



**AIMA**  
ALL INDIA MANAGEMENT ASSOCIATION

# 13th NATIONAL MSME CONVENTION

Innovation and Digital Transformation for  
MSMEs—Opportunities and Challenges

March 15–16, 2024, Bangalore

**Souvenir**

In Association With





# 13<sup>th</sup> NATIONAL MSME CONVENTION

Innovation and Digital Transformation for MSMEs  
Opportunities and Challenges

15<sup>th</sup>-16<sup>th</sup> March, 2024  
Karnataka Small Scale Industries Association (KASSIA),  
Bangalore

## **ALL INDIA MANAGEMENT ASSOCIATION**

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# 13<sup>th</sup> NATIONAL MSME CONVENTION

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## CONTENTS

CONTENTS	PAGE NO.
• About AIMA/CME -----	06
• Programme Schedule -----	14
• Theme Paper -----	20
• Speaker Profiles -----	38
• Supporting Partners -----	54





**About AIMA / CME**

## About AIMA

The All India Management Association (AIMA) is the Voice of India's Leaders and Managers, and the apex body of the management profession in India. AIMA is a not for profit, non-lobbying organisation, and works closely with Industry, Government, Academia, and students to further the cause of the management profession in India.

AIMA has a membership base of over 38000 members and close to 6000 corporate /institutional members, through 67 Local Management Associations affiliated to AIMA. The Association is represented on a number of policy making bodies of the Government of India and national associations.

Established in 1957, AIMA has contributed immensely to the enhancement of management capability in the country over the years. AIMA offers various services in the areas of testing, distance education, skill development & training, research, publications, executive education and management development programmes and special Forums for Young Leaders, Vice Chancellors and women leaders and managers.

Over the past six decades, AIMA has evolved as times have changed and catered to the growing needs of today's management community. Apart from its flagship Post Graduate Diploma in Management, AIMA offers topical and industry-oriented programmes and initiatives to help management professionals and students keep in step with times, while offering state of the art business solutions for organisations and institutions.

As the pioneer of Distance Education, AIMA has always been an early starter, even in the digital space. AIMA was amongst the first organisations to offer Internet Based Remote Proctored Tests on a national level; and among the first to shift its service offerings online. AIMA quickly built digital expertise and now has the capability to offer its management programmes and business solutions in the physical, virtual and hybrid mode, as required.

AIMA also brings to the Indian managers, the best management practices, and techniques through numerous foreign collaborations with professional bodies and institutions. AIMA is an important and long-time member of the Asian Association of Management Organisations (AAMO), which promotes professional management in the Asia Pacific region. In addition, AIMA has developed close associations with several leading international Universities and Institutions including the UC Berkeley, UC Santa Cruz, St Gallen Symposium, Horasis, The World Bank to name a few.

## Centre for Management Education

Established in 1993, AIMA's Centre for Management Education (CME), functions as a full-fledged autonomous business school, in open and distance learning mode.

AIMA CME offers

- Post Graduate Diploma in Management (Approved by AICTE )
- Post Graduate Diploma in Information Technology Management (Approved by AICTE )
- Post Graduate Certificate Programme and Advanced Certificate Programme
- Professional Certificate Programme in Digital Marketing and Analytics
- Professional Diploma in Public Procurement
- Certification in Financial & Valuation Modeling
- Professional Diploma in Business Analytics

Also offered as skill based courses

## MESSAGE



**Nikhil Sawhney**

*President, AIMA*

*Vice Chairman & Managing Director*

*Triveni Turbine Limited*

Micro, Small, and Medium Enterprises (MSMEs) play a pivotal role in driving economic growth and employment. They must evolve so that the larger economy can upgrade and expand. The MSMEs' adoption of new technologies and alignment with new business practices is necessary for their own continued success and the overall transformation of the economy. Digitalization is now basic to doing business. The MSMEs must digitalize so that they can integrate with the new marketplaces and with the digitalized processes of customers and the government. Digitalization is also necessary to obtain data to streamline operations, improve productivity, reduce costs, develop agility, and to create new products and markets. Innovation is the key to the longevity and growth of any enterprise, particularly the MSMEs. Large companies rely on their supply chain to innovate and the MSMEs that add value through innovation are favoured and supported by their large customers. While MSMEs must focus on product and process innovations, they must also strive for business model innovation. Coming up with new value propositions and new ways of delivering it is as important as offering new product capabilities and cost and scale efficiencies. Innovation and digitalization are essential for the MSMEs to stay in the market, unlock new opportunities, and ensure rapid growth. AIMA's 13th National MSME Convention aims to highlight the technological and management upgrade imperative. The convention, with its focus on 'Innovation and Digital Transformation for MSMEs : Opportunities and Challenges' would explore the various dimensions of the ongoing change and the ways to make MSMEs fit for the new economy. The convention serves as a platform for thought leaders, industry experts, and policy makers to engage in insightful discussions, share best practices, and explore innovative solutions to propel MSMEs forward. In the face of rapid technological advancements and the ongoing digital revolution, the need for adaptability and forward-thinking strategies has never been more pronounced. AIMA is pleased to collaborate with Karnataka Small Scale Industries Association (KASSIA) in organising this convention. Local focus and partnerships can be very useful in achieving better outcomes from such meetings and deliberations. I thank KASSIA, the sponsors, and all the participants for supporting this initiative. I encourage all delegates to engage in the sessions, panel discussions, and make use of the networking opportunities provided by the convention.



## MESSAGE



**Dr. J. S. Juneja**

*Chairman MSME Committee*

*Past President AIMA*

Having spent most part of my professional career in promoting Enterprise and small industries & businesses, nothing gives me more pleasure than dealing with the subject of Innovation and Digital Transformation for MSMEs close to my heart. AIMA has been committed to support and deliberate issues concerning policy, institutional support mechanism, infrastructure development, building the management capacity of MSMEs and related issues. The object is to find ways & means and new avenues to ensure the growth and development so that MSMEs prosper to generate more employment for the youth. We are holding the 13th MSME Convention at Bangalore –The City of Intellect and Enterprise in cooperation with KASSIA (Karnataka Small Scale Industries Association). We will deliberate with relatively new emerging areas in the next two days - Artificial Intelligence (AI), Innovation and Digital Transformation for MSMEs-Opportunities and Challenges. We have a galaxy of MSMEs and other institutions to support our deliberations. We do hope to come out with recommendations and support measures for MSME growth in the upcoming areas.

## MESSAGE



**Rekha Sethi**

*Director General*  
AIMA

A very warm welcome to all the participants in AIMA's 13th National MSME Convention. The MSME Convention is an integral part of AIMA's mission to promote management excellence among enterprises of all types and sizes. The MSMEs are the foundational layer of the economy and they must have the best management knowhow and skills so that excellence and growth are spread across the economy's pyramid. In a rapidly evolving landscape of business and industry, the role of the MSMEs is pivotal. As the backbone of the economy, they contribute significantly to growth, employment, and innovation. It is imperative for the MSMEs to embrace digital transformation and innovation to stay competitive and resilient in an ever-changing market. This convention's theme 'Innovation and Digital Transformation for MSMEs: Opportunities and Challenges' highlights the urgent need for modernizing and strengthening the MSMEs. The convention aims to identify the necessary management approaches and means to make the MSMEs more relevant, productive, creative and competitive. During the convention, we will explore the challenges faced by the MSMEs in adopting innovative practices and leveraging digital technologies and also the opportunities opened up by transformative initiatives. Our distinguished speakers and panellists will share insights, best practices, and success stories that will inspire and show the way forward. I thank the Karnataka Small Scale Industries Association (KASSIA) for their invaluable support in organizing this event. Such collaborations are essential for sharing knowledge and identifying new ways to strengthen the MSMEs. This convention is a great opportunity to learn from the experts and explore new opportunities. I am confident that you will enjoy the presentations and the discussions.

## MESSAGE



**Rohit Singh**

*Director, CME  
AIMA*

Digital technology has presented with enormous benefits for the MSME sector in India especially when Government of India is vying for US Dollar 5 trillion Economy. It is equally important when the thought process of doing business is moving towards creating digitally enabled environment that will see substantial transition in the days to come. Innovation and digital transformation play crucial roles in the growth and sustainability of Micro, Small, and Medium Enterprises (MSMEs). These businesses, often characterized by limited resources, can greatly benefit from embracing technological advancements to enhance their operations, improve efficiency, and stay competitive in today's rapidly evolving business landscape. More than 63 million MSMEs are located across the nation, and they support 11 crore people's daily needs. MSMEs make a crucial contribution to India's GDP. MSMEs contribute more than 29% to the GDP and are responsible for 50% of the country's total exports. They are also accountable for one-third of India's manufacturing output. The MSME Ministry wants the sector to contribute up to 50% more to the national GDP by 2025. At this juncture AIMA is having its 13th MSME Convention at Bangalore in collaboration with KASSIA (Karnataka Small Scale Industries Association) supported by Ministry of Micro Small and Medium Enterprises, Government of India on the theme "Innovation and digital Transformation for MSMEs – Opportunities and Challenges". The convention will be having seven plenary sessions on the varied sub themes covering relevant areas of concern for MSME including but not limited to Innovation, AI for Business Transformation, Digital Marketing, Digital Transformation to name a few. I am sure deliberations and active participations during the convention will make recommendations and suggestive measure for policy makers to ponder upon for fruitful implementation.

## MESSAGE



**CA Shashidhara Shetty**

*President, Karnataka Small Scale Industries Association  
(KASSIA)*

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KASSIA is happy to join hands with All India Management Association (AIMA) for the 13th National MSME Convention on Innovation and Digital Transformation for MSMEs -Opportunities and Challenges from March 15-16, 2024, which, I firmly believe, can be a life-changing event for the participating micro and small scale industries in particular. This is because we live in a knowledge-based society and if we don't update and upgrade ourselves with the right kind of information and knowledge, we would be sadly left behind. At the 13th National MSME Convention on Innovation and Digital Transformation for MSMEs, top industry experts and seasoned veterans from multiple domains will share their insights on a wide gamut of topics of specific, immediate as well as lasting concern to the MSMEs, such as for example, Innovation and AI for Business Performance, Innovative & Marketing Support for SMEs, Digital Marketing for Going Global, Analytics for Digital Transformation & Industrial IoT, Success stories of women entrepreneurs and Digital Banking & SMEs. At Karnataka Small Scale Industries Association (KASSIA), we have been diligently serving the cause of micro and small scale industries of Karnataka by way of timely intervention in policy advocacy, issues redressal, and mentoring the small entrepreneurs. We work closely with all stakeholders for the welfare of the MSEs and act as a bridge between them and the policymakers for a harmonious relationship between the two. The 13th National MSME Convention on Innovation and Digital Transformation for MSMEs - Opportunities and Challenges can be a game-changer for the participants who take active part in it. My best wishes to the participants!



## Programmee Schedule



# 13<sup>th</sup> NATIONAL MSME CONVENTION

INNOVATION AND DIGITAL TRANSFORMATION FOR MSMES-OPPORTUNITIES AND CHALLENGES

March 15<sup>th</sup>-16<sup>th</sup>, 2024  
BSE International Convention Hall Mumbai

## CONVENTION AGENDA

### Day-1

1030 – 1100 hrs.

Arrival of guests

1100 – 1200 hrs.

