TCET

Celebrating 20th Foundation Day

Estd. in 2001

In Association with

TIFAC

TECHNOLOGY INFORMATION, FORECASTING AND ASSESSMENT COUNCIL (TIFAC)

(An Autonomous body under Department of Science and Technology, GoI)

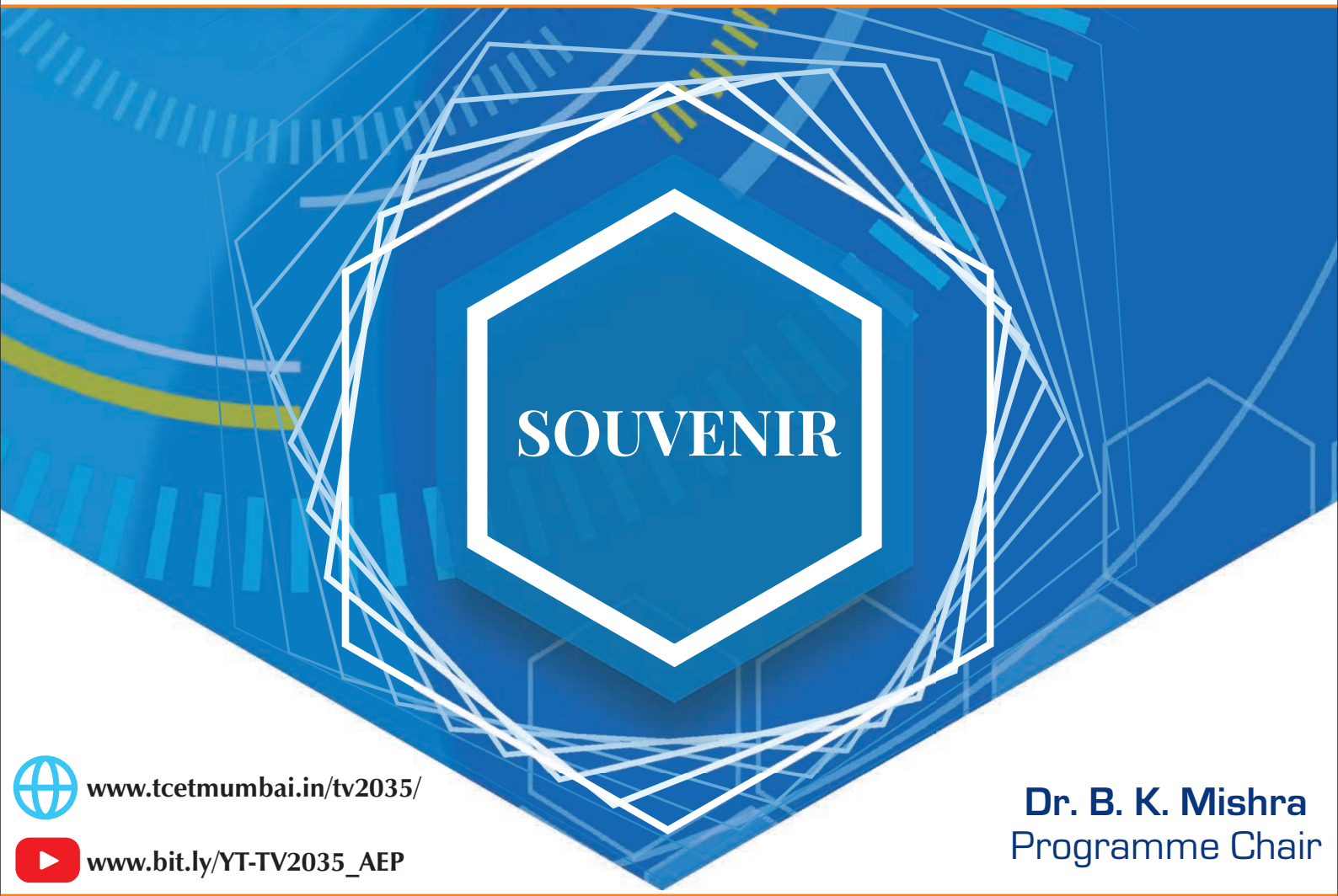
One Day Online

NATIONAL SYMPOSIUM

TECHNOLOGY VISION 2035:

An Educational Perspective

Saturday 26th June, 2021



www.tcetmumbai.in/tv2035/

www.bit.ly/YT-TV2035_AEP

Dr. B. K. Mishra
Programme Chair

Lagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra

A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg, Thakur Village, Kandivali (East), Mumbai - 400 101

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"Transformation To International Level Infrastructure - In Full Swing"

- ISO 9001:2015 Certified Institute
- NBA Accredited Programs
- NAAC Accredited Institute with 'A' Grade
- AICTE-CII Survey rating in Platinum category for Industry linkages
- Among Top 250 Colleges in NIRF Ranking
- 68th & 78th in All India Rank by Outlook survey published in June 2019 & May 2018 respectively

VISION

Thakur College of Engineering and Technology will excel in Technical Education to become an internationally renowned premier Institute of Engineering and Technology.

MISSION

To provide state-of-the-art infrastructure and right academic ambience for developing professional skills as well as an environment for growth of leadership and managerial skills to students which will make them competent engineers to deliver quality results in the industry

THAKUR TRUSTS tcet THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Estd. in 2001

CORE VALUES

- Integrity & Accountability
- Respect for each Individual
- Sensitive towards Social Responsibilities
- Unfettered spirit of learning, Exploration, Rationality & Enterprise
- Exploration & Enterprise for both Faculty and Students

CORE COMPETENCIES

- Structured & Guided Teaching Learning Methodology Maintaining Academic Rigor
- Student - Centric - Faculty - Driven System
- Proactive Student Professional and Personality Development Programmes
- State - of - the - art Infrastructure meeting International Standards

About TCET

Estd. in 2001

The Thakur College of Engineering & Technology (TCET), a Graded Autonomous Linguistic Minority Institute was established in AY 2001-02 with a clear objective of providing Quality Technical Education in tune with international standards and contemporary global requirements. TCET offers 9 UG, 3 PG and 3 Ph.D. (Tech.) programmes. TCET is ISO 9001:2015 certified Institute. Certification has helped Institute to develop a process-driven-student-centric system required for quality education in 21st century. As a result Institute is accredited by NAAC with "A" grade for five years and programmes are accredited by NBA for three Years. TCET has always been known for its unique journey of deciphering and deploying the innovative approaches in academics. The institute also takes initiatives in implementing the innovative academic and technology endeavours in align with the directives of statutory and regulatory bodies.

