

Munjal Institute for Global Manufacturing

ANNUAL REPORT 2021-2022



Professor Chandan Chowdhury, Executive Director, MIGM

Munjal Institute for Global Manufacturing is a pioneering effort by ISB and the founding supporters of the Mohali campus to 'raise the level of manufacturing in India and beyond through operational excellence and innovation.'

The MIGM conducts research related to the manufacturing and operations ecosystem and hosts events wherein industry, students, academicians, ISB ecosystem, and policymakers can discuss their ideas. The institute also supports manufacturing specialisation and Action Learning Projects for PGP and Advanced Management Programme in Operations and Supply Chain.

Our Vision

As a part of ISB, the MIGM's vision is to be the premier academic institution for operational excellence and innovation in the manufacturing ecosystem in India and beyond.

Our Mission

To engender synergistic engagement between industry, academia, and the government in India and beyond through:

- Thought leadership
- Facilitating knowledge sharing with industry
- Informing government policy
- Grooming future leaders

Research

1. MSME's Challenges in India

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in India's economy, contributing approximately 30% to the GDP. The Government's vision is to enhance MSME's contribution to GDP to 40%. MSMEs currently contribute 48% to India's exports and employ 111 million people. The Government intends to enhance this export contribution to 60% and generate an additional 50 million jobs. If we achieve these milestones, we will increase the employment generation by MSMEs from the current 111 million to 161 million by 2025.

Despite the Government's vision, MSMEs have suffered from their inability to scale up, with limited market access and low productivity. Against this backdrop, MIGM at ISB, in collaboration with CII's Andhra Pradesh Chapter has studied the MSMEs' challenges in Andhra Pradesh. We have surveyed 126 MSMEs in the state, of which 83 responses (41 from services and 42 from the manufacturing sector) were finally considered for analysis.

The objective of the study was to collect primary data to identify challenges and intervention strategies. The project covers a range of issues in the following areas:

- Challenges faced by MSMEs before COVID-19
- Impact of COVID-19 on MSMEs
- Government support to MSMEs

- Innovation strategies adopted by MSMEs
- Current status of digital footprint in MSMEs
- Digital literacy and productivity
- Trends in the deployment of technology
- Support needed by MSMEs to scale up
- Readiness for future

The report has summed up 18 significant findings and has made separate recommendations to the Government and the MSMEs to achieve future growth targets. Mr Amitabh Kant, CEO, NITI Aayog, released the report on March 3 at the CII ANDHRA PRADESH ANNUAL MEETING 2021-22 and Conference on [India@75 : Accelerating Andhra Pradesh Growth Momentum: Resurgence through Competitiveness, Sustainability, Technology.](#)

The full report can be viewed at <https://bit.ly/3589ncg>



2. Female Labour Force Participation Rate (FLFPR) in the Manufacturing Sector in India



The government's ambition is to enhance the manufacturing sector's share of the country's GDP to 25% by 2025, from its current 16-17% level. This plan is part of a government's grand plan of creating a five trillion-dollar economy by 2026-27. It will involve a significant participation of women in the manufacturing workforce. FLFPR in the manufacturing sector has been historically low and has received limited attention. Our research aims to understand the challenges of women working in the manufacturing industry and develop a set of data-driven recommendations to enhance FLFPR in the industry.

The scope of the study will be to:

- Understand the current contribution of women in the manufacturing sector
- Identify the challenges of women participating in the manufacturing sector
- Identify measures for reskilling and upskilling Indian women in the manufacturing sector
- Study the need for leveraging Industry 4.0 to enhance FLFPR.

3. Trident Funded Research on 'Impact of Industry 4.0 on the Future of Work in the Textile Industry in India'



The textile industry occupies an exceptional place in our country. The industry contributes 2.3% to India's GDP and is the second-largest employment generator after agriculture, employing over 45 million people directly and 60 million people indirectly.

The textile industry is one of the oldest industries in India and an essential driver of her economic growth. India is the largest cotton producer, with 22.7% of the total cotton production in the world, and the second-largest silk producer. It accounts for approximately 22.08% of the total silk production in the world. The textile business contributes 12% to the country's export earnings.

The 4th industrial revolution has excellent potential to increase customer centricity, agility, and productivity, and India cannot afford to miss being a part of this revolution. At ISB's MIGM, we are conducting research on "Impact of Industry 4.0 on the Future of Work in the Textile Industry in India". The objective of our research is:

- To establish India's readiness for Industry 4.0
- To carry out a need-gap analysis of jobs and skills influenced by Industry 4.0 in the textile industry in India
- To identify measures that are to be taken to enhance the employability of the new workforce.
- To identify measures for reskilling the existing workforce.
- To recommend a portfolio of strategies to address disruptions in employment in the textile industry due to technological changes.

As a part of this study, we have collected both primary and secondary data, including personally visiting 21 textile factories across the countries. As part of our data collection strategy, we have conducted roundtables in our country's northern and southern parts.

We had also conducted a series of roundtables in collaboration with CII in three cities Madurai, Karur, and Coimbatore. In these roundtables we discussed issues such as:

- What is the current level of awareness of Industry 4.0 in the organizations?
- What are some of the anticipated challenges in deploying Industry 4.0 in the textile industry?
- How do we skill and reskill the textile industry's workforce for Industry 4.0?
- What will be the impact of technology on the future of jobs in the textile industry?
- How do we upskill and reskill the textile industry workforce in areas like IIoT, IoT, Machine Learning, Analytics, Data Integration to ERP Systems, Data-Driven Decision making, etc.?
- How can we prepare people and create the culture to drive digital transformation in the textile industry?
- What measures can be taken to enhance the employability of the workforce?
- What kind of challenges in sustainability are we facing from the customers and regulators (water, air, land, chemicals, and energy)?
- How do we address the changes in the demands and needs of our customers? (for instance, focus on sustainability, traceability, digital collaboration, order status visibility, the manufacturing process, compliance, etc.)
- What are some of the challenges in the traceability of products in the supply chain (raw material to end consumer and recycling)
- How can we improve/strengthen Industry-Institute Interaction for a strong R&D and innovation ecosystem?
- How do we scale up MSMEs in the textile sector?

We have also analyzed 103 job roles defined by NSDC that cover 80% of India's textile workforce. We have categorized these job roles into:

- Job roles likely to be replaced by machines/automation/AI
- Jobs likely to continue with human
- A new set of job roles will emerge involving collaboration between humans and machines.

Our original timeline for this research project got delayed due to the Pandemic.

4. Impact of PMKVY-2 on Skilling and Employment

Ministry of Skill Development and Entrepreneurship (MSDE) launched the STAR (Standard Training Assessment and Reward) Scheme in 2013-14. The purpose of the scheme was to provide standard certification to the candidates in skill development in India. To skill more youth in the country in various trades to optimise the demographic dividend after the inception of the National Skill Development Mission in 2015, Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Scheme was launched and successfully run by NSDC in the states during the 2015-16. In 2016, MSDE realised that states' intervention is also required to implement skill programmes successfully. PMKVY-2 was launched for 2016-20, wherein two components of the scheme were devised to achieve this objective. Both the States and the Centre implemented the same scheme as a part of this strategy.

At an execution level, Pradhan Mantri Kaushal Vikas Yojana (PMKVY)-2 meant that MSDE was implementing the skill development plan through the State Skill Development Missions (SSDMS) and NSDC for the first time.

The comparative analysis of both components gives a deep insight into the efficiency of implementing a programme by the Centre and State governments and will pave the way for PMKVY-3.