INAUGURAL SESSION

Lighting of the Lamp

Introductory Remark

**Rekha Sethi**  
Director General, AIMA

Welcome Address

**CA Shashidhara Shetty**  
President, Karnataka Small Scale Industries Association, (KASSIA)

Setting the Context

**J S Juneja**  
Chairman MSMEs and Past President, AIMA

Special Address

**Nikhil Sawhney**  
President, AIMA, Vice Chairman & Managing Director, Triveni Turbine Limited

Keynote Address

**Sharanabasappa Darshanapura**  
Hon'ble Minister for Small Scale Industries & Public Enterprises, Government of Karnataka

**Inaugural Address**
**Vijay Mahantesh Danammanavar, IAS**

Director, MSME Dept. of Industries &amp; Commerce

**Vote of Thanks**
**Nagarju S.**

Hon. General Secretary, (KASSIA)

1200 – 1215 hrs.

**Networking Break**

1215 – 1330 hrs.

**Plenary Session 1**
**INNOVATION IN MSMES**
**Praveen Arora**

 Senior Advisor, Dept. of Science and Technology,  
Ministry of Science and Technology, Govt of India

**Harishankar Krishnan**

 Network Transformation Head, Open Network for Digital  
Commerce (ONDC)

**Satish Ambesange**

Co-Founder &amp; CEO, Pragyan AI, Bangalore

**Interaction with audience**

1330 – 1400 hrs.

**Lunch Break**

1400 – 1515 hrs.

**Plenary Session 2**
**AI FOR BUSINESS PERFORMANCE**
**Chairperson**
**K S Narayanaswamy**

President, Bangalore Management Association

**Speakers**
**Santosh Kumar Gopala**

National Vice-Chairman, Young Leadership Council

**Ajayan Kavungal Anat**

Past President, Calicut Management Association

**Interaction with audience**

1515 – 1530 hrs.

**Networking Tea**

1530 – 1700 hrs.

**Panel Discussion**

**MARKETING SUPPORT TO MSMEs: DIGITAL  
MARKETING FOR GOING GLOBAL**

**G. P. Sudhakar**

Centre for Educational and Social Studies,  
Bangalore

**Mahesh Kumar Jain**

Chairman, Integra Micro Systems, Argenti  
Innotech, and BCFI

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**AIMA's Day 1 MSME Convention Close**

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**Day 2**

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1000 – 1130 hrs.

**Plenary Session 4**

**DIGITAL TRANSFORMATION THROUGH  
ANALYTICS & INDUSTRIAL IOT**

**Chairperson:**

**Rajagopal M. G.**

Vice president, KASSIA as Chairperson

**Sri Rakshith B.**

CEO, TI2 Technologies, Bengaluru

**Nagraj Hediya**

Director, eNLiven Technologies Bangalore

**B.S. Srinivasan**

Managing Partner, Viprov Electronics

1130 – 1145 hrs.

**Networking break**

1145 – 1315 hrs.

**Panel Discussion**

**WOMEN ENTREPRENEURIAL: SUCCESS STORIES**

**Chairperson**

**Nagarju S**

Hon. Gen. Secretary, KASSIA

**Panelist**

**Bhawana Bhargava**

CEO, Aaditi Stonesoup solutions Pvt Ltd

**Pankaj Choudhary**

Dean -BMSCEEDL, BMS Centre for Executive Education

1315 -1400 hrs.

**Lunch**

1400 – 1500 hrs.

**Plenary Session 5**

**Digital Banking & SMEs: Future Perspectives**

**Chairperson**

**Satyaki Rastogi**

Chief General Manager, Small Industries Development  
Bank of India (SIDBI)

**Rohit N Singh**

Sr. Manager Business Banking for South Zone  
Kotak Mahindra Bank Ltd

**V Jawahar**

Assistant General Manager, State Bank of India

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**1500-1530 hrs.**

**Valedictory Session**

**Chairperson**

**J S Juneja**

Chairman MSMEs and Past President, AIMA

**CA Shashidhara Shetty**

President, Karnataka Small Scale Industries Association, (KASSIA)

**Special Address**

**Rishikesha T Krishnan**

Director, IIMB

**Rakesh Mohan Joshi**

Director, Indian Institute of Plantation Management

**Closing Remark**

**Dr Ganesh Singh**

Professor, CME, AIMA

**Vote of Thank**

**KASSIA, Bangalore**

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**AIMA's 13th National MSMEs Convention concludes**

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**\*Confirmation Awaited**





**Theme paper**

# “INNOVATION AND DIGITAL TRANSFORMATION FOR MSMEs-OPPORTUNITIES AND CHALLENGES”

Dr. J. S. Juneja  
Chairman, SME Committee & Past President, AIMA  
& Chairman Global Projects & Services (P) Ltd.

## Introduction

The Micro Small and Medium Enterprises (MSMEs) form the backbone of many economies, contributing significantly to employment generation, poverty alleviation, and overall socio-economic development. In India, the sector has gained significant importance due to its contribution to Gross Domestic Product (GDP) of the 30% of the country and exports to the extent of nearly 50%. The highest number of jobs are created by MSMEs next only to agriculture. The sector has also contributed immensely with respect to entrepreneurship development especially in semi-urban and rural areas of India.

In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small and Medium Enterprises (MSME) are classified as below:

Criteria		
Manufacturing Enterprises and Enterprises rendering Services		
(Revised classification with effect from July 1, 2020)		
	Turnover	Investment
Micro	Rs. 5 crore (US\$ 610,000)	Less than Rs. 1 crore (US\$ 120,000)
Small	Rs. 50 crore (US\$ 6.1 million)	More than Rs. 1 crore (US\$ 120,000) but less than Rs. 10 crore (US\$ 1.2 million)
Medium	Rs. 250 crore (US\$ 30.4 million)	More than Rs. 10 crore (US\$ 1.2 million), but less than Rs. 50 crore (US\$ 6.1 million)

The Micro, Small and Medium Enterprises (MSMEs) sector in India has exhibited a strong performance and protected the economy from global adversities and shocks. It is estimated that 633.88 lakh MSMEs, of which 324.88 lakh MSMEs are based in rural areas and 309 lakhs are from urban areas in India. The Micro sector includes 6.30 million enterprises, accounting for over 99% of the country's total number of MSMEs.

As per data from the Ministry of Micro, Small & Medium Enterprises, as of December 14, 2023, the Udyam Registration portal registered 21,516,394 MSMEs, replacing the former process of filing for a Udyog Aadhaar Memorandum (UAM). Registered micro-enterprises stood at 20,812,759 (96.74%), followed by small enterprises at 586,643 (2.69%) and mid-sized enterprises at 54,352 (0.25%).

<sup>1</sup>Chairman of SME Committee and Past President, All India Management Association (AIMA), Former Chairman National Small Industries Corporation (NSIC) and Chairman, Global Project & Services Pvt. Ltd,  
Ms. Priyanka, Research Assistant, Global Project & Services Pvt. Ltd. Email: [globalproject95@gmail.com](mailto:globalproject95@gmail.com)

As of December 14, 2023, under the top five state-wise Udyam registrations, Maharashtra recorded the maximum number of registrations with 37.12 lakh units, followed by Tamil Nadu (21.74), Uttar Pradesh (20.28), Gujarat (15.53), Rajasthan (15.57).

The number of MSMEs in the country is expected to grow from 6.3 crore, of which only 2.5 crore have ever availed credit from formal sources to approximately 7.5 crore in the coming times, growing at a projected CAGR of 2.5%.

Domestic business requires a strong financial stimulus with concessional working capital loans to ensure adequate liquidity is maintained in business operations from the government and financial institutes.

Indian Micro, Small and Medium Enterprises (MSMEs) are rapidly adopting digital payments over cash, with 72% payments done through the digital mode compared with 28% cash transactions. Rise in digital adoption presents prospects for further growth in the sector. In FY23 till December 31, 2022, the number of digital transactions stood at 9,192 crore and worth Rs. 2,050 trillion (US\$ 24.73 trillion).

### **Worldwide Contribution by SMEs**

Small and Medium Enterprises (SMEs) play a major role in most economies, particularly in developing countries. SMEs account for the majority of businesses worldwide and are important contributors to job creation and global economic development. They represent about 90% of businesses and more than 50% of employment worldwide. Formal SMEs contribute up to 40% of national income (GDP) in emerging economies. These numbers are significantly higher when informal SMEs are included. According to our estimates, 600 million jobs will be needed by 2030 to absorb the growing global workforce, which makes SME development a high priority for many governments around the world. In emerging markets, most formal jobs are generated by SMEs, which create 7 out of 10 jobs. However, access to finance is a key constraint to SME growth, it is the second most cited obstacle facing SMEs to grow their businesses in emerging markets and developing countries.

SMEs are less likely to be able to obtain bank loans than large firms, instead, they rely on internal funds, or cash from friends and family, to launch and initially run their enterprises. The International Finance Corporation (IFC) estimates that 65 million firms, or 40% of formal micro, small and medium enterprises (MSMEs) in developing countries, have an unmet financing need of \$5.2 trillion every year, which is equivalent to 1.4 times the current level of the global MSME lending. East Asia and Pacific accounts for the largest share (46%) of the total global finance gap and is followed by Latin America and the Caribbean (23%) and Europe and Central Asia (15%). The gap volume varies considerably region to region. Latin America and the Caribbean and the Middle East and North Africa regions, in particular, have the highest proportion of the finance gap compared to potential demand, measured at 87% and 88%, respectively.

### **Innovation**

Innovation is defined as the ability of an enterprise to “manage knowledge creatively in response to market-articulated demand and/or other social needs” (OECD, 1999).

Innovation is the process of translating a new idea or invention into a good or service that creates value and for which customers will pay. Innovation involves deliberate application of information, imagination, and initiative in deriving greater or different values from resources and includes all processes by which new ideas are generated and converted into useful products or services. In business, innovation often results when ideas are applied in order to further satisfy the needs and expectations of the customers. Innovation holds the key to increase in productivity and productivity gains which lead to both economic growth and in raising the standards of living.

Innovation is a tool that enables to reap rewards of scientific achievements and requires much more than the ability to turn a new idea into a working product or an innovative product.

Well-known management thinker and Guru Peter Drucker describe:

**“Innovation is an essential process of change that is necessary in order to maintain the development and growth of an enterprise. Innovation is the specific tool of entrepreneurs by which they exploit change as an opportunity for a different business or a service.”**

In the growing competition, innovation plays a major role to stay ahead in business and competitive whether it is in the form of continuous improvement on the shop floor, or new products or services launched in the market place. Innovation is not limited to R&D and product design, but extends across the entire value chain — it is equally important in organizational design, the supply chain and manufacturing, financial management and in branding. Companies are constantly trying to get ahead of one another in a competitive market place. Continuous innovation is integral to this competitive battle. Companies seek to create more value for their customers without increasing the cost of their products or services. Innovation is a continuous process and could extend to the size and shape of a product and even the way it is promoted. Four big tech companies in the world of today are Apple, Samsung Electronics, Microsoft, Facebook and not industrial auto giants like General Motors, Ford, Volkswagen and Toyota. Business starts and takes off and new technology comes and the old becomes obsolete.

It is well known that change is a spice of life and actually changes are happening all around us and every day in industry, business or services.

Some enterprises do not want to change and as such they do not survive for long. We have seen in our lifetime hundreds of big and small businesses have closed because they did not change with the changing time. In less than two decades, more than half of the brands that were on the Fortune 500 list in the year 2000 no longer exist. Probably they were not innovative and they could not cope up with the changing environment. Moral of the story is that enterprises have to continue to be creative and innovative.

Simultaneously, let's have a look at the lifespan of companies. According to S&P, lifespan of the companies is getting shorter which was 60 years in 1950 and in 2012 it became 20 years and lifespan in future is forecasted to be further reduced to 12 years in 2027.