About TIFAC

TIFAC

Technology Information, Forecasting and Assessment Council (TIFAC), ever since its inception in 1988 has been making significant contributions as a technology think tank specializing in Technology Information services, Foresight exercises, Innovation support and Technology demonstration programmes. The underlying motto of TIFAC activities during the past three decades has been to guide and catalyse national initiatives in Science and Technology. The crowning glory of TIFAC is the Technology Vision Exercise being carried out TIFAC as a nation-wide foresight exercise; the first vision document, Technology Vision 2020 was released in 1996 and the sequel Technology Vision 2035 was brought in 2016.

In addition, several hundreds of technology assessment and techno-market survey reports, technology roadmaps providing in-depth coverage of technology trends, status of technology in India, gap areas and technology linked based business opportunities. I am glad that the recommendations as included in the documents are being referred to by stakeholders and these documents are considered as referral documents by Government Departments, industry and academia.

About Symposium

India, being the country with youngest population, needs to focus on becoming the technology-driven and self-sustainable nation by utilizing their skillsets. To realize the dream of becoming a developed nation in near future, technology vision exercise is required to be implanted in the technocrats of tomorrow, which will apprehend the techno-socio-economic horizons through a comprehensive involvement of different stakeholders.

Technology Information, Forecasting and Assessment Council (TIFAC), an autonomous organization under the Department of Science & Technology has been constantly working on achieving these technological horizons. Technology Vision (TV) 2020 under the leadership of Dr. A.P.J. Abdul Kalam, was its first attempt to envision India's future in technology and has proved advantageous in upholding the new vigor in Indian technological universe. The Technology Vision 2035 has been undertaken to continue this journey of envisioning futuristic technology and would enable a more calibrated approach to evolution of technology related national planning process. The TV 2035 roots itself into the collective aspirations, ambitions, and expectations of Indians to get themselves experience the evolution of technology vision for the country.

Thakur College of Engineering and Technology has always been in the forefront to initiate and align with the government ingenuities. Therefore, TCET has taken the lead to patronage India's Technology Vision 2035 by congregating the inventors, innovators, technocrats, engineers and professionals from industry and academia through National Symposium on "National technology vision 2035". This will ensure to engage its stake holders thereby it reaches to the realization of vision of India as a developed technological landscape.

Important Dates

- Announcement to organize the Symposium: 30/04/2021
- Symposium Pre-Announcement: 17/05/2021
- Confirmation as Chief Guest from **Dr. Anil Kakodkar**: 19/05/2021
- Confirmation as Chief Guest for valedictory from **Dr. R.A. Mashalkar**: 05/06/2021
- Confirmation from TIFAC: 23/05/2021
- Brochure & Poster Printing:
  1. 17/05/2021 Pre-Announcement Flyer
  2. 27/05/2021 1st Announcement Flyer
  3. 29/05/2021 About TV 2035
  4. 04/06/2021 Futuristic Higher Education
  5. 10/06/2021 Eminent Guest, Speakers & Panelists
  6. 15/06/2021 MCTC
  7. 17/06/2021 Valedictory
- Website Launch: 10/06/2021
- Start of Registration process: 14/05/2021

Patrons

Chief Patron

Mr. V. K. Singh, Chairman

Patrons

Mrs. Karishmma V. Mangal, Secretary

Mr. Karan V. Singh, CEO

National Advisory Committee

Dr. Prabhat Ranjan, VC D Y Patil International University, Ex. Executive - Director TIFAC

Dr. B Satyanarayana, Scientific Officer (H), TIFR, Mumbai

Dr. Anil Kumar Singh, Director (Independent), RCF Ltd. Mumbai, Ex - Professor IIT Bombay

Ms. Shraddha Reghe, Seclore Technologies, Mumbai

Mr. Prajwal HS, VMware Software India Pvt. Ltd.

Programme Organising Committee

Programme Chair

Dr. B. K. Mishra, Principal

Programme Co-Chair

Dr. Deven Shah, Vice-Principal

Convenors

Dr. Kamal Shah, Professor IT & Dean R&D

Dr. Lochan Jolly, Professor E&TC & Dean SSW

Co-ordinators

Dr. Vinitkumar Dongre, Professor E&TC

Dr. Sheetal Rathi, Professor COMP

Dr. Bijith Marakarkandy, Associate Professor IT

Dr. Vivek Mishra, Assistant Professor ES&H

Contents

SCHEDULE

SCHEDULE (Morning Half)

Timing	Schedule	Speakers
09.15 - 09.30 a.m.	Start of the Zoom Meeting	
09.30 - 09.45 a.m.	Joining of the Guests https://bit.ly/Inaugural_Panel_Disc_1_Valedictory Meeting ID: 96333653147 Passcode: TV2035AEP Live on https://bit.ly/YT-TV2035_AEP	
09.45 - 10.00 a.m.	Institute Video, Participants joining and Back-end check	
10.00 - 10.05 a.m.	Welcome of Guests and Participants	
10.05 - 10.10 a.m.	Inaugural Ceremony and Recitation of Saraswati Vandana	
10.10 - 10.30 a.m.	Welcome Address	**Dr. B. K. Mishra**, Principal, Thakur College of Engineering and Technology, and Programme Chair
10.30 - 11.00 a.m.	Inaugural Address on the theme- **India Needs Technology & 5 Years of Release of Technology Vision 2035 (TV 2035)**	**Dr. Anil Kakodkar**, Chief Guest, Chairman, MKCL & Former Chairman, TIFAC, Former Chairman, Atomic Energy Corporation
11.00 - 11.05 a.m.	Question and Answer Session	
11.05 - 11.35 a.m.	Keynote Speech- 1 on **TV 2035 and Potential for Innovation**	**Prof. Prabhat Ranjan**, Vice Chancellor, D.Y. Patil International University, Akurdi, Pune & Former Executive Director, TIFAC
11.35 - 11.40 a.m.	Question and Answer Session	
11.40 - 12.10 p.m.	Keynote Speech- 2 on **Imprint of TV 2035 on Society**	**Prof. Gautam Goswami**, Scientist (G), Head, Foresight and Vision Division, TIFAC
12.10 - 12.15 p.m.	Question and Answer Session	
12.15 - 12.45 p.m.	Invited Talk- 1 on **Technology Driving Forces for TV 2035 from Industry Perspective & its Adoption by Higher Educational Institutes**	**Mr. Nirav Chokshi**, Managing Director, JP Morgan
12.45 -12.50 p.m.	Question and Answer Session	
12.50 - 01.20 p.m.	Invited Talk- 2 on **India's TV 2035 from Global Perspective**	**Prof. D. Sakthi Kumar**, Toyo University, Kawagoe, Japan
01.20 - 01.25 p.m.	Question and Answer Session	
01.25 - 01.30 p.m.	Vote of Thanks and Announcement of further proceedings	