In this study, we have analysed the difference in the PMKVY skilling programme outcomes between the Centrally Sponsored Centrally Managed (CSCM) and Centrally Sponsored and State Managed (CSSM) training programmes in the state of Punjab. Our analysis has considered a dataset of 167,792 records for the CSCM programme and 22,494 records for the CSSM programme. This study would help the policymakers refine the PMKVY 3.0 programme enabling enhanced outcomes from the skilling initiatives.

Shri Charanjit Singh Channi, then Honorable Minister for Technical Education & Industrial Training Government of Punjab, released this insightful research titled "Impact of PMKVY-2 on the Skilling & Employment" at a special ceremony at the Indian School of Business (ISB), Mohali campus on March 19 2021. The strategic research study was jointly prepared by Punjab Skill Development Mission, the Government of Punjab, and MIGM. The link to the report is <https://bit.ly/3nMRQN4>.

5. Multi-Dimensional Industry-Academia Collaboration for Competitive Edge: An Example



Industry academia collaboration has received increased global attention. For instance, when World Economic Forum computes the 'Global Competitiveness Index' of an economy, Industry-University Collaboration in R&D is considered one of the parameters for ranking a country on innovation. Our Prime Minister in 2019 envisioned making India a USD five trillion economy by 2024-25. Though COVID-19 acted as a significant speed breaker, in February 2021, the government has announced its plan to stick to the ambition of becoming a five trillion-dollar economy by 2026-27. Multi-dimensional collaboration between industry and academic institutions can accelerate India's vision of becoming a five trillion-dollar economy.

At MIGM, we believe in multi-dimensional engagement with industry in areas like (a) leadership development aided by experiential learning, (b) research and thought leadership, (c) long-term education for the leadership team, and (d) talent hiring. We have created a new benchmark for such engagement with the Trident Group.

Leadership Development: Trident Group, about a billion-dollar company, in its board meeting, unveiled its "Vision 2025" strategy under 3 BHAGs (Big Hairy Audacious Goal) and has set the following long term goals:

- Achieving revenue of INR 25,000 Crore (approximately USD 3.5 billion, 3.5 times its current revenue) by 2025 with 12% bottom line.
- Making Trident a national brand
- Digital Trident - by completing the journey of Industry 4.0.

Trident's management is aware that to achieve their 3 BHAGs, the organization must further augment leadership skills and create change agents. Trident has partnered with ISB in this journey of achieving the 2025 vision. A project titled 'Ekaaksh' (meaning "focused shared vision") has been launched, through which Trident is honing 93 leaders with the right set of skills and a strategic mindset to accomplish its vision 2025. In this program MIGM and ISB's CEE collaborated in a massive leadership intervention program.

Unlike traditional leadership development programs, the entire cohort has been divided into nine groups to translate classroom learning into solving business problems at Trident. The cohort has taken up exciting business problems, and professors from ISB are mentoring the executives. Trident's executives, in collaboration with ISB, are trying to address business problems like:

- How do we move from 'make-to-order' to 'make-to-stock' to reduce cycle time without increasing inventory? Which products are appropriate candidates for such a strategy?
- How to create a 'digital Trident' by implementing Industry 4.0 at the enterprise level?
- How do we leverage Industry 4.0 to increase brand value?
- How do we shift from "price competitive commodity offering" to "differentiated value offering" in the home textiles, yarn, and paper business?
- How can we drive product diversification by leveraging outsourcing?

- How do we build strategic partnerships with business partners and various value chain members?
- How do we build sustainable products and packaging?
- How do we increase operational efficiency and decrease conversion costs?
- How do we become a solution provider to our customers?

We believe our approach to "experiential learning" will take "leadership development programs" in the country to the next level. During this engagement, we have also realized that implementing Action Learning Projects where we solve real-world problems involves tremendous commitment from the business school and industry.

We at ISB are proud of our multi-dimensional collaboration with the Trident Group, which includes applied research and thought leadership. Rajinder Gupta, a recipient of Padma Shri Award, Chairman of the Trident Group, said "ISB is a premier business school and has helped Trident create high-end corporate culture, change the vocabulary of senior executives, enabling them to ask the right questions, the ripple effects of which have impacted the entire organization."

Education

1. Advanced Management Programme for Manufacturing & Operations (AMPMO)



Students of AMPMO and AMPI attending the hybrid residency in-person

As part of its vision, the institute offers an "Advanced Management Programme for Manufacturing & Operations" (AMPMO). The AMPMO is a specialised programme blending online and on-campus learning spread over a year and seeks to develop top-level leadership in the manufacturing sector.

AMPMO Co 2021

- The sixth batch of the AMPMO had 18 participants. The average work experience of the class was 11.4 years, and the students came from organizations such as the Flipkart, Tata Consumer parts, ABB Limited, Honda Cars India Limited, Britannia Industries Limited, Dr. Reddy's Lab, etc.
- The fourth residency was successfully held at the Mohali campus from October 23 till October 31 2021. It was conducted in a hybrid mode, employing advanced classroom technologies for running the sessions.
- An additional session was organized for the participants at the Hyderabad campus from 10th - 12th December 2021. The students were exposed to the latest technology trends through talks by experienced practitioners. A student-alumni networking dinner was organized on December 11 and was attended by 15 alumni.

Action Learning Projects of Co 2021

The Action Learning Project (ALP) is an essential pedagogical tool that is designed to give participants a chance to deploy their classroom learning in real-life scenarios. It is a group exercise executed under a mentor from ISB. Participants can bring in a live project from the organisation where they are currently employed or can bid for projects from other organisations. The topics on which the cohort worked are as under:

S.No.	ALP	Team Members
1	Application of IoT for Improving the Finished Goods Logistics	<ul style="list-style-type: none">◦ Gaurav Vyas◦ Pritesh Badgujar◦ Pooja Varshney Uppal◦ Jeetesh K Gupta◦ Jayaraman Ravishankar
2	Backward Integration of Supply Chain at NBC Bearing and AI-Based Strategy for Operational Excellence	<ul style="list-style-type: none">◦ Jagdeep Singh Rana◦ Lalitha Narumanchi◦ Adith Haridas◦ Srikar Pittala◦ Arnab Chaudhury◦ Pallavi Daga◦ Dusmanata k Sahoo◦ Kulvinder Singh
3	Scaling up of Ayasya Eco for Manufacturing of Structural Material from Waste Plastic	<ul style="list-style-type: none">◦ Vizia Kumar Yellanki◦ Gunjesh Sharma◦ Rashmeet Kaur◦ Kohal Mangu

2. Launch of Advanced Management Programme in Operations and Supply Chain

The curriculum of AMPMO was redesigned, and the programme has been renamed Advanced Management Programme in Operations and Supply Chain (AMPOS). The programme was launched on September 11, 2021 by the Chairman, Mr. Sunil Kant Munjal.



