Government of Karnataka

CII
Confederation of Indian Industry

CRAFTING OUR FUTURE

INNOVATION FOR THE NEXT WORLD

14-18 SEP 2021 | VIRTUAL SUMMIT

SESSION SUMMARY

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Inaugural Session

Key Speakers:

- Mr Ramesh Ramadurai, Chairman, CII Karnataka State Council & Managing Director, 3M India Ltd
- Mr Kris Gopalakrishnan, Past President, CII & Chairman, Axilor Ventures & Co- Founder, Infosys Ltd
- Mr C K Ranganathan, Chairman, CII Southern Region & Chairman & Managing Director, CavinKare Pvt Ltd
- Dr E V Ramana Reddy, IAS, Additional Chief Secretary, Department of Commerce & Industries, IT, BT and S&T Government of Karnataka
- Dr C N Ashwath Narayan, Hon'ble Minister for IT, BT and S&T, Government of Karnataka
- Ms Jyothi Pradhan, Vice Chairperson, CII Karnataka State Council & CEO, Kurlon Enterprise Ltd

- The theme of the summit was "Crafting our future innovation for the next world". The theme was chosen as India can become a laboratory of Innovations which tries out billion ideas to come up with sensible solutions. An example of this is vaccines, the affordable and mass solution. India used to be 80th in Global Innovation index and now it is at 48. India has the potential to step up and be at the top 10.

- Partnerships and collaboration are important for growth of innovation in any region. It is very important for partnership between industry with government for creating the best ecosystem for innovation and entrepreneurship which in India and the state Karnataka.

- Karnataka has a very supportive start-up ecosystem. Government has offered a lot of schemes over the years and these are why Karnataka has become the Silicon Valley of India & a technology hub. Karnataka had focused on science and technology in the early 90s and now the focus is shifted to start-ups and deep tech. Today Karnataka is one of the top five states in Knowledge Management. The availability of Skilled workforce, academic institutions, strong industrial ecosystem, Research & development centers and conducive policy support makes this state one of the best for innovations.

- Industry has to reinvent everyday by leveraging technologies that are available today. Technology is going to change a lot of things including the business models, the working models across sectors, which are now challenged by start-ups. Industry needs to work with the potential of start-ups to do their research. This would enable higher risk-taking capacity and efficient use of funds.

- "Failure is not fatal" mentality should be encouraged. The people with experience of failure will go a long way and such people must be hired. At schools itself such mindset must be built. Parents should celebrate failure. There is need to create such an ecosystem to encourage start-ups

- Karnataka is now introducing policy that will increase the industrial exposure for students under the National education policy. Government will be giving autonomy rights to educational institutions. Digital infrastructure needs to be supported for the education

Dialogue on Disruptive Technologies

Key Speakers:

- Dr Taslimarif Saiyed, CEO & Director, C-CAMP
- Dr. Ezhil Subbian, CEO, String Bio Private Limited
- Dr Shams Yazdani, Group Leader of the Microbial Engineering group & Coordinator of DBT-ICGEB Centre for Advanced Bioenergy Research International Centre for Genetic Engineering and Biotechnology
- Dr Jogin Desai, Founder and CEO, Eyestem
- Dr Sanjay Singh, CEO Gennova Biopharmaceuticals
- Dr Santanu Dasgupta, Senior Vice President, Head of Synthetic Biology and Algae to Oil R&D Reliance Industries Limited

This session focused on taking a spin on the impact of disruptive technologies in today's lives and its potential in research and development, while understanding the adversities associated with effect on the environment. Disruptive technology is very important when there is a need to create new technology. These technologies are game changers. Value added products will be added by the disruptions. The current vaccination used under the pandemic are synthetic in nature, carries the cells message to make the antigen for a particular infection. This vaccine is far more effective than its previous versions making it more precise, less time consuming and a potential in showing better results. Modifications made under synthetic biology has more scope under the future of innovation and the way forward in the field of health.

There is a need for sustainable food production and how String Bio is aiming to achieve the same. Healthy lifestyle is the need of the hour and how the standard for lifestyle has been improved and its adverse effects on the environment because of the high demand. String technology is striving to provide for growing food demand while addressing the rising toll on land, water resources through their next generation ingredients and low-level use of synthetic fertilizer. String works at the intersection of biology, engineering and chemistry through its SIMP (String integrated methane platform) that enables diversified products from methane using a biological process which is good for generating high energy and as methane being high impact GHG (green house gas) this would help in contributing towards sustainable development. It also helps in producing diverse ingredients like animal nutrition proteins, cleaner ingredients in cosmetics, organic and efficient agricultural inputs.

There is an impact of climate change on human health and conditions responsible for these effects. Bio fuel is a technology which leads to reduction in GHG emission and how first- generation biofuels are not sustainable. Synthetic biology potential is huge and it adds new dimension of technology that facilitates and accelerate the understanding design, redesign, manufacturing and modifying genetic materials, living organisms and biological systems. This also helps in improving the CO2 sequestration. There are more fuels being created from lignocellulosic biomass there are new fungal platform that is identified via high throughput screening which is very beneficial for R&D. Fungal enzymes are potent and how this new platform helps in genome sequencing and annotation. It also helps deciphering complex business compositions.

Disruptive technology emphasizes on the future of health system and how technology and healthcare are now going hand in hand towards sustainable development. Stem cell generation has a very huge scope and scale as one stem cell can grow to formulate any tissues, organs which could be a life saver during fatalities and also arbitrated that in 10 years cancer will become easier to cure. The aim should be to make it affordable.

Synthetic biology is an important factor in the disruptive future. It is nothing but the engineering of biological components, systems or organisms to make chemicals or materials. This will slowly transform what we eat and how we grow food and how we source materials by 2030 atleast. These are sustainable and affordable technologies. They are more inclusive.

India being dependent on importing biological products, we have a well-structured talent pool and infrastructure for implementation, output and the whole process. The smart regulatory frame thatwe have right now is most suitable for exchange of biological products, germplasm access etc. Government has been giving grants for these technologies.

Synthetic biology will take the world to next leap with programmable receptors that detect biomarkers, microbial production with mechanical advantages, bacterial cellulose for patterned living materials and engineered facemasks that can detect covid 19. Synthetic biology also helps insolving global problems by providing sustainable and Eco-friendly technologies to feed the world, use renewable energy and biomaterials.

Recommendations:

- Government should encourage the implementation of the new technologies and allow it become more visible.
- Encouragement of more investments in infrastructure is required. More task forces should be set up. Focus on Higher Education in Science & Technology should be there.

Innovation in Bangalore – International Perspective

Key Speakers:

- Mr Deepak Padaki, Executive Vice President, Chief Strategy & Risk Officer, Infosys Ltd
- Mr Jonathan Zadka, Consul General, Consulate General of the State of Israel
- Mr Friedrich Birgelen, Deputy Consul General, German Consulate General Bengaluru
- Mr KT Rajan, Deputy Head of Mission (DHM) & Cluster Head - Technology & Innovation for India & South Asia, UK
- Mr Sam Freeman, Trade & Investment Commissioner, Australian Trade and Investment Commission (Austrade)
- Dr Jacob Orberg, Counselor Innovation, Research and Higher Education Royal Danish Embassy

The session talked about Bangalore as an innovation hub and the opportunities for collaboration in innovation and technology. The discussion also revolved around the importance of the innovation not only in the technology but also in the supply chain, environment, work culture, ability to innovate and manage relationships through cooperation.

India & Israel: India particularly Bangalore and Israel can collaborate on new markets and both the countries have equal desire to make innovation and technology more democratic. An agreement has been signed between Israel & India for not just the technology transfer but also the joint development of the new technologies. A MOU has been signed between the Israel and the C-CAMP to link the start-ups of India and Israel. Start-ups should be encouraged in both the countries to take it forward. The area of the collaboration can be in fields of Agritech, Defense, Medi-tech, drones, innovation in civil areas etc.

India & Germany: German companies are establishing their research and operations headquarters in the Bangalore. To attract the best talent in the research and development there has been various steps taken by the German govt. like ease in the VISA policy because of which as many as 25000 student went to Germany to upskill themselves. The German govt. has invested as much as 1300 core rupees to create the infrastructure for the start-ups to pick the momentum. Indo- pacific guideline were also spelled out in the deliberation that provide the guideline for economic cooperation and Technology Corporation. There can be potential on collaborations on Smart Manufacturing & 4.0 & the technology transfer in sector of Automobiles.

India & UK: 38% of the UK investment across the globe is in the Karnataka that too to facilitate the technological innovation.250 British companies have their operations in Bangalore. India is the second largest FDI investor in the UK. The range of the collaboration of the two nation ranges from the aerospace, medicine, research, productions etc. e.g Covishield vaccination was produced in India and researched in Oxford University. The biotechnology is yet another area of the association. There is

investment of 1.2 million dollar on green tech. Retail can be a potential area of collaboration.

India & Australia: Australia and India have partnerships in education, cyber security, big data, defense, machine learning, and artificial intelligence.

India & Denmark: Denmark has a green strategic partnership with India that include SDGs in focus at highest level. The green research strategy includes carbon capturing and storage utilization followed by green fuel for transportation and industry, climate and environment, agriculture, food production and waste management. Bio innovation institute is supported by Nova nordisk foundation. Operates an incubator to accelerate works class life science innovation and fucus on creation house and Venture lab. Until now, eight BII Start-ups, 35 Million euro granted, and 37 Million euro raised by start-ups. There can be a potential collaboration on diary technology.

CII - 3M Young Innovators Challenge Awards

Key Speakers:

- Mr Kris Gopalakrishnan, Past President, CII & Chairman, Axilor Ventures & Co- Founder, Infosys Ltd
- Mr Ramesh Ramadurai, Chairman, CII Karnataka State Council & Managing Director, 3M India Ltd

3M-CII Young Innovators Challenge Awards Program has been recognizing and promoting youth-led innovations that have the potential to bring about sustainable impact in our society. The challenge has completed seven successful editions and granted more than 40 innovators that give rise to over 5,000 ideas for the impact. While the pandemic has disrupted our society globally forcing the world to rethink, and adapt, science and sustainability have forged new opportunities in all sectors. 3M-CII Young Innovators Challenge Awards 2021 is calling for “Ideas that inspire hope for a resurgent India” and have the potential to restore and reshape society as we emerge out of the pandemic. The Challenge Awards will show the seven best innovations at the beginning of the season at the India Innovation Summit of CII. Furthermore, India 3M will offer fund financing from INR 3.00.000 to some of the seven assembled to promote their work, as well as providing a variety of media opportunities, access to professional networks and tutoring.