Period	1950	1980	2012	2027
Years	60	30	20	12

Our Studies have also shown that the innovative firms grow faster than non-innovative firms. Entrepreneurial activities go higher with the innovation and better performance of an enterprise is reflected with innovation.

In the last 3-4 decades, we have been seeing industries and businesses growing, but the growth in most of them comes from creativity and innovation. We have found that the businesses who are not innovative are slowly vanishing. You find most of the new business startups coming today are set up by the younger people and are creative and innovative.

Innovation could be in the form of a new product or new design or a new process or a new marketing technique or change in the organization which could lead to innovation. The MSMEs face a lot of challenges but at the same time there are a lot of opportunities that are emerging which the young people have to grab and put-up successful enterprises.

Innovation must be encouraged in SMEs. It is evident from our study on “Status, Systems and Strategies of Innovation in SMEs in the Equipment and Machinery Sector” that SMEs have constraints as they don't have funds to innovate. In our own study for the Ministry of Science & Technology, Government of India, we found “the innovative firms grow faster than non-innovative firms”.

The Government must encourage creativity and innovation among SMEs. Innovation is the lifeline for MSMEs to grow and prosper and continue serving the nation by providing products and services generating much needed employment for the millions. To encourage innovation amongst MSME, One Man Committee headed



by Mr. Prabhat Kumar, Former Cabinet Secretary, GOI, has recommended that an MSME Innovation Fund may be established to motivate enterprises to innovate. Through the Fund with an initial corpus of say Rs 1000 Crore, it should be possible to provide financial incentive for developing innovative ideas and promote improvements in processes and techniques.

## **Artificial Intelligence (AI)**

Artificial intelligence, or AI is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal. A subset of artificial intelligence is machine learning (ML), which refers to the concept that computer programs can automatically learn from and adapt to new data without being assisted by humans. Deep learning techniques enable this automatic learning through the absorption of huge amounts of unstructured data such as text, images, or video.

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels weave stories about human-like machines that wreak havoc on Earth. But nothing could be further from the truth.

Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily mimic it and execute tasks, from the most simple to those that are even more complex. The goals of artificial intelligence include mimicking human cognitive activity. Researchers and developers in the field are making surprisingly rapid strides in mimicking activities such as learning, reasoning, and perception, to the extent that these can be concretely defined. Some believe that innovators may soon be able to develop systems that exceed the capacity of humans to learn or reason out any subject. But others remain sceptical because all cognitive activity is laced with value judgments that are subject to human experience.

AI can carry out routine jobs, such as scheduling corporate meetings and responding to frequent client inquiries. Additionally, there are uses for artificial intelligence in business that go beyond convenience too. AI can accurately assess billions of consumers purchasing patterns in a matter of seconds and dynamically fine-tune marketing efforts that improve audience signals. These are just some of the benefits that make AI the most appropriate choice for SMEs.

The time is now for small businesses to invest in artificial intelligence (AI) solutions to monitor user behaviour and offer recommendations, enhance search results, and media communication, increase sales, improve organizational performance, and cut expenses.

As a first step, MSMEs should start investing in gathering and capturing data, which could help them build AI applications. The good news is that MSMEs already generate huge volumes of data, which included data of transacting parties, sales on credit, payments, reminders etc. This data is a highly valuable in this digital age which provides necessary input for development of innovative products or services.

Tech startups are increasingly leveraging technologies in data science and AI to offer business solutions that solve unique problems of MSMEs. They are fast emerging as technology partners of MSMEs looking at new-age solutions that are based on data and analytics to improve operational performance.

## **Job Loss Fears?**

To a question on fears of job loss because of the quantum leap in artificial intelligence, the Microsoft founder said the world is not going to see an excess of labor anytime soon and increasing productivity could lead to a broader group being able to access things like their children getting individual tutoring, which is only affordable to a select few now.

During my tenure with NSIC, we embarked on a mission to guide the SMEs to upgrade the technologies



and it was human cry, the jobs will be lost if we upgrade the technology. Nevertheless, we went ahead and introduced a scheme for equipment leasing to help the SMEs to upgrade the technology. After a couple of years, the number of jobs had increased who adopted Technology Upgradation through leasing equipment scheme which eventually became popular since we facilitated funding of machines and equipment.

To our reckoning, jobs will increase, and the economy may expand with AI so long as we take necessary precautions.

"The world has more jobs today than it had 100 years ago, when you had to toil in a backbreaking way just to barely get enough to eat. 80% of people were farmers... So, the advances have made our lives a lot richer. We have reduced the work week, but that hasn't been the primary thing. Primarily, the food we are offered, the entertainment... you know, it is just way richer than what our previous generations could even dream up" said by the Microsoft founder, Mr. Bill Gates.

"Computers have always been superhuman at things like calculations, and we have reached milestones like when a computer was the best at chess, or when the computer was the best at Go (a board game). Now, if you had a contest to write poems or compose songs, the computer would be (at), you know, 99% of humans. And so that threshold of where it adds value and what it can do keeps going up," quoted by the Microsoft founder, Mr. Bill Gates.

### **Digital Marketing & Digital Transformation**

Any marketing that uses electronic devices and can be used by marketing specialists to convey promotional messaging and measure its impact through your customer journey. In practice, digital marketing typically refers to online marketing campaigns that appear on a computer, phone, tablet, or other device. It can take many forms, including online video, display ads, search engine marketing, paid social ads and social media posts. Digital marketing is often compared to "traditional marketing" such as magazine ads, billboards, and direct mail. Oddly, television is usually lumped in with traditional marketing.

Digital marketing, also called online marketing, is the promotion of brands to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messages as a marketing channel.

Digital marketing has become prominent largely because it reaches such a wide audience of people. However, it also offers a number of other advantages that can boost your marketing efforts. These are a few of the benefits of digital marketing.

SMEs play a vital role in the global economy, contributing up to 70% to employment and GDP. However, 67% of SMEs and mid-sized businesses are fighting for survival. This is partly because SMEs face intense short-term business pressures, limited expertise and resource constraints, which hinder their technology adoption.

Over 85% of organizations recognise increased adoption of new technologies and expanding digital access as key drivers of transformation. Digital infrastructure has been identified as a significant driver of long-term financial growth and adaptive capacity for SMEs.

Staying up-to-date with these trends is crucial for SMEs to remain competitive in the evolving digital landscape. While this may involve a significant upfront cost in the medium to long term, investments in digitisation can enable SMEs to gain valuable insights from their data, increase the efficiency of their operations, make cost savings, improve competitiveness and create greater opportunities for scalability and growth potential.

Despite a significant rise in digital payments since demonetization and Indian banks having issued a billion debit cards, many Indian consumers still rely on cash transactions. While no single move can make a country the size of India cashless, demonetization succeeded in significantly reducing the anonymity and lack of traceability of money in the Indian economy by routing all currency through a formal banking channel. Comparing the current demand for cash with the historic rate of growth of the economy we have calculated that the Indian economy is operating at an estimated \$33 billion less cash than it would have without

demonetization. (We computed this by taking the 20-year long term trend of growth rate of currency in circulation and extrapolating it post-demonetization. The difference between the predicted currency and the actual currency is an estimate of the reduction in circulation caused by demonetization.) Clearly, the behavioral changes required to accomplish a larger digital banking transition were not going to happen overnight or even in the span of a single year.

Meanwhile, the digital backbone of the world's second-most-populous country and largest democracy has continued to develop. When compared with the status quo even five years ago, our view — one of us is an academic and the other a tech entrepreneur who has worked with and within the Indian government — is that India is leapfrogging into the Fourth Industrial Revolution, with government still at the center of that transformation.

On India's digital economy and its contribution to the country's growth story, Mr. Gates said transferring government payments directly to bank accounts is a big step as beneficiaries get money directly, without intermediaries taking any of it away. It has also brought significant savings for the government, which can be used in other areas.

### Growth of Digital Marketing Industry in India

The growth in digital marketing trends in India is making a very substantial impact on marketing and advertisement. The big picture of the Digital Marketing industry in India cannot be complete if a short preview of the past digital marketing statistics is not made.

Going back to history, the International Journal of Advanced Research Foundation reveals the following stats on digital marketing in India-

Between **1971** and **1972**, The ARPANET is used to arrange a sale between students at the Stanford Artificial Intelligence Laboratory and the Massachusetts Institute of Technology, the earliest example of electronics or digital commerce.

- **1979:** Michael Aldrich demonstrates the first online shopping system.
- **1981:** Thomson Holidays UK is the first business-to-business online shopping system to be installed.
- **1996:** India MART B2B marketplace was established in India.
- **2007:** Flipkart was established in India. Every E-marketing or commercial enterprise uses majorly digital means for their marketing purposes.

In **2011**, the digital marketing industry in India report statistics revealed that advertising via mobile phones and tablets was **200% lower** than in the following years. During this year, the net worth was \$2 billion.

The growth was geometric, as it rose to **\$6 billion** in 2014. In 2022 Indian advertising market reached \$11 billion and is expected to rise more and reach \$14 billion by 2024.

The competitive growth demands more improvement in career work, and professionals are being added to the field.

The total investment increase from 2012 to 2022 was 1.5 billion dollars over the preceding years. There has been impressive growth up till this present moment.

The digital marketing in India PPT report by the International Journal of Advanced Research Foundation revealed that India had seen a golden period in the Internet sector between 2012 to 2022.

With incredible growth opportunities and secular growth adoption for E-Commerce, Internet Advertising,

social media, Search, Online Content, and Services relating to digital marketing.

### **Current Scenario of Digital Marketing Industry in India**

Digital marketing is one of the most important aspects of any business today. It allows businesses to connect with potential and current customers through various digital channels, such as social media, email, and search engines.

In India, digital marketing is overgrowing, with the Indian **digital marketing industry in 2025** expected to be worth **\$160 billion**, suggests a Goldman Sachs report.

The current scenario is fascinating. A growing number of businesses and entrepreneurs are recognizing the potential of digital marketing and using it to grow their businesses.

The number of digital marketing agencies in India is also increasing as more businesses seek expert help to create and execute effective digital marketing campaigns.

By 2023, the number of dynamic Indian web clients are estimated to be around 666 million. As a result of lockdowns in India's online business industry, Global Data predicts that the market will have reached **7 trillion rupees by 2023**.

Through the COVID crisis, marketers and advertisers on digital platforms have seen an increase in investment.

Today, even the world's largest companies are rethinking their marketing budgets to focus more on digital. This growth not only positively impacts businesses but also improves people's lives.

### **India Semiconductor Mission (ISM)**

The India Semiconductor Mission (ISM) was launched in 2021 with a total financial outlay of Rs76,000 crore under the aegis of the Ministry of Electronics and IT. It is part of the comprehensive program for the development of sustainable semiconductor and display ecosystem in the country.

The programme aims to provide financial support to companies investing in semiconductors, display manufacturing and design ecosystem.

Envisioned to be led by global experts in the Semiconductor and Display industry, ISM will serve as the nodal agency for efficient, coherent and smooth implementation of the schemes.

ISM is of paramount importance to organize efforts for promoting semiconductors and display industry in a more structured, focused, and comprehensive manner.

It will formulate a comprehensive long-term strategy for developing semiconductors and display manufacturing facilities and semiconductor design ecosystem in the country.

It will facilitate the adoption of trusted electronics through secure semiconductors and display supply chains, including raw materials, specialty chemicals, gasses, and manufacturing equipment.