**Join Mr. Sunil Kant Munjal for the launch of
Advanced Management Programme
in Operations & Supply Chain**

September 11, 2021 **4.30 PM to 5.45 PM**

Register Now **Live Webinar**

**Sunil Kant Munjal, Chairman
Hero Enterprise**

Mr. Suni Kant Munjal, Chairman - Hero Enterprise launched the AMPOS on September 11, 2022

The online session was telecast live on Facebook. Mr. Sunil Kant Munjal spoke on the role of the supply chain in moving from ideas to implementation. He also emphasized the enlarged definition of global supply chains in the post-COVID-19 era and the acute need for robust supply chains for companies to redefine and rediscover themselves. The event had an excellent attendance:

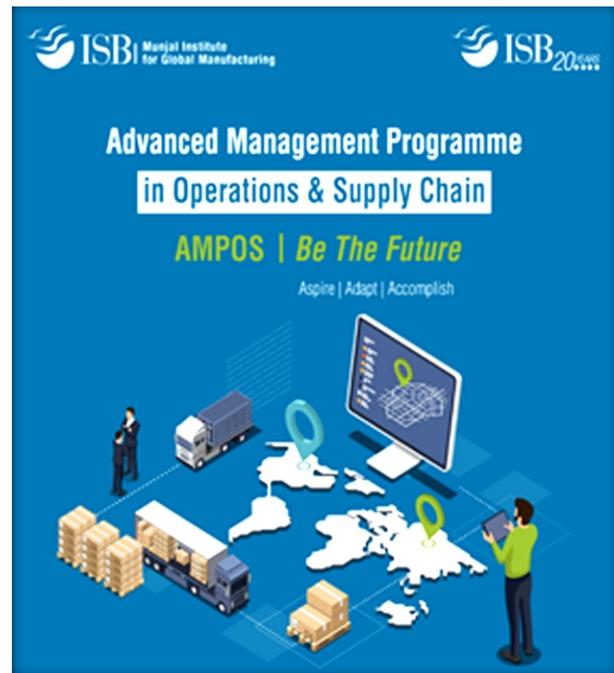
- 176 unique attendees (potential candidates) on Zoom
- 750+ Facebook engagements

There has been an increase of more than 30% in the traffic on the application web page.

3. Advanced Management Programme in Operations and Supply Chain – Residency 1

The AMPOS Co22 had its first residency at the Mohali Campus from 21st March 2022 to 30th March 2022. The Class has 33 participants. The average work experience of the Class is 14.2 years. The students come from organizations such as the JSW steel group, TVS Motors Ltd., Adani Group, Trinity, Genpact India, Amazon Solutions, Freyr Solutions, Schneider Electric, Aaj Carriers, Trinity Packaging, Maersk GSC, Loxim Group, NTPC, ABINBEV, Vedanta Cairn Oil & Gas, Mecords India, Pharmeasy, Givaudan India, Obeetee Carpets, Munitions India Limited (MIL); Armoured Vehicles Nigam Limited (AVANI); Advanced Weapons and Equipment India Limited (AWE India); Troop Comforts Limited (TCL) (Troop Comfort Items); Yantra India Limited (YIL); India Optel Limited (IOL) and Gliders India Limited (GIL). The

programme also has 11 students from the seven companies restructured from the Indian Government's Ordnance Factory Board. As these companies make their foray in the private sector, these employees will leverage their learnings at ISB to facilitate the move. A short video on the Advanced Management Programme in Operations and Supply Chain was also presented to our Honourable Prime Minister. He has expressed interest in going through a similar shot video after a year to understand the transformation in the students' leadership skills



4. Coursera MOU: Global Management Programs

ISB and Coursera have agreed to conduct Global Management Program in Operations & Supply Chain and Global Management Programme for Infrastructure on the Coursera platform.

The programs are expected to be live from October 2022 onwards.

5. Research Grant from Coursea

We have received a research grant of USD 800,000 for MIGM and PLIIM for conducting research in the areas such as:

- Micro Small and Medium Enterprises (MSME),
- Enhancement of Female Work Force Participation in the Manufacturing Sector
- Upskilling Strategies
- Sustainable Cities and
- Electric Vehicle Infrastructure.

6. World Economic Forum's Working Group at NSDC on "Demonstrate Leadership Commitment on Workforce Upskilling"



This working group aims to promote the need for a shift from the current system where learning and skilling decrease over people's lifespan to one where everyone continuously improves existing skills and acquires new ones. With the second-largest workforce in the world, India faces the challenge of ensuring high productivity of its workers while the "world-of-work" itself evolves at a high

pace. Therefore, focusing on reskilling and upskilling of workers hold the potential to unlock sustained growth in output. Technological disruptions require reskilling and upskilling to be more intentional, i.e., adopting a lifelong learning mindset wherein individuals learn and adapt to new skill requirements that emerge continuously with changes in technology or production methods. Professor Chandan Chowdhury is chairing this working group where a select set of experts from academia, industry, WEF, NSDC, and foundations contribute.

7. MIGM & CEE Collaboration

Professor Chandan Chowdhury from MIGM has worked closely with CEE to conduct diagnostic studies and create a contextualized curriculum for strategic clients. A partial list of these clients is given below:

- A Leadership Program for 90 executives of the Trident Group: We have conducted Phase-1 of the program during FY2020-21. Due to the Pandemic, we could not conduct Phase-II based on the client's timeline. We are now planning to schedule the Phase-2 of the leadership program during FY2022-23.
- Management Intervention for Maruti's Senior Executives-140 executives
- Future Ready Leaders for USHA International
- Signature Programs for Tata Steel
- Global Leaders for Alstom: We have already conducted two phases of the program. We will be concluding the Action Learning Project on May 18 2022.
- HMEL: The CEE team and Professor Chandan collaborated to create a custom-made leadership program for HMEL.
- Boeing India Executive Prestige Programme: This leadership program was for Boeing US's customers in India. It was our first engagement between Boeing US and CEE. We have collaborated with the CEE team, and the program was conducted at our Hyderabad campus from 18th to 22nd April 2022.



Outreach

1. Conference on World MSME Day

Topic: Skilling Development in MSME in the backdrop of Pandemic

Professor Chandan Chowdhury was part of the panel discussion held in Hyderabad. NSN Hyderabad conducted the event on June 27, 2021

2. Distinguished Speaker session

Topic: Supply Chains for Perishable Products



Mr. Pankaj Mehta, Chairman and Managing Director of Carrier Transicold India and South Asia, gave an inspiring talk on Supply Chains for Perishable Products. The talk was very insightful, and Mr. Mehta also shared his experience of collaborating with MIGM on a research project on cold chains.

Mr Pankaj Mehta addressed the potential participants of AMPOS on July 24, 2021

3. Faculty Masterclass by Professor Subodha Kumar

Topic: Emerging business analytics trends

October 22, 2021

Professor Subodha Kumar conducted an online session on emerging business analytics trends for the potential students of the Advanced Management Programme in Operations and Supply Chain. The session evoked a healthy response with 120 attendees.

Professor Kumar spoke of his research on blockchain and its use cases in healthcare, supply chain, manufacturing, cyber security, and finance. He discussed that blockchain is likely to be a disruptive technology in the coming times.

He also spoke of the Business Analytics program that he conducts at ISB, and how he incorporates his research findings/outcomes into the program's curriculum. A current program student, Ms. Rashmit Kaur, also spoke briefly to showcase how her learning from the course has been leveraged in her day-to-day business challenges.



Prof. Subodha Kumar addressed the potential participants of AMPOS

4. Speaker Session by Mr. Venkatesh Natarajan

Topic: Implementation of Artificial Intelligence in the manufacturing sector



Mr. Venkatesh Natarajan, spoke on 'Implementation of Artificial Intelligence in the Manufacturing Sector'

Mr. Venkatesh Natarajan, President (IT) and Chief Digital Officer, Ashok Leyland spoke on 'Implementation of Artificial Intelligence in the Manufacturing Sector'. Mr. Natarajan highlighted several use cases of the application of AI in Ashok Leyland and the methodology adopted to incorporate an inclusive trend of technology awareness in the company.

October 22, 2021

5. Man'Exe 2021 (17th Edition)

Topic: Implementation of Artificial Intelligence in the manufacturing sector

CII, in partnership with Government of Telangana organised the 17th edition of its flagship conference on Manufacturing Excellence, Man'Exe-2021 with the theme "Re-imagining Manufacturing: Technology in driving Manufacturing Resilience and Excellence" in hybrid mode (physical and virtual) at Hotel ITC Kakatiya, Hyderabad.

