

IIMM Chennai

Spectrum 2020 Annual SCM convention on 21st February 2020

The Programme started with the lighting of Kuthuvilakku by Mr Malay Chandan Majumdar, National President IIMM, Mr. Kaniappan, President WABCO India and Chief guest for the event, Dr. Arvind Bharadwaj, CTO Mahindra & Mahindra Ltd Farm Equipment Sector and keynote speaker, Mr. B. Ramesh Spectrum 2020 event Chairman (12th edition) and Mr. J. Ravishankar Chairman IIMM Chennai.

The invocation song was rendered by Ms. Harini student from MOP Vaishnav college. Mr J. Ravishankar welcomed all participants and highlighted briefly the activities of Chennai branch. It was highlighted that among all the 45 branches and 20 chapters in India, Chennai branch is leading in a number of professional development initiatives such as running a diploma course in supply chain management for working professionals. Briefly he stressed the need for supply chain professionals to get networked and participate in all professional activities initiated by IIMM and thanked all for joining in the event.

Mr S. Subramanian (Subbu) who provided the opening remark was introduced by Mr. Sivaraman MOC as the Content Committee chairman for the event. As a person who had pioneered IRCTC online booking website, he had been developing the contents for the events in the last years. He briefly highlighted the theme of Spectrum 2020, i.e. Smart logistics enables SCM 4.0 and the impact of technology in various aspects of day to day life and in the supply chain domain.

The next speaker Mr M. C. Majumdar, National President-IIMM stressed that the industry in which he works i.e. oil industry is highly dependent on logistics. Because of logistics improvement, the turnaround has increased and more urban space is released. He also mentioned that improvements in logistics have also reduced the demand for commercial vehicles, as the turnaround time has reduced and more vehicles are moving on road than waiting.

Mr Kaniappan, President of WABCO India who holds M.Tech in Mech Engg and has done Wharton Business school Executive development programme, provided his address as Chief Guest. He had earlier started career in TVS Motors. The focus was on SMART Fleet management solutions. Briefly narrating the evolution of vehicle industry, he stressed that the entry of global players really made the change towards development. The recent push by the Govt on emission regulations from 2015 has really made the major changes in the vehicle design and production. He stressed that vehicle intelligence is emerging as a new

concern and with entry of global players and recent developments in E-commerce had created major changes. The need to enhance technology in logistics sector was highlighted as the need to compete internationally. The need for having more intelligence in vehicles was mentioned as the transformant step. With electronic engine management, the data analysis has created improvements. Need to equip young people to these developments in autonomous connected electric vehicles and driver management system and such new developments. In load and cargo management, the monitoring of trailer trucks, such a real time monitoring of temperature systems as it improves efficiency, were stressed.

Dr Arvind Bharadwaj provided the keynote address. He is a mechanical engineer with Ph.D and MBA with distinction Michigan state university focussed on Smart logistics and its impact with emerging mobility technologies

His introduction to mobility in logistics has listed the following key drivers

- Transportation efficiency
- Cost optimization
- Safe and consistent services
- Technology convergence

He elaborated how these drivers lead to the following challenge to make these technologies accessible.

- Improved operating economics and efficiency that
- Emission and environment
- Infrastructure constraints
- Energy security

He narrated further how the potential impact of technology across sized applications in 2025 will lead to a \$ trillion business annually. Some of the areas highlighted include macro trends impacting mobility connected electric vehicles, shared mobility and autonomous vehicles in business. In the farm and agricultural sectors, in which he is working, its impact on the full ecosystem and what we can do with this type of mobility on Improved jobsite productivity and operator performance, financing network partner, location, availability, proof of work were highlighted. He added further that multi application, multi product, multi customer open architecture have enabled flexible, scalable, third party enabled.

He also presented briefly Digisense technology from Mahindra Renting out tractor using technology

He shared a video presentation on Shared mobility Porter and TRRINGO as tractor call kard

The Porter mobility sharing ensures vehicle tracking and delivery. The Tringgo app for farmers does

intelligent match making on tractor rentals. It also showed how electric and sustainable mobility

e- Supro for urban mobility – is developed by Mahindra Group i.e for example, power and cargo van for high value goods as safe carriage, having zero emission advantage. Besides, efforts to creating waste from wealth, using all waste from old city and converting waste into auto grade CNG. The by-product is organic fertilizer. In this way, food waste is converted into more than 90% methane organic CNG. First and only gas driven tractor and Mahindra jeep.