It will enable a multi-fold growth of Indian semiconductor design industry by providing requisite support in the form of Electronic Design Automation (EDA) tools, foundry services and other suitable mechanisms for early-stage startups.

It will also promote and facilitate indigenous Intellectual Property (IP) generation and encourage, enable and incentivize Transfer of Technologies (Tot).

ISM will enable collaborations and partnership programs with national and international agencies, industries and institutions for catalysing collaborative research, commercialisation, and skill development.

### **Climate Change**

Climate change is not only a challenge in India or Asia but the entire World at large. The World Economic Forum has recently published its Report on Global Risk in climate action failure of nations which is threatening the world in a big way.

We have recently seen the perils of Climate Change with all the flash floods, heat waves, wildfires, droughts and various other nature's actions and so on in the different parts of the world.

In recent years we have seen the countries are getting serious and trying to control carbon emissions. In 2021, the United Nations Climate Change Conference demanded countries to come forward and pledge to achieve net zero carbon emission by 2050. India made two commitments at the Conference. First, to fulfil half of the country's energy requirements through renewable energy by 2030. Second, achieving the target of net-zero carbon emissions by 2070.

Since 2021, global temperatures have increased by 1.2°C compared to pre-industrial levels. Even if the Paris Agreement's goal of 1.5°C warming by the end of this century is expected to be difficult to achieve, the world will face significant sea level rise, invisible floods and droughts, and widespread biodiversity may experience losses.

Increasing awareness and action to limit climate change could increase calls for the elimination of fossil fuels and the setting of a price on carbon in the coming years. Rapid action to combat climate change should not be achieved at the expense of indigenous actors. This is even more important for developing countries.

India is serious in its commitment in achieving the above climate goals. India has been aggressively pushing towards a more sustainable future by using coal and investing heavily in renewable energy sources, with solar energy at the forefront of its efforts and controlling deforestation. In addition, it is also encouraging the use of solar energy, solar alliance and alternate sources of energy.

And Indian MSMEs are at the forefront of this test, facing many issues and challenges. First is a two-pronged challenge that addresses the economic feasibility of combating climate change. Replacing and modernizing existing infrastructure with the goal of switching to clean energy is costly. This includes both energy producing and energy consuming infrastructure.

## Climate Adaptation

Climate adaptation is an imperative response to the increasingly evident impacts of climate change. As our planet undergoes significant shifts in temperature, precipitation patterns, and sea levels, it is crucial to implement strategies that enhance resilience and reduce vulnerability across various sectors.

As you all know, the Covid-19 pandemic has impacted economies across the globe on different scales. Among others, the Micro, Small and Medium Enterprise are the hardest hit. A cross continental survey of 1000 enterprises from 8 countries was undertaken by the International Labour Organisation in August 2020 to assess the impact of Covid 19 on SMEs. The studies revealed that 70 per cent of SMEs had to shut down operations. Half of those have temporarily closed their business by following direct instructions from the authorities, while the other 50 per cent have closed temporarily due to a reduction in orders, increasing cases of Covid 19 infection of staff or permanent lay off. The causes for contraction of the Sector are manifold but only the Service sector is prominent among them as per studies shown.

There is lower revenue, reduced demand for orders, shortage of cash flow, impact on labour force and prevailing uncertainties of the pandemic.

The MSMEs, there are many ways to adapt to climate change but it is a different exercise for MSMEs. They have to fight with a competition to stay afloat. Nevertheless, all of us have to make an effort to adapt to Climate change.

Even the responsibilities of MSMEs particularly Industries to make sure that their own facility and business premises have trees and plant them, preserve trees around their office premises, even they can give

responsibilities to their workers to water and let them grow.

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And Indian MSMEs are at the forefront of this test, facing many issues and challenges. First is a two-pronged challenge that addresses the economic feasibility of combating climate change. Replacing and modernizing existing infrastructure with the goal of switching to clean energy is costly. This includes both energy producing and energy consuming infrastructure.

The ultimate objective is to **reduce reliance on fossil fuel and more** towards zero emissions as per National directions.

In ultimate analyses, it can be concluded that the hope to contain **global warming to the extent of 1.5 °C by 2050** for achieving the goal of COP28 held at Dubai recently can be maintained. However, more concerted efforts are required and SMEs have to play their due role.

## Conclusion

Studies have shown that innovations for most participating SMEs meant adapting others' basic designs with minor modifications undertaken mainly through their in-house efforts. However, **it was heartening to note that a few owner-innovators do recognize the need for innovating novel products, not only new to the firm but even globally and working in this direction.** Though the nation has invested heavily in creating scientific and technological infrastructure by way of publicly funded R & D laboratories/institutes, Universities, Polytechnics etc, however, it was surprising that the SMEs were largely not aware of their expertise, facilities and knowledge assets or averse to availing of their assistance owing to bureaucratic attitude, failure to maintain delivery schedules, inadequate contemporary knowledge of the specific sector etc. Fostering innovation in SMEs is crucial for their growth and development. Hence, **SMEs need to be encouraged to innovate and for which awareness and financial incentives are required.**

Innovation is the strongest tool for an entrepreneur to succeed in the business. Innovation is often also viewed as the application of better solutions that meet new requirements, unarticulated needs, or existing market needs. As an entrepreneur, one should always keep in mind that change is inevitable. If one does not innovate or bring any changes, his /her product or business is going to suffer one day. Fostering innovation through product, process, marketing and organization will not only bring monetary profits but also increases the life span of the business.

An innovation backed by entrepreneurial spirit is the ultimate Mantra for success of an enterprise, even if it means need for continuous innovation in an ongoing enterprise.

Today, the digital marketing industry in India is growing at its peak and is still continuous. Many factors are responsible for this growth. The use of communication tools has dramatically changed in the year past, no one ever thought to have a credible deal online.

The belief was that online information is virtual information full of lies. No one could listen to any online advertisement, not talk about purchasing groceries, furniture, or clothes. The story has changed.

Everything from marketing to sales can be done online. This is due to the trust restored to online communication in India. This has helped the marketing initiatives. The revolution is from the communication industries.

The low cost of the handset is now available, making it possible for India to have about **692 million internet users** at present, and expected to rise to 900 million by 2025. This ultimately creates a fascinating business opportunity to sell to a growing population.



Moreover, the development of digital marketing in India is evident in the marketing shift from anonymity to identity. Interaction on the Internet now looks more physical as opposed to the anonymity of identity in the past.

Undoubtedly, Artificial Intelligence (AI) is a revolutionary field of computer science, which is ready to become the main component of various emerging technologies like **big data, robotics, and IoT**. It will continue to act as a technological innovator in the coming years. In just a few years, AI has become a reality from fantasy. Machines that help humans with intelligence are not just in sci-fi movies but also in the real world. At this time, we live in a world of Artificial Intelligence that was just a story though for some years.

We are using AI technology in our daily lives either unknowingly or knowingly, and somewhere it has become a part of our life. Ranging from Alexa/Siri to Chatbots, everyone is carrying AI in their daily routine. The development and evolution of this technology are happening at a rapid pace. However, it was not as smooth and easy as it seemed to us. It has taken several years and lots of hard work & contributions of various people to take AI at this stage. Being so revolutionary technology, AI also deals with many controversies about its future and impact on Human beings. It may be dangerous, but also a great opportunity. AI will be deployed to enhance both defensive and offensive cyber operations. Additionally, new means of cyber-attack will be invented to take advantage of particular vulnerabilities of AI technology.

In addition, Semiconductors and displays are also the foundation of modern electronics driving the next phase of digital transformation under Industry 4.0.

India's PSEs such as Bharat Electronics Ltd or Hindustan Aeronautics Ltd can be used to set up a semiconductor fab foundry with the help of a global major.

India needs to drop the dream of swadeshi semiconductors. Instead, it should aim to become a key player in a trusted, plurilateral semiconductor ecosystem that keeps key adversaries out. Favourable trade policies are critical for building a plurilateral semiconductor ecosystem.

It is evident that SMEs are deeply rooted in local communities and have a better understanding of their energy needs. Their presence being embedded with the communities allow them to localise solutions for their energy needs – be their traditional energy supply, renewable or alternative source of energy.

It may also recognise that SMEs are at the forefront in the innovations and offer technologies and solutions to drive energy transition. Their smaller size allows more agility and adaptability. In addition, these SMEs can develop and implement green sources of energies and technology such as solar, wind energy and smarter storage systems.

The ultimate objective is to reduce reliance on fossil fuel and more towards zero emissions as per National directions.

It has been also observed that the COP27 has brought a lot of awakening about climate change and urgent need for actions by all the countries. When it comes to pledging it has been observed that the Paris Agreement seems to have slightly watered down.

The developed countries had pledged to contribute US \$100 billion a year for the developing countries but that has not been fulfilled since not much funds have been allotted by the developed countries. However, there have been more pledges towards Adaptation Funds. Several countries have agreed to contribute to the Adaptation Fund namely Norway, Japan, Australia, Switzerland, Canada, USA etc – a mode accepted by many developed countries.

India has proactively taken the lead in creating the International Solar Alliance, Coalition for Disaster Resilient Infrastructure (CDRI) and the One Sun, One World, One Sun Grid initiatives as examples of international collaboration to combat the climate crisis.

Our Prime Minister has invited all the nations to come to India for COP33 during the year 2028 since India

has decided to host this meet. India is serious in implementing the goals for climate adaptation, energy and resort to Energy transition.

In ultimate analyses, it can be concluded that the hope to contain global warming to the extent of 1.5 °C by 2050 for achieving the goal of COP27 can be maintained. However, more concerted efforts are required and SMEs have to play their due role.

# ARTIFICIAL INTELLIGENCE(AI) AND MACHINE LEARNING (ML) FOR SMALL AND MICRO ENTERPRISES (SMES): THE UNTAPPED OPPORTUNITY IN INDIA

Dr Anuja Pandey, Professor  
All India Management Association -Centre for  
Management Education, New Delhi.

## Introduction

MSMEs (Micro, Small, and Medium Enterprises) are crucial in driving the Indian economy. These small-scale businesses operate across various sectors and contribute significantly to our GDP. Currently, over 64 million MSMEs are working towards building a stronger, self-reliant India. Among these are about 63.05 million micro industries, 0.33 million small enterprises, and about 5,000 medium enterprises in the country. The sector provides an extensive range of services and is engaged in manufacturing over 6,000 products—from traditional to hi-tech items.

MSMEs are essential for economic growth and development, accounting for over 90% of all businesses globally and employing over 70% of the workforce. These enterprises contribute significantly to job creation, innovation, and overall economic prosperity. With India's government push for a self-reliant economy or Atmanirbhar Bharat, the Indian MSME sector is poised for rapid growth. It is seeking greater integration with major global value chains.

## DIGITAL TRANSFORMATION: BRINGING VALUE TO MSMEs

The COVID-19 pandemic has negatively impacted MSME earnings by 7-10% due to shutdowns and limitations. However, businesses that are agile and adopt digital solutions showed a better chance of success.

Digitalisation can facilitate a number of things, including effective product delivery, remote transaction management, access to financial services, better market reach, and improved customer services, thereby aiding MSMEs in the short to medium term. These benefits can be broadly bucketed into improved customer services, operational efficiency, staff augmentation, risk management, and innovation.

Currently, less than 10% of MSMEs use technology, according to a CRISIL report. However, the digital footprint of MSMEs has grown since COVID-19 disrupted the market in 2020, with digital platforms reporting an increase in their MSME loan book year over year. The digitalisation of micro and small sectors has grown from 11% to 55% and 9% to 45%, respectively, since the pandemic began. Similarly, the percentage of manufacturing and service industries operating digitally has risen from 35% to 71% and 22% to 66%, respectively.