Submissions were invited across sectors – Health, Education, Livelihood, Environment, Art & Culture, Governance, and Inclusive Development, under the three following categories.

1. Product Innovation – Product innovation offers a tangible result with the creation or introduction of a good or service that generates unique value to its audience. Product Invention, New technical specification or qualitative improvement influences the functioning of the solution offered.
2. Service Innovation – A service product or service process is based on some technology or systematic method. Use of technology for delivery of service or other intangible innovations in this category clearly displays the impact it creates in the distribution or application process.
3. Rural and Inclusive Innovation – This category is the most inclusive in nature and specifically addresses rural remote and underserved communities and/or regions. Spread across a wide array, innovations in this category highlights solutions that adds new economic or social values to communities in need.

Winners
Category: PRODUCT INNOVATION

- Idea Prize: BlisCare
- Impact Prize – AKIcare
- Special Recognition for IMPACT - Canfem

Category: SERVICE INNOVATION

- Impact Prize – Learn and Empower – India's first hearing impaired-friendly, digital, games-based AI-enabled, teaching-learning platform.

Category: RURAL & INCLUSIVE INNOVATION

- Idea Prize – Venticook
- Impact Prize – MILA (Moving IntelLigent Auto) Feeder
- Special Recognition for IDEA - Solar Powered Lift Irrigation in remote regions of the Himalayas

Future of Healthcare

India in the innovative chain of the world did not have a place so far. The pandemic accelerated some of the ideas that were existing. To accelerate original innovations, young minds need to be seeded with curiosity for innovation, by creating an environment to change their mindset. No innovation can be done alone, it needs an ecosystem, it needs requisite inputs from different sources and discipline. India needs to have new technology going forward to make things affordable.

For any innovation, a good partnership is the firstly important. Secondly, need to set aside a particular amount of revenue and fund them.

There is a need for enhancing healthcare delivery system with the help of technology. Technology has also played a major role in tele consultancy and tele medicine with doctors. Healthcare delivery system is also revolutionizing to be able to fit this technology and enhance it to take it to another level. India has a good medical infrastructure but there is need to strengthen it. Technology has played a part in improving infrastructure.

India needs to work to have more medical education, skill more paramedical personal, new technology and physical infrastructure to deliver healthcare with quality and efficiency. Skill upgradation is equally important. Technology can never replace human touch but technology can leverage the human mind and help the individual to provide a well effective and efficient care.

Some important challenges in Indian Healthcare industry are inadequate infrastructure, limited role of private sector, eldercare and lack of public private partnership. There is also a need for medical reforms, like the seating capacity in healthcare education need to be increased, quality professionals and introduction of new concept like earn while you learn. Public Health system needs to have accountability, and quality. Quality Health should be provided to the remotest areas of our country. There has to be transparency between Government, private hospitals and the patients. Financial sustainability of private sector to be considered by the Government

For accessible and affordable care, both primary care and point of care need to address the issue of cost, capacity and capability constraints throughout the healthcare through right set of interventions and technology innovation. Some initiatives like the Government insurance and Cowin app had played a great role in handling pandemic. The Government of India has put many seedlings together but we need to bring it together.

Digitization of Healthcare, use of AI & Tele-Health to enhance last mile connectivity worldwide is the key focus area of the conglomerates globally. Healthcare industry leads explained how we should be bringing quality of healthcare from cities to the rural areas and improve the accessibility of privileged healthcare to all. How AI could be helpful in sending reports and solving last mile connectivity problems is being constantly worked upon and this was highlighted as an area of intervention and innovation for the industries globally.

The urge to the Government will be to encourage more companies to take the production activities and strengthening the supply chain so that we are heading towards the right direction, coupled with incentives and right amount of funding to materialize the dream of being a global leader in vaccination.

The phase of next 30 years is going to be throwing opportunities for our country to excel and emerge as a leader in healthcare and this journey seems to be equally exciting, with the new technology-based healthcare startups coming into this space along with large players, being the torch bearers.

India will also have an important role to play in the transformation of healthcare globally, driven by necessary frameworks and a borderless approach.

Hackathon

Role of innovation in the success of businesses and for the nation in the next digital era, is quite imperative and indispensable. Innovation also provides a platform to engage and drive the growth strategies from India for global markets, especially in the field of Health, which has been one of the verticals enriching day by day tackling real life problems.

Recommendations for the stakeholders:

- Health sector is short on talent. Digital Health with remote monitoring is required. Para medical staff to be digitally educated. With regards to infrastructure, top end players in the sector are private ones. Government needs to have a balance on health infra to ensure affordable healthcare to all.
- Healthcare facilities to be strengthened at the rural level. Last mile connectivity to be increased and supply chains to be strengthened using AI/ ML and other technology based services, which will make the services easier, faster and less complicated.
- Rural healthcare infrastructure to be worked on and the Government to come out with incentives and subsidies for setting up healthcare/medical infrastructure as a part of the building businesses in the rural regions.
- Services like Tele-Medicine, Tele-Health to be encouraged, which can have remote monitoring and the patients which require end to end support, could be focused while the rest could be managed through the above methodologies.
- Start-ups to collaborate with large players and be a part of the supply chains to increase the efficiency and last mile connectivity.
- Affordable and easily accessible healthcare framework is the key for the stakeholders.

Key Speakers:

Inaugural Session: "Healthcare challenges in a post pandemic India - what are the key Health Care challenges facing India now?

- Mr Ajay Nanavati, Chairman, Quantum Advisors & Former Chairman, Syndicate Bank
- Ms Shobana Kamineni, Executive Vice Chairperson, Apollo Hospitals
- Dr Alexander Thomas, President, Association of Healthcare Providers India
- Mr Amit Mohan, Chief Operating Officer, GE Healthcare India and South Asia Region

"Accelerating innovation (Asks from the industry to ramp up innovation in India)"

- Mr Sasikanth Dola, Partner, Mckinsey
- Dr. Naresh Trehan, CMD, Medanta – The Medicity & Chairman, CII National Committee on Healthcare
- Dr. Radha Rangarajan, Head, OJAS MedTech
- Dr Venkataraman Sundareswaran, MCHC Fellow, AI & ML, World Economic Forum
- Dr Charit Bhograj, Founder & CEO, Tricog

"What does it take to build a Healthcare Unicorn?"

- Dr Ajay Nair, CEO, Swasth
- Mr Sidharth Shah, Co-Founder and CEO, Pharmeasy

"Healthcare Innovation show case – Demos by 6 Global Innovators"

- Dr Kaushik Murali, President, Sankara Eye Hospital
- Mr Roland Lamer, VP, Software Engineering, GE Healthcare, Buc, France
- Dr Sai Praveen Haranath, MBBS,MPH,FCCP, Senior Consultant Pulmonologist & Critical Care Specialist & Medical Director, Apollo eACCESS TeleICU Service, Apollo Hospitals
- Dr. Sujoy Kar, CMIO & Vice President, Apollo Hospitals

- Mr Daryl Arnold, CEO, Connected Life
- Mr Tim Williams, Co-Founder & CEO, My Clinical Outcomes, United Kingdom
- Mr Suthirth Vaidya, Co-Founder & CEO, Pedible Health
- Mr Ajit Patil, Co-Founder & CEO, Deeptek

“Digitization of Healthcare, use of AI & telehealth to enhance last mile connectivity”

- Mr Krishna Chaitanya, Partner - Risk Consulting Services, EY (Ernst & Young LLP)
- Dr Keren Priyadarshini, WW Healthcare Industry Lead, Microsoft
- Ms Jo Agarwal, Co-Founder, Wysa
- Ms Jyoti Gera, General Manager, Primary and Affordable Care, GEHC

“What does it take to build a Healthcare Unicorn?”

- Dr Nandakumar Jairam, Advisor - Manipal Group
- Ms Lucy Setian, Director of Digital Transformation, Novartis Foundation

Hackathon

- Mr Neelish Reddy, Chair, CII Young Indians Bengaluru, Product Development Operations Lead, Cisco India
- Dr. Sujoy Kar, CMIO & Vice President, Apollo Hospitals
- Ms Ishita Shively, VP-Research & Innovations, Apollo Research & Innovations (ARI)
- Mr Krish CK, Product Manager, Edison AI, GE Healthcare
- Mr Kris Gopalakrishnan, Chairman, CII India Innovation Summit

Future of Automotive & Mobility

India, as mentioned by the global strategists has a great potential to expand its growth in this sector, considering the strengths and opportunities available within the country, especially with multi-National corporations, willing to invest in Technology and processes. The adaptability in the Indian markets has been a great advantage for the industries to invest more in this area, as India as a consumer market for automotive has been progressing well. As a country, India is expected to emerge as one of the largest passenger vehicle markets.

Solutions like traffic management combined with efficient powertrains and benefits of automotive driving will benefit the people, and thus globally, companies have been working relentlessly to shape the future of Mobility.

Data driven mobility shall be the future – are we ready to tackle the huge amount of data that will be generated. Data privacy and protection to be given utmost care and importance, keeping in mind the security of consumers.

Technology disruptions in Mobility

The future of mobility is Personalized, Automated, Connected and Electrified. The future of mobility will be defined by new emerging customers in the industry and the consumer's behavior which has been evolving. Better use of data is important for consumer-friendly models, analyze and predict trends for the industry, which is necessary for the future growth. Electrification is going to help the people and the country. Renewable energy has become cheaper over time. 85% of the people in India move on two-wheelers hence more focus on solutions in the mobility space should also focus on the same.

Shared mobility is the future at least in India and the stakeholders should work towards creating an ecosystem for this. Standardization and Collaboration amongst the stakeholders will also help Government in making policies that will help the companies and startups to build a favorable ecosystem.

Recommendations for stakeholders:

- Connecting the dots within the three main policies of the country namely – Energy Battery Policy, EV policy and Solar Policy. The technology adoption shall be faster once these policies are aligned.
- Supply chain activation and access to global market in terms if standardization especially in terms of batteries will create an impetus for increased manufacturing capacities in the country.
- Stimulus to promote innovation in Alternative resources or sources of raw materials to be encouraged. Recycling industry as a subset to be encouraged for optimal utilization of available resources.

Policies and Regulations impacting the mobility landscape in India

The pace of adoption of electric vehicles in the country has been progressing. The Government has been trying to accelerate the adoption of Electric Vehicles, though we see the same to be happening in an organic level. The adoption and transition shall only be successful if all the stakeholders come to an understanding of the benefits in store while adoption, both at a personal and sustainable level.