01.30 - 02.00 p.m.	The same Meeting Link will be on. **First Panel Discussion** will be conducted on the same Meeting Link and other **3 parallel Meetings** of the Panel Discussion will start along with **parallel Mini Coffee Table Conference (MCTC)** Meeting on different Meeting Links. Later, **MCTC** will break into 10 parallel sessions. Respective participants will be directed to login to these meetings. Before the start of the parallel meetings, participants can have the discussion with the organizers.				
02.00 - 04.00 p.m.	Panel Discussion **1: Application of ICT in Education and Healthcare** Live on https://bit.ly/YT-TV2035_AEP	Panel Discussion **2: Technology Enabled Agricultural Practices for Sustainable Environment and Resources**	Panel Discussion **3: Smart Manufacturing and Infrastructure Development**	Panel Discussion **4: Higher & Technical Autonomous Education Institute Initiatives to Align Curriculum with NEP 2020 & TV 2035** Live on https://bit.ly/YT_PD1o	Inauguration of the Mini Coffee Table conference **(10 Grand Challenges)**
	https://bit.ly/Inaugural_Panel_Disc_1_Valedictory Meeting ID: 96333653147 Passcode: TV2035AEP	https://bit.ly/Panel_Discussion_Zoom_link_2 Meeting ID: 983 4891 6053 Passcode: PD#2	https://bit.ly/Panel_Discussion_Zoom_link_3 Meeting ID: 914 6283 6872 Passcode: PD#3	https://bit.ly/Panel_Discussion_Zoom_link_4 Meeting ID: 97640452521 Passcode: PD#4	https://bit.ly/Inaugral_MCTC_Zoom_link_1 Meeting ID: 983 4891 6053 Passcode: MCTC1
04.00 - 04.15 p.m.	Rejoining of the participants to the First Meeting Link for Valedictory Function: **https://bit.ly/Inaugural_Panel_Disc_1_Valedictory** Meeting ID: 96333653147 Passcode: TV2035AEP				
04.15 - 04.25 p.m.	Discussion of participants with the organizers and Joining of the Guests				
04.25 - 04.30 p.m.	Welcome of all the participants and guests for Valedictory Function				
04.30 - 04.40 p.m.	Introduction of the Chief Guest				
04.40 - 04.55 p.m.	Valedictory Speech	**Dr. Deven Shah**, Vice Principal, Thakur College of Engineering and Technology and Programme Co-Chair			
04.55 - 05.30 p.m.	Valedictory Address by Chief Guest	**Dr. R.A. Mashelkar**, Chief Guest, National Research Professor, Former Director General of Council of Scientific and Industrial Research, Chairman of National Innovation Foundation, and the President of Indian National Science Academy, Global Research Alliance and Institute of Chemical Engineers (UK)			
05.30 - 05.40 p.m.	Question and Answer Session				
05.40 - 06.00 p.m.	Feedback and Closing of the Programme				
06.00 - 06.10 p.m.	Vote of Thanks				

Mini Coffee Table Conference (2nd half)

Timing	Schedule	Zoom Link
02.00 - 02.30 p.m.	Inauguration of the Mini Coffee Table conference • 2.00 pm -2.05 pm - Welcoming all the guest • 2.05 pm - 2.10 pm - Briefing by Dr. Sheetal Rathi about the Mini coffee table conference • 2.10 pm - 2.15 pm Introduction of the chief guest • 2.15 pm - 2.30 pm Chief Guest address **(This part of the programme will be done on one common zoom meeting)**	https://bit.ly/Inaugral_MCTC_Zoom_link_1 Meeting ID: 96548960881 Passcode: MCTC1
02.30 - 02.35 p.m.	**10 Grand Challenges – 10 Parallel Session Links**	
	1. Mini Coffee Table Conference 1: **Guaranteeing Nutritional Security and Eliminating Female and Child Anemia** https://bit.ly/Inaugral_MCTC_Zoom_link_1	
	2. Mini Coffee Table Conference 2: **Ensuring Quantity and Quality of Water in all Rivers and Aquatic Bodies** https://bit.ly/MCTC_Zoom_link_2	
	3. Mini Coffee Table Conference 3: **Securing Critical Resources Commensurate with the Size of our Country** https://bit.ly/MCTC_Zoom_link_3	
	4. Mini Coffee Table Conference 4: **Providing Learner Centric, Language Neutral and Holistic Education to all** https://bit.ly/MCTC_Zoom_link_4	
	5. Mini Coffee Table Conference 5: **Understanding National Climate Patterns and Adapting to them** https://bit.ly/MCTC_Zoom_link_5	
	6. Mini Coffee Table Conference 6: **Making India Non-Fossil Fuel Based** https://bit.ly/MCTC_Zoom_link_6	
	7. Mini Coffee Table Conference 7: **Taking the Railway to Leh and Tawang** https://bit.ly/MCTC_Zoom_link_7	
	8. Mini Coffee Table Conference 8: **Ensuring Location and Ability Independent Electoral and Financial Empowerment** https://bit.ly/MCTC_Zoom_link_8	
	9. Mini Coffee Table Conference 9: **Developing Commercially Viable Decentralized and Distributed Energy for all** https://bit.ly/MCTC_Zoom_link_9	
	10. Mini Coffee Table Conference 10: **Ensuring Universal Eco-Friendly Waste Management** https://bit.ly/MCTC_Zoom_link_10	
02.35 - 03.30 p.m	Deliberation, discussion, and power point presentation of strategy prepared along with Q&A.	
03.30 - 4.00 p.m	Evaluation of the Presentation	
04.00 - 4.15 p.m	Rejoining the First Meeting for Valedictory Session	https://bit.ly/Inaugural_Panel_Disc_1_Valedictory Meeting ID: 96333653147 Passcode: TV2035AEP