This growth in digitalisation has led to improved MSME performance and operations. While most MSMEs have shown little passion or innovation in introducing digitalisation to existing platforms, doing so can help entrepreneurs assess their success in the competitive digital world. As digital connections become faster and more reliable, more people are using the internet, which raises the demand for digitalisation as clients shift toward digitisation. Studies have found that automating product and process automation can improve MSME performance, boost sales, and give digital platforms new ways to raise money.

## DECODING ARTIFICIAL INTELLIGENCE (AI) & MACHINE LEARNING (ML)

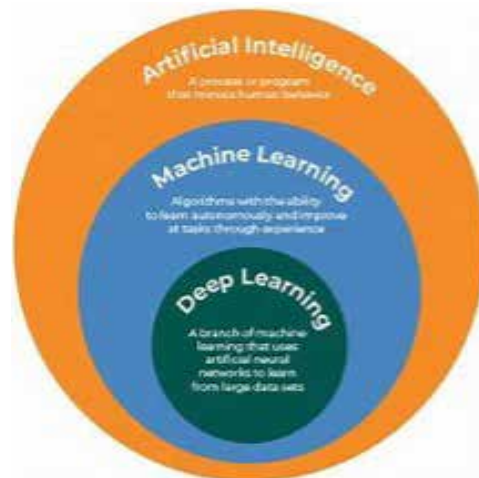
AI is the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity. In essence, artificial intelligence (AI) refers to a group of technologies that aim to train machines to think like humans.

Machine learning algorithms learn from real-world data, unlike traditional rule-based systems. They create models that identify patterns between the input data and the desired output. As more data is fed into the algorithm, its accuracy improves, allowing it to make predictions on new, unseen data. It is important to note

that machine learning is a subset of AI.

Deep learning, a subfield of machine learning, has gained prominence due to its flexibility and inspiration from the human brain. Deep learning algorithms use neural networks, which are like the neurons found in our brain, to mimic human brain-like behaviour. The algorithms focus on information processing patterns to identify patterns and classify information, just like our human brain does. Compared to traditional machine learning, deep learning works on larger sets of data and the prediction mechanism is self-administered by machines.

Figure 1: The Interlinkage of Technology



## USE OF MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE BY MSME

In many developed countries, artificial intelligence (AI) and machine learning (ML) have become crucial in shaping the future of data management and security in the Micro, Small, and Medium Enterprises (MSMEs) sector. These advanced technologies have revolutionised how businesses operate and respond to cyber threats, particularly in SMEs across the globe.

### Machine Learning as a Solution

Machine learning, a subset of artificial intelligence, has emerged as a transformative technology that empowers machines to learn from data without the need for explicit programming. ML algorithms play a vital role in identifying patterns, relationships, and insights from vast datasets, facilitating informed decision-making and accurate predictions. Recent advancements in ML have significantly simplified the adoption of these applications by SMEs, making them more accessible and beneficial.

### Benefits of ML for MSMEs

One of the key advantages of implementing ML in SMEs is the cost-effectiveness it offers. By leveraging ML insights, businesses can enhance decision-making processes, improve operational efficiency, and drive growth without incurring substantial costs. Furthermore, SMEs can optimise their products and services based on ML-driven analytics, leading to better offerings and increased customer satisfaction. Operational optimisation is another significant benefit, as ML helps streamline processes and identify areas for improvement, ultimately enhancing overall productivity. Additionally, integrating personalised experiences and chatbots through ML technologies can significantly enhance customer interactions, leading to higher engagement and loyalty.

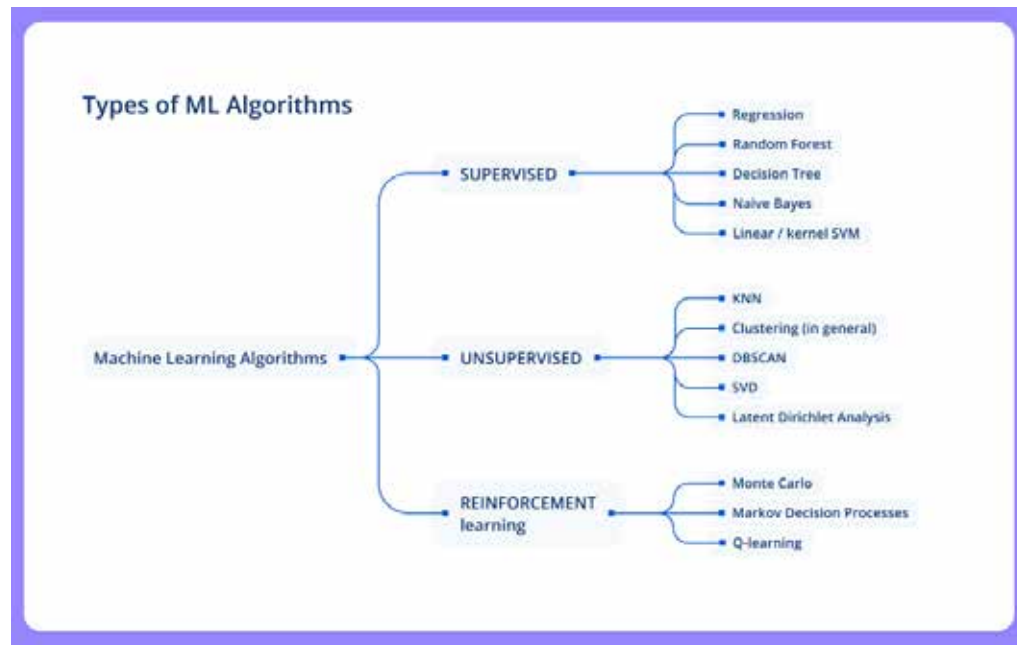


Figure 2: Types of ML Algorithms

## HOW ARTIFICIAL INTELLIGENCE APPLICATIONS BENEFIT MSMEs IN VARIOUS SECTORS

Artificial intelligence (AI) applications have the potential to revolutionise operations and drive growth in small and medium enterprises (SMEs) across different sectors. Adopting AI technologies can lead to increased productivity, cost savings, enhanced customer experiences, and new avenues for innovation and growth in SME-dominated industries.

### AI BUSINESS APPLICATIONS IN MSME-DOMINATED SECTORS

#### Agriculture Sector

In the agriculture sector, AI applications such as agri robots and drones equipped with sensors and predictive analytics tools are transforming traditional farming practices. These technologies enable precision farming by monitoring crops, soils, and weather conditions, leading to increased productivity, speed in harvesting, and reduced losses from climate hazards.

#### Construction Industry

AI applications in the construction industry, including 3D Building Information Modelling (BIM) and real-time data analytics, optimise building design and construction processes. By utilising drones, sensors, and digital twins of buildings, construction professionals can enhance information sharing, coordination, and monitoring on construction sites, resulting in efficiency gains, cost reductions, and improved maintenance practices.

#### Retail Trade (B2C)

In the retail sector, AI-powered machine learning algorithms are revolutionising customer interactions and sales strategies. From personalised marketing campaigns to mass customisation and big-data-optimized offerings, AI technologies enable SMEs to enhance customer engagement, increase sales, and expand market outreach online and offline.

## **Wholesale Trade (B2B)**

AI applications in wholesale trade focus on optimising supply operations and enhancing customer data utilisation. By leveraging machine learning on supply operations data and RFID technology, SMEs can improve operational efficiency, stock management, and just-in-time production/delivery, leading to cost and time savings across the value chain.

## **Hospitality and Food Sector**

AI technologies such as chatbots, face recognition systems, and automation tools are revolutionising guest experiences and service offerings in the hospitality and food sector. By implementing AI-powered solutions for automated services, personalised recommendations, and occupancy optimisation, SMEs can achieve cost efficiency, increased revenues, and enhanced customer loyalty.

## **Transport and Logistics**

AI applications in transport and logistics, including autonomous vehicles and predictive analytics for traffic management, are reshaping business models and operational efficiency. By utilising AI technologies to optimise fleet management, predict traffic patterns, and enhance real-time decision-making, SMEs can reduce costs, improve safety, and streamline logistics operations.

## **Marketing and Advertising Services**

AI-powered personalised advertising, pricing strategies, and click prediction systems are transforming marketing and advertising services for SMEs. By leveraging machine learning algorithms on big data sources, SMEs can tailor marketing campaigns, enhance targeting capabilities, and improve the return on investment of marketing activities, leading to increased sales and revenue growth.

## **Professional, Scientific, and Technical Services**

In professional services, AI applications such as machine learning on big data are enhancing analytical capacity and personalisation of services. By digitalising expertise and leveraging AI technologies for risk assessment and management, SMEs can increase cost and time efficiency in data processing, improve decision-making, and offer more tailored professional services to clients.

## **Healthcare Services**

AI applications in healthcare services, including self-monitoring tools, real-time feedback systems, and precision medicine prescriptions, are revolutionising patient care and clinical decision-making. By utilising AI technologies for personalised healthcare services and high-resolution medical imaging, SMEs can reduce costs, improve service quality, and enhance clinical outcomes for patients.

## **Potential Benefits for SMEs in Different Sectors**

The adoption of AI applications in SME-dominated sectors offers a wide range of benefits, including increased productivity and efficiency, cost savings, improved decision-making, enhanced customer experiences, and revenue growth. By embracing AI technologies tailored to their specific industry needs, SMEs can unlock new opportunities for growth, competitiveness, and sustainability in the ever-evolving business landscape.

## **THE JOURNEY OF AI ADOPTION IN MSMEs**

The adoption of artificial intelligence (AI) in organisations is a strategic and transformative process that involves several key stages to ensure successful integration and maximise the benefits of AI technologies.

### **Assessment and Planning for AI Adoption**

The journey of AI adoption typically begins with organisations assessing their readiness for AI implementation.

This assessment includes evaluating the existing technological infrastructure, data management capabilities, and the skill sets of the workforce. Organisations need to define clear AI objectives that align with their broader business goals to set the foundation for successful AI adoption.

### **Foundation Building for AI Implementation**

Before AI can be effectively implemented, organisations often need to build or enhance their technical infrastructure. This may involve upgrading data storage and processing capabilities, ensuring robust data management practices, and developing or acquiring the necessary AI and machine learning tools to support AI initiatives.

### **Pilot Projects and Proofs of Concept**

Organisations usually start their AI adoption journey with pilot projects or proofs of concept (PoCs) to test AI solutions on a small scale. These projects help in identifying potential challenges, assessing the value AI can bring to the organisation, and refining strategies for the wider implementation of AI technologies.

### **Full-Scale Implementation of AI**

Successful pilot projects pave the way for the full-scale integration of AI solutions across the organisation. This phase involves deploying AI technologies to automate processes, enhance decision-making capabilities, and drive innovation in products and services at scale.

### **Optimisation of AI Adoption**

AI adoption is not a one-time event but an ongoing process that requires continuous optimisation. After the initial implementation, organisations need to monitor, evaluate, and refine their AI systems to improve performance, adapt to new data, and incorporate advancements in AI technology to stay competitive.

### **Cultural and Organizational Change for AI Adoption**

Successful AI adoption also necessitates cultural and organisational changes within the organisation. This includes fostering a data-driven culture where decisions are based on insights derived from AI, promoting AI literacy among employees to enhance understanding and utilisation of AI technologies, and establishing governance and ethical guidelines for the responsible use of AI.