Prof. Chandan Chowdhury delivered a special address during the inaugural session. The takeaways from his session are:



Dr. Chandan Chowdhury addressing during the Man'Exe- 2021

- Promote investment in R&D
- Build a digital infrastructure for collaboration
- Leverage emerging technologies & scientific software for digital design, digital manufacturing & digital simulation
- Create a leadership pool in the manufacturing sector
- Program management (real-time visibility, tracking & improvement)
- Enhance manufacturing value-add percentage through R&D, new product development, and innovation (overall in the manufacturing industry, this percentage has steadily declined from 17% in 2010 to 13.7% in 2020)
- Integrate women in India's manufacturing excellence journey
- Create a scalable MSME ecosystem.

November 8, 2021

6. International Conference on Apparel and Home Textiles

Topic: Future of Skills: Role of HR in Industry 4.0



Okhla Garment & Textile Cluster organized an international conference on "Accelerating Competitiveness in Post-COVID World". Prof. Chowdhury was invited, and he participated as a panelist in two sessions.

- "Growing Importance of Role of Middle Management in Today's Competitive Era"
- "Future of Skills: Role of HR in Industry 4.0"

November 12, 2021

7. Roundtable

Topic: Designing a robust system of skilling of young workforce from India to enhance the overseas migration outcomes

ISB and the Government of Punjab conducted a roundtable on November 17 2021. The Chief Guest for the event was Shri Rana Gurjeet Singh, Cabinet Minister, Department of Technical Education & Industrial Training, Employment Generation, Skill Development & Training, Horticulture, Water & Soil Conservation, Government of Punjab.

There were focused discussions for obtaining input for:

- Designing a robust model for skilling in India for overseas migration
- Understand need (skill requirement) in the countries of destination (UK, GCC, Canada) involving different stakeholders: (a) Embassy (b) Training partners (c) Potential Employers and (d) Accrediting agencies
- Understand how India's skilled workforce creates economic value for the countries of destination
- Ensuring that India's migrant workforce does not become a liability but an asset to the "countries of destination."
- View India as a supply chain for skilled professionals to the countries of destination (COD).

We had an inaugural ceremony followed by four roundtables.

Session 1: Macro-level Perspective of Overseas Migration (UK, Canada & GCC)

Session 2: Registered Agents for Overseas Migration Through Work Permit, Study Visa, and Permanent Resident Status.



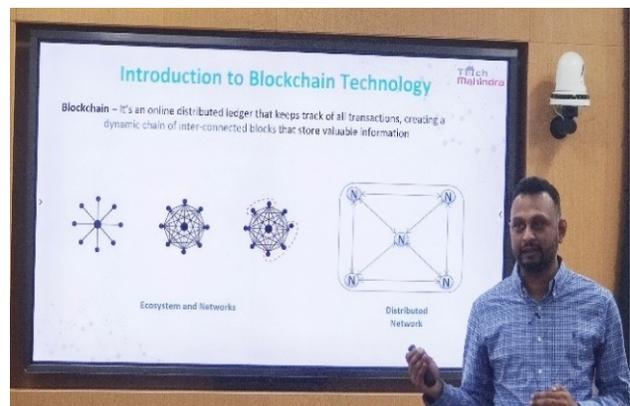
Session 3: International Training Partners, Foreign Employers, Accreditation Agencies & India International Skill Centre's (IISCs)

Session 4: Regulated Immigration Consultants of Canada/UK/GCC

8. Eminent Speaker Session by Mr. Rajesh Dhuddu

Topic: Use of Blockchain in supply chain

Mr. Rajesh Dhuddu, VP and Practice Leader, Blockchain and Cyber Security, Tech Mahindra, interacted with the Advanced Management Programme for Manufacturing and Operations students. He spoke about the use cases of blockchain in supply chain and infrastructure and explained the methodology for adapting blockchain in any company.



Mr. Rajesh Dhuddu interacting with participants of AMPMO

December 10, 2021

9. Eminent Speaker Session by Mr. Vijay Sethi

Topic: How digital technologies are changing industries



Mr. Vijay Sethi sharing his views with AMPMO participants

Mr. Vijay Sethi, Chairman (Advisory Board) and Chief Mentor, MentorKart talked about 'how digital technologies are changing industries.' He explained how different technologies are shaping our lives.

He spoke at length and provided an overview of technologies like blockchain, digital twins, AR/VR, robotics, quantum technology, 3D printing, see and spray

technologies, AR/VR, 5G, etc., in the automotive, pharma, and healthcare industry, and infrastructure industries.

December 10 2021

10. Talk by Mr. Ajay Arora

Topic: Leadership through physical wellbeing

Mr. Ajay Arora, Associate Vice President (Strategic Planning & Projects) at Hero Enterprise, conducted a session on the physical wellbeing of the students. He emphasized the ways to get physically active by overcoming internal resistance. He also conducted a live running session, which the students much enjoyed.



Mr. Ajay Arora conducted a live running session for students

December 10, 2021

11. International Conference (online)

Topic: Digital supply chain for competitive edge

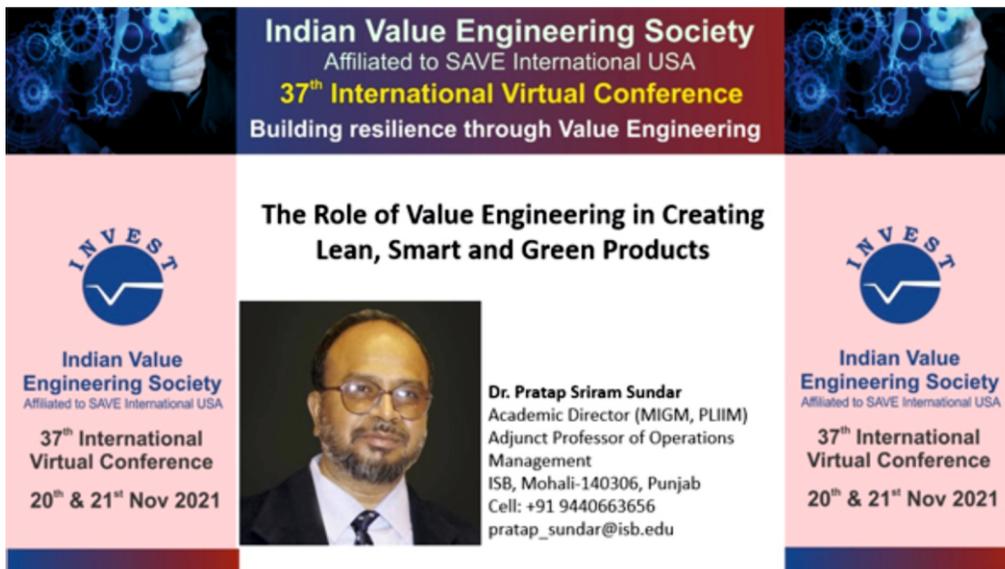
The GITAM University held an International Seminar to recognize Logistics and Supply Chain Management courses. Prof. Chandan Chowdhury was invited as an eminent speaker. He delivered a talk on "Digital Supply Chain for Competitive Edge."

November 18, 2021

12. 37th International Conference of INVEST

Topic: The role of Value engineering in creating lean, smart and green products

Prof. Pratap Sundar was invited as a speaker at the 37th International Conference of INVEST (Indian Value Engineering Society), scheduled on Nov 20th and 21st, 2021. He delivered his talk on "The Role of Value Engineering in Creating Lean, Smart and Green Products."