OUTREACH PROCESS OF THE SYMPOSIUM

Programme Highlights

Talks

1. Inaugural Talk on the Theme: India Needs Technology
2. India's Technology Vision 2035(TV 2035) from Global Perspective
3. India's TV 2035 from Defence & National Security Perspective
4. Technology Driving Forces for TV 2035 from Industry Perspective & its Adoption by Higher Educational Institutes

Panel Discussion

Four Tracks of Parallel Panel Discussion on the following Themes:

1. Application of ICT in Education and Healthcare
2. Technology Enabled Agricultural Practices for Sustainable Environment and Resources
3. Smart Manufacturing and Infrastructure Development
4. TCET Initiatives to Align with NEP 2020 & TV 2035

Mini Coffee Table Conference

This Conference will be Parallely Conducted on the Theme: 10 Grand National Technology Challenges

Target Audience

Policy makers, Industry Professionals, Principals, Directors/ Deans/ HoDs & Faculty Members from Higher & Technical Affiliated/ Autonomous Institutes/ Private/ Deemed-to-be Universities/ University Departments, Students & Parents.

Registration Details

The participation is open to all the Stakeholders from India & outside India. There is NO registration fees for Symposium. Online certificate will be issued to the participants for attending the program.

ABOUT PROGRAMME

What	Why	How
1. Understanding TV 2035:	1. Improving quality of life	1. **Inaugural Speech**
2. Integrating TV 2035 in Education	2. To meet national vision of Gross Enrollment Ratio & High Quality Education	2. **Talk:** Hearing from leaders, pivotal in developing TV 2035 & Technologists
3. Graduate Empowerment for rewarding career	3. Inspiring youth to make India a self- reliant and vibrant nation with knowledge based economy	3. **Panel Discussion:** Knowledge and Experience sharing by Eminent personalities for diffusion of TV 2035
4. Institutes Contribution to meet vision requirement	4. Socio - Economic Development for Sustainable Growth	4. **Mini Coffee Table Conference:** Conglomeration of stakeholders including youth will be helping to convert vision into reality
5. Nation building to make India a ATMANIRBHAR BHARAT	5. Improving Global Footprint of India	5. **Valedictory Speech**

GLIMPSES OF TECHNOLOGY VISION 2035

Vision Statement: ***Technology in the service of India: ensuring the security, enhancing the prosperity and strengthening the identity of every Indian.***

RETROSPECTION: TECHNOLOGY VISION 2020	TECHNOLOGY VISION 2035
1. Prepared in 1996 by TIFAC under the leadership of **Dr. A. P. J. Abdul Kalam**	1. Prepared in 2016 by TIFAC under the leadership of **Dr. Anil Kakodkar**
2. TV 2020 articulated vision for developed India in1996	2. TV 2035 articulated the vision for Indians in 2035
3. TV 2020 was prepared in the backdrop of liberal reforms in India's economy *Sectoral progress in 2011 vis-à-vis projection in 1996* A. **Galloping** -Telecommunication, Space, Nuclear, Missile Technology, Life Sciences & Biotechnology B. **Cantering** - Civil Aviation, Services, Chemical Process & Road Transportation C. **Trotting** - Food & Agriculture, Engineering, Electronics & Communication, Materials & Processing D. **Walking** - Healthcare, Advance Sensors & Water ways	3. Non-exclusive segment of Indians in 2035: A. Creative, Innovative and Imaginative (15%) B. Globalised and Diaspora (30%) C. Alternative Lifestyles and Worldviews (15%) D. Beehives and Production Lines (55%) E. Rooted and Remote (20%) F. Left Out or Left Behind (30%)
4. In the decades between 1996 to 2014 India's GDP has increased more than 6 times	4. Envisioned to improve quality of life for Indians in 2035

KEY POINTS OF TECHNOLOGY VISION 2035

TV 2035 (6 Sections)

1. Analyses the basic need of security, prosperity & identity
2. Describes 12 Prerogatives of Indians in 2035
3. Presents 3 critical transversal technologies - Materials, Manufacturing & Information & Communication Technology
4. Focuses on capabilities & constraints of India's technological landscape
5. Captures a set of 10 Grand Challenges that we should resolve to confront as a nation
6. Reflects upon impact of technology on comprehensive national power

12 Sectors of Importance

1. Education
2. Medical Sciences and Healthcare
3. Food and Agriculture
4. Water
5. Energy
6. Environment
7. Habitat
8. Transportation
9. Infrastructure
10. Manufacturing
11. Materials
12. Information and Communication Technology (ICT)

12 Prerogatives

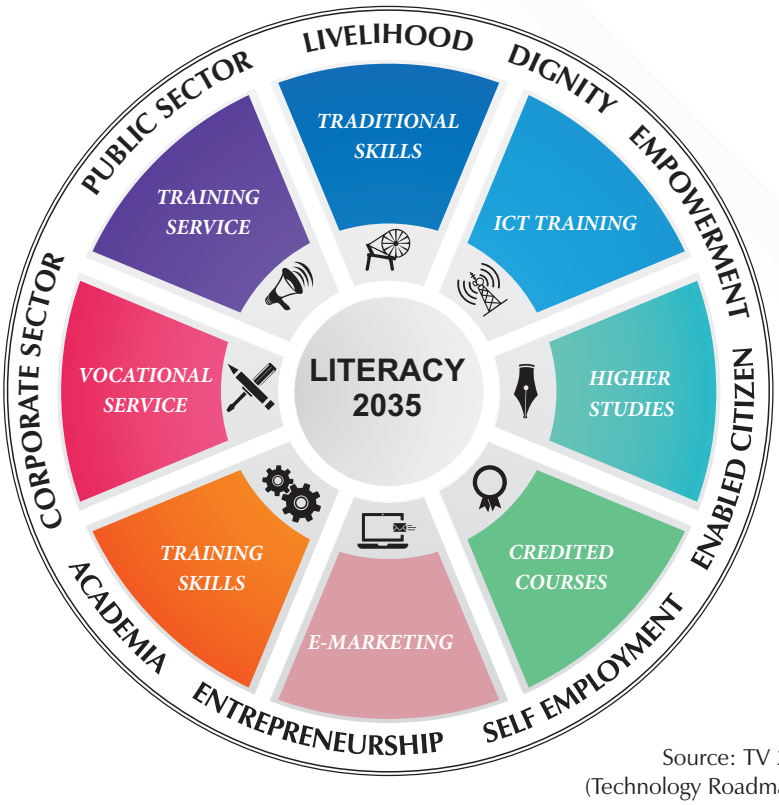
1. Clean air and potable water
2. Food and nutritional security
3. Universal healthcare and public hygiene
4. 24x7 energy
5. Decent habitat
6. Quality education, livelihood and creative opportunities
7. Safe and speedy mobility
8. Public safety and national security
9. Cultural diversity and vibrancy
10. Transparent and effective governance
11. Disaster and climate resilience
12. Eco-friendly conservation of natural resources