## **CHALLENGES AND OPPORTUNITIES FOR AI/ML ADOPTION IN MSMEs**

While machine learning presents numerous opportunities for SMEs, there are also challenges that need to be addressed for successful implementation. Resource limitations pose a significant hurdle for SMEs, requiring them to maximise the value derived from ML applications with limited resources. The expertise gap is another challenge, as access to skilled ML professionals can be scarce for smaller businesses. Overcoming barriers to technology adoption is crucial for SMEs to fully harness the potential of ML. Exploring tailored ML applications that cater to the specific needs of SMEs is essential for overcoming these challenges and maximising the benefits of AI and ML technologies.

### **Best Practices for Successful ML Adoption**

To ensure the successful adoption of machine learning technologies, SMEs should follow best practices that have been proven effective in various business contexts. Starting small with manageable ML projects allows businesses to gradually integrate these technologies into their operations and assess their impact. Collaboration with experts or other SMEs can provide valuable insights and support in navigating the complexities of ML implementation. Ensuring data quality is paramount for effective ML outcomes, as accurate and reliable data forms the foundation for meaningful insights and predictions. Continuous learning and staying updated on the latest advancements in ML technology is essential for SMEs to remain competitive and innovative in their approach. Customizing ML solutions to suit the specific business requirements and



challenges faced by SMEs is key to maximising the benefits and driving growth in the ever-evolving business landscape.

## **CONCLUSION**

In conclusion, using artificial intelligence and machine learning is promising for MSMEs in India. By embracing these advanced technologies, MSMEs can unlock new opportunities, drive growth, and thrive in a rapidly changing business environment. With the right strategies, tailored applications, and a commitment to continuous learning, MSMEs can position themselves for success and competitiveness in the global market.

We may add that AI adoption in organisations is a strategic and transformative process that requires careful planning, commitment, and adjustment. By following the stages of assessment, foundation building, pilot projects, full-scale implementation, optimisation, and fostering cultural and organisational change, organisations can unlock the significant benefits of AI adoption, including increased operational efficiency, enhanced customer experiences, and new avenues for innovation and growth in the digital age.

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*AIMA provides Digital transformation Assessment Tools, as well as training, implementation, and consultation services for Machine Learning and Artificial Intelligence with our group of expert trainers and Consultants. Please reach out to [apandey@aima.in](mailto:apandey@aima.in)*



## Speaker Profiles



### **Sharanabasappa Darshanapura**

*Hon'ble Minister for Small Scale Industries & Public Enterprises  
Government of Karnataka*

Sharanabasappa Darshanapur completed his bachelor's degree in Civil Engineering from PDA college of Engineering Kalaburagi. Before entering into politics, he worked as an Assistant engineer in Lift Irrigation Corp. Bijapur from 1985 to 1989. In 1992, he was elected as a senate member from Engineering Graduate Constituency Gulbarga University Gulbarga.

Sharanabasappa Darshanapur has been elected from the Shahapur constituency for 5 terms in the 1994, 2004, 2008, 2018 and 2023 Karnataka State Legislative elections. After being elected for the first time as MLA from Shahapur (Karnataka), he became the minister of state for power in 1996 under J.H. Patel Cabinet.[1] He served as the Cabinet Minister of Agricultural Marketing and Minister In-charge for undivided Gulbarga District from 18 February 2006 to 8 October 2007 in HD Kumaraswamy's First Cabinet

In 2023 Karnataka state assembly elections, Darshanapur was re-elected as an MLA from Shahapur constituency in Yadgir district. This will be his fifth term as an MLA.[7] He was inducted into the second Siddaramaiah Cabinet as a Cabinet rank minister and Given the portfolios of Small Scale Industries and Public enterprises.



### **Vijay Mahantesh Danammanavar, IAS**

*Director  
MSME Dept. of Industries & Commerce*

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### **Nikhil Sawhney**

*President, AIMA*

*Vice Chairman & Managing Director*

*Triveni Turbine Limited*

Nikhil Sawhney is the Vice Chairman and Managing Director of Triveni Turbines and a Director of Triveni Engineering. The Companies occupy leadership positions in their respective businesses of sugar manufacturing, distillation of alcohol, renewable energy generation, industrial turbines and gears, and water and wastewater treatment solutions, spanning 22 manufacturing locations in India. Triveni Turbines is one of the largest global manufacturers of industrial steam turbines as well as the global leader for renewable energy-based applications. The company has over six thousand installations in over 80 countries. The Company is leading the Energy Transition with the development of several innovation products and solutions, especially utilizing CO2 as a working fluid. Nikhil is the President of the All India Management Association. He has helped found the CII- Triveni Water Institute and is an active trustee of the Tirath Ram Shah Charitable Hospital and the Emmanuel College India Trust, as well as the Ananta Aspen Center, of which he is a fellow. Nikhil is also a member of the Trilateral Commission and a member of various Government of India-led bilateral CEO forums. Nikhil is the Co-Chair of the Ananta Aspen-led India-Israel Forum. Nikhil has been voted one of India's forty 'hottest' business leaders under 40 by The Economic Times in 2015. He has a BA and MA from Emmanuel College, University of Cambridge, and an MBA from The Wharton School, University of Pennsylvania. Nikhil resides in New Delhi with his wife Zia and their son Zahan.



### **J S Juneja**

*Chairman MSME Committee &*

*Past President All India Management Association*

J S Juneja is former Chairman of National Small Industries Corporation (NSIC) - A Government of India Enterprise and Past President of AIMA & Chairman of AIMA SME Committee. AIMA has instituted an Award in his name: AIMA – Dr. J.S. Juneja Award for Creativity and Innovation in recognition of his contribution to SMEs and management development. He is a life fellow of AIMA. He is Vice President and Director on the Board of WUSME (World Union of Small and Medium Enterprises). He is an MBA from University of Oregon, USA and was conferred Doctoral Degree in Applied Economics from the University of Bombay. He has been Visiting Professor to the University of Rhode Island, USA and IIT, New Delhi. He is closely associated with CII and PHD Chamber of Commerce and Industry. He has been the Chairman of SME Task Force and Africa Committee of the PHD Chamber of Commerce and Industry and member of its Management Committee. He also provided management consultancy to the Governments of Egypt, UAE (Dubai), Kenya, Sri Lanka and several other countries of Asia & Africa, United Nations organizations, Commonwealth Secretariat etc. Dr. Juneja has written and authored 'SMEs in Asian Region – Harnessing the Growth Potential' and 'Policy Guidebook for SME Development in Asia and Pacific' edited and published by United Nation ESCAP. A Book on "Innovation : Key to success for Enterprises" written, edited and compiled by the undersigned has been published by AIMA and released by the Hon'ble Union Minister of Railways and Commerce & Industry, Government of India, Dr. J.S. Juneja has also served on the Boards of several prestigious organizations like IIM Kolkata & Kozhikode, CSIR, IPCL, Singer, State Bank of Patiala, ITPO, NRDC, NMDC Hyderabad and many others. Dr. Juneja has been recipient of IMM Top Professional Manager of Year Gold Award, Udayog Rattan Award and Punjabi Icon Award 2014 for his valuable contribution.

## First name Alphabetical Wise



### Ajayan Kavungal Anat

*Past President*

*Calicut Management Association*

Ajayan K Anat, Managing Partner of Vrddhi Consulting & Training Services (VRDDHI CTS), boasts a rich background spanning over 38 years in the banking sector. Retiring as Deputy Circle Head of Andhra Circle at Punjab National Bank (PNB), Hyderabad, he served as Assistant General Manager. Anat's leadership extends beyond banking. He chairs the Calicut Innovation & Technology Initiative (CITI 2.0) and has held the position of Past President at the Calicut Management Association (CMA), where he received accolades including the "Best Local Management Association Award" from the All India Management Association. With vast experience in project finance, loan syndication, and corporate credit, Anat has managed large corporate branches in Mumbai and Chennai. He has handled project financing for major corporate clients including L&T, Aditya Birla Group, and Tata Group, across various sectors like power, telecom, and infrastructure. Anat's expertise also includes managing stressed assets, restructuring loans, and promoting financial inclusion. He is a certified bank trainer recognized by IIBF and NIBM. As a guest speaker at prestigious institutes and a member of various committees, Anat actively contributes to knowledge dissemination and policy formulation. His dedication and contributions have earned him several awards, including the "Best Employee of the Bank Award" and recognition for CMA's outstanding performance under his leadership.



### Bhawana Bhargava

*CEO*

*Aaditi Stonesoup solutions Pvt Ltd*

Bhawana Bhargava is a leader with a background in dentistry and a passion for sustainability. Leveraging over 14 years of experience in healthcare and waste management, Bhawana is committed to driving positive change through education, advocacy, and innovative solutions. As the CEO of Aaditi Stonesoup Solutions Private Limited, she spearheads efforts to increase accessibility to sustainable green products and foster a culture of environmental responsibility. Dr. Bhargava is recognized for her contributions in the industry, including participation in prestigious programs such as GS 10 K, NSRCEL WSP 4, IIMV field SIP 1, and meetings with the President at Rashtrapati Bhawan.





### **B.S. Srinivasan**

*Managing Partner  
Viprof Electronics*

With over 40 years of experience managing and running a Small Scale Industry, B.S. Srinivasan brings a wealth of expertise in manufacturing basic telecommunication equipment, solar photovoltaic power plants, and energy-efficient LED lighting systems. As the proprietor of M/S VIPROF ELECTRONICS, he has led the company in producing custom-designed embedded systems and IoT-based wooden toys. Srinivasan proudly serves as an approved vendor to esteemed organizations like Indian Telephone Industries Ltd, Bharat Electronics, and Tata Teleservices Ltd, among others. Beyond business, he is actively involved in fostering entrepreneurship and skill development. As Vice President of Laghu Udyog Bharati Karnataka (LUB-K), he has organized numerous seminars and workshops to empower entrepreneurs and managers in the micro and small enterprise sector. Leading initiatives such as vendor development programs and innovation interventions, he has contributed to the growth and competitiveness of local industries. He has also spearheaded skill enhancement programs in cutting-edge technologies like Nano, 5G, and Industry 4.0, aiming to equip micro and small enterprises with the latest tools and knowledge. Additionally, as a member of Creative Innovation Platform Karnataka (CIPK), he advocates for creativity and innovation in traditional industries, showcasing successful interventions in wooden toy clusters at international conferences. With a Bachelor of Science degree from Bangalore University and a diverse portfolio of experience, B.S. Srinivasan remains committed to driving innovation, sustainability, and growth in the Indian manufacturing sector.