Further video clippings on autonomous vehicle trials in Europe in US i.e UPS self-driving delivery trucks, having completely autonomous driver functions. The Indian experiment with driverless tractors i.e hands free, piloting in Punjab and UP of driverless tractors was shown. This has resulted in uniform crop pattern and increased yield.

He concluded the session with following remarks

- Penetration will happen much faster than matured economies
- Affordability and applications will be the key factors
- Skilled labour dependency

The inauguration function closed with award ceremony. Mr.T.N.Srinivasan who is an active member from IIMM Chennai branch was awarded the distinguished member from IIMM by the Chief Guest .

The Best Chairman award among all branches was awarded to Mr Swayambhu by Mr Kaniappan. It was also highlighted that so far, 14 distinguished members from IIMM Chennai branch have received distinguished member awards. All speakers were presented mementos and vote of thanks provided by Mr Sethu Venkataraman-Secretary.

Technical session 1

1. Dr.M. Arumugam Managing Director Broadline Technologies Pvt Ltd. Provided the facilitation for this session. The focus of the session technology advancement in logistics was on AI, ML, BC &DRONE.sThe advances in AI/ML were briefly presented. The current competition is truly between supply chains. The history of supply chain and logistics was narrated -From TOC to Forrester Effect to 3PL to

Operation Desert Storm to Green supply chain to bullwhip effect to secure systems
Development of autonomous logistics

5 disruption stages in logistics sector was highlighted

1. The Kodak moment
2. The internet infrastructure (fibre optics)
3. Disruptive biz models
4. IOT and AI
5. The adaptation curves

Future of logistics Evolution of industry to Industry 4.0 will be driven by the following key drivers

2. Interplay of operation and information technology
3. Connectivity and robotics
4. New breed of technology players entered providing logistics services.
5. The delivery capability is enhanced using shared logistics. Development of autonomous logistics

Shyp and Zipments are new logistics companies in that move towards a circular economy which also needs to be green. Examples of other companies are Matternet, Amazon, Barracuda Shipco, Shyp Flexport and Shiphawk.

Autonomous cranes is another development Kone cranes and Potain power cranes. Also an example on drugs shows various distribution of drugs in Africa using drones. Initially help was taken from Coke distribution channel. Mobile robots can manage warehouse operations, more efficiently and effectively.

Autonomous ships and autonomous fleet are another area. Autonomous AI are operating in Italy. For this competitive supply chain and fleet management are required. IOT can be applied over a range of areas. It can be an intelligent enterprise. Big data in logistics leads to accuracy

He narrated the journey of technology in SCM from year 1700 to year 2020. The impact of each of Block chain, Artificial intelligence, Machine learning, and Internet of Things was summarized in the beginning.

Machine learning ensures using data with sensors

Technical Session 2

Mr. Mr.G.Vipin Shankar Director Regional Operations (ILS) South Asia. APL Logistics India Pvt Ltd. INTELLIGENT INTERMODAL transportation services focussed on development of logistics over the last 300 years. The main disruptors of logistics are Block chain, Machine learning and Artificial Intelligence and Internet of things. Each of them have led to clear disruptions. The block chain helps to move towards a transaction which is already authenticated and quicker interface. The machine learning algorithms such as what we see in Google are good examples. He further illustrated through videos and visuals on the emergence of logistics to Industry 4.0 level and further into 2030's.

Technical session 3

Future proof reverse logistics MrN.Swayambhu, former Chairman of Chennai branch was the session chairman. Mr Nagappan former GM Materials Management-Apollo Hospital Group facilitated the session on " Reverse logistics and return logistics.

Complete reverse logistics in a layman's language was provided. He highlighted how in the day to day life of our having medicines and dealing with medical shops the issue of expiry date becomes a key factor. He further highlighted how the expired medicines, waste hospital material both medical and non- medical waste are disposed. On the key area of regulatory frameworks including Drug Control Order the core issues relevant for return logistics were highlighted. E pharmacies emergence and issues related to their logistics were also highlighted.

He answered how medical waste is returned and used. How the expiration of medicine is known to a pharmacy was clearly explained.