The government needs to give incentives to companies who are moving from ICE to electric vehicles. Creating demand incentives needs to be done so that people will have to move from that internal combustion engine vehicle. Urban mobility is moving towards the electric vehicle and connected vehicles have been trending. Policy initiatives like the scrappage policy need to be placed so that the general public gets some incentives to move out from the traditional vehicles and methods of transportation.

Recommendations for stakeholders:

- Indian markets have adopted EVs at a sluggish rate despite regulatory enablement **(up from 0.3% in 2017 to only 1.4% in 2020)** which indicates the need to have a re-look on our enablement framework and come up with further innovative measures to promote EVs both from **demand and supply side.**

- Over the course of last decade and a half starting from the **National Electric Mobility Mission Plan (NEMMP)** to the most recent FAME II regime, there are positive, yet incremental policy and fiscal support measures extended by both central and state government towards EVs. However, in case India wishes to see a faster adoption as some of the western geographies and China have witnessed, there is a need to dramatically work on both supply side and demand side enablers.

- The government needs to give incentives to companies who are moving from ICE to electric vehicles. Creating demand incentives needs to be done so that people will have to move from that internal combustion engine vehicle.

- Policy initiatives like the Scrappage policy need to be placed so that the public gets some incentives to move out from the traditional vehicles and methods of transportation.

Evolving Business models – Emergence of Data driven mobility

The session focused on the connectivity which opens up new opportunities to develop and improve vehicles and mobility services, which makes mobility safer, more efficient, and convenient and user friendly.

Vehicles are continuously touching and generating the data at all the transaction points. The points could be in terms of insurance, fastag, it could be in terms of driver behaviour, in terms of features. The connectivity like from 2G to 3G has allowed us to capture more data. The data has evolved by the help of connectivity by which we can sense, feel the context in which the vehicle is operated or interaction with the ecosystem.

Safety plays a very key role – Continuous data analysis can give many details about the customer, trends on modes of travel, time of travel and the fuel consumption from each points, which can help us generate case to case data analysis, which could be used for further studies and researches. On the other hand, getting connected updates in terms of traffic, GPS tracking etc, will also help companies to build a great customer experience.

Recommendations for stakeholders:

- Research by McKinsey suggests that for OEMs to succeed in connected vehicles platforms in the market, bringing services from the idea stage to vehicle integration in up to six weeks using dedicated end-to-end teams is important. This is a strategy that has helped some players, especially new OEMs specializing in electric vehicles (EVs), achieve record-high valuations, even though their sales are a fraction of the sales of their much larger peers. **This also calls for a fundamental rethinking of the automotive supply chain and the focus on R&D by the OEM.**
- Using the Charging information available handy to set up the right kind of infrastructure as desired by the users and stakeholders. Government to play a role in collating the data, to ensure data sanctity and security. Connecting to this, data privacy and ground level issues to be addressed either through policy directives or appointing nodal agencies to monitor.

Opportunities for India – Different possibilities for Mobility of the future

- Indian market has huge opportunity. Understanding consumer expectations and creating value additions using technology could be a possible way for smaller companies. Multimodal forms of mobility, new investments in mass transport system, integrated mobility options etc will have growth opportunity in the future.

- There is a tremendous amount of data that is being generated and is capable of being captured and utilized. Most of the use cases could be discussed from the point of view of associate suppliers for some of the new entrants and create customer centric value-based solutions.

- About vehicle care and lifetime value and there is a huge opportunity to educate customers on vehicle and handling the value of their ownership or usages service. Using the tremendous data and this combined with transparency on information on costs could go a long way to improving the experience.

- India could also explore the opportunity for an equivalent concept like what we have in the Solar net metering concept. Is there an opportunity for an equivalent concept like net metering where the consumer also has an opportunity to monetize the value of the data or have access to certain services at no or reduced pays to get all the things what many of us are doing with the social media today – to be explored by the stakeholders?

Key Speakers:

Innovation – the gamechanger for the futuristic outlook of Automotive?

- Mr Ramesh Ramadurai, Managing Director, 3M India Ltd
- Mr Marco Zehe, Head of Strategy and Transformation Bosch Business Sector Mobility

Technology disruptions in Mobility: Decoding P.A.C.E. for the future

- Mr B Indushekar, Head Strategy, Volvo Group India
- Mr Chetan Maini, Co-Founder, Sun Mobility
- Mr Anshuman Awasthi, Vice President & Head of Innovation, Mercedes – Benz Research & Development India
- Mr Dattatri Salagame, CEO, President, Managing Director, Robert Bosch Engineering and Business Solutions

Policies and Regulations impacting the mobility landscape in India

- Mr Shivanshu Gupta, Senior Partner, McKinsey & Company India
- Mr Shekar Viswanathan, Past Chairman, CII Karnataka & Former Vice Chairman, Toyota Kirloskar Motor
- Mr Sandeep Maini, Chairman, Maini Group

Future of Powertrain: Shift towards Electrification and Hydrogen Economy:

- Ms Veena YV, Marketing & Business Strategy, Bosch Powertrain Solution India
- Dr Akshai Kumar Alape Seetharam, Associate Professor, Department of Chemistry & Centre for Nanotechnology, IIT Guwahati

Collaborative Ecosystem for sustainable Mobility

- Mr Aman Choudhari, Past Chairman, CII Karnataka & Managing Director, Surin Automotive
- Mr Guruprasad Mudlapur, MD, Bosch Automotive Electronics India Pvt Ltd
- Mr Arvind Goel, Managing Director & CEO, Tata AutoComp
- Mr Akilur Rahman, CTO Hitachi ABB Power Grids

Evolving Business models – Emergence of Data driven mobility

- Ms Vasudha Madhavan, Founder, Ostara Advisors
- Mr Prashant A, Head – Mobility Solutions, Bosch Ltd
- Ms Sripriya Gangadhara Nellore, Product Owner Connectivity Platform, Ather Energy
- Mr Manikandan, Director, SEPRO Mobility and Energy Solutions Pvt Ltd

Roundtable on Opportunities for India – Different possibilities for Mobility of the future

- Mr Soumitra Bhattacharya, Managing Director, Bosch Ltd
- Mr Kamal Bali, President & Managing Director, Volvo Group India Pvt Ltd
- Mr Ramesh Ramadurai, Managing Director, 3M India Ltd

Future of Financial Services

Indian financial architecture is unique as it includes both public and private partnership where public sector is indulged in creating underline infrastructure and private is concerned with innovations and startups.

There are new destructive business models in Fintech like landless model, self-service model, etc. Asset life and data are now becoming the new requirement. Traditional financial services and fintech are different on the basis of customer experience, Technology integration, span of production services, risk management, debt management, margins and trust.

Customers want better control of the financial journey using intelligent capability which can be achieved through leveraging data while maintaining governance and open banking. advantages of clouds and how one can outsource security of data and allow the use of large data sets through cloud.

Digitalization and Fintech Disruptions of Retail Payments

Technology is disrupting the banking and financial services system which is bringing in higher efficiency and customer welfare. The industry is facing radical transformation and restructuring, as well as a move toward a customer-centric platform-based model. IT and Technology companies have a much higher role in Financial Services today including the payment systems.

At the international level, the FinTech sector is characterized by dynamic growth in its user base and range of products and services, as well as capitalization and market valuation. This trend is supported by specific demand, supply and technological factors. The majority of FinTech solutions are based directly on innovation in retail services, but, at the same time, there is an increasing number of innovative digital service development in the corporate segment too.

The data privacy is now a large market. These are primarily related to online customer registration and identification, fully digitized extension of personal loans and instant payments. In the corporate segment, fully digital administration is not available, and in the case of the products already in use, digital communication leaves much to be desired compared to the retail business line. In terms of internal operations, further improvements in human resources and systems development would be important to increase the competitiveness and efficiency of the domestic banking system.

FinTech services are related to two well-defined groups of players. On the one hand, the traditional players on the financial market with a longer history – the so-called incumbent institutions – are involved in the development of digital financial channels, services and products, while on the other

hand, newly founded companies focusing on the expansion of FinTech services are present on the market.

At the international level, the FinTech sector is characterized by dynamic growth in its user base and range of products and services, as well as capitalization and market valuation. This trend is supported by specific demand, supply and technological factors.

Huge opportunities for FinTech in India. Artificial intelligence may have the greatest influence on the financial sector in the short term when it comes to new and sophisticated technology. FinTech advancements are also prompting regulatory reforms at the national and international levels (European Union). Data analysis and business intelligence, financial software development and system integration, and payment services are the most important sectors of activity, with 60 percent of the industry working in these areas.

Insurance

The tremendous change in the Ecosystem and the Environment in the insurance sector. Customer satisfaction has to be at the center of all new models. Digitization has a huge role in enhancing the overall efficiency of the sector, including customer engagement, risk management and other service delivery

There are new changes that are happening changing the overall product basketIt is important to innovate for making thing easy for the customer and easy experience for the customer. Lot of Innovation has happened in Retail side Health and General Insurance and technology will play important role in areas like data tracking and matching, claims. The future will have higher use of AI, cloud and blockchain. Today Bot and Chatbot and the social media is playing the big role in the General Insurance.

Democratizing Investments

Need for higher financial literacy and access to financial markets to teach the importance of investment and the basic of the investments in different types of financial products.

New technologies and apps that makes investment simpler could be promoted to encourage investment.

Regulations should be streamlined for newer models of investments like Crypto Currency.

Accelerating MSME Lending

MSMEs largely has cash flow issues as large part of the MSME' s have limited access to credit facilities. In many cases availability of Credit on time is also a major issue. While the Government has come up with various initiatives there are 3 pillars that will have to be driven to promote this -

1. Key government Schemes
2. Digitization Framework
3. Fintech Ecosystem & partnership

Focus needs to be on reducing cost of credit & delivery time is way forward.

Democratizing data, GST Data will help in enhancing the efficiency of credit system as this will help to improve disbursement of loans. There is also a need for flexible regulatory architecture which supports the wider lender community.

Key Recommendation

With the dynamic environment in financial services the regulatory bodies should interact more with the industry and the new technology (start-ups) to get more know how's and to work on a cordial environment.

Key Speakers:

The Fintech future, are we moving fast enough?