### **Ganesh Singh**

*Prof -CME  
AIMA*

Ganesh Singh, a Professor in HRM at the Centre for Management Education – All India Management Association (AIMA), has a rich background encompassing teaching, training, research, consultancy, and academic administration. With a focus on areas like team building, managerial effectiveness, diversity and inclusion, sustainability management, and executive coaching, he has designed and delivered numerous training programs. Dr. Singh has played a crucial role in developing industry-relevant courses and spearheading the PhD Programme in Business Administration for working professionals at AIMA. He has organized capacity-building workshops for doctoral educators and students, facilitating research projects on topics such as the social and economic impact of digital transformation, AI's effect on jobs, and disruptive technologies in India. Additionally, he contributed to AIMA's task force on management education in India, aiming to develop strategic papers for the Union Ministry of HRD. Dr. Singh's interests lie in diversity and inclusion, corporate sustainability, and social responsibility. He co-authored a monograph on gender equity in Indian boardrooms. He participated in the International Teachers Program in 2015 and serves as a jury member for AIMA's Innovation Practitioners Award and the National Institute for Personnel Management's National Award for Best HR Practices. Overall, Dr. Ganesh Singh's contributions span academia, industry relevance, and strategic policymaking in the field of management education and practice





### **G. P. Sudhakar**

*Centre for Educational and Social Studies  
Bangalore*

G. P. Sudhakar is an accomplished academic administrator with a robust background in managing post-graduate business programs and establishing new MBA initiatives, spanning over eight years. With over fifteen years of experience teaching at esteemed business schools and two decades in the industry, Sudhakar brings a wealth of expertise to his roles. He holds a Ph.D. in Management Studies from Osmania University, Hyderabad, and has consistently contributed to academic and industry publications, focusing on research in the retail industry and Bharatiya Management. Currently affiliated with the Centre for Educational and Social Studies in Bangalore, Sudhakar leads the research initiative on Bharatiya Management as a visiting faculty and research supervisor. He also serves as the President of a rural NGO, advocating for affordable education through The National & Rural Education Association. In his previous roles, Sudhakar served as Professor & M.B.A. Program Director at Surana College, where he revitalized the MBA program and contributed to curriculum development. He has also held leadership positions at prestigious institutions such as Nitte School of Management and Prin. L.N.Welingkar Institute of Management Development and Research, overseeing various academic and operational aspects. Sudhakar's industry experience includes leadership roles at Jayakrishna Aluminium, Ltd., and SCA Packaging India Pvt. Ltd., where he demonstrated expertise in sales and marketing management. With a versatile background spanning academia and industry, Sudhakar continues to make significant contributions to education and business management.



### **Harishankar Krishnan**

*Network Transformation Head  
Open Network for Digital Commerce (ONDC)*

K Harishankar, also known as Hari, serves as the Head of Transformation and a vital member of the Leadership Team at Open Network for Digital Commerce (ONDC), a government-sponsored not-for-profit organization. In his capacity, he spearheads large-scale value chain transformation initiatives across various sectors within the open network, collaborating closely with industry leaders, government bodies, network participants, solution providers, and the MSME community. With a rich background in the Consumer Packaged Goods (CPG) industry, Hari brings extensive experience in Digital Transformation, Enterprise IT, and Business Operations. He commenced his career at Hindustan Unilever, where he held diverse roles spanning IT, Supply Chain, Finance, and Business Strategy. Rising through the ranks, he eventually served as the Chief Information Officer (CIO) for HUL, overseeing all aspects of IT for the business. Additionally, he led Enterprise Applications globally for Unilever and was a key member of the Global technology leadership team. In his most recent role, Hari led the Global Digital Core Transformation efforts for Kimberly Clark, further enriching his expertise in digital initiatives. He holds a B.Tech in Computer Science from IIT Bombay and an MBA from IIM Bangalore, solidifying his academic foundation in technology and management. With his profound industry knowledge and leadership acumen, Hari continues to drive impactful transformations in the digital commerce landscape.



### **K S Narayanaswamy**

*President  
Bangalore Management Association*

K S Narayanaswamy is a seasoned Agribusiness Professional with over 40 years of experience in the Seed and Agri Biotech Industry. He has held Senior Management positions with SIV Industries, TATA PS Mistry group (BSAP), and ITC Agricultural Business, where he established Seed and AGRO Chemicals Business. During his tenure at ITC Zeneca and ADVANTA, Narayanaswamy gained global exposure as International Crop Manager. As Senior Vice President at Healthy Oils and Biofuels, Avesthagen, he drove significant business growth. As CEO of Atash Seeds, Narayanaswamy led global expansion efforts and facilitated strategic acquisitions, integrating with Limagrain, the third-largest seed and biotech company. Currently serving as CMD of Geo Biotech, he focuses on research-based seed development, collaborating with institutions like Cymmit and UAS Bangalore. Narayanaswamy's contributions extend beyond business to industry associations, where he served as General Secretary of NSAI Delhi and convener of Indian Seed Congress. He holds board directorships in Krishi Fortune Infra Pvt Ltd and Bio-NEST AIC UAS GKV, with a former directorship at the Karnataka State Seed Certification Department. Actively involved in policy advocacy for agriculture inputs, Narayanaswamy is a member of the Review and Revamping committee of the National Seeds Corporation in Delhi. He has also held leadership positions in associations like the Karnataka Seed Association and Bangalore Management Association, pioneering the management movement in India.



### **Mahesh Kumar Jain**

*Chairman, Integra Micro Systems  
Argenti Innotech, and BCFI*

Mahesh Kumar Jain is a seasoned professional with over 15 years of experience in product development, particularly in the IT industry. Holding a Ph.D. and having completed the Stanford Ignite program, he is deeply knowledgeable in technology strategy and has played a crucial role in transforming STEM colleges through practical programs. His expertise encompasses a wide range of areas including IO protocol definition, product management, and driver development for various platforms such as Windows and Linux. In addition to his corporate endeavors, Mahesh has shown leadership in the startup ecosystem, leading a startup that was selected at prominent accelerators and raised angel funding. He has a keen interest in enhancing the Indian startup ecosystem and supporting risk-taking entrepreneurs. Mahesh's recent ventures include co-founding Pragyan AI School, a stealth startup focusing on EduTech, and participating in the Startup Leadership Program. Previously, he founded Evivo.in and Homely365.com, aiming to improve smart living experiences in society and simplify space management solutions. Throughout his career, Mahesh has held significant positions at companies like HGST (a Western Digital company), SanDisk India, Samsung India, Intel India Technology Pvt Ltd, and ST Microelectronics, contributing to innovative projects and leading technical teams.



### **Nagraj Hediya**

*Director  
eNLiven Technologies Bangalore*

Nagraj Hediya holds a master's degree and an undergraduate degree from VTU Belgaum and BU Bangalore. He is a scientist with over 33 years of experience in research and development. He served as adjunct faculty at Mangalore University and REVA University. He teaches advanced subjects for M.Tech. and M.Sc. (Electronics) courses, including digital signal processing, embedded system design, FPGA design approaches, and microprocessors and microcontrollers. His areas of research interest are power electronics, renewable energy, embedded and VLSI systems, cryptography and network security, and protected communications. He is a proprietor, founder, and CEO of M/s eNLiven Technologies, a research center and design consultancy. He held positions like lecturer, scientist, project manager, deputy general manager, vice president, additional director, and more. As a scientist, he managed projects of National Importance (in cryptography and network security). He has designed and developed many electrical, electronics, and industrial electronic products for the Railways, Airforce, Army, and Navy clients.



### **Nagarju S**

*Hon. General Secretary  
(KASSIA)*

N



### **Pankaj Choudhary**

*Dean -BMSCEEDL*

*BMS Centre for Executive Education*

Prof. Pankaj Choudhary, Principal of BMS College of Commerce & Management, also serves as Dean at BMS Centre for Executive Education and Director at BMS Academy for Professional Courses. With over two decades in education, he previously held the position of Associate Dean at IIPM Bengaluru and worked with Planman Consulting and Kotak Mahindra Life Insurance. He holds roles as Syndicate member and Academic Council Member at Bengaluru City University and St. Joseph College (Autonomous), among others. Dr. Pankaj has been instrumental in establishing educational institutions like IIPM- Bangalore and BMS Centre for Executive Education. His expertise spans Finance, Accounting, Portfolio Management, and Marketing, backed by a PhD in Management, an MBA from IMI Belgium (Europe), and a Certificate in Planning and Entrepreneurship. He has authored over 15 research papers in national and international journals. Dr. Pankaj Choudhary has received several awards, including the National Award for Excellence in Research, Outstanding Contribution Award at IIPM Bangalore, and the Dewang Mehta Educational Excellence Leadership Award. Notably, he was honored with the Pride of Karnataka Award and the Most Iconic Principal Award for Excellence and Leadership in Education by Dynergic Business Solution in 2024.



### **Parveen Arora**

*Senior Advisor*

*Dept. of Science and Technology*

Parveen Arora serves as Advisor at the National Science and Technology Management Information System (NSTMIS), under the Department of Science and Technology (DST) in New Delhi, India. With a Ph.D. in Science Policy from Jawaharlal Nehru University, he is a recognized national expert in Science, Technology, and Innovation (STI) indicators. Praveen has led pioneering national STI surveys and contributed to key publications like R&D Statistics and R&D in Industry, vital for evidence-based S&T policy planning. He played a pivotal role in conceptualizing India's first national Innovation Survey, shaping the report on 'Understanding of Innovation: Indian Context'. Praveen has collaborated with international bodies such as UNESCO and OECD, contributing to the development of STI guidelines and benchmarking. He also serves on the editorial boards of prominent journals in scientometrics and management. Praveen briefly headed the National Council for Science and Technology Communication (NCSTC) at DST, driving initiatives to popularize S&T and foster scientific temper. His leadership led to the establishment of flagship programs like the National Children Science Congress and National Science Day. Additionally, in his role as Head of the Water Technology Centre (WTC) at DST, Praveen focused on application-led research to address water challenges, emphasizing safe drinking water provision and fostering cooperation in water technologies and disaster management.



### **Rajagopal M. G.**

*Vice president  
KASSIA as Chairperson*

Sri M G Rajagopal, born and educated in Bangalore, is a well-known entrepreneur with a profound understanding of industry and trade dynamics. After serving as Accounts Officer with the Employees' Provident Fund (EPF) organization for a period of 20 years, he took Voluntary Retirement from Service (VRS) in order to embark on a new journey as an industrialist. His decision to transition from a stable government position to entrepreneurship reflects his entrepreneurial spirit, determination, and confidence in his ability to thrive in the dynamic and competitive business ability to navigate challenges for his growth and success. Currently serving as a Partner of M/s. Divo Gass, Udupi, Manufacturer of LPG Bottling, M/s. Indo Cylinders, Nelamangala, Manufacturer of LPG Cylinders and Indo Auto Gas & Fuel Station on IOC outlet at Bengaluru. He has transformed a modest enterprise into a significant player in the sector. His involvement with industry associations reflects his commitment to advancing the interests of MSMEs. Serving as the Vice President at Karnataka Small Scale Industries Association (KASSIA), Bengaluru for the term (2023-24) & the President elect for the upcoming year 2024-25. Family: He belongs to a joint family and Married to Smt. Bhagya was blessed with two children, Akash M R. and Poorvika M R.



### **Rakesh Mohan Joshi**

*Director  
Indian Institute of Plantation Management*

Prof. (Dr.) Rakesh Mohan Joshi, currently serving as the Director of the Indian Institute of Plantation Management in Bangalore, his illustrious career includes positions such as Professor and Dean at the Indian Institute of Foreign Trade (IIFT) in New Delhi. Prof. Joshi boasts an exceptional academic background, marked by numerous scholarships and educational endeavours at esteemed institutions like Harvard Business School, Boston; IIFT; Rajasthan University, Jaipur; and the National Dairy Research Institute, Karnal. He is a recipient of the prestigious IIFT Gold Medal. Prof. Joshi has authored widely acclaimed books, including "International Marketing" and "International Business," published by Oxford University Press. Prof. Joshi has spearheaded impactful research studies, sponsored by both Central and State Governments, as well as multilateral organizations. His extensive trans-national exposure includes collaborations with organizations such as the World Bank, Asian Development Bank, UNCTAD, International Dairy Federation, and Asian Productivity Organisation (APO). An accomplished trainer, Prof. Joshi has conducted programs for corporate executives, government officials, and diplomats, tailoring initiatives for various prestigious services and foreign dignitaries. Recognized for his exceptional contributions, Prof. Joshi received the Atal Bihari Vajpayee Award in December 2022 for a lifetime commitment to economic research and policy by the Indian Economic Association. Prof. Joshi is highly sought after as an expert, author, and speaker in national and international conferences, workshops, TV channels, and various forums, solidifying his status as one of the country's foremost management professors.