Indian Value Engineering Society
Affiliated to SAVE International USA
37th International Virtual Conference
Building resilience through Value Engineering

INVEST
Indian Value Engineering Society
Affiliated to SAVE International USA
37th International Virtual Conference
20th & 21st Nov 2021

The Role of Value Engineering in Creating Lean, Smart and Green Products

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INVEST
Indian Value Engineering Society
Affiliated to SAVE International USA
37th International Virtual Conference
20th & 21st Nov 2021

Dr. Pratap Sundar was a speaker at the session

20th & 21st November, 2021

13. Quality: A way forward to Atmanirbhar Bharat by Hindustan Aeronautics Limited

Hindustan Aeronautics Limited, to commemorate the Quality Month during the 75th year of Independence, planned a session on the theme "Quality: A way forward to Atmanirbhar Bharat". Prof. Chandan Chowdhury delivered a talk on 'Quality Management in the Era of Industry 4.0'. The takeaways of his session were:

- Build a digital infrastructure for collaboration
- Leverage emerging technologies & scientific software for digital design, digital manufacturing & digital simulation
- Leverage quantum computers for modelling complex phenomenon
- Create scalable digital infrastructure for collaboration between various members of the value chain
- Thinking beyond pilot, prototype & PoCs.

November 24, 2021

14. Group case study competition

REPRISM 2021 Regional Round for North Zone was held on November 25. Prof. Chandan Chowdhury was a part of the Jury for Aditya Birla Group case study competition. Executives from different countries participated in the contest.

November 25, 2021

15. 14th CII National Competitiveness & Cluster Summit 2021: Fit for Future Enterprise – Paradigm Shift in Manufacturing: 25-26 November 2021 - CII Virtual Platform

Topic: New business models for SMEs – defining future ecosystem

Professor Chandan Chowdhury delivered the opening address and moderated the session on "New Business Models for SMEs – Defining Future Ecosystem." During the session, Mr Yashpal Sardana, Plant Head, Hero MotoCorp Limited, spoke about Hero's initiatives on green manufacturing, Mr. Narendra Patwardhan, Assistant Vice President, Operations, Godrej Aerospace, highlighted the role of SMEs in the Defense and Aerospace sector. Ms Verena Freynik, Senior Project Manager, Manager Training Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Germany briefed the participants on the opportunity for business growth with Germany.

November 25, 2021

16. Telangana Future Education Summit

Topic: Role of autonomous universities in research and innovation

Prof. Chandan Chowdhury was the Inaugural Guest Speaker and moderator for the panel discussion on 'Role of Autonomous Universities in Research and Innovation.' This event was organized by Indian Chamber of Commerce in Hyderabad.

December 8, 2021

17. Foundation Stone Ceremony

Prof. Chandan Chowdhury was invited as a guest for the foundation stone ceremony of Lamrin Tech Skills University at the Rayat campus. The then Punjab Chief Minister Charanjit Singh Channi laid the foundation stone of the university.

December 10, 2021

18. 5th Edition of CII Telangana Defence conclave

Topic: Capacity building for Telangana as a hub of defence startups

The Defence & Aerospace panel of CII Telangana organized its 5th edition of the annual flagship event Defence Conclave with the theme "Strategies For Bridging Technology, StartUps And Exports In India's Defence Sector" which was scheduled through an Online Platform. Prof. Chandan Chowdhury delivered a talk on "Capacity building for Telangana as a hub of Defence Startups." Senior policymakers and industry leaders participated in the event.

December 16, 2021

19. ISDSI Global Conference

Topic: Making organizations future ready CEO

Panel Discussion on "Making Organizations Future Ready" on December 29 2021: International Society for Data Sciences and Innovation - Global (ISDSI-Global) organized the CEO Panel Discussion. Organizations today are experiencing fundamental changes that include shifts from traditional to digitally-transformed and innovation-driven business processes.

We need to work on strategies that would enable us to be future-ready. During the panel discussion, industry leaders and academicians debated and discussed issues like:

- Industry trends and strategies to remain relevant in business
Opportunities for leveraging solution-based business models
- How to reduce cycle time for deployment of strategy? Can we productize strategy?
- How do we accelerate the process of upskilling?
- How do we change the mindset of executives at various levels of management to support transformation?

Panelists were Rajinder Gupta, Chairman Trident Group, Abhijit Dutta, Managing Director, Accenture Technology Solutions, Venkatesh Natarajan, President, and Chief Digital Officer, Ashok Leyland and Anirban Bhattacharyya, Chairman, Amplo Global USA. Professor Chandan Chowdhury chaired and moderated the session.

December 29, 2021



20. An Industry Roundtable on "Making Transformation Valuable by Integrating Sustainable Practices." This roundtable was originally scheduled in-person mode by Amplo Global in Mumbai but was converted into a virtual event due to the pandemic.



Making transformation valuable by integrating sustainable practices

Industry Roundtable
Date: 3rd Jan 2022
Time: 13:00 onwards
Venue : JW Marriott,
Airport

Transformation initiatives fail due shortcomings around lack of commitment, inter-connectedness and collaborative. Execution must happen across the industry value-chain by building up capability readiness and continuous process optimization through human-centric design and data-oriented decisions to generate Value

Experience, Coach & Interact

Agenda

Global industry trends, adoption and success

Platformisation to accelerate and measure transformation success

Best execution practices for challenges that need resolution

Live problem solving - AmploFly4.0™ transformation platform

Key Speakers



Rajesh Uppal
Sr Executive Director (HR & IT) at
MARUTI SUZUKI INDIA LTD



Vijay Kalra
Head – Mahindra Institute of Quality
Chairman - Central Safety Council
Mahindra Group



Naresh Tyagi
Chief Sustainability Officer
Aditya Birla Fashion and
Retail Ltd.



Aditya K Shrivastava
Sr. Vice President at
VE Commercial Vehicles Limited
(A Volvo-Eicher Motors Joint Venture)



Dr. Chandan Chowdhury
Senior Associate Dean &
Practice Professor
at Indian School of Business



Mala Singh
Founder and MD
PEC Greening India



21. International Conclave on "Integrating Indian Engineering MSME's in the Global Value Chain (GVC's)"

EEPC India with the support of Ministry of MSME organized a one-day International Conclave on "Integrating Indian Engineering MSMEs in the Global Value Chain (GVCs) on January 19 2022". This flagship event was held over a virtual platform and covered topics of value & interest to the Indian MSMEs. Prof. Chandan Chowdhury participated as a panelist. He spoke about "MSMEs to enter the Global Value Chains."

January 19, 2022

22. Faculty Master class by Prof. Abhishek Kathuria

Topic: Technology enabled disruptions and Supply Chain Implications

Professor Abhishek Kathuria Assistant Professor- ISB addressed the AMPOS potential participants. He spoke on 'Technology-enabled disruptions and Supply Chain Implications.'