Technical session 4

Mr Ratnakar AVP- Sourcing &Associate Vice President -Sourcing &Commercial Hatsun Agro Product Ltd. Facilitated the session. The session was chaired by Mr.T.A.B.Barathi Director-Education. This was illustrated as a case study on Hatsun Agro Products Ltd. He heads procurement and commercial functions. He is an MBA from IRMA Anand in rural management. Hatsun Agro Products Ltd , which started 50 years back. It is exported to 38 countries. From ice cream business they have diversified into dairy business. Right now milk is regulated for selling in domestic market only. Ice cream, fresh liquid milk, curd, long life products like milk powder chocolate ghee etc.

HAP has diversified into chocolates also. In Tamil Nadu and southern states it has at 19 locations manufacturing facilities . Operations in India cover Tn, AP, Karnataka, Telenghana and Maharashtra and has grown over 50 times. To Rs.5000 crores to selling

in southern states only. The growth of HAP has moved from 1 MLPD in 2005 to 3 MLD in 2018 . Milk sourcing villages cover about 13,000 in numbers from 4 lakhs farmers covering 7.63 lakhs cows.

HAP takes from small farmers the buying of milk from one two cow owners. 3.5 million litres per day is the handling capacity. During summer production of milk from cows come down by 40%. We can test for any chemical or any hazard. Basic aims of sourcing – traceability. Milk is bought from farmers. HAP has a a system to reach to any animal. Can trace out any antibiotic to any animal. Milk tested for paying the price. The price is determined and farmer gets an SMS and the price details are given to him. Vehicle allotted to logistics team collects milk from ABC to plant. Within an hour and 1.5 hours the milk is chilled.

Checking the stock availability of RM/PM in ERP system and availability of milk collection. The challenge is how to reduce the chilling time to milking time to 3 hours. After chilling it is not a challenge.

4 lakh farmers 7.63 animals. 9385 collection centres. Milk sample test for FAT and SNF . Milk undergoes 45 tests. 30 lakhs litres are collected per day. Snapshot of SMS sent to farmers 7 lakhs SMS sent every day.

100% direct transfer to bank accounts every 10 days he is paid. Also cattle feed business is done by us. 1496 vehicles travel 2.75 lakh kms every day. For milk procurement. Electronic milk testing and use village level chilling and Bulk Milk chilling. No bulk vendors from 2015. Boston cooling technology used and HAP is the first to buy 500 machines. Now it is computerised. Information on what place what temperature in village and how much milk is procured on daily basis.

Payment is made thro bank account to 4 lakhs farmers, 9385 HMB in charges and Building owner at 85, is the full map.

In terms of production HAP distributes 50 lakhs pouches and 14 lakhs packs a day. 49.7 lakh litres of milk. 20 tonne truck to 3 w auto are used for transport. HAP has 3000 own shops for distribution. 57,000 chillers are kept in the market. Selling milk and solid products separately. Refrigerated trucks are used for transport of ice creams

Ibaco ice-creams premium ice-creams. Varieties of small batches of chocolates made at Salem plant.

165 8 states &UTs to sell 36 ice cream flavours ice creams, toppings etc. Ice cream cake unique challenges. Moving into pizza 40% of pizza is cheese. 1000 MT cattle feed every month. 20 ingredients from all over world to make cattle feed manufactured. Subsidized

rate to farmers. Tracking every animal of farmer vaccination, insemination etc. Get animal pregnant every year is the responsibility of HAP

Non milk sourcing

- RM,
- Packing materials
- Capitals
- Import and export
- Consumables

ARIBA supplier life cycle system fully implemented. RFP advantages full transparency.

Technical session 5

This session was facilitated by NTC Logistics India Pvt Ltd. Mr. Balaji CEO specialist in logistics turnaround. The theme of session is 'End to End logistics'. Mr. B. Ramesh the Spectrum chairman anchored the session. Company Scientc Supply Chain synchronized on Topic End 2 End logistics solution for better tomorrow. As a travelling salesperson of FMCG company, taking orders from stockists to deliver the products in time. Either the delivery was delayed or condition was not good. 7 Rs for efficient logistics. Right product right customer, right time, right place, right quantity, right quality and right price

Logistics evolution can be mapped as

Industry 1.0 1800, Industry 1900 Industry 2.0, Industry 3.0 1970's, Industry 4.0 2018 plus, Digital ecosystem 2030 plus

Digital ecosystem, Flexible and integrated value chain networks, Virtualized processes, Virtualized customer interfaces, Digital supply network, Data driven digital supply network which is analytically powered.