- Ms Zarin Daruwala, Cluster CEO, India & South Asia Markets, Standard Chartered Bank
- Mr Sanjiv Bajaj, President Designate CII & CMD, Bajaj Finserve Ltd

Financial Services Landscape and outlook 2025

- Ms Zarin Daruwala, Cluster CEO, India & South Asia Markets, Standard Chartered Bank
- Mr Rajeev Sabharwal, MD & CEO, Tata Capital
- Ms Arundhati Bhattacharya, CEO, Salesforce, India

Digitalization and Fintech Disruptions of Retail Payments

- Mr Kusal Roy, CPBB Head, Standard Chartered Bank, India
- Mr Ari Sarker, Co-President, Asia Pacific, Mastercard
- Mr Amrish Rau, CEO, PineLabs
- Mr Sameer Nigam, CEO, PhonePe
- Ms Praveen Rai, COO, NPCI

Setting up a Digital only Bank

- Mr Ajay Nanavati, Chairman, Quantum Advisor
- Mr Deniz Güven, CEO Mox Bank

Insurance

- Mr Rajeev Nair, Managing Director, Lead - Industry Network, Accenture Advanced Technology Centres
- Mr Vijay Kumar, CEO and Principal Officer, Digit Insurance
- Mr Bhargav Dasgupta, MD & CEO, ICICI Lombard General Insurance
- Mr Tarun Chugh, MD & CEO at Bajaj Allianz Life Insurance Co. Ltd.

“Democratizing Investments”

- Mr Nithin Kamath, CEO, Zerodha
- Mr Sanjay Gurjar, Managing Director & Regional Head, Banks & Broker Dealers, Asean & South Asia, Standard Chartered India

“Accelerating MSME Lending”

- Mr Aditya Mandloi, Head - Business Banking, Standard Chartered
- Mr Alok Mittal, Co-Founder and CEO, Indifi
- Mr Y S Chakravarti, MD & CEO Sriram City Union Finance

Building resilient organizations

- Mr Mohit Joshi, President and Global Head for Financial Services, Infosys Ltd.

Future of Retail

Retail Sector in India has huge potential for growth

India Retail market has huge opportunities for growth and one of the fastest growing in the world is projected to growth at 9 to 10 % in the next 5 years, with plenty of opportunity for different segments. E commerce market will grow faster in the next few years at the same time traditional trade will continue to stay.

Key themes shaping the retail sector in India are Digitalization, formalization of the economy, easy availability of risk capital and pandemic all of which has changed the overall retail sector. Even the customer behavior has changed with attributes like hybrid behavior, value consciousness, entertainment with retail shopping, and instant gratification.

Future of retail revolves around the key areas like physical shopping, agile and efficient supply chain, smart pricing and targeted promotion, immersive customer experience and one stop shop for all products and services.

Customer as the centre of strategy

Every business has to keep customer in the centre of business to be future ready and this will be the case of retail sector as well. Seamless transition between different channels and touch with customers will have to be adopted with technology playing key role.

Online retailers will have to focus on getting the customer attention along with social commerce to give an experience to the customers. Ease of navigation for customers will hold the key. There are micro moments that will have to be managed well.

The normal Brick and mortar retails has huge opportunity to grow in India. However, technology will play a key role in their growth. The sustainability and growth will depend on the solutions it is going to offer to the consumer in a specific segment and at specific locations. Brick and mortar retail will attract consumers and the retailers has to ensure that they are inspiring the consumers constantly.

With the availability of technology, understanding customers will be important. Immersive customer experience is very important for brick-and-mortar retail and technology can enable that.

Omni Channel Retailing will be the future

Omni channel retailing is one of the most important trends now. There is a need to connect with customers through layout merchandising and store media. Focus on customer experience will be important whichever is the format.

Customer behavior must be followed. Partnership between online and offline are going to be extremely strong in the future. Digitization of the stores will hold the key in future of retails.

E Commerce has huge potential. With increasing touch points the brands will go directly to consumers which is a very strong trend. In addition, connecting customers in vernacular language through various platforms will be an growing opportunity to connect with e customers and make it even more wholesome.

Supply Chain models will have to meet the Customer Expectations

Supply chain in a business is the backbone and therefore should also keep a track of customers' expectations as far as retails sector is concerned. Concept of supply chain has been evolving and will continue to evolve even more in the time to come. Data will play a major role in the future and the data must be leveraged

Warehouse plays a very important role and that needs to be streamlined. Warehouse will get distributed, and they will act as transaction point as we go ahead.

Companies should focus on building technologies to manage scale and systems of supply chain. The matrix of measuring performance will also change due to the technology involved in the process today.

Pandemic has changed the supply chain systems with lot of digitization to enhance efficiency. Supply chain needs to be agile to adapt to the changes happening in retail sector. Most of the consumer will have to work around E commerce and supply chain systems of companies will have to cater to that change.

Empowering the Unorganized Sector

It is important to empower the unorganized sector to make them more organized and sustain their growth in the long run. This would involve enabling Kirana stores to be digitalized, which would be an absolute necessity in the long run. Large companies must help Kirana to modernize and become more sustainable.

Access to Capital for Kirana's - Kirana's will need access to capital and finance for growth besides technology. There are many fintech startups that are working in this area that would support the growth of Kirana store in terms of credit, insurance, etc.

Leveraging Technology for Growth of Retails Sector

Technology will play a huge role in the future of retail sector. But technology will also change the retails industry on how retailers will connect with its customers, how it will track the preferences of its customers and how it will customize its offerings to customers. It is also leading change in shopping behavior Lot of digital innovation happening in the retail space - the distinction between rural and urban market will reduce in the future.

There are multiple touch points for the customer. Customer experience is going to be the competitive advantage and retailers have to make this as the core to their strategy an technology will play a critical role in this.

With multiple touch points huge amount of data is expected to be generated. Company must utilize the data in the best way and those companies will survive in the future, leveraging these technology capabilities. Technology is going to scale up much more in the next few years

This will also mean building data security measures as one of the key cornerstones of customer experience

Key Speakers:

Innovations changing the Retail segment"

- Mr Arvind Mediratta, Managing Director & CEO, METRO Cash & Carry India
- Mr Laeeq Ali, Convener, CII Startup Panel & Co-Founder & Director,Origami Creatives

Future of Retail

- Mr Devendra Chawla, Managing Director and CEO - Spencer's Retail Limited and Nature's Basket Ltd

Innovations for Brick & Mortar retail for a Sustainable future

- Mr Rajat Wahi, Partner Deloitte Consulting India

- Ms Kavitha Rao, Country Commercial Manager – India, IKEA Group
- Mr Praveen Khandelwal - CEO - Fairdeal Group
- Mr Abhishek Ganguly, Managing Director, Puma

Ecommerce as an enabler- The Next Big Growth Opportunity in India's Retail

- Prof. Srinivasan R,Professor of Strategy at the Indian Institute of Management Bangalore (IIMB)
- Mr Raghav Rao, CFO, Amazon
- Mr Jeyandran Venugopal, CTO, Flipkart
- Mr Vipul Mathur, Head – Exclusive Lines, Lifestyle Business, Udaan

Next Gen Supply Chain to cater to changing customer demands & Trends

- Ms Sangeetha M,Past Chair CII Yi Bengaluru & CEO Foregreen Foods
- Mr Vinod Mathur, Vice President Product Management, Blue Yonder India Pvt Ltd
- Mr Kabeer Biswas, Founder – Dunzo
- Mr Alok Sharma, Executive Director, Supply Chain, Hindustan Coca-Cola Beverages (HCCB)

Innovations for modernizing and empowering the unorganized retail stores

- Ms Ratna Mehta, Executive Director, WF Global
- Mr Erik Heens, Director Operations, METRO Cash & Carry India
- Mr BS Nagesh, Founder, TRRAIN
- Mr Vipul Sharma, Founder, Chqbook

How technology is shaping & changing consumer experience

- Mr Ganaraja Bhat, Chief Technology Officer, METRO Cash & Carry India Private Limited
- Mr Timo Salzsieder, CIO/CSO Metro AG
- Mr Ambeshwar Nath, Senior Vice President (Retail EMEA), Infosys

Future of Communication

Importance of Communication Technology

Communication has been our lifeline and has been binding us together. Our transition to digital has accelerated and several technologies are enabling it to happen. To reach out to customers and buyers, digital became a forefront. Seventy five percent of enterprises globally accelerated digital efforts and innovation during the pandemic and 74% of CIOs around the globe said digital projects which takes years of completion and approval, was implemented in weeks. Adoption of Cloud, applications like SAS model, shift to hybrid and security has become the forefront of all businesses. There is a big transition like 5G and Wifi6.

Some crucial challenges were noted:

1. Providing the tools, the technology, the services, visibility, privacy, and security are fundamental
2. Employees even if they are working remote or in office, the organization need to create a collaborative environment from the office to be able to connect and engage.
3. Maintain culture or inclusive environment – all the employees are given fair access and fair capabilities. Leadership mindset needs to change. Productive work can be done remotely also.
4. Personal wellness and Mental health of employees and their family is equally important and needs to be thought about while thinking of Hybrid work.
5. All small, medium business and individual needs to get access to the platform and connectivity in an affordable rate.
6. Need to have good partnership with right telecommunication operators, right systems integrators, with government entities to help provide access and have inclusive use to provide technology. Business Leaders need to work together to help provide those inclusive capabilities in India, change our views and culture and partner to make it happen.

Innovation in Technology impacting the world

5G technology is spear heading connectivity led transformation across industries in this hyperconnected world. 5G power digitization is expected to bring economic impact of about $30 trillion dollars over the next decade. It has many innovative uses like autonomous vehicles, tele medicines, smart factories, retail, and entertainment. Despite the advancement we still see a huge digital divide. Industry is responsible that every citizen of India has access to internet. There are three fundamentals: affordable connectivity; bring automation or ultimate efficiency into the business process and security.

A security framework is essential which will enable enterprise customers to have trust and faith. Cutting the cost and growing new revenues is also important. Brands are required to continuously innovate to accelerate things and to remain relevant and to evolve with changing needs. There are 3 levels of engagement – physical, digital, and remote engagement. Some of the important key points are secure connective journey, delivering on great customer experience, people starting to pay over QR code, ensuring experience and data is secured and customer's journey is personalized.

Cyber Security

Cyber should be at the forefront of any companies' innovative digital decision. It should be thought from the supply chain, devices and components, products from purchase to delivery and design. Risk assessment and planning is needed to be prepared for all contingencies and risk.

The biggest challenge or threat is cyber security and cyber related frauds. Education is a serious concern as it is enhancing the digital divide. Government is also not digitally equipped enough to handle these types of issues and there are also challenges of interdepartmental issues in Government. Artificial intelligence, ethical policy, block chain policy and cyber security will be some game changing initiatives.

The main concern today is how to secure CIOs, multi cloud environment, how to secure data, identity, and access management provisioning. Startups emerged who are working on privacy technology and data protection when employees are working remotely. Companies are now working on business resilience strategy, security, and business continuity. Privacy technology products are getting adoption in the large enterprises.