January 19, 2022

23. NASSCOM Seminar for CIOs of India

Topic: Building Future Ready Digital Enterprise

February 12, 2022

CIOs of India
Powered by ISMF

NASSCOM®
Center of Excellence-IoT & AI
A MeitY Initiative with Govt. of Karnataka, Haryana, Gujarat & AP

Building Future Ready Digital Enterprise

**The Digital Intensity & Transformative Management
To Drive Share Holder's Value**

Prof. Chandan Chowdhury
Senior Associate Dean, ISB

**Digital Maturity Assessment - Framework
to create a transformation roadmap**

Date: 12th February 2022 (Saturday)
Time: 11 AM onwards

Amit Saluja
Sr Director, Head of NASSCOM center. Gandhinagar

Prof. Chowdhury addressed the session organised by NASSCOM

24. Panel Discussion organised by PHD Chambers

Topic: Medical Devices Rules 2017 (MDR-17) – Regulation of Medical Devices

INTERACTIVE VIDEO CONFERENCE
MEDICAL DEVICES RULES 2017 (MDR-17)
REGULATION OF MEDICAL DEVICES
CHALLENGES OF REGULATION IN MEDICAL DEVICES
 15th February 2022 | 3:00 pm to 5:00 pm

Principal Sponsor: Allengers
Co-Sponsor: Merit
Associate Sponsors: Clarity, VNG

Key Speakers:
 Dr. Ravi Kant Sharma, Deputy Drugs Controller, Ministry of Health & Family Welfare, Government of India, New Delhi
 Mr. P. V. Mathew, Scientist-E & Head MED Bureau of Indian Standards (BIS), New Delhi
 Ms. Susmitha Roy, Head- Regulatory Affairs, Andhra Pradesh MedTech Zone (AMTZ), Visakhapatnam
 Mr. Atantra Das Gupta, Co-Chair, Medical Devices Committee, PHDCCI

Supported by: AIMED, BID-Hub PGIMER CHANDIGARH

PHDCCI Leadership:
 Mr. Pradeep Multani, President, PHDCCI
 Mr. Saket Dalmia, Sr. Vice President, PHDCCI
 Mr. Sanjeev Agrawal, Vice President, PHDCCI

Chandigarh Chapter, PHDCCI:
 Mr. Madhu Sudan Vij, Chair
 Mr. Suvrat Khanna, Co-Chair
 Prof. Anil Kumar Gupta, Regional Convener, Healthcare Committee

Register in advance for this Video Conference:
<https://us02web.zoom.us/join/register?Zcpcuspj8oHNTzQVJUSvz5vSw7N-85JlzK>

RSVP:
 Ms. Rimneet Kaur, Resident Director
 Email id: rimneet.kaur@phdcci.in / Mob: +91 8146002297
 Mr. Avneet Singh, Sr. Resident Officer
 Email id: avneet.singh@phdcci.in / Mob: +91 8283848012

Col. Rajiv Bhargava anchored and moderated a panel discussion

Col. Rajiv Bhargava anchored and moderated a panel discussion on the Medical Devices Rules 2017 (MDR-17) that are expected to bring disruptive changes in the manufacturing ecosystem of medical devices. The new MDR 2017 is still in the transition period and will take time of another two years till October 1, 2023, to be implemented completely. The online panel discussion had more than 100 participants who enthusiastically participated in the proceedings

February 15, 2022

25. Virtual Training on Productivity Improvement and Cost Reduction through Lean Manufacturing Techniques

Topic: Productivity Enhancement through Product Design

Col. Rajiv Bhargava participated in the online workshop and spoke on 'Productivity Enhancement through Product Design'. He quoted Taiichi Ohno, the father of Toyota Production System, in sharing various design-based themes to enhance productivity.

More than 75 participants attended this training; the event got wide press coverage in local newspapers.

PHDCCI VIRTUAL TRAINING
PRODUCTIVITY IMPROVEMENT AND COST REDUCTION THROUGH LEAN MANUFACTURING TECHNIQUES
 18th February 2022 | 3:00 pm to 5:00 pm

Chief Guest:
 Ms. Hargunjit Kaur, IAS, Secretary Industries, UT Chandigarh

Key Speakers:
 Mr. S P Singh, Regional Director, National Productivity Council (NPC)
 Mr. SB Singh, CEO, Tansa Industries
 Mr. R S Solanki, Founder Director, STIAS Pvt. Ltd.
 Col. Rajiv Bhargava (Retd.), Associate Director, Indian School of Business

PHDCCI Leadership:
 Mr. Pradeep Multani, President, PHDCCI
 Mr. Saket Dalmia, Sr. Vice President, PHDCCI
 Mr. Sanjeev Agrawal, Vice President, PHDCCI
 Mr. Sanjeev Agrawal, Immediate Past President, PHDCCI

Chandigarh Chapter, PHDCCI:
 Mr. Madhu Sudan Vij, Chair
 Mr. Suvrat Khanna, Co-Chair

Register in advance for this Video Conference:
<https://us02web.zoom.us/join/register?ZDofn2oqTisE9fGg5WUORH7bckYUcJXl>

RSVP:
 Ms. Rimneet Kaur, Resident Director
 Email id: rimneet.kaur@phdcci.in / Mob: +91 8146002297
 Mr. Avneet Singh, Sr. Resident Officer
 Email id: avneet.singh@phdcci.in / Mob: +91 8283848012

Col. Rajiv Bhargava participated as a speaker during the workshop

February 18, 2022

26. Alumni connect

Munjal Institute for Global Manufacturing conducted a series of interactive sessions to provide information on the Advanced Management Programme in Operations & Supply Chain (AMPOS) with potential candidates. Prof. Chandan Chowdhury, Col Rajiv Bhargava, and alumni of AMPMO interacted and answered their queries. Speakers were:

- Prof. Chandan Chowdhury, Senior Associate Dean & Practice Professor, Indian School of Business Executive Director, Munjal Institute for Global Manufacturing and Punj Lloyd Institute of Infrastructure Management
- Col Rajiv Bhargava, Associate Director MIGM and Associate Director PLIIM
- Ms. Perna Chawla, Strategic Alliances Leader - Avalara Technologies
- Mr. Venkat Krishna, Founder & CEO- PQSI Digital

February 23, 2022

27. Interaction session with Indian students under distress in Canada

Topic: Interaction with Indian Students in Canada impacted due to closure of three colleges

Two online interactive sessions were conducted by Professor Chandan Chowdhury and Dr. Sandeep Singh Kaura, Advisor, Government of Punjab. During the interactions, they collected data to understand the magnitude of problems faced by Indian students due to the closure of three Canadian universities. Based on the insights, the problem was taken up with the Canadian government and the Government of Punjab. Many students got benefitted from this intervention.

February 25, 2022 and March 4 2022

28. Conference on Accelerating Andhra Pradesh Growth Momentum

Topic: Resurgence through Competitiveness, Sustainability, Technology on March 3 2022

CII
Confederation of Indian Industry

INDIA @ 75
75
Anniversary

CII ANDHRA PRADESH ANNUAL MEETING 2021-22
&
Conference on
**India@75 : Accelerating Andhra Pradesh Growth Momentum :
Resurgence through Competitiveness, Sustainability, Technology**

1100 Hrs. Thursday, 03 March 2022. Hybrid Mode (Physical / Digital) : Hotel Novotel, Visakhapatnam

Special Address on
**Embracing Digital Transformation :
Competitiveness of Indian Industry**

by
Mr Rakesh B Mittal
Past President, CII &
Vice Chairman
Bharti Enterprises



CII
Confederation of Indian Industry

INDIA @ 75
75
Anniversary

CII ANDHRA PRADESH ANNUAL MEETING 2021-22
&
Conference on
**India@75 : Accelerating Andhra Pradesh Growth Momentum :
Resurgence through Competitiveness, Sustainability, Technology**

1430 Hrs: 03 March 2022: Hybrid Mode (Physical / Digital): Hotel Novotel, Visakhapatnam

**MSMEs Growth
&
Sustainability**

by
Mr Amitabh Kant
Chief Executive Officer
NITI Aayog



CII
Confederation of Indian Industry

INDIA @ 75
75
Anniversary

CII ANDHRA PRADESH ANNUAL MEETING 2021-22
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**India@75 : Accelerating Andhra Pradesh Growth Momentum :
Resurgence through Competitiveness, Sustainability, Technology**

1100 Hrs. Thursday, 03 March 2022. Hybrid Mode (Physical / Digital) : Hotel Novotel, Visakhapatnam

Dr Chandan Chowdhury
Senior Associate Dean &
Practice Professor
Indian School of Business (ISB)

