



## Industry Consultation Meeting

### National Manufacturing Innovation Survey 2021

10<sup>th</sup> February, 2021 (virtual)

**Background:** United Nations Industrial Development Organization (UNIDO) and the Department of Science and Technology (DST) cooperate for the conduct of National Manufacturing Innovation Survey 2021 (NMIS 2021). In order to brief industry partners and facilitate inputs to its success an industry consultation meeting was convened. Besides strengthening the project's efforts in engaging firms for the survey (through industry networks), the project activities are expected to benefit industry by providing assessment and policy recommendations for improving innovation in the manufacturing sector in India. To this end an industry consultation meeting was held on 10<sup>th</sup> February over web-conferencing, from 3.00 – 5.00 pm IST. The UNIDO team had invited over thirty key national, regional and sectoral organizations representing the manufacturing sector in India and 21 of them had confirmed their participation. The meeting had 43 participants, with 32 representatives of 18 major industry bodies in the country, holding key decision-making positions (the list of participants is shared in Annexure A).

### Highlights from the Industry Consultation Meeting, 10<sup>th</sup> February, 2021

In his welcome remarks, Dr René Van Berkel, UNIDO Regional Representative shared justification for UNIDO's work on manufacturing sector innovation, given its mandate to promote inclusive and sustainable industrialization and its critical role in achieving SDG-9 objectives for industry and innovation. Emphasizing the role of product and business process innovations, Dr Van Berkel pointed out that the UNIDO-DST Innovation Survey of Indian Manufacturing Sector will offer important insights for achieving a modern and sustainable industry in India that can meet the needs of the 21<sup>st</sup> century.

Dr Praveen Arora, Head, CHORD (NSTMIS) Division, DST, in his opening remarks appreciated the interest displayed by the industry associations in the innovation survey and acknowledged the industry's efforts in the recovery period from the pandemic. He shared insights to DST's activities as a catalytic body over nearly 5 decades in enabling research, technology promotions, Science & Technology policy making and accelerating the innovation ecosystem in the country. DST's National Innovation Survey (NIS) conducted in 2011, was a first of its kind for the country with the objective of finding how innovations have been impacting the society and the economy at large. The findings complimented and anchored Govt of India's objective for the "Decade of Innovation". He shared that NIS 2011 had brought attention to key gaps in the Triple Helix (industry/knowledge users, government and knowledge-based institutions), and emphasized the central role of the government in ensuring the synergy of the key actors and stakeholders in pushing the innovation frontier and the need for strengthening industry linkages given its role in taking innovations to local and global markets. A decade later, the present 2021 manufacturing innovation survey will now examine the changes hence in production and absorption of innovations in manufacturing and the subsequent market growth and impacts on the industry and the innovation ecosystem, by examining the challenges and opportunities so far.

In UNIDO's presentation on the National Manufacturing Innovation Survey 2021, Dr Van Berkel offered quick review of key NIS 2011 findings: a decade ago only one-third of industries in India engaged in innovation activities, which were mostly incremental innovations, while the sector faced serious shortage of skills, finance and gaps in the supply-demand of the innovation ecosystem. Yet over the decade, India has improved its global ranking in innovation, in ease of conducting business

and global value chain participation, which however has not (yet) resulted in significant growth of the contribution of manufacturing to the economy. Moreover, there has been profound societal change, such as acceleration of digitalization of industrial processes (Industry 4.0) and climate and other sustainable development challenges taking global centre stage. Drawing on examples from UNIDO's recent work in the manufacturing sector in India, Dr Van Berkel discussed about unmet innovation demands, as documented in, e.g., cement, bicycle and automotive component sectors in India, which particularly affect productivity and competitiveness and drive opportunity costs in international markets. On the other hand, India has been witnessing a quick emergence of game-changing cleantech innovations and the large opportunities for high impact commercialization investments, he shared.