Communication in Governance

Governments have been using various platforms to share information on pandemic related information. The Government of India initiated the "Digital India" a few years back to transform India into a digitally empowered society and economy. India has moved 10 places in Digital competitiveness Ranking and rise in internet user in rural areas, cashless payments, expansion of UMANG app, training of people in digital literacy etc. Given the scale and complexity, Challenges are also crucial like data protection, data privacy and protection of data crime.

The Government of Karnataka was the first state that introduced the new Education policy in the country. Government in Karnataka has built a synergistic relationship with the government and industry, academia, and the government itself, with a focused vision group. The current COVID 19 crises have accelerated the move to digital economy. Karnataka was the first to bring in startup policy and today it is the startup capital of Asia. Some of the eco systems that existed helped in moving forward. The Department has been able to put forward SAS platforms that existed and now the Government is ensuring that governance reaches to the tier two,tier three, and the last mile connectivity.

Efficient, effective administration, transparency and smart governance are features of Government of Karnataka. Digital transformation and innovation have also become a part of the Government machinery. The role of ICT has been massive in different e-governance initiative in Karnataka. Karnataka has also been a leading state in terms of adoption of technology. Policies like IT for Common Man has helped Karnataka. Karnataka brings in policies which are not only synergistic in state growth but useful for national growth. Karnataka's contribution to a trillion-dollar economy is important and Government is trying to align policies like the IT policy, Biotechnology policy, audio visual gaming policy, startup policy, R&D policy which are futuristic. Deep tech innovation and simplified methods of education, fintech services are some of the areas that Department of IT & BT. Engineering Research Development Policy is another initiative of the Government in synergy with Industry.

Way forward

There is an extraordinary opportunity in India in the field of Research and Innovation. India needs to restructure and reformat the research governance, democratize the research to boost it in colleges and universities, strengthen our connection between research labs, institutions and universities decolonize mind, and its mindset about research, so that you know innovation is not merely imitative. Research also needs to intensify thoughtful investments. India needs to address all these issues with its complexity.

Core of this knowledge creation is Government funded research. Government needs to fund the innovative ideas to allow the internet, the GPS, Google algorithms, touch screen display and the voice activated systems, all of this come from a foundation of government funded research. Industry now needs to project R&D substantial in a big way – industry for industry research and industry partnering with academia for other kinds of research. Government funding for research, expansion to Universities and colleges will go up but Industry investments also needs to go up. Industries in India has capital but does not have Risk Capital for these kinds of technology.

The National Research Foundation aims to synergize and coordinate research in all the Government agencies but also put its additional resources so that the expansion of research is substantial. It will

have flexibility to receive funds from industry, so it can partner with industry to carry out commonly valuable projects.

Certain observations were noted during the session. First, is the unprecedented collaboration globally, and within Industry, Academia, and Government. Second, accelerated regulatory approvals. The third is the better appreciation for science, scientific research, and scientists. Increased spending also require support from society.

Some other important recommendations were Industry collaboration and leveraging talent. Industry should also increase the spending on R&D as it is too low as 0.1% of GDP. India's good skill and lab need to made world class to become world leaders. We need to encourage Risk Capital and encourage innovation.

Key Speakers

Future of a Connected World

- Mr Kris Gopalakrishnan, Chairman, India Innovation Summit & Co-Founder, Infosys Ltd
- Mr Dave West, President, Cisco APJC

Reimagining the Future of the Government

- Mr Ramesh Ramadurai, Chairman, CII Karnataka State Council & Managing Director, 3M India Ltd
- Ms Daisy Chittilapilly, President, Cisco India & SAARC
- K Vijayendra Pandian, IAS CEO, TNeGA & Director, E-Governance, Tamil Nadu
- Meena Nagaraj C N, IAS, Director, KBIT, Government of Karnataka

Leveraging Technology for social good

- Mr Harish Krishnan, MD and Chief Policy Officer, Cisco
- Dr Chintan Vaishnav, Director, Atal Innovation Mission, Government of India
- Mr Srikant Nadamuni, CEO, Khosla Labs
- Mr Kiran Karnik, Chairman, ReBit

Innovations in Network Cybersecurity

- Mr Sarav Radhakrishnan, Distinguished Engineer, CSG, Cisco
- Ms Rama Vedashree, President, DSCI
- Mr Manish Tiwari, Bharti Airtel
- Mr R S Mani, DDG, NIC
- Mr Sarav Radhakrishnan, Distinguished Engineer, CSG, Cisco

"Connecting the Un-connected - How can 5G & wi-fi6 revolutionize how we think about connectivity and security?"

- Mr Deepak Padaki, EVP, Chief Strategy & Risk Officer, Infosys Ltd.
- Mr Sanjay Kaul, President APJC, SP Business, Cisco

Enhancing customer experience in a secure connected world

- Mr Arvi Krishnaswamy, Director, Product and Strategy, Experience Management, Cisco
- Mr Sanjeev Ramdas, Executive Vice President Customer Service, Indigo
- Mr Byas Nambisan, CEO, Ezetap Mobile Solutions Pvt. Ltd
- Mayank Kapoor, Associate Vice President - Marketing and CRM, HDFC

Reimagining R&D in a hybrid, connected, post pandemic world

- Prof. K Vijay Raghavan, Principal Scientific Adviser to Government of India
- Kris Gopalakrishnan, Chairman, CII India Innovation Summit & Co-Founder, Infosys
- Mr Ravi Mehta, Deloitte
- Ms Suhas Mansingh, VP, Engineering, Cisco,
- Mr Rajesh Sundaresan, Professor, Department of Electrical Communication Engineering (ECE), IISc
- Mr Hemal Shah, APJ-CIO and SVP, Dell Technologies

The evolution of the hybrid workplace

- Mr Anupam Trehan, Sr Director, People & Communities, Cisco Systems
- Mr Arunkumar Melkote, VP & Head of Application Business, North Americas, Wipro Ltd
- Mr Amit Ramani, Founder & CEO, Awfis Space Solutions Pvt Ltd
- Mr G Shankara, Vice President – HR Toyota Kirloskar Motor Pvt Ltd

Future of Transportation

Changing Landscape of Transportation

The sector has been evolving with a lot of Government interventions especially the impetus on Infrastructure and development in areas like Logistics, Supply chain efficiency and allied segments.

India's transportation landscape has been going through a dynamic evolution, especially with the advent of smart mobility solutions and shared mobility services.

Policy regulations have been a key area for interventions and the Government along with stakeholders has been working effectively on this sector. Mobility across are dynamic owing to the demographics of the cities and are changing with the rising of emissions thus creating opportunity for electric vehicles and increase of mass transit vehicles.

The discussions began with an overview and vision on "Changing Landscape of transportation" touching upon the paradox in Indian changing transportation system where on one hand challenges like pollution through carbon and other emission, increase road fatalities and congestion in metropolitan cities where as the increasing opportunities of automation in vehicles, discoveries of alternate fuels and electric energy as future.

The future transportation should be an ambitious one that should look at having 0 road fatalities, 0 emissions and 0 down time, parallelly focusing on decongestion of cities and optimizing cargo with 0 wastage and reduction of logistic cost. Alternative fuel is just one small piece in developing the whole transportation system amongst other key enablers.

The future shall open up unexplored horizons for India in areas like technology, new opportunities in lease mobility, shared mobility, Automation and the advantage of having pervasive connectivity fuelled by 5G and the areas of optimization to increase efficiency in load, driver's ability, cargo, routing and delivery points. While we have these opportunities, we should also be aware of the challenges to be mitigated which shall be the provision for data sharing, data standardization and data protection to make sure technology is optimally utilized for betterment and how this use of data can help improve inter-operability that is lacking in India.

Technology & Innovation in Transportation

As per global transportation developments, Connected and autonomous vehicle technology will help optimize roadway utilization, potentially saving billions in future infrastructure expansion. The transportation systems around which the modern world has been built are on the verge of a significant transformation. Intelligent transportation systems (ITS) are making driving and traffic management better and safer for everyone. India has a scope to increase its presence in the global value chain, provided the industries are keen to contribute to the growth of this sector and work together.

Partnership is the new leadership that is the motto to look forward to the industries with continuous incremental development where that is the key with engineering and technology. The session also deliberated on the need for more transport but concluded that it must be within the boundaries and sustainable in nature.

The session strongly opined those trucks are not what they used to be, they are intelligent now with 35% of market share being logistics/trucking.

The future of trucks and allied segments for India has set its expectations that are at par with global standards. Long haul transport which includes 250 km or more from home base & few stops, 80% of the driving distance on fast roads and often overnight stays, has been the trend. Factors such as the fuel efficiency, uptime, driver appeal, safety, productivity and driver comfort, will be the key to focus for innovative approach. The evolution of trucks and technology has influenced the mechanical industry in a deep manner. Electronics, machine intelligence, software and human interface are some of the leading ideals and factors that's controlling and growing the sector. These have given rise to electronic vehicles, hybrid vehicles, connected vehicles and autonomous vehicles.

Lots of technologies such as AI, VR, AR, Data analytics plays an important role to make sure transportation is much more efficient than it used to be. Focusing on the benefits of technology to customers is currently the primary focus of the company.

Policy regulations and Interventions in transport

Catering to the needs of multiple levels of end users, shall be the focus area for the Government to give an improved user experience. The country needs to switch to sustainability with respect to transport system using electric vehicles, which is ideally the most effective and sustainable version of transportation, also need to build technical support for transport.

Data connectivity is of no use if it cannot help in building up the transport infrastructure. Quality and standards of living of life needs to be considered. Our objective is to prioritize safety. We need to build sustainable infrastructure with the fundamentals of existing system making sure that it inspires the youth of the nation. So, whatever we do must be safe, sustainable and up to living standards as well.

The challenge has been to manage anxiety in terms of charging vehicles and how they're used to fuelling. Smart sockets and charging spots can be introduced basis the decision if it is going to be fast charging or slow charging, which infrastructure will get investment for charging part and how different vehicles use different types of connectors and chargers.

Large vehicles including public transport can also be replaced by electric vehicles, provided there is scope and focus to create charging hubs for long haul charging since buses can't be charged in public. Including electric vehicles as subsidiaries will not help in increasing the demand, policies should change. Electric mobility should be brought in public and but another important factor is its affordability. Electric vehicles should be made cheaper than it is now. He added that the Govt has lot of trust in industry and will soon contribute to the development.

Key Recommendations

Some core drivers of transformation in the sector would be:

- Circular economy
- Micro mobility
- Shared mobility
- Automatic mobility

Key enablers for the stakeholders would be:

- Investing in skill
- Policy formulation

The shift of this is not just an option for the automobile industry rather is compulsion.