RSVP
Bethi Jyostna
bethi.jyostna@cii.in / 9906272361
Vikasish Parash
vikash.paranah@cii.in / 9608562972



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INDIA @ 75
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CII ANDHRA PRADESH ANNUAL MEETING 2021-22
&
Conference on
**India@75 : Accelerating Andhra Pradesh Growth Momentum :
Resurgence through Competitiveness, Sustainability, Technology**

1100 Hrs. Thursday, 03 March 2022. Hybrid Mode (Physical / Digital) : Hotel Novotel, Visakhapatnam

Mr Datla Tirupathi Raju
Chairman, CII Andhra Pradesh &
Executive Chairman
Vijayanagar Biotech Pvt. Limited



CII
Confederation of Indian Industry

INDIA @ 75
75
Anniversary

CII ANDHRA PRADESH ANNUAL MEETING 2021-22
&
Conference on
**India@75 : Accelerating Andhra Pradesh Growth Momentum :
Resurgence through Competitiveness, Sustainability, Technology**

1100 Hrs. Thursday, 03 March 2022. Hybrid Mode (Physical / Digital) : Hotel Novotel, Visakhapatnam

Special Address on
**Strengthening Supply Chain Ecosystem:
Opportunities for MSMEs**

by
Mr Kalyan Krishnamurthy
Group Chief Executive Officer
Flipkart Group



Conference on Accelerating Andhra Pradesh Growth Momentum: Resurgence through Competitiveness, Sustainability, and Technology organised by CII, Andhra Pradesh. This event was graced by C K Ranganathan, Chairman-CII Southern Region, Kalyan Krishnamurthy, Group CEO of Flipkart Group, Rakesh Bharti Mittal, past president, CII, and Vice-Chairman of Bharti Enterprises, Lt. Cdr. BM Ravindra Nath Reddy and Amitabh Kant, CEO, NITI Aayog and Karikal R Velaven, Special Chief Secretary.

29. Launch of Report on "MSMEs: Challenges in India, insights of Andhra Pradesh"

The report: "MSMEs: Challenges in India, insights from Andhra Pradesh" was in-person released by Datla Tirupati Raju, MD & CEO-Vijaynagar Biotech Limited, and Prof. Chandan Chowdhury in Vishakhapatnam, This event was CII Andhra Pradesh Chapter's first physical event after pandemic. The delegates appreciated ISB's commitment to conducting research on MSMEs, a topic of national significance.



Release of MSME report at Vishakhapatnam

March 3 2022

30. Interaction session with Indian students under distress in Canada

As part of its vision to become the world's skill capital, the Ministry of Skill Development and Entrepreneurship, India, plans to map the necessary skills required in the healthcare sector across countries. The Government of India has already initiated its efforts toward possible collaborations in the field of the health sector with the UK, Germany, Australia, and many other countries. We need to create an effective global supply chain of skilled professionals to meet the demand of the labor deficient world, contributing to global economic growth.

We conducted a roundtable on March 8 2022 as a joint initiative of MIGM, Government of Panjab, and Lamrin Tech Skills University at ISB, Mohali Campus. The roundtable's major focus was to discuss "Exporting Skilled Healthcare workers from India to Overseas to meet Global Shortages." Our objective was to derive insights:

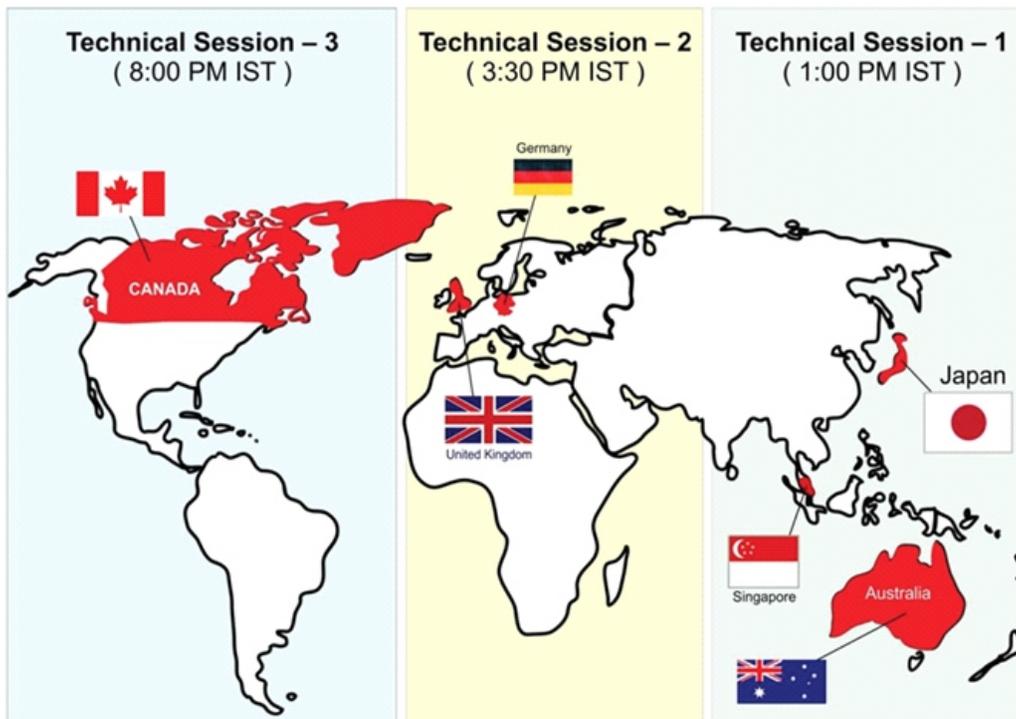
- To develop a robust system of skilling of the healthcare workforce in India to enhance the overseas outcomes.
- To design a skill-based course structure to meet the Country of Destination (COD) requirement.
- To facilitate need-based skill mapping for bridging the demand and supply gap of the healthcare sector in the COD.

We had 500 participants in each session, lasting for about 90 minutes. Our speakers were:

- Employers
- Training Agencies
- Certification Bodies

The focus of our country was different in each session, but participants were:

- Faculty of Medical / Nursing / Paramedical Institutes
- Faculty of Skill Development Centres
- Students of Medical / Nursing / Paramedical Institutes



We received appreciation from different countries for conducting the roundtable.

March 8, 2022

31. Panel Discussion organised by PHD Chambers

Topic: Relevance of Voluntary Certifications in Medical Devices Sector

Col Rajiv Bhargava anchored the second in a series of panel discussions on "Regulation of Manufacturing of Medical Devices," emphasizing the Relevance of Voluntary Certifications in the Medical Devices Sector. The session's objective was to appraise manufacturers, traders/distributors, importers, clinical establishments, healthcare professionals, and the general public on nationally recognized medical device standards and other regulatory requirements in India. The online event was attended by over 100 participants and evinced keen interest in the Medical Device Rules 2017 (MDR-17) and its influence on manufacturing such devices in India.