Dr Ritin Koria, Associate Expert on Systems of Innovation, UNIDO, provided detailed overview of objectives, scope, methodology and present status of the 2021 National Manufacturing Innovation Survey. Overall, it is aimed to measure innovations and innovation efforts objectively in the manufacturing and associated service sectors by examining innovation potential, capacity, industrial competitiveness, business resilience, among other key aspects and identify barriers and challenges to innovation faced by system actors across sectors and their linkages. The survey comprises two parallel components, firstly a firm level part covering random sample of manufacturing and manufacturing services firms, and secondly, a system of innovation survey, covering firms and innovation system actors (e.g., knowledge-based institutions, government etc.) in five manufacturing subsectors: textile and garments (including machinery); automotive; information and communication technology; food processing and pharmaceutical. He shared that the survey shall provide recommendations to guide development of policies and strategies to improve innovation performance of manufacturing firms with support of other actors in the system of innovation. Dr Koria informed that the survey findings will offer critically important evidences for improving the innovation support system for Indian manufacturing. Bringing attention to industry's role in the survey, in engaging survey participants through industry network, Dr Koria emphasized that much efforts are in place to reduce the survey burden on the participants, via minimum queries and improved flexibility. He reiterated that NMIS 2021 follows international guidelines for innovation survey, especially the OSLO Manual and the data collected will be anonymised and aggregated such that it will never be associated with an individual or an organization, in any manner.

Dr Van Berkel concluded the UNIDO presentation by sharing the endorsement statement for consideration by representatives of industry associations and sought support through logo sharing and sensitization of their manufacturing industry networks (Endorsement statement available in Annexure B).

### Overview of Q&A session

- Ms. Sushma Morthania, Director General, India SME Forum, sought to understand if technology incubation centres are considered in the surveys and it was clarified that such innovation support institutions are considered as 'actors' in the sector-level system of innovation survey where knowledge-bodies shall be surveyed. Ms Morthania offered to promote and support the survey through the Forum's 19 chapters and 80,000 members.
- Dr Jatinder Singh, Director, PHD Chamber of Commerce and Industry, highlighted the need to include start-ups in the survey, given their role in bringing robust technologies to the fore and as India is ranked 3<sup>rd</sup> in robust start-up ecosystems worldwide. It was clarified that start-ups are itself businesses, often MSMEs, and provided these are active in manufacturing and/or manufacturing sectors, these are in the database for sampling. It was emphasized that the innovation aspects of the survey are defined by the perspectives of end-users, particularly

manufacturing firms and providers of manufacturing related services. Furthermore, it was shared that the start-up ecosystem would be studied under the system of innovation survey to understand challenges and opportunities for innovation production and absorption, including finance and linkages between the actors.

- Mr Srinivas Garimella, Member - Managing Committee, Federation of Telangana Chambers of Commerce & Industry (FTCCI), enquired about innovations already implemented and available in manufacturing companies. It was clarified that the survey will study about innovations implemented in the last three years, but also appraise the propensity of firms to conduct innovations (product, business) in the next 3-5 years. It was shared that the challenges and opportunities using evidences/examples will be shared to showcase lessons learned. Such pan India experiences will be recorded by the survey, that would give insights to problem solving processes, across actors and sectors, to present creative lessons for end-users.
- Dr Raj Aggarwal, Director, All India Management Association (AIMA), wanted to understand if the survey considers (i) 'desi innovations' or 'jugaad' innovations (workarounds with minimum resources) prevalent in MSMEs and the agriculture sector and (ii) if the digitization of MSMEs sector is considered by the survey, especially in procurement in MSMEs and the agriculture sector, especially digitization using disruptive technologies like blockchain, AI and bigdata. UNIDO responded that the survey has focus on manufacturing (and excludes agricultural firms as respondents), however, innovative businesses in e.g., food processing would cover supply-chain innovations reaching back to agriculture. Dr Agarwal also brought attention to AIMA's recent study on innovation in MSME segment.
- Mr Upkar Singh Ahuja, President, Chamber of Industrial & Commercial Undertaking (CICU) representing MSMEs in Punjab spoke about technology upgradation and new product development to increase the value additions of MSMEs. The survey findings would be useful to support this undertaking.
- Ms Saraswathi K, Secretary General, Madras Chamber of Commerce and Industry (MCCI) offered immediate support in promoting the innovation survey and queried about accessing the survey questions for their internal discussions and approve. It was informed the survey is uploaded in online survey manager. However, the team can extract and share the questionnaire.
- Dr JS Juneja, Chair of the Technical Advisory Committee for NMIS 2021, took the opportunity to share more context on survey focus of manufacturing sector, the associated services and the five focus sectors of the sector-level survey. He shared that the Technical Advisory Committee is closely supporting the project with guidance and insights.
- Dr Manjari Desai, Director, Maharashtra Chamber of Commerce, Industry & Agriculture (MCCIA), shared insights about MCCIA's monthly survey of manufacturing and service sector MSMEs in Pune. She queried about the pilot/flash survey findings for their further understandings of NMIS 2021. Dr Van Berkel clarified that those surveys were conducted only to finetune and refine the questions and invited the survey reports from MCCIA. Dr Desai indicated MCCIA's support for the survey.
- Mr. Vijay K Mishra, Chair, Innovation Committee, PHD Chambers, queried (i) if the survey considered technology cooperation, besides technology adoption and adaptation. He pointed out that India has more propensity to adopt/use technologies developed elsewhere, and (ii) if technologies for food storage, in controlled environments and transport is considered by the survey. Dr Van Berkel clarified that the survey considers extensively the cold-chain technologies under manufacturing associated services, under the food processing sector. He shared that the survey approaches technology adoption inclusive of technology or innovation being "new-to-firm" or "new-to-market", "new to sector/country" or "new-to-world". As the prevalence of new-to-world tech are rather low, the survey identifies innovations in a broad manner, such that