**Rekha Sethi**

*Director General,  
AIMA*

Rekha Sethi is the Director General of AIMA, the apex body for management in India. Since she took charge in June 2008, she has since established AIMA as the preferred platform for discussions on management and has deepened AIMA's relationship with the Government of India and India Inc. Rekha is on the Boards of some leading Indian companies as an Independent Director including CESC, one of India's foremost Power generation and distribution companies. She is also on the Board of Samvardhana Motherson International Ltd – a diversified global manufacturing specialist and one of the world's largest and fastest growing automotive supplier for OEMs. She is on the Board of Spencer's Retail Ltd – one of India's leading retailers. She is also on the Supervisory Board of SMP, Germany, on the Board of Hero Steels Ltd and Kirloskar Brothers Limited. one of India's largest centrifugal pump manufacturers. She has also joined the Board of Firstsource Solutions Limited - a digital-forward, people-first business process solutions company as an Additional Director (Non-Executive, Independent). She has earlier served on the Board of Sun Pharmaceutical Industries Ltd, Sun Pharma Laboratories Ltd and Sun Pharma Distributors Ltd. Prior to joining AIMA, Rekha worked with India's premier industry organisation, the Confederation of Indian Industry for over 17 years. There she led the initiative to create high-profile international events to promote India's economic interests. She started her career with the Center for Development of Telematics. Rekha is an alumnus of St Stephens College, Delhi University.


**Rohit N Singh**

*Sr. Regional Portfolio Manager  
Kotak Mahindra Bank Ltd*

Rohit N Singh works for Kotak Mahindra Bank Ltd as Sr. Regional Portfolio Manager Business Banking for South Zone. His core competencies are current account, foreign trade finance Capital Account transaction, Building ecosystem for startups and Digital Banking. He has rich experience of 19 years in Banking and served on various aspects of Banking.





## Rishikesha T Krishnan

*Director  
IIMB*

Prof. Rishikesha Krishnan is Director and Professor of Strategy at the Indian Institute of Management Bangalore (IIMB). He was earlier Director of IIM Indore. He is currently the Ram Charan Chair Professor in Innovation and Leadership, and earlier held the Jamuna Raghavan Chair in Entrepreneurship at IIMB from 2007 to 2010. Prof. Krishnan was educated at IIT Kanpur, Stanford University and IIM Ahmedabad. His main areas of interest are strategy and innovation. He has been listed in the Thinkers50 India list of most influential management thinkers from India. Apart from academic publications, Prof. Krishnan has written two books: 8 Steps to Innovation: Going from Jugaad to Excellence (co-authored with Vinay Dabholkar) which won the Best Book Award for 2013-14 from the Indian Society for Training & Development and From Jugaad to Systematic Innovation: The Challenge for India. Prof. Krishnan has extensive corporate board and advisory experience. He is currently on the boards of the National Payments Corporation of India (NPCI), Wheels India Ltd., and the Higher Education Financing Agency (HEFA). He has served on several committees set up by the Government of India and prominent industry associations related to innovation in India. He is a member of the CII National Committee on Technology, Innovation & Research, and the CII National Higher Education Committee. Prof. Krishnan was a member of the expert committee set up by the Government of India in 2017-18 under the chairmanship of Justice BN Srikrishna to propose a data protection framework for India. Prof. Krishnan co-founded one start-up and was the CEO of another. He has been on the jury of the Economic Times start-up awards. He is currently on the advisory board of YourNest Investment Advisors.



## Satish Ambesange

*Co-Founder & CEO,  
Pragyan AI, Bangalore*

Sateesh Ambesange, Master & PhDs in AI from NITK, Has 20+ years of industry and startup experience, worked in the USA, and JAPAN, and worked across MNC companies like Intel, Samsung, Sandisk, etc. Founder of Pragyan AI, Selected as one of 10 Hot Deep Tech Startups, Got Elevate100 Grant, Incubated at NASSCOM10K, DERBI, and other places. Pragyan AI primarily trains students from any branch, any degree students from 1st/2nd years onwards for 3 years with 100% placement. Pragyan AI is also working on an AI-based Healthcare SaaS Platform, and EduTech platform called teacherless teaching - interactive video. Sateesh Conducted several FDP programs in AI, Hackathons in AI, and Gave several Speeches, Workshops on AI across several summits and at several colleges.


**Satyaki Rastogi**
*Chief General Manager*
*Small Industries Development Bank of India (SIDBI)*

Sa


**Santosh Kumar Gopala**
*National Vice-Chairman*
*Young Leadership Council*

Santosh Kumar is currently the India Innovation Head at a Global Bank overseeing Innovation & FinTech Investments. He is the Vice Chairman of AIMA Young Leaders Council. An IIM Bangalore alumnus with 2 decades of experience in FinTech & MediaTech. he has led Global projects across Paris, London, NY & Bangalore. Last 10 years as a Serial Entrepreneur, he built 3 ventures with 2 exits. He is an International Innovation Awardee, Winner of Startup Chile Global Investment competition, recipient of Equity grant from Govt of India. He is a Mentor with FinNovate accelerator, SLP, NSRCEL, AICs, KSUM, KDEM, Stanford Seed startup program, Wadhwani foundation, TiE Bangalore and on the advisory board for Indo French Chamber of Commerce Startups, Assocham Startups program. He is also an endurance cyclist with over 75,000 kms under his belt and has completed 4 International championship rides - Paris to London Cycle Expedition, Beijing to Great Wall Bike Ride, Cambodia Angkor-Wat Biking, Taiwan Bike Championship.

**Sri Rakshith B.**

*CEO, TI2 Technologies  
Bengaluru*

D

**CA. Shashidhara Shetty**

*President, Karnataka Small Scale Industries Association,  
(KASSIA)*

Shashidhara Shetty, a former CA turned entrepreneur and President of KASSIA, originates from Cherkadi in Udupi district. He attributes his values to his upbringing in an agricultural family and his education at Shri Dharmasthala Manjunatheshwara College. Transitioning to Bengaluru for his Chartered Accountancy, Shetty later founded Protech Engineering Ltd, expanding its presence across India. Venturing into Prithvi Agri Care Pvt Ltd, he focused on producing micro-nutrient fertilizers. Active in KASSIA for nearly two decades, Shetty aims to enhance its influence and services, with a vision for expansion across offline and online platforms. Under his leadership, the KASSIA Centre of Excellence & Innovation project is set to be a significant addition to the state's industrial infrastructure. Married to Savitha Shetty, he is a proud father of two daughters, Spoorthi and Smrithi.

**V Jawahar**

*Assistance General Manager  
State Bank of India*

Virjin Jawahar is a specialist officer working as Assistant General Manager in State Bank of India, Consultancy Services Cell, Local Head Office, Bengaluru. Mr.Jawahar is a postgraduate in Mechanical Engineering and has more than 15 years' experience in handling techno commercial assessments of various Industrial Projects covering various sectors. Prior joining State Bank of India, he had worked as Assistant Professor, Department of Mechanical Engineering, Amal Jyothi College of Engineering, Kanjirappally, Kerala, then as a Probationary Officer for a short period in Federal Bank, Munnar and then as a Technical Field Officer in Canara Bank, Head Office, Bengaluru. At State Bank of India his duties & responsibilities involves carrying out Techno-Economic Viability Studies of various industrial projects, Rehabilitation and Restructuring of sick units, industry studies, cluster studies, conducting Entrepreneurship Development Programs (EDP) for budding entrepreneurs etc.





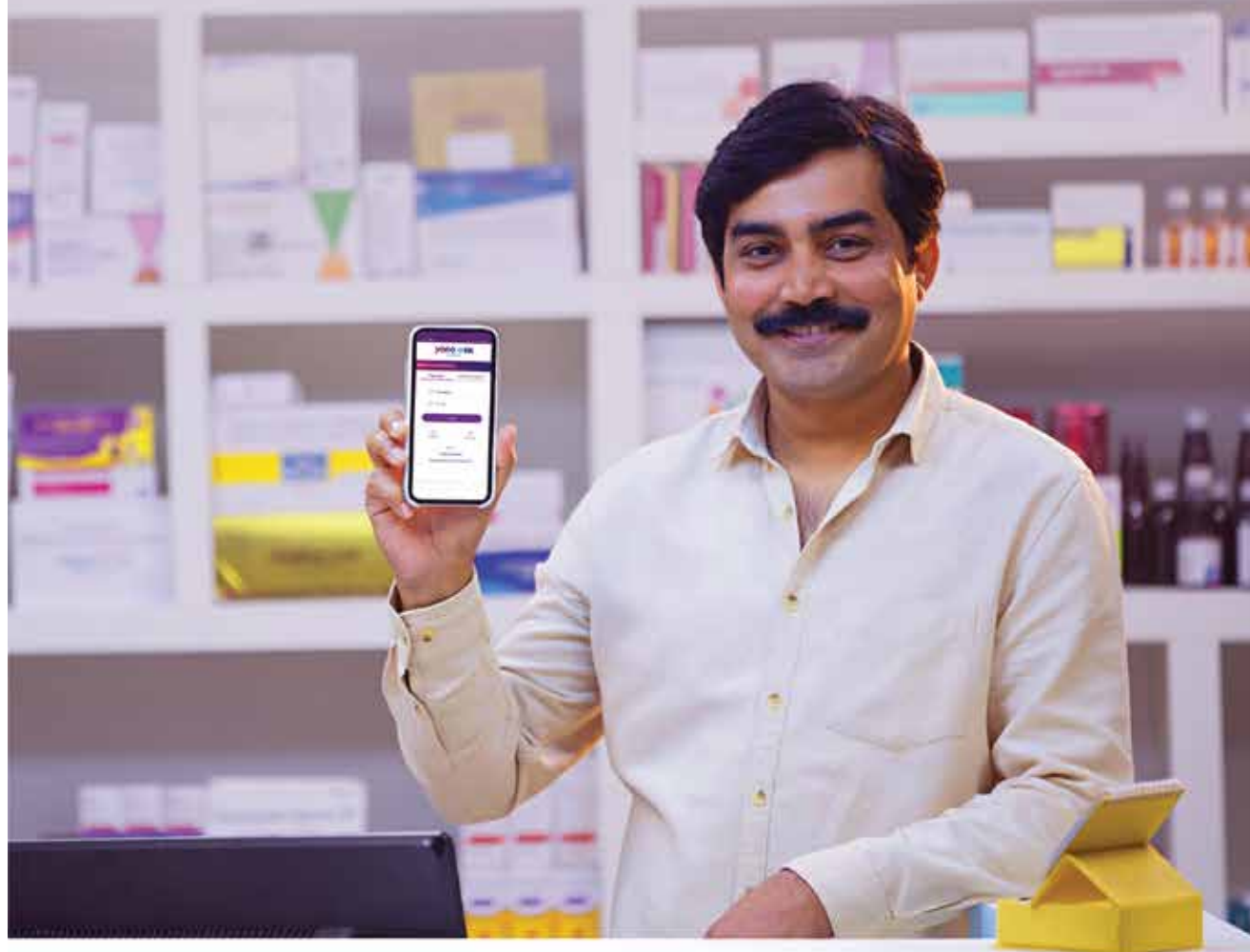
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