10 Grand Challenges

1. Guaranteeing nutritional security and eliminating female and child anaemia
2. Ensuring quantity and quality of water in all rivers and aquatic bodies
3. Securing critical resources commensurate with the size of our country
4. Providing learner centric, language neutral and holistic education to all
5. Understanding national climate patterns and adapting to them
6. Making India non-fossil fuel based
7. Taking the railway to Leh and Tawang
8. Ensuring location and ability independent electoral and financial empowerment
9. Developing commercially viable decentralised and distributed energy for all
10. Ensuring universal eco-friendly waste management

Source: TIFAC (TV 2035 Document)

FUTURISTIC HIGHER & TECHNICAL EDUCATION



Source: TV 2035
(Technology Roadmap Education)

At the centre of the 'Literacy Wheel 2035' are the markers that decide whether a person is considered literate or not in 2035.

The spokes of the wheel point the way to further and continuing development. These would include courses & opportunities for building soft skills, vocational skills, skills that lead to expression of creativity, skills that lead to livelihoods, empowerment and dignity. The wheel will also include paths for higher education, vocational education, lifelong learning, which includes training and re-training.

Points on the rim represent the potential that an individual can realise on the basis of the core at the centre and the pathway/spoke that the learner has travelled down.

The multiple spokes of creativity will add to the strength and structure of the wheel, thereby rendering it more stable.

Technology will be the lubricant for the wheel, enabling the structure to be smoothly mobile.

As Per the TV 2035 (Technology Roadmap for Education)

1. The teacher's role will be reinvented to that of facilitator or navigator, as different from that of an instructor. Without radically altering an educational practice towards constructivism, the technological ensemble draws the pedagogy towards a constructivist practice or reinforces it.
2. Our vision statement for educational technology is achieving the full potential of every Indian – i.e. Development of humans as resource for not only productivity but also enlightened citizen.
3. In 2035 citizens are empowered towards realizing their potential for three basic needs of human life viz. security, prosperity and identity.
4. Education is going to undergo changes due to new technology. These will require to prepare people in general and learners in specific for new skills to deal with new challenges on private, public, local, global, professional and domestic front.
5. Transforming and positioning education system to meet future challenges of the country through research, innovation, entrepreneurship and knowledge landscapes.
6. The vision for educational access in 2035 is to initiate and establish processes that would catalyse and nurture institutional arrangements, initiatives and activities aimed at providing and ensuring universal access to enrich the quality of life.
7. One of the core challenges for Indian education is main streaming of vocational education which must go hand-in-hand with vocationalisation of 'mainstream' education
8. lifelong learning can be emerge as the ideal mechanism for working adults, to update their knowledge & skills for rewarding life and creation of stronger and inclusive society
9. By 2035 all young Indians at the end of their schooling should be able to pursue the educational path of their choice & aptitude skills and confidently facing the competitive selection process
10. The importance of self-employment will increase due to newer & constantly changing business model, lower entry barrier, greater access to information, & increase speed of operation

Key Fundamental Principles of NEP 2020 for Higher Education

01 Recognizing, identifying, and fostering the unique capabilities of each student

02 Multidisciplinary and a holistic education Emphasis on conceptual understanding, creativity and critical thinking

03 Promoting multilingualism and the power of language in teaching and learning Life skills such as communication, cooperation, teamwork, and resilience

04 Reducing curriculum content in each subject to its core essentials

05 360-degree holistic report card for students, which will not only inform about the marks obtained by them in subjects, but also their skills

06 Multidisciplinary Education & Research Universities

07 Establishment of National Research Foundation (NRF) will enable a culture of research to permeate through universities

08 Dedicated unit for digital and online learning. A dedicated unit for the purpose of orchestrating the building of digital infrastructure

09 Moving towards the faculty & institutional autonomy

10 "light but tight" regulation by a single regulator for Higher education

Highlights of Online and Digital Education: Ensuring Equitable use of Technology - A Post Covid Scenario (NEP-2020 Perspective) Recommends The Following Key Initiatives

Dramatic scientific and technological advances, such as the rise of big data, machine learning and artificial intelligence, climate change, increasing pollution, and depleting natural resources

- Pilot studies for online education
- Virtual Labs
- Digital infrastructure
- Training and incentives for teachers
- Online teaching platform and tools
- Online assessment and examinations
- Content creation, digital repository, and dissemination
- Blended model for learning
- Addressing the digital divide
- Laying down standards

Higher and Technical Education

1. To promote learning for holistic and multidisciplinary at Undergraduate, Specialization at Postgraduate and entrepreneurship at Ph.D level
2. To promote learning and exploration rather than only passing high stake examinations with high grade.
3. To promote development of KSA (Knowledge, Skill and Attribute) rather than only knowledge and therefore needs vocationalization of E&T programme
4. To promote industry readiness based on ACM (Attitude, Competency and Mindset) development rather than qualifying for recruitment process.
5. To promote multiple career options viz. campus placement, higher studies, government and public sector jobs, public service commission, entrepreneurship etc
6. Developing managerial and leadership skills for shop floor success and also creating jobs including new jobs.
7. E&T leadership to drive the industry based on originality and novelty and contributing to socio-economic Sustainable Growth and Development (SGAD).