from examining if firms are adopting new technologies to better designed packaging to improve businesses etc will be considered. Dr Koria clarified these are in-line with recommendations of the globally accepted guidance of the OECD 2018 Innovation manual.

- Mr. Tapan Kumar Chattopadhyay, Deputy Director, Indian Chamber of Commerce, brought attention to the urgent need for upgradation to modern technologies in the manufacturing sector esp. to positively impact GoI programmes like *Make in India* and others. However, access to raw materials and innovative technologies continue to be a key challenge and hence technology-transfer customized for Indian is a key need and the survey should prioritize the same. Dr Van Berkel acknowledged the relevance of the observation, and has to be anticipated as a finding of the NMIS 2021 survey - indicating the need for tech-transfer for technology upgradation and adoption. Dr Koria shared the survey would aggregate the experience of actors and technologies and the systems analysis would demonstrate how/if indigenous technologies are being brought to the fore and absorbed in the firms or firms continue to rely on tech transfer.
- Mr S. Shaktivel, Executive Secretary, Tirpur Exporters Association, shared the sector is dominated by MSMEs, are not being able to address the challenges from the shortage of labour and wanted to understand if the survey would consider these aspects.

Concluding the Q&A, Dr Van Berkel appealed to the associations and chamber representatives to lend their support in promoting the survey in their own networks. It was shared that UNIDO would individually reach out for official endorsement and logo support, such that the joint endorsement statement would be of great value-add for wider industry outreach and participation. It was emphasized that concerted support from industry bodies would help undertake the survey efficiently and quickly, such that the survey findings can be used by industries to benefit their own specific interests. UNIDO-DST would be glad to invite the industry representative for a follow-up discussion once the survey has completed significant amount of survey work in the fields and the trends and findings could be discussed in the next industry meeting.

In his concluding remarks, Dr Pradosh Nath, technical advisory committee member of NMIS, appreciated the effort to bringing industry stakeholders in the dialogue and get their insights to the survey, such that the industry is already tuned into the objectives of the survey and its outcomes. Dr Van Berkel closed the meeting with note of thanks.