Key challenges faced by the sector:

- Connectivity
- Safety

- Govt. regulation
- Arability of data, and,
- Legal complication

Key Speakers:

Future of Transportation- Inaugural

- Dr Taslimarif Saiyed Director & COO, C-CAMP
- Mr Kamal Bali, Past Chairman, CII Karnataka & President & Managing Director, Volvo Group India Pvt Ltd

Transportation as Service: Critical Success Factors

- Mr Jonas Y Nilsson, VP, Volvo Trucks India
- Mr R Dinesh, Joint Managing Director, TVS Logistics

Technology & Innovation in Transportation

- Dr Sudeendra Koushik, Innovation Director, Head of Camp X Bangalore, Volvo Group India Private Limited
- Mr Lars Stenquist, Executive Vice-President & CTO, Volvo Group HQ
- Mr C R Vishwanath, Engineering Leader, Product Development & Transformation Leader, Volvo Group India Pvt Ltd
- Ms Shraddha Sharma, Founder, Your Story Media
- Dr Sudeendra Koushik, Innovation Director, Head of Camp X Bangalore, Volvo Group India Private Limited

Policy regulations and Interventions in Transportation

- Mr Kamal Bali, Past Chairman, CII Karnataka & President & Managing Director, Volvo Group India Pvt Ltd
- Mr Amitabh Kant, CEO, NITI Aayog, Government of India
- Mr Ravikiran Annaswamy, CEO, Numocity
- Mr Sandeep Singh, Past Chairman, CII Karnataka & Managing Director, Tata Hitachi Construction Machinery Company Pvt Ltd

Fueling the future of transportation

- Mr Pravin Hungund, Chief Technologist & Global Head Technovation Centre, Wipro Ltd
- Mr Murali Arikara, CTO, Racanaa Energy

Collaboration as a key to Innovation

- Dr N Muthukumar, President & Executive Director, Meritor HVS India Ltd
- Ms Helene, Head- CampX, Volvo Group
- Dr Sudeendra Koushik, Innovation Director, Head of Camp X Bangalore, Volvo Group India Private Limited
- Ms Vinutha B, Head of AI and 5G research, CTO & Senior Member, Wipro DMTS

Future on Sustainability & Energy

Innovation is critical for the **Future of Sustainability & Energy**. In the last few years there has been a big push towards efforts in conserving environment and bringing higher efficiency in the use of natural resources. Companies today focuses on being integrated with society and therefore are constantly working towards generating new capabilities for sustainable business model and green innovation. With more companies focusing on sustainable growth the future trends in this sector will continue to evolve with more efficient systems and processes.

The world is making transition towards cleaner and greener future, and sustainability plays an important role in it. As the world is concerned for rising global crisis. So, there is shift towards renewable resources. Net zero has become the necessity to tackle climate change. The transition from fuel based to a zero carbon in second half century will be prominent. Renewable energy and energy efficiency measures can achieve 90% of required carbon reductions. The issue of sustainable development has gained a lot of attraction in recent years.

Emphasis on “Affordable, Reliable & Sustainable” energy while meeting security needs is a fundamental right of every human. There is need for RISE (Revolutionary Innovation in Sustainable Engines) so that the future has sustainable fuels which needs exponential innovation.

Sustainability refers to doing business without negatively impacting the environment, community, or society as a whole. Beyond helping curb global challenges, sustainability can drive business success. Also, several investors today use environmental, social, and governance (ESG) metrics to analyze an organization’s ethical impact and sustainability practices. Investors look at factors such as a company’s carbon footprint, water usage, community development efforts, and board diversity. By partnering with technology and conservation organizations to ensure all blockchains can become carbon neutralin the near future. Sustainability is important environmental as well as business too.

Net zero is important as it's the best way we can tackle climate change by reducing global warming. Developing new fuels and technologies as well as optimizing networks will be major contribution areas. Digitalization plays a significant role for sustainable development. Hydrogen fuels need to be produced in very large scale but this is not possible due to lack of availability of such amount in the market, if available, the price would be very high to afford. However, India must invest into green fuel to the manufacturing industries for green energy transition.

Renewable energy and energy efficiency measures can potentially achieve 90% of the required carbon reductions. Regional coordination also helps diversify the kinds of renewable energy in the grid by allowing the strengths of some states to complement the weaknesses of others. One of the most important steps for coping with the variability of new sources of energy will be better coordination of the flow of power between the country’s disparate state-run grids. By increasing the volume of energy traded between state utilities, periods of surplus power in one region can compensate for deficits in others, making for a more stable and reliable supply of renewable energy—one that can better displace expensive and polluting fossil fuels

India is the largest importer of ammonia in the world. India can become a very attractive and most competitive market to produce green hydrogen.

The discussion covered upon Sustainable aviation fuels that has great potential for securing the sustainable growth of air travel as they could reduce CO2 emissions by around 80% compared with fossil fuels, without the need to radically change the fuel supply systems or engines of aircraft. The development of more efficient engines and aircraft can drastically decrease carbon emissions. New aircraft are, on average, around 15-20% more fuel-efficient than the models they replace. Sustainable jet fuels, already used on some commercial flights, have the potential to cut emissions by up to 80%.

Sustainable Aviation Fuel (SAF) is a clean substitute for fossil jet fuels. Rather than being refined from petroleum, SAF is produced from sustainable resources such as waste oils from a biological origin, agri residues, or non-fossil CO2.

Recommendation:

- ❖ Encouragement of more investments in infrastructure is required.
- ❖ Electric vehicles are good for the environment but the source of the energy to fuel the electric vehicle also has to be decarbonized
- ❖ Need of Hydrogen fuels to be produced in very large scale

Key Speakers:

Innovation for sustainability – Need and Challenges

- Ms Jyothi Pradhan, Vice Chairperson CII Karnataka State Council & CEO, Kurlon
- Mr Alok Nanda, CEO, GE India Technology Centre & CTO, GE South Asia

Setting the right priorities by the corporate world today

- Ms Jyothi Pradhan, Vice Chairperson CII Karnataka State Council & CEO, Kurlon
- Mr Alok Nanda, CEO, GE India Technology Centre & CTO, GE South Asia.
- Mr Anirban Ghosh, Chief Sustainability Officer Mahindra Group

Technology in Action towards a Zero Carbon future

- Mr Deepesh Nanda, CEO,GE Gas Power South Asia
- Mr Kirit Bramhbhatt, Sr. Vice President and Head Centre of Excellence (Power and Energy), Reliance Industries Ltd
- Mr Wim Van Gerven, Director & Vice President Operations,AM/NS India
- Mr Derek M Shah, Executive Vice President, Larsen and Toubro Ltd Power IC
- Mr Rajesh Ramachandran, Chief Digital Officer – Industrial Automation | Global Head of Digital & Product Management, ABB India

Role of PPP in developing sustainable technologies in India

- Mr Bose Varghese, Head – Green Initiatives, Infosys
- Prof Sandeep Verma, Secretary, Science and Engineering Research Board
- Dr Ashish Lele, Director, CSIR National Chemical Laboratory
- Ms Shilpa Gupta, India Engineering Leader - GE Gas Power
-

Energy transition in the region - the role of Renewables and Grid

- Mr CS Divakar, Head – EHS – India Region, Grindwell Norton Ltd, Saint Gobain
- Mr Deepak Maloo, Regional Sales Leader - Onshore Wind International – APAC, GE Renewable Energy
- Mr Prashant Jain, CEO, JSW Energy
- Mr Parag Sharma, Founder and CEO, O2 Power

Building a world that works

- Mr Matt Guyette, Director Business Research Strategy, GE Research

Sustainability Case Studies in Aviation

- Mr Vikram Rai, Country Head, GE Aviation South Asia & Indonesia
- Mr SGK Kishore, ED-South and Chief Innovation Officer – GMR Airports
- Mr Sisira Dash, Senior Vice President, Engineering & maintenance VISTARA - TATA SIA
- Mr Vinod Hejmadi, CFO Air India

Future of Food

Food contribution is important to the Economy, the sector contributes about 9% to the manufacturing gross value added and 13% to exports. There are tremendous opportunities to reduce waste, drive productivity, embrace new technologies and increase competitiveness across the value chain.

Megatrends such as urbanization, focus on health, nutrition, new packaging trends and more broadly sustainability will spur innovation to deliver the right value to consumers.

Food Industry has seen some changing trends, implications, and opportunities in India and across the value chain. The first trend being the entire opportunity and sustainability mainly sustainable farming. Second trend is the entire movement towards healthy nutrition. This can be divided into 3 parts – First being Consumers moving towards personalized nutritional products and nutraceuticals or supplements. Second is the traction towards homegrown / indigenous food. Next being the growing interest in Ayurveda and other natural remedies. The last would be the movement towards plant based vegan diets.

Food processing sector is very important sector which has the opportunity for India becoming a World food factory. Government considers it as one of the champion sectors.

Some implications were noted – the first being that some of these opportunities is driven by health and nutrition. Second implication is greater emphasis on R&D as well as innovation. Third implication is the need to create greater branding, differentiation, and a trend towards locally grown source. Fourth implication is the need for traceability solutions in fresh food distribution. Final implication is digitization across the value chain especially in fields of quality, safety assessment, preservation etc.

A charter was also listed out on challenges and opportunity on 10 important issues about future of food:

a) Aatmanirbharat Food sourcing
b) Partnership with Farmers
c) Promote Organic Foods to protect the planet
d) Relook at Genetic and Biomolecular science to transplant DNAs to create more nutritious food.
e) Catch the trend towards “No meat”
f) Work with Government, Researchers, NGOs on Promoting Healthier Foods, and Food Habits
g) Work towards Alternate Food / Sources for Food Security
h) Support Sustainable Food Processing
i) Position food as Health Enhancers / Immunity Boosters
j) Digital First

Innovation should not only help Large scale industries but also the farmers. The best way we can help the farmers is by getting better realization for the crop by helping them in increasing the yield and the quality of the crop.

India must become an export driven economy for which innovation is important. Innovation comes through technology. Technology comes through the way we pack, distribute and process food. Digitization has been helping in tracking and tracing the processed food and reaching it to the consumers. Indian Markets have become more matured and commercially viable for private business to start investing behind more innovations. The cost of building a processed food brand in India has

become much lesser. Barriers in Distribution of foods has also come down due to online sales. Innovation has led to job creation in metros. One of the biggest trends pre covid was the rise in digital use and convenience and post covid this has accelerated.