Curriculum Profile

1. Curriculum to integrate vision, content, pedagogy and technology
2. Curriculum to integrate curricular, co-curricular and extracurricular
3. Curriculum to promote major for specialization and minor for multidisciplinary learning
4. Curriculum to integrate Internship for industry exposure and understanding of work environment
5. Curriculum with the provision of Educational Excursion and Camps for socialization

Educational Activities

1. Activity Based Learning (ABL)
2. Project Based Learning (PBL)
3. Research Based Learning (RBL)
4. Professional Skill Development (PSD)
5. Employability Skill Development (ESD)

Testing, Verification and Validation

1. High stake examination at course and programme level
2. Application of KSA, Documentation, Report, Case Studies, Project
3. Listening, Reading and Writing (LRW)skills, General Communication, Professional and Business Communication and Public Speaking
4. Proficiency for using Tools, Techniques, Modeling & Simulation and Technology
5. Teamwork, Management Skills and Project Management

Expected Outcomes

1. Professional graduates are equipped with desired KSA and ready for industry deployment with the active professional life of 40 years
2. Some of the graduates will be innovators and job creators in engineering sectors through entrepreneurship
3. Competitive edge with increased opportunities of global career and global citizenship
4. Developing understanding of national and international issues for better engineering solutions
5. Lifelong learning and contributing to the knowledge base for nation building and socio-economic development.

MINI COFFEE TABLE CONFERENCE

MINI COFFEE TABLE CONFERENCE

Introduction

India, post-independence, has become self-reliant in the Technology Sectors of National Importance. With its young technocrats, India has been global leader in providing Technology solutions and support worldwide. "With TV-2035 India envisions to reach new heights by capitalising on its strengths". India, as a country requires that the needs of its youth for nutrition, health, knowledge, skill, connectivity and identity should be met. To make this vision possible, MCTC-21 is bringing in all stakeholders on an open live platform and discuss/ brainstorm freely at length so that ideas can be captured for 10 grand technology challenges to be resolved to confront as a nation. You can pick one sub-theme from the following:

10 GRAND CHALLENGES

1. GUARANTEEING NUTRITIONAL SECURITY AND ELIMINATING FEMALE AND CHILD ANAEMIA
2. ENSURING QUANTITY AND QUALITY OF WATER IN ALL RIVERS AND AQUATIC BODIES
3. SECURING CRITICAL RESOURCES COMMENSURATE WITH THE SIZE OF OUR COUNTRY
4. PROVIDING LEARNER CENTRIC, LANGUAGE NEUTRAL AND HOLISTIC EDUCATION TO ALL
5. UNDERSTANDING NATIONAL CLIMATE PATTERNS AND ADAPTING TO THEM
6. MAKING INDIA NON-FOSSIL FUEL BASED
7. TAKING THE RAILWAY TO LEH AND TAWANG
8. ENSURING LOCATION AND ABILITY INDEPENDENT ELECTORAL AND FINANCIAL EMPOWERMENT
9. DEVELOPING COMMERCIALLY VIABLE DECENTRALIZED AND DISTRIBUTED ENERGY FOR ALL
10. ENSURING UNIVERSAL ECO-FRIENDLY WASTE MANAGEMENT

Emminent Speakers/ Guests & Panelists

Chief Guests of the Symposium

Inaugural Function

Dr. Anil Kakodkar

Dr.Anil Kakodkar (born on 11th November, 1943) joined the Bhabha Atomic Research Centre (BARC) in 1964, following the one year post graduate Training with top rank in Nuclear Science and Technology in the then Atomic Energy Establishment Trombay training school. He became the Director of BARC in the year 1996 and was the Chairman, Atomic Energy Commission and Secretary to the Government of India, Department of Atomic Energy, during the years 2000 -2009. He was DAE Homi Bhabha Chair Professor during Jan. 2010-Jan. 2015 and INAE Satish Dhawan Chair of Engineering Eminence during Jan. 2015 to Jan. 2017. Currently he is AICTE Distinguished Chair Professor.

Sir has received National awards Padmashri in 1998, Padmabhushan in 1999 and Padmavibhushan in 2009. A also 3 top State Awards namely Gomant Vibhushan by State of Goa in 2010, Maharashtra bhushan award in 2012 and Madhya Pradesh Gaurav in 2014.

Valedictory Function

Dr. Raghunath Anant Mashelkar

Dr. R.A. Mashelkar, National Research Professor, has been the Director General of Council of Scientific and Industrial Research, Chairman of National Innovation Foundation as also the President of Indian National Science Academy, Global Research Alliance and Institute of Chemical Engineers (UK).

In recognition of his pioneering research contributions in polymer science & Engineering, he has been honoured as a Fellow of Royal Society, Foreign Fellow of US National Academy of Science as also Engineering, Foreign Associate of American Academy of Arts and Science & Fellow of US National Academy of Inventors.

44 universities from around the world have honoured him with honorary doctorates.

Prof. Prabhat Ranjan

Keynote Speech 1: TV 2035 and Potential for Innovation

Prof. Prabhat Ranjan is currently Vice Chancellor of D Y Patil International University, Akurdi, Pune. From April 2013 to April 2018, he was heading India's Technology Think Tank, TIFAC in Delhi. Earlier he was Professor at Dhirubhai Ambani Institute for Information and CommunicationTechnology, Gandhinagar (DA-IICT) from 2002 to 2013. He has done PhD in Nuclear Fusion from UC Berkeley/Lawrence Berkeley Lab in 1986 and worked as Nuclear Fusion Scientist in SINP, Kolkata and IPR, Gandhinagar from 1986-2002. He was educated in Netarhat School(near Ranchi), IIT Kharagpur and Delhi University.

Dr. Gautam Goswami

Keynote Speech 2: Imprint of TV 2035 on Society

Dr. Gautam Goswami is the Head "Foresight & Vision" Division in Technology Information, Forecasting and Assessment Council (TIFAC), Dept of Science &Technology, Govt. of India. He headed the most prestigious exercise Technology Vision 2035 Exercise under the supervision and guidance of Dr. Anil Kakodkar. Earlier, he also coordinated Technology Vision 2020 Agriculture demonstration projects in different parts of the country where he worked closely with Dr. A. P. J. Abdul Kalam, Former Hon'ble President of India.

