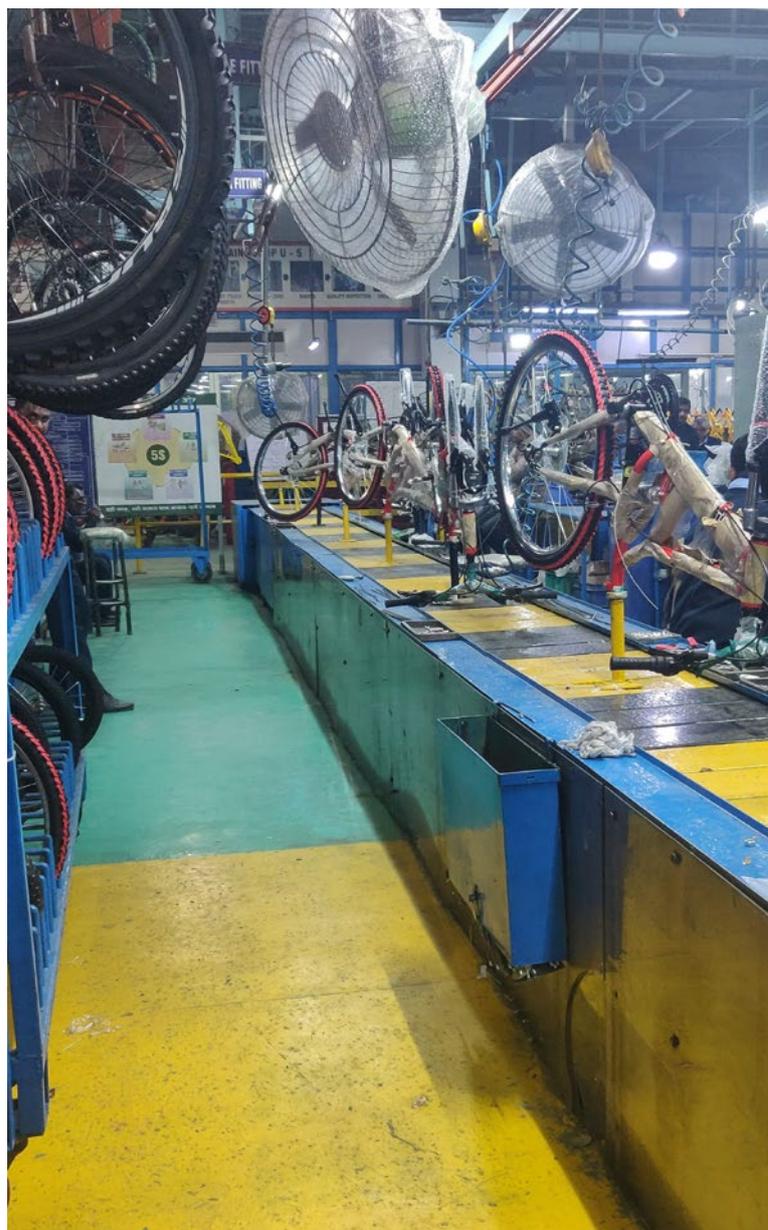
These activities have laid the foundation for FIC-ISID to further position itself as an agile and dynamic entity for policymakers to seek focused and topical policy advice in line with global experiences; for the private sector as a broker for guidance, capacity building and technical support; for knowledge-based institutions and business organisations, as a source of insights on emerging mega trends in manufacturing, technology and innovation; and for various actors of the innovation ecosystem, as a common platform for coordinated action.

Looking forward, FIC-ISID aims to build on the traction generated and further deepen the level of engagement with different stakeholders across diverse manufacturing sectors.



## The outlook for the next year includes:

- Successful completion of planned activities under ongoing projects for the paper sector and national manufacturing innovation survey, along with dissemination of results and policy and stakeholder dialogues;
- Launching and start of implementation of new FIC-ISID projects, in partnership with central and state government entities. It is foreseen to finalize detailed project documents with outputs, activities, budgets and performance indications and pursue funding approval for, inter alia, the bicycle sector (phase 2); promoting ISID in the state of Madhya Pradesh; promoting sustainable industrial development for livelihoods in the North East; and Industry 4.0 applications in manufacturing sector in Kerala;
- Providing structured and concrete policy advice and suggestions at the state and national level on strategic topics such as Industry 4.0, circular economy, innovation and manufacturing excellence, based on context-specific requests and strategic priorities;
- Roll-out of focused e-learning materials for the Indian manufacturing sector, providing easy-to-access knowledge and tools on inclusive and sustainable industrial development and advanced digital production and circularity in manufacturing, each with an emphasis on SMEs;
- Deepening partnerships with business membership organizations, government agencies and other relevant stakeholders to advance the integration of ISID tools and methodologies in different initiatives and schemes for the manufacturing sector.



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