One huge concern in innovation is production. Innovation is required to customize the traditional product which can really improve the quality of the product with minimal processing. Innovation at the farm level is also equally important. Primary infrastructure like sourcing, storage and mainly cold storage is lacking. Another issue is the machinery, there is a need for customized machinery which has the quality and safety aspect. Food packaging technologies should be given a focus.

A need to transform the Global food system is important to make healthier food affordable and accessible to all. It is essential to deliver products to consumers which are of low calorie, salt, and sugar and as per WHO guidelines. One of the important factors is sustainability, both for environment as well as health-conscious consumers about alternate proteins. Another important factor is reducing hunger with reducing food waste. Important ambition is to reduce our food waste from factory to shelf by 2025.

WHO has mentioned two recommendations for the Food industry which can reduce the death from lifestyle diseases. First is to reduce calorie density in our food. Second is to increase vegetable and fruit consumption. One important point to focus is to increase fiber per calorie in our food for reversing lifestyle disease. In India, malnutrition as well as lifestyle diseases still exist.

There is also a need for collaboration and innovation in Food processing sector. Collaboration with Industry and consumers is equally important. Government must unite collaboration in this manner with this ecosystem. It is important to know the consumers and accordingly design the product. Consumer acceptability is the important challenge for packaged food Industry. We need to have a technology that would enable us to deliver. R&D in this sector is very essential

E Commerce is changing the distribution of food sector, with greater opportunities and wider market outreach. This will continue to change in the future.

Key Speakers:

The Changing Trends in the Food Sector

- Mr Ramesh Ramadurai, Chairman, CII Karnataka State Council & Managing Director, 3M India Ltd
- Ms Sushma Vasudevan, Managing Director and Partner, BCG
- Mr Piruz Khambatta, Past Chairman, CII Western Region & CMD, Rasna Pvt Ltd
- Ms Jyothi Pradhan, Vice Chairperson CII Karnataka State Council & CEO, Kurlon

Future of Food Product Innovation

- Mr Piruz Khambatta, Past Chairman, CII Western Region & CMD, Rasna Pvt Ltd
- Mr Pratik Pota, CEO, Jubilant Food Works
- Mr James Joseph, Managing Director, Jackfruit 365
- Mr Varun Deshpande, Managing Director, Good Food Institute
- Mr Sanjay Sharma, Managing Director, MTR Foods
- Mr Anuj Rustagi, COO, Dairy & Beverage ITC
-

"Future Trends in Food Processing Technology"

- Mr P Ravichandran, President, Danfoss
- Dr Chindi Vasudevappa, VC, NIFTEM
- Dr Sujatha Jayaraman, VP, R&D, Unilever Beverages
- Mr Yatindra Sharma, Managing Director, KHS
- Dr. C. Anandharamakrishnan, Director, Indian Institute of Food Processing Technology, Government of India

E Commerce for the Food sector

- Mr Piruz Khambatta, Past Chairman, CII Western Region & CMD, Rasna Pvt Ltd
- Mr Tanutejas Saraswat, CEO and Founder, Shop Kirana
- Mr R Sheshu Kumar, Head Buying & Merchandising, Big Basket
- Mr Ashish Jhina, Co-Founder, Jumbotail

Future of Manufacturing

Future of manufacturing industry is low carbon economy and challenges are not unidimensional. Sustainability is the most important. There are future carbon pathways for India and what low carbon pathways India can take to build a healthy country. Advantages of India is that we are in a transition phase. It can drive economic factors. The companies are focusing on operational activities that will not impact climate. A technological feasibility is required along with skill ability perspective. Additive manufacturing is an opportunity that is opening up. It brings a lot of technological change. Innovative approach is required.

Additive Manufacturing has been present for more than four decades. There are wide market segments such as aerospace, medical, automotive and defence where the cope is huge. The challenges are in terms of traditional marketing techniques. There is a need of AM due to increased complexity of design parts and a need for sustainable green manufacturing techniques. F42 was formed to encourage Additive Manufacturing. There are challenges like standard gaps etc. AM Centre of excellence has been started. AM standard assures process control, product quality assurance, defined levels of criticality, reduction of risk, reduced cost, facilitates target adoption etc. Future of AM adoption assures standard development which includes facilitating larger adoption, bringing confidence, allowing certifications and assurance.

AM can accelerate automotive product development cycle. Product development cost is higher, and their aim is to reduce cost at product development stage and helping minimizing cost for testing as well. There are printing solutions for healthcare. They build surgical instruments that are engineered for single usage and patient specific. They face challenges in creating conventional manufacturing for which they use highly sophisticated software which formulates patient specific cutting guides for specific surgery. For their surgeries, AI based software is used which assures precise construction of products. Metal additive manufacturing in aerospace and strategic sectors is very helping and critical. There is a need for AM capabilities which are capacity, test and validation certifications, Research, Post processing, Building technology, additive engineering, and engineering design.

After global perspective of AM, talking about current state of AM in India is valued at over rs750cr, 40% are projected every year-on-year growth of domestic AM market, 100+ non-metal 3D printing service bureaus are there, 2 metal printer manufacturers are existing, 125+ metal printers have been installed across the country, 20+ metal printing service bureaus are there along with 25+ polymer printer

manufacturers. By the time India is adopting AM across the sectors. Government is also taking initiatives for the same.

Recommendations

- ❖ Government regulations to support sustainability manufacturing processes.
- ❖ Policies to encourage electric vehicles and encourage renewable sources of energy.

Key Speakers:

- Mr L Krishnan, Managing Director, Taegutec India
- Mr Naveen Unni, Partner McKinsey
- Mr Sarajit Jha, Chief Business Transformation & Digital Solutions, Tata Steel

Additive Manufacturing

- Dr. Alexander Liu, Head of Additive Manufacturing Programs, Asia Region ASTM International
- Dr.Vishwas, Business Head, amace solution
- Dr. Maniraj Perumal, DGM-Prototype Development, Hero Motocorp
- Dr. U. Chandrasekhar, Program Director AddWize, Wipro3D
- Mr. Maltesh Somasekharappa, CEO & Co-Founder, Supercraft 3D

Masterclass on Innovation in Enterprises

The challenge now is on innovation in the digital era. It is a challenge to make innovation happen on a consistent basis or make it as a part of the culture in an organization. The important steps required for a systematic innovation capability are the ideas, systems, and processes in the company to make sure that ideas develop further into full-fledged innovations. This will create velocity and an average of successes make out of innovation.

Companies need to lay a foundation, have basic innovation processes streamlined, strategy, have a challenge group to identify problems, build participation, and create a consistent reservoir of ideas. Ideas are the important raw material for any organization. Organizations are also collaborating with startups to create new ideas. One other approach is portfolio approach where they have a portfolio innovation projects of different risk-reward trade off. Data is very critical for innovation. Open Innovation is regular feature of all the companies.

Create a lot of pride in being a creative, encourage Research & and fund projects with proper research. Failure needs to be appreciated. Innovation requires commitment and passion.

Key Speakers:

Masterclass on "Innovation in Enterprises"

- Mr Ravi Arora, Vice President, Group Innovation, Tata Sons
- Dr Gopichand Katragadda CEO Myelin Foundry
- Dr Rishikesha Krishnan, Director, Indian Institute of Management, Bangalore

Session with Venture Capitalists on Bangalore as an Innovation Hub

- Bangalore has evolved as an Innovation Hub starting from establishment of up IT companies like Infosys & Wipro, Accenture etc that was followed by many other MNC's . This continued with establishment of many GCC in this region. R&D centers of global companies like Amazon and Microsoft were set here. The whole research R&D focus came up. From 2010, there has been serious rise of tech startups and, Bangalore has become, the Silicon Valley of India. It's very strong startup ecosystem, equal to any in the world.

- Bangalore is ranked eighth in the Global list of leading technology innovation hubs as per our report called technology innovation hubs 2021 by KPMG. It was ranked 26th in the global startup ecosystem report 2020 by startup genome, and it's the only Indian city to be included in the top 30 ranking as per that report.

- It stands in the 10th spot among cities globally up 4 cities from last year as per the Global Startup Ecosystem index 2021. Has about 13,000 active startups is home to a significant number of unicorns, like Byjus, Swiggy, Bigbasket etc. Bangalore has 23% of the startups in India, followed closely by Delhi NCR with 22%, Bangalore, Delhi and Mumbai together account for 93% of the total 70 billion raised by Indian startups, between 2014 and 2020 with Bangalore itself accounting for half of X amount. So, a significant amount of funding has flowed in Bangalore.

- In terms of deals Bangalore has had 30333 deals in 2020, compared to, 244 with Delhi NCR and 183 in Mumbai. This southern Metropolis continues to embrace rapid growth, welcoming an eclectic mix of talent and enterprises and providing key ingredients for entrepreneurship and innovation. Entrepreneurs and strong innovation hubs are always the ones that did well, which had very good linkages between all of these. Experimenting is more important than success. Infosys and Wipro are a good example, both from Bangalore.

- Bangalore has lot of advantages giving it a historical perspective like HAL was set up, later Infosys, IBM. Later large tech companies like Google, Flipkart set up its space here. Axel and IDG which came out of Wipro built a certain density and Network effect which is difficult to replace.

- We need to work closely with government for the ecosystem that propelled Bangalore as a Innovation Hub, same Ecosystem needs to be built for Health and Sustainibility. If we want to become the number one startup nation. We have had many innovation hubs, and these need to be distributed all over the country. The entire ecosystem consists of the government ,the industry bodies, start-ups, VCs corporates, Academies need to come together to take Bangalore to a logical position.

Key Speakers:

Plenary Session with Venture Capitalists on "Bangalore as an Innovation Hub"

- Mr Ganapathy Venugopal, Co- Founder & CEO, Axilor Ventures
- Mr Ashwin Raghuraman, Bharat Innovation Fund
- Mr Naganand Doraswamy, Managing Partner & Founder, Ideaspring Capital
- Ms Richa Natarajan, Partner - UC Growth Equity, Unitus Capital
- Mr Avnish Sabharwal, Managing Director, Accenture Ventures & Open Innovation

Session on Cyber Security

- Cyber Security has been a key area of focus especially with the advent of the pandemic and when most of the organizations have migrated to the remote working or hybrid working methodology. Since the globe now functions on the principle of not having corporate boundary, it shall be of utmost importance for all of us to be aware of the legalities of Cyber Security, in case of dealing with this.

- The key imperatives for an organization when it comes to Cyber security strategies from now to next 3 years, would be a debatable topic of discussion, however the panel deliberated on aspects like Zero trust models, strong authentication for employees who log in and have access to such critical data etc.