Mr. Nirav Chokshi

Invited Talk 1: Technology Driving Forces for TV 2035 from Industry Perspective & its Adoption by Higher Educational Institutes

Mr. Nirav Chokshi is a senior Managing Director at JP Morgan's Corporate and Investment Bank leading technology for one of their Securities Service business. He has been with the firm for nearly 13 years playing leadership roles across multiple businesses within the Investment Banking Sector.

Prior to joining JP Morgan, Nirav led Operations technology for Barclays Bank India across the Consumer and Corporate Bank and before that, he spent 10 years at Citibank and Polaris as a tech lead and developer.

Prof. D. Sakthi Kumar

Invited Talk 2: India's TV 2035 from Global Perspective

Prof. D. Sakthi Kumar is the Deputy Director Bio Nano Electronics Research Center, Graduate School of Interdisciplinary New Science, Toyo University, Kawagoe, Japan. He worked in following research fields Nano drug delivery against cancer and other diseases, Development of bio materials and its applications, Application of Artificial Intelligence in bio fields, Development of Theragnostic Materials, Nano medical devices, Sensors (Bio, Chemical and Optical), Plant Nanotechnology, Organ on a Chip and many more.

Dr. G. T. Thampi

Mini Coffee Table Conference

Dr. G. T. Thampi is the Principal of Thadomal Shahani Engineering College for the last 12 years. He completed 34 year of Service with University of Mumbai. PhD in Technology(Business Process Re-engineering in the realm of Engineering Education). 20 Scholars awarded with PhD degree under G T Thampi's guidence in multiple Universities. Published 5 books, Filed few patents and more than 80 research publication in his credit. Currently R R committee member of University of Mumbai in the subject of Information Technology.

Panelists

Track 1: Application of ICT in Education and Healthcare

Prof. G. R. Naik
Vice Chancellor,
Garden City University, Bangalore

Ms. Huilin Chen (Lin)
CEO & Founder,
EduCare, Taiwan

Mr. Ajay Bhagvat
Director,
Inpods India Pvt.Ltd

Mr. Shailendra Singh
Deputy Director,
MSME-DI, Mumbai

Prof. Renu John
Professor, Department of
Biomedical Engineering,
IIT, Hyderabad, India

Mr. Shibin Chulliparambil
Group Chief Information Officer,
Mafatlal Industries & CEO for
Vrata Tech Solutions Pvt. Ltd.

Moderator: Dr. Kamal Shah

Track 2: Technology Enabled Agricultural Practices for Sustainable Environment and Resources

Dr. Mahesh Mahadeo Kadam
Manager, Marketing &
Communication, NIAM
Agri-Business Incubator (NABI)

Ms. Harsha Mukherjee
Founder & Managing Director
International Institute for
Corporate Sustainability
and Responsibility (IICSR)

Prof. P. Krishna Reddy
Head for Agricultural Research
Center and Member at Data Sciences
and Analytics Center (DSAC),
IIIT Hyderabad

Dr. S. M. Nalawade
Head, Farm Machinery and Power
Engg., Dr. A. S. College of Agri.
Engineering and Technology,
MPKV, Rahuri

Dr. Ashish Desai
Chemistry / TIFAC-CORE &
Environment Audit Cell

Prof. Chua Chi Wang
Former Dean, College of
Engineering,
NSYSU, Taiwan

Moderator: Dr. Harshali Patil

Track 3: Smart Manufacturing and Infrastructure Development

Mr. Shantanu Sinha
Director-Pricing,
NTT global Network

Dr. Dinesh Singh G. Thakur
Professor and Head,
Dept. of Mech. Engg, DIAT
(Deemed University), DRDO,
Ministry of Defence

Mr. Datta Kuvalekar
Director - Technology and
Engineering, Forbes
Marshall

Mr. Anil Dipnaik
Vice President,
Hindustan Motors
Mumbai

Dr. Arbind Kumar
Scientist G & Head
Refractory Metals Division &
Hafnium Plant,
(C-MET), Hyderabad

Dr. Raghvendra Tewari
Scientist, Engineering Sciences,
BARC India

Mr. Akshar Joshi
Sr. Engineer, Research Scientist,
Fire Eye Inc.USA

Moderator: Dr. Sanjay Kumar

Track 4: Higher & Technical Autonomous Education Institute Initiatives to Align Curriculum with NEP 2020 & TV 2035

Prof. Anil Kumar Singh
Independent Director,
Rashtriya Chemicals & Fertilizers Limited,
Ex Prof., IIT Bombay

Dr. M. Madheswaran
Principal, Muthyamal Engineering
College, Tamil Nadu

Dr. J. V. R. Ravindra
Principal, Vardhaman College
of Engineering, Hyderabad

Dr. Deven Shah
Vice Principal, Thakur College of
Engineering & Technology,
Mumbai