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## Annexure A: Participants List

	Associations, Chambers and Agencies	Representatives
1	All India Management Association (AIMA)	Dr Raj Agrawal, Director
2	Andhra Pradesh Chambers of Commerce and Industry Federation (Andhra Chamber)	Mr. Bhaskara Rao, Director General
3	Associated Chambers of Commerce and Industry (ASSOCHAM)	Mr Nikhil Bharara, Assistant Director
4	Chamber of Industrial & Commercial Undertaking (CICU)	Mr Upkar Singh Ahuja, President
5	Confederation of Indian Industries (CII)	Mr Akshay Koul, Associate Counsellor Mr Amith M., Associate Counsellor Ms Anjula Solanky, Director Ms Nisha Jayaram, Sr. Counsellor
6	Federation of Indian Chambers of Commerce and Industry (FICCI)	Ms Ankita Sharma, Research Associate Mr Dilip Chenoy, Director General
7	Federation of Indian Micro and Small & Medium Enterprises (FISME)	Mr Anil Bhardwaj, Secretary General
8	Federation of Telangana Chambers of Commerce & Industry (FTCCI)	Mr Ramakanth Inani, President Ms Sujatha T., Deputy CEO Mr Srinivas Garimella, Member - Managing Committee
9	Electronic Component Industries Association (ELCINA)	Mr Ramendra Baoni, Director
10	Indian Drug Manufacturers' Association (IDMA)	Mr Ashok Madan, Director Dr George Patani, General Secretary
11	Indian Chamber of Commerce (ICC)	Mr Bodhisattwa Mukherjee, Joint Director Mr Tapan Kumar Chattopadhyay, Dep. Directory
12	India China Trade Centre (ICTC)	ICTC Representative
13	India SME Forum	Ms Bhavya Sharma, Project Director Mr Karan Agrawal, Asst. VP Ms Sushma Morthania, Director General
14	Madras Chamber of Commerce and Industry (MCCI)	Ms Saraswathi K., Secretary General
15	Madras Management Association (MMA)	Gp Capt R Vijayakumar, Executive Director
16	Maharashtra Chamber of Commerce, Industry & Agriculture (MCCIA)	Dr Manjari Desai, Director – Head of Innovation and Technology Transfer Cell
17	PHD Chamber of Commerce and Industry	Mr Deepak Pahwa, Chair, Industry Committee Dr Jatinder Singh, Director Mr Vijay K. Mishra, Chair, Innovation Committee
18	Tirpur Exporters Association (TEA)	Mr Raja M. Shanmugham, President Mr S. Sakthivel, Executive Secretary
19	Technical Advisory Committee (TAC), NMIS 2021	Dr Aravind Chinchure, CEO, QLEAP Academy Dr J. S. Juneja, TAC- Chair, Chairman of Global Projects & Services Dr Pradosh Nath, Principal Scientist (Retd.), CSIR-NISTADS

20	Department of Science and Technology (DST)	Dr A. N. Rai, Scientist G, CHORD Dr Parveen Arora, Head, CHORD
21	United Nations Industrial Development Organization (UNIDO)	Ms Christi Thomas, Project Associate, NMIS Mr Keshav Das, Programme Coordinator, Energy & Environment Dr René Van Berkel, Regional Representative - UNIDO India Ms Reshmi Vasudevan, National Project Coordinator, NMIS Dr Ritin Korla, Associate Expert - Systems of Innovation, NMIS Mr Tomoyoshi Koume, Project Manager, NMIS

### Annexure B: Endorsement Statement



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



## National Manufacturing Innovation Survey 2021

A joint initiative of the Department of Science and Technology (DST), Government of India, and the United Nations Industrial Development Organization (UNIDO) to facilitate evidence driven improvements in the innovation support system for manufacturing sector to achieve inclusive and sustainable industrial development for economic recovery and growth and a self-reliant India.

As organisations representing the manufacturing sector in India, we welcome the National Manufacturing Innovation Survey 2021. We have taken note of and endorse the aims and objectives of this nation-wide survey of manufacturing firms, manufacturing-associated services and innovation system partners to estimate the potential for and barriers to innovation in India's manufacturing sector. We acknowledge these insights will be of extreme value to guide government, business sector and innovation partners to effectively support and facilitate innovation in manufacturing sector for achieving the goals of *Atmanirbhar Bharat Abhiyan*.

Our respective organisations have committed to support UNIDO and DST in conducting the survey and interpretation and follow up to its findings. We strongly recommend participation in the survey.

February 2021