- The companies have systems in place to protect the data. There are laws, precedents where we can come to a conclusion what the judges are likely to give their views. The departure comes between Brick and motor world and the digital world where the counterattack is not possible.

- In the cyber world, there is greater responsibility thrust upon the organizations to have systems in place in order for them to be able to protect the data information etc. But, also because of the fact that prosecution and investigation agencies are yet not trained enough to be able to deal with such instances the situations differ slightly. We need to try and evaluate what the vulnerabilities were, whether adequate security measures were put in place and whether we are complying with the standards that the law imposes upon.

- As the globe navigates through this paradigm shift, in the process of having rolled out data privacy laws and regulations or in the process of drafting one, it shall be advisable to have one common standardized law/ regulatory compliance, so that the world becomes an easier, simpler and safer place to work, with the new normal.

- The cost component also goes up, with different regulations across the globe, especially for the multi-National companies. Trying to work on one overarching framework to navigate through the data privacy shall be a recommendation for the policy makers, keeping in mind the ease of business aspects and compliance.

- Understanding the threat factors while working on Cyber security strategies for implementation is significantly important, as knowledge of how the threats would span and the amount of damage that would cost to the company, will help us charter the regulations in accordance.

- The process of nurturing ethical hackers, to understand the vulnerabilities of the dark web and thus working on strategies to safeguard the data within an organization is something which is now being practiced, however the legalities of the same has not been drawn yet.

- While patching is still one of the issues which are being worked upon by the organizations to manage the data threat and system vulnerabilities, it is important to get the asset management rightly done which is the fundamental step of getting into securing the data, even before managing the data privacy.

Recommendations for stakeholders:

- Work on an overarching framework to reduce the compliance burden and ease of navigation through the data privacy, which would be helpful for the companies especially with global presence to adhere to common guidelines.

- ❖ Recommendation for the industries to maintain data privacy within the organisations is to ensure a controlled / authorised access to employees and restricting the information levels to the degree of data accessibility.
- ❖ Identifying use cases and convert them into some system readable format, which will help companies to choose as the situation demands and as per the cases encountered as in a diverse country like India, even the definition of Data privacy and Cyber Security differs across geographies. Such use cases shall help companies to take up the necessary steps and enforce them in their workplaces.

Key Speakers:

Session on Cyber Security

- Prof. Ponnurangam Kumaraguru, IIIT Hyderabad
- Mr Brijesh Dutta, EVP & CISO, Reliance Jio
- Mr Abhishek Malhotra, Managing Partner, TMT law Practice
- Mr Vishal Salvi, CISO, Infosys Ltd

Redefining Innovation for the Next World – Fostering Research and Development for the next World

New age innovation is that our focus should shift from human centric research to climate change. To be a R&D careerist in 2024, one must be continuous learner, storyteller, deep relationships, leverageable weak ties, connected to the planet and finally to act as custodian not like an owner.

India needs to transform institutional campuses because that is where young minds are active and need to harness it to move forward. There are four important ingredient of healthy innovation Eco-system in institutions i.e. Institutional Culture, Faculty Outlook and expertise, Student Motivation and Alumni support & involvement. The most important Innovation culture basics are to be Relevant, Bold, Innovative, Professional and Responsive.

Industries today are open to Academia and having entrepreneurship programmes, but actual adaption is low. At each stage of Innovation, you require infrastructure to build the product, capital, validation from the market and finally adaption. The main issue is receiving strategic growth capital and if we receive from outside India, there is a chance that we lose ownership, IP and talents. Long term funding is necessary for deep research. Government and Industry has been supportive but the quality of support from Industry is not good. There is a need for the awareness of deep research / science. Partnership also plays a very critical role in business.

There are two key challenges in a startup, one is getting busines from big corporate houses and second, they are starved of getting funding. Funding is very much essential for long run. We also need energy efficient technology which can be innovated in India and for India.

Key Speakers:

- Dr Gopichand Katragadda, Co-Founder & CEO, Myelin Foundry
- Ms Poyni Bhat, CEO, Society for Innovation & Entrepreneurship (SINE), IIT Bombay
- Mr Krishnan Balasubramaniam, Professor, IIT Madras
- Dr Aloknath De, CTO, Samsung R&D
- Ms Mili Srivastava, Partner, Procure, Invest in potential start ups, DIAGEO India Ventures

Recommendations from the Summit Valedictory Session

Technology and Innovation has changed the world. Several innovations will scale up and change the future of Industry, governance and society positively. Even those innovations that do not scale up will play an important role in future research and vast body of knowledge.

The theme essentially addressed three stakeholders. One is Government on Policy Action, Industry for the Sector specific action and Academia for any research or curriculum action.

Insights from the Summit:

- Innovation has become a mainstream topic and not an exclusive initiative of Corporate, Government or Entrepreneurs. Innovation became the primary enabler for survival for Covid, for growth for business and perhaps differentiation in terms of solution.

- Digital become the main platform for various sectors for innovation.

- India's stack – Aadhar, UPI and Mobile. The trio enabled sector innovations actually work. India Stack enabled it, covid accelerated it, so we received agility, focus, experimentation, collaboration and funding due to the pressure from covid due to the pressure from covid but we could drive the digital way due to technical enablers.

- India with a publicly funded infrastructure which is digital but privately funded solutions is working well and many other sectors are taking a similar approach.

Sector Specific Policy related action needed:

- To start with Synthetic Biology, a need for regulatory framework with which we can work closely with Government in terms of policy note covering therapy, food, energy, and material. CII to build a policy note for this kind synthetic biology leveraged sectors and solution.
- Foreign Missions have taken initiatives for collaboration networks for Innovation.Some of the trade collaborations or fair-trade agreements are built on a historical model of trade. It is essential to choose them for digital economy or digital trade. A book or note can be put together on the best practices.
- In Fintech context, some regulatory clarity is needed for many of the fintech solutions. It is not clear in many cases – what is allowed, who gets access to what data, what credit scoring and who needs licence to operate. For inclusive solutions including social inclusion, a clarity is needed from Government on what are the boundaries of operation? Are there regulatory frameworks today for banking, for trade, for insurance as some of it are overlapping due to which the role played by fintech or new emerging companies or digital banks is not clear.
- Financial products, a literacy campaign required from government because a lot of these new products are exotic and appealing to millionaires but that is not the same for others. A literacy campaign is essential for fintech products. Also, many MSME's and Kirana merchants are of the view that while the supply chain got digitized, the credit is not democratic.
- For Manufacturing, there is a proposal that for editable manufacturing like 3D printing, a similar mission may be undertaken, where the public infrastructure can be looked up for metal, concrete etc and let service providers ride on them so that a similar innovation model can be undertaken.
- With regards to food products, Government can help in promoting some food products which are native to India. Government can be a good enabler as this is learning from some of other governments in the world that their trade missions are active in promoting these solutions.
- Deep tech cluster for innovation which brings in Academia, Industry and Capital.
- On Data, to promote digital innovation, clarity is required on where we stand with respect to privacy,what data can be harvested, what is the level of consent if one exists or not exist and

- limitation of purpose. These procedures and rules seem to differ by sector, government vs non-government, individual vs company, foreign entity vs local entity.
- E-mobility has a combination of transportation, energy and auto sector. While there are incentives for production, usage etc but the charging infrastructure is imbalanced. There is no simple standard. Transportation differs from state to state. Government needs to work for policy action.
- Health sector is short on talent. Digital Health with remote monitoring is required. Para medical staff to be digitally educated. With regards to infrastructure, the infrastructure of top end health is actually with the private sector. Government needs to have a balance on health infra.
- On Energy and Sustainability, Circular economy models are not clear in case of materials that can be used like plastic etc. Policy action as well as clarity required from Government. Also, it was noted that substitution is a better option to approach rather than banning the material.
- Agriculture needs policy action and investment on agro forestry, controlling meeting gases, slow fertilizers etc which would be helpful. Policy action on investment in this sector are also needed.
- Cyber Security needs more talent as most of them are technically intensive.

Karnataka as an innovation Hub: Karnataka has been a leader in Innovation and Research and Development from many decades. It is the powerhouse and has the best eco system for Innovation. Under the Innovate Karnataka Initiative, Government has announced financial support in the form of grants to encourage innovation and growth of small companies. The Government has also set up world class incubation centre in the state focussing on aerospace, cyber security, animation etc. A policy for engineering, research and development was announced a few months back. The policy provides subsidies to Global organizations looking to establish new R&D facilities or expand existing ones. The Industrial Policy announced by the Government of Karnataka last year clearly highlights the vision for the State and would work with all Stakeholders to make it happen. Some of the key sectors like Aerospace, pharma, logistics, renewable, food processing etc has immense potential of growth in the state. Government has laid special trust on areas like Industry for Intellectual Property, technology, adoption and cluster development.

Key Speakers:

Valedictory Session

- Shri Murugesh Rudrappa Nirani, Hon'ble Minister for Large & Medium scale Industries, Government of Karnataka
- Mr Kris Gopalakrishnan, Past President, CII & Co-Founder, Infosys Ltd & Chairman, Axilor Ventures
- Ms Suchitra Ella, Deputy Chairperson, CII Southern Region & Joint Managing Director, Bharat Biotec International Ltd
- Mr Ramesh Ramadurai, Chairman, CII Karnataka & Managing Director, 3M India Ltd
- Ms Jyothi Pradhan, Vice Chairperson, CII Karnataka & CEO, Kurlon Enterprise Ltd
- Mr Vijay Kumar Ivaturi, Member, Core Group of India Innovation Summit & CTO, Cryon Data PTE

GLIMPSES OF 17th INDIA INNOVATION SUMMIT

Dr C N Ashwath Narayana, Hon'ble Minister for IT, BT & S&T, Government of Karnataka addressing the Inaugural session

Mr Murugesh Rudrappa Nirani, Hon'ble Minister for Large & medium Scale Industries, Government of Karnataka addressing the

Mr Amitabh Kant, CEO, NITI Aayog, Government of India addressing the Fireside Chat at the India Innovation Summit

Panel Discussion on Policy Interventions for Transportation

Dr E V Ramana Reddy, IAS, Additional Chief Secretary, Department of IT&BT, & Industries, Government of Karnataka

Confederation of Indian Industry

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

For 125 years, CII has been working on shaping India's development journey and, this year, more than ever before, it will continue to proactively transform Indian industry's engagement in national development.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with about 9100 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 288 national and regional sectoral industry bodies.

CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

With the Theme for 2020-21 as *Building India for a New World: Lives, Livelihood, Growth*, CII will work with Government and industry to bring back growth to the economy and mitigate the enormous human cost of the pandemic by protecting jobs and livelihoods.

With 68 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 394 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

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