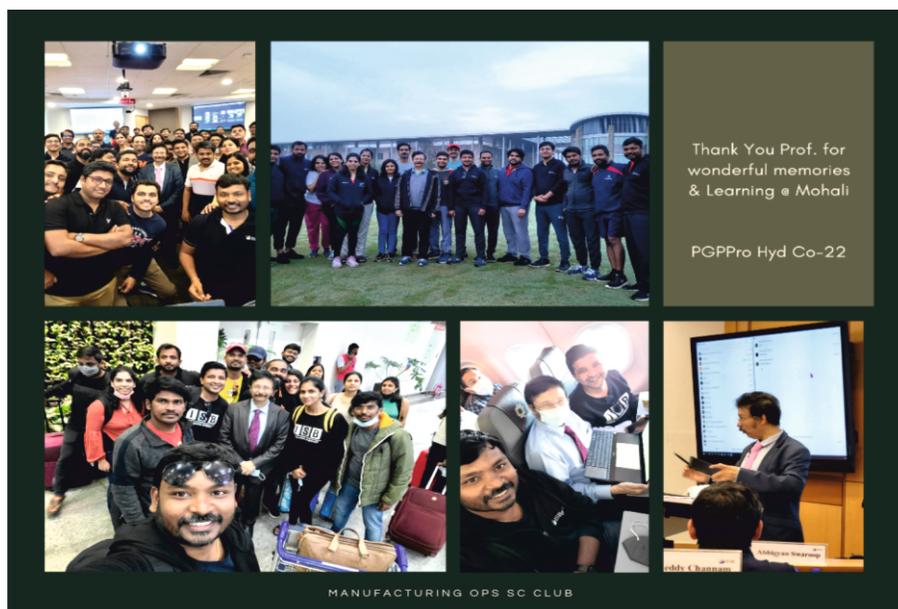
March 15, 2022

Col. Bhargava anchored in a series of a panel discussion

32. Masterclass conducted for PGP Pro students

Professor Chandan Chowdhury conducted a masterclass on "Digital Transformation and Innovation: Some Important Aspects" for the PGPPro students at the Mohali campus. He also accompanied the students on an early morning campus tour.

March 15, 2022



Professor Chandan also had the opportunity to travel with many students on the same flight from Chandigarh to Hyderabad.

On March 8, 2022, Prof. Chandan conducted a similar masterclass for the PGPMAX students.

33. Article in Forbes India (September 2021)

Col Rajiv Bhargava wrote in Forbes India on the topic 'Moving from friction to cooperation: How better industry-university linkage can benefit academia.' Access the article at [Forbes India - Innovation: Moving From Friction To Cooperation, How Better Industry-university Linkage Can Benefit Academia](#)

Major Proposals of National Importance

1. MIGM's Proposal to the Ministry of Heavy Industries on Atmanirbhar Bharat

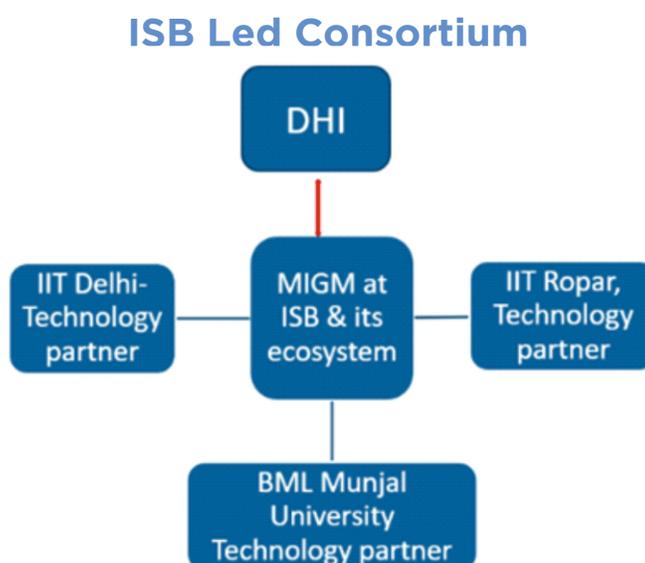
The Ministry of Heavy Industries (MHI) has launched the **SCHEME FOR ENHANCEMENT OF COMPETITIVENESS IN THE CAPITAL GOODS SECTOR - PHASE II** with the following objectives:

- To make the sector **globally competitive**
- To create **technology depth**
- To create **common industrial facility** centers
- To foster **Industry-Academia** partnerships

One of the initiatives as part of the scheme is the setting up of **INDUSTRY ACCELERATORS** for the development of targeted indigenous technologies, scaled to meet the requirements of the identified industrial sector, which is presently dependent upon imports with the active participation of the industry.

ISB Led Consortium

The Munjal Institute for Global Manufacturing at the Indian School of Business has formed a consortium to act as an accelerator for fostering the development of technologies. The other partners are BML Munjal University, IIT Ropar, and IIT Delhi.



Focus Area for the Consortium

The long-term vision of the ISB-led Consortium is to establish a world-class accelerator for new product development for import substitution. The intent is to make Indian industries globally competitive, aligning with national priorities. The accelerator will focus on creating widespread and definitive awareness of the importance of academia-industry collaboration and conducting in-depth R&D for new product development. We will also promote internships by involving ISB's students from multiple programs. The accelerator will partner with government laboratories and leading companies in the region to utilize their resources, equipment, and expertise for developing new products. The ISB-led Consortium will make concerted efforts to create an ecosystem that nurtures and promotes Industry 4.0 by providing incubation support for technology startups, creating networking opportunities for companies and technology providers, and advocating policies, norms, and standards.

Project Details

The Consortium has focused on the transportation sector for new product development, emphasizing the electric vehicle domain. The accelerator has identified a select set of companies (based on the present basket of imports - by value /volume / criticality) and collaborated with them to facilitate the development of indigenous technologies/ products from the concept stage through the development, trial, and testing of prototypes up to commercialization of the same.

The Consortium has reached out to multiple companies and carefully selected products that have the potential to develop a prototype within the time frame of 30 months and can scale up and provide substantial relief in imports. Each identified company would further collaborate with their supporting start-ups/ suppliers, their technology partners, and the consortium academic institutions.

The long-term consolidated import saving from these products (except for the project by BatX Energy) is expected to be **USD 6.14 Billion**.

A summary of the products, their companies, and the estimated development budget are provided below:

S No	Project	Company	Project Partner	Anchor school	Academic Institution	Cost of R&D in INR	Import Substitution in USD
1	Electric Power steering ECU with Hybrid connector	Rane Group	To be identified	ISB	BMU	1.65 Crores	1200 million
2	In-cabin Camera System Controller – Driver Drowsiness Detection	Minda Group	3rd party AI software slack partner being identified	ISB	IIT Delhi	5.63 Crores	100 million
3	Recovery of Lithium carbonate from Lithium Ion Batteries	BatX Energies	To be identified	ISB	BMU IIT Delhi	4.8 Crores	NA
4	EV wall mounted smart charging plug	Minda Group	To be identified	ISB	IIT Delhi	6.25 Crores	66 million
5	Battery Mangement System	Vecmocon	Battery pack manufacturers	ISB	IIT Delhi	2.43 Crores	40 million
6	Motor and Motor Controller	Vecmocon	NFTDC Hyderabad	ISB	IIT Delhi	5.83 Crores	250 million
7	Absorbent Glass Mat for Valve Regulated Lead Acid (VRLA) Batteries	Exide	H&V Advanced Materials (India) Pvt Ltd, Central Glass and Ceramic Research Institute	ISB	IIT Ropar IIT Delhi	11 Crores	3000 million
8	Battery Thermal Management System	BosonQ	Multiple	ISB	Delhi Technology University	4.3 Crores	1400 million
9	Sensing element Oxygen Sensor	Hero MotoCorp	Lumax FAE Technologies Ltd	ISB		19 Crores	92 million
	Total					60.89 Crores	6.148 Billion

We had multiple presentations at the Ministry of Heavy Industries. Our presentation has been appreciated and MIGM is expected to receive approximately INR 70 crores as a grant for its initiative on "Atmanirbhar Bharat."

2. Sustainable Academy

The MIGM collaborated with a strategy consulting firm and prepared a proposal on building a world-class Sustainability Academy for a leading Metals, Mining, and Oil & Gas company to embed ESG in the organization's DNA and for inspiring/driving action across all employees on the ESG front. The Proposal was submitted for opportunities up to INR 75 Crores.