Consumer Experience, Increased and real time visibility, Better options both product and service, Buying decision tools are many Cost transparency and Low Service Tolerance

Impact to logistics, Predictive analytics to study buying behaviour, Service innovation, cost effective, effective and efficient delivery, Necessity to break silos and make it collaborative.

End to end SC should deliver C2C efficiency.

3 steps connect co create and collaborate - Case study 2 Co-creation Synchronized logistics - Returnable packaging solutions- Real time monitor and tracking- digital weight confirmation.

PPC centre- processing centre. - PPC storage can be ambient or cold - Use of standardized pallets increases turnaround. Pay by use engagement model.

Recognition of support by sponsors

The NTC group representative received the title sponsorship

Mr H.K.Sharma Sr. Vice President, IIMM and Additional Director General DGS&D gave award to NTC group and Bharani hydraulics, the Gold sponsor. Silver sponsor was received by Raj Petro, Nerolac, JK Auto engineering and Representative from Motor India was recognized for media sponsorship

Report on panel discussion

Influence of E commerce trends in Logistics 21 Feb 2020

Panel members- 1.Debashish Mohanty Chief financial officer Ych logistics. He has held senior positions in logistics field. 2.G.Raghu Shankar ED- International Shipping and Clearing agency . He has 35 years experience in logistics service and active in MCC and HCC. And Prof D.N.Chandrasekhar a professor from KREA university Certified supply chain management professional. He has published a number of papers and books (Oxford University Press) 4. The chairman of session Mr.S.Subramanian- Content committee chairman

The panel chairman narrowed the areas of discussion to the following

- How does online and brick and mortar co-exist
- 3 PL and 4PL advances
- Increase in online retail
- Integration of delivery in online delivery
- Reorganization of warehouse.

Prof Chandrasekhar highlighted his academic experience and the depth knowledge he has in supply chain field and wanted Mr Raghu Shankar to initiate the discussions.

Mr. Raghu Shankar started the history of digitalization in the last 25 years. The bill of materials was the first to be taken up for electronic data interface in 1996. In 1997, the clients were requested to file from their own office. They equipped electronic filing of all documents, related to testing. Being a signatory to world trade organization, Indian Govt started using SWIFT, electronic submission of documents and testing. This led to avoidance of human intervention. RFID was used for physical goods tracking. From

warehouse to port the reading is done in RFID mode and it is reported electronically to custom's system. RFID ensures tamper proofing. By making electronic document similar to GST, the documents can be seen anywhere in India electronically. This is an E initiative of Govt of India. This removes human intervention. Customs do not know how to market. No one visits customs house, these days as all work is in electronic mode. PCS system will link all players and ports in the international supply chain. This is targeted for 2021. Govt is moving faster than industry.

Reg the carrier part he suggested that it can be done electronically. Main reason will be less errors. Import and export documents in future if they match, you can even pay custom duty based on the document without custom certification. Facilities available and there may not be a case to complain.

Mr Debashish Mohanty, while sharing the experience of his own family members like old ladies discussing what to purchase from website. Traditional effort may not be wrong. Still we have newspapers. Our requirements do not end with that. He narrated the traditional newspaper distribution- a simple supply chain. Change or evolution in last mile delivery, is happening in all businesses. 25% customers want same day delivery. 25% of industrial and consumer products need to be delivered in the same day. A comparison between a traditional and modern DCs is shown. Instead of person going to rack, rack comes to him. Palletizing is essential. He highlighted the following practices

- Route optimization
- Auto dispatch
- Real time status update
- Use of sensors
- Delivery by drones, self-driving cars and robots.

India is getting ready for \$ 5 trillion economic size. 60% of workforce will be taken by robotics. He also briefly touched upon the following.

- Blockchain revolution
- Use of decentralized digital ledgers will help
- Traditional versus technology driven model
- Logistics industry handles consolidated last mile delivery thro' various applications
- Hyper markets and ecommerce players
- Cross border movement is made easy
- Technology driven fulfilment centre
- Automation for efficiency
- Reverse logistics has gained importance.

➤ Benefits of modern LMD to Industry

The program ended with a vote of thanks provided by Mr. Sethu Venkataraman Secretary IIMM Chennai branch.

Report by Mr. V Ramachandran, Member IIMM Chennai