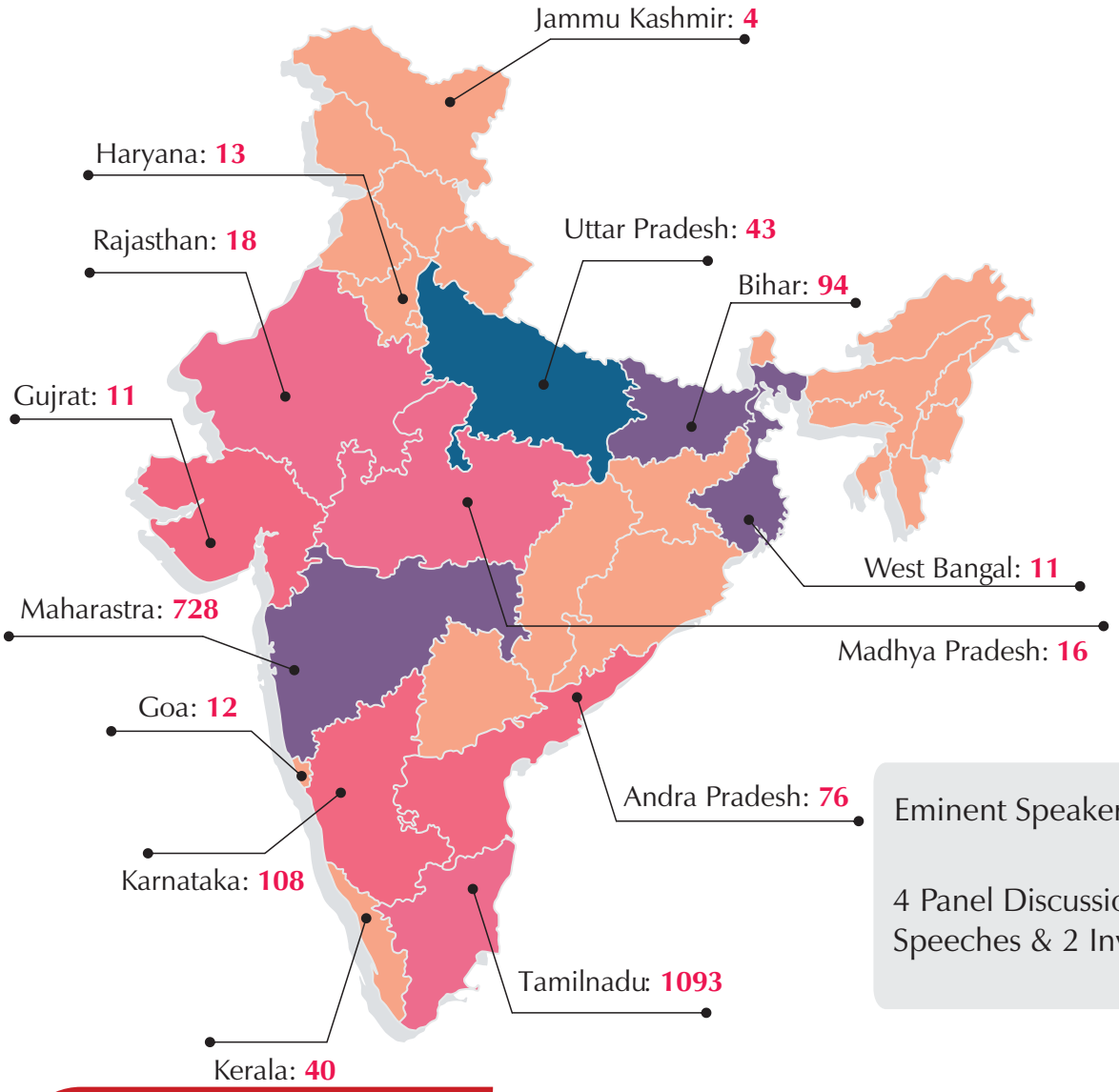
Dr. R. R. Sedamkar
IQAC Director, Thakur College of
Engineering & Technology,
Mumbai

Dr. Zahir Aalam
TPO, Thakur College of
Engineering & Technology,
Mumbai

Moderator: Dr. Lochan Jolly

STATISTICS

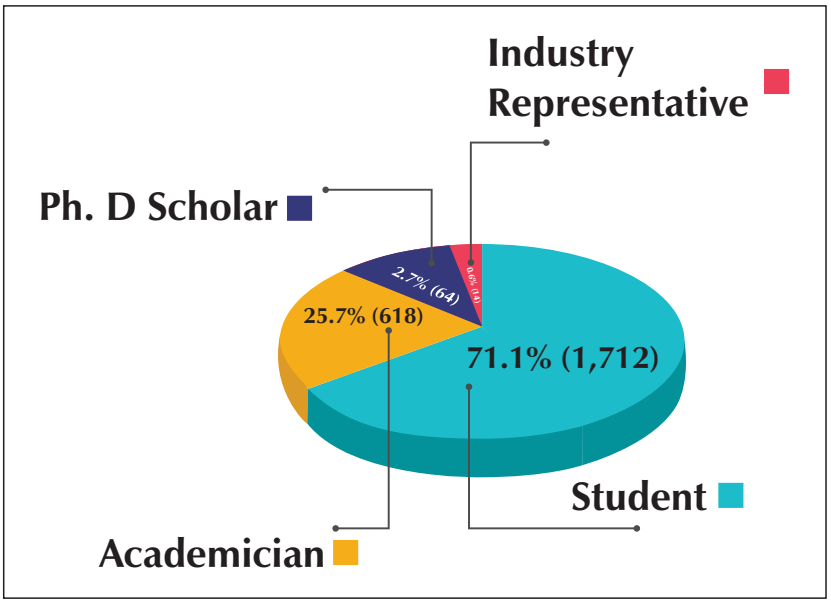
STATEWISE REGISTRATIONS FROM INDIA



Eminent Speakers & Panellists

4 Panel Discussion, 2 Keynote Speeches & 2 Invited Talks

Designations



3100+ Registrations has reached 2500 and still counting

28 Registrations from 28 states throughout India

8 Registrations from 8 Foreign countries

Vote of Thanks

It is rightly said, “Thankfulness is the beginning of gratitude and gratitude is the completion of thankfulness.” So, it is all inter-related and hence, I would be happy to propose vote of thanks to each and everybody who have supported to carry out this task. First of all, on behalf of the organizing committee, I would like to express my sincere gratitude to the management for their valuable support in organizing such programs, which boost the learning of stakeholders. I feel a deep sense of honour and privilege to thank our esteemed guests, panelists and resource persons for guiding us on Technology Vision 2035 from educational perspective. It was really mesmerizing to listen to all the eminent speakers embedded with real time examples. The discussion, deliberation and interactions with the participants will definitely bring innovative thought process in future.

I am very much thankful to our leadership team for encouraging us in initiating this program. I am also thankful to all deans, HoDs, faculty and non-teaching staff for their valuable support and suggestions to make this program a great success.

I would like to appreciate our student members, Technical Team and each and everybody for their unstinted efforts. Finally, I would like to thank our most valued and attentive participants from India and abroad, without whom this program would not have been possible. I believe that this event has been a great learning to everybody. Thank you everybody.

Our Collaborators

Estd. 2000
Muthayammal Engineering College
www.mec.edu.in

Vardhaman College of Engineering, Hyderabad
www.vardhaman.org

Vikrant Institute of Technology and Management, Indore
www.vitmindore.com

Garden City University, Bangalore
www.gardencity.university

Gandhi Institute of Engineering and Technology, Odisa
www.giet.edu

Lal Bahadur Shastri College of Engineering, Kasaragod
www.lbscek.ac.in

KLS Gogte Institute of Technology, Belagavi
www.www.git.edu

Thadomal Shahani College of Engineering, Mumbai
www.tsec.edu

Government Engineering College, Nawada
www.gecnawada